FINAL

REMEDIAL INVESTIGATION REPORT FOR SITE FTMM-14

FORT MONMOUTH, OCEANPORT, MONMOUTH COUNTY, NEW JERSEY

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REMEDIAL INVESTIGATION REPORT
SITE FTMM-14

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LIST OF ACRONYMS

ACRONYM	DEFINITION
95% UCL	95 percent Upper Confidence Limit
µg/L	micrograms per liter
API	American Petroleum Institute
ARARs	applicable or relevant and appropriate requirements
ATSDR	Agency for Toxic Substances and Disease Registry
BEE	baseline ecological evaluation
bgs	below ground surface
BRAC	Base Realignment and Closure
Brinkerhoff	Brinkerhoff Environmental Services, Inc.
CEA	Classification Exception Area
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COC	constituent of concern
COPC	constituent of potential concern
COPEC	constituent of potential ecological concern
CSM	conceptual site model
CWA	Charles Wood Area
DCE	dichloroethene
DD	Decision Document
DPW	Directorate of Public Works
EA	Evans Area
EC	engineering control
ECP	Environmental Condition of Property
EPC	exposure point concentration
FMETL	Fort Monmouth Environmental Testing Laboratory
FMERPA	Fort Monmouth Economic Redevelopment Planning Authority
FS	feasibility study
ft/day	feet per day
ft/ft	foot per foot
FTMM	Fort Monmouth
FTMM-14	Fort Monmouth Landfill 14
GES	Groundwater & Environmental Services, Inc.
GIS	geographic information system
gpd/ft^2	gallons per day per square foot
gpm	gallons per minute
GWQS	Ground Water Quality Standard(s)
HHRA	human health risk assessment
HSDB	Hazardous Substances Data Bank
HTRW	hazardous, toxic, and radiological waste
IC	Institutional Control
IGW	impact to groundwater
IRP	Installation Restoration Program

ACRONYM	DEFINITION
LUC	land use control
MCL	maximum contaminant level
mg/kg	Milligram(s) per kilogram
MP	Main Post
mV	Millivolt(s)
NCP	National Contingency Plan
NFA	no further action
N.J.A.C.	New Jersey Administrative Code
NJDEP	New Jersey Department of Environmental Protection
NJPDES	New Jersey Pollutant Discharge Elimination System
NRDCSRS	Non-Residential Direct Contact Soil Remediation Standard
NRWQC	National Recommended Water Quality Criteria
PAH	polynuclear aromatic hydrocarbon
Parsons	Parsons Government Services
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
ppt	parts per thousand
QA/QC	quality assurance/quality control
R&D	research and development
RAGS	Risk Assessment Guidance for Superfund
RCRA	Resource Conservation and Recovery Act
RDCSCC	Residential Direct Contact Soil Cleanup Criteria
RDCSRS	residential Direct Contact Soil Remediation Standard
RI/FS	remedial investigation/feasibility study
RSL	Regional Screening Level
SE	saline
SI	site investigation
SVOC	semivolatile organic compound
SWQS	surface water quality standard
TAL	target analyte list
TBA	*tert*-butyl-alcohol
TCE	trichloroethene
THQ	target hazard quotient
TO	task order
TPV	total present value
TR	target risk
TRSR	Technical Requirements for Site Remediation
UCL	upper confidence limit
USACE	U.S. Army Corps of Engineers
USAEHA	U.S. Army Environmental Hygiene Agency
USAESCH	U.S. Army Engineering and Support Center, Huntsville
USATHAMA	U.S. Army Toxic and Hazardous Materials Agency
USEPA	U.S. Environmental Protection Agency

ACRONYM	DEFINITION
USGS	U.S. Geological Survey
VC	vinyl chloride
VOC	volatile organic compound
Weston	Roy F. Weston, Inc.
WERS	Worldwide Environmental Restoration Services

EXECUTIVE SUMMARY

E.1 SITE DESCRIPTION

Fort Monmouth Landfill 14 (FTMM-14) is in the central portion of the Main Post (MP) (**Figure 1.1**) in the area west of Murphy Drive and on the north bank of Husky Brook. The approximately 6.9 acre landfill site is bordered by houses along Gosselin Avenue to the north, by Husky Brook to the south, and by Murphy Drive to the east. FTMM-14 was used as a general purpose disposal area for building rubble and was later covered with dredged material from Husky Brook Lake. FTMM-14 was in operation from approximately 1965 to 1966. Since that time, a stable vegetative cover has developed on the surface of the landfill. The FTMM Reuse and Redevelopment Plan indicates that the anticipated future land use at FTMM-14 is passive open space (EDAW, Inc., 2008). FTMM (MP and Charles Wood Area [CWA]) was selected for closure by the Base Realignment and Closure Commission in 2005, and officially closed on September 15, 2011.

E.2 GEOLOGY AND HYDROGEOLOGY

The soil at FTMM-14 is composed of a thin soil cover (estimated average 0.4 foot thick) underlain by fill material. The soil cover is composed primarily of greenish-gray, silty, coarse to fine sand with little clay and gravel. Deeper soil is composed of greenish, orange, and gray sandy clay with a trace of gravel. The fill material encountered during intrusive investigation activities has consisted of cement, concrete rubble, plastic debris, glass, ash/cinders, coal fragments, wood, clapboard, metal, shoe fragments, household items, ash, particle board, and unspecified refuse sometimes intermixed with silty, coarse to fine sand. The depth to groundwater at FTMM-14 ranges from 6 to 8 feet below ground surface (bgs). Groundwater at FTMM-14 migrates in a southerly direction towards Husky Brook; the calculated average advective groundwater seepage velocity is 0.02 to 0.06 feet per day (7 to 22 feet per year).

E.3 SOIL SAMPLING RESULTS

Near-surface soil samples were collected at FTMM-14 in 1998 and 1999. Samples collected at approximately 24 inches bgs were analyzed for volatile organic compounds (VOCs), and soil samples collected between 6 and 12 inches bgs were analyzed for metals, semivolatile organic compounds (SVOCs), pesticides, and polychlorinated biphenyls (PCBs). Detected analyte concentrations were compared to Federal and State residential, non-residential, and impact to groundwater screening criteria as well as FTMM-specific background concentrations for metals. Residential criteria were used to support identification of constituent of potential concern (COPCs), but were not used to evaluate risk (Section E.8).

Concentrations of seven SVOCs (all of which are polynuclear aromatic hydrocarbons [PAHs]), one pesticide, and seven metals exceeded their current New Jersey Department of Environmental Protection (NJDEP) Residential Direct Contact Soil Remediation Standard (RDCSRS) and/or U.S. Environmental Protection Agency (USEPA) Residential Regional Screening Level (RSL) in at least one soil sample. Concentrations of six PAHs and three metals exceeded their NJDEP Non-Residential Direct Contact Soil Remediation Standard (NRDCSRS) and/or USEPA Industrial Soil RSL in at least one soil sample. Concentrations of four VOCs, 17 SVOCs, six pesticides, and 17 metals exceeded their NJDEP Impact to Groundwater (IGW) standard and/or USEPA Protection of Groundwater RSL in at least one soil sample.

The maximum detected concentrations of metals, except thallium, exceeded their maximum background concentration for the MP presented by Weston (1995) in at least one sample. Therefore, only thallium can be assumed to be representative of natural background conditions at every one of the soil boring locations.

E.4 GROUNDWATER SAMPLING RESULTS

Quarterly groundwater monitoring occurred at FTMM-14 from June 1997 to August 2011 using a network of up to nine monitoring wells. The most recent eight quarters of groundwater monitoring data (November 2009 to August 2011) and the August 2013 Baseline Sampling Event were evaluated as being representative of recent conditions. Sampling was discontinued following the 2013 baseline sampling event, with the concurrence of the NJDEP as stated in an approval letter "Re: November 26, 2014 Response to Comments – on the Final Baseline Ground Water Sampling Report (August 2013)" dated February 5, 2015. Detected analyte concentrations were compared to Federal and State screening criteria for potable water, as well as FTMM-specific background concentrations for metals to identify COPCs (Section E.8). Concentrations of one VOC (1,4-dichlorobenzene) and 18 metals exceeded their NJDEP Ground Water Quality Standard (GWQS) and/or the USEPA Tapwater RSL in at least one sample. 1,4-dichlorobenzene was not identified as a COPC because it exceeded the Tapwater RSL in only 2 of 81 samples collected from November 2009 to August 2011, was not detected during the August 2013 Baseline Sampling Event, and the exceedances were very slight in magnitude (0.61 to 0.81 J micrograms per liter [µg/L] versus a Tapwater RSL of 0.42 µg/L).

The metals detected at concentrations exceeding their NJDEP GWQS and/or USEPA Tapwater RSL and also the maximum background concentration for the MP established by Weston (1995) include antimony, cadmium, cobalt, copper, manganese, nickel, selenium, silver, sodium, and zinc. Given the small number of background exceedances (1 out of 69 samples), detected concentrations of antimony, cobalt, copper, and nickel are considered to be representative of background conditions. Cadmium, selenium, silver, and zinc were detected above background and comparison criteria in select wells, but in each case were followed by multiple rounds of non-detect data; therefore the exceedances were determined to be anomalous. Sodium is an essential human nutrient. The remaining metal, manganese, was not identified as a COPC because exceedances of the comparison criteria were localized in time and space, not representative of the larger dataset, and potentially influenced by sample turbidity.

E.5 SURFACE WATER SAMPLING RESULTS

Surface water samples were collected at two to four locations in Husky Brook and Husky Brook Pond from October 1996 to September 2010. These sampling locations have historically been associated with FTMM-14 in previously prepared reports and are located upstream, adjacent to, and downstream of FTMM-14.

The most recent eight quarters of surface water monitoring data (December 2008 to September 2010) were evaluated as being representative of recent conditions. Comparison of upstream and downstream concentrations of VOCs and metals during the eight-quarter period indicates that FTMM-14 (including adjacent site FTMM-12) is not significantly impacting VOC or metal concentrations in the reach of Husky Brook that borders the site.

E.6 SEDIMENT SAMPLING RESULTS

Sediment sampling was conducted in April 2000 in Husky Brook to evaluate PCB-related impacts to stream sediments associated with FTMM-14. In the absence of sediment-specific screening criteria, soil criteria were used. One PCB (Aroclor 1254) was detected in 1 of 25 sediment samples collected at a concentration slightly greater than the NJDEP RDCSRS and the USEPA Residential RSL for soil. The detected PCB concentration does not exceed the NJDEP NRDCSRS or USEPA Industrial RSL for soil. The PCB detection occurred upstream of FTMM-14, and is therefore not associated with this site.

E.7 CONTAMINANT FATE AND TRANSPORT

Detected constituents of interest in terms of contaminant fate and transport at FTMM-14 include SVOCs, pesticides, and metals in vadose zone soil. Overall, SVOCs, pesticides, and metals in near-surface soil at FTMM-14 are expected to be relatively persistent and immobile, limiting their impact on groundwater quality.

E.8 RISK ASSESSMENT

An evaluation of the potential risk resulting from human exposure to contaminants in soil, surface water, sediment, and groundwater was conducted as part of this remedial investigation (RI). No COPCs were identified in groundwater, surface water, or sediment. Therefore, further evaluation of groundwater, surface water and sediment in the risk assessment was not conducted and no unacceptable risk associated with exposure to groundwater, surface water, or sediment is expected. The human health risk assessment (HHRA) evaluates exposure of current/future outdoor workers, future utility workers, and future recreational users to COPCs in soil through dermal contact, incidental ingestion, and inhalation of particulates. The HHRA used an exposure point concentration based on the maximum detected concentration or the 95 percent upper confidence limit on the mean (95% UCL) for soil.

For outdoor workers exposed to soil at FTMM-14, the cumulative carcinogenic risk of 4×10^{-5} is within the cumulative risk goal of 1×10^{-4} to 10^{-6} for soil. The cumulative non-carcinogenic hazard is 0.3, less than the cumulative hazard goal of 1. Therefore, no potential non-carcinogenic or carcinogenic effects to outdoor workers are expected from exposure to soil at FTMM-14.

For utility workers exposed to soil at FTMM-14, the cumulative carcinogenic risk of 5×10^{-7} is less than the cumulative risk goal of 1×10^{-4} to 10^{-6} for soil. The cumulative non-carcinogenic hazard is 0.09, less than the cumulative hazard goal of 1. Therefore, no potential non-carcinogenic or carcinogenic effects to utility workers are expected from exposure to soil at FTMM-14.

For recreational users exposed to soil at FTMM-14, the cumulative carcinogenic risk of 1×10^{-5} is within the cumulative risk goal of 1×10^{-4} to 10^{-6} for soil. The cumulative non-carcinogenic hazard is 0.04, which is less than the cumulative hazard goal of 1. Therefore, no potential non-carcinogenic or carcinogenic effects to recreational users are expected from exposure to soil at FTMM-14.

E.9 CONCLUSION

A feasibility study (FS) will not be performed for FTMM-14. The RI concluded that risks to human health and the environment from soil are within acceptable ranges. No further action is

required at FTMM-14 under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

To address safety concerns, a vegetated soil cover will be placed over the landfill area to provide safety protection for future non-residential use and improve drainage. The soil cap will be placed consistent with the NJDEP Solid Waste regulations (New Jersey Administrative Code [N.J.A.C.] 7:26-2A). Additional soil will be added to the existing soil cover to provide a minimum of two feet of soil between the ground surface and landfilled debris. Prior to designing and placing the cap, refinement of the the landfill boundary will be performed with a pre-design investigation based on the data gaps identified in this RI. The existing landfill surface will be clear cut and regraded prior to the installation of a vegetated native soil cover. The vegetated cover will offer safety protection to non-residents from future exposure to solid waste at the landfill and to control surface water runoff and erosion.

Institutional Controls (ICs) to maintain the soil cover and prevent residential land use will also be implemented at FTMM-14. The Army will prepare a Land Use Control (LUC) Implementation Plan during the remedial design phase to document the location of the engineering control (EC) and detail the landfill cover inspection, reporting and long-term management requirements. The Army will be responsible for documenting and implementing the ICs through the filing of a deed notice, and will also be responsible to conduct biennial reviews to ensure that the ICs remain protective of human health and the environment. However, the Army will not be responsible for obtaining a remedial action permit under New Jersey Technical Requirements for Site Remediation (TRSR). When the property is transferred to private ownership, the ICs will be incorporated into the title and the new owner will be responsible for complying with the ICs. Although the Army may later transfer its procedural responsibilities to another party by contract, property transfer agreement, or through other means, the Army shall retain ultimate responsibility for remedial integrity.

SECTION 1
INTRODUCTION

1.1 PROJECT AUTHORIZATION

Parsons Government Services Inc. (Parsons) is serving as the prime contractor to the U.S. Army Engineering and Support Center, Huntsville (USAESCH) for preparation of Remedial Investigation/Feasibility Study (RI/FS) reports to achieve acceptance of Decision Documents (DDs) at the Fort Monmouth (FTMM) site in Oceanport, Monmouth County, New Jersey. This project is being performed under task order (TO) 0012 issued under the Worldwide Environmental Restoration Services (WERS) contract number W912DY-09-D-0062.

This TO was issued to address a number of environmental sites at FTMM that are in various stages of hazardous, toxic, and radiological waste (HTRW) investigation and remediation. Specific activities that will be performed under this TO include:

1. Performance of RIs and FSs and preparation of RI and RI/FS reports to achieve acceptance of DDs in compliance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), National Contingency Plan (NCP), 40 Code of Federal Regulations (CFR) Part 300, and to the extent possible to meet the substantive remedial requirements of New Jersey Administrative Code (N.J.A.C.) 7:26E Technical Requirements for Site Remediation (TRSR); and
2. Supporting the closure of environmental sites to facilitate the efficient transfer of real property to other parties.

1.2 PURPOSE AND SCOPE

Parsons has prepared this RI report for landfill site FTMM-14 based on historical site characterization activities performed by others from 1993 to 2012. The report provides relevant site background information, characterizes the nature and extent of site-related contamination, evaluates the potential risk to human health, environment, and (if needed) evaluates remedial alternatives, and provides a comparative analysis of remedial alternatives. The overall goal of this process is to obtain stakeholder concurrence on a final report for each site, and if appropriate, provide sufficient data to facilitate future remedial action or administrative closure. The New Jersey Department of Environmental Protection (NJDEP) is the lead regulatory agency for FTMM and will provide regulatory review of this document.

1.3 SITE BACKGROUND INFORMATION

The following sections describe the site background. Included is a description of the site location, site history, background investigations, and summary of previous technical reports.

1.3.1 Site Location and Description

FTMM is located in the central-eastern portion of New Jersey in Monmouth County, approximately 45 miles south of New York City, New York, 70 miles northeast of Philadelphia, Pennsylvania, and 40 miles east of Trenton, New Jersey. The Atlantic Ocean is approximately three miles to the east. FTMM was comprised of three areas: the Main Post (MP), the Charles Wood Area (CWA) and the Evans Area (EA) (**Figure 1.1**). The areas of the MP and CWA are 637 acres and 489 acres, respectively. FTMM's MP and CWA were selected for closure by the

Base Realignment and Closure (BRAC) Commission in 2005, and officially closed on September 15, 2011. The EA (not shown on **Figure 1.1**) was located approximately eight miles to the south of the MP and CWA and was formerly used for administration, research and development (R&D), and some training. The EA was closed under BRAC 1998 and has been transferred from FTMM. FTMM falls within the Boroughs of Eatontown, Oceanport, and Tinton Falls. The MP is in the Eatontown and Oceanport Boroughs. The CWA is in the Eatontown and Tinton Falls Boroughs.

Figure 1.2 shows the location of the FTMM-14 landfill, which is in the central portion of the MP in the area west of Murphy Drive and on the north bank of Husky Brook. The site is bordered by houses along Gosselin Avenue to the north, by Husky Brook to the south, and by Murphy Drive to the east. The site layout is depicted on **Figure 1.3**. FTMM-14 has also been referred to as Landfill 14 and Landfill M-14 in historical documents. **Figure 1.3** and subsequent figures depict the FTMM-14 landfill boundary that resulted from the landfill boundary delineation study described in Section 1.3.2. The FTMM-14 landfill is approximately 6.9 acres in size. High tension power lines which supply electrical power to FTMM run through FTMM-14.

1.3.2 Site History

FTMM-14 was used as a general purpose disposal area for building rubble and was later covered with dredged material from Husky Brook Lake (Weston, 1993). FTMM-14 was in operation from approximately 1965 to 1966 (U.S. Army Toxic and Hazardous Materials Agency [USATHAMA], 1980). A review of aerial photographs by the NJDEP (**Appendix A**) in the area of FTMM-14 from 1940 to 1977 indicated that the area of FTMM-14 may have been disturbed as early as 1951, but by 1971 there was no aerial photograph evidence that the FTMM-14 landfill was in use, and revegetation had started to occur (NJDEP, 2010a). A chronological summary of events related to the environmental characterization and remediation of FTMM-14 is provided in **Table 1.1** and detailed in this subsection.

Suspected hazardous waste sites were initially identified at FTMM in a report prepared by USATHAMA (1980). The purpose of the report was to assess the environmental quality of FTMM with regard to the use, storage, treatment, and disposal of toxic and hazardous materials. Thirty-seven sites at the MP, CWA, and EA were identified as having known or suspected waste material, including FTMM-14. The report recommended that FTMM perform surface water and groundwater sampling at the installation's landfills and report the results to USATHAMA.

A study was conducted in 1980 that identified five locations that were considered to be major landfill areas. One of the five locations, Area B, includes FTMM-14. Monitoring wells were installed and groundwater and surface water samples were collected and analyzed for compliance with National Interim Primary Drinking Water Standards and National Secondary Drinking Water Regulations. The study concluded that the targeted parameters were not found at sufficiently elevated concentrations to cause degradation to groundwater or surface water, but it was recommended that FTMM submit a landfill registration statement to the NJDEP (USATHAMA, 1988).

A U.S. Army Environmental Hygiene Agency (USAEHA) water quality engineering study was conducted in 1984 to determine if landfill leachate was forming and entering streams. Surface water samples were collected in Husky Brook adjacent to FTMM-14. The sampling results indicated that the landfill's impacts to the stream were minimal (USATHAMA, 1988). It

was recommended that the results be presented to the NJDEP in compliance with the New Jersey Pollutant Discharge Elimination System (NJPDES).

A follow-up evaluation was completed by USATHAMA (1988) to determine if environmental/hazardous waste disposal conditions at FTMM (including the landfills) had changed since the assessment in 1980 (USATHAMA, 1980). Based on an assessment of available data it was recommended that surface water and groundwater sampling at the MP landfill areas should be continued (USATHAMA, 1988).

A site investigation (SI) was performed by Roy F. Weston, Inc. (Weston) at FTMM-14, which included the installation of three shallow groundwater monitoring wells in 1995, and performance of two rounds of groundwater sampling in February and March 1995 (Weston, 1995; provided in **Appendix A**). The results of the groundwater sampling were presented in the SI report (Weston, 1995). The SI presented a proposal for long-term groundwater and surface water monitoring that utilized the existing groundwater monitoring wells and surface water sampling locations to monitor and document downgradient surface water and groundwater quality conditions over time.

Groundwater sampling was performed from 1997 to 1999 in the three wells installed at FTMM-14 in 1995. Two additional wells were installed in 1999, but not sampled until 2000. One additional well was installed in 2000, making a total of six groundwater monitoring wells at FTMM-14 used for quarterly groundwater sampling (Versar, 2005; provided in **Appendix A**). An additional three wells were installed in 2010 (U.S. Army, 2012; provided in **Appendix A**), bringing the total number of wells on-site to nine. Quarterly groundwater monitoring was performed at the site from June 1997 to August 2011. **Figure 1.3** shows the locations of groundwater monitoring wells associated with FTMM-14 (some wells associated with Landfill FTMM-12 are also shown on this figure).

Surface water samples were initially collected from two locations, SS-8 (upstream) and SS-9 (downstream), in Husky Brook in February 1986 (USATHAMA, 1988). Quarterly surface water sampling was recommended (Weston, 1995) and conducted at four locations in Husky Brook associated with FTMM-14 from October 1996 through September 2010.

Near-surface soils were characterized in 1998 by analyzing soil samples collected on a grid pattern within the boundaries of FTMM-14. The results of soil sampling were documented in an RI Report (Versar, 2004b; provided in **Appendix A**).

Other studies conducted at nearby MP landfill sites (FTMM-02 and FTMM-08) found polychlorinated biphenyl (PCB)-containing materials disposed of in each landfill. Therefore, assuming other landfills on the MP had received similar waste materials, a sediment sampling investigation was performed in 2000 to evaluate potential impacts to stream sediments (Versar, 2004a; provided in **Appendix A**). Because Husky Brook is located between FTMM-14 and FTMM-12, the sediment sampling conducted by Versar (2004a) represented both landfills.

The FTMM-14 landfill boundaries were refined in 2008-2010 (**Figures 1.3 and 2.1**) through the advancement of test pits and soil borings along the northern boundary of the site and along Murphy Drive. Test pit depths ranged from 2 to 8 feet bgs. Husky Brook is the southern boundary of FTMM-14, and no test pits were advanced adjacent to Husky Brook (U.S. Army, 2012; provided in **Appendix A**). The thickness of cover material at 131 locations ranged from 6 to 78 inches and averaged 30.6 inches (see Table 2/Cover Material Summary for the landfill

delineation project in **Appendix A**). Waste material observed immediately below the cover material included cement, concrete rubble, plastic debris, glass, ash/cinders, coal fragments, wood, clapboard, metal, shoe fragments, household items, ash, particle board, and unspecified refuse and garbage.

The landfill boundaries were reexamined by Parsons in 2015 using the available test pit and soil boring data, as well as historical aerial photographs (**Appendix A**). After the data were reexamined, the boundaries of Landfill FTMM-14 remain generally similar to how they were defined in 2010; however, the boundaries were refined in a few areas. The most significant refinement was made to the northern boundary of the landfill behind the houses on Gossselin Avenue, near Test Pits 3E, 4D, 6C, and 7C (**Figure 2.1**). A previous (2010) review of the logs for Test Pits 3E, 4D, and 7C (**Appendix A**) revealed a minor amount of landfill material, compared to test pits conducted closer to Husky Brook, and all three were depicted on previous maps as having landfill debris present. However, no landfill material was indicated at Test Pit 4D on previous maps depicting the boundary of the FTMM-14 landfill. A reexamination of Test Pit 4D shows that some minor landfill material was present. Thus, while these four test pits indicate that these areas are likely near the northern edge of the landfill, they all contain some landfill debris. Therefore, the 2010 revised boundary of the landfill was moved slightly to the north in this area, which is consistent with observations of the landfill boundary made during the 2015 review of a series of aerial photographs dated 1947, 1957, 1963, 1969, and 1970. These photographs depict the progression of suspected filling activities that occurred to produce the FTMM-14 landfill (**Appendix A**). Also, the east side of the landfill boundary near Murphy Drive was modified slightly based on aerial photographs, test pit, and soil boring data. The 2015 revised boundary is shown on **Figure 1.3**. Data gaps in the landfill boundary remain near test pits 3E, 4D, 6C, and 7C, and these data gaps are proposed to be addressed during a pre-design investigation.

A classification exception area (CEA) study was conducted for FTMM-14 by Brinkerhoff Environmental Services, Inc. (Brinkerhoff) to evaluate current groundwater conditions and present a CEA for FTMM-14 (Brinkerhoff, 2011a; provided in **Appendix A**). Groundwater was sampled from monitoring wells at FTMM-14 from the 4th quarter of 2008 through the 3rd quarter of 2010, and the samples were analyzed for metals. The CEA application was used to specify constituents that would require an exception to the NJDEP's Ground Water Quality Standards (GWQS) (NJDEP, 2010b). The presence of antimony, arsenic, beryllium, cadmium, and thallium in site groundwater was attributed to naturally occurring background conditions (Brinkerhoff, 2011b), and these metals were not included in the CEA application. Subsequent to filing the CEA, it was withdrawn by the Army and it was never reviewed or approved by NJDEP.

Environmental investigations performed at FTMM-14 are summarized in greater detail in Section 2, and the nature and extent of contamination detected during the environmental investigations are summarized in Section 4.

1.4 REPORT ORGANIZATION

This RI report is organized to be compliant with relevant portions of the outline presented in the *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA* (USEPA, 1988).

- Introduction: Section 1 details the overall scope and objective of the project, presents the organization of the report, and presents an overview of the site and its history, including previous investigations;
- Previous Investigations and Interim Remedial Actions: Section 2 details the site characterization field activities and interim remedial actions that have been performed;
- Physical Characteristics of the Site: Section 3 describes the physical setting of the site, including surface features, surface water hydrology, geology and hydrogeology, land use, and ecological setting;
- Nature and Extent of Contamination: Section 4 summarizes the degree to which sampled media have been impacted by site-related contamination, and identifies those constituents that were detected above applicable cleanup criteria but are believed to be representative of natural background concentrations;
- Contaminant Fate and Transport: Section 5 describes the migration and fate of selected constituents present in the subsurface based upon site-specific data, the geologic and hydrogeologic characteristics of the site, and the physicochemical properties of the constituents;
- Baseline Risk Assessment: Section 6 provides a quantitative assessment of the risk posed by site-related constituent of potential concern (COPCs) to potential human receptors;
- Remedial Investigation Summary: Section 7 summarizes the main findings of the RI;
- Conclusion: Section 8 presents the conclusion and details reasons why a feasibility study is not necessary; and
- References: Section 9 includes a list of references used in the preparation of this report.

Additional information is attached to this work plan as appendices:

- **Appendix A** – Key historical reports and background information (included electronically on CD);
- **Appendix B** – Utility Worker and Recreational User Screening Level equations and calculations; ProUCL output (included electronically on CD); and
- **Appendix C** – Cost estimate.

SECTION 2
PREVIOUS INVESTIGATIONS

2.1 GEOLOGIC/HYDROGEOLOGIC INVESTIGATIONS

The geologic and hydrogeologic characteristics of FTMM have been investigated during numerous historical installation-wide and site-specific environmental studies. The primary methods of geologic/hydrogeologic investigation at FTMM-14 have consisted of describing soils encountered during monitoring well drilling, measuring water levels in site monitoring wells and constructing potentiometric surface (i.e., groundwater surface elevation contour) maps indicating the direction and magnitude of the horizontal hydraulic gradient.

2.2 SOIL AND VADOSE ZONE INVESTIGATIONS

The Army characterized near-surface soils using borings installed throughout the site. The *Remedial Investigation Report for Near-Surface Soils, M-14 Landfill Site* (Versar, 2004b) presents the results of the soil investigation. The Army advanced 119 soil borings and collected soil samples from each boring between December 1998 and January 1999. Each of the soil samples, except those collected for volatile organic compound (VOC) analysis, were collected between approximately 6 and 12 inches bgs. VOC samples were collected at approximately 24 inches bgs since surface soils would not be expected to retain volatile constituents over time. A total of 124 soil samples (119 primary samples plus 5 field duplicate samples) were analyzed for VOCs, semivolatile organic compounds (SVOCs), pesticides, PCBs, and Target Analyte List (TAL) metals. Laboratory analyses were conducted at the Fort Monmouth Environmental Testing Laboratory (FMETL), a New Jersey-certified laboratory (Certification No. 13461). The landfill site boundary (**Figure 1.3**) is based on the near-surface soil RI report (Versar, 2004), a landfill cover requirements report (Brinkerhoff, 2011), and a review of historical data and aerial photos by Parsons in 2015. **Figure 2.1** depicts the current understanding of the FTMM-14 landfill boundary, the soil boring locations, and the test pit locations used for the delineation of the landfill.

2.3 GROUNDWATER INVESTIGATIONS

Groundwater monitoring wells were installed at and near FTMM-14 to determine if leachate from the landfill was impacting groundwater quality. Well construction details are provided in **Table 2.1**, and the scope of the quarterly groundwater monitoring program from 1997 to 2011 is summarized in **Table 2.2**. Well locations are shown on **Figure 1.3**.

In 1995, as part of a SI, three shallow groundwater wells (M14MW19, M14MW20, and M14MW21) were installed and two rounds of groundwater sampling were conducted in February and March 1995 (Weston, 1995). Groundwater samples were analyzed for TAL metals, VOCs, SVOCs, pesticides, PCBs, and cyanide. The results of the groundwater sampling were presented in the SI report (Weston, 1995). Based on the findings of the SI, the Army implemented a long-term groundwater monitoring program.

Two additional monitoring wells (M14MW22 and M14MW23) were installed in 1999, and initially sampled in 2000. One monitoring well (M14MW24) was installed and initially sampled in 2000. Groundwater samples collected from the six monitoring wells installed from 1995 to 2000 were sampled quarterly and analyzed for VOCs, SVOCs, Pesticides/PCBs, and TAL metals through August 2004 (**Table 2.2**) (U.S. Army, 2012). In November 2004, based on the long-term

groundwater monitoring results, the Army requested a reduction in groundwater analysis from NJDEP for samples collected from the FTMM-14 landfill monitoring wells. The subsequent target analytes included only VOCs and TAL metals. Removal of SVOC, pesticide, and PCB analysis from the FTMM-04 groundwater sampling program was approved by the NJDEP (November 16, 2004 email). No SVOCs, pesticides, or PCBs have been detected at concentrations exceeding NJDEP GWQS in FTMM-14 landfill monitoring wells since 2001. On November 16, 2004, in an email correspondence to the Army, the NJDEP approved the reduction of groundwater sample analysis to VOCs and TAL metals. Three additional monitoring wells (M14MW18, M14MW25, and M14MW26) were installed and initially sampled for VOCs and metals in 2010 (U.S. Army, 2012). The location of well M14MW25 is not evident in existing reports; however, given its assignment to FTMM-14, the associated analytical data is assumed to be representative of FTMM-14 groundwater.

In 2011, a CEA Report was prepared by Brinkerhoff (2011). The report was based on groundwater sampled from monitoring wells at FTMM-14 from the 4th quarter of 2008 through the 3rd quarter of 2010, and the samples were analyzed for metals. Subsequent to filing the CEA, it was withdrawn by the Army and it was never reviewed or approved by NJDEP.

2.4 SURFACE WATER INVESTIGATIONS

Surface water samples were collected from an upstream location (SS-8) and downstream location (SS-9) at FTMM-14 during the SI (Weston, 1995) (**Figure 2.2**). The sampling locations were considered saline, and the analytical results for VOCS, SVOCs, pesticides/PCBs and TAL metals were compared to NJDEP saline surface water criteria. The surface water in Husky Brook at FTMM-14 is tidally–influenced, and high tide salinity measurements presented in the Baseline Ecological Evaluation (BEE) Report (Shaw, 2012) indicate that the reach of Husky Brook adjacent to FTMM-14 has an overall site average high tide salinity of 11.2 parts per thousand (ppt), which classifies it as saline. Upstream location SS-8 was not sampled during subsequent years, and in addition to SS-9, three other locations (SS-11, SS-12, and SS-19) were sampled quarterly for VOCs from October 1996 to March 2000. SS-11 is far upstream of SS-8 where Husky Brook first enters the MP. SS-12 and SS-19 are also located upstream of FTMM-14 in Husky Brook Pond and where Husky Brook crosses beneath Todd Avenue, respectively (**Figure 2.2**). Starting in June 2000, quarterly surface water samples from SS-9, SS-11, SS-12, and SS-19 were analyzed for VOCs, and some samples were also analyzed for pesticides/PCBs (S-11) or metals (S-9, S-12, and S-19), are summarized in **Table 2.3**. Sampling results have been summarized by U.S. Army (2012).

2.5 SEDIMENT INVESTIGATIONS

Other studies conducted at similar MP landfill sites (FTMM-02 and FTMM-08) found PCB-containing materials (e.g., electrical ballasts) disposed of in each landfill. In addition, PCBs were detected in soil and/or groundwater at both FTMM-02 and FTMM-08. Therefore, assuming that other landfills on the MP had received similar waste materials, the FTMM Directorate of Public Works (DPW) initiated a sediment sampling investigation in the second quarter of 2000 to evaluate potential impacts to stream sediments adjacent to the MP landfill sites. FTMM-14 was included in the sediment sampling program to supplement previous characterization results for soil, surface water, and groundwater (Versar, 2004a).

To determine PCB-related impacts to sediments in Husky Brook from FTMM-14, the Army collected 11 surface (0-6 inches bgs) and 11 near-surface (6-12 inches bgs) sediment samples in Husky Brook in April 2000, including one duplicate sample (sampled at 0-6 inches bgs and 6-12 inches bgs) for quality assurance/quality control (QA/QC) purposes. The locations sampled were B-1 through B-11. At locations B-1, B-4, and B-6, sediment samples were also collected from a deeper interval (18-24 inches bgs). The 27 sediment samples (two to three depth intervals sampled per location) were collected along the 1,700-foot section of Husky Brook that forms the southern border of FTMM-14 and separates FTMM-14 and FTMM-12. Sediment sample locations are shown on **Figure 2.2**. The 27 sediment samples were analyzed for PCBs and compared by Versar (2004a) to sediment sampling guidance concentrations defined in the NJDEP's (1998) *Guidance for Sediment Quality Evaluations*.

2.6 ECOLOGICAL INVESTIGATIONS

A Baseline Ecological Evaluation (BEE; Shaw, 2012; provided in **Appendix A**) was performed at the MP and CWA to fulfill requirements set forth in NJDEP's TRSR (N.J.A.C. 7:26E-5.3 as cited in a previous version of the TRSR). The BEE is Tier I of the ecological evaluation and ecological risk assessment process as developed by the Site Remediation Program, and is defined in the TRSR and Site Remediation News (NJDEP, 1997). The objective of the BEE at FTMM was to examine each of 23 identified sites (eight Environmental Condition of Property [ECP] parcels and 15 Installation Restoration Program [IRP] sites). The BEE was developed to be an efficient and cost-effective screening process. As such, the results of a BEE are used to determine whether potential ecological impacts are negligible or whether more site-specific ecological evaluation is warranted.

The NJDEP has accepted the 2012 BEE report's recommendations and conclusions and concurs that no further evaluation of ecological risk is required. Therefore, based on the recommendation of the 2012 BEE report, no further ecological risk assessment was conducted for FTMM-14. Additional ecological information pertinent to this site was obtained from the BEE report and is summarized in Section 3.5.

2.7 PREVIOUS INVESTIGATIONS OF BACKGROUND SOIL, GROUNDWATER, AND SURFACE WATER QUALITY

2.7.1 Weston (1995) Background Investigation

Weston (1995) collected 10 soil and 10 groundwater samples on both the CWA and MP to determine concentrations of constituents that occur naturally or as a result of activities unrelated to FTMM. Background sampling locations were selected as specified in the document *Investigations of Suspected Hazardous Waste Sites at Fort Monmouth, New Jersey* (Weston, 1993), which was approved by NJDEP. The resulting background data set was found to be neither normally or log-normally distributed; therefore, the tolerance interval method for determining representative background concentrations described in the then-current version of the USEPA document *Statistical Analysis of Groundwater Monitoring Activities at RCRA Facilities* (USEPA, 2009) was not used. Weston (1995) states that nonparametric methods that are similar to the tolerance interval method involve selecting the data value that is at the 95th percentile of the data set. Because there were 10 data points, the equivalent method for the FTMM background data set was to use the maximum value. An outlier screening was conducted to identify background concentrations that were inconsistent with the rest of the data set. Based

on the screening, outliers were identified for beryllium, chromium, cobalt, lead, vanadium, and zinc in MP groundwater, and manganese in CWA soil. These outliers were eliminated from the data set.

In addition, Weston (1995) identified maximum background values for Monmouth County based on published data. The Monmouth County background concentrations for soils were based on analyses of samples from the vicinity of Fort Monmouth.

Weston (1995) also provides results for two background surface water and sediment samples that were collected at the MP in areas not expected to be affected by base activities. These samples were collected from Mill and Lafetra creeks at the western (upstream) edge of the MP.

2.7.2 Brinkerhoff (2011b) Background Evaluation

Brinkerhoff Environmental Services, Inc. (Brinkerhoff, 2011b) performed an evaluation to achieve the following objectives:

- Document the presence of naturally occurring metals in groundwater;
- Identify various conditions which are likely to have resulted in exceedances of NJDEP GWQS by concentrations of various metals detected in groundwater at FTMM; and
- Develop a strategy for determining which sites contain metal concentrations in groundwater that represent site-related contamination.

For FTMM-14, Brinkerhoff (2011b; provided in **Appendix A**) calculated the 90th percentile values for metals using groundwater quality data collected from March to September 2010, and determined that the 90th percentile values for barium, beryllium, cadmium, chromium, copper, lead, and nickel were less than the GWQS for these metals. Based on this calculation, Brinkerhoff (2011b) recommended no further sampling of groundwater for these metals.

2.7.3 Base-Wide Glauconitic Soil Sampling Report

Previous studies have documented the presence of elevated naturally-occurring metal concentrations (e.g., arsenic, beryllium, lead) in glauconitic soils such as those present within the New Jersey Coastal Plain physiographic province (Dooley, 2001; U.S. Geological Survey [USGS], 1984). In an effort to confirm and document that select metals detected in groundwater on the MP are naturally associated with glauconitic soils, the FTMM DPW (FTMM, 2011) conducted a soil and groundwater sampling investigation to determine whether naturally occurring metals in soil are causing metal concentrations in groundwater to exceed the NJDEP GWQS. According to Jablonski (1968), the Red Bank and Tinton Sands that outcrop at the MP contain glauconite. Minard (1969) states that glauconite may comprise 60 to 80 percent of the sand fraction in the upper portion of the Tinton Sand.

Six co-located soil and groundwater samples were collected at three sites and analyzed for TAL metals. The study concluded that arsenic and lead co-exist as naturally occurring metals that are unrelated to any documented source at any of the sampled sites. The study also concluded that arsenic in groundwater, which was detected at concentrations exceeding the NJDEP GWQS of 3 micrograms per liter (µg/L) in three of the six samples, is due to natural conditions rather than man-made/anthropogenic sources (FTMM, 2011).

SECTION 3
PHYSICAL CHARACTERISTICS OF THE SITE

3.1 SURFACE FEATURES

The FTMM-14 landfill is located southeast of Mill and Parkers Creek and immediately north and adjacent to Husky Brook. The ground surface topography is flat, with elevations of less than 20 feet above mean sea level.

3.2 SURFACE-WATER HYDROLOGY

Husky Brook originates off-post and becomes Husky Brook Lake in the southwestern corner of the MP (**Figure 2.2**). Surface-water drainage from the southern half of the MP flows into Husky Brook and Husky Brook Lake through a series of drainage ditches and outfalls. Husky Brook exits Husky Brook Lake and becomes Oceanport Creek just downstream of FTMM-14. Oceanport Creek and Husky Brook are tidally influenced below Husky Brook Lake (Weston, 1995; Shaw, 2012). Surface water that accumulates on the land surface from precipitation events at FTMM-14 is transported southward via overland flow toward Husky Brook (**Figure 2.2**).

3.3 GEOLOGY AND HYDROGEOLOGY

3.3.1 Regional Geology and Hydrogeology

The MP and CWA are situated on coastal plain deposits that thicken to the southeast. The regional geologic and hydrogeologic framework for the New Jersey coastal plain is described by Zapecza (1989), who identified 15 regional hydrogeologic units, including nine aquifers and six confining units. An early regional geologic cross-section for the FTMM vicinity based on the work of Zapecza (1989), and presented in Versar (2005b), is provided in **Appendix A**. This cross-section indicates that the depth to crystalline bedrock at FTMM is approximately 1,000 feet. In 2010, the understanding of the geology in the area around FTMM was refined by Sanford and Sugarman of the New Jersey Geological Survey. They describe the unconsolidated material in the coastal plain as consisting of sand, silt, clay, and glauconitic clay laid down in coastal, nearshore-marine, and continental shelf settings between 95 and 10 million years ago. The sediments are grouped into 19 formations and members.

The geology of the Long Branch Quadrangle (Stanford and Sugarman, 2010) indicates that the Hornerstown, Vincentown, and Tinton formations are the unconsolidated units that outcrop or occur close to the ground surface in the area of FTMM. There is a relatively thin veneer of surficial deposits that covers most of the unconsolidated material, according to the Surficial Geology of the Long Branch Quadrangle (Stanford, 2000). The 2010 bedrock geologic map provides a geologic cross-section (A-A') through FTMM that is more refined than the one developed by Zapecza (1989); this refined cross section is also included in **Appendix A**. Regressive, upward-coarsening deposits are usually aquifers (e.g., Englishtown and Kirkwood Formations and the Cohansey Sand), while the transgressive deposits act as confining units (e.g., the Merchantville, Marshalltown, Navesink, and Hornerstown Formations). The individual thicknesses for these units varies greatly from several tens of feet to several hundred feet.

The Hornerstown Formation, which underlies much of the MP and the northern portion of the CWA, consists of glauconitic (>50%) clay and silty clay. This unstratified formation is olive,

dark green and black where unweathered and olive-brown with brown to reddish-brown mottles where weathered (Stanford and Sugarman, 2010). The Hornerstown Formation is 25 to 30 feet thick. The Vincentown Formation, which unconformably overlies the Hornerstown Formation, consists of glauconitic (5-20%), silty, medium-to-coarse, quartz sand; some fine-to-medium sand; and some very coarse sand to very fine pebbles. This formation is yellow, reddish-yellow, olive yellow, or olive-brown in color and has a total thickness of 180 feet.

The Tinton (Sand) Formation unconformably underlies the Hornerstown Formation and conformably overlies the Red Bank Sand and consists of glauconitic (5-30%), silty, medium-to-coarse and fine-to-medium, quartz sand. The color is reddish-brown, reddish-yellow, or yellowish-brown where weathered, and grayish-brown, brown, and olive-brown where unweathered. It is commonly iron-cemented into beds and masses as much as 15 feet thick. The uppermost 4 to 6 feet, just below the contact with the Hornerstown Formation, is a brown to olive-gray, glauconitic, clayey silt to sandy or silty clay (Stanford and Sugarman, 2010).

The water table aquifer in the MP and CWA areas is identified as part of the "Navesink-Hornerstown Confining Units," or minor aquifers. The minor aquifers include the Navesink Formation, Red Bank Sand, Tinton Sand, Hornerstown Sand, Vincentown Formation, Manasquan Formation, Shark River Formation, Piney Point Formation, and the basal clay of the Kirkwood Formation. These geologic formations comprise a "Composite Confining Bed" for the underlying Wenonah Mount Laurel Aquifer (Zapecza, 1989 as reported by Versar, 2005b) (see regional geologic cross-section in **Appendix A**). The Composite Confining Bed is estimated to be approximately 125 feet thick at FTMM (Versar, 2005b). Wells installed in the Red Bank and Tinton Sands produce 2 to 25 gallons per minute (gpm) (Jablonski, 1968). The shallow water table conditions in the Tinton and Red Bank Sands, and the similar composition of these sands within the Kirkwood Formation, suggest that the Tinton-Red Bank-Kirkwood sequence forms a single, laterally continuous aquifer. Regionally, groundwater in this water table aquifer flows east towards the Atlantic Ocean. However, local topography tends to deflect the flow toward local depressions (Versar, 2005b).

A pumping test performed at FTMM in 1992 yielded a hydraulic conductivity of 32 gallons per day per square foot (gpd/ft^2) (4.3 feet per day[ft/day]) (Groundwater & Environmental Services, Inc. [GES] 1999). The location of the pumping test and the geologic unit tested are not known. Additional hydraulic conductivity information for the MP area is provided in Appendix IV of the *MODFLOW Groundwater Modeling Report* prepared by Brinkerhoff (2010). Twenty-one hydraulic conductivity values derived from slug tests performed in monitoring wells installed at various building areas ranged from 0.3 ft/day to 31.7 ft/day with a geometric mean value of 3.2 ft/day.

3.3.2 Site-Specific Geology and Hydrogeology

Soil types identified to a depth of 8 feet bgs on logs of test pits excavated in 2008 during a landfill boundary delineation project (Section 1.3.2) include orange and tan sand and silty sand, and clay. Monitoring wells at FTMM-14 were installed to depths ranging from 15 to 20 feet bgs (**Table 2.3**). The borehole logs for these wells indicate that shallow soil is composed of dark gray, silty sand with clay and root fragments. Deeper soil is composed of greenish, orange, and gray sandy clay with a trace of gravel. Versar (2004b) describes the soil at FTMM-14 as being composed of a thin soil cover (0.4 feet [4.8 inches]) underlain by fill material. However, the thickness of cover material at 131 locations identified during a subsequent landfill boundary

delineation project ranged from 6 to 78 inches and averaged 30.6 inches (Section 1.3.2). The components of the fill material encountered during historical intrusive investigations have been identified as consisting of cement, concrete rubble, plastic debris, glass, ash/cinders, coal fragments, wood, clapboard, metal, shoe fragments, household items, ash, particle board, and unspecified refuse and garbage; these items were occasionally intermixed with greenish-gray, silty, coarse to fine sand with little clay and gravel. FTMM-14 overlies the unconsolidated material of the Hornerstown Formation, according to the Geologic Map of the Long Branch Quadrangle (Stanford and Sugarman, 2010). Naturally deposited surficial soils also exist above the unconsolidated units (Stanford, 2000).

The depth to groundwater at the MP typically ranges from approximately 2 to 9 feet bgs. At FTMM-14, the groundwater depth ranges from 6 to 8 feet bgs based on water level depth measurements collected in 2010 and reported by the U.S. Army (2012). Groundwater consistently migrates towards the south and southeast (i.e., toward Husky Brook, **Figure 1.3**) with a horizontal hydraulic gradient ranging from approximately 0.001 foot per foot (ft/ft) to 0.004 ft/ft based on potentiometric surface maps contained in Versar (2005). An average advective groundwater seepage velocity for FTMM-14 was calculated using the following equation:

$$V = Ki/n_e$$

Where:

V = seepage velocity

K = hydraulic conductivity = 3.2 ft/day (the geometric mean value determined from slug tests at FTMM)

i = hydraulic gradient = 0.001 to 0.004 ft/ft (measured from the site-specific potentiometric surface maps for November 2000 and January 2001 prepared by Versar [2005] [see **Appendix A** of this report])

n_e = effective porosity = 0.20 or 20% (estimated value for a fine to coarse sand with minor silt and clay)

The calculated average advective groundwater seepage velocity is 0.02 to 0.06 ft/day (7 to 22 feet per year).

3.4 LAND USE

FTMM-14 has reportedly been inactive since 1966. Since then there has been steady growth and stabilization of vegetation (grass, trees, and bushes) at the site. High tension power lines which supply electricity to FTMM run through the FTMM-14 landfill. There was a playground and basketball court on the north side of FTMM-14, within the site boundary, near the houses on Gosselin Avenue. However, according to recent aerial imagery, the playground and the hoops on the basketball court have been removed (GoogleEarth, 2013). The anticipated future land use at FTMM-14 is passive open space (Edaw, Inc., 2008) (see Land Use Plan in **Appendix A**). Land planned for use as “open space” is expected to remain undeveloped, with only occasional maintenance activities (e.g., grounds keeping), utility work associated with underground or overhead utilities that may be present within the site boundary, and recreational activity (e.g., hiking and biking on established trails).

3.5 ECOLOGY

Major vegetation zones at FTMM consist of landscaped areas, estuarine and fresh water wetlands, riparian areas, upland forests, and old field habitats. Much of the upland areas of the MP and CWA consist of extensive areas of regularly mowed lawns and landscaped areas (Shaw, 2012). FTMM-14 consists of an open vegetated field that is not currently maintained, except for the far western portion of FTMM-14, which is maintained lawn. The stream bank of Husky Brook adjacent to FTMM-14 has been stabilized with rip-rap (Versar, 2004b; Shaw, 2012). The BEE report (Shaw, 2012) indicates to the east of FTMM-14, on the opposite side of Murphy Drive, the emergent wetland areas adjacent to Husky Brook are considered potential habitat for the New Jersey-listed endangered Least Tern (Shaw, 2012) according to the geographic information system (GIS) digital data provided by NJDEP. However, that species has not been observed downstream of FTMM-14.

Except for occasional transient species, no federally-listed or proposed threatened or endangered flora or fauna are known to exist at FTMM. There was one observance in 1992 of a New Jersey-listed endangered species, the clustered sedge. No federal- or state-listed species were observed during the BEE site visit conducted on the MP and CWA in September 2009.

SECTION 4
NATURE AND EXTENT OF CONTAMINATION

Environmental sampling results for soil, groundwater, surface water, and sediment at and adjacent to FTMM-14 are described in this section.

4.1 SOIL QUALITY

Soil quality results obtained during the near-surface soil characterization (Versar, 2004b) are summarized in the following subsections. Sample locations are shown on **Figure 2.1**. **Tables 4.1 and 4.2** show the sampling results for detected analytes and also show selected NJDEP comparison criteria, background criteria (**Table 4.1**) and USEPA comparison criteria (**Table 4.2**), including:

- NJDEP RDCSRS, NRDCSRS, and IGW soil screening levels, and
- USEPA RSLs (target risk [TR] = $1x10^{-6}$ and target hazard quotient [THQ] = 0.1) for residential and industrial soil and protection of groundwater (the latter being analogous to the NJDEP IGW standards).

NJDEP is the primary regulatory agency for FTMM, and NJDEP concurrence with the conclusions of the RI is required to move forward with property transfer and provide administrative closure of the site. Therefore, site concentrations were compared to NJDEP criteria. Both residential and non-residential criteria are used to provide context for NJDEP to evaluate potential future land use.

USEPA RSLs were used for comparison purposes because the U.S Army is tasked with completing a CERCLA-compliant RI (including risk assessment). Therefore, RSLs are used to identify those chemicals that are present at a sufficient concentration to justify inclusion as COPC and consideration in the quantitative baseline risk assessment. Any analyte present at a concentration greater than both the Residential Soil RSL based on a target risk of $1x10^{-6}$ or a THQ of 0.1 and the range of FTMM-specific background concentrations for metals (Weston, 1995) is considered a COPC (except for metals considered essential human nutrients) and included for further evaluation in the baseline risk assessment. Any analyte that is present at concentrations less than these residential criteria are not expected to pose a risk to human receptors under any future land use, and so are not included in the baseline risk assessment. A comparison to residential criteria is not meant to imply that residential land use is expected or planned at the site. Residential criteria are simply used as a tool to identify COPCs.

Table 4.3 summarizes the number of times detected analyte concentrations in soil were greater than one or more NJDEP or USEPA comparison criteria, and the number of times that detected metals concentrations were greater than background concentrations presented by Weston (1995).

4.1.1 Summary of Comparison Criteria Exceedances in Soil

Concentrations of VOCs, SVOCs, pesticides, and metals were detected in soil at concentrations that exceed NJDEP and/or USEPA comparison criteria.

Versar (2004b) reported that analysis of the soil sampling results did not define a source area or level of contamination that necessitated the identification and evaluation of potential

remedial actions. For many of the analytical results that exceeded the then-current Residential Direct Contact Soil Cleanup Criteria (RDCSCC), the "compliance averaging" approach was used by Versar (2004b) to determine compliance with NJDEP technical requirements. Compliance averaging uses the average contaminant concentration in an area of concern rather than the concentration in individual samples for comparison to applicable soil cleanup criteria. In most cases, either the calculated compliance average was below the respective RDCSCC or the exceedance was considered marginal (Versar, 2004b). For the analytes that were not eliminated based on compliance averaging, Versar (2004b) reported that a document equivalent to a Declaration of Environmental Restriction would be incorporated into the FTMM Master Plan for soils containing these exceedances, and recommended no further action (NFA) for near-surface soil at FTMM-14. A Declaration of Environmental Restriction is equivalent to the current "Deed Notice" in the NJDEP regulations.

In a letter dated July 25, 2007, the NJDEP stated that the compliance averaging of soil samples results presented in Versar's March 2004 *RIR for Near-Surface Soils* was done incorrectly in several cases (see Appendix A of U.S. Army, 2012; provided in **Appendix A** of this report). Also, the July 2007 letter from NJDEP stated that although averaging was applied to arsenic and several PAHs, this is not allowed because the health-based Soil Cleanup Criteria are less than the RDCSCC.

4.1.1.1 Summary of Exceedances of Residential Direct Contact Comparison Criteria

Concentrations of the following constituents exceeded the current NJDEP RDCSRS and/or USEPA Residential Soil RSL in at least 1 of the 124 soil samples analyzed for VOCs, SVOCs, pesticides/PCBs, and metals (**Tables 4.1 through 4.3**).

- The SVOCs (classified as PAHs) benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, and dibenz(a,h) anthracene;
- The pesticide 4,4'-DDT; and
- The metals aluminum, arsenic, cobalt, iron, manganese, mercury, and vanadium.

Maximum concentrations of the PAHS were generally detected at location B-60 (**Figure 2.1**).

4.1.1.2 Summary of Exceedances of Non-Residential Direct Contact Comparison Criteria

Concentrations of the following constituents exceeded the current NJDEP NRDCSRS and/or USEPA Industrial Soil RSL in at least 1 of the 124 soil samples analyzed for VOCs, SVOCs, pesticides/PCBs, and metals (**Tables 4.1 through 4.3**).

- The SVOCs (classified as PAHs) benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, and dibenz(a,h) anthracene; and
- The metals aluminum, arsenic, and iron.

4.1.1.3 Summary of Exceedances of Impact to Groundwater Comparison Criteria

Concentrations of the following constituents exceeded the current NJDEP IGW standard and/or USEPA Protection of Groundwater RSL in at least one of the 124 soil samples analyzed for VOCs, SVOCs, pesticides/PCBs and metals (**Tables 4.1 through 4.3**).

- The VOCs acetone, methylene chloride, benzene, and toluene;
- The SVOCs aniline, naphthalene, 2-methylnaphthalene, acenaphthene, dibenzofuran, fluorene, anthracene, di-n-butylphthalate, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, and dibenz(a,h) anthracene;
- The pesticides 4,4'-DDE, dieldrin, 4,4'-DDD, 4,4'-DDT, gamma-chlordane, and alpha-chlordane; and
- The metals aluminum, antimony, arsenic, barium, beryllium, cadmium, cobalt, copper, iron, lead, manganese, mercury, nickel, selenium, silver, vanadium, and zinc.

Methylene chloride is a common laboratory contaminant and detected concentrations of this analyte may be representative of laboratory-derived contamination. Although these results were not "B" qualified for laboratory blank contamination, there was methylene chloride detected in several trip blanks.

4.1.1.4 Identification of Background Constituents

Metal concentrations in soils were compared to maximum background concentrations presented by Weston (1995) (**Tables 4.1 through 4.3**). The maximum-detected concentrations of all the metals targeted for analysis in soil samples exceed the maximum background concentrations for the MP presented in Weston (1995) except for thallium.

4.1.2 COPCs in Soil

Following USEPA (1989) guidance, data with J, E or ER, and D qualifiers were treated as detects and usable for COPC identification purposes. U and UJ qualified data were considered to be non-detects but usable for COPC identification. B and BJ qualified data were treated as non-detects because the analyte was detected in the associated blank and the estimated chemical concentration in the sample was not five or ten times greater than the concentration in the associated blank (USEPA, 1989). Detections flagged with a B and BJ are not otherwise usable for COPC identification purposes as the detections may be associated with laboratory contamination.

COPCs in soil were identified by comparing the maximum detected concentration of each analyte to the USEPA Residential Soil RSL (TR = $1x10^{-6}$ and THQ = 0.1). If organic chemicals were detected at concentrations greater than USEPA Residential Soil RSLs in at least one sample, they were considered COPCs. Metals detected at concentrations exceeding the Residential Soil RSL were then compared to the maximum background concentration (Weston, 1995). If the maximum concentration of a metal was greater than both the USEPA Residential Soil RSL and the maximum background concentration in at least one sample, that metal was considered to be a COPC. If the maximum concentration was greater than the USEPA Residential Soil RSL but less than the maximum background concentration, it was not considered a COPC. However, metals that are considered to be essential human nutrients

(calcium, iron, magnesium, potassium, and sodium) were not considered to be COPCs. This decision logic is presented on **Figure 4.1.**

COPCs in soil (**Table 4.3**) include benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, 4,4'-DDT, aluminum, arsenic, cobalt, manganese, mercury, and vanadium.

4.2 GROUNDWATER QUALITY

The scope of the groundwater monitoring program implemented from June 1997 to August 2011, and the additional sampling performed in August 2013 is summarized in **Table 2.2**. Sampling was discontinued following the 2013 baseline sampling event, with the concurrence of the NJDEP as stated in an approval letter "Re: November 26, 2014 Response to Comments – on the Final Baseline Ground Water Sampling Report (August 2013)" dated February 5, 2015 (provided in **Appendix A)**. Monitoring well locations are shown on **Figure 1.3**.

Groundwater sampling results are summarized in this subsection. Information was obtained from the following sources:

- M-14 Landfill (FTMM-14) Remedial Investigation Report Addendum (2nd Quarter 2001 through 3rd Quarter 2010) (U.S. Army, 2012); and
- Sampling results from the August 2013 Baseline Groundwater Sampling Report partially reproduced in this report as **Table 4.5**.

Quarterly groundwater sampling of site monitoring wells has been conducted from the permanent groundwater wells, from the 2nd quarter 2001 through the 3rd quarter 2011, and additional sampling was performed in August 2013. Groundwater sampling results obtained from March 2008 to August 2011 are presented in **Table 4.4**. Sampling results from the August 2013 sampling event are provided in **Table 4.5**. More comprehensive summary tables that provide groundwater quality data from May 1997 through August 2010 are provided in **Appendix A**. **Tables 4.4 and 4.5** also show the NJDEP GWQS and USEPA Tapwater RSLs to facilitate comparison of sampling results to criteria developed to be protective of use of groundwater as a potable water source. Maximum background concentrations for metals in groundwater as presented by Weston (1995) are also provided in **Table 4.4**.

4.2.1 Summary of Historical Groundwater Sampling Results

Sixteen rounds of groundwater samples were collected from June 1997 to January 2001; samples were analyzed for VOCs, SVOCs, pesticides, PCBs, and TAL metals. Groundwater samples collected from two additional rounds of sampling using low-flow methods were analyzed for TAL metals. As summarized by the U.S. Army (2012), groundwater concentrations of SVOCs, pesticides, and PCBs were determined by Versar (2005) to be in compliance with NJDEP GWQS. One VOC, *tert*-butyl-alcohol (TBA), was detected at a concentration slightly exceeding the NJDEP GWQS of 100 µg/L in one well (M14MW20 at a concentration of 101.37 µg/L) during the 1st Quarter 1998 sampling event. This TBA detection was considered to be isolated event as TBA was not detected in subsequent groundwater samples at M14MW20. This well is located at the hydraulically upgradient (northern) boundary of FTMM-14 (**Figure 1.3**). During the same time period, 12 metals were detected in groundwater samples collected at FTMM-14 at concentrations exceeding NJDEP GWQS. Based on the results of groundwater sampling conducted from June 1997 to January 2001, Versar (2005) concluded that no

contaminants of concern were present in groundwater at FTMM-14, and recommended NFA for groundwater (U.S. Army, 2012).

Quarterly groundwater sampling results for permanent monitoring wells obtained from 2nd quarter 2001 to 3rd quarter 2010 are reported by the U.S. Army (2012). Metals (antimony, arsenic, beryllium, cadmium, lead, nickel, and thallium) were detected at concentrations greater than the GWQS, but were considered by the U.S. Army (2012) to be naturally occurring within FTMM soils. Metal detections in general, and lead specifically, were concluded to be the direct result of acid leaching of suspended solids in groundwater samples (U.S. Army, 2012). Since November 2004, FTMM-14 groundwater analyses have been performed for VOCs and metals only, due to lack of significant detections of SVOCs and pesticides/PCBs in site groundwater.

4.2.2 Summary of Recent Groundwater Sampling Results

During recent groundwater monitoring, detected concentrations of select VOCs and metals exceeded NJDEP GWQS and/or USEPA Tapwater RSLs (**Tables 4.4 and 4.5**). Both NJDEP and USEPA comparison criteria were used for the reasons described for soil in Section 4.1. USEPA Tapwater RSLs incorporate a TR of $1x10^{-6}$ and a THQ of 0.1. **Table 4.6** presents the groundwater sampling results summary of exceedances for the most recent groundwater monitoring events that were evaluated for the risk assessment (Section 6), defined as the most recent eight quarters of long-term monitoring (November 2009 through August 2011), and the August 2013 Baseline Sampling Event. This table presents the number of times concentrations of a detected analyte were greater than the NJDEP GWQS and/or USEPA Tapwater RSLs, and the number of times detected metal concentrations exceeded the maximum background concentration presented by Weston (1995).

4.2.2.1 Summary of Exceedances of NJDEP and USEPA Comparison Criteria

Concentrations of the following constituents exceeded their current NJDEP GWQS and/or USEPA Tapwater RSL in at least 1 of the 69 samples collected during the most recent eight quarters of groundwater monitoring and (in the case of VOCs) the August 2013 Baseline Sampling Event (**Table 4.6**):

- The VOC 1,4-dichlorobenzene; and
- The metals aluminum, antimony, arsenic, barium, cadmium, cobalt, copper, iron, lead, manganese, mercury, nickel, selenium, silver, sodium, thallium, vanadium and zinc.

4.2.2.2 Identification of Background Constituents

Arsenic, barium, lead, mercury, and thallium were detected at concentrations greater than their NJDEP GWQS and/or USEPA Tapwater RSL, but less than their maximum background concentration (Weston, 1995) and are not identified as COPCs. The metals detected at concentrations exceeding their NJDEP GWQS and/or USEPA Tapwater RSLs and also the maximum background concentration for the MP established by Weston (1995) included antimony, cadmium, cobalt, copper, manganese, nickel, selenium, silver, sodium, and zinc. These exceedances are addressed below:

- Sodium, as an essential nutrient, was not evaluated as a COPC.
- Exceedances of the background concentrations for antimony, cobalt, copper, and nickel occurred in only 1 of 69 samples and are not representative of the data set.

The maximum detected concentrations of antimony (22.5 µg/L), cobalt (51.2 µg/L), copper (115 µg/L), and nickel (205 µg/L) only slightly exceeded the maximum background concentrations of these metals (20.7 µg/L, 18.3 µg/L, 65.6 µg/L, and 187 µg/L, respectively), and were detected only once exceeding maximum background, followed by multiple sample events where they were not detected above maximum background. Therefore, the detected concentrations of antimony, cobalt, copper, and nickel are considered to be anomalous, or consistent with background concentrations, and these four metals are not identified as COPCs.

- Cadmium was detected at concentrations exceeding background in only two wells, and selenium was detected exceeding the USEPA Tapwater RSL and maximum background in six wells, but all of these detections were followed by multiple sample events where cadmium and selenium were not detected. The earlier cadmium and selenium exceedances (in August or December 2010 and prior) may have been affected by sample turbidity. Therefore, cadmium and selenium are not identified as COPCs.
- Zinc was detected above maximum background concentration in two wells for two sampling rounds, but in each well these exceedances were followed by multiple rounds of non-detect data, and these detections were therefore determined to be anomalous. Silver only exceeded the USEPA Tapwater RSL in one sample, and was followed by multiple sample events in that same well where silver was not detected, or was detected below the RSL. For these reasons, zinc and silver are not identified as COPCs.
- Manganese exceeded both background and the USEPA Tapwater RSL in multiple samples from two monitoring wells, but was not identified as a COPC because the exceedances of the two screening criteria were localized in time and space, not representative of the larger dataset, and potentially influenced by sample turbidity. As shown in **Table 4.6**, manganese concentrations detected from November 2009 to August 2011 exceeded the USEPA Tapwater RSL and maximum background concentration (Weston, 1995) in a relatively large number of samples. However, exceedances of the maximum background concentration were limited to two wells (M14MW22 and M14MW23), and occurred in only 5 of 14 samples collected from these wells using the low-flow method. Manganese concentrations in low-flow samples from these two wells were highly variable, ranging from 13.8 to 893 µg/L in MW22, and 15.4 to 921 µg/L in MW23, indicating potential sample turbidity influences.

4.2.3 COPCs in Groundwater

As shown on **Figure 4.1**, COPCs in groundwater were identified by comparing the maximum detected concentration during the recent sampling events (November 2009 to August 2011, and August 2013) to the USEPA Tapwater RSL (TR = $1x10^{-6}$ and THQ = 0.1). Organic chemicals that were detected at concentrations greater than USEPA Tapwater RSLs were generally considered COPCs unless the exceedances were sufficiently limited, localized, and/or anomalous that they were not considered to be representative. Metals that were detected at concentrations exceeding the Tapwater RSL were then compared to the maximum detected background concentration (Weston, 1995). Detected analytes that also exceeded the maximum background concentration (Weston, 1995) were then assessed more holistically to determine

whether background exceedances were representative of site-related contamination, or were due to other factors such as turbidity or upgradient sources. Metals exceeding background were exempted from being identified as COPCs as a result of this holistic assessment if any of the following conditions were met:

- There were only a small number of background exceedances during the most recent sampling events such that the exceedances were anomalous outliers in time and/or space and not representative of the majority of the data;
- The background exceedances occurred early in the time period encompassed by the most recent sampling events, and concentrations in subsequent samples were below the maximum background concentration;
- The background exceedances only occurred in upgradient or crossgradient monitoring wells; and
- Background exceedances cannot be plausibly related to potential site-related sources of contamination.

Metals that are essential human nutrients (calcium, iron, magnesium, potassium, and sodium) were not identified as COPCs, and based on the analysis provided above in Section 4.2.2.2, all metals were considered representative of background conditions. Therefore no metals were identified as COPCs in groundwater.

SVOCs, pesticides, and PCBs were eliminated from the sampling program in 2004 (**Table 2.2**) and determined not to be COPCs. As summarized by the U.S. Army (2012), groundwater concentrations of SVOCs, pesticides, and PCBs were determined by Versar (2005) to be in compliance with NJDEP GWQS. Therefore, there are no SVOC, pesticide, or PCBs identified as COPCs in groundwater at FTMM-14.

The only VOC that exceeded the USEPA Tapwater RSL in groundwater at FTMM-14 (**Table 4.6**) is 1,4-dichlorobenzene. This compound was not identified as a COPC because it exceeded the Tapwater RSL in only 2 of 81 samples collected from November 2009 to August 2011, was not detected in during the August 2013 Baseline Sampling Event, and the exceedances were very slight in magnitude (0.61 to 0.81 J µg/L versus a Tapwater RSL of 0.42 µg/L). Therefore, there were no COPCs identified in groundwater.

4.3 SURFACE WATER

The scope of the surface water monitoring program implemented from October 1996 to September 2010 is summarized in **Table 2.3**, and sampling locations historically associated with FTMM-14 are shown on **Figure 2.2**. Surface water sampling results are summarized in the following subsections. Information was obtained from previous reports (**Appendix A**) and summary sampling results tables for data collected from October 1996 through September 2010 received from the U.S. Army, and the more recent data from March 2007 through September 2010 has been reproduced in this report as **Table 4.7**.

Table 4.7 also shows NJDEP saline water (SE) SWQS and USEPA criteria for protection of human health for VOCs, metals, and select wet chemistry constituents for comparison purposes. Both NJDEP and USEPA comparison criteria were used for the reasons described for soil in Section 4.1. A hierarchy of USEPA human health criteria were used in the priority shown below.

For example, if the highest priority criterion was not available for a particular analyte, the second priority criterion was used, and so on down the line.

1. National Recommended Water Quality Criteria (NRWQC) (organism only),
2. NRWQC (water + organism),
3. USEPA Tapwater RSLs,
4. Maximum Contaminant Levels (MCLs)

Three sampling locations (SS-11, SS-12, and SS-19) are located upstream of FTMM-14 and one location (SS-9) is located at the downstream end of FTMM-14. Based on high tide salinity measurements presented in the BEE (Shaw, 2012), SS-9 is consistently saline, with salinity ranging from 16 to 20 ppt. High tide salinity measurements at the nearest upstream location (SS-19) ranged from 1 to 10 ppt, indicating that this reach of Husky Brook is not consistently saline. The high tide salinity measurements for more distant upstream locations SS-12 and SS-11 were 0 ppt, indicating fresh water. The salinity measurements presented in the BEE (Shaw, 2012) indicate that Husky Brook becomes consistently saline between SS-9 and SS-19. Since the mean high tide salinity in the reach extending from SS-9 to SS-19 (11.2 ppt) is greater than 3.5 ppt, the reach is considered saline per N.J.A.C. 7:9B *et seq*. (Shaw, 2012).

Historical reporting indicates that surface water samples collected in Husky Creek at the nearest upstream sampling point from FTMM-14 (SS-19, **Figure 2.2**) from the 2nd Quarter 2001 to the 3rd Quarter 2010 exceeded NJDEP freshwater SWQS for arsenic, bromodichloromethane, and lead (U.S. Army, 2012). Surface water sampling results were not compared to saline SWQS by the U.S. Army (2012). Surface water samples collected at the nearest downstream sampling point from FTMM-09 (SS-09) exceeded NJDEP freshwater SWQS for arsenic and lead. Similar to groundwater samples, it was concluded that metal detections in general, and lead specifically, were the direct result of acid leaching of suspended solids in water samples. Therefore, metals were not considered to be constituents of concern in surface water (U.S. Army, 2012). Bromodichloromethane was detected during the June 2010 stream sampling event at multiple sample locations (SS-09, SS-12 and SS-19; see **Table 4.7**). This was an isolated detection and was the first time this compound was detected at SS-09 since surface water sampling began in Husky Brook in 1996. Therefore, bromodichloromethane was not considered to be a contaminant of concern in surface water (U.S. Army, 2012).

The most recent eight quarters of surface water monitoring data (December 2008 through September 2010) are evaluated in greater detail in the following subsections to represent recent conditions. Saline criteria were used as comparison criteria because sampling location SS-9, which provides the best indication of the impact of FTMM-14 (and the adjacent FTMM-12) on surface water quality, is saline based on high tide salinity measurements presented in the BEE (Shaw, 2012).

Surface water samples were also collected from Husky Brook adjacent to FTMM-14 (and FTMM-12) during the 2010 BEE (Shaw, 2012). The samples were analyzed for VOCs, SVOCs, pesticides, PCBs, and metals. Sampling results were compared to ecological screening concentrations (ESC) that are intentionally conservative. The results of the comparisons were used to identify constituent of potential ecological concern (COPECs). There were no COPECs identified in surface water.

4.3.1 Summary of Surface Water Sampling Results From Most Recent Eight Quarterly Sampling Events

Recent surface water monitoring data is available for samples SS-9, SS-11, SS-12, and SS-19 (**Table 4.7**). During the eight most recent sampling events (December 2008 through September 2010), arsenic was the only constituent detected in surface water exceeding the USEPA human health criteria and/or NJDEP SWQS (**Table 4.8**).

Arsenic was detected at generally similar concentrations at both upstream location SS-19 and downstream location SS-9 during the most recent eight quarterly sampling events. Arsenic was detected at upstream location SS-19 during 5 of 8 events at concentrations ranging from 0.75 µg/L to 61.1 µg/L (average 11.9 µg/L, substituting one-half the method detection limit for non-detects). Arsenic was detected at downstream location SS-9 during 8 events at concentrations ranging from 1.16 µg/L to 56.6 µg/L (average 13.9 µg/L). Given the similarity of concentrations in upstream and downstream locations, other factors were considered in the COPC determination, including:

- Arsenic is not a COPC in groundwater at either FTMM-14 or the adjacent FTMM-12 (divided by Husky Brook) because concentrations in site wells are less than the maximum background.
- Arsenic exceeds the USEPA human health comparison criterion (0.14 ug/L) at both upstream and downstream locations.
- Although the upstream average concentration of arsenic (11.7 µg/L) is slightly lower than the average downstream concentration (13.9 µg/L), this change is much smaller than the overall arsenic loading in the stream, indicating minor impact along the site.
- There are at least two storm sewer outfalls at the creek between the two sample locations, which could also influence downstream arsenic concentrations independent of potential FTMM-14 impacts.

In consideration of these factors and due to the uncertainty of the source of arsenic in surface water, there are no surface water COPCs.

4.4 SEDIMENT

Sediment sampling was conducted in April 2000. Eleven borings were advanced approximately every 100 feet into the bed of Husky Brook across the 1,700-foot portion of Husky Brook that abuts FTMM-14 and/or adjacent site FTMM-12; boring locations are shown on **Figure 2.2**. Only borings B-1 through B-8 were located in the reach of the brook adjacent to FTMM-14; borings B-9 through B-11 were located upstream of FTMM-14.

Twenty-seven sediment samples were collected, including two duplicate samples for QA/QC purposes. Sample depths ranged from surface (0 to 6 inches below grade) to near-surface (6 to 12 inches) at each boring location, with the exception of borings B-1, B-4, and B-6, which were also sampled at a depth of 18 to 24 inches below grade. Sediment sampling results were compared to both NJDEP and USEPA criteria for the reasons described for soil in Section 4.1. Human health-based criteria for soil are used for comparison purposes to support identification of COPCs. PCBs (specifically Aroclor 1254) were detected in one of 25 samples collected (duplicate of B-11 at 0 to 6 inches below grade) at a concentration of 0.279 mg/kg. This concentration is slightly greater than the NJDEP RDCSRS of 0.2 mg/kg for total PCBs (**Table**

4.9) and also greater than the USEPA Residential Soil RSL (0.11 mg/kg). The detected PCB concentration does not exceed the NJDEP NRDCSRS or USEPA Industrial Soil RSL. PCBs were not detected in the primary sample at B-11, indicating a relatively high degree of heterogeneity in the sampled medium. The method detection limit for Aroclor 1254 in the primary sample from boring B-11 was 0.0006 mg/kg (Versar, 2004a). Boring B-11 is located upstream of FTMM-14; therefore, the detected concentration of Aroclor 1254 is not associated with this site (FTMM-14) and this analyte is not evaluated as a COPC in the risk assessment (Section 6). As shown on **Figure 2.2**, boring B-11 is located at the very upstream edge of FTMM-12; therefore, the detection of Aroclor 1254 at this location does not appear to be associated with FTMM-12 either.

Sediment samples were also collected from Husky Brook, adjacent to FTMM-14 as part of the 2010 BEE (Shaw, 2012). A total of thirteen sediment samples were collected from Husky Brook in relation to Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14) as part of the 2010 BEE. The samples were analyzed for VOCs, SVOCs, PCBs, pesticides, and metals. Sampling results were compared to ESC that are intentionally conservative. The results of the comparisons were used to identify COPECs. COPECs identified in sediment included SVOCs (classified as PAHs), pesticides, a PCB, and metals. The BEE (Shaw, 2012) concluded that constituents in sediment at FTMM-14 were unlikely to have a deleterious effect on sensitive ecological receptors or habitats, and additional ecological assessments were not warranted or recommended.

SECTION 5
CONTAMINANT FATE AND TRANSPORT

This section addresses the fate and transport of SVOCs, pesticides, and metals detected in vadose zone soil at FTMM-14 at concentrations exceeding one or more NJDEP or USEPA comparison criteria and (in the case of metals) maximum background concentrations reported in Weston (1995) (see Section 4.1). The fate and transport of detected constituents in other sampled media (groundwater, surface water, and sediment) are not addressed because sampling data indicate that these media have not been significantly impacted by historical activities at FTMM-14.

The environmental fate and transport of a contaminant is controlled by the contaminant's physical and chemical properties and the nature of the subsurface media through which the contaminant is migrating (USEPA, 1998).

Unless otherwise indicated in the text, the fate and transport information presented in this section was derived from three primary sources:

1. The online Toxnet Hazardous Substances Data Bank (HSDB, 2013; http://toxnet.nlm.nih.gov/cgi-bin/sis/search);
2. Toxicological profiles prepared by the Agency for Toxic Substances and Disease Registry (ATSDR, 2013; http://www.atsdr.cdc.gov/toxprofiles/index.asp); and
3. The Framework for Metals Risk Assessment (USEPA, 2007).

5.1 POTENTIAL ROUTES OF MIGRATION

Potential migration routes for constituents detected in vadose zone soil at FTMM-14 include dissolution of soluble residual concentrations in the vadose zone into infiltrating precipitation that percolates through the vadose zone to the water table, and potential volatilization of some pesticides into soil vapor and/or the atmosphere.

5.2 CONTAMINANT PERSISTENCE

5.2.1 VOCs

VOCs are not significant contaminants in near-surface soil at FTMM-14 and there are no VOC COPCs in soil. The most widely-detected VOC (methylene chloride) is a common laboratory contaminant and may be indicative of laboratory-derived contamination. This observation is supported by the fact that methylene chloride concentrations did not exceed the NJDEP GWQS or USEPA Tapwater RSL during the most recent eight quarterly groundwater sampling events. Therefore, the persistence of VOCs in soil is not addressed further in this section.

5.2.2 SVOCs

The SVOCs identified as COPCs in soil, including benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene, are PAHs. As hydrocarbons approach a size of approximately 15 to 20 carbon atoms, their vapor pressures and water solubilities become negligible, and partitioning to air or dissolution in water is unimportant (American Petroleum Institute [API], 2011). API

(2011) generally classifies petroleum substances in the C9 to C25 range as "not readily biodegradable" because their biodegradation rates are typically slower than lighter, more volatile fuels, such as gasoline or jet fuel. Therefore, PAHs are expected to be relatively persistent in vadose zone soil at FTMM-14.

5.2.3 Pesticides

Pesticides that are classified as persistent organic pollutants (including those detected at FTMM-14: dieldrin, chlordane isomers, and DDT) are compounds that are insoluble in water, adsorb strongly to soil particles, and are resistant to biodegradation. However, some volatilization may occur, enabling them to move long distances before atmospheric deposition occurs. Overall, organic pesticides are expected to be relatively persistent in vadose zone soil at FTMM-14.

5.2.4 Metals

Metals are subject to various transformation processes in soil. For example, metals can exist in the environment in several valence forms, and they can also exist as organometallic compounds that have a metal-carbon bond. Metal transformation processes, such as metal methylation, occur through interactions with other chemicals and biota in the environment. In general however, metals are resistant to natural degradation in the environment and therefore are expected to be relatively persistent in vadose zone soil at FTMM-14.

5.3 CONTAMINANT MIGRATION

5.3.1 VOCs

As described in Section 5.2.1, VOCs are not significant contaminants in near-surface soil at FTMM-14. Therefore, the migration of VOCs in soil is not addressed further in this section.

5.3.2 SVOCs

For the reasons described in Section 5.2.2, PAHs identified in near-surface soil at FTMM-14 are expected to be relatively immobile and will not readily leach to groundwater.

5.3.3 Pesticides

For the reasons described in Section 5.2.3, the organic pollutant pesticides present at FTMM-14 are expected to be strongly sorbed to soil particles and have little to no mobility in soil. Therefore, they will not readily leach to groundwater.

5.3.4 Metals

Because the behavior of metals in the environment defies simple generalities, understanding the chemistry of the particular metal and the environment of concern is necessary to assess the metal's behavior in the environment in a detailed fashion. However, the factors that control metal chemistry and the environmental characteristics used to produce estimates of metal fate and effects can be generalized. The pH of the host medium is probably the single most important variable that influences the behavior of metals in the environment; most complexation and precipitation reactions are pH dependent.

Movement of metals through soil is dependent on the chemical properties controlling speciation, the presence of ligands that control complexation of metals within pore water and adsorption onto mineral surfaces, and the rate of water flux through the soil. Metals are lost from

the soil by leaching into groundwater and through metal-specific uptake by plants. As metals age in soils, they decrease in bioavailability.

In the soil environment, metals can exist as cations (having a positive charge), anions (having a negative charge), or neutral species (having a zero charge). Their form significantly affects their sorption, solubility, and mobility. For example, most soils are chiefly negatively charged; thus, metal cations have a higher propensity to be sorbed by soil particles than do metal anions. For most soils in the U.S., negatively charged sites are more plentiful; less than 5% of the total available charge on the soil surface is positively charged. Metals existing as cationic species have a greater propensity to associate with such soils, making them less bioavailable. Anionic metals generally move into pore water—and so are more bioavailable—but leach out of the system much more rapidly. In summary, soil pH and availability of charged sites on soil surfaces are the primary soil factors controlling release of metals to pore water and, subsequently, bioavailability.

Metals are usually cations, including those identified as COPCs in soil in Section 4.1.2 . Therefore, metal COPCs in vadose zone soil at FTMM-14 are expected to be relatively immobile.

5.4 SUMMARY

The contaminant fate and transport information presented above indicates that SVOCs, pesticides, and metals in near-surface soil at FTMM-14 are expected to be persistent and immobile, limiting their impact on groundwater quality.

SECTION 6
BASELINE RISK ASSESSMENT

The objective of this baseline human health risk assessment (HHRA) is to provide a quantitative evaluation of the risk associated with exposure to soil, surface water, sediment, and groundwater at FTMM-14. The HHRA will determine if there is potential unacceptable risk to human health associated with exposure to contaminants present in these environmental media. The streamlined method to assess human health risk at FTMM-14 was developed as a component of a presumptive remedial strategy for the landfills at FTMM. The streamlined method was developed without consultation with the U.S. Army Public Health Command. However, as discussed below, the resulting quantitative risk estimates are comparable to those resulting from conventional risk assessment methods defined in the *Risk Assessment Guidance for Superfund* (RAGS; USEPA, 1989) and U.S. Army Corps of Engineers' (USACE) *Risk Assessment Handbook* (EM 200-1-4) (USACE, 1999) for the purpose of evaluating risk at a landfill site where a presumptive remedy will be implemented.

In a letter to Ms. Wanda Green, BRAC Environmental Coordinator at FTMM, dated August 27, 2012, NJDEP accepted the revised BEE submittal (Shaw, 2012), agreed that "all exceedances have been sufficiently evaluated and addressed for ecological receptor considerations", and stated that "no additional ecological evaluation or assessment is necessary for the Main Post and Charles Wood Area." Therefore, additional ecological risk evaluation was not performed for FTMM-14.

6.1 RISK ASSESSMENT PROCESS

6.1.1 Summary of Available Data for FTMM-14

This quantitative HHRA for FTMM-14 used the data collected in the investigations summarized in Section 2 of this RI. As described in Section 2, environmental sampling at the site included surface soil, sediment, surface water, and groundwater.

The analytical results for chemicals detected in each environmental medium at FTMM-14 are provided in data summary tables in Section 4 of this RI (**Tables 4.1 and 4.2** [soil], **Tables 4.4 and 4.5** [groundwater], **Table 4.7** [surface water], **and Table 4.9** [sediment]). COPCs were identified in soil (**Table 4.3**). No COPCs were identified in groundwater (**Table 4.6**), surface water (**Table 4.8**), or sediment (**Table 4.9**).

6.1.2 General HHRA Approach and Guidance Documents

Techniques and methods developed or recognized by the USACE and the USEPA were modified for use in this HHRA. This quantitative HHRA used a risk ratio approach (which is further described in Section 6.2.1 below) to quantify potential carcinogenic risk and non-carcinogenic hazards. This streamlined approach, rather than the traditional risk assessment approach, was selected for use at the landfill sites because there is already a presumptive remedy of containment that will be implemented. Use of the streamlined approach will reduce costs associated with the risk assessment process by reducing the risk assessment effort, rapidly identifying the need for corrective action, and supporting property transfer and redevelopment plans. In the case of the landfill sites at FTMM, where a presumptive remedy of containment will be implemented, the streamlined risk assessment is appropriate. See *Conducting Remedial Investigations/Feasibility Studies for CERCLA Municipal Landfill Sites* (USEPA, 1991).

Additionally, USEPA guidance states "One method for establishing risk using a streamlined approach is to compare contaminant concentration levels (if available) to standards that are potential chemical-specific applicable or relevant and appropriate requirements (ARARs) for the given action." (USEPA, 2015. *Presumptive Remedy for CERCLA Municipal Landfill Sites*, viewed at: http://www.epa.gov/superfund/policy/remedy/presump/clms.htm (last accessed January 30, 2015).

The risk ratio approach is a useful surrogate for the RAGS analysis because, as discussed in detail below, there is a direct relationship between the COPC concentration and risk, and therefore cancer and non-cancer risk can be estimated as the ratio of site concentrations to RSLs. The risk ratio approach encompasses the principles and procedures included in USEPA guidance, while streamlining them for evaluating risk and determining the need for corrective action at FTMM landfill sites. The risk assessment process used in this document incorporates the four steps that define a human health risk assessment according to USEPA (1989) (i.e., data evaluation and identification of COPCs, exposure assessment, toxicity assessment, and risk evaluation), as summarized below.

Data Evaluation and Identification of COPCs: This step of the risk assessment process was conducted in a manner consistent with RAGS and the Risk Assessment Handbook. COPCs were identified in environmental media following comparison to published medium-specific screening values and FTMM-specific background concentrations. Those analytes that were detected at the site at concentrations greater than appropriate screening values and that are attributable to site activities were identified as COPCs and included in the risk assessment.

Exposure Assessment: This step of the risk assessment includes identification of relevant receptors and potential exposure pathways. Once relevant receptors and exposure pathways and a potential source of contamination are identified, a conceptual site model (CSM) is developed to define the potential for exposure. Exposure pathways for various media and exposure routes (i.e., ingestion, dermal contact, inhalation) that coincide are determined to be potentially complete and are evaluated in the risk assessment. In this case, exposure pathways may be complete for current and future outdoor workers, future utilty workers, and potential future recreational users (as defined by project stakeholders).

The USEPA RSLs are risk-based concentrations that were developed by USEPA to rapidly identify chemicals that have the potential to present human health risks as a result of exposure. The exposures of concern for FTMM-14 include inhalation, ingestion, and dermal contact of outdoor workers, utility workers, and recreational users to COPCs. Site-specific screening levels for exposure of utility workers and recreational users to soil were calculated to support this risk evaluation.

The streamlined risk assessment approach for the FTMM landfills incorporates exposure parameters and toxicity values inherent to the RSLs, along with observed site concentrations, to calculate risks or hazards associated with identified COPCs at the site. The intent is for the conclusions of the risk assessment to represent likely future land use at FTMM.

Toxicity Assessment: This step of the risk assessment identifies toxicity factors that will be used when calculating the risk or hazard associated with exposure to COPCs at the site. In this case the toxicity factors are those either established or used by USEPA to calculate risk estimates and RSLs. Therefore, there are no differences in the toxicity values used in a conventional

RAGS-based approach and the USEPA risk ratio approach conducted for FTMM-14 as described in this report.

Risk Characterization: Cancer risk estimates and noncancer hazard quotients are calculated based on site concentrations, exposure assumptions, and toxicity factors. The RSLs for a given exposure scenario can be used to rapidly determine site-specific cancer risks or hazard estimates for that scenario. RSLs are medium-specific concentrations corresponding to predetermined cancer risk or noncancer hazard estimates (see RSL supporting documentation for further details on calculation of RSLs). A COPC concentration in soil equal to the USEPA RSL will result in a 1 x 10^{-6} cancer risk and/or a HQ of 1. Because there is a direct relationship between COPC concentrations and risk, cancer risks and/or noncancer hazard quotients can be estimated as the ratio of site concentrations to RSLs. Cumulative cancer risk and hazard index estimates resulting from multiple COPCs may then be resolved by summing the ratios. As a streamlined approach, the risk ratio approach does not specifically express the contribution of specific routes of exposure (e.g., ingestion, dermal contact, inhalation) to overall risk, and the risk estimates are limited to the inherent exposure parameters (such as days per year exposed) used in calculating the screening values that are used in calculating the risk ratios. This approach can limit the flexibility of the risk manager in making risk management decisions. The resulting risk estimates do, however, incorporate the noted multiple exposure routes, and are appropriate for making health-based determinations for the landfills.

Comparison of Traditional and Streamlined Risk Assessment Approach	
Streamlined Risk Assessment Approach	**Traditional Risk Assessment Approach**
• Appropriate for simple sites, when generic exposure assumptions are appropriate, and summary risk estimates are sufficient	• Appropriate for complex sites, when site-specific exposure assumptions, and exposure-route specific risk estimates are needed for risk management decisions
• Provides chemical-specific risk estimates that are identical to traditional calculations, when exposure assumptions are the same, and all exposure routes are combined	• Exposure routes (i.e., ingestion, inhalation, dermal) can be evaluated separately
• Streamlined, using simple calculations requiring minimal documentation to support the calculations	• Calculations are more complex and require a greater amount of supporting documentation. However, there is greater flexibility to calculate risk only for those scenarios that are directly applicable to the site.
• Exposure assumptions used in the calculations are consistent with those favored by USEPA	• Allows the use of site-specific exposure assumptions allowing the risk calculations to be tailored to the exact exposure scenarios expected at the site

6.1.3 Organization of the HHRA

The overall risk assessment process consists of four key steps: data evaluation and identification of COPCs, exposure assessment, toxicity assessment, and risk characterization. These four steps of risk assessment provide the general outline of a quantitative risk assessment report. Because this HHRA uses the risk ratio approach, the outline and overall format is slightly modified from the traditional HHRA. This HHRA is still consistent with USEPA guidelines as presented in RAGS (USEPA, 1989) and supporting supplemental guidance including the Standard Scopes of Work for HTRW Risk Assessments (USACE, 2001). This HHRA is organized into five sections (including this one), as outlined below.

6.1 Risk Assessment Process;

6.2 Data Evaluation and Identification of Chemicals of Potential Concern;

6.3 Exposure Assessment;

6.4 Risk Ratio and Screening Criteria Assessment; and

6.5 Risk Assessment Results and Uncertainties.

6.2 DATA EVALUATION AND IDENTIFICATION OF CHEMICALS OF POTENTIAL CONCERN

Soil data included in the risk assessment were collected in 1998 and 1999 (Versar, 2004b). Groundwater data are included from the eight most recent sampling events. Data validation classified the data through the use of several qualifiers. Data without qualifiers were considered appropriate for risk assessment purposes. Following USEPA guidance (1989), data with J, E or ER, and D qualifiers were treated as detected concentrations and used for risk assessment purposes. U and UJ qualified data were considered to be non-detected, but usable for risk assessment purposes. B and BJ qualified data were treated as non-detected chemicals, because the chemical was detected in the associated blank and the estimated chemical concentration in the sample was not five or ten times greater than the concentration in the associated blank (USEPA, 1989). R qualified data were excluded from this risk assessment (USEPA, 1989).

Calcium, iron, magnesium, potassium, and sodium were not evaluated in the HHRA because they are essential nutrients and are not expected to pose a risk to human health.

COPCs at FTMM-14 are those site-related contaminants for which there is evidence of a potential release due to site activities. COPCs are then evaluated for their potential to pose a risk to human health. Soil, surface water, sediment, and groundwater have been sampled at the site. Sampling results for the chemicals detected in each of the environmental media are summarized in **Tables 4.1 and 4.2** (soil), **Tables 4.4 and 4.5** (groundwater), **Table 4.7** (surface water), **and Table 4.9** (sediment). The COPCs identified in soil are presented in **Table 4.3.** No COPCs were identified in groundwater (**Table 4.6**), surface water (**Table 4.8**), or sediment (**Table 4.9**). Therefore, groundwater, surface water, and sediment exposure will not be evaluated further in the risk assessment.

6.2.1 Risk Ratio Approach

The quantitative HHRA uses a risk ratio approach to quantify potential carcinogenic risk and non-carcinogenic hazard for each COPC in each contaminated medium. The general risk assessment process for FTMM-14 is summarized in **Figure 6.1**.

Exposure point concentrations (EPC) are the concentrations of chemicals in a given medium to which a receptor may be exposed at a specific location known as the "exposure point".

To calculate a risk ratio, the EPC is divided by the appropriate screening level for the environmental medium to determine the ratio of the site concentration to a risk-based health protective concentration. Risk ratios are calculated for outdoor workers, utility workers, and recreational users exposed to soil (Section 6.5.1). The criteria used to calculate the risk ratios for outdoor worker exposure to soil were the USEPA Industrial Soil RSLs (TR = 1 x 10^{-6}; THQ = 1.0), while site-specific screening levels calculated in support of this project were used to calculate the risk ratios for utility worker and recreational user exposure to soil. The site-specific screening levels for utility workers and recreational users are presented in **Appendix B**.

After calculating the risk ratios for individual COPCs, the ratios are then summed to determine the cumulative risk for all samples collected at the site. Cumulative non-carcinogenic risk ratios greater than one indicate a potentially unacceptable non-carcinogenic risk. Cumulative carcinogenic risk ratios greater than the upper end of USEPA's acceptable risk range of 1 x 10^{-4} to 1 x 10^{-6} indicate a potentially unacceptable carcinogenic risk.

After the cumulative carcinogenic risk or non-carcinogenic hazards were calculated, the COPCs posing the greatest risk or hazard were identified. These COPCs are the primary contributors to cumulative risk. Initially, the maximum detected concentration of each COPC was used as the EPC. Use of maximum concentrations generally provides a conservative (i.e., health-protective) estimate of exposure to that chemical. However, the use of maximum detected concentrations overestimates the potential exposure, if elevated concentrations of a contaminant are limited to a small portion of a potential exposure area. Therefore, an average site concentration, represented by the 95% Upper Confidence Limit (95% UCL) on the mean, can be used as the EPC. The 95% UCL better represents the concentration that a receptor may be exposed to in a given area over an extended exposure duration. To provide a more accurate estimate of exposure, the 95% UCL is calculated for each primary contributor to cumulative risk. The cumulative risk is then calculated using the 95% UCL in place of the maximum detected concentration for all primary risk drivers. The selected EPCs (maximum detected concentration or the 95% UCL) are identified on the risk ratio tables.

Generally, use of 95% UCL on the mean as the EPC provides a conservative (i.e., health-protective) estimate of exposure, but better represents the concentration that a receptor may be exposed to over a period of time. Therefore, the 95% UCL is less likely to overestimate the potential exposure than the use of a maximum concentration. The 95% UCL was calculated using parametric methods (for a normal or lognormal distribution) or nonparametric methods if data are not normally or lognormally distributed (USEPA 2002). Data distribution was tested using the Shapiro-Wilk test prior to calculating the 95% UCL. Statistical evaluation was not conducted for analytes with fewer than eight detected concentrations in a data set. 95% UCLs were calculated using ProUCL (Version 5.0) (USEPA, 2013a). ProUCL output, including summary statistics, graphic representations of the data distribution (quantile plot), and outlier tests are provided in **Appendix B.**

6.2.2 Soil Samples

This HHRA evaluated chemicals identified as COPCs, which includes those analytes attributed to site activities for which there is evidence of a release to environmental media. Organic compounds detected at concentrations greater than screening levels, and metals detected at concentrations greater than screening levels and greater than background concentrations, were identified as COPCs and included in the risk assessment. Surface soil at the site is defined as soil collected at depths less than 2 feet from the surface and would include exposure pathways with no, or very minor, soil disturbance (e.g., wind dispersion of surface soil, landscaping/grounds keeping activities in surface soil). Surface soil samples were collected in 1998 (Versar, 2004a). Each of the soil samples, except those prepared for VOC analysis, were collected between approximately 6 and 12 inches bgs. VOC samples were collected at approximately 24 inches bgs since surface soil would not be expected to retain volatile constituents over time. **Tables 4.1 and 4.2 and Figure 2.1** summarize the soil sampling location and sampling depths. **Table 4.3** identifies the COPCs in soil that are evaluated in the HHRA.

6.2.3 Groundwater Samples

Multiple rounds of groundwater samples were collected from monitoring wells at FTMM-14 (**Figure 1.3**). Many of these samples were collected at the same wells during different time frames and not all sampling activities included analyses for a complete suite of analytes.

The locations of groundwater wells at FTMM-14 are provided on **Figure 1.3**. **Tables 2.1 and 2.2** present the well construction summary and groundwater sampling summary respectively. Groundwater sampling results for data from 2008 through 2011 are presented in **Table 4.4** and groundwater sampling results for data from 2013 are presented in **Table 4.5**. This HHRA evaluates chemicals identified as COPCs, which includes those analytes attributed to site activities for which there is evidence of a release to environmental media. Organic compounds detected at concentrations greater than screening levels, and metals detected at concentrations greater than screening levels and greater than background concentrations, were identified as COPCs (**Table 4.6**) and included in the risk assessment. No COPCs were identified in groundwater at FTMM-14 (Table 4.6). Therefore, there are no complete exposure pathways for groundwater, and no unacceptable risks due to exposure to groundwater are expected.

6.3 EXPOSURE ASSESSMENT

The objective of the exposure assessment is to estimate the type and magnitude of potential exposures to COPCs at the site. The exposure assessment includes identification of potential exposure pathways, receptors, and exposure scenarios, as well as quantification of exposure. Characterization of the exposure setting and identification of potentially exposed receptors and exposure pathways are discussed in this section. A CSM showing results of the exposure assessment is shown on **Figure 6.2**. Quantification of exposure involves quantifying the magnitude, frequency, and duration of exposure for the receptors and exposure pathways of concern.

Soil is evaluated as the environmental medium of concern at FTMM-14. The exposure pathways relevant to the site are described in this exposure assessment of the HHRA and shown in the CSM.

6.3.1 Conceptual Site Model

A CSM is an effective tool for defining site dynamics, streamlining risk assessments, establishing exposure hypotheses, and developing appropriate corrective actions. The CSM diagram for FTMM-14 is provided as **Figure 6.2**. CSMs are useful for identifying completed exposure pathways between the contaminated media and potential receptors. The purpose of the CSM is to aid in understanding and describing a site and presents the assumptions regarding:

- Suspected sources and types of contaminants present;
- Contaminant release and transport mechanisms;
- Affected media;
- Potential receptors that could come in contact with site-related contaminants in affected media under current and future land use scenarios; and
- Potential routes of exposure.

An overall description of contaminant sources, affected media, and removal actions was provided in previous sections. Potential receptors and completed exposure pathways are discussed in the following subsections.

6.3.2 Potential Receptors and Exposure Pathways

Potential human receptors are defined as individuals who may be exposed to site-related contaminants in environmental media. Consistent with USEPA RAGS (1989) guidance, current and reasonably anticipated land uses were considered in the receptor selection process.

USEPA (1989) defines an exposure pathway as: "The course a chemical or physical agent takes from a source to an exposed organism. An exposure pathway describes a unique mechanism by which an individual or population is exposed to chemicals or physical agents at or originating from a site. Each exposure pathway includes a source or release from a source, an exposure point, and an exposure route. If the exposure point differs from the source, a transport/exposure medium (e.g., air) or media (in cases of intermedia transfer) is also included."

A review of potential exposure pathways links the sources, locations, and types of environmental releases with receptor locations and activity patterns to determine the significant pathways of concern.

Observations and reasonable assumptions for the potential human receptors for FTMM-14 are listed below, and summarized in **Figure 6.2**.

- **Current Receptors** – FTMM-14 is a landfill that was used as a general purpose disposal area for building rubble and was later covered with dredged material from Husky Brook Pond. It is currently vacant and unused. There are no new development activities occurring. Current activities at the site include infrequent visits to the site, such as those that would be performed during landfill cap inspection and maintenance, resulting in exposure to COPCs in soil through incidental ingestion, dermal contact, and inhalation of volatiles and particulates. Exposure to soil by an industrial receptor (outdoor worker) is assumed for this current land use scenario. However, this calculation assumes an exposure frequency of 225 days per year and an exposure duration of 25 years. Thus, it provides a conservative evaluation for a

potential current outdoor worker who would be expected to have less frequent exposure at this particular site. Husky Brook flows southwest along the southern border of FTMM-14. The surface water is not used as a potable water supply. Incidental ingestion of surface water/sediment, inhalation of volatiles from surface water/sediment, and dermal contact with surface water/sediment were assumed for this current land use scenario. However, no COPCs were identified in surface water, or sediment at the site. Therefore, current exposure to surface water/sediment is an incomplete pathway.

- **Future Receptors** – Evaluation of the outdoor worker as a current receptor would be protective of future outdoor workers as well and is not re-evaluated for the future scenario. There are no current plans to develop commercial buildings at the site, but if commercial buildings were constructed in the future, then indoor workers would potentially be exposed to soil. Evaluation of the current outdoor worker would also protect the hypothetical future indoor commercial worker because indoor commercial worker exposure to soil would be much less than the outdoor worker. Thus, the indoor worker exposure scenario was considered to be conservatively evaluated by the above current outdoor worker scenario. Future utility workers may be present on the site, involved in single short-term excavation projects at a given location, such as would be expected to be associated with repair or installation of utility lines. The calculation of the exposure of a utility worker to soil assumes that the utility crew would not return to the same location to conduct additional repairs, installation, or maintenance of underground utility lines. Utility workers are assumed to be on-site for 30 days of the year, for one year and would be expected to come in contact with soil and shallow groundwater during excavation activities. Utility workers may also come in contact with surface water and sediment. However, surface water and sediment pathways are evaluated for the outdoor worker, which would be protective of the utility worker, since the exposure duration for outdoor workers is longer than for utility workers. No COPCs were identified in groundwater, surface water, or sediment at the site. Therefore, future exposure to groundwater and surface water/sediment is an incomplete pathway for utility workers. The FMERPA reuse plan calls for FTMM-14 to be designated as passive open space. Because the site is planned to be passive open space, a future recreational user could be exposed to COPCs in the soil. The calculation of the exposure of a recreational user to soil assumed that the person is onsite once a week for 50 weeks of the year, for 2 hours a day, for 24 years. Further, the site-specific screening value for the recreational user assumes that a portion of the time is spent on the site as an adolescent (age 6 to 16) and a portion as an adult (age 16 to 30). This provides a conservative evaluation for a future recreational user that is not likely to be onsite every week of the year. The site is not residential and no plans are in place to convert it to residential use. Therefore, the future residential scenario was not further evaluated.

- **Current Exposure to Groundwater –** Site groundwater is not used by current outdoor workers, because municipal water is provided for use. Therefore, there are no current exposures to groundwater. Groundwater does not contain COPCs and the current outdoor worker exposure to groundwater scenario was not further evaluated.

- **Future Exposure to Groundwater** – In areas with shallow groundwater (i.e., groundwater present at depths less than 15 ft bgs), utility workers may also be exposed to contaminants present in groundwater. Future utility workers may be present on the site, involved in single short-term excavation projects at a given location, such as would be expected to be associated with repair or installation of utility lines. The calculation of the exposure of a utility worker to groundwater assumes that the utility crew would not return in subsequent years to the same location to conduct additional repairs, installation, or maintenance of underground utility lines. Utility workers are assumed to be on-site for 30 days of the year, for one year. However, there are no COPCs present in groundwater. Therefore, utility worker exposure to groundwater is an incomplete pathway and is not further evaluated. Outdoor workers, indoor workers, and recreational users are not exposed to groundwater. Therefore, the outdoor worker, indoor worker, and recreational user groundwater exposure pathways are incomplete. The site is not planned for future residential use. Therefore, future residential exposure to groundwater is an incomplete exposure pathway.

6.3.3 Exposure Pathways

6.3.3.1 Soil Exposure Pathways

Exposure to site soil occurs by direct contact (ingestion and dermal contact) with site soil and wind dispersion of soil resulting in inhalation of contaminants. The receptors and pathways evaluated for soil are listed below.

- Incidental ingestion of soil, inhalation of volatiles and particulates from soil, and dermal contact with soil by a current outdoor worker. This calculation assumes an exposure frequency of 225 days per year and an exposure duration of 25 years (USEPA, 2013b). Thus, it provides a very conservative evaluation for a potential current outdoor worker who would be expected to have much less exposure at this particular site;
- Incidental ingestion of soil, inhalation of volatiles and particulates from soil, and dermal contact with soil by a future outdoor worker. This is a potentially complete exposure pathway but is not included in the risk ratio analysis because it is assumed to be conservatively evaluated under the current outdoor worker scenario (based on the exposure frequency and exposure duration);
- Incidental ingestion of soil, inhalation of volatiles and particulates from soil, and dermal contact with soil by a future utility worker. This calculation assumes an exposure frequency of 30 days per year, and an exposure duration of one year; and,
- Incidental ingestion of soil, inhalation of volatiles and particulates from soil, and dermal contact with soil by a future recreational user. This calculation assumes an exposure frequency of 50 days per year (one time per week), for 24 years. Further, the calculation assumes that a portion of the recreational user exposure occurs as an adolescent (age 6-16) and a portion as an adult (age 17-30). Thus, it provides a conservative evaluation for a future recreational user that is expected to be onsite less frequently than one time per week.

6.3.3.2 Groundwater Exposure Pathways

Exposure to groundwater can occur through direct contact (ingestion and dermal contact) and through inhalation of volatile COPCs present in groundwater. However, FTMM-14 is currently vacant and unused and there are no plans for development of the land. There are no supply wells present on-site and none are planned. All potable water is provided through municipal water supplies. No COPCs were identified in groundwater, so all groundwater exposure pathways are incomplete.

6.3.3.3 Surface Water and Sediment Exposure Pathways

Husky Brook flows southwest along the southern boundary of FTMM-14. The surface water is not used as a potable water resource. No COPCs were identified in surface water or sediment, so the surface water and sediment exposure pathways are incomplete.

6.4 RISK RATIO AND SCREENING CRITERIA ASSESSMENT

This HHRA used a risk ratio approach to quantify potential carcinogenic risk and non-carcinogenic hazard for each chemical identified as a COPC. This section describes the risk ratio assessment used in this HHRA.

6.4.1 Risk Ratio Assessment

The risk ratio method considered risk due to exposure to soil at FTMM-14. For the risk ratio assessment, the EPC, either the maximum detected concentrations or the 95% UCL (as defined in Section 6.2.1.), was used to calculate risk for soil.

In the risk ratio analysis, the EPC was divided by the appropriate screening level for the environmental medium to calculate the risk ratio. The risk ratio for soil was calculated for outdoor workers, utility workers, and recreational users. The risk ratio screening levels for soil are the USEPA Industrial Soil RSLs (TR = 1 x 10^{-6}; THQ = 1.0), site-specific screening levels for utility workers, and site-specific screening levels for recreational users.

Following calculation of the risk ratios for individual chemicals, the ratios were then summed to determine the cumulative risk due to exposure to each medium. Cumulative non-carcinogenic hazard quotients greater than 1 (one) indicate a potential unacceptable non-carcinogenic risk. Cumulative carcinogenic risk ratios greater than the upper end of USEPA's acceptable risk range of 1 x 10^{-4} to 1 x 10^{-6} indicate a potential unacceptable carcinogenic risk.

6.4.2 Risk Ratio Equations

Carcinogenic risks were estimated using the following equation.

$$\text{Cumulative Risk} = \sum (TR)\frac{(EPC_i)}{RSL_{c-i}}$$

where:

Cumulative Risk = Cumulative risk for carcinogenic COPCs one through "i" (unitless), where $(TR)\frac{(EPC_i)}{RSL_{c-i}}$ is the chemical-specific

carcinogenic risk for chemical "i";

TR = Target lifetime excess carcinogenic risk of 10^{-6} (unitless);

EPC_i = Exposure point concentration for chemical "i" (mg/kg for soil);

RSL_{c-i} = Medium–specific human health screening level (i.e., USEPA RSL) (mg/kg for soil) for carcinogenic chemical "i".

Non-carcinogenic risks were estimated using the following equation.

$$HI = \sum (THQ)\frac{(EPC_i)}{RSL_{nc-i}}$$

where:

HI = Cumulative hazard index for non-carcinogenic COPCs one through "i" (unitless), where $(THQ)\frac{(EPC_i)}{RSL_{nc-i}}$ is the chemical-specific non-carcinogenic hazard quotient (HQ) for chemical "i";

THQ = Target hazard quotient of one (unitless);

EPC_i = Exposure point concentration for chemical "i" (mg/kg for soil); and

RSL_{nc-i} = Medium-specific human health screening levels (i.e., USEPA RSL) (mg/kg for soil) for non-carcinogenic chemical "i".

6.4.3 Screening Criteria

6.4.3.1 Soil Screening Criteria

The soil results were evaluated using USEPA RSLs for industrial soil, site-specific screening levels for utility workers, and site-specific screening levels for recreational users. The USEPA RSL is based on the combined exposure (i.e., incidental ingestion of soil, dermal contact and inhalation of particulates and volatiles). The utility worker and recreational user screening levels were calculated using the USEPA RSL calculator, based on site-specific exposure parameters (USEPA, 2013b). The equations used in the calculator are provided in **Appendix B**. The calculated utility worker and recreational user screening levels are based on combined exposure (i.e., incidental ingestion, dermal contact, and inhalation of particulates and volatiles). The exposure parameters for utility workers assumed exposure of 30 days per year, over the duration of one year. The utility worker is assumed to be an adult. The exposure parameters for recreational users assumed exposure of one time per week, for two hours at a time, over the course of the year. Therefore, there are 50 exposure events per year. Further, the recreational user is expected to be onsite partially as an adolescent (age 6 to 16 years) and partially as an adult (age 16 to 30). The exposure parameters used in the utility worker and recreational user screening levels calculations are shown in **Appendix B**. The outdoor worker screening levels are provided in the USEPA RSL tables, but for comparison, the exposure parameters for the outdoor worker are also shown in **Appendix B**. The USEPA RSL table indicates whether a chemical is carcinogenic, non-carcinogenic, or both. If a chemical is considered both carcinogenic and non-

carcinogenic, it will be included in the cumulative cancer risk calculation and the cumulative hazard quotient calculation.

6.5 RISK ASSESSMENT RESULTS AND UNCERTAINTIES

The primary objective of this HHRA was to quantitatively characterize the human health risk associated with current and reasonably expected future exposure to contaminated media at FTMM-14. As discussed in Section 6.3, potentially complete exposure pathways for the site were evaluated. The exposure pathways are outlined in Section 6.3 and are also shown on the CSM (**Figure 6.2**). The results of the risk ratio quantification are presented in this section.

6.5.1 Estimated Risks for Soil

The risk ratio calculations for potential exposure to soil by a current and future outdoor worker are shown in **Table 6.1,** by a future utility worker are shown in **Table 6.2**, and by a future recreational user are shown in **Table 6.3**.

No unacceptable hazards were calculated for the non-carcinogenic COPCs in soil at FTMM-14, using the maximum detected concentrations or the 95% UCL for those COPCs that are the greatest contributors to cumulative risk. The cumulative hazard for outdoor workers was 0.3 (**Table 6.1**), the cumulative hazard for utility workers was 0.09 (**Table 6.2**), and the cumulative hazard for future recreational users was 0.04 (**Table 6.3**). The cumulative hazards are less than 1, indicating that an unacceptable non-carcinogenic risk to outdoor workers, utility workers, or recreational users exposed to soil is unlikely.

The cumulative carcinogenic risk ratios for outdoor workers was 4×10^{-5}, which is within the USEPA acceptable range of carcinogenic risk of 1×10^{-4} to 1×10^{-6}. The cumulative carcinogenic risk ratio for future utility workers was 5×10^{-7}, which is less than the USEPA acceptable range of carcinogenic risk of 1×10^{-4} to 1×10^{-6}. The cumulative carcinogenic risk ratio for future recreational users was $1 \times 10^{-5,}$ which is within the USEPA acceptable range of carcinogenic risk of 1×10^{-4} to 1×10^{-6}. Therefore, unacceptable carcinogenic risks associated with exposure to soil for outdoor workers, utility workers, and recreational users is unlikely.

6.5.2 Risk Assessment Uncertainties

All risk assessments involve use of assumptions, professional judgments, and imperfect data to varying degrees, which result in uncertainly in the final estimates of risk. Risk assessment in general is often based on conservative assumptions and scenarios. Uncertainty can be introduced into a risk assessment at every step of the process outlined in this document. Uncertainties are present in a risk assessment because it requires integration of the following:

- Release of constituents into the environment, and the areal and vertical distribution of these materials in soil;
- Fate and transport of constituents in a variety of different and variable environments by processes that are often poorly understood or too complex to quantify accurately;
- Potential for adverse health effects in humans based on extrapolations from animal studies; and
- Probability of adverse effects in a human population that is highly variable with respect to genetics, age, activity level, and lifestyle.

This section qualitatively describes the inherent and site-specific uncertainties of the assessments process.

6.5.2.1 Uncertainty in Data Collection and Evaluation

The analysis of uncertainties focuses on determining whether the available data are representative of contaminant concentrations and site conditions, and whether features of sampling, analyses, or statistical treatment of the data result in an over- or underestimation of potential risk.

Constituents detected in soil at the site and included in the risk assessment were retained regardless of how frequently they had been detected. EPA's ProUCL 5.0 will calculate UCLs for datasets with small sample sizes in order to accommodate the Incremental Sampling Method (USEPA, 2013). Because the soil samples collected at FTMM-14 were collected as discrete samples, not all UCLs calculated or suggested by ProUCL are appropriate for use in the risk calculations. Parametric and non-parametric methods (i.e., Chebyshev [Mean, Sd], KM [Percentile Bootstrap], KM [Chebyshev], Adjusted Gamma KM, and Approximate Gamma KM,) were used to determine the 95% UCL for the analytes with six or more samples. For analytes with six samples or less, or if ProUCL generated a warning with regards to unreliable statistics, the maximum detected concentration was used as the exposure point concentration. The use of the maximum detected concentration introduces uncertainty into the risk assessment, since the use of one analytical result likely does not accurately represent the concentration of the constituent in the volume of soil that is being evaluated. In cases where the analyte is infrequently detected, the use of the maximum concentration will likely overestimate the actual exposure point concentration, resulting in an overestimate of the risk. In cases with few total samples, the use of the maximum detected concentration can either over- or underestimate the exposure concentration depending on the distribution of the actual concentrations in the medium of concern.

USEPA has researched how to determine the appropriate method for calculating a 95% UCL based on the data distribution, data set size, skewness, and percentage of non-detect observations. The ProUCL output included in **Appendix B** states, "Suggestions regarding the selection of a 95% UCL are provided to help the user select the most appropriate 95% UCL." ProUCL generates UCLs using all available methods for each data set, regardless of the appropriateness of the method. The results listed under "Suggested UCLs to Use" are the results recommended by ProUCL based on data size, data distribution, and skewness of the data set, as well as the results of simulation studies. Where more than one result was listed in the ProUCL output in "Suggested UCLs to Use", the most conservative (highest) of the recommended "Suggested UCLs to Use" was selected for use as the EPC. This is a default selection made without regard to scientific validity. The use of the most conservative UCL may overestimate the EPC and, therefore, the risk.

Detected analytes that do not have screening values are not identified as COPCs. If these analytes are present in environmental media, not including them in the risk assessment may underestimate the risk for exposure to that medium.

Chemicals that were never detected in any samples were eliminated from the HHRA. It is possible that some chemicals may have been present in samples below the sample quantitation limit and not retained in the risk assessment. However, because samples were collected from

areas where concentrations were expected to be high and because maximum detected concentrations or 95% UCLs were used in the HHRA comparisons, it is very unlikely that chemicals were present at health-significant levels and not detected in at least one sample.

6.5.2.2 Uncertainty in Exposure Assessment

The risk assessment estimates are conditional on actual and potential exposure pathways identified at the site. If exposure does not occur, no risks are present. Furthermore, the risk assessment process does not factor in the probability of exposure occurring. For example, there may not be a reason for an outdoor worker to be present on site 225 days per year. The actual exposure for the potential landscaper/groundskeeper is likely to be less often than 225 days per year.

Current land uses and characterization of the site's current physical setting provided the basis for predicting future land use at and in the vicinity of the site. Steady-state conditions were assumed for evaluation of potential future exposures. The assumption of steady-state conditions may tend to overestimate long-term exposure and health risk because contaminant concentrations may decline over time due to natural dissipation processes. In some cases, depending on the contaminant and or the release mechanisms involved, steady-state assumptions could potentially underestimate risk (e.g., a continuous source contributing to contamination in another media).

There is also some concern as to how well an exposure scenario approximates the actual conditions that a receptor may be exposed to at a given site. Potential human exposures could deviate from those used in the risk assessment through differences in exposure frequency, contact rates, exposure durations, body weight, and life span. Each of these factors has a degree of uncertainty associated with it that could over- or underestimate risk.

Evaluation of risk for recreational user exposure to soil includes calculation of the risk to adolescents. Other sensitive subpopulations such as children, elderly people, pregnant or nursing women, and people with chronic illnesses were not specifically evaluated in this risk assessment. These subpopulations may be more sensitive to certain chemical exposures. However, USEPA generally considers sensitive subpopulations when developing toxicity factors. Additionally, there are no daycare or school facilities, healthcare facilities onsite, nursing homes, retirement communities, or residential areas with children or adolescents onsite currently.

6.5.2.3 Uncertainty in Toxicity Assessment

Some uncertainty is also inherent in the toxicity values used in the risk assessment. Carcinogenic slope factors and route-specific values were derived only for compounds that have been shown to cause an increased incidence of tumors in either human or animal studies. This dose-response curve is then assumed to be linear at low doses (e.g., those found in situations of environmental contamination) and is used to predict tumor incidence at low exposure levels. When an animal study is used, the final slope factor is adjusted to account for extrapolation of animal data to humans. If the studies used to derive the slope factor were conducted for less than the life span of the test organism, the final slope factor had also been adjusted to reflect risk associated with lifetime exposure. The chronic RfD for a compound is based on studies where either human or animal populations were exposed to a given compound by a given route of exposure for a major portion of the life span (as a USEPA guideline, seven years to a lifetime; USEPA, 1989). RfDs are derived by determining dose-specific effect levels from available quantitative studies and applying uncertainty factors to the most appropriate effect level to

determine an RfD for humans. The slope factors and RfD for compounds are used to calculate the default USEPA RSLs or the calculated recreational user screening levels for soil, and are used to calculate the USEPA Tapwater RSLs. The screening levels are then based on conservative assumptions, and tend to overestimate risk.

6.5.2.4 Uncertainty in Estimating Chemical Risk

The expression of the potential risk associated with contaminants detected at the site is a result of the combined steps of data evaluation, exposure assessment, and toxicity assessment. This combination can magnify the uncertainties present in these steps of the HHRA process.

Screening criteria are developed using very conservative (health-protective) exposure and intake assumptions. The HHRA comparisons also use conservative concentrations of the chemicals detected at the site. In addition, screening criteria used in the HHRA are considered health-protective for carcinogenic and non-carcinogenic chemical mixtures. Carcinogenic chemicals correspond to the conservative 1×10^{-6} (one in a million) excess cancer risk level, providing a very protective screening value. Non-carcinogens use a THQ of 1 and also account for the cumulative non-cancer risk for chemicals with the same toxic endpoint or mechanism of action.

6.5.3 Conclusions

The HHRA was conducted to evaluate the potential for human health impacts as a result of potential exposures to chemicals in soil at FTMM-14.

The cumulative carcinogenic risks and non-carcinogenic hazards estimated for current and future outdoor workers, future utility workers, and future recreational user exposure to soil are as follows.

- Current / future outdoor worker exposed to surface soil: The cumulative carcinogenic risk of 4×10^{-5} is within the cumulative risk goal of 1×10^{-4} to 1×10^{-6} for soil. The cumulative non-carcinogenic hazard is 0.3, less than the cumulative hazard goal of 1.
- Future utility worker exposed to surface soil: The cumulative carcinogenic risk of 5×10^{-7} is less than the cumulative risk goal of 1×10^{-4} to 1×10^{-6} for soil. The cumulative non-carcinogenic hazard is 0.09, less than the cumulative hazard goal of 1.
- Future recreational user exposed to surface soil: The cumulative carcinogenic risk of 1×10^{-5} is within the cumulative risk goal of 1×10^{-4} to 1×10^{-6} for soil. The cumulative non-carcinogenic hazard is 0.04, which is less than the cumulative hazard goal of 1.

SECTION 7
REMEDIAL INVESTIGATION SUMMARY

7.1 NATURE AND EXTENT OF CONTAMINATION

The nature and extent of targeted constituents exceeding NJDEP and/or USEPA comparison criteria in sampled media at FTMM-14 are summarized below.

7.1.1 Soil

Soil samples were collected at FTMM-14 during RI sampling activities in 1998 and 1999. Concentrations of the following constituents exceeded the current NJDEP RDCSRS and/or USEPA Residential Soil RSL in at least one soil sample:

- The SVOCs (PAHs) benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, and dibenz(a,h)anthracene;
- The pesticide 4,4'-DDT; and
- The metals aluminum, arsenic, cobalt, iron, manganese, mercury, and vanadium.

Concentrations of the following constituents exceeded the current NJDEP NRDCSRS and/or USEPA Industrial Soil RSL in at least one soil sample:

- The SVOCs (PAHs) benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, and;
- The metals aluminum, arsenic and iron.

Concentrations of the following constituents exceeded the current NJDEP IGW standard and/or USEPA Groundwater Protection RSL in at least one soil sample:

- The VOCs acetone, benzene, methylene chloride, and toluene;
- The SVOCs aniline, naphthalene, 2-methylnaphthalene, acenaphthene, dibenzofuran, fluorene, anthracene, di-n-butylphthalate, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene;
- The pesticides 4,4'-DDE, dieldrin, 4,4'-DDD, 4,4'-DDT, gamma-chlordane, and alpha-chlordane; and
- The metals aluminum, antimony, arsenic, barium, beryllium, cadmium, cobalt, copper, iron, lead, manganese, mercury, nickel, selenium, silver, vanadium, and zinc.

The maximum-detected concentrations of the metals targeted for analysis in soil samples exceed their maximum background concentration for the MP presented in Weston (1995) except for thallium, which was not detected in any sample.

7.1.2 Groundwater

Previous reports identified chlorinated ethenes (i.e., tetrachloroethene [PCE], trichloroethene [TCE], *cis*-1,2-dichloroethene [DCE], and/or vinyl chloride [VC]) as the primary

constituents of concern in FTMM-14 groundwater. During the most recent eight quarters of monitoring (November 2009 to August 2011), only concentrations of 1,4-dichlorobenzene and 18 metals (aluminum, antimony, arsenic, barium, cadmium, cobalt, copper, iron, lead, manganese, mercury, nickel, selenium, silver, sodium, thallium, vanadium, and zinc) exceeded the current NJDEP GWQS and/or USEPA Tapwater RSL in one or more samples. The highest concentrations of most metals in groundwater during the most recent eight quarters of sampling were at well M14MW22, located adjacent to Husky Brook.

1,4-Dichlorobenzene exceeded the USEPA Tapwater RSL in two samples at M14MW22. However, this VOC was not identified as a COPC because it exceeded the Tapwater RSL in only 2 of 81 samples collected from November 2009 to August 2011, was not detected during the August 2013 Baseline Sampling Event, and the exceedances were very slight in magnitude (0.61 to 0.81 J µg/L versus a Tapwater RSL of 0.42 µg/L). Sampling was discontinued following the 2013 baseline sampling event, with the concurrence of the NJDEP as stated in an approval letter "Re: November 26, 2014 Response to Comments – on the Final Baseline Ground Water Sampling Report (August 2013)" dated February 5, 2015.

The metals detected at concentrations exceeding their NJDEP GWQS and/or USEPA Tapwater RSL and also the maximum background concentration for the MP established by Weston (1995) include antimony, cadmium, cobalt, copper, manganese, nickel, selenium, silver, sodium, and zinc. Given the small number of background exceedances, detected concentrations of antimony, copper, and nickel and silver are considered to be representative of background conditions. Cadmium, cobalt, selenium and zinc were detected above maximum background concentrations in a limited number of wells, but in each case were followed by multiple rounds of non-detect data for these metals, and these detections were therefore determined to be anomalous. Sodium is an essential human nutrient. The remaining metal, manganese, was not identified as a COPC because exceedances of the comparison criteria were localized in time and space, not representative of the larger dataset, and potentially influenced by sample turbidity.

7.1.3 Surface Water

Surface water samples were collected at two to four locations in Husky Brook and Husky Brook Pond from October 1996 to September 2011. These sampling locations have historically been associated with FTMM-14 in previously prepared reports and are located upstream, adjacent to, and downstream of FTMM-14.

The most recent eight quarters of surface water monitoring data (December 2008 to September 2010) were evaluated as being representative of recent conditions. Concentrations of VOCs and metals detected upstream of FTMM-14 and FTMM-12 are similar to concentrations detected at the downstream edge of the sites. This comparison indicates that the combination of FTMM-14 and adjacent site FTMM-12 is not significantly impacting VOC or metal concentrations in the reach of Husky Brook that borders these two sites. There are no surface water COPCs.

7.1.4 Sediment

Sediment sampling was conducted in April 2000 in Husky Brook to evaluate PCB-related impacts to stream sediments associated with FTMM-14. One PCB (Aroclor 1254) was detected in 1 of 25 samples collected at a concentration slightly greater than the NJDEP RDCSRS and USEPA Residential Soil RSL. The detected PCB concentration does not exceed the NJDEP

NRDCSRS or USEPA Industrial Soil RSL. The PCB detection occurred upstream of FTMM-14, and is therefore not associated with this site.

7.2 CONTAMINANT FATE AND TRANSPORT

Detected constituents of interest in terms of contaminant fate and transport at FTMM-14 include SVOCs, pesticides, and metals in vadose zone soil. The migration routes of interest are dissolution of soluble residual contamination in near-surface soil into infiltrating precipitation that percolates through the vadose zone to the water table, and potential volatilization of some pesticides into soil vapor and/or the atmosphere. Overall, SVOCs, pesticides, and metals in near-surface soil at FTMM-14 are expected to be relatively persistent and immobile as described in Section 5, limiting their impact on groundwater quality.

7.3 BASELINE RISK ASSESSMENT

An evaluation of the potential risk resulting from human exposure to soil, surface water, sediment, and groundwater was conducted as part of this RI. No COPCs were identified in groundwater, surface water or sediment. Therefore, further evaluation of these media in the risk assessment was not conducted. The human health risk assessment utilized a conservative approach that assumed exposure to the maximum detected concentration or the 95% UCL of analytes in soil.

For outdoor workers exposed to soil at FTMM-14, the cumulative carcinogenic risk of 4×10^{-5} is within the cumulative risk goal of 1×10^{-4} to 10^{-6} for soil. The cumulative non-carcinogenic hazard is 0.3, less than the cumulative hazard goal of 1. Therefore, no potential non-carcinogenic or carcinogenic effects to outdoor workers are expected from exposure to soil at FTMM-14.

For utility workers exposed to soil at FTMM-14, the cumulative carcinogenic risk of 5×10^{-7} is less than the cumulative risk goal of 1×10^{-4} to 10^{-6} for soil. The cumulative non-carcinogenic hazard is 0.09, less than the cumulative hazard goal of 1. Therefore, no potential non-carcinogenic or carcinogenic effects to utility workers are expected from exposure to soil at FTMM-14.

For recreational users exposed to soil at FTMM-14, the cumulative carcinogenic risk of 1×10^{-5} is within the cumulative risk goal of 1×10^{-4} to 10^{-6} for soil. The cumulative non-carcinogenic hazard is 0.04, which is less than the cumulative hazard goal of 1. Therefore, no potential non-carcinogenic or carcinogenic effects to recreational users are expected from exposure to soil at FTMM-14.

SECTION 8
CONCLUSION

A FS was not performed for FTMM-14. The RI concluded that risks to human health and the environment from soil are within acceptable ranges for the current and future intended land use. A FS will not be performed because the RI concluded that no further action is required at FTMM-14 under CERCLA.

To address safety concerns, a vegetated soil cover will be placed over the landfill area after the landfill is regraded, to provide safety protection for future non-residential use. The soil cap with be placed consistent with the NJDEP Solid Waste regulations **(**N.J.A.C. 7:26-2A). Additional soil will be added to the existing soil cover to provide a minimum of two feet of soil between the ground surface and landfilled debris. The use of a vegetated native soil cover will offer safety protection to non-residents from future exposure to solid waste at the landfill and will control surface water runoff and erosion.

ICs to maintain the soil cover and prevent residential land use will also be implemented at FTMM-14. The Army will prepare a LUC implementation plan during the remedy design phase to document the location of the engineering control and detail the landfill cover inspection, reporting and long-term management requirements. In addition, as part of LUC implementation, and prior to designing and placing the vegetated soil cover, refinement of the the landfill boundary will be performed with a pre-design investigation based on the data gaps identified in Section 1.3.2. The Army will be responsible for documenting and implementing the ICs through the filing of a deed notice, and will also be responsible to conduct biennial reviews to ensure that theICs remain protective of human health and the environment. However, the Army will not be responsible for obtaining a remedial action permit under New Jersey TRSR. When the property is transferred to private ownership, the ICs will be incorporated into the title and the new owner will be responsible for complying with the ICs. Although the Army may later transfer its procedural responsibilities to another party by contract, property transfer agreement, or through other means, the Army shall retain ultimate responsibility for remedy integrity.

The estimated total present value (TPV) of the soil cover and ICs is approximately $1,591,000. Costs associated with ICs include preparation of a LUC Implementation Plan refinement of the landfill boundaries, as well as IC inspection and reporting for a 30-year duration. Costs associated with the vegetative cover include advancement of two geotechnical borings, placement of 18 inches of a soil cover, followed by 6 inches of a vegetative cover, grading for runoff, and seeding. The cost estimate is provided in **Appendix C**.

SECTION 9
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TABLE 1.1
CHRONOLOGY OF EVENTS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

1918 – Fort Monmouth (FTMM) was established.
1980 – Installation Assessment of Fort Monmouth. Report 71. U.S. Army Toxic and Hazardous Materials Agency (USATHAMA). Conducted a records search to assess the environmental quality of FTMM.
1980 – William F. Cosulich performed landfill study (as cited in USATHAMA, 1988). Study identified Areas A-E as major areas on the base where landfill activities occurred. Samples were collected from Parkers Creek, Lafetra Brook, and Mill Brook. (Note: later reports refer to Mill Creek).
1984 – A water quality engineering study was performed to determine if landfill leachate was forming and entering streams. Surface water samples were collected in Husky Brook between FTMM-14 and FTMM-12 (USATHAMA, 1988).
1986 – A New Jersey Pollutant Discharge Elimination System (NJPDES) permit was issued and surface water monitoring began at FTMM-14.
1988 – Update of the Initial Installation Assessment of Fort Monmouth and Subinstallations: Charles Wood Area and Evans Area. A survey was conducted to determine if any environmental/hazardous waste disposal conditions had changed since the Installation Assessment conducted in 1980. (USATHAMA, 1988).
1993 – An investigation of 45 suspected hazardous waste sites at Fort Monmouth was conducted. FTMM-14 was identified as a general purpose disposal area. Additional remediation investigation was recommended for the FTMM-14 landfill (Weston, 1993).
1995 – A Site Investigation (SI) was conducted at Fort Monmouth in 1994 and 1995. At FTMM-14, three groundwater monitoring wells were installed (MW-19 through MW-21) and sampled. Tidal monitoring was conducted at the same time as the tidal monitoring at nearby FTMM-12. During the same time period, background soil, groundwater, surface water and sediment samples were collected to determine naturally occurring concentrations of metals and a limited number of organic compounds (Weston, 1995).
1999 – Two monitoring wells installed.
1999 – Near surface soils were characterized in 1998 and 1999 by analyzing soil samples collected on a grid pattern within the boundaries of FTMM-14 (Versar, 2004b)
2000 – One monitoring well installed and quarterly groundwater sampling initiated at a total of 6 monitoring wells. Regular sampling of these wells continued into 2011.
2000 – Sediment in Husky Brook adjacent to FTMM-14 was sampled to determine if it contained polychlorinated biphenyl (PCBs). PCBs were not detected at concentrations greater than then-current regulatory criteria, and no further sediment sampling was recommended (Versar, 2004a).
2005 - FTMM (MP and Charles Wood Area [CWA]) was selected for closure by the Base Realignment and Closure Commission
2005 – A Remedial Investigation (RI) Report was completed (Versar, 2005). The report addresses the RI activities conducted at FTMM-14 from June 1997 to January 2001 to investigate soil and groundwater conditions.
2008-2010 – FTMM-14 landfill boundary was refined by advancing tests pits and soil borings near the perimeter of the known landfill. The boundary of the landfill was expanded to the north.
2010 – Three groundwater monitoring wells were installed and included in quarterly groundwater monitoring.
2011 – A Classification Exception Area report was prepared for FTMM-14 (Brinkerhoff, 2011).

2011 – The base was officially closed on September 15, 2011.
2012 – A RI Report, Addendum, was prepared for FTMM-14 (U.S. Army, 2012).
2015 – NJDEP agreed to discontinue groundwater sampling at FTMM-14 (NJDEP, 2015).

TABLE 2.1
WELL CONSTRUCTION DETAILS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Site	Well Permit #	Y Coord. (Northing)	X Coord. (Easting)	Installation Date	Depth (ft bgs)	Well Diameter (in)	Casing Length (ft)	Screen Length (ft)	Top of Casing (ft amsl)	Slot Size (inches)
M14MW18	E201007332	539586.895	620689.693	7/30/2010	20.00	4.00	5.00	15.00	7.35	0.01
M14MW19	29-32579	539354.570	620768.363	1/4/1995	15.00	4.00	5.00	10.00	8.43	0.01
M14MW20	29-32580	539648.374	620836.547	1/4/1995	14.50	4.00	4.50	10.00	8.05	0.01
M14MW21	29-32581	539691.194	621285.592	1/4/1995	16.00	4.00	6.00	10.00	8.49	0.01
M14MW22	29-41787	539466.503	620899.871	11/23/1999	18.00	4.00	3.00	15.00	**7.81**	0.01
M14MW23	29-41786	539558.229	621053.919	11/22/1999	18.00	4.00	3.00	15.00	**7.62**	0.01
M14MW24	29-41788	539749.015	621404.794	3/27/2000	18.00	4.00	3.00	15.00	**8.44**	0.01
M14MW25	E201007332	NA	NA	7/30/2010	20.00	4.00	5.00	15.00	NA	0.01
M14MW26	E201010530	539272.331	620520.915	10/13/2010	20.00	4.00	5.00	15.00	10.72	0.01

Notes:
ft = feet
bgs = below ground surface
amsl = above mean sea level
NA = information not available
Bolded top of casing elevations represent a mathematical adjustment between earlier NAD systems and NAD 88 spatial system; the adjusted monitoring wells will be resurveyed. The wells were reduced 1.09 feet to reflect the changes in the NAD system.

TABLE 2.2
GROUNDWATER SAMPLING EVENTS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

	Well ID								
Date	M14MW18	M14MW19	M14MW20	M14MW21	M14MW22	M14MW23	M14MW24	M14MW25	M14MW26
6/12/1997	--	V,S,P,M	V,S,P,M	V,S,P,M	--	--	--	--	--
7/3/1997	--	V,S,P,M	V,S,P,M	V,S,P,M	--	--	--	--	--
11/7/1997	--	V,S,P,M	V,S,P,M	V,S,P,M	--	--	--	--	--
2/23/1998	--	V,S,P,M	V,S,P,M	V,S,P,M	--	--	--	--	--
5/7/1998	--	V,S,P,M	V,S,P,M	V,S,P,M	--	--	--	--	--
8/6/1998	--	V,S,P,M	V,S,P,M	V,S,P,M	--	--	--	--	--
11/3/1998	--	V,S,P,M	V,S,P,M	V,S,P,M	--	--	--	--	--
1/29/1999	--	V,S,P,M	V,S,P,M	V,S,P,M	--	--	--	--	--
5/25/1999	--	V,S,P,M	V,S,P,M	V,S,P,M	--	--	--	--	--
7/23/1999	--	V,S,P,M	V,S,P,M	V,S,P,M	--	--	--	--	--
10/14/1999	--	V,S,P,M	V,S,P,M	V,S,P,M	--	--	--	--	--
2/24/2000	--	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	--	--	--
5/16/2000		V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	--	--
8/22/2000	--	V,M	M	M	M	V,S,P,M	M	--	--
9/1/2000	--	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	--	--
9/22/2000	--	--	--	M	--	M	--		
10/2/2000	--	V,M	M	--	M	--	M	--	--
11/3/2000	--	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	--	--
1/17/2001	--	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	--	--
4/19/2001	--	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	--	--
8/8/2001	--	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	--	--
10/18/2001	--	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	--	--
1/18/2002	--	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	--	--
5/7/2002	--	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	--	--
7/18/2002	--	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	--	--
11/20/2002	--	V,S,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	--	--
1/15/2003	--	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	--	--
4/29/2003	--	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	--	--
7/17/2003	--	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	--	--
10/3/2003	--	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	--	--
1/9/2004	--	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	--	--
4/23/2004		V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	--	--
8/5/2004	--	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	V,S,P,M	--	--
11/17/2004	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
2/14/2005	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
5/12/2005	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
8/18/2005	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
11/25/2005	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
1/27/2006	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
4/25/2006	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
9/5/2006	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
11/7/2006	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
2/23/2007	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
5/11/2007	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
8/23/2007	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
12/31/2007	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
3/18/2008	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
5/19/2008	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
8/14/2008	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
10/30/2008	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
3/31/2009	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
6/17/2009	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
9/10/2009	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
11/20/2009	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
3/31/2010	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
6/4/2010	--	V,M	V,M	V,M	V,M	V,M	V,M	--	--
8/12/2010	--	--	--	--	--	--	--	V,M	--
8/26/2010	--	V,M	V,M	V,M	V,M	V,M	V,M	V,M	--
10/29/2010	--	--	--	--	--	--	--	--	V,M
11/12/2010	--	--	--	--	--	--	--	--	V,M
12/9/2010	--	V,M	V,M	V,M	V,M	V,M	V,M	V,M	V,M
3/3/2011	V,M	V,M	V,M	V,M	V,M	V,M	V,M	--	V,M
5/11/2011	V,M	V,M	V,M	V,M	V,M	V,M	V,M	--	V,M
8/2/2011	V,M	V,M	V,M	V,M	V,M	V,M	V,M	--	V,M
8/27/2013	--	V	V	V	V	V	V	--	--

Notes:

V = volatile organic compounds (VOCs) + tentatively-identified compounds (TICs), S = semivolatile organic compounds + TICs, M = metals, P = pesticides and polychlorinated biphenyls (PCBs), dash (--) = not sampled.

NJDEP approved in the Feb 2015 letter (provided in Appendix A) to discontinue long-term monitoring of the groundwater following the 2013 Baseline Sampling Event

TABLE 2.3
SURFACE WATER SAMPLING EVENTS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Date	Location			
	SS-9	SS-11	SS-12	SS-19
Oct-96	V	V	V	--
Nov-96	V	V	V	V
Dec-96	V	V	V	V
Jan-97	V	V	V	V
Feb-97	V	V	V	V
Mar-97	V	V	V	V
Apr-97	V	V	V	V
Jul-97	V	V	V	V
Oct-97	V	V	V	V
Feb-98	V	V	V	V
Apr-98	V	V	V	V
Aug-98	V	V	V	V
Nov-98	V	V	V	V
Feb-99	V	V	V	V
Jun-99	V	V	V	V
Sep-99	V	V	V	V
Dec-99	V	V	V	V
Mar-00	V	V	V	V
Jun-00	V	V,P	V	V
Aug-00	V	V,P	V	V
Nov-00	V	V,P	V	V
Feb-01	V	V,P	V	V
May-01	V	V,P	V	V
Sep-01	V	V,P	V	V
Nov-01	V	V,P	V	V
Feb-02	V	V,P	V	V
Jun-02	V	V,P	V	V
Sep-02	V	V,P	V	V
Nov-02	V	V,P	V	V
Mar-03	V	V,P	V	V
May-03	V	V,P	V	V
Sep-03	V	V,P	V	V
Nov-03	V	V,P	V	V
Mar-04	V	V,P	V	V
Jun-04	V	V,P	V	V, M
Aug-04	V	V	V	V, M
Nov-04	V	V	V	V, M
Mar-05	V	V	V	V, M
Jun-05	V, M	V,M	V	V, M
Sep-05	V, M	V,M	V	V, M
Nov-05	V, M	V,M	V	V, M
Feb-06	V, M	V,M	V	V, M
May-06	V, M	V,M	V	V, M
Sep-06	V, M	V,M	V	V, M
Dec-06	V, M	V,M	V	V, M
Mar-07	V, M	V,M	V	V, M
Jun-07	V, M	V,M	V	V, M
Sep-07	V, M	V,M	V	V, M
Dec-07	V, M	V,M	V	V, M
Mar-08	V, M	V,M	V	V, M
Jun-08	V, M	V,M	V	V, M
Sep-08	V, M	V,M	V	V, M
Dec-08	V, M	V,M	V	V, M
Mar-09	V, M	V,M	V	V, M
Jun-09	V, M	V,M	V	V, M
Sep-09	V, M	V,M	V	V, M
Dec-09	V, M	V,M	V	V, M
Mar-10	V, M	V,M	V	V, M
Jun-10	V, M	V,M	V	V, M
Sep-10	V, M	V,M	V	V, M

Notes:
V = volatile organic compounds (VOCs) + tentatively-identified compounds (TICs),
M = metals, P = pesticides/PCBs, dash (--) = not sampled.

TABLE 4.1
SOIL SAMPLING SUMMARY RESULTS - COMPARISON TO NJDEP STANDARDS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	NJDEP Residential (1)	NJDEP Non-Residential (1)	NJDEP Impact to Ground Water (2)	Weston 1995 Background (Main Post) (3)	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9	B-10	B-11	B-12	B-13
Sample Date					12/23/98	12/23/98	12/23/98	12/23/98	12/23/98	12/23/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98
Volatile Organic Compounds (µg/kg)																	
Lab Sample ID (VOCs only collected 24 in. bgs)					4156.03	4156.05	4156.07	4156.09	4156.11	4156.13	4159.03	4159.05	4159.07	4159.09	4159.11	4159.13	4159.15
Acetone	70,000,000	NLE	19,000	--	< 590	< 520	< 540	< 560	< 560	< 570	< 600	< 620	< 620	<560	< 620	< 580	< 560
Methylene Chloride	34,000	97,000	10	--	**720**	< 520	**690**	< 560	**420** J	**690**	**760**	< 620	< 620	< 560	**510**	< 580	< 560
Benzene	2,000	5,000	5	--	< 290	< 260	< 270	< 280	< 280	< 290	< 300	< 310	< 310	< 280	< 310	< 290	< 280
Toluene	6,300,000	91,000,000	7000	--	< 290	< 260	< 270	< 280	< 280	< 290	< 300	< 310	< 310	< 280	< 310	< 290	< 280
TICs	NLE	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds (µg/kg)																	
Lab Sample ID (All analysis except VOCs - collected 0 to 12 in. bgs)					4156.02	4156.04	4156.06	4156.08	4156.10	4156.12	4159.02	4159.04	4159.06	4159.08	4159.10	4159.12	4159.14
Aniline	NLE	NLE	NLE	--	< 1100	< 1100	< 1100	< 1100	< 1200	< 1200	< 1100	< 1100	< 1200	< 1100	< 1100	< 1100	< 1100
Naphthalene	6,000	17,000	25,000	--	< 1100	< 1100	**130** J	< 1100	< 1200	< 1200	< 1100	**1100**	< 1200	< 1100	< 1100	< 1100	< 1100
2-Methylnaphthalene	230,000	2,400,000	8,000	--	< 1100	**110** J	**120** J	< 1100	< 1200	< 1200	< 1100	**1100**	< 1200	< 1100	< 1100	< 1100	< 1100
Acenaphthylene	NLE	300,000,000	NLE	--	< 1100	**380** J	**890** J	< 1100	< 1200	**120** J	< 1100	**1100**	< 1200	< 1100	< 1100	< 1100	< 1100
Acenaphthene	3,400,000	37,000,000	110,000	--	< 1100	< 1100	< 1100	< 1100	< 1200	< 1200	< 1100	**240** J	< 1200	< 1100	< 1100	< 1100	< 1100
Dibenzofuran	NLE	NLE	NLE	--	< 1100	< 1100	< 1100	< 1100	< 1200	< 1200	< 1100	**110** J	< 1200	< 1100	< 1100	< 1100	< 1100
Diethylphthalate	4,900,000	550,000,000	88,000	--	< 1100	< 1100	< 1100	**110** J	< 1200	< 1200	< 1100	< 1100	**120** J	< 1100	< 1100	< 1100	< 1100
Fluorene	2,300,000	24,000,000	170,000	--	< 1100	**270** J	< 1100	< 1100	< 1200	**140** J	< 1100	**1000** J	< 1200	< 1100	< 1100	< 1100	< 1100
Phenanthrene	NLE	300,000,000	NLE	--	< 1100	**1900**	**680** J	< 1100	< 1200	< 1200	< 1100	**8400**	< 1200	**220** J	< 1100	**300** J	**300** J
Anthracene	17,000,000	30,000,000	2,400,000	--	< 1100	**300** J	**290** J	< 1100	< 1200	< 1200	< 1100	**1000** J	< 1200	< 1100	< 1100	< 1100	< 1100
Di-n-butylphthalate	6,100,000	68,000,000	760,000	--	**660** JB	**370** JB	**830** JB	**1400** B	**400** JB	**1600** B	**2700** B	**1700** B	**31000** BD	**3700** B	**1400** B	**380** JB	**470** JB
Fluoranthene	2,300,000	24,000,000	1,300,000	--	< 1100	**1600**	**790** J	**150** J	**130** J	**220** J	**120** J	**4300**	< 1200	**290** J	< 1100	**250** J	**130** J
Pyrene	1,700,000	18,000,000	840,000	--	< 1100	**2200**	**1300**	**150** J	**130** J	**300** J	**150** J	**6600**	< 1200	**250** J	< 1100	**360** J	**220** J
Benzo[a]anthracene	600	2,000	800	--	< 1100	**880** J	**660** J	< 1100	< 1200	**170** J	< 1100	**2400**	< 1200	**130** J	< 1100	**150** J	< 1100
Chrysene	62,000	230,000	80,000	--	< 1100	**1200**	**990** J	< 1100	< 1200	**240** J	**130** J	**3600**	< 1200	**160** J	< 1100	**240** J	< 1100
bis(2-Ethylhexyl)phthalate	35,000	140,000	1,200,000	--	**230** JB	**110** JB	**160** JB	**130** JB	< 1200	**170** JB	**110** JB	**130** JB	**120** JB	**130** JB	**150** JB	**140** JB	< 1100
Benzo[b]fluoranthene	600	2,000	2,000	--	< 1100	**720** J	**620** J	< 1100	< 1200	**180** J	< 1100	**1200**	< 1200	**120** J	< 1100	< 1100	< 1100
Benzo[k]fluoranthene	6,000	23,000	25,000	--	< 1100	**610** J	**730** J	< 1100	< 1200	**200** J	< 1100	**1600**	< 1200	**180** J	< 1100	**170** J	< 1100
Benzo[a]pyrene	200	200	200	--	< 1100	**830** J	**1000** J	< 1100	< 1200	**270** J	< 1100	**2000**	< 1200	**110** J	**240** J	**140** J	< 1100
Indeno[1,2,3-cd]pyrene	600	2000	7,000	--	< 1100	**270** J	**380** J	< 1100	< 1200	**130** J	< 1100	**630** J	< 1200	< 1100	< 1100	< 1100	< 1100
Dibenz[a,h]anthracene	200	200	800	--	< 1100	**110** J	**140** J	< 1100	< 1200	< 1200	< 1100	**630** J	< 1200	< 1100	< 1100	< 1100	< 1100
Benzo[g,h,i]perylene	380,000,000	30,000,000	NLE	--	< 1100	**340** J	**660** J	< 1100	< 1200	**210** J	< 1100	**990** J	< 1200	< 1100	< 1100	< 1100	< 1100
TICs	NLE	NLE	NLE	--	**6900**	**12390**	**4930**	**6700**	**5700**	**7900**	**8300**	**25600**	**8400**	**10000**	ND	**5000**	**5900**
Pesticides/PCBs (mg/kg)																	
4,4'-DDE	2	9	18	--	**0.237**	**0.054**	**0.027**	**0.253**	**0.031**	**0.01**	**0.021**	**0.026**	**0.012**	**0.024**	**0.013**	**0.06**	**0.009**
Dieldrin	0.04	0.2	0.003	--	< 0.0006	**0.001**	< 0.0006	< 0.0005	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	**0.001**	< 0.0006	< 0.0006	< 0.0006
4,4'-DDD	3	13	4	--	**0.017**	**0.054**	**0.022**	**0.031**	**0.051**	**0.013**	**0.028**	**0.048**	**0.014**	**0.027**	**0.014**	**0.169**	**0.011**
Endrin Aldehyde	NLE	NLE	NLE	--	< 0.0006	< 0.0005	< 0.0006	< 0.0005	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006
4,4'-DDT	2	8	11	--	**0.113**	**0.106**	**0.109**	**0.273**	**0.028**	**0.017**	**0.069**	**0.046**	**0.014**	**0.055**	**0.008**	**0.173**	**0.015**
gamma-Chlordane	0.2	1	0.05	--	< 0.0006	**0.002**	**0.003**	**0.002**	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	**0.003**	< 0.0006
alpha-Chlordane	0.2	1	0.05	--	< 0.0006	**0.001**	**0.001**	< 0.0005	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	**0.001**	< 0.0006

TABLE 4.1
SOIL SAMPLING SUMMARY RESULTS - COMPARISON TO NJDEP STANDARDS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	NJDEP Residential (1)	NJDEP Non-Residential (1)	NJDEP Impact to Ground Water (2)	Weston 1995 Background (Main Post) (3)	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9	B-10	B-11	B-12	B-13
Sample Date					12/23/98	12/23/98	12/23/98	12/23/98	12/23/98	12/23/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98
Metals (mg/kg)																	
Aluminum	78,000	NLE	6000	15200	**10200**	**10600**	**7420**	**11500**	**11700**	**11900**	**11700**	**10800**	**10200**	**10000**	**6820**	**8430**	**5870**
Antimony	31	450	6	ND	**1.03**	**1.17**	**0.633**	**0.395**	**0.798**	**0.569**	**0.57**	**0.482**	**0.623**	**0.661**	**0.675**	**0.863**	< 0.464
Arsenic	19	19	19	22.9	**9.97**	**9.39**	**6.7**	**18.2**	**14.5**	**13.7**	**12.5**	**9.96**	**12.3**	**11.2**	**10.3**	**12**	**10.8**
Barium	16,000	59,000	2100	32.3	**34.9**	**52.3**	**30.1**	**30.5**	**71.9**	**87.6**	**83.3**	**65.4**	**85.1**	**78.3**	**58.4**	**77.3**	**66.3**
Beryllium	16	140	0.7	2	**1.07**	**1.37**	**1.11**	**1.04**	**1.65**	**1.89**	**1.9**	**1.36**	**1.76**	**1.5**	**1.36**	**1.17**	**0.952**
Cadmium	78	78	2	ND	**0.632**	**1.22**	**0.47**	**0.625**	**0.711**	**0.873**	**0.778**	**0.74**	**0.983**	**0.534**	**0.809**	**0.394**	**0.381**
Calcium	NLE	NLE	NLE	921	**518**	**1640**	**1590**	**697**	**1320**	**8190**	**5240**	**3890**	**4520**	**5320**	**3420**	**5300**	**4910**
Chromium	NLE	NLE	NLE	269	**94.2**	**95**	**99.2**	**89.3**	**169**	**179**	**211**	**140**	**190**	**165**	**107**	**129**	**99.6**
Cobalt	1,600	590	90	2.5	**4.74**	**3.25**	**2.62**	**1.99**	**1.98**	**2.58**	**1.59**	**1.94**	**1.45**	**1.8**	**1.91**	**1.3**	**0.826**
Copper	3,100	45,000	11000	8	**3.53**	**15.5**	**14.2**	**5.58**	**7.72**	**7.43**	**6.79**	**14**	**8.04**	**6.37**	**6.89**	**6.83**	**6.28**
Iron	NLE	NLE	NLE	55800	**48200**	**30900**	**24100**	**30900**	**39800**	**38400**	**45100**	**31500**	**40500**	**36600**	**24600**	**29300**	**23800**
Lead	400	800	90	19.5	**11**	**45.8**	**39.3**	**16.9**	**21.1**	**11.7**	**10**	**40.3**	**7.23**	**12.1**	**17.5**	**23.6**	**10.7**
Magnesium	NLE	NLE	NLE	7230	**1200**	**3190**	**3150**	**3160**	**4950**	**5370**	**6280**	**3940**	**5670**	**4810**	**2930**	**3420**	**2800**
Manganese	11,000	5,900	65	90.7	**150**	**61**	**48.7**	**51.8**	**27.8**	**54.5**	**28.9**	**29.5**	**33.6**	**27.6**	**21.5**	**26.9**	**17.1**
Mercury	23	65	0.1	ND	**0.05**	**0.11**	**0.11**	**0.12**	**0.12**	**0.07**	**0.06**	**0.1**	**0.06**	**0.05**	**0.07**	**0.09**	**0.03**
Nickel	1,600	23,000	48	8.4	**15.8**	**11.3**	**6.74**	**6.91**	**8.58**	**13.2**	**7.55**	**8.55**	**8.06**	**6.58**	**9.54**	**5.47**	**4.88**
Potassium	NLE	NLE	NLE	15400	**2180**	**6600**	**6620**	**6610**	**11100**	**16400**	**14700**	**8470**	**13300**	**11400**	**6680**	**7820**	**6240**
Selenium	390	5,700	11	1.9	< 0.604	**0.762**	**1.28**	< 0.513	**2.19**	**2.18**	**1.39**	**1.49**	**1.88**	**1.71**	**1.83**	**1.72**	**2.08**
Silver	390	5,700	1	1.1	< 0.604	< 0.635	< 0.655	< 0.513	< 0.644	< 0.701	< 0.659	< 0.650	< 0.560	< 0.712	< 0.684	< 0.724	< 0.696
Sodium	NLE	NLE	NLE	51.6	**310**	**155**	**228**	**96.7**	**157**	**360**	**167**	**229**	**496**	**257**	**556**	**132**	**451**
Thallium	5	79	3	ND	< 0.604	< 0.638	< 0.655	< 0.513	< 0.644	< 0.701	< 0.659	< 0.650	< 0.560	< 0.712	< 0.684	< 0.724	< 0.696
Vanadium	78	1,100	NLE	94.1	**138**	**56**	**47.3**	**58.9**	**82.1**	**77.1**	**82.8**	**66.3**	**76.4**	**71.2**	**44.7**	**58.7**	**38.1**
Zinc	23,000	110,000	930	81.4	**84.2**	**103**	**58**	**71.9**	**68.9**	**78.5**	**75.9**	**60.1**	**61.2**	**60.3**	**53.1**	**42.7**	**41.1**

Notes:

(1) New Jersey Department of Environmental Protection (NJDEP) Residential Direct Contact Soil Remediation Standards (RDCSRS) and Non-Residential Direct Contact Soil Remediation Standards (NRDCSRS) (N.J.A.C 7:26D; amended May 7, 2012). Available at: http://www.state.nj.us/dep/srp/regs/rs/.
(2) NJDEP Impact to Ground Water (NJDEP guidance document; Nov 2013).
(3) Weston, 1995. Final Site Investigation - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December.
NJDEP criteria for total xylenes are used for xylene isomers (m+p, o).
NJDEP criteria for endrin is used for endrin aldehyde.
NJDEP criteria for 4,4'-DDD and 4,4'-DDT are for total DDD and total DDT, respectively.
Dash (--) = only background concentrations for metals are being used as comparison criteria.
B = Analyte detected in both sample and associated laboratory blank.
D = Result from dilution of sample.
DUP = field duplicate sample.
E = Estimated value.
J = Analyte detected between MDL and practical quantitation limit (PQL).
NA = not analyzed.
ND = not detected.
NLE = No limit established.
< = analyte not detected above method detection limit (MDL).
µg/kg = micrograms per kilogram.
mg/kg = milligrams per kilogram.
VOCs = volatile organic compounds.
in. = inches.
bgs = below ground surface.
Detections are bolded.
Shaded cells = concentration exceeds NJDEP Impact to Groundwater Criterion.
Shaded cells = concentration exceeds one or both NJDEP Direct Contact Criteria.
Shaded cells = concentration exceeds all NJDEP criteria.
Shaded cells = concentration exceeds Weston (1995) background concentration.

TABLE 4.1
SOIL SAMPLING SUMMARY RESULTS - COMPARISON TO NJDEP STANDARDS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	NJDEP Residential (1)	NJDEP Non-Residential (1)	NJDEP Impact to Ground Water (2)	Weston 1995 Background (Main Post) (3)	B-14		B-15		B-16		B-17		B-18		B-19		B-20		B-21		B-22		B-22 Dup		B-23		B-24		B-25	
Sample Date					12/28/98		12/28/98		12/28/98		12/28/98		12/28/98		12/28/98		12/29/98		12/29/98		12/29/98		12/29/98		12/29/98		12/29/98		12/29/98	
Volatile Organic Compounds (µg/kg)																														
Lab Sample ID (VOCs only collected 24 in. bgs)					4159.17		4159.19		4159.21		4159.23		4159.25		4159.27		4160.03		4160.05		4160.07		4160.23		4160.09		4160.11		4160.13	
Acetone	70,000,000	NLE	19,000	--	< 580		< 610		< 570		< 590		< 590		< 580		< 580		< 600		<560		< 600		< 580		< 590		< 600	
Methylene Chloride	34,000	97,000	10	--	< 580		< 610		< 570		**720**		< 590		< 580		< 580		< 600		< 560		**360**		< 580		**360**	J	< 600	
Benzene	2,000	5,000	5	--	< 290		< 300		< 280		< 290		< 290		< 290		< 290		< 300		< 280		< 300		< 290		< 290		< 300	
Toluene	6,300,000	91,000,000	7000	--	< 290		< 300		< 280		< 290		< 290		< 290		< 290		< 300		< 280		< 300		< 290		< 290		< 300	
TICs	NLE	NLE	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Semi-Volatile Organic Compounds (µg/kg)																														
Lab Sample ID (All analysis except VOCs - collected 0 to 12 in. bgs)					4159.16		4159.18		4159.20		4159.22		4159.24		4159.26		4160.02		4160.04		4160.06		4160.22		4160.08		4160.10		4160.12	
Aniline	NLE	NLE	NLE	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100		< 1100	
Naphthalene	6,000	17,000	25,000	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100		< 1100	
2-Methylnaphthalene	230,000	2,400,000	8,000	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100		< 1100	
Acenaphthylene	NLE	300,000,000	NLE	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		**230**	J	< 1200		< 1200		< 1100		< 1100		**120**	J
Acenaphthene	3,400,000	37,000,000	110,000	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100		< 1100	
Dibenzofuran	NLE	NLE	NLE	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100		< 1100	
Diethylphthalate	4,900,000	550,000,000	88,000	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100		< 1100	
Fluorene	2,300,000	24,000,000	170,000	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100		< 1100	
Phenanthrene	NLE	300,000,000	NLE	--	< 1100		< 1200		**430**	J	< 1100		**130**	J	**370**	J	< 1100		**300**	J	< 1200		< 1200		**140**	J	< 1100		**210**	J
Anthracene	17,000,000	30,000,000	2,400,000	--	< 1100		< 1200		< 1100		< 1100		**130**	J	< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100		**230**	J
Di-n-butylphthalate	6,100,000	68,000,000	760,000	--	**1400**	B	**1000**	JB	**2300**	B	**890**	JB	**480**	JB	**250**	JB	**300**	JB	**370**	JB	**920**	JB	**1300**	B	**1200**	B	**980**	JB	**1100**	B
Fluoranthene	2,300,000	24,000,000	1,300,000	--	< 1100		**170**	J	**290**	J	< 1100		**160**	J	**260**	J	< 1100		**430**	J	< 1200		< 1200		**180**	J	< 1100		**630**	J
Pyrene	1,700,000	18,000,000	840,000	--	< 1100		**180**	J	**440**	J	< 1100		**180**	J	**370**	J	< 1100		**630**	J	< 1200		< 1200		**230**	J	< 1100		**840**	J
Benzo[a]anthracene	600	2,000	800	--	< 1100		< 1200		**170**	J	< 1100		< 1100		**140**	J	< 1100		**440**	J	< 1200		< 1200		< 1100		< 1100		**1000**	J
Chrysene	62,000	230,000	80,000	--	< 1100		< 1200		**260**	J	< 1100		**130**	J	**210**	J	< 1100		**920**	J	< 1200		**120**	J	**200**	J	< 1100		**1800**	
bis(2-Ethylhexyl)phthalate	35,000	140,000	1,200,000	--	**120**	JB	< 1200		< 1100		**150**	JB	**140**	JB	< 1100		< 1100		< 1100		< 1200		**120**	J	**110**	J	< 1100		**110**	J
Benzo[b]fluoranthene	600	2,000	2,000	--	< 1100		< 1200		**150**	J	< 1100		< 1100		< 1100		< 1100		**380**	J	< 1200		< 1200		< 1100		< 1100		**1200**	
Benzo[k]fluoranthene	6,000	23,000	25,000	--	< 1100		< 1200		**170**	J	< 1100		**110**	J	**140**	J	< 1100		**510**	J	< 1200		< 1200		**110**	J	< 1100		**1300**	
Benzo[a]pyrene	200	200	200	--	< 1100		< 1200		**150**	J	< 1100		< 1100		**120**	J	< 1100		**560**	J	< 1200		< 1200		**110**	J	< 1100		**910**	J
Indeno[1,2,3-cd]pyrene	600	2000	7,000	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		**280**	J	< 1200		< 1200		< 1100		< 1100		**550**	J
Dibenz[a,h]anthracene	200	200	800	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		**150**	J	< 1200		< 1200		< 1100		< 1100		**210**	J
Benzo[g,h,i]perylene	380,000,000	30,000,000	NLE	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		**330**	J	< 1200		< 1200		< 1100		< 1100		**480**	J
TICs	NLE	NLE	NLE	--	**7100**		**4960**		**3200**		**3000**		**2600**		ND		**16860**		**37120**		**53200**		**64920**		**32900**		**27370**		**60270**	
Pesticides/PCBs (mg/kg)																														
4,4'-DDE	2	9	18	--	**0.008**		**0.025**		**0.039**		**0.014**		**0.067**		**0.061**		**0.023**		**0.065**		**0.021**		**0.013**		**0.023**		**0.012**		**0.013**	
Dieldrin	0.04	0.2	0.003	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006	
4,4'-DDD	3	13	4	--	**0.011**		**0.066**		**0.047**		**0.018**		**0.119**		**0.088**		**0.031**		**0.07**		**0.03**		**0.018**		**0.041**		**0.016**		**0.012**	
Endrin Aldehyde	NLE	NLE	NLE	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006	
4,4'-DDT	2	8	11	--	**0.012**		**0.108**		**0.088**		**0.026**		**0.097**		**0.065**		**0.072**		**0.157**		**0.03**		**0.022**		**0.026**		**0.025**		**0.034**	
gamma-Chlordane	0.2	1	0.05	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006	
alpha-Chlordane	0.2	1	0.05	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006	

TABLE 4.1
SOIL SAMPLING SUMMARY RESULTS - COMPARISON TO NJDEP STANDARDS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	NJDEP Residential (1)	NJDEP Non-Residential (1)	NJDEP Impact to Ground Water (2)	Weston 1995 Background (Main Post) (3)	B-14	B-15	B-16	B-17	B-18	B-19	B-20	B-21	B-22	B-22 Dup	B-23	B-24	B-25
Sample Date					12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98
Metals (mg/kg)																	
Aluminum	78,000	NLE	6000	15200	**9250**	**4610**	**5610**	**6090**	**11100**	**7600**	**10000**	**7330**	**7110**	**9740**	**9400**	**10000**	**6970**
Antimony	31	450	6	ND	**0.619**	**0.612**	**0.643**	**0.604**	**1.01**	**1.67**	**0.755**	**0.895**	**0.728**	**0.832**	**0.929**	**0.801**	**1.24**
Arsenic	19	19	19	22.9	**12.2**	**7.57**	**9.56**	**6.3**	**8.28**	**5.82**	**12.9**	**8.97**	**11.8**	**13.4**	**13.4**	**9.39**	**6.02**
Barium	16,000	59,000	2100	32.3	**68.6**	**48.9**	**64.1**	**49.9**	**60.8**	**43.3**	**65.5**	**54.5**	**69.4**	**89.5**	**84.2**	**70.4**	**42.1**
Beryllium	16	140	0.7	2	**1.24**	**0.825**	**1.02**	**1.02**	**1.32**	**1.1**	**2.04**	**1.15**	**1.2**	**1.55**	**1.5**	**1.43**	**0.908**
Cadmium	78	78	2	ND	**0.519**	**0.332**	**0.548**	**0.486**	**6.29**	**0.453**	**0.799**	**0.448**	**0.672**	**0.85**	**0.782**	**1.11**	**0.474**
Calcium	NLE	NLE	NLE	921	**1070**	**3020**	**4580**	**2840**	**2170**	**1600**	**8010**	**999**	**5680**	**7500**	**4670**	**3400**	**507**
Chromium	NLE	NLE	NLE	269	**142**	**63.2**	**95.5**	**100**	**87.9**	**100**	**215**	**110**	**123**	**166**	**152**	**135**	**96.8**
Cobalt	1,600	590	90	2.5	**1.49**	**1.35**	**1.46**	**1.34**	**7.31**	**1.29**	**1.68**	**1.47**	**1.58**	**1.95**	**1.78**	**2.44**	**1.51**
Copper	3,100	45,000	11000	8	**8.62**	**10.9**	**6.87**	**4.88**	**78**	**6.07**	**4**	**9.58**	**5.49**	**7.08**	**6.31**	**8.92**	**12**
Iron	NLE	NLE	NLE	55800	**35700**	**16800**	**25100**	**22900**	**29600**	**20500**	**45100**	**28400**	**27900**	**35000**	**34500**	**30900**	**23100**
Lead	400	800	90	19.5	**20.1**	**25.6**	**17.1**	**8.62**	**30.2**	**17.9**	**4.9**	**19.3**	**12.6**	**15**	**22.8**	**16.4**	**17.6**
Magnesium	NLE	NLE	NLE	7230	**3890**	**1450**	**2670**	**2620**	**3000**	**2310**	**5960**	**2660**	**3080**	**3850**	**3950**	**3350**	**2110**
Manganese	11,000	5,900	65	90.7	**27.2**	**13.8**	**19.5**	**21.2**	**296**	**18.6**	**23.9**	**18.4**	**20**	**28.5**	**31.2**	**33**	**19.6**
Mercury	23	65	0.1	ND	**0.04**	**0.08**	**0.03**	**0.05**	**0.12**	**0.06**	**0.034**	**0.08**	**0.043**	< 0.022	**0.045**	**0.057**	**0.077**
Nickel	1,600	23,000	48	8.4	**6.63**	**5**	**6.78**	**5.9**	**23.3**	**6.13**	**7.25**	**5.97**	**7.53**	**9.39**	**9.38**	**9.89**	**5.36**
Potassium	NLE	NLE	NLE	15400	**9260**	**2920**	**7030**	**6140**	**5890**	**5250**	**15400**	**6430**	**7560**	**9660**	**9830**	**8140**	**5000**
Selenium	390	5,700	11	1.9	**2.31**	**1.42**	**2.08**	**1.11**	**1.25**	**1.06**	**2.19**	**1.55**	**2.05**	**1.97**	**1.88**	**1.49**	**1.35**
Silver	390	5,700	1	1.1	< 0.769	< 0.658	< 0.622	< 0.689	< 0.692	< 0.564	< 0.676	< 0.717	< 0.695	< 0.703	< 0.753	< 0.584	< 0.737
Sodium	NLE	NLE	NLE	51.6	**359**	**447**	**225**	**89.3**	**211**	**105**	**99.8**	**159**	**165**	**213**	**336**	**373**	**121**
Thallium	5	79	3	ND	< 0.769	< 0.658	< 0.622	< 0.689	< 0.692	< 0.564	< 0.676	< 0.717	< 0.695	< 0.703	< 0.753	< 0.584	< 0.737
Vanadium	78	1,100	NLE	94.1	**66.2**	**28.8**	**30.7**	**43**	**68.8**	**49.4**	**65.4**	**48.4**	**50.8**	**70.5**	**66.3**	**63.4**	**45.5**
Zinc	23,000	110,000	930	81.4	**56.8**	**39.4**	**63.1**	**43.9**	**113**	**42.5**	**94.1**	**66.8**	**60.4**	**73.7**	**59.7**	**68.2**	**46.3**

Notes:

(1) New Jersey Department of Environmental Protection (NJDEP) Residential Direct Contact Soil Remediation Standards (RDCSRS) and Non-Residential Direct Contact Soil Remediation Standards (NRDCSRS) (N.J.A.C 7:26D; amended May 7, 2012). Available at: http://www.state.nj.us/dep/srp/regs/rs/.
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Dash (--) = only background concentrations for metals are being used as comparison criteria.
B = Analyte detected in both sample and associated laboratory blank.
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DUP = field duplicate sample.
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NA = not analyzed.
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µg/kg = micrograms per kilogram.
mg/kg = milligrams per kilogram.
VOCs = volatile organic compounds.
in. = inches.
bgs = below ground surface.
Detections are bolded.
Shaded cells = concentration exceeds NJDEP Impact to Groundwater Criterion.
Shaded cells = concentration exceeds one or both NJDEP Direct Contact Criteria.
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TABLE 4.1
SOIL SAMPLING SUMMARY RESULTS - COMPARISON TO NJDEP STANDARDS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	NJDEP Residential (1)	NJDEP Non-Residential (1)	NJDEP Impact to Ground Water (2)	Weston 1995 Background (Main Post) (3)	B-26		B-27		B-28		B-29		B-30		B-31		B-32		B-33		B-34		B-35		B-36		B-37		B-38	
Sample Date					12/29/98		12/29/98		12/29/98		12/29/98		12/30/98		12/30/98		12/30/98		12/30/98		12/30/98		12/30/98		12/30/98		12/30/98		12/30/98	
Volatile Organic Compounds (µg/kg)																														
Lab Sample ID (VOCs only collected 24 in. bgs)					4160.15		4160.17		4160.19		4160.21		4162.03		4162.05		4162.07		4162.09		4162.11		4162.13		4162.15		4162.17		4162.19	
Acetone	70,000,000	NLE	19,000	--	< 570		< 550		< 560		< 620		< 620		< 580		< 600		< 540		**17000**		< 580		< 610		< 690		< 580	
Methylene Chloride	34,000	97,000	10	--	< 570		**370**		**660**		< 620		< 620		< 580		< 600		< 540		**17000**		< 580		< 610		< 690		< 580	
Benzene	2,000	5,000	5	--	< 280		< 270		< 280		< 310		< 310		< 290		< 300		< 270		< 320		< 290		< 310		< 340		< 290	
Toluene	6,300,000	91,000,000	7000	--	< 280		< 270		< 280		< 310		< 310		< 290		< 300		< 270		< 320		< 290		< 310		< 340		< 290	
TICs	NLE	NLE	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Semi-Volatile Organic Compounds (µg/kg)																														
Lab Sample ID (All analysis except VOCs - collected 0 to 12 in. bgs)					4160.14		4160.16		4160.18		4160.20		4162.02		4162.04		4162.06		4162.08		4162.10		4162.12		4162.14		4162.16		4162.18	
Aniline	NLE	NLE	NLE	--	< 1100		< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100	
Naphthalene	6,000	17,000	25,000	--	< 1100		< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100	
2-Methylnaphthalene	230,000	2,400,000	8,000	--	< 1100		< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100	
Acenaphthylene	NLE	300,000,000	NLE	--	< 1100		< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100	
Acenaphthene	3,400,000	37,000,000	110,000	--	< 1100		< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100	
Dibenzofuran	NLE	NLE	NLE	--	< 1100		< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100	
Diethylphthalate	4,900,000	550,000,000	88,000	--	< 1100		< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100	
Fluorene	2,300,000	24,000,000	170,000	--	< 1100		< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100	
Phenanthrene	NLE	300,000,000	NLE	--	< 1100		**210**	J	**130**	J	< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100	
Anthracene	17,000,000	30,000,000	2,400,000	--	< 1100		< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100	
Di-n-butylphthalate	6,100,000	68,000,000	760,000	--	**1500**	B	**890**	JB	**320**	JB	**760**	JB	**750**	JB	**240**	JB	**310**	JB	**1500**	B	**800**	JB	**300**	JB	**330**	JB	**850**	JB	**900**	JB
Fluoranthene	2,300,000	24,000,000	1,300,000	--	< 1100		**270**	J	< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		**120**	J
Pyrene	1,700,000	18,000,000	840,000	--	< 1100		**320**	J	**130**	J	< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		**130**	J
Benzo[a]anthracene	600	2,000	800	--	< 1100		**140**	J	< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100	
Chrysene	62,000	230,000	80,000	--	< 1100		**260**	J	< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100	
bis(2-Ethylhexyl)phthalate	35,000	140,000	1,200,000	--	< 1100		< 1100		< 1100		**110**	J	< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100	
Benzo[b]fluoranthene	600	2,000	2,000	--	< 1100		**120**	J	< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100	
Benzo[k]fluoranthene	6,000	23,000	25,000	--	< 1100		**160**	J	< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100	
Benzo[a]pyrene	200	200	200	--	< 1100		**140**	J	< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100	
Indeno[1,2,3-cd]pyrene	600	2000	7,000	--	< 1100		< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100	
Dibenz[a,h]anthracene	200	200	800	--	< 1100		< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100	
Benzo[g,h,i]perylene	380,000,000	30,000,000	NLE	--	< 1100		< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100	
TICs	NLE	NLE	NLE	--	**27670**		**21000**		**16530**		**18900**		**3130**		**1900**		**2300**		**3400**		**2170**		**2500**		**2300**		**3700**		**4100**	
Pesticides/PCBs (mg/kg)																														
4,4'-DDE	2	9	18	--	**0.02**		**0.029**		**0.015**		**0.006**		**0.045**		**0.053**		**0.062**		**0.068**		**0.044**		**0.025**		**0.054**		**0.038**		**0.032**	
Dieldrin	0.04	0.2	0.003	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0113		< 0.0115		< 0.0114		< 0.0106		< 0.0109		< 0.0111		< 0.0114		< 0.0113		< 0.0111	
4,4'-DDD	3	13	4	--	**0.044**		**0.055**		**0.024**		**0.007**		**0.084**		**0.099**		**0.117**		**0.354**		**0.049**		**0.033**		**0.081**		**0.061**		**0.043**	
Endrin Aldehyde	NLE	NLE	NLE	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0113		< 0.0115		< 0.0114		< 0.0106		< 0.0109		< 0.0111		< 0.0114		< 0.0113		< 0.0111	
4,4'-DDT	2	8	11	--	**0.079**		**0.033**		**0.026**		**0.027**		**0.053**		**0.117**		**0.171**		**4.095**		**0.098**		**0.057**		**0.108**		**0.063**		**0.067**	
gamma-Chlordane	0.2	1	0.05	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0113		< 0.0115		< 0.0114		< 0.0106		< 0.0109		< 0.0111		< 0.0114		< 0.0113		< 0.0111	
alpha-Chlordane	0.2	1	0.05	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0113		< 0.0115		< 0.0114		< 0.0106		< 0.0109		< 0.0111		< 0.0114		< 0.0113		< 0.0111	

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Field Sample Location	NJDEP Residential (1)	NJDEP Non-Residential (1)	NJDEP Impact to Ground Water (2)	Weston 1995 Background (Main Post) (3)	B-26	B-27	B-28	B-29	B-30	B-31	B-32	B-33	B-34	B-35	B-36	B-37	B-38
Sample Date					12/29/98	12/29/98	12/29/98	12/29/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98
Metals (mg/kg)																	
Aluminum	78,000	NLE	6000	15200	**7970**	**5250**	**7640**	**7360**	**10400**	**9010**	**8600**	**9570**	**6450**	**9220**	**4630**	**8380**	**4550**
Antimony	31	450	6	ND	**0.854**	**0.763**	**0.827**	**0.984**	**1.27**	**1.03**	**1.14**	**0.882**	**1.07**	**0.898**	**1.97**	**1.31**	**0.99**
Arsenic	19	19	19	22.9	**11.2**	**7.21**	**168**	**9.69**	**19.9**	**11.8**	**9.51**	**15.5**	**10**	**12.4**	**8.87**	**14.5**	**11.6**
Barium	16,000	59,000	2100	32.3	**77.4**	**65.4**	**73.2**	**55**	**70.7**	**82.8**	**58.1**	**68.1**	**44.7**	**86.4**	**64.5**	**90.4**	**60.9**
Beryllium	16	140	0.7	2	**1.3**	**1.07**	**1.23**	**1.32**	**1.43**	**1.59**	**1.31**	**1.51**	**1.25**	**1.51**	**1.28**	**1.56**	**0.872**
Cadmium	78	78	2	ND	**0.518**	**0.739**	**0.742**	**0.461**	**0.789**	**0.761**	**0.528**	**0.698**	**0.75**	**0.625**	**1.33**	**0.706**	**0.351**
Calcium	NLE	NLE	NLE	921	**3660**	**5300**	**6360**	**1050**	**6460**	**5550**	**2300**	**943**	**983**	**4120**	**1910**	**3490**	**914**
Chromium	NLE	NLE	NLE	269	**159**	**85.2**	**143**	**149**	**184**	**177**	**144**	**172**	**103**	**176**	**67.9**	**166**	**84.9**
Cobalt	1,600	590	90	2.5	**1.08**	**3.05**	**1.47**	**1.33**	**1.36**	**1.23**	**1.5**	**1.52**	**1.52**	**1.62**	**15**	**1.36**	**1.29**
Copper	3,100	45,000	11000	8	**5.78**	**3.93**	**5.7**	**5.47**	**5.6**	**5.22**	**4.9**	**6.69**	**9.31**	**7.07**	**15.4**	**5.86**	**6.86**
Iron	NLE	NLE	NLE	55800	**35100**	**19000**	**37900**	**31600**	**42100**	**38600**	**32700**	**38300**	**25600**	**38000**	**17900**	**37800**	**23000**
Lead	400	800	90	19.5	**7.76**	**6.11**	**11.4**	**7.14**	**13.2**	**11.7**	**10.9**	**12.4**	**28.4**	**11.4**	**24.9**	**13.3**	**16.2**
Magnesium	NLE	NLE	NLE	7230	**3990**	**2160**	**3620**	**3480**	**4280**	**4580**	**3480**	**4170**	**2130**	**4170**	**1360**	**3870**	**1800**
Manganese	11,000	5,900	65	90.7	**18.5**	**40.9**	**24.6**	**19**	**26.1**	**23.8**	**22.3**	**26.7**	**26.5**	**23.9**	**171**	**21.9**	**15.2**
Mercury	23	65	0.1	ND	< 0.023	< 0.022	< 0.023	< 0.022	**0.07**	**0.02**	**0.03**	**0.11**	**0.07**	**0.05**	**0.04**	**0.04**	**0.05**
Nickel	1,600	23,000	48	8.4	**4.58**	**10.2**	**6.76**	**5.94**	**6.2**	**7.44**	**5.95**	**6.88**	**8.18**	**6.05**	**10.9**	**5.21**	**4.8**
Potassium	NLE	NLE	NLE	15400	**10600**	**5200**	**10200**	**8740**	**11200**	**11800**	**9250**	**10900**	**5520**	**11300**	**3430**	**10800**	**4960**
Selenium	390	5,700	11	1.9	**2.14**	**1.13**	**2.18**	**2.31**	**2.39**	**2.24**	**1.45**	**2.16**	**1.52**	**2.21**	**1.75**	**2.4**	**1.98**
Silver	390	5,700	1	1.1	< 0.609	< 0.680	< 0.713	< 0.783	< 0.681	< 0.752	< 0.710	< 0.627	< 0.714	< 0.734	< 0.770	< 0.617	< 0.747
Sodium	NLE	NLE	NLE	51.6	**138**	**135**	**304**	**112**	**93.2**	**146**	**118**	**71**	**35.2**	**53**	**65.9**	**67.7**	**66.4**
Thallium	5	79	3	ND	< 0.609	< 0.680	< 0.713	< 0.783	< 0.681	< 0.752	< 0.710	< 0.627	< 0.714	< 0.734	< 0.770	< 0.617	< 0.747
Vanadium	78	1,100	NLE	94.1	**63.6**	**38.4**	**61.9**	**59.3**	**74.6**	**72.1**	**59.7**	**71.5**	**47.3**	**70.7**	**30.2**	**54.7**	**29.6**
Zinc	23,000	110,000	930	81.4	**55.2**	**56.5**	**46**	**49.2**	**59.2**	**52.9**	**49.7**	**63.5**	**78.8**	**60.6**	**92.5**	**64.7**	**38**

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Sample Date					12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98
Volatile Organic Compounds (µg/kg)																	
Lab Sample ID (VOCs only collected 24 in. bgs)					4162.21	4162.23	4162.25	4162.27	4162.29	4162.31	4164.03	4164.05	4164.07	4164.09	4164.11	4164.13	4164.15
Acetone	70,000,000	NLE	19,000	--	< 560	< 570	< 580	< 600	< 610	< 570	< 600	< 570	< 580	< 660	< 600	< 610	< 620
Methylene Chloride	34,000	97,000	10	--	< 560	< 570	< 580	< 600	< 610	< 570	< 600	< 570	< 580	< 660	< 600	< 610	< 620
Benzene	2,000	5,000	5	--	< 280	< 280	< 290	< 300	< 300	< 280	< 300	< 280	< 290	< 330	< 300	< 300	< 310
Toluene	6,300,000	91,000,000	7000	--	< 280	< 280	< 290	< 300	< 300	< 280	< 300	< 280	< 290	< 330	< 300	< 300	< 310
TICs	NLE	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds (µg/kg)																	
Lab Sample ID (All analysis except VOCs - collected 0 to 12 in. bgs)					4162.20	4162.22	4162.24	4162.26	4162.28	4162.30	4164.02	4164.04	4164.06	4164.08	4164.10	4164.12	4164.14
Aniline	NLE	NLE	NLE	--	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200
Naphthalene	6,000	17,000	25,000	--	< 1200	< 1200	< 1200	< 1200	**160** J	< 1200	< 1100	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200
2-Methylnaphthalene	230,000	2,400,000	8,000	--	< 1200	< 1200	< 1200	< 1200	**140** J	< 1200	< 1100	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200
Acenaphthylene	NLE	300,000,000	NLE	--	< 1200	< 1200	< 1200	< 1200	**200** J	< 1200	< 1100	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200
Acenaphthene	3,400,000	37,000,000	110,000	--	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200
Dibenzofuran	NLE	NLE	NLE	--	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200
Diethylphthalate	4,900,000	550,000,000	88,000	--	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200
Fluorene	2,300,000	24,000,000	170,000	--	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200
Phenanthrene	NLE	300,000,000	NLE	--	**150** J	< 1200	**140** J	< 1200	**640** J	< 1200	**140** J	**210** J	< 1200	**120** J	< 1200	< 1100	< 1200
Anthracene	17,000,000	30,000,000	2,400,000	--	< 1200	< 1200	< 1200	< 1200	**140** J	< 1200	< 1100	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200
Di-n-butylphthalate	6,100,000	68,000,000	760,000	--	**350** JB	**820** JB	**380** JB	**440** JB	**1100** JB	**1600** B	**1000** JB	**450** JB	**390** JB	**1100** JB	**1200** B	**2200** B	**1000** JB
Fluoranthene	2,300,000	24,000,000	1,300,000	--	**220** J	< 1200	**140** J	< 1200	**420** J	< 1200	**190** J	**280** J	**120** J	< 1100	< 1200	< 1100	< 1200
Pyrene	1,700,000	18,000,000	840,000	--	**220** J	< 1200	**190** J	< 1200	**520** J	< 1200	**220** J	**310** J	**150** J	**130** J	< 1200	< 1100	< 1200
Benzo[a]anthracene	600	2,000	800	--	< 1200	< 1200	< 1200	< 1200	**260** J	< 1200	**100** J	**150** J	< 1200	< 1100	< 1200	< 1100	< 1200
Chrysene	62,000	230,000	80,000	--	**170** J	< 1200	**130** J	< 1200	**350** J	< 1200	**140** J	**210** J	< 1200	< 1100	< 1200	< 1100	< 1200
bis(2-Ethylhexyl)phthalate	35,000	140,000	1,200,000	--	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200
Benzo[b]fluoranthene	600	2,000	2,000	--	**150** J	< 1200	< 1200	< 1200	**170** J	< 1200	< 1100	**130** J	< 1200	< 1100	< 1200	< 1100	< 1200
Benzo[k]fluoranthene	6,000	23,000	25,000	--	**140** J	< 1200	< 1200	< 1200	**230** J	< 1200	< 1100	**160** J	< 1200	< 1100	< 1200	< 1100	< 1200
Benzo[a]pyrene	200	200	200	--	**130** J	< 1200	< 1200	< 1200	**240** J	< 1200	**120** J	**160** J	< 1200	< 1100	< 1200	< 1100	< 1200
Indeno[1,2,3-cd]pyrene	600	2000	7,000	--	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200
Dibenz[a,h]anthracene	200	200	800	--	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200
Benzo[g,h,i]perylene	380,000,000	30,000,000	NLE	--	< 1200	< 1200	< 1200	< 1200	**140** J	< 1200	< 1100	< 1200	< 1200	< 1100	< 1200	< 1100	< 1200
TICs	NLE	NLE	NLE	--	**2800**	**4800**	**3900**	**3800**	**7100**	**11500**	**5700**	**3500**	**3800**	**3900**	**4700**	**8000**	**3300**
Pesticides/PCBs (mg/kg)																	
4,4'-DDE	2	9	18	--	**0.03**	**0.052**	**0.032**	< 0.0094	**0.028**	**0.055**	**0.037**	**0.03**	**0.036**	**0.034**	**0.01**	**0.028**	< 0.0090
Dieldrin	0.04	0.2	0.003	--	< 0.0115	< 0.0115	< 0.0116	< 0.0118	< 0.0116	< 0.0115	< 0.0126	< 0.0108	< 0.0115	< 0.0116	< 0.0108	< 0.0110	< 0.0112
4,4'-DDD	3	13	4	--	**0.042**	**0.077**	**0.043**	< 0.0141	**0.04**	**0.068**	**0.038**	**0.056**	**0.039**	**0.165**	< 0.0130	**0.034**	< 0.0135
Endrin Aldehyde	NLE	NLE	NLE	--	< 0.0115	< 0.0115	< 0.0116	< 0.0118	< 0.0116	< 0.0115	< 0.0126	< 0.0108	< 0.0115	< 0.0116	< 0.0108	< 0.0110	< 0.0112
4,4'-DDT	2	8	11	--	**0.138**	**0.293**	**0.114**	**0.039**	**0.1**	**0.123**	**0.134**	**0.175**	**0.077**	**0.044**	**0.031**	**0.042**	< 0.0247
gamma-Chlordane	0.2	1	0.05	--	< 0.0115	< 0.0115	< 0.0116	< 0.0118	< 0.0116	< 0.0115	< 0.0126	< 0.0108	< 0.0115	< 0.0116	< 0.0108	< 0.0110	< 0.0112
alpha-Chlordane	0.2	1	0.05	--	< 0.0115	< 0.0115	< 0.0116	< 0.0118	< 0.0116	< 0.0115	< 0.0126	< 0.0108	< 0.0115	< 0.0116	< 0.0108	< 0.0110	< 0.0112

TABLE 4.1
SOIL SAMPLING SUMMARY RESULTS - COMPARISON TO NJDEP STANDARDS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	NJDEP Residential (1)	NJDEP Non-Residential (1)	NJDEP Impact to Ground Water (2)	Weston 1995 Background (Main Post) (3)	B-39	B-40	B-41	B-42	B-43	B-44	B-45	B-46	B-47	B-48	B-49	B-50	B-51
Sample Date					12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98
Metals (mg/kg)																	
Aluminum	78,000	NLE	6000	15200	**4090**	**8650**	**7360**	**9370**	**11000**	**9190**	**7900**	**10300**	**9520**	**5870**	**12000**	**8490**	**10300**
Antimony	31	450	6	ND	**0.783**	**1.18**	**0.722**	**0.954**	**0.76**	**1.23**	**1.4**	**1.19**	**0.932**	**1.86**	**1.07**	**0.961**	**0.977**
Arsenic	19	19	19	22.9	**9.61**	**12.6**	**11.7**	**9.31**	**11.9**	**11.1**	**12.7**	**12.7**	**14.2**	**8.06**	**16.8**	**18.4**	**14.3**
Barium	16,000	59,000	2100	32.3	**72.5**	**70.3**	**70.2**	**56.8**	**120**	**77.4**	**57.3**	**77.4**	**83.1**	**71.4**	**57.7**	**69.4**	**36.1**
Beryllium	16	140	0.7	2	**0.831**	**1.33**	**1.17**	**1.41**	**1.89**	**1.39**	**1.26**	**1.91**	**1.61**	**0.808**	**0.91**	**1.41**	**1.05**
Cadmium	78	78	2	ND	**0.428**	**0.704**	**0.551**	**0.632**	**0.953**	**0.704**	**0.747**	**1.47**	**0.701**	**0.587**	**0.804**	**0.735**	**0.918**
Calcium	NLE	NLE	NLE	921	**4090**	**997**	**1010**	**3680**	**7320**	**1370**	**1350**	**3880**	**7000**	**1210**	**950**	**7200**	**887**
Chromium	NLE	NLE	NLE	269	**68.8**	**153**	**133**	**179**	**235**	**145**	**140**	**198**	**197**	**20.3**	**110**	**173**	**102**
Cobalt	1,600	590	90	2.5	**1.46**	**1.37**	**1.41**	**0.892**	**2.03**	**1.61**	**1.8**	**3.23**	**1.55**	**7.19**	**1.81**	**1.21**	**2.66**
Copper	3,100	45,000	11000	8	**6.04**	**8.34**	**6.08**	**5.34**	**6.75**	**5.48**	**7.01**	**6.5**	**4.95**	**44.1**	**27**	**6.42**	**16.4**
Iron	NLE	NLE	NLE	55800	**18800**	**34300**	**27800**	**38000**	**42400**	**32900**	**32100**	**40900**	**40400**	**12700**	**27500**	**38900**	**26400**
Lead	400	800	90	19.5	**13.9**	**18.6**	**20.1**	**7.66**	**8.59**	**22.8**	**16**	**19.6**	**7.92**	**19.4**	**32.1**	**10.6**	**39**
Magnesium	NLE	NLE	NLE	7230	**1470**	**3380**	**2680**	**4080**	**5070**	**3090**	**2980**	**4200**	**4210**	**263**	**2460**	**3580**	**2300**
Manganese	11,000	5,900	65	90.7	**17.9**	**23.8**	**19.3**	**23.3**	**42.6**	**28.2**	**44.3**	**43.2**	**25.4**	**69.7**	**77.3**	**20.1**	**28.4**
Mercury	23	65	0.1	ND	**0.07**	**0.06**	**0.07**	**0.04**	**0.03**	**0.06**	**0.06**	**0.049**	**0.044**	**0.048**	**0.048**	**0.047**	**0.042**
Nickel	1,600	23,000	48	8.4	**4.99**	**6.05**	**5.61**	**5.07**	**8.93**	**6.82**	**8.41**	**27.7**	**6.53**	**22.8**	**5.8**	**5.18**	**9.22**
Potassium	NLE	NLE	NLE	15400	**4090**	**9200**	**7500**	**11700**	**14300**	**8680**	**8220**	**11900**	**12400**	**677**	**5390**	**11000**	**5580**
Selenium	390	5,700	11	1.9	**1.86**	**2.19**	**1.81**	**1.83**	**2.59**	**1.82**	**1.72**	**1.91**	**2.24**	**1.75**	**1.04**	**1.74**	**1.13**
Silver	390	5,700	1	1.1	< 0.629	< 0.690	< 0.523	< 0.689	< 0.623	< 0.704	< 0.762	< 0.786	< 0.783	< 0.778	< 0.788	< 0.502	< 0.688
Sodium	NLE	NLE	NLE	51.6	**86.7**	**100**	**55.3**	**138**	**224**	**90.2**	**53**	**107**	**112**	**198**	**100**	**52.4**	**51**
Thallium	5	79	3	ND	< 0.629	< 0.690	< 0.523	< 0.689	< 0.623	< 0.704	< 0.762	< 0.786	< 0.783	< 0.778	< 0.788	< 0.502	< 0.688
Vanadium	78	1,100	NLE	94.1	**25.5**	**62.3**	**46.2**	**64**	**81.3**	**61.9**	**57.8**	**67**	**61.2**	**27.1**	**57.9**	**52**	**53.3**
Zinc	23,000	110,000	930	81.4	**45**	**59.6**	**54.7**	**92.8**	**77.7**	**55.3**	**82.3**	**79**	**76.2**	**44.1**	**102**	**75.9**	**56.2**

Notes:

(1) New Jersey Department of Environmental Protection (NJDEP) Residential Direct Contact Soil Remediation Standards (RDCSRS) and Non-Residential Direct Contact Soil Remediation Standards (NRDCSRS) (N.J.A.C 7:26D; amended May 7, 2012). Available at: http://www.state.nj.us/dep/srp/regs/rs/.
(2) NJDEP Impact to Ground Water (NJDEP guidance document; Nov 2013).
(3) Weston, 1995. Final Site Investigation - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December.
NJDEP criteria for total xylenes are used for xylene isomers (m+p, o).
NJDEP criteria for endrin is used for endrin aldehyde.
NJDEP criteria for 4,4'-DDD and 4,4'-DDT are for total DDD and total DDT, respectively.
Dash (--) = only background concentrations for metals are being used as comparison criteria.
B = Analyte detected in both sample and associated laboratory blank.
D = Result from dilution of sample.
DUP = field duplicate sample.
E = Estimated value.
J = Analyte detected between MDL and practical quantitation limit (PQL).
NA = not analyzed.
ND = not detected.
NLE = No limit established.
< = analyte not detected above method detection limit (MDL).
µg/kg = micrograms per kilogram.
mg/kg = milligrams per kilogram.
VOCs = volatile organic compounds.
in. = inches.
bgs = below ground surface.
Detections are bolded.
Shaded cells = concentration exceeds NJDEP Impact to Groundwater Criterion.
Shaded cells = concentration exceeds one or both NJDEP Direct Contact Criteria.
Shaded cells = concentration exceeds all NJDEP criteria.
Shaded cells = concentration exceeds Weston (1995) background concentration.

TABLE 4.1
SOIL SAMPLING SUMMARY RESULTS - COMPARISON TO NJDEP STANDARDS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	NJDEP Residential (1)	NJDEP Non-Residential (1)	NJDEP Impact to Ground Water (2)	Weston 1995 Background (Main Post) (3)	B-51 Dup		B-52		B-53		B-54		B-55		B-56		B-57		B-58		B-59		B-60		B-61		B-62		B-63	
Sample Date					12/31/98		12/31/98		12/31/98		01/05/99		01/05/99		01/05/99		01/05/99		01/05/99		01/05/99		01/05/99		01/05/99		01/05/99		01/05/99	
Volatile Organic Compounds (µg/kg)																														
Lab Sample ID (VOCs only collected 24 in. bgs)					4164.21		4164.17		4164.19		4169.03		4169.05		4169.07		4169.09		4169.11		4169.13		4169.15		4169.17		4169.19		4169.21	
Acetone	70,000,000	NLE	19,000	--	< 560		< 560		< 590		< 630		< 640		< 790		< 880		< 580		< 530		< 610		< 630		< 600		< 610	
Methylene Chloride	34,000	97,000	10	--	< 560		< 560		< 590		< 630		< 640		< 790		< 880		< 580		< 530		< 610		< 630		< 600		< 610	
Benzene	2,000	5,000	5	--	< 280		**300**		< 290		< 320		< 320		< 400		< 440		< 290		< 260		< 310		< 320		< 300		< 310	
Toluene	6,300,000	91,000,000	7000	--	< 280		< 280		**560**		< 320		< 320		**750**		< 440		< 290		< 260		< 310		< 320		< 300		< 310	
TICs	NLE	NLE	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Semi-Volatile Organic Compounds (µg/kg)																														
Lab Sample ID (All analysis except VOCs - collected 0 to 12 in. bgs)					4164.20		4164.16		4164.18		4169.02		4169.04		4169.06		4169.08		4169.10		4169.12		4169.14		4169.16		4169.18		4169.20	
Aniline	NLE	NLE	NLE	--	< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200	
Naphthalene	6,000	17,000	25,000	--	< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**3600**		< 1100		< 1100		< 1200	
2-Methylnaphthalene	230,000	2,400,000	8,000	--	< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**480**	J	< 1100		< 1100		< 1200	
Acenaphthylene	NLE	300,000,000	NLE	--	< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200	
Acenaphthene	3,400,000	37,000,000	110,000	--	< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**7300**		< 1100		< 1100		< 1200	
Dibenzofuran	NLE	NLE	NLE	--	< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**4200**		< 1100		< 1100		< 1200	
Diethylphthalate	4,900,000	550,000,000	88,000	--	< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200	
Fluorene	2,300,000	24,000,000	170,000	--	< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**8100**		< 1100		< 1100		< 1200	
Phenanthrene	NLE	300,000,000	NLE	--	< 1200		< 1200		< 1200		**130**	J	< 1200		< 1100		< 1100		< 1100		< 1100		**76000**	D	< 1100		< 1100		< 1200	
Anthracene	17,000,000	30,000,000	2,400,000	--	< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**17000**	JD	< 1100		< 1100		< 1200	
Di-n-butylphthalate	6,100,000	68,000,000	760,000	--	**330**	JB	**1000**	JB	**720**	JB	**330**	JB	**1900**	B	**1100**	JB	**22000**	BD	**2000**	B	**900**	JB	**230**	JB	**330**	JB	**340**	JB	**1800**	B
Fluoranthene	2,300,000	24,000,000	1,300,000	--	< 1200		< 1200		**130**	J	**220**	J	< 1200		< 1100		< 1100		**180**	J	< 1100		**89000**	D	< 1100		< 1100		**130**	J
Pyrene	1,700,000	18,000,000	840,000	--	< 1200		< 1200		< 1200		**240**	J	< 1200		< 1100		< 1100		**190**	J	< 1100		**60000**	D	< 1100		< 1100		**120**	J
Benzo[a]anthracene	600	2,000	800	--	< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**27000**	D	< 1100		< 1100		< 1200	
Chrysene	62,000	230,000	80,000	--	< 1200		< 1200		< 1200		**120**	J	< 1200		< 1100		< 1100		< 1100		< 1100		**29000**	D	< 1100		< 1100		< 1200	
bis(2-Ethylhexyl)phthalate	35,000	140,000	1,200,000	--	< 1200		< 1200		< 1200		< 1200		**140**	JB	< 1100		< 1100		**130**	JB	< 1100		< 1100		< 1100		< 1100		**130**	JB
Benzo[b]fluoranthene	600	2,000	2,000	--	< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**23000**	D	< 1100		< 1100		< 1200	
Benzo[k]fluoranthene	6,000	23,000	25,000	--	< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**25000**	D	< 1100		< 1100		< 1200	
Benzo[a]pyrene	200	200	200	--	< 1200		< 1200		< 1200		**130**	J	< 1200		< 1100		< 1100		< 1100		< 1100		**26000**	D	< 1100		< 1100		< 1200	
Indeno[1,2,3-cd]pyrene	600	2000	7,000	--	< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**13000**		< 1100		< 1100		< 1200	
Dibenz[a,h]anthracene	200	200	800	--	< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**1100**	J	< 1100		< 1100		< 1200	
Benzo[g,h,i]perylene	380,000,000	30,000,000	NLE	--	< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**18000**	JD	< 1100		< 1100		< 1200	
TICs	NLE	NLE	NLE	--	**5100**		**3700**		**6700**		**4500**		**3400**		**2000**		**2700**		**3700**		**1700**		**61060**		**2700**		**2400**		**5200**	
Pesticides/PCBs (mg/kg)																														
4,4'-DDE	2	9	18	--	**0.01**		< 0.0088		**0.038**		**0.023**		< 0.0092		< 0.0094		**0.075**		**0.017**		< 0.0093		< 0.0098		**0.015**		**0.013**		< 0.0096	
Dieldrin	0.04	0.2	0.003	--	< 0.0113		< 0.0110		< 0.0109		< 0.0114		< 0.0115		< 0.0118		< 0.0114		< 0.0114		< 0.0117		< 0.0122		< 0.0113		< 0.0110		< 0.0120	
4,4'-DDD	3	13	4	--	< 0.0136		< 0.0133		< 0.0131		**0.02**		< 0.0138		< 0.0142		**0.03**		**0.025**		< 0.0140		< 0.0146		< 0.0135		**0.018**		< 0.0143	
Endrin Aldehyde	NLE	NLE	NLE	--	< 0.0113		< 0.0110		< 0.0109		< 0.0114		< 0.0115		< 0.0118		< 0.0114		< 0.0114		< 0.0117		< 0.0122		< 0.0113		< 0.0110		< 0.0120	
4,4'-DDT	2	8	11	--	< 0.0249		< 0.0243		**0.046**		< 0.0250		< 0.0253		< 0.0259		**0.155**		< 0.0251		< 0.0257		< 0.0268		**0.04**		< 0.0241		< 0.0263	
gamma-Chlordane	0.2	1	0.05	--	< 0.0113		< 0.0110		< 0.0109		< 0.0114		< 0.0115		< 0.0118		< 0.0114		< 0.0114		< 0.0117		< 0.0122		< 0.0113		< 0.0110		< 0.0120	
alpha-Chlordane	0.2	1	0.05	--	< 0.0113		< 0.0110		< 0.0109		< 0.0114		< 0.0115		< 0.0118		< 0.0114		< 0.0114		< 0.0117		< 0.0122		< 0.0113		< 0.0110		< 0.0120	

TABLE 4.1
SOIL SAMPLING SUMMARY RESULTS - COMPARISON TO NJDEP STANDARDS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	NJDEP Residential (1)	NJDEP Non-Residential (1)	NJDEP Impact to Ground Water (2)	Weston 1995 Background (Main Post) (3)	B-51 Dup	B-52	B-53	B-54	B-55	B-56	B-57	B-58	B-59	B-60	B-61	B-62	B-63
Sample Date					12/31/98	12/31/98	12/31/98	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99
Metals (mg/kg)																	
Aluminum	78,000	NLE	6000	15200	**101000**	**11300**	**10400**	**13200**	**14700**	**22300**	**13700**	**13500**	**16800**	**15300**	**18100**	**14200**	**18900**
Antimony	31	450	6	ND	**1.13**	**0.953**	**1.31**	< 0.421	**0.733**	< 0.450	**1.34**	< 0.386	**0.608**	< 0.366	< 0.490	**0.726**	< 0.481
Arsenic	19	19	19	22.9	**13**	**26.1**	**18.2**	**25.2**	**12.9**	**52.4**	**19.8**	**14.1**	**18.7**	**25.7**	**27.4**	**16.9**	**19.3**
Barium	16,000	59,000	2100	32.3	**36.3**	**15.9**	**106**	**70.5**	**9.4**	**42.4**	**42.1**	**73.6**	**42.1**	**25**	**25.1**	**18.7**	**16.6**
Beryllium	16	140	0.7	2	**1.03**	**0.808**	**0.935**	**2.12**	**1.28**	**0.993**	**1.32**	**2.37**	**1.03**	**1.81**	**2.37**	**0.91**	**2.92**
Cadmium	78	78	2	ND	**0.739**	**0.558**	**1.65**	**1.98**	**0.595**	**0.609**	**1.28**	**2.51**	**0.623**	**0.763**	**0.977**	**0.708**	**1.11**
Calcium	NLE	NLE	NLE	921	**830**	**600**	**865**	**5110**	**1330**	**463**	**1330**	**4410**	**1020**	**1070**	**1080**	**2160**	**1030**
Chromium	NLE	NLE	NLE	269	**99.5**	**86.4**	**138**	**215**	**172**	**135**	**172**	**198**	**114**	**211**	**277**	**98.7**	**325**
Cobalt	1,600	590	90	2.5	**2.17**	**1.21**	**2.31**	**3.04**	**1.04**	**2.17**	**1.78**	**4.58**	**2**	**1.24**	**0.914**	**1.49**	**0.937**
Copper	3,100	45,000	11000	8	**14.5**	**7.28**	**141**	**11.3**	**10.2**	**8.67**	**45.5**	**11.6**	**17**	**13.8**	**21**	**10.2**	**9.68**
Iron	NLE	NLE	NLE	55800	**26000**	**28600**	**50100**	**48900**	**28600**	**33200**	**35100**	**43500**	**29300**	**50800**	**55600**	**32600**	**63400**
Lead	400	800	90	19.5	**20.8**	**6.43**	**263**	**19.3**	**7.49**	**6.08**	**58.7**	**26.2**	**30.6**	**8.44**	**32.4**	**6.73**	**9.96**
Magnesium	NLE	NLE	NLE	7230	**2210**	**2060**	**2540**	**7020**	**4840**	**3870**	**4980**	**6270**	**3790**	**6710**	**9020**	**3470**	**10700**
Manganese	11,000	5,900	65	90.7	**23.9**	**24.7**	**125**	**54.1**	**35.4**	**60**	**177**	**52.3**	**50.2**	**56.6**	**28.8**	**66.5**	**35.2**
Mercury	23	65	0.1	ND	**0.056**	**0.033**	**0.104**	**0.034**	< 0.027	< 0.026	**0.072**	**0.066**	< 0.025	< 0.025	< 0.027	< 0.021	< 0.026
Nickel	1,600	23,000	48	8.4	**8.27**	**4.87**	**10.7**	**17.3**	**4.83**	**6.5**	**7.8**	**25.3**	**7.99**	**7.75**	**6.94**	**6.34**	**8.88**
Potassium	NLE	NLE	NLE	15400	**5310**	**3980**	**6200**	**16000**	**9210**	**6320**	**9370**	**14200**	**6650**	**13900**	**19500**	**5070**	**24700**
Selenium	390	5,700	11	1.9	**1.25**	**0.99**	**0.661**	**2.21**	< 0.648	**1.04**	**0.736**	**1.64**	**1.01**	**1.13**	< 0.735	< 0.656	**0.989**
Silver	390	5,700	1	1.1	< 0.76	< 0.726	< 0.590	< 0.631	< 0.648	< 0.675	< 0.640	< 0.578	< 0.636	< 0.549	< 0.735	< 0.656	< 0.722
Sodium	NLE	NLE	NLE	51.6	**46.5**	**59.7**	**83**	**188**	**211**	**165**	**109**	**161**	**213**	**154**	**183**	**168**	**155**
Thallium	5	79	3	ND	< 0.76	< 0.726	< 0.590	< 0.631	< 0.648	< 0.675	< 0.640	< 0.578	< 0.636	< 0.549	< 0.735	< 0.656	< 0.722
Vanadium	78	1,100	NLE	94.1	**49.3**	**50.3**	**58.6**	**86.2**	**81**	**74.5**	**80.6**	**83**	**63.7**	**91.2**	**119**	**57.1**	**141**
Zinc	23,000	110,000	930	81.4	**62.8**	**34.3**	**337**	**93.8**	**97.9**	**41.2**	**207**	**110**	**53.7**	**71.3**	**70.7**	**39.8**	**71.7**

Notes:

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B = Analyte detected in both sample and associated laboratory blank.
D = Result from dilution of sample.
DUP = field duplicate sample.
E = Estimated value.
J = Analyte detected between MDL and practical quantitation limit (PQL).
NA = not analyzed.
ND = not detected.
NLE = No limit established.
< = analyte not detected above method detection limit (MDL).
µg/kg = micrograms per kilogram.
mg/kg = milligrams per kilogram.
VOCs = volatile organic compounds.
in. = inches.
bgs = below ground surface.
Detections are bolded.
Shaded cells = concentration exceeds NJDEP Impact to Groundwater Criterion.
Shaded cells = concentration exceeds one or both NJDEP Direct Contact Criteria.
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Shaded cells = concentration exceeds Weston (1995) background concentration.

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SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	NJDEP Residential (1)	NJDEP Non-Residential (1)	NJDEP Impact to Ground Water (2)	Weston 1995 Background (Main Post) (3)	B-64	B-65	B-66	B-67	B-68	B-69	B-70	B-71	B-71 Dup	B-72	B-73	B-74	B-75
Sample Date					01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/06/99	01/06/99	01/06/99	01/06/99
Volatile Organic Compounds (µg/kg)																	
Lab Sample ID (VOCs only collected 24 in. bgs)					4169.23	4169.25	4169.27	4169.29	4169.31	4169.33	4169.35	4169.37	4169.39	4173.03	4173.05	4173.07	4173.09
Acetone	70,000,000	NLE	19,000	--	< 600	< 620	< 620	< 610	< 620	< 700	< 560	< 640	< 590	< 630	< 590	< 680	< 580
Methylene Chloride	34,000	97,000	10	--	< 600	< 620	< 620	**940**	**910**	**1000**	**440** J	**960**	**390** J	**950**	**400** J	**550** J	**420** J
Benzene	2,000	5,000	5	--	< 300	< 310	< 310	< 310	< 310	< 350	< 280	< 320	< 290	< 310	< 300	< 340	< 290
Toluene	6,300,000	91,000,000	7000	--	< 300	< 310	< 310	< 310	< 310	< 350	< 280	< 320	< 290	< 310	< 300	< 340	< 290
TICs	NLE	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds (µg/kg)																	
Lab Sample ID (All analysis except VOCs - collected 0 to 12 in. bgs)					4169.22	4169.24	4169.26	4169.28	4169.30	4169.32	4169.34	4169.36	4169.38	4173.02	4173.04	4173.06	4173.08
Aniline	NLE	NLE	NLE	--	< 1200	< 1100	< 1100	< 1100	< 1200	**610** J	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	< 1200
Naphthalene	6,000	17,000	25,000	--	< 1200	< 1100	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	< 1200
2-Methylnaphthalene	230,000	2,400,000	8,000	--	< 1200	< 1100	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	< 1200
Acenaphthylene	NLE	300,000,000	NLE	--	< 1200	< 1100	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	< 1200
Acenaphthene	3,400,000	37,000,000	110,000	--	< 1200	< 1100	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	< 1200
Dibenzofuran	NLE	NLE	NLE	--	< 1200	< 1100	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	< 1200
Diethylphthalate	4,900,000	550,000,000	88,000	--	< 1200	< 1100	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	**210** J
Fluorene	2,300,000	24,000,000	170,000	--	< 1200	< 1100	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	< 1200
Phenanthrene	NLE	300,000,000	NLE	--	< 1200	< 1100	**190** J	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	< 1200
Anthracene	17,000,000	30,000,000	2,400,000	--	< 1200	< 1100	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	< 1200
Di-n-butylphthalate	6,100,000	68,000,000	760,000	--	490 JB	**1200** B	< 1100	**1100** JB	**1700** B	**1000** JB	**2700** B	**250** JB	**360** JB	**660** JB	**280** JB	**1300** B	**1200** JB
Fluoranthene	2,300,000	24,000,000	1,300,000	--	< 1200	< 1100	**210** J	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	**180** J
Pyrene	1,700,000	18,000,000	840,000	--	< 1200	< 1100	**230** J	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	**140** J
Benzo[a]anthracene	600	2,000	800	--	< 1200	< 1100	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	< 1200
Chrysene	62,000	230,000	80,000	--	< 1200	< 1100	**150** J	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	< 1200
bis(2-Ethylhexyl)phthalate	35,000	140,000	1,200,000	--	< 1200	**140** JB	**120** JB	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	**130** J	< 1200
Benzo[b]fluoranthene	600	2,000	2,000	--	< 1200	< 1100	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	< 1200
Benzo[k]fluoranthene	6,000	23,000	25,000	--	< 1200	< 1100	**120** J	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	< 1200
Benzo[a]pyrene	200	200	200	--	< 1200	< 1100	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	< 1200
Indeno[1,2,3-cd]pyrene	600	2000	7,000	--	< 1200	< 1100	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	< 1200
Dibenz[a,h]anthracene	200	200	800	--	< 1200	< 1100	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	< 1200
Benzo[g,h,i]perylene	380,000,000	30,000,000	NLE	--	< 1200	< 1100	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1100	< 1200	< 1100	< 1100	< 1200
TICs	NLE	NLE	NLE	--	**1800**	**2020**	**3700**	**2500**	**3300**	**2960**	**3500**	**3500**	ND	**5800**	**3800**	**14900**	**8300**
Pesticides/PCBs (mg/kg)																	
4,4'-DDE	2	9	18	--	< 0.0100	< 0.0091	**0.693**	**0.015**	< 0.0097	**0.019**	< 0.0097	**0.131**	**0.117**	**0.018**	**0.002**	< 0.0005	**0.001**
Dieldrin	0.04	0.2	0.003	--	< 0.0125	< 0.0114	< 0.0119	< 0.0120	< 0.0122	< 0.0118	< 0.0121	< 0.0119	< 0.0116	< 0.0006	< 0.0006	< 0.0006	< 0.0006
4,4'-DDD	3	13	4	--	< 0.0150	< 0.0137	**0.282**	**0.033**	< 0.0146	**0.028**	< 0.0146	**0.101**	**0.128**	**0.017**	**0.001**	**0.017**	< 0.0007
Endrin Aldehyde	NLE	NLE	NLE	--	< 0.0125	< 0.0114	< 0.0119	< 0.0120	< 0.0122	< 0.0118	< 0.0121	< 0.0119	< 0.0116	< 0.0006	< 0.0006	< 0.0006	< 0.0006
4,4'-DDT	2	8	11	--	< 0.0275	< 0.0251	**2.59**	< 0.0264	< 0.0268	< 0.0260	< 0.0267	**0.095**	**0.117**	**0.025**	< 0.0012	< 0.0013	**0.002**
gamma-Chlordane	0.2	1	0.05	--	< 0.0125	< 0.0114	< 0.0119	< 0.0120	< 0.0122	< 0.0118	< 0.0121	**0.057**	**0.08**	< 0.0006	< 0.0006	< 0.0006	< 0.0006
alpha-Chlordane	0.2	1	0.05	--	< 0.0125	< 0.0114	< 0.0119	< 0.0120	< 0.0122	< 0.0118	< 0.0121	**0.04**	**0.057**	< 0.0006	< 0.0006	< 0.0006	< 0.0006

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SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	NJDEP Residential (1)	NJDEP Non-Residential (1)	NJDEP Impact to Ground Water (2)	Weston 1995 Background (Main Post) (3)	B-64	B-65	B-66	B-67	B-68	B-69	B-70	B-71	B-71 Dup	B-72	B-73	B-74	B-75
Sample Date					01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/06/99	01/06/99	01/06/99	01/06/99
Metals (mg/kg)																	
Aluminum	78,000	NLE	6000	15200	**20800**	**17300**	**17100**	**17900**	**20000**	**7700**	**14200**	**13500**	**16900**	**13500**	**15100**	**12800**	**17900**
Antimony	31	450	6	ND	< 0.447	< 0.456	< 0.436	< 0.474	**1.47**	**1.04**	**0.494**	**2.09**	**1.97**	< 0.436	**0.568**	< 0.485	< 0.548
Arsenic	19	19	19	22.9	**32.6**	**18.2**	**28.1**	**30.2**	**23**	**17.4**	**14.3**	**15.5**	**20.8**	**29.7**	**18.4**	**12.7**	**29.5**
Barium	16,000	59,000	2100	32.3	**18.7**	**53.6**	**10.3**	**13**	**51.2**	**44.8**	**22.6**	**63.2**	**90.5**	**19.8**	**22.7**	**41**	**37.6**
Beryllium	16	140	0.7	2	**3.24**	**1.4**	**2.84**	**2.49**	**2.52**	**1.03**	**0.795**	**1.33**	**1.72**	**1.98**	**1.52**	**1.04**	**2.47**
Cadmium	78	78	2	ND	**1.13**	**0.556**	**0.949**	**0.814**	**1.09**	**0.495**	**0.433**	**1.91**	**2.1**	**0.823**	**0.572**	**0.478**	**1.2**
Calcium	NLE	NLE	NLE	921	**529**	**581**	**453**	**1200**	**919**	**848**	**519**	**796**	**987**	**2030**	**546**	**636**	**965**
Chromium	NLE	NLE	NLE	269	**367**	**149**	**323**	**302**	**227**	**66**	**101**	**165**	**199**	**237**	**182**	**89.4**	**301**
Cobalt	1,600	590	90	2.5	**1.36**	**1.87**	**0.482**	**1.13**	**4.37**	**10.5**	**1.36**	**1.4**	**1.51**	**1.43**	**1.14**	**3.78**	**1.11**
Copper	3,100	45,000	11000	8	**14.2**	**21.7**	**11.1**	**7.46**	**39.1**	**283**	**19.1**	**41.8**	**55.3**	**9.26**	**9.69**	**5.03**	**45**
Iron	NLE	NLE	NLE	55800	**75300**	**38500**	**62000**	**60300**	**44300**	**19800**	**25900**	**35500**	**43900**	**53700**	**38300**	**30400**	**63700**
Lead	400	800	90	19.5	**48**	**12.5**	**7.33**	**4.28**	**54.5**	**39.8**	**12.3**	**93.7**	**75.8**	**8.01**	**9.17**	**6.67**	**35.3**
Magnesium	NLE	NLE	NLE	7230	**12500**	**4760**	**10300**	**9660**	**6630**	**1850**	**3250**	**4670**	**6020**	**7460**	**5090**	**3070**	**8980**
Manganese	11,000	5,900	65	90.7	**23.6**	**67**	**19.3**	**24.3**	**37.1**	**91.4**	**49.4**	**32.5**	**41.8**	**16.2**	**21.9**	**62.7**	**37**
Mercury	23	65	0.1	ND	< 0.027	**0.027**	< 0.023	< 0.025	< 0.027	< 0.023	< 0.027	**3.61**	**2.89**	**0.115**	**0.036**	**0.028**	**0.075**
Nickel	1,600	23,000	48	8.4	**8.23**	**6.32**	**6.38**	**7.42**	**16.8**	**88**	**4.87**	**6.93**	**7.13**	**8.87**	**6.7**	**6.71**	**7.77**
Potassium	NLE	NLE	NLE	15400	**28900**	**10100**	**24100**	**22000**	**15200**	**4270**	**5040**	**9960**	**13500**	**18100**	**11600**	**7100**	**21100**
Selenium	390	5,700	11	1.9	**0.771**	**0.99**	< 0.653	< 0.711	**2.76**	**0.942**	< 0.681	**0.716**	**1.11**	**0.927**	**1.17**	**0.832**	**1.3**
Silver	390	5,700	1	1.1	< 0.670	< 0.684	< 0.653	< 0.711	< 0.613	< 0.717	< 0.681	**2.9**	**5**	< 0.654	< 0.757	< 0.728	< 0.822
Sodium	NLE	NLE	NLE	51.6	**159**	**211**	**115**	**475**	**212**	**216**	**92.8**	**164**	**151**	**291**	**123**	**164**	**188**
Thallium	5	79	3	ND	< 0.670	< 0.684	< 0.653	< 0.711	< 0.613	< 0.717	< 0.681	< 0.701	< 0.735	< 0.654	< 0.757	< 0.728	< 0.822
Vanadium	78	1,100	NLE	94.1	**144**	**77.7**	**127**	**121**	**108**	**40.1**	**54.1**	**68.7**	**84.7**	**87.3**	**79.1**	**56**	**123**
Zinc	23,000	110,000	930	81.4	**72**	**48.2**	**65.2**	**59.1**	**65.6**	**93.6**	**48.1**	**106**	**113**	**62**	**49.9**	**61.6**	**141**

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Sample Date					01/06/99		01/06/99		01/06/99		01/06/99		01/06/99		01/06/99		01/06/99		01/06/99		01/06/99		01/06/99		01/06/99		01/07/99		01/07/99	
Volatile Organic Compounds (µg/kg)																														
Lab Sample ID (VOCs only collected 24 in. bgs)					4173.11		4173.13		4173.15		4173.17		4173.19		4173.21		4173.23		4173.25		4173.27		4173.29		4173.31		4177.03		4177.05	
Acetone	70,000,000	NLE	19,000	--	< 630		< 590		< 660		< 570		< 560		< 540		< 550		< 630		< 570		< 610		< 640		< 630		< 730	
Methylene Chloride	34,000	97,000	10	--	**420**	J	**1100**		**2000**		**1900**		**1100**		**1700**		**1800**		**1100**		**1800**		**2000**		**2100**		**720**		**830**	
Benzene	2,000	5,000	5	--	< 320		< 300		< 330		< 290		< 280		< 270		< 270		< 310		< 290		< 310		< 320		< 310		< 360	
Toluene	6,300,000	91,000,000	7000	--	< 320		< 300		< 330		< 290		< 280		< 270		< 270		< 310		< 290		< 310		< 320		< 310		< 360	
TICs	NLE	NLE	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		**2600**		ND	
Semi-Volatile Organic Compounds (µg/kg)																														
Lab Sample ID (All analysis except VOCs - collected 0 to 12 in. bgs)					4173.10		4173.12		4173.14		4173.16		4173.18		4173.20		4173.22		4173.24		4173.26		4173.28		4173.30		4177.02		4177.04	
Aniline	NLE	NLE	NLE	--	< 1200		< 1200		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		< 1200		< 1100	
Naphthalene	6,000	17,000	25,000	--	**160**	J	< 1200		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		< 1200		< 1100	
2-Methylnaphthalene	230,000	2,400,000	8,000	--	**130**	J	< 1200		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		< 1200		< 1100	
Acenaphthylene	NLE	300,000,000	NLE	--	< 1200		< 1200		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		< 1200		< 1100	
Acenaphthene	3,400,000	37,000,000	110,000	--	**1400**		< 1200		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		**150**	J	< 1100	
Dibenzofuran	NLE	NLE	NLE	--	**720**	J	< 1200		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		< 1200		< 1100	
Diethylphthalate	4,900,000	550,000,000	88,000	--	< 1200		< 1200		< 1200		< 1200		< 1200		< 1200		**130**	J	< 1100		< 1100		< 1200		< 1200		< 1200		< 1100	
Fluorene	2,300,000	24,000,000	170,000	--	**1500**		< 1200		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		**130**	J	< 1100	
Phenanthrene	NLE	300,000,000	NLE	--	**16000**	D	< 1200		**250**	J	< 1200		< 1200		**170**	J	< 1200		< 1100		< 1100		< 1200		< 1200		**1500**	J	< 1100	
Anthracene	17,000,000	30,000,000	2,400,000	--	**6400**		< 1200		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		**370**	J	< 1100	
Di-n-butylphthalate	6,100,000	68,000,000	760,000	--	**910**	JB	**340**	JB	**1400**	B	**1000**	JB	**1200**	B	**870**	JB	**2200**	B	**300**	JB	**360**	JB	**1900**	B	**1300**	B	**830**	JB	**230**	JB
Fluoranthene	2,300,000	24,000,000	1,300,000	--	**25000**	D	< 1200		**280**	J	< 1200		< 1200		**430**	J	< 1200		< 1100		< 1100		**140**	J	< 1200		**1700**		< 1100	
Pyrene	1,700,000	18,000,000	840,000	--	**18000**	D	< 1200		**430**	J	< 1200		< 1200		**340**	J	< 1200		< 1100		< 1100		< 1200		< 1200		**1500**		< 1100	
Benzo[a]anthracene	600	2,000	800	--	**11000**		< 1200		**200**	J	< 1200		< 1200		**190**	J	< 1200		< 1100		< 1100		< 1200		< 1200		**620**	J	< 1100	
Chrysene	62,000	230,000	80,000	--	**11000**		< 1200		**260**	J	< 1200		< 1200		**220**	J	< 1200		< 1100		< 1100		< 1200		< 1200		**880**	J	< 1100	
bis(2-Ethylhexyl)phthalate	35,000	140,000	1,200,000	--	< 1200		< 1200		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		**140**	J	< 1100	
Benzo[b]fluoranthene	600	2,000	2,000	--	**11000**		< 1200		< 1200		< 1200		< 1200		**140**	J	< 1200		< 1100		< 1100		< 1200		< 1200		**480**	J	< 1100	
Benzo[k]fluoranthene	6,000	23,000	25,000	--	**6600**		< 1200		< 1200		< 1200		< 1200		**200**	J	< 1200		< 1100		< 1100		< 1200		< 1200		**520**	J	< 1100	
Benzo[a]pyrene	200	200	200	--	**10000**		< 1200		**150**	J	< 1200		< 1200		**190**	J	< 1200		< 1100		< 1100		< 1200		< 1200		**540**	J	< 1100	
Indeno[1,2,3-cd]pyrene	600	2000	7,000	--	**4100**		< 1200		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		**270**	J	< 1100	
Dibenz[a,h]anthracene	200	200	800	--	**1200**		< 1200		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		< 1200		< 1100	
Benzo[g,h,i]perylene	380,000,000	30,000,000	NLE	--	**4600**		< 1200		< 1200		< 1200		< 1200		**140**	J	< 1200		< 1100		< 1100		< 1200		< 1200		**260**	J	< 1100	
TICs	NLE	NLE	NLE	--	**26770**		**4900**		**12430**		**7900**		**9100**		**6600**		**6300**		**4400**		**5200**		**4700**		**7300**		**10600**		**6600**	
Pesticides/PCBs (mg/kg)																														
4,4'-DDE	2	9	18	--	< 0.0005		**0.014**		**0.292**		**0.022**		< 0.0005		**0.004**		**0.004**		**0.125**		**0.046**		**0.015**		**0.004**		**0.005**		**0.002**	
Dieldrin	0.04	0.2	0.003	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006		< 0.0006		< 0.0006	
4,4'-DDD	3	13	4	--	< 0.0007		**0.003**		**1.132**		**0.007**		< 0.0007		**0.001**		**0.001**		**0.013**		**0.05**		**0.002**		**0.001**		**0.004**		**0.002**	
Endrin Aldehyde	NLE	NLE	NLE	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006		< 0.0006		< 0.0006	
4,4'-DDT	2	8	11	--	< 0.0013		**0.03**		**0.349**		**0.062**		< 0.0013		**0.006**		**0.007**		**0.224**		**0.047**		**0.021**		**0.007**		**0.009**		< 0.0013	
gamma-Chlordane	0.2	1	0.05	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006		< 0.0006		< 0.0006	
alpha-Chlordane	0.2	1	0.05	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006		< 0.0006		< 0.0006	

TABLE 4.1
SOIL SAMPLING SUMMARY RESULTS - COMPARISON TO NJDEP STANDARDS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	NJDEP Residential (1)	NJDEP Non-Residential (1)	NJDEP Impact to Ground Water (2)	Weston 1995 Background (Main Post) (3)	B-76	B-77	B-78	B-79	B-80	B-81	B-82	B-83	B-84	B-85	B-86	B-87	B-88
Sample Date					01/06/99	01/06/99	01/06/99	01/06/99	01/06/99	01/06/99	01/06/99	01/06/99	01/06/99	01/06/99	01/06/99	01/07/99	01/07/99
Metals (mg/kg)																	
Aluminum	78,000	NLE	6000	15200	**16200**	**19300**	**16000**	**12000**	**12100**	**16600**	**15300**	**15300**	**8640**	**19700**	**16000**	**22100**	**17400**
Antimony	31	450	6	ND	< 0.521	**1.18**	**0.822**	**0.426**	**0.471**	**1.67**	**0.635**	**0.635**	< 0.471	**0.495**	**0.512**	**1.55**	**0.789**
Arsenic	19	19	19	22.9	**27.8**	**21.7**	**21**	**22.7**	**19.4**	**20.7**	**21**	**21**	**6.64**	**27.5**	**24.8**	**32.6**	**28.1**
Barium	16,000	59,000	2100	32.3	**27.2**	**28.5**	**45.4**	**10.4**	**10.1**	**102**	**27.8**	**27.8**	**17**	**37.9**	**38.6**	**153**	**54.1**
Beryllium	16	140	0.7	2	**1.85**	**2.9**	**1.76**	**1.86**	**0.778**	**1.81**	**1.6**	**1.6**	**0.572**	**2.82**	**2.53**	**2.57**	**2.26**
Cadmium	78	78	2	ND	**1**	**1.49**	**1.18**	**0.759**	**0.444**	**1.65**	**1.05**	**1.05**	**0.719**	**1.79**	**1.15**	**1.52**	**2.49**
Calcium	NLE	NLE	NLE	921	**1020**	**745**	**1230**	**1090**	**436**	**31100**	**447**	**447**	**427**	**1190**	**786**	**1060**	**885**
Chromium	NLE	NLE	NLE	269	**215**	**327**	**206**	**210**	**83.8**	**214**	**178**	**178**	**71.5**	**325**	**286**	**307**	**268**
Cobalt	1,600	590	90	2.5	**1.25**	**2.26**	**1.62**	**0.564**	**0.953**	**2.23**	**1.01**	**1.01**	**1.32**	**2.09**	**0.935**	**4.48**	**2.38**
Copper	3,100	45,000	11000	8	**106**	**60.3**	**44.4**	**24.7**	**8.25**	**76.7**	**38.2**	**38.2**	**9.02**	**44.1**	**58.4**	**118**	**51.3**
Iron	NLE	NLE	NLE	55800	**47900**	**69300**	**46200**	**39300**	**28300**	**44100**	**39900**	**39900**	**16500**	**76100**	**57700**	**63100**	**26000**
Lead	400	800	90	19.5	**96.1**	**58.2**	**74.8**	**45.2**	**5.47**	**237**	**53.8**	**53.8**	**9.32**	**44.7**	**44.9**	**111**	**61.2**
Magnesium	NLE	NLE	NLE	7230	**6230**	**10400**	**6060**	**5630**	**2510**	**6070**	**5100**	**5100**	**1710**	**10700**	**8550**	**8610**	**7600**
Manganese	11,000	5,900	65	90.7	**99.1**	**40.1**	**67.1**	**25.6**	**35.5**	**210**	**33.7**	**33.7**	**27.2**	**44.1**	**41.4**	**145**	**107**
Mercury	23	65	0.1	ND	**0.066**	**0.176**	**0.055**	**0.031**	< 0.025	**0.089**	**0.04**	**0.04**	**0.039**	**0.041**	**0.04**	**0.212**	**0.106**
Nickel	1,600	23,000	48	8.4	**6.64**	**9.43**	**8.03**	**5.25**	**3.87**	**8.56**	**5.48**	**5.48**	**6.16**	**9.33**	**6.01**	**10.5**	**7.33**
Potassium	NLE	NLE	NLE	15400	**14100**	**25600**	**14600**	**13300**	**4370**	**13900**	**11700**	**11700**	**3620**	**26700**	**21300**	**20100**	**19300**
Selenium	390	5,700	11	1.9	**1.08**	**1.72**	**0.851**	< 0.594	< 0.674	< 0.700	< 0.727	< 0.727	< 0.707	**1.97**	**3.33**	**2.13**	**0.91**
Silver	390	5,700	1	1.1	< 0.782	< 0.792	< 0.764	< 0.594	< 0.674	< 0.700	< 0.727	< 0.727	< 0.707	< 0.654	< 0.618	< 0.700	< 0.742
Sodium	NLE	NLE	NLE	51.6	**99.9**	**94.8**	**302**	**90.6**	**106**	**850**	**83.2**	**83.2**	**67.6**	**159**	**111**	**169**	**242**
Thallium	5	79	3	ND	< 0.782	< 0.792	< 0.764	< 0.594	< 0.674	< 0.700	< 0.727	< 0.727	< 0.707	< 0.654	< 0.618	< 0.700	< 0.742
Vanadium	78	1,100	NLE	94.1	**94.5**	**121**	**90.9**	**83.5**	**47.1**	**98**	**77.4**	**77.4**	**46.1**	**122**	**125**	**134**	**113**
Zinc	23,000	110,000	930	81.4	**203**	**168**	**133**	**74.6**	**31.7**	**362**	**101**	**101**	**49.6**	**144**	**82.4**	**158**	**147**

Notes:

(1) New Jersey Department of Environmental Protection (NJDEP) Residential Direct Contact Soil Remediation Standards (RDCSRS) and Non-Residential Direct Contact Soil Remediation Standards (NRDCSRS) (N.J.A.C 7:26D; amended May 7, 2012). Available at: http://www.state.nj.us/dep/srp/regs/rs/.
(2) NJDEP Impact to Ground Water (NJDEP guidance document; Nov 2013).
(3) Weston, 1995. Final Site Investigation - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December.
NJDEP criteria for total xylenes are used for xylene isomers (m+p, o).
NJDEP criteria for endrin is used for endrin aldehyde.
NJDEP criteria for 4,4'-DDD and 4,4'-DDT are for total DDD and total DDT, respectively.
Dash (--) = only background concentrations for metals are being used as comparison criteria.
B = Analyte detected in both sample and associated laboratory blank.
D = Result from dilution of sample.
DUP = field duplicate sample.
E = Estimated value.
J = Analyte detected between MDL and practical quantitation limit (PQL).
NA = not analyzed.
ND = not detected.
NLE = No limit established.
< = analyte not detected above method detection limit (MDL).
µg/kg = micrograms per kilogram.
mg/kg = milligrams per kilogram.
VOCs = volatile organic compounds.
in. = inches.
bgs = below ground surface.
Detections are bolded.
Shaded cells = concentration exceeds NJDEP Impact to Groundwater Criterion.
Shaded cells = concentration exceeds one or both NJDEP Direct Contact Criteria.
Shaded cells = concentration exceeds all NJDEP criteria.
Shaded cells = concentration exceeds Weston (1995) background concentration.

TABLE 4.1
SOIL SAMPLING SUMMARY RESULTS - COMPARISON TO NJDEP STANDARDS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	NJDEP Residential (1)	NJDEP Non-Residential (1)	NJDEP Impact to Ground Water (2)	Weston 1995 Background (Main Post) (3)	B-89		B-90		B-91		B-92		B-93		B-94		B-95		B-95 Dup		B-96		B-97		B-98		B-99		B-100	
Sample Date					01/07/99		01/07/99		01/07/99		01/07/99		01/07/99		01/07/99		01/07/99		01/07/99		01/11/99		01/11/99		01/11/99		01/11/99		01/11/99	
Volatile Organic Compounds (µg/kg)																														
Lab Sample ID (VOCs only collected 24 in. bgs)					4177.07		4177.09		4177.11		4177.13		4177.15		4177.17		4177.19		4177.21		4179.03		4179.05		4179.07		4179.09		4179.11	
Acetone	70,000,000	NLE	19,000	--	< 860		< 860		< 970		< 940		< 870		< 930		< 940		< 580		< 790		< 610		< 560		< 640		< 610	
Methylene Chloride	34,000	97,000	10	--	**400**	J	**680**		**510**	J	**670**		< 580		**700**		**730**		< 580		< 790		< 610		< 560		< 640		< 610	
Benzene	2,000	5,000	5	--	< 290		< 290		< 320		< 310		< 290		< 310		< 310		< 290		< 400		< 310		< 280		< 320		< 310	
Toluene	6,300,000	91,000,000	7000	--	< 290		< 290		< 320		< 310		< 290		< 310		< 310		< 290		< 400		< 310		< 280		< 320		< 310	
TICs	NLE	NLE	NLE	--	ND		ND		**2200**		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Semi-Volatile Organic Compounds (µg/kg)																														
Lab Sample ID (All analysis except VOCs - collected 0 to 12 in. bgs)					4177.06		4177.08		4177.10		4177.12		4177.14		4177.16		4177.18		4177.20		4179.02		4179.04		4179.06		4179.08		4179.10	
Aniline	NLE	NLE	NLE	--	< 1200		< 1100		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200	
Naphthalene	6,000	17,000	25,000	--	< 1200		< 1100		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200	
2-Methylnaphthalene	230,000	2,400,000	8,000	--	< 1200		< 1100		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200	
Acenaphthylene	NLE	300,000,000	NLE	--	< 1200		< 1100		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200	
Acenaphthene	3,400,000	37,000,000	110,000	--	< 1200		< 1100		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200	
Dibenzofuran	NLE	NLE	NLE	--	< 1200		< 1100		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200	
Diethylphthalate	4,900,000	550,000,000	88,000	--	< 1200		< 1100		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		**190**	J	< 1200		< 1200		< 1200		< 1200	
Fluorene	2,300,000	24,000,000	170,000	--	< 1200		< 1100		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200	
Phenanthrene	NLE	300,000,000	NLE	--	< 1200		< 1100		**210**	J	< 1200		< 1200		< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200	
Anthracene	17,000,000	30,000,000	2,400,000	--	< 1200		< 1100		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200	
Di-n-butylphthalate	6,100,000	68,000,000	760,000	--	**310**	JB	**700**	JB	**920**	JB	**1500**	B	**1000**	JB	**200**	JB	**270**	JB	**830**	JB	**540**	JB	**300**	JB	**1300**	B	**380**	JB	**1400**	B
Fluoranthene	2,300,000	24,000,000	1,300,000	--	< 1200		< 1100		**300**	J	< 1200		< 1200		< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200	
Pyrene	1,700,000	18,000,000	840,000	--	< 1200		< 1100		**260**	J	< 1200		< 1200		< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200	
Benzo[a]anthracene	600	2,000	800	--	< 1200		< 1100		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200	
Chrysene	62,000	230,000	80,000	--	< 1200		< 1100		**180**	J	< 1200		< 1200		< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200	
bis(2-Ethylhexyl)phthalate	35,000	140,000	1,200,000	--	< 1200		< 1100		< 1200		**160**	J	**140**	J	< 1200		< 1200		< 1100		< 1400		**120**	J	**160**	J	< 1200		**130**	J
Benzo[b]fluoranthene	600	2,000	2,000	--	< 1200		< 1100		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200	
Benzo[k]fluoranthene	6,000	23,000	25,000	--	< 1200		< 1100		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200	
Benzo[a]pyrene	200	200	200	--	< 1200		< 1100		**120**	J	< 1200		< 1200		< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200	
Indeno[1,2,3-cd]pyrene	600	2000	7,000	--	< 1200		< 1100		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200	
Dibenz[a,h]anthracene	200	200	800	--	< 1200		< 1100		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200	
Benzo[g,h,i]perylene	380,000,000	30,000,000	NLE	--	< 1200		< 1100		< 1200		< 1200		< 1200		< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200	
TICs	NLE	NLE	NLE	--	**11800**		**14600**		**7390**		**20200**		**14300**		**13400**		**8300**		**21100**		**7500**		**6500**		**20400**		**9000**		**11900**	
Pesticides/PCBs (mg/kg)																														
4,4'-DDE	2	9	18	--	**0.234**		**0.058**		**0.003**		**0.058**		**0.001**		**0.007**		**0.488**		**0.269**		**0.206**		**0.034**		**0.075**		**0.084**		**0.002**	
Dieldrin	0.04	0.2	0.003	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0007		< 0.0006		**0.001**		< 0.0006		< 0.0006	
4,4'-DDD	3	13	4	--	**0.027**		**0.01**		< 0.0007		**0.069**		< 0.0007		**0.003**		**0.049**		**0.025**		**0.019**		**0.017**		**0.172**		**0.136**		< 0.0007	
Endrin Aldehyde	NLE	NLE	NLE	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0007		< 0.0006		< 0.0006		< 0.0006		< 0.0006	
4,4'-DDT	2	8	11	--	**0.351**		**0.07**		< 0.0013		**0.347**		**0.002**		**0.023**		**0.516**		**0.202**		**0.213**		**0.028**		**0.309**		**2.93**		**0.003**	
gamma-Chlordane	0.2	1	0.05	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0007		< 0.0006		< 0.0006		< 0.0006		< 0.0006	
alpha-Chlordane	0.2	1	0.05	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0007		< 0.0006		< 0.0006		< 0.0006		< 0.0006	

TABLE 4.1
SOIL SAMPLING SUMMARY RESULTS - COMPARISON TO NJDEP STANDARDS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	NJDEP Residential (1)	NJDEP Non-Residential (1)	NJDEP Impact to Ground Water (2)	Weston 1995 Background (Main Post) (3)	B-89	B-90	B-91	B-92	B-93	B-94	B-95	B-95 Dup	B-96	B-97	B-98	B-99	B-100
Sample Date					01/07/99	01/07/99	01/07/99	01/07/99	01/07/99	01/07/99	01/07/99	01/07/99	01/11/99	01/11/99	01/11/99	01/11/99	01/11/99
Metals (mg/kg)																	
Aluminum	78,000	NLE	6000	15200	**15800**	**5610**	**14700**	**14400**	**17400**	**12400**	**10700**	**10100**	**13600**	**12400**	**15100**	**14900**	**3190**
Antimony	31	450	6	ND	< 0.402	**0.526**	**0.654**	< 0.502	**0.434**	< 0.497	< 0.429	< 0.494	< 0.623	< 0.493	**0.611**	< 0.472	**0.566**
Arsenic	19	19	19	22.9	**14.1**	**2.96**	**18.8**	**13.9**	**24.7**	**16.1**	**18**	**6.88**	**8.96**	**23.2**	**29.9**	**28**	**24.4**
Barium	16,000	59,000	2100	32.3	**23.7**	**12.4**	**26.4**	**81.9**	**24.1**	**16.4**	**13.8**	**14.9**	**16.6**	**17.6**	**41.5**	**16.9**	**6.78**
Beryllium	16	140	0.7	2	**1.54**	**0.375**	**1.14**	**1.83**	**2.58**	**1.35**	**1.66**	**1.13**	**1.06**	**2.03**	**2.12**	**2.8**	**0.162**
Cadmium	78	78	2	ND	**0.846**	**0.541**	**0.661**	**1.09**	**1.7**	**0.892**	**1.36**	**0.734**	**0.743**	**1.26**	**1.66**	**1.92**	**0.415**
Calcium	NLE	NLE	NLE	921	**246**	**221**	**691**	**4230**	**513**	**427**	**180**	**294**	**270**	**765**	**1860**	**1060**	**432**
Chromium	NLE	NLE	NLE	269	**168**	**37.1**	**137**	**207**	**305**	**150**	**113**	**93.1**	**109**	**231**	**237**	**317**	**41.3**
Cobalt	1,600	590	90	2.5	**2.18**	**1.14**	**1.45**	**1.47**	**0.971**	**0.93**	**1.06**	**1.23**	**1.59**	**0.771**	**1.86**	**0.628**	**0.677**
Copper	3,100	45,000	11000	8	**6.72**	**3.52**	**34.3**	**104**	**20.3**	**18.5**	**4.68**	**4.69**	**7.04**	**11.7**	**32.9**	**20.6**	**10.9**
Iron	NLE	NLE	NLE	55800	**41300**	**9870**	**26900**	**47800**	**63700**	**35400**	**53200**	**29600**	**30400**	**48600**	**51300**	**64100**	**7170**
Lead	400	800	90	19.5	**6.61**	**3.65**	**75.9**	**3.33**	**11.5**	**28.7**	**6.11**	**5.14**	**6.11**	**10.8**	**47.3**	**12.2**	**4.86**
Magnesium	NLE	NLE	NLE	7230	**4830**	**985**	**3580**	**5590**	**9110**	**4130**	**2970**	**3170**	**3160**	**6380**	**6730**	**8860**	**346**
Manganese	11,000	5,900	65	90.7	**33.3**	**24.1**	**42.6**	**29**	**34**	**22.6**	**24.8**	**24.8**	**28.6**	**20.8**	**100**	**21.9**	**11.3**
Mercury	23	65	0.1	ND	**0.048**	**0.037**	**0.081**	**0.058**	**0.038**	**0.086**	**0.028**	**0.044**	**0.062**	**0.039**	**0.102**	**0.05**	**0.031**
Nickel	1,600	23,000	48	8.4	**7.21**	**3.93**	**4.4**	**6.49**	**6.54**	**4.57**	**4.84**	**5.04**	**5.57**	**5.7**	**11**	**7.42**	**1.46**
Potassium	NLE	NLE	NLE	15400	**12400**	**2090**	**7510**	**15200**	**24000**	**10500**	**7970**	**8490**	**7990**	**16400**	**17800**	**23800**	**608**
Selenium	390	5,700	11	1.9	**0.796**	< 0.758	< 0.742	**1.77**	**0.666**	< 0.746	**2.12**	< 0.741	< 0.935	< 0.740	**1.23**	**0.725**	< 0.713
Silver	390	5,700	1	1.1	< 0.603	< 0.758	< 0.742	< 0.752	< 0.587	< 0.746	< 0.643	< 0.741	< 0.935	< 0.740	< 0.674	< 0.708	< 0.713
Sodium	NLE	NLE	NLE	51.6	**74.2**	**82.1**	**122**	**118**	**232**	**199**	**80.1**	**95.6**	**334**	**139**	**178**	**93.5**	**63.7**
Thallium	5	79	3	ND	< 0.603	< 0.758	< 0.742	< 0.752	< 0.587	< 0.746	< 0.643	< 0.741	< 0.935	< 0.740	< 0.674	< 0.708	< 0.713
Vanadium	78	1,100	NLE	94.1	**99.5**	**22.8**	**69.5**	**82.9**	**121**	**66.8**	**102**	**47.8**	**63.6**	**100**	**104**	**126**	**14.2**
Zinc	23,000	110,000	930	81.4	**50.4**	**33.6**	**67.1**	**92.3**	**71.8**	**44.2**	**46.7**	**43.4**	**40.4**	**61.7**	**95.5**	**76.1**	**24.9**

Notes:

(1) New Jersey Department of Environmental Protection (NJDEP) Residential Direct Contact Soil Remediation Standards (RDCSRS) and Non-Residential Direct Contact Soil Remediation Standards (NRDCSRS) (N.J.A.C 7:26D; amended May 7, 2012). Available at: http://www.state.nj.us/dep/srp/regs/rs/.

(2) NJDEP Impact to Ground Water (NJDEP guidance document; Nov 2013).

(3) Weston, 1995. Final Site Investigation - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December.

NJDEP criteria for total xylenes are used for xylene isomers (m+p, o).

NJDEP criteria for endrin is used for endrin aldehyde.

NJDEP criteria for 4,4'-DDD and 4,4'-DDT are for total DDD and total DDT, respectively.

Dash (--) = only background concentrations for metals are being used as comparison criteria.

B = Analyte detected in both sample and associated laboratory blank.

D = Result from dilution of sample.

DUP = field duplicate sample.

E = Estimated value.

J = Analyte detected between MDL and practical quantitation limit (PQL).

NA = not analyzed.

ND = not detected.

NLE = No limit established.

< = analyte not detected above method detection limit (MDL).

µg/kg = micrograms per kilogram.

mg/kg = milligrams per kilogram.

VOCs = volatile organic compounds.

in. = inches.

bgs = below ground surface.

Detections are bolded.

Shaded cells = concentration exceeds NJDEP Impact to Groundwater Criterion.

Shaded cells = concentration exceeds one or both NJDEP Direct Contact Criteria.

Shaded cells = concentration exceeds all NJDEP criteria.

Shaded cells = concentration exceeds Weston (1995) background concentration.

TABLE 4.1
SOIL SAMPLING SUMMARY RESULTS - COMPARISON TO NJDEP STANDARDS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	NJDEP Residential (1)	NJDEP Non-Residential (1)	NJDEP Impact to Ground Water (2)	Weston 1995 Background (Main Post) (3)	B-101	B-102	B-103	B-104	B-105	B-106	B-107	B-108	B-109	B-110	B-111	B-112	B-113
Sample Date					01/11/99	01/11/99	01/11/99	01/11/99	01/11/99	01/11/99	01/12/99	01/12/99	01/12/99	01/12/99	01/12/99	01/12/99	01/13/99
Volatile Organic Compounds (µg/kg)																	
Lab Sample ID (VOCs only collected 24 in. bgs)					4179.13	4179.15	4179.17	4179.19	4179.21	4179.23	4184.03	4184.05	4184.07	4184.09	4184.11	4184.13	4189.03
Acetone	70,000,000	NLE	19,000	--	< 610	< 590	< 580	< 620	< 650	< 670	< 640	< 620	< 590	< 620	< 570	< 570	< 600
Methylene Chloride	34,000	97,000	10	--	< 610	< 590	< 580	< 620	< 670	< 670	< 640	< 620	< 590	< 620	< 570	< 570	< 600
Benzene	2,000	5,000	5	--	< 300	< 290	< 290	< 310	< 320	< 330	< 320	< 310	< 290	< 310	< 290	< 280	< 300
Toluene	6,300,000	91,000,000	7000	--	< 300	< 290	< 290	< 310	< 320	< 330	< 320	< 310	< 290	< 310	< 290	< 280	< 300
TICs	NLE	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds (µg/kg)																	
Lab Sample ID (All analysis except VOCs - collected 0 to 12 in. bgs)					4179.12	4179.14	4179.16	4179.18	4179.20	4179.22	4184.02	4184.04	4184.06	4184.08	4184.10	4184.12	4189.02
Aniline	NLE	NLE	NLE	--	< 1100	< 1200	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1200	< 1100	< 1100	< 1000	< 1100
Naphthalene	6,000	17,000	25,000	--	< 1100	< 1200	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1200	< 1100	< 1100	**110** J	< 1100
2-Methylnaphthalene	230,000	2,400,000	8,000	--	< 1100	< 1200	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1200	< 1100	< 1100	< 1000	< 1100
Acenaphthylene	NLE	300,000,000	NLE	--	< 1100	< 1200	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1200	< 1100	< 1100	**520** J	< 1100
Acenaphthene	3,400,000	37,000,000	110,000	--	< 1100	< 1200	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1200	< 1100	< 1100	**130** J	< 1100
Dibenzofuran	NLE	NLE	NLE	--	< 1100	< 1200	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1200	< 1100	< 1100	< 1000	< 1100
Diethylphthalate	4,900,000	550,000,000	88,000	--	< 1100	< 1200	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1200	< 1100	< 1100	< 1000	< 1100
Fluorene	2,300,000	24,000,000	170,000	--	< 1100	< 1200	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1200	< 1100	< 1100	**310** J	< 1100
Phenanthrene	NLE	300,000,000	NLE	--	**670** J	< 1200	< 1100	< 1100	< 1200	< 1200	**1200**	< 1200	< 1200	< 1100	< 1100	**6400**	< 1100
Anthracene	17,000,000	30,000,000	2,400,000	--	< 1100	< 1200	< 1100	< 1100	< 1200	< 1200	**300** J	< 1200	< 1200	< 1100	< 1100	**860** J	< 1100
Di-n-butylphthalate	6,100,000	68,000,000	760,000	--	**370** JB	**380** JB	**1300** B	**880** JB	**1300** B	**370** JB	**1900** B	**1200** B	**30000** BD	**2000** B	**1100** JB	**1200** B	**380** JB
Fluoranthene	2,300,000	24,000,000	1,300,000	--	**640** J	< 1200	< 1100	< 1100	**140** J	**140** J	**1600**	< 1200	< 1200	< 1100	< 1100	**7900**	< 1100
Pyrene	1,700,000	18,000,000	840,000	--	**770** J	< 1200	< 1100	< 1100	**130** J	**120** J	**1300**	< 1200	< 1200	< 1100	< 1100	**6400**	< 1100
Benzo[a]anthracene	600	2,000	800	--	**330** J	< 1200	< 1100	< 1100	< 1200	< 1200	**640** J	< 1200	< 1200	< 1100	< 1100	**2800**	< 1100
Chrysene	62,000	230,000	80,000	--	**660** J	< 1200	< 1100	< 1100	< 1200	< 1200	**920** J	< 1200	< 1200	< 1100	< 1100	**3900**	< 1100
bis(2-Ethylhexyl)phthalate	35,000	140,000	1,200,000	--	< 1100	< 1200	< 1100	**110** J	**160** J	< 1200	**150** J	**170** J	**200** J	**130** J	**140** J	**150** J	< 1100
Benzo[b]fluoranthene	600	2,000	2,000	--	**240** J	< 1200	< 1100	< 1100	< 1200	< 1200	**400** J	< 1200	< 1200	< 1100	< 1100	**2000**	< 1100
Benzo[k]fluoranthene	6,000	23,000	25,000	--	**290** J	< 1200	< 1100	< 1100	< 1200	< 1200	**490** J	< 1200	< 1200	< 1100	< 1100	**2100**	< 1100
Benzo[a]pyrene	200	200	200	--	**270** J	< 1200	< 1100	< 1100	< 1200	< 1200	**480** J	< 1200	< 1200	< 1100	< 1100	**2300**	< 1100
Indeno[1,2,3-cd]pyrene	600	2000	7,000	--	**180** J	< 1200	< 1100	< 1100	< 1200	< 1200	**280** J	< 1200	< 1200	< 1100	< 1100	**950** J	< 1100
Dibenz[a,h]anthracene	200	200	800	--	< 1100	< 1200	< 1100	< 1100	< 1200	< 1200	< 1200	< 1200	< 1200	< 1100	< 1100	**310** J	< 1100
Benzo[g,h,i]perylene	380,000,000	30,000,000	NLE	--	**190** J	< 1200	< 1100	< 1100	< 1200	< 1200	**260** J	< 1200	< 1200	< 1100	< 1100	**1100**	< 1100
TICs	NLE	NLE	NLE	--	**12150**	**6100**	**12000**	**16000**	**19700**	**3600**	**11800**	**11800**	**14700**	**8200**	**39180**	**11250**	**2300**
Pesticides/PCBs (mg/kg)																	
4,4'-DDE	2	9	18	--	**0.066**	**0.029**	**0.02**	**0.024**	**0.013**	**0.109**	**0.04**	**0.007**	**0.001**	**0.024**	**0.003**	**0.117**	**0.046**
Dieldrin	0.04	0.2	0.003	--	< 0.0006	< 0.0006	< 0.0006	< 0.0005	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0005	< 0.0006	< 0.0005	< 0.0109
4,4'-DDD	3	13	4	--	**0.061**	**0.003**	**0.002**	**0.051**	**0.006**	**0.031**	**0.025**	**0.001**	< 0.0007	**0.002**	< 0.0007	**0.149**	< 0.0131
Endrin Aldehyde	NLE	NLE	NLE	--	< 0.0006	< 0.0006	< 0.0006	< 0.0005	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0005	< 0.0006	< 0.0005	< 0.0109
4,4'-DDT	2	8	11	--	**0.283**	**0.029**	**0.018**	**0.005**	**0.029**	**0.355**	**0.144**	**0.006**	< 0.0013	**0.012**	**0.003**	**0.509**	**0.036**
gamma-Chlordane	0.2	1	0.05	--	**0.003**	< 0.0006	< 0.0006	< 0.0005	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0005	< 0.0006	< 0.0005	< 0.0109
alpha-Chlordane	0.2	1	0.05	--	**0.002**	< 0.0006	< 0.0006	< 0.0005	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0005	< 0.0006	< 0.0005	< 0.0109

TABLE 4.1
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SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	NJDEP Residential (1)	NJDEP Non-Residential (1)	NJDEP Impact to Ground Water (2)	Weston 1995 Background (Main Post) (3)	B-101	B-102	B-103	B-104	B-105	B-106	B-107	B-108	B-109	B-110	B-111	B-112	B-113
Sample Date					01/11/99	01/11/99	01/11/99	01/11/99	01/11/99	01/11/99	01/12/99	01/12/99	01/12/99	01/12/99	01/12/99	01/12/99	01/13/99
Metals (mg/kg)																	
Aluminum	78,000	NLE	6000	15200	**1420**	**4570**	**4140**	**1600**	**1500**	**3380**	**12800**	**16600**	**17100**	**4320**	**3040**	**3070**	**18000**
Antimony	31	450	6	ND	< 0.503	< 0.508	**0.461**	< 0.460	< 0.540	< 0.466	**0.663**	< 0.380	**0.483**	**0.581**	**1.03**	**1.16**	< 0.387
Arsenic	19	19	19	22.9	**6.59**	**9.69**	**6.47**	**1.14**	**14.9**	**17**	**16.2**	**11.8**	**11.7**	**1.9**	**1.12**	**1.92**	**23.3**
Barium	16,000	59,000	2100	32.3	**16**	**13.6**	**16.8**	**4.92**	**34**	**10.2**	**26.5**	**26.5**	**26.9**	**10.7**	**10.1**	**17.5**	**26.2**
Beryllium	16	140	0.7	2	< 0.126	**0.257**	**0.295**	< 0.115	**0.217**	**0.217**	**1.38**	**1.85**	**1.29**	**0.255**	**0.197**	**0.319**	**2.54**
Cadmium	78	78	2	ND	**0.504**	**0.569**	**0.418**	**0.183**	**0.952**	**0.532**	**0.786**	**1.02**	**0.714**	**0.313**	**0.326**	**0.25**	**1.21**
Calcium	NLE	NLE	NLE	921	**135**	**148**	**143**	**73.7**	**9270**	**808**	**749**	**116**	**134**	**201**	**199**	**299**	**634**
Chromium	NLE	NLE	NLE	269	**18.9**	**40.4**	**32.4**	**9.66**	**13.8**	**25.8**	**161**	**188**	**142**	**32.7**	**19.3**	**19.8**	**308**
Cobalt	1,600	590	90	2.5	**0.437**	**0.655**	**0.303**	**0.248**	**1.02**	**0.562**	**0.996**	**1.83**	**1.89**	**0.634**	**0.425**	**1.41**	**0.573**
Copper	3,100	45,000	11000	8	**10.6**	**5.24**	**3.56**	**2.61**	**10.3**	**12.5**	**52.1**	**36.6**	**30.1**	**23.6**	**20.1**	**21.3**	**65.4**
Iron	NLE	NLE	NLE	55800	**6930**	**10500**	**7410**	**2320**	**8270**	**10200**	**37900**	**51300**	**35400**	**6360**	**5400**	**8550**	**64400**
Lead	400	800	90	19.5	**24.6**	**4.79**	**2.21**	**1.21**	**17.9**	**7.06**	**28.8**	**6.91**	**7.09**	**2.6**	**2.41**	**40.7**	**32.5**
Magnesium	NLE	NLE	NLE	7230	**163**	**350**	**214**	**51**	**4600**	**232**	**4880**	**6450**	**4150**	**728**	**470**	**831**	**10100**
Manganese	11,000	5,900	65	90.7	**5.13**	**11**	**5.04**	**1.55**	**36.3**	**16.7**	**21.7**	**23.4**	**30.3**	**15.9**	**12.2**	**20.5**	**22.2**
Mercury	23	65	0.1	ND	**0.164**	**0.04**	**0.039**	**0.055**	**0.799**	**0.154**	**0.154**	**0.054**	**0.07**	**0.055**	**0.054**	**0.066**	**0.073**
Nickel	1,600	23,000	48	8.4	**1.23**	**2.31**	**1.54**	**1.44**	**5.85**	1..81	**5.69**	**7.82**	**6.76**	**2.43**	**2.31**	**3.81**	**7.11**
Potassium	NLE	NLE	NLE	15400	**369**	**717**	**231**	**96.6**	**700**	**535**	**10500**	**15400**	**8550**	**1050**	**566**	**1910**	**22800**
Selenium	390	5,700	11	1.9	< 0.755	< 0.762	< 0.543	< 0.690	**1.09**	< 0.699	**1.14**	**0.711**	**1.11**	< 0.614	< 0.711	**1.16**	**2.48**
Silver	390	5,700	1	1.1	**1.03**	< 0.762	< 0.543	< 0.690	< 0.811	< 0.699	< 0.699	< 0.570	< 0.561	< 0.614	< 0.711	< 0.590	< 0.580
Sodium	NLE	NLE	NLE	51.6	**63.9**	**87.5**	**50.2**	**66**	**115**	**56.9**	**174**	**118**	**194**	**71.6**	**69.4**	**79.5**	**148**
Thallium	5	79	3	ND	< 0.755	< 0.762	< 0.543	< 0.690	< 0.811	< 0.699	< 0.699	< 0.570	< 0.561	< 0.614	< 0.711	< 0.590	< 0.580
Vanadium	78	1,100	NLE	94.1	**9.61**	**31.3**	**30.3**	**9.7**	**8.8**	**14.3**	**65.7**	**98.4**	**84.4**	**23**	**14**	**12.6**	**120**
Zinc	23,000	110,000	930	81.4	**16.6**	**27.6**	**23.5**	**17**	**59.4**	**24.3**	**52.7**	**75.9**	**43.1**	**15.8**	**20.1**	**37.7**	**84.9**

Notes:

(1) New Jersey Department of Environmental Protection (NJDEP) Residential Direct Contact Soil Remediation Standards (RDCSRS) and Non-Residential Direct Contact Soil Remediation Standards (NRDCSRS) (N.J.A.C 7:26D; amended May 7, 2012). Available at: http://www.state.nj.us/dep/srp/regs/rs/.
(2) NJDEP Impact to Ground Water (NJDEP guidance document; Nov 2013).
(3) Weston, 1995. Final Site Investigation - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December.
NJDEP criteria for total xylenes are used for xylene isomers (m+p, o).
NJDEP criteria for endrin is used for endrin aldehyde.
NJDEP criteria for 4,4'-DDD and 4,4'-DDT are for total DDD and total DDT, respectively.
Dash (--) = only background concentrations for metals are being used as comparison criteria.
B = Analyte detected in both sample and associated laboratory blank.
D = Result from dilution of sample.
DUP = field duplicate sample.
E = Estimated value.
J = Analyte detected between MDL and practical quantitation limit (PQL).
NA = not analyzed.
ND = not detected.
NLE = No limit established.
< = analyte not detected above method detection limit (MDL).
µg/kg = micrograms per kilogram.
mg/kg = milligrams per kilogram.
VOCs = volatile organic compounds.
in. = inches.
bgs = below ground surface.
Detections are bolded.
Shaded cells = concentration exceeds NJDEP Impact to Groundwater Criterion.
Shaded cells = concentration exceeds one or both NJDEP Direct Contact Criteria.
Shaded cells = concentration exceeds all NJDEP criteria.
Shaded cells = concentration exceeds Weston (1995) background concentration.

TABLE 4.1
SOIL SAMPLING SUMMARY RESULTS - COMPARISON TO NJDEP STANDARDS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	NJDEP Residential (1)	NJDEP Non-Residential (1)	NJDEP Impact to Ground Water (2)	Weston 1995 Background (Main Post) (3)	B-114		B-115		B-116		B-117		B-118		B-119		B-119 Dup	
Sample Date					01/13/99		01/13/99		01/13/99		01/13/99		01/13/99		01/13/99		01/13/99	
Volatile Organic Compounds (µg/kg)																		
Lab Sample ID (VOCs only collected 24 in. bgs)					4189.05		4189.07		4189.09		4189.11		4189.13		4189.15		4189.17	
Acetone	70,000,000	NLE	19,000	--	< 590		< 560		< 630		< 570		< 600		< 520		< 540	
Methylene Chloride	34,000	97,000	10	--	< 590		< 560		< 630		< 570		< 600		< 520		< 540	
Benzene	2,000	5,000	5	--	< 300		< 280		< 320		< 280		< 300		< 260		< 270	
Toluene	6,300,000	91,000,000	7000	--	< 300		< 280		< 320		< 280		< 300		< 260		< 270	
TICs	NLE	NLE	NLE	--	ND		ND		ND		ND		ND		ND		ND	
Semi-Volatile Organic Compounds (µg/kg)																		
Lab Sample ID (All analysis except VOCs - collected 0 to 12 in. bgs)					4189.04		4189.06		4189.08		4189.10		4189.12		4189.14		4189.16	
Aniline	NLE	NLE	NLE	--	< 1200		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Naphthalene	6,000	17,000	25,000	--	< 1200		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
2-Methylnaphthalene	230,000	2,400,000	8,000	--	< 1200		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Acenaphthylene	NLE	300,000,000	NLE	--	**170**	J	< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Acenaphthene	3,400,000	37,000,000	110,000	--	< 1200		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Dibenzofuran	NLE	NLE	NLE	--	< 1200		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Diethylphthalate	4,900,000	550,000,000	88,000	--	< 1200		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Fluorene	2,300,000	24,000,000	170,000	--	< 1200		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Phenanthrene	NLE	300,000,000	NLE	--	**860**	J	< 1200		< 1200		< 1000		< 1100		**110**	J	< 1100	
Anthracene	17,000,000	30,000,000	2,400,000	--	**270**	J	< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Di-n-butylphthalate	6,100,000	68,000,000	760,000	--	**470**	JB	**380**	JB	**1200**	JB	**310**	JB	**1400**	B	**3000**	B	**1200**	B
Fluoranthene	2,300,000	24,000,000	1,300,000	--	**6400**		< 1200		< 1200		< 1000		< 1100		**250**	J	**200**	J
Pyrene	1,700,000	18,000,000	840,000	--	**4800**		< 1200		< 1200		< 1000		**110**	J	**190**	J	**150**	J
Benzo[a]anthracene	600	2,000	800	--	**2400**		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Chrysene	62,000	230,000	80,000	--	**2600**		< 1200		< 1200		< 1000		< 1100		**120**	J	< 1100	
bis(2-Ethylhexyl)phthalate	35,000	140,000	1,200,000	--	< 1200		< 1200		< 1200		**120**	J	**170**	J	< 1100		< 1100	
Benzo[b]fluoranthene	600	2,000	2,000	--	**2200**		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Benzo[k]fluoranthene	6,000	23,000	25,000	--	**2100**		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Benzo[a]pyrene	200	200	200	--	**2500**		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Indeno[1,2,3-cd]pyrene	600	2000	7,000	--	**1200**	J	< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Dibenz[a,h]anthracene	200	200	800	--	**340**	J	< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Benzo[g,h,i]perylene	380,000,000	30,000,000	NLE	--	**1500**		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
TICs	NLE	NLE	NLE	--	**3700**		**2100**		**3690**		**2500**		**5900**		**6080**		**5550**	
Pesticides/PCBs (mg/kg)																		
4,4'-DDE	2	9	18	--	**0.387**		**0.743**		**0.186**		**0.155**		**0.094**		**0.136**		**0.092**	
Dieldrin	0.04	0.2	0.003	--	< 0.0119		< 0.0114		< 0.0118		< 0.0105		**0.013**		< 0.0109		< 0.0108	
4,4'-DDD	3	13	4	--	**0.072**		**0.695**		< 0.0142		**0.015**		< 0.0132		**0.022**		< 0.0129	
Endrin Aldehyde	NLE	NLE	NLE	--	< 0.0119		< 0.0114		< 0.0118		< 0.0105		< 0.0110		< 0.0109		**0.057**	
4,4'-DDT	2	8	11	--	**0.466**		**4.142**		**0.152**		**0.165**		**0.08**		**0.113**		< 0.0237	
gamma-Chlordane	0.2	1	0.05	--	< 0.0119		< 0.0114		< 0.0118		< 0.0105		< 0.0110		< 0.0109		< 0.0108	
alpha-Chlordane	0.2	1	0.05	--	< 0.0119		< 0.0114		< 0.0118		< 0.0105		< 0.0110		< 0.0109		< 0.0108	

TABLE 4.1
SOIL SAMPLING SUMMARY RESULTS - COMPARISON TO NJDEP STANDARDS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	NJDEP Residential (1)	NJDEP Non-Residential (1)	NJDEP Impact to Ground Water (2)	Weston 1995 Background (Main Post) (3)	B-114	B-115	B-116	B-117	B-118	B-119	B-119 Dup
Sample Date					01/13/99	01/13/99	01/13/99	01/13/99	01/13/99	01/13/99	01/13/99
Metals (mg/kg)											
Aluminum	78,000	NLE	6000	15200	**16300**	**17000**	**17300**	**2720**	**12100**	**5260**	**6590**
Antimony	31	450	6	ND	< 3.328	**0.588**	< 0.492	**0.792**	**0.407**	**0.424**	< 0.437
Arsenic	19	19	19	22.9	**25.6**	**19.3**	**23.4**	**1.36**	**11.8**	**5.03**	**6.05**
Barium	16,000	59,000	2100	32.3	**29.2**	**17.6**	**40.3**	**12.9**	**20.8**	**19.8**	**18**
Beryllium	16	140	0.7	2	**2.16**	**2.3**	**2.39**	**0.19**	**1.15**	**0.47**	**0.63**
Cadmium	78	78	2	ND	**1.09**	**1**	**3.17**	**0.268**	**0.539**	**0.276**	**0.334**
Calcium	NLE	NLE	NLE	921	**1200**	**758**	**1180**	**162**	**386**	**235**	**276**
Chromium	NLE	NLE	NLE	269	**254**	**258**	**280**	**16.3**	**135**	**51**	**71**
Cobalt	1,600	590	90	2.5	**1.07**	**0.298**	**0.959**	**0.443**	**0.938**	**0.692**	**0.84**
Copper	3,100	45,000	11000	8	**31.9**	**25.5**	**34.2**	**4.8**	**33**	**7.5**	**7.75**
Iron	NLE	NLE	NLE	55800	**55300**	**55900**	**57600**	**4980**	**31000**	**13900**	**17100**
Lead	400	800	90	19.5	**36.5**	**16.1**	**45.2**	**8.16**	**30.5**	**11.9**	**13.5**
Magnesium	NLE	NLE	NLE	7230	**8290**	**8380**	**9020**	**474**	**4270**	**1520**	**2210**
Manganese	11,000	5,900	65	90.7	**30.4**	**18.2**	**47**	**18.5**	**29.6**	**24.1**	**23.8**
Mercury	23	65	0.1	ND	**0.97**	**0.044**	**0.069**	**0.037**	**0.313**	**0.068**	**0.051**
Nickel	1,600	23,000	48	8.4	**7.88**	**6.36**	**8**	**2.26**	**10.9**	**3.16**	**3.39**
Potassium	NLE	NLE	NLE	15400	**18600**	**19600**	**20500**	**770**	**9350**	**3070**	**4560**
Selenium	390	5,700	11	1.9	**2.11**	**1.94**	**1.67**	**0.661**	**1.08**	**0.705**	**0.959**
Silver	390	5,700	1	1.1	< 4.992	< 0.712	< 0.738	< 0.637	< 0.533	< 0.514	< 0.655
Sodium	NLE	NLE	NLE	51.6	**118**	**238**	**124**	**74.9**	**130**	**64.9**	**62.2**
Thallium	5	79	3	ND	< 4.992	< 0.712	< 0.738	< 0.637	< 0.533	< 0.514	< 0.655
Vanadium	78	1,100	NLE	94.1	**82.4**	**94.6**	**118**	**9.79**	**57.2**	**24.1**	**32.1**
Zinc	23,000	110,000	930	81.4	**85.3**	**70.5**	**156**	**26.7**	**49.8**	**32.6**	**39.3**

Notes:

(1) New Jersey Department of Environmental Protection (NJDEP) Residential Direct Contact Soil Remediation Standards (RDCSRS) and Non-Residential Direct Contact Soil Remediation Standards (NRDCSRS) (N.J.A.C 7:26D; amended May 7, 2012). Available at: http://www.state.nj.us/dep/srp/regs/rs/.
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NJDEP criteria for total xylenes are used for xylene isomers (m+p, o).
NJDEP criteria for endrin is used for endrin aldehyde.
NJDEP criteria for 4,4'-DDD and 4,4'-DDT are for total DDD and total DDT, respectively.
Dash (--) = only background concentrations for metals are being used as comparison criteria.
B = Analyte detected in both sample and associated laboratory blank.
D = Result from dilution of sample.
DUP = field duplicate sample.
E = Estimated value.
J = Analyte detected between MDL and practical quantitation limit (PQL).
NA = not analyzed.
ND = not detected.
NLE = No limit established.
< = analyte not detected above method detection limit (MDL).
µg/kg = micrograms per kilogram.
mg/kg = milligrams per kilogram.
VOCs = volatile organic compounds.
in. = inches.
bgs = below ground surface.
Detections are bolded.
Shaded cells = concentration exceeds NJDEP Impact to Groundwater Criterion.
Shaded cells = concentration exceeds one or both NJDEP Direct Contact Criteria.
Shaded cells = concentration exceeds all NJDEP criteria.
Shaded cells = concentration exceeds Weston (1995) background concentration.

TABLE 4.2
SOIL SAMPLING SUMMARY RESULTS - COMPARISION TO USEPA CRITERIA
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	USEPA RSL Residential (HQ=0.1)[1]	USEPA RSL Industrial (HQ=0.1)	USEPA RSL Groundwater Protection (Risk-based)	Weston Background [2]	B-1		B-2		B-3		B-4		B-5		B-6		B-7		B-8		B-9		B-10		B-11		B-12		B-13	
Sample Date					12/23/98		12/23/98		12/23/98		12/23/98		12/23/98		12/23/98		12/28/98		12/28/98		12/28/98		12/28/98		12/28/98		12/28/98		12/28/98	
Volatile Organic Compounds (µg/kg)																														
Lab Sample ID (VOCs only collected 24 in. bgs)					4156.03		4156.05		4156.07		4156.09		4156.11		4156.13		4159.03		4159.05		4159.07		4159.09		4159.11		4159.13		4159.15	
Acetone	6,100,000	63,000,000	240	--	< 590		< 520		< 540		< 560		< 560		< 570		< 600		< 620		< 620		<560		< 620		< 580		< 560	
Methylene Chloride	36,000	310,000	2.2	--	**720**		< 520		**690**		< 560		**420**	J	**690**		**760**		< 620		< 620		< 560		**510**		< 580		< 560	
Benzene	1,100	5,400	0.2	--	< 290		< 260		< 270		< 280		< 280		< 290		< 300		< 310		< 310		< 280		< 310		< 290		< 280	
Toluene	500,000	4,500,000	59	--	< 290		< 260		< 270		< 280		< 280		< 290		< 300		< 310		< 310		< 280		< 310		< 290		< 280	
TICs	NLE	NLE	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Semi-Volatile Organic																														
Lab Sample ID (All analysis except VOCs - collected 0 to 12 in. bgs)					4156.02		4156.04		4156.06		4156.08		4156.10		4156.12		4159.02		4159.04		4159.06		4159.08		4159.10		4159.12		4159.14	
Aniline	43,000	300,000	3.7	--	< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100	
Naphthalene	3,600	18,000	0.47	--	< 1100		< 1100		**130**	J	< 1100		< 1200		< 1200		< 1100		**1100**		< 1200		< 1100		< 1100		< 1100		< 1100	
2-Methylnaphthalene	23,000	220,000	14	--	< 1100		**110**	J	**120**	J	< 1100		< 1200		< 1200		< 1100		**1100**		< 1200		< 1100		< 1100		< 1100		< 1100	
Acenaphthylene	NLE	NLE	NLE	--	< 1100		**380**	J	**890**	J	< 1100		< 1200		**120**	J	< 1100		**1100**		< 1200		< 1100		< 1100		< 1100		< 1100	
Acenaphthene	340,000	3,300,000	410	--	< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		**240**	J	< 1200		< 1100		< 1100		< 1100		< 1100	
Dibenzofuran	7,800	100,000	11	--	< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		**110**	J	< 1200		< 1100		< 1100		< 1100		< 1100	
Diethylphthalate	4,900,000	49,000,000	470	--	< 1100		< 1100		< 1100		**110**	J	< 1200		< 1200		< 1100		< 1100		**120**	J	< 1100		< 1100		< 1100		< 1100	
Fluorene	230,000	2,200,000	400	--	< 1100		**270**	J	< 1100		< 1100		< 1200		**140**	J	< 1100		**1000**	J	< 1200		< 1100		< 1100		< 1100		< 1100	
Phenanthrene	NLE	NLE	NLE	--	< 1100		**1900**		**680**	J	< 1100		< 1200		< 1200		< 1100		**8400**		< 1200		**220**	J	< 1100		**300**	J	**300**	J
Anthracene	1,700,000	17,000,000	4200	--	< 1100		**300**	J	**290**	J	< 1100		< 1200		< 1200		< 1100		**1000**	J	< 1200		< 1100		< 1100		< 1100		< 1100	
Di-n-butylphthalate	610,000	6,200,000	170	--	**660**	JB	**370**	JB	**830**	JB	**1400**	B	**400**	JB	**1600**	B	**2700**	B	**1700**	B	**31000**	BD	**3700**	B	**1400**	B	**380**	JB	**470**	JB
Fluoranthene	230,000	2,200,000	7,000	--	< 1100		**1600**		**790**	J	**150**	J	**130**	J	**220**	J	**120**	J	**4300**		< 1200		**290**	J	< 1100		**250**	J	**130**	J
Pyrene	170,000	1,700,000	950	--	< 1100		**2200**		**1300**		**150**	J	**130**	J	**300**	J	**150**	J	**6600**		< 1200		**250**	J	< 1100		**360**	J	**220**	J
Benzo[a]anthracene	150	2,100	10	--	< 1100		**880**	J	**660**	J	< 1100		< 1200		**170**	J	< 1100		**2400**		< 1200		**130**	J	< 1100		**150**	J	< 1100	
Chrysene	15,000	210,000	1,100	--	< 1100		**1200**		**990**	J	< 1100		< 1200		**240**	J	**130**	J	**3600**		< 1200		**160**	J	< 1100		**240**	J	< 1100	
bis(2-Ethylhexyl)phthalate	35,000	120,000	1,100	--	**230**	JB	**110**	JB	**160**	JB	**130**	JB	< 1200		**170**	JB	**110**	JB	**130**	JB	**120**	JB	**130**	JB	**150**	JB	**140**	JB	< 1100	
Benzo[b]fluoranthene	150	2,100	35	--	< 1100		**720**	J	**620**	J	< 1100		< 1200		**180**	J	< 1100		**1200**		< 1200		**120**	J	< 1100		< 1100		< 1100	
Benzo[k]fluoranthene	1,500	21,000	350	--	< 1100		**610**	J	**730**	J	< 1100		< 1200		**200**	J	< 1100		**1600**		< 1200		**180**	J	< 1100		**170**	J	< 1100	
Benzo[a]pyrene	15	210	4	--	< 1100		**830**	J	**1000**	J	< 1100		< 1200		**270**	J	< 1100		**2000**		< 1200		**110**	J	**240**	J	**140**	J	< 1100	
Indeno[1,2,3-cd]pyrene	150	2,100	200	--	< 1100		**270**	J	**380**	J	< 1100		< 1200		**130**	J	< 1100		**630**	J	< 1200		< 1100		< 1100		< 1100		< 1100	
Dibenz[a,h]anthracene	15	210	11	--	< 1100		**110**	J	**140**	J	< 1100		< 1200		< 1200		< 1100		**630**	J	< 1200		< 1100		< 1100		< 1100		< 1100	
Benzo[g,h,i]perylene	NLE	NLE	NLE	--	< 1100		**340**	J	**660**	J	< 1100		< 1200		**210**	J	< 1100		**990**	J	< 1200		< 1100		< 1100		< 1100		< 1100	
TICs	NLE	NLE	NLE	--	**6900**		**12390**		**4930**		**6700**		**5700**		**7900**		**8300**		**25600**		**8400**		**10000**		ND		**5000**		**5900**	
Pesticides/PCBs (mg/kg)																														
4,4'-DDE	1.4	5.1	0.05	--	**0.237**		**0.054**		**0.027**		**0.253**		**0.031**		**0.01**		**0.021**		**0.026**		**0.012**		**0.024**		**0.013**		**0.06**		**0.009**	
Dieldrin	0.03	0.11	0.000061	--	< 0.0006		**0.001**		< 0.0006		< 0.0005		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		**0.001**		< 0.0006		< 0.0006		< 0.0006	
4,4'-DDD	2	7.2	0.01	--	**0.017**		**0.054**		**0.022**		**0.031**		**0.051**		**0.013**		**0.028**		**0.048**		**0.014**		**0.027**		**0.014**		**0.169**		**0.011**	
Endrin Aldehyde	NLE	NLE	NLE	--	< 0.0006		< 0.0005		< 0.0006		< 0.0005		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006	
4,4'-DDT	1.7	7	0.07	--	**0.113**		**0.106**		**0.109**		**0.273**		**0.028**		**0.017**		**0.069**		**0.046**		**0.014**		**0.055**		**0.008**		**0.173**		**0.015**	
gamma-Chlordane	1.6	6.5	0.013	--	< 0.0006		**0.002**		**0.003**		**0.002**		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		**0.003**		< 0.0006	
alpha-Chlordane	1.6	6.5	0.013	--	< 0.0006		**0.001**		**0.001**		< 0.0005		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		**0.001**		< 0.0006	

TABLE 4.2
SOIL SAMPLING SUMMARY RESULTS - COMPARISION TO USEPA CRITERIA
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	USEPA RSL Residential (HQ=0.1)[1]	USEPA RSL Industrial (HQ=0.1)	USEPA RSL Groundwater Protection (Risk-based)	Weston Background [2]	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9	B-10	B-11	B-12	B-13
Sample Date					12/23/98	12/23/98	12/23/98	12/23/98	12/23/98	12/23/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98
Metals (mg/kg)																	
Aluminum	7,700	99,000	2300	15,200	**10200**	**10600**	**7420**	**11500**	**11700**	**11900**	**11700**	**10800**	**10200**	**10000**	**6820**	**8430**	**5870**
Antimony	3.1	41	0.03	ND	**1.03**	**1.17**	**0.633**	**0.395**	**0.798**	**0.569**	**0.57**	**0.482**	**0.623**	**0.661**	**0.675**	**0.863**	< 0.464
Arsenic	0.61	2.4	0.0013	22.9	**9.97**	**9.39**	**6.7**	**18.2**	**14.5**	**13.7**	**12.5**	**9.96**	**12.3**	**11.2**	**10.3**	**12**	**10.8**
Barium	1,500	19,000	12	32.3	**34.9**	**52.3**	**30.1**	**30.5**	**71.9**	**87.6**	**83.3**	**65.4**	**85.1**	**78.3**	**58.4**	**77.3**	**66.3**
Beryllium	16	200	1.3	2	**1.07**	**1.37**	**1.11**	**1.04**	**1.65**	**1.89**	**1.9**	**1.36**	**1.76**	**1.5**	**1.36**	**1.17**	**0.952**
Cadmium	7	80	0.05	ND	**0.632**	**1.22**	**0.47**	**0.625**	**0.711**	**0.873**	**0.778**	**0.74**	**0.983**	**0.534**	**0.809**	**0.394**	**0.381**
Calcium	NLE	NLE	NLE	921	**518**	**1640**	**1590**	**697**	**1320**	**8190**	**5240**	**3890**	**4520**	**5320**	**3420**	**5300**	**4910**
Chromium	12,000	150,000	2,800,000	269	**94.2**	**95**	**99.2**	**89.3**	**169**	**179**	**211**	**140**	**190**	**165**	**107**	**129**	**99.6**
Cobalt	2.3	30	0.02	2.5	**4.74**	**3.25**	**2.62**	**1.99**	**1.98**	**2.58**	**1.59**	**1.94**	**1.45**	**1.8**	**1.91**	**1.3**	**0.826**
Copper	310	4,100	2.2	8	**3.53**	**15.5**	**14.2**	**5.58**	**7.72**	**7.43**	**6.79**	**14**	**8.04**	**6.37**	**6.89**	**6.83**	**6.28**
Iron	5500	72,000	27	55,800	**48200**	**30900**	**24100**	**30900**	**39800**	**38400**	**45100**	**31500**	**40500**	**36600**	**24600**	**29300**	**23800**
Lead	400	800	NLE	19.5	**11**	**45.8**	**39.3**	**16.9**	**21.1**	**11.7**	**10**	**40.3**	**7.23**	**12.1**	**17.5**	**23.6**	**10.7**
Magnesium	NLE	NLE	NLE	7,230	**1200**	**3190**	**3150**	**3160**	**4950**	**5370**	**6280**	**3940**	**5670**	**4810**	**2930**	**3420**	**2800**
Manganese	180	2,300	2.1	90.7	**150**	**61**	**48.7**	**51.8**	**27.8**	**54.5**	**28.9**	**29.5**	**33.6**	**27.6**	**21.5**	**26.9**	**17.1**
Mercury	1	4.3	0.0033	ND	**0.05**	**0.11**	**0.11**	**0.12**	**0.12**	**0.07**	**0.06**	**0.1**	**0.06**	**0.05**	**0.07**	**0.09**	**0.03**
Nickel	150	2000	2	8.4	**15.8**	**11.3**	**6.74**	**6.91**	**8.58**	**13.2**	**7.55**	**8.55**	**8.06**	**6.58**	**9.54**	**5.47**	**4.88**
Potassium	NLE	NLE	NLE	15,400	**2180**	**6600**	**6620**	**6610**	**11100**	**16400**	**14700**	**8470**	**13300**	**11400**	**6680**	**7820**	**6240**
Selenium	39	510	0.04	1.9	< 0.604	**0.762**	**1.28**	< 0.513	**2.19**	**2.18**	**1.39**	**1.49**	**1.88**	**1.71**	**1.83**	**1.72**	**2.08**
Silver	39	510	0.06	1.1	< 0.604	< 0.635	< 0.655	< 0.513	< 0.644	< 0.701	< 0.659	< 0.650	< 0.560	< 0.712	< 0.684	< 0.724	< 0.696
Sodium	NLE	NLE	NLE	51.6	**310**	**155**	**228**	**96.7**	**157**	**360**	**167**	**229**	**496**	**257**	**556**	**132**	**451**
Thallium	0.08	1	0.0011	ND	< 0.604	< 0.638	< 0.655	< 0.513	< 0.644	< 0.701	< 0.659	< 0.650	< 0.560	< 0.712	< 0.684	< 0.724	< 0.696
Vanadium	39	510	6.3	94.1	**138**	**56**	**47.3**	**58.9**	**82.1**	**77.1**	**82.8**	**66.3**	**76.4**	**71.2**	**44.7**	**58.7**	**38.1**
Zinc	2,300	31,000	29	81.4	**84.2**	**103**	**58**	**71.9**	**68.9**	**78.5**	**75.9**	**60.1**	**61.2**	**60.3**	**53.1**	**42.7**	**41.1**

Notes:

(1) U.S. Environmental Protection Agency, Regional Screening Levels (RSLs). Residential Soil (TR=1E-06, HQ = 0.1). (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm). Revised November 2013.

(2) Weston, 1995. Final Site Investigation - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December

µg/kg = micrograms per kilogram; mg/kg = milligrams per kilogram.

USEPA RSL for Chromium III is used for Chromium

Dash (--) = only background concentrations for metals are being used as comparison criteria.

RSL values were current at the time the screening was conducted.

B = Analyte detected in both sample and associated laboratory blank.

D = Result from dilution of sample.

DUP = field duplicate sample.

E = Estimated value.

J = Analyte detected between MDL and practical quantitation limit (PQL).

NA = not analyzed.

ND = not detected.

NLE = No limit established.

< = analyte not detected above method detection limit (MDL).

µg/kg = micrograms per kilogram.

mg/kg = milligrams per kilogram.

VOCs = volatile organic compounds.

in = inches.

bgs = below ground surface.

Detections are bolded

Shaded cells = concentration exceeds USEPA Groundwater Protection RSL.

Shaded cells = concentration exceeds USEPA Residential and/or Industrial RSL.

Shaded cells = concentration exceeds all three USEPA comparison criteria.

Shaded cells = concentration exceeds Weston (1995) background concentration.

TABLE 4.2
SOIL SAMPLING SUMMARY RESULTS - COMPARISION TO USEPA CRITERIA
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	USEPA RSL Residential (HQ=0.1)[1]	USEPA RSL Industrial (HQ=0.1)	USEPA RSL Groundwater Protection (Risk-based)	Weston Background [2]	B-14		B-15		B-16		B-17		B-18		B-19		B-20		B-21		B-22		B-22 Dup		B-23		B-24		B-25		B-26	
Sample Date					12/28/98		12/28/98		12/28/98		12/28/98		12/28/98		12/28/98		12/29/98		12/29/98		12/29/98		12/29/98		12/29/98		12/29/98		12/29/98		12/29/98	
Volatile Organic Compounds (µg/kg)																																
Lab Sample ID (VOCs only collected 24 in. bgs)					4159.17		4159.19		4159.21		4159.23		4159.25		4159.27		4160.03		4160.05		4160.07		4160.23		4160.09		4160.11		4160.13		4160.15	
Acetone	6,100,000	63,000,000	240	--	< 580		< 610		< 570		< 590		< 590		< 580		< 580		< 600		<560		< 600		< 580		< 590		< 600		< 570	
Methylene Chloride	36,000	310,000	2.2	--	< 580		< 610		< 570		**720**		< 590		< 580		< 580		< 600		< 560		**360**		< 580		**360**	J	< 600		< 570	
Benzene	1,100	5,400	0.2	--	< 290		< 300		< 280		< 290		< 290		< 290		< 290		< 300		< 280		< 300		< 290		< 290		< 300		< 280	
Toluene	500,000	4,500,000	59	--	< 290		< 300		< 280		< 290		< 290		< 290		< 290		< 300		< 280		< 300		< 290		< 290		< 300		< 280	
TICs	NLE	NLE	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Semi-Volatile Organic																																
Lab Sample ID (All analysis except VOCs - collected 0 to 12 in. bgs)					4159.16		4159.18		4159.20		4159.22		4159.24		4159.26		4160.02		4160.04		4160.06		4160.22		4160.08		4160.10		4160.12		4160.14	
Aniline	43,000	300,000	3.7	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100	
Naphthalene	3,600	18,000	0.47	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100	
2-Methylnaphthalene	23,000	220,000	14	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100	
Acenaphthylene	NLE	NLE	NLE	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		**230**	J	< 1200		< 1200		< 1100		< 1100		**120**	J	< 1100	
Acenaphthene	340,000	3,300,000	410	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100	
Dibenzofuran	7,800	100,000	11	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100	
Diethylphthalate	4,900,000	49,000,000	470	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100	
Fluorene	230,000	2,200,000	400	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100	
Phenanthrene	NLE	NLE	NLE	--	< 1100		< 1200		**430**	J	< 1100		**130**	J	**370**	J	< 1100		**300**	J	< 1200		< 1200		**140**	J	< 1100		**210**	J	< 1100	
Anthracene	1,700,000	17,000,000	4200	--	< 1100		< 1200		< 1100		< 1100		**130**	J	< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100		**230**	J	< 1100	
Di-n-butylphthalate	610,000	6,200,000	170	--	**1400**	B	**1000**	JB	**2300**	B	**890**	JB	**480**	JB	**250**	JB	**300**	JB	**370**	JB	**920**	JB	**1300**	B	**1200**	B	**980**	JB	**1100**	B	**1500**	B
Fluoranthene	230,000	2,200,000	7,000	--	< 1100		**170**	J	**290**	J	< 1100		**160**	J	**260**	J	< 1100		**430**	J	< 1200		< 1200		**180**	J	< 1100		**630**	J	< 1100	
Pyrene	170,000	1,700,000	950	--	< 1100		**180**	J	**440**	J	< 1100		**180**	J	**370**	J	< 1100		**630**	J	< 1200		< 1200		**230**	J	< 1100		**840**	J	< 1100	
Benzo[a]anthracene	150	2,100	10	--	< 1100		< 1200		**170**	J	< 1100		< 1100		**140**	J	< 1100		**440**	J	< 1200		< 1200		< 1100		< 1100		**1000**	J	< 1100	
Chrysene	15,000	210,000	1,100	--	< 1100		< 1200		**260**	J	< 1100		**130**	J	**210**	J	< 1100		**920**	J	< 1200		**120**	J	**200**	J	< 1100		**1800**		< 1100	
bis(2-Ethylhexyl)phthalate	35,000	120,000	1,100	--	**120**	JB	< 1200		< 1100		**150**	JB	**140**	JB	< 1100		< 1100		< 1100		< 1200		**120**	J	**110**	J	< 1100		**110**	J	< 1100	
Benzo[b]fluoranthene	150	2,100	35	--	< 1100		< 1200		**150**	J	< 1100		< 1100		< 1100		< 1100		**380**	J	< 1200		< 1200		< 1100		< 1100		**1200**		< 1100	
Benzo[k]fluoranthene	1,500	21,000	350	--	< 1100		< 1200		**170**	J	< 1100		**110**	J	**140**	J	< 1100		**510**	J	< 1200		< 1200		**110**	J	< 1100		**1300**		< 1100	
Benzo[a]pyrene	15	210	4	--	< 1100		< 1200		**150**	J	< 1100		< 1100		**120**	J	< 1100		**560**	J	< 1200		< 1200		**110**	J	< 1100		**910**	J	< 1100	
Indeno[1,2,3-cd]pyrene	150	2,100	200	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		**280**	J	< 1200		< 1200		< 1100		< 1100		**550**	J	< 1100	
Dibenz[a,h]anthracene	15	210	11	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		**150**	J	< 1200		< 1200		< 1100		< 1100		**210**	J	< 1100	
Benzo[g,h,i]perylene	NLE	NLE	NLE	--	< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		**330**	J	< 1200		< 1200		< 1100		< 1100		**480**	J	< 1100	
TICs	NLE	NLE	NLE	--	**7100**		**4960**		**3200**		**3000**		**2600**		ND		**16860**		**37120**		**53200**		**64920**		**32900**		**27370**		**60270**		**27670**	
Pesticides/PCBs (mg/kg)																																
4,4'-DDE	1.4	5.1	0.05	--	**0.008**		**0.025**		**0.039**		**0.014**		**0.067**		**0.061**		**0.023**		**0.065**		**0.021**		**0.013**		**0.023**		**0.012**		**0.013**		**0.02**	
Dieldrin	0.03	0.11	0.000061	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006	
4,4'-DDD	2	7.2	0.01	--	**0.011**		**0.066**		**0.047**		**0.018**		**0.119**		**0.088**		**0.031**		**0.07**		**0.03**		**0.018**		**0.041**		**0.016**		**0.012**		**0.044**	
Endrin Aldehyde	NLE	NLE	NLE	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006	
4,4'-DDT	1.7	7	0.07	--	**0.012**		**0.108**		**0.088**		**0.026**		**0.097**		**0.065**		**0.072**		**0.157**		**0.03**		**0.022**		**0.026**		**0.025**		**0.034**		**0.079**	
gamma-Chlordane	1.6	6.5	0.013	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006	
alpha-Chlordane	1.6	6.5	0.013	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006	

TABLE 4.2
SOIL SAMPLING SUMMARY RESULTS - COMPARISION TO USEPA CRITERIA
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	USEPA RSL Residential (HQ=0.1)[1]	USEPA RSL Industrial (HQ=0.1)	USEPA RSL Groundwater Protection (Risk-based)	Weston Background [2]	B-14	B-15	B-16	B-17	B-18	B-19	B-20	B-21	B-22	B-22 Dup	B-23	B-24	B-25	B-26
Sample Date					12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98
Metals (mg/kg)																		
Aluminum	7,700	99,000	2300	15,200	**9250**	**4610**	**5610**	**6090**	**11100**	**7600**	**10000**	**7330**	**7110**	**9740**	**9400**	**10000**	**6970**	**7970**
Antimony	3.1	41	0.03	ND	**0.619**	**0.612**	**0.643**	**0.604**	**1.01**	**1.67**	**0.755**	**0.895**	**0.728**	**0.832**	**0.929**	**0.801**	**1.24**	**0.854**
Arsenic	0.61	2.4	0.0013	22.9	**12.2**	**7.57**	**9.56**	**6.3**	**8.28**	**5.82**	**12.9**	**8.97**	**11.8**	**13.4**	**13.4**	**9.39**	**6.02**	**11.2**
Barium	1,500	19,000	12	32.3	**68.6**	**48.9**	**64.1**	**49.9**	**60.8**	**43.3**	**65.5**	**54.5**	**69.4**	**89.5**	**84.2**	**70.4**	**42.1**	**77.4**
Beryllium	16	200	1.3	2	**1.24**	**0.825**	**1.02**	**1.02**	**1.32**	**1.1**	**2.04**	**1.15**	**1.2**	**1.55**	**1.5**	**1.43**	**0.908**	**1.3**
Cadmium	7	80	0.05	ND	**0.519**	**0.332**	**0.548**	**0.486**	**6.29**	**0.453**	**0.799**	**0.448**	**0.672**	**0.85**	**0.782**	**1.11**	**0.474**	**0.518**
Calcium	NLE	NLE	NLE	921	**1070**	**3020**	**4580**	**2840**	**2170**	**1600**	**8010**	**999**	**5680**	**7500**	**4670**	**3400**	**507**	**3660**
Chromium	12,000	150,000	2,800,000	269	**142**	**63.2**	**95.5**	**100**	**87.9**	**100**	**215**	**110**	**123**	**166**	**152**	**135**	**96.8**	**159**
Cobalt	2.3	30	0.02	2.5	**1.49**	**1.35**	**1.46**	**1.34**	**7.31**	**1.29**	**1.68**	**1.47**	**1.58**	**1.95**	**1.78**	**2.44**	**1.51**	**1.08**
Copper	310	4,100	2.2	8	**8.62**	**10.9**	**6.87**	**4.88**	**78**	**6.07**	**4**	**9.58**	**5.49**	**7.08**	**6.31**	**8.92**	**12**	**5.78**
Iron	5500	72,000	27	55,800	**35700**	**16800**	**25100**	**22900**	**29600**	**20500**	**45100**	**28400**	**27900**	**35000**	**34500**	**30900**	**23100**	**35100**
Lead	400	800	NLE	19.5	**20.1**	**25.6**	**17.1**	**8.62**	**30.2**	**17.9**	**4.9**	**19.3**	**12.6**	**15**	**22.8**	**16.4**	**17.6**	**7.76**
Magnesium	NLE	NLE	NLE	7,230	**3890**	**1450**	**2670**	**2620**	**3000**	**2310**	**5960**	**2660**	**3080**	**3850**	**3950**	**3350**	**2110**	**3990**
Manganese	180	2,300	2.1	90.7	**27.2**	**13.8**	**19.5**	**21.2**	**296**	**18.6**	**23.9**	**18.4**	**20**	**28.5**	**31.2**	**33**	**19.6**	**18.5**
Mercury	1	4.3	0.0033	ND	**0.04**	**0.08**	**0.03**	**0.05**	**0.12**	**0.06**	**0.034**	**0.08**	**0.043**	< 0.022	**0.045**	**0.057**	**0.077**	< 0.023
Nickel	150	2000	2	8.4	**6.63**	**5**	**6.78**	**5.9**	**23.3**	**6.13**	**7.25**	**5.97**	**7.53**	**9.39**	**9.38**	**9.89**	**5.36**	**4.58**
Potassium	NLE	NLE	NLE	15,400	**9260**	**2920**	**7030**	**6140**	**5890**	**5250**	**15400**	**6430**	**7560**	**9660**	**9830**	**8140**	**5000**	**10600**
Selenium	39	510	0.04	1.9	**2.31**	**1.42**	**2.08**	**1.11**	**1.25**	**1.06**	**2.19**	**1.55**	**2.05**	**1.97**	**1.88**	**1.49**	**1.35**	**2.14**
Silver	39	510	0.06	1.1	< 0.769	< 0.658	< 0.622	< 0.689	< 0.692	< 0.564	< 0.676	< 0.717	< 0.695	< 0.703	< 0.753	< 0.584	< 0.737	< 0.609
Sodium	NLE	NLE	NLE	51.6	**359**	**447**	**225**	**89.3**	**211**	**105**	**99.8**	**159**	**165**	**213**	**336**	**373**	**121**	**138**
Thallium	0.08	1	0.0011	ND	< 0.769	< 0.658	< 0.622	< 0.689	< 0.692	< 0.564	< 0.676	< 0.717	< 0.695	< 0.703	< 0.753	< 0.584	< 0.737	< 0.609
Vanadium	39	510	6.3	94.1	**66.2**	**28.8**	**30.7**	**43**	**68.8**	**49.4**	**65.4**	**48.4**	**50.8**	**70.5**	**66.3**	**63.4**	**45.5**	**63.6**
Zinc	2,300	31,000	29	81.4	**56.8**	**39.4**	**63.1**	**43.9**	**113**	**42.5**	**94.1**	**66.8**	**60.4**	**73.7**	**59.7**	**68.2**	**46.3**	**55.2**

Notes:
(1) U.S. Environmental Protection Agency, Regional Screening Levels (RSLs). Residential Soil (TR=1E-06, HQ = 0.1). (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm). Revised November 2013.

(2) Weston, 1995. Final Site Investigation - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December

µg/kg = micrograms per kilogram; mg/kg = milligrams per kilogram.
USEPA RSL for Chromium III is used for Chromium
Dash (--) = only background concentrations for metals are being used as comparison criteria.
RSL values were current at the time the screening was conducted.
B = Analyte detected in both sample and associated laboratory blank.
D = Result from dilution of sample.
DUP = field duplicate sample.
E = Estimated value.
J = Analyte detected between MDL and practical quantitation limit (PQL).
NA = not analyzed.
ND = not detected.
NLE = No limit established.
< = analyte not detected above method detection limit (MDL).
µg/kg = micrograms per kilogram.
mg/kg = milligrams per kilogram.
VOCs = volatile organic compounds.
in = inches.
bgs = below ground surface.
Detections are bolded
Shaded cells = concentration exceeds USEPA Groundwater Protection RSL.
Shaded cells = concentration exceeds USEPA Residential and/or Industrial RSL.
Shaded cells = concentration exceeds all three USEPA comparison criteria.
Shaded cells = concentration exceeds Weston (1995) background concentration.

TABLE 4.2
SOIL SAMPLING SUMMARY RESULTS - COMPARISION TO USEPA CRITERIA
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	USEPA RSL Residential (HQ=0.1)[1]	USEPA RSL Industrial (HQ=0.1)	USEPA RSL Groundwater Protection (Risk-based)	Weston Background [2]	B-27		B-28		B-29		B-30		B-31		B-32		B-33		B-34		B-35		B-36		B-37		B-38		B-39	
Sample Date					12/29/98		12/29/98		12/29/98		12/30/98		12/30/98		12/30/98		12/30/98		12/30/98		12/30/98		12/30/98		12/30/98		12/30/98		12/30/98	
Volatile Organic Compounds (µg/kg)																														
Lab Sample ID (VOCs only collected 24 in. bgs)					4160.17		4160.19		4160.21		4162.03		4162.05		4162.07		4162.09		4162.11		4162.13		4162.15		4162.17		4162.19		4162.21	
Acetone	6,100,000	63,000,000	240	--	< 550		< 560		< 620		< 620		< 580		< 600		< 540		**17000**		< 580		< 610		< 690		< 580		< 560	
Methylene Chloride	36,000	310,000	2.2	--	**370**		**660**		< 620		< 620		< 580		< 600		< 540		**17000**		< 580		< 610		< 690		< 580		< 560	
Benzene	1,100	5,400	0.2	--	< 270		< 280		< 310		< 310		< 290		< 300		< 270		< 320		< 290		< 310		< 340		< 290		< 280	
Toluene	500,000	4,500,000	59	--	< 270		< 280		< 310		< 310		< 290		< 300		< 270		< 320		< 290		< 310		< 340		< 290		< 280	
TICs	NLE	NLE	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Semi-Volatile Organic																														
Lab Sample ID (All analysis except VOCs - collected 0 to 12 in. bgs)					4160.16		4160.18		4160.20		4162.02		4162.04		4162.06		4162.08		4162.10		4162.12		4162.14		4162.16		4162.18		4162.20	
Aniline	43,000	300,000	3.7	--	< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200	
Naphthalene	3,600	18,000	0.47	--	< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200	
2-Methylnaphthalene	23,000	220,000	14	--	< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200	
Acenaphthylene	NLE	NLE	NLE	--	< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200	
Acenaphthene	340,000	3,300,000	410	--	< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200	
Dibenzofuran	7,800	100,000	11	--	< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200	
Diethylphthalate	4,900,000	49,000,000	470	--	< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200	
Fluorene	230,000	2,200,000	400	--	< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200	
Phenanthrene	NLE	NLE	NLE	--	**210**	J	**130**	J	< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		**150**	J
Anthracene	1,700,000	17,000,000	4200	--	< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200	
Di-n-butylphthalate	610,000	6,200,000	170	--	**890**	JB	**320**	JB	**760**	JB	**750**	JB	**240**	JB	**310**	JB	**1500**	B	**800**	JB	**300**	JB	**330**	JB	**850**	JB	**900**	JB	**350**	JB
Fluoranthene	230,000	2,200,000	7,000	--	**270**	J	< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		**120**	J	**220**	J
Pyrene	170,000	1,700,000	950	--	**320**	J	**130**	J	< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		**130**	J	**220**	J
Benzo[a]anthracene	150	2,100	10	--	**140**	J	< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200	
Chrysene	15,000	210,000	1,100	--	**260**	J	< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		**170**	J
bis(2-Ethylhexyl)phthalate	35,000	120,000	1,100	--	< 1100		< 1100		**110**	J	< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200	
Benzo[b]fluoranthene	150	2,100	35	--	**120**	J	< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		**150**	J
Benzo[k]fluoranthene	1,500	21,000	350	--	**160**	J	< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		**140**	J
Benzo[a]pyrene	15	210	4	--	**140**	J	< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		**130**	J
Indeno[1,2,3-cd]pyrene	150	2,100	200	--	< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200	
Dibenz[a,h]anthracene	15	210	11	--	< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200	
Benzo[g,h,i]perylene	NLE	NLE	NLE	--	< 1100		< 1100		< 1100		< 1200		< 1100		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200	
TICs	NLE	NLE	NLE	--	**21000**		**16530**		**18900**		**3130**		**1900**		**2300**		**3400**		**2170**		**2500**		**2300**		**3700**		**4100**		**2800**	
Pesticides/PCBs (mg/kg)																														
4,4'-DDE	1.4	5.1	0.05	--	**0.029**		**0.015**		**0.006**		**0.045**		**0.053**		**0.062**		**0.068**		**0.044**		**0.025**		**0.054**		**0.038**		**0.032**		**0.03**	
Dieldrin	0.03	0.11	0.000061	--	< 0.0006		< 0.0006		< 0.0006		< 0.0113		< 0.0115		< 0.0114		< 0.0106		< 0.0109		< 0.0111		< 0.0114		< 0.0113		< 0.0111		< 0.0115	
4,4'-DDD	2	7.2	0.01	--	**0.055**		**0.024**		**0.007**		**0.084**		**0.099**		**0.117**		**0.354**		**0.049**		**0.033**		**0.081**		**0.061**		**0.043**		**0.042**	
Endrin Aldehyde	NLE	NLE	NLE	--	< 0.0006		< 0.0006		< 0.0006		< 0.0113		< 0.0115		< 0.0114		< 0.0106		< 0.0109		< 0.0111		< 0.0114		< 0.0113		< 0.0111		< 0.0115	
4,4'-DDT	1.7	7	0.07	--	**0.033**		**0.026**		**0.027**		**0.053**		**0.117**		**0.171**		**4.095**		**0.098**		**0.057**		**0.108**		**0.063**		**0.067**		**0.138**	
gamma-Chlordane	1.6	6.5	0.013	--	< 0.0006		< 0.0006		< 0.0006		< 0.0113		< 0.0115		< 0.0114		< 0.0106		< 0.0109		< 0.0111		< 0.0114		< 0.0113		< 0.0111		< 0.0115	
alpha-Chlordane	1.6	6.5	0.013	--	< 0.0006		< 0.0006		< 0.0006		< 0.0113		< 0.0115		< 0.0114		< 0.0106		< 0.0109		< 0.0111		< 0.0114		< 0.0113		< 0.0111		< 0.0115	

TABLE 4.2
SOIL SAMPLING SUMMARY RESULTS - COMPARISION TO USEPA CRITERIA
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	USEPA RSL Residential (HQ=0.1)(1)	USEPA RSL Industrial (HQ=0.1)	USEPA RSL Groundwater Protection (Risk-based)	Weston Background (2)	B-27	B-28	B-29	B-30	B-31	B-32	B-33	B-34	B-35	B-36	B-37	B-38	B-39
Sample Date					12/29/98	12/29/98	12/29/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98
Metals (mg/kg)																	
Aluminum	7,700	99,000	2300	15,200	**5250**	**7640**	**7360**	**10400**	**9010**	**8600**	**9570**	**6450**	**9220**	**4630**	**8380**	**4550**	**4090**
Antimony	3.1	41	0.03	ND	**0.763**	**0.827**	**0.984**	**1.27**	**1.03**	**1.14**	**0.882**	**1.07**	**0.898**	**1.97**	**1.31**	**0.99**	**0.783**
Arsenic	0.61	2.4	0.0013	22.9	**7.21**	**168**	**9.69**	**19.9**	**11.8**	**9.51**	**15.5**	**10**	**12.4**	**8.87**	**14.5**	**11.6**	**9.61**
Barium	1,500	19,000	12	32.3	**65.4**	**73.2**	**55**	**70.7**	**82.8**	**58.1**	**68.1**	**44.7**	**86.4**	**64.5**	**90.4**	**60.9**	**72.5**
Beryllium	16	200	1.3	2	**1.07**	**1.23**	**1.32**	**1.43**	**1.59**	**1.31**	**1.51**	**1.25**	**1.51**	**1.28**	**1.56**	**0.872**	**0.831**
Cadmium	7	80	0.05	ND	**0.739**	**0.742**	**0.461**	**0.789**	**0.761**	**0.528**	**0.698**	**0.75**	**0.625**	**1.33**	**0.706**	**0.351**	**0.428**
Calcium	NLE	NLE	NLE	921	**5300**	**6360**	**1050**	**6460**	**5550**	**2300**	**943**	**983**	**4120**	**1910**	**3490**	**914**	**4090**
Chromium	12,000	150,000	2,800,000	269	**85.2**	**143**	**149**	**184**	**177**	**144**	**172**	**103**	**176**	**67.9**	**166**	**84.9**	**68.8**
Cobalt	2.3	30	0.02	2.5	**3.05**	**1.47**	**1.33**	**1.36**	**1.23**	**1.5**	**1.52**	**1.52**	**1.62**	**15**	**1.36**	**1.29**	**1.46**
Copper	310	4,100	2.2	8	**3.93**	**5.7**	**5.47**	**5.6**	**5.22**	**4.9**	**6.69**	**9.31**	**7.07**	**15.4**	**5.86**	**6.86**	**6.04**
Iron	5500	72,000	27	55,800	**19000**	**37900**	**31600**	**42100**	**38600**	**32700**	**38300**	**25600**	**38000**	**17900**	**37800**	**23000**	**18800**
Lead	400	800	NLE	19.5	**6.11**	**11.4**	**7.14**	**13.2**	**11.7**	**10.9**	**12.4**	**28.4**	**11.4**	**24.9**	**13.3**	**16.2**	**13.9**
Magnesium	NLE	NLE	NLE	7,230	**2160**	**3620**	**3480**	**4280**	**4580**	**3480**	**4170**	**2130**	**4170**	**1360**	**3870**	**1800**	**1470**
Manganese	180	2,300	2.1	90.7	**40.9**	**24.6**	**19**	**26.1**	**23.8**	**22.3**	**26.7**	**26.5**	**23.9**	**171**	**21.9**	**15.2**	**17.9**
Mercury	1	4.3	0.0033	ND	< 0.022	< 0.023	< 0.022	**0.07**	**0.02**	**0.03**	**0.11**	**0.07**	**0.05**	**0.04**	**0.04**	**0.05**	**0.07**
Nickel	150	2000	2	8.4	**10.2**	**6.76**	**5.94**	**6.2**	**7.44**	**5.95**	**6.88**	**8.18**	**6.05**	**10.9**	**5.21**	**4.8**	**4.99**
Potassium	NLE	NLE	NLE	15,400	**5200**	**10200**	**8740**	**11200**	**11800**	**9250**	**10900**	**5520**	**11300**	**3430**	**10800**	**4960**	**4090**
Selenium	39	510	0.04	1.9	**1.13**	**2.18**	**2.31**	**2.39**	**2.24**	**1.45**	**2.16**	**1.52**	**2.21**	**1.75**	**2.4**	**1.98**	**1.86**
Silver	39	510	0.06	1.1	< 0.680	< 0.713	< 0.783	< 0.681	< 0.752	< 0.710	< 0.627	< 0.714	< 0.734	< 0.770	< 0.617	< 0.747	< 0.629
Sodium	NLE	NLE	NLE	51.6	**135**	**304**	**112**	**93.2**	**146**	**118**	**71**	**35.2**	**53**	**65.9**	**67.7**	**66.4**	**86.7**
Thallium	0.08	1	0.0011	ND	< 0.680	< 0.713	< 0.783	< 0.681	< 0.752	< 0.710	< 0.627	< 0.714	< 0.734	< 0.770	< 0.617	< 0.747	< 0.629
Vanadium	39	510	6.3	94.1	**38.4**	**61.9**	**59.3**	**74.6**	**72.1**	**59.7**	**71.5**	**47.3**	**70.7**	**30.2**	**54.7**	**29.6**	**25.5**
Zinc	2,300	31,000	29	81.4	**56.5**	**46**	**49.2**	**59.2**	**52.9**	**49.7**	**63.5**	**78.8**	**60.6**	**92.5**	**64.7**	**38**	**45**

Notes:
(1) U.S. Environmental Protection Agency, Regional Screening Levels (RSLs). Residential Soil (TR=1E-06, HQ = 0.1). (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm). Revised November 2013.

(2) Weston, 1995. Final Site Investigation - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December

µg/kg = micrograms per kilogram; mg/kg = milligrams per kilogram.
USEPA RSL for Chromium III is used for Chromium
Dash (--) = only background concentrations for metals are being used as comparison criteria.
RSL values were current at the time the screening was conducted.
B = Analyte detected in both sample and associated laboratory blank.
D = Result from dilution of sample.
DUP = field duplicate sample.
E = Estimated value.
J = Analyte detected between MDL and practical quantitation limit (PQL).
NA = not analyzed.
ND = not detected.
NLE = No limit established.
< = analyte not detected above method detection limit (MDL).
µg/kg = micrograms per kilogram.
mg/kg = milligrams per kilogram.
VOCs = volatile organic compounds.
in = inches.
bgs = below ground surface.
Detections are bolded
Shaded cells = concentration exceeds USEPA Groundwater Protection RSL.
Shaded cells = concentration exceeds USEPA Residential and/or Industrial RSL.
Shaded cells = concentration exceeds all three USEPA comparison criteria.
Shaded cells = concentration exceeds Weston (1995) background concentration.

TABLE 4.2
SOIL SAMPLING SUMMARY RESULTS - COMPARISION TO USEPA CRITERIA
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	USEPA RSL Residential (HQ=0.1)(1)	USEPA RSL Industrial (HQ=0.1)	USEPA RSL Groundwater Protection (Risk-based)	Weston Background (2)	B-40		B-41		B-42		B-43		B-44		B-45		B-46		B-47		B-48		B-49		B-50		B-51		B-51 Dup		B-52	
Sample Date					12/30/98		12/30/98		12/30/98		12/30/98		12/30/98		12/31/98		12/31/98		12/31/98		12/31/98		12/31/98		12/31/98		12/31/98		12/31/98		12/31/98	
Volatile Organic Compounds (µg/kg)																																
Lab Sample ID (VOCs only collected 24 in. bgs)					4162.23		4162.25		4162.27		4162.29		4162.31		4164.03		4164.05		4164.07		4164.09		4164.11		4164.13		4164.15		4164.21		4164.17	
Acetone	6,100,000	63,000,000	240	--	< 570		< 580		< 600		< 610		< 570		< 600		< 570		< 580		< 660		< 600		< 610		< 620		< 560		< 560	
Methylene Chloride	36,000	310,000	2.2	--	< 570		< 580		< 600		< 610		< 570		< 600		< 570		< 580		< 660		< 600		< 610		< 620		< 560		< 560	
Benzene	1,100	5,400	0.2	--	< 280		< 290		< 300		< 300		< 280		< 300		< 280		< 290		< 330		< 300		< 300		< 310		< 280		**300**	
Toluene	500,000	4,500,000	59	--	< 280		< 290		< 300		< 300		< 280		< 300		< 280		< 290		< 330		< 300		< 300		< 310		< 280		< 280	
TICs	NLE	NLE	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Semi-Volatile Organic																																
Lab Sample ID (All analysis except VOCs - collected 0 to 12 in. bgs)					4162.22		4162.24		4162.26		4162.28		4162.30		4164.02		4164.04		4164.06		4164.08		4164.10		4164.12		4164.14		4164.20		4164.16	
Aniline	43,000	300,000	3.7	--	< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Naphthalene	3,600	18,000	0.47	--	< 1200		< 1200		< 1200		**160**	J	< 1200		< 1100		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
2-Methylnaphthalene	23,000	220,000	14	--	< 1200		< 1200		< 1200		**140**	J	< 1200		< 1100		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Acenaphthylene	NLE	NLE	NLE	--	< 1200		< 1200		< 1200		**200**	J	< 1200		< 1100		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Acenaphthene	340,000	3,300,000	410	--	< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Dibenzofuran	7,800	100,000	11	--	< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Diethylphthalate	4,900,000	49,000,000	470	--	< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Fluorene	230,000	2,200,000	400	--	< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Phenanthrene	NLE	NLE	NLE	--	< 1200		**140**	J	< 1200		**640**	J	< 1200		**140**	J	**210**	J	< 1200		**120**	J	< 1200		< 1100		< 1200		< 1200		< 1200	
Anthracene	1,700,000	17,000,000	4200	--	< 1200		< 1200		< 1200		**140**	J	< 1200		< 1100		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Di-n-butylphthalate	610,000	6,200,000	170	--	**820**	JB	**380**	JB	**440**	JB	**1100**	JB	**1600**	B	**1000**	JB	**450**	JB	**390**	JB	**1100**	JB	**1200**	B	**2200**	B	**1000**	JB	**330**	JB	**1000**	JB
Fluoranthene	230,000	2,200,000	7,000	--	< 1200		**140**	J	< 1200		**420**	J	< 1200		**190**	J	**280**	J	**120**	J	< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Pyrene	170,000	1,700,000	950	--	< 1200		**190**	J	< 1200		**520**	J	< 1200		**220**	J	**310**	J	**150**	J	**130**	J	< 1200		< 1100		< 1200		< 1200		< 1200	
Benzo[a]anthracene	150	2,100	10	--	< 1200		< 1200		< 1200		**260**	J	< 1200		**100**	J	**150**	J	< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Chrysene	15,000	210,000	1,100	--	< 1200		**130**	J	< 1200		**350**	J	< 1200		**140**	J	**210**	J	< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
bis(2-Ethylhexyl)phthalate	35,000	120,000	1,100	--	< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Benzo[b]fluoranthene	150	2,100	35	--	< 1200		< 1200		< 1200		**170**	J	< 1200		< 1100		**130**	J	< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Benzo[k]fluoranthene	1,500	21,000	350	--	< 1200		< 1200		< 1200		**230**	J	< 1200		< 1100		**160**	J	< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Benzo[a]pyrene	15	210	4	--	< 1200		< 1200		< 1200		**240**	J	< 1200		**120**	J	**160**	J	< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Indeno[1,2,3-cd]pyrene	150	2,100	200	--	< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Dibenz[a,h]anthracene	15	210	11	--	< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Benzo[g,h,i]perylene	NLE	NLE	NLE	--	< 1200		< 1200		< 1200		**140**	J	< 1200		< 1100		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
TICs	NLE	NLE	NLE	--	**4800**		**3900**		**3800**		**7100**		**11500**		**5700**		**3500**		**3800**		**3900**		**4700**		**8000**		**3300**		**5100**		**3700**	
Pesticides/PCBs (mg/kg)																																
4,4'-DDE	1.4	5.1	0.05	--	**0.052**		**0.032**		< 0.0094		**0.028**		**0.055**		**0.037**		**0.03**		**0.036**		**0.034**		**0.01**		**0.028**		< 0.0090		**0.01**		< 0.0088	
Dieldrin	0.03	0.11	0.000061	--	< 0.0115		< 0.0116		< 0.0118		< 0.0116		< 0.0115		< 0.0126		< 0.0108		< 0.0115		< 0.0116		< 0.0108		< 0.0110		< 0.0112		< 0.0113		< 0.0110	
4,4'-DDD	2	7.2	0.01	--	**0.077**		**0.043**		< 0.0141		**0.04**		**0.068**		**0.038**		**0.056**		**0.039**		**0.165**		< 0.0130		**0.034**		< 0.0135		< 0.0136		< 0.0133	
Endrin Aldehyde	NLE	NLE	NLE	--	< 0.0115		< 0.0116		< 0.0118		< 0.0116		< 0.0115		< 0.0126		< 0.0108		< 0.0115		< 0.0116		< 0.0108		< 0.0110		< 0.0112		< 0.0113		< 0.0110	
4,4'-DDT	1.7	7	0.07	--	**0.293**		**0.114**		**0.039**		**0.1**		**0.123**		**0.134**		**0.175**		**0.077**		**0.044**		**0.031**		**0.042**		< 0.0247		< 0.0249		< 0.0243	
gamma-Chlordane	1.6	6.5	0.013	--	< 0.0115		< 0.0116		< 0.0118		< 0.0116		< 0.0115		< 0.0126		< 0.0108		< 0.0115		< 0.0116		< 0.0108		< 0.0110		< 0.0112		< 0.0113		< 0.0110	
alpha-Chlordane	1.6	6.5	0.013	--	< 0.0115		< 0.0116		< 0.0118		< 0.0116		< 0.0115		< 0.0126		< 0.0108		< 0.0115		< 0.0116		< 0.0108		< 0.0110		< 0.0112		< 0.0113		< 0.0110	

TABLE 4.2
SOIL SAMPLING SUMMARY RESULTS - COMPARISION TO USEPA CRITERIA
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	USEPA RSL Residential (HQ=0.1)[1]	USEPA RSL Industrial (HQ=0.1)	USEPA RSL Groundwater Protection (Risk-based)	Weston Background [2]	B-40	B-41	B-42	B-43	B-44	B-45	B-46	B-47	B-48	B-49	B-50	B-51	B-51 Dup	B-52
Sample Date					12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98
Metals (mg/kg)																		
Aluminum	7,700	99,000	2300	15,200	**8650**	**7360**	**9370**	**11000**	**9190**	**7900**	**10300**	**9520**	**5870**	**12000**	**8490**	**10300**	**101000**	**11300**
Antimony	3.1	41	0.03	ND	**1.18**	**0.722**	**0.954**	**0.76**	**1.23**	**1.4**	**1.19**	**0.932**	**1.86**	**1.07**	**0.961**	**0.977**	**1.13**	**0.953**
Arsenic	0.61	2.4	0.0013	22.9	**12.6**	**11.7**	**9.31**	**11.9**	**11.1**	**12.7**	**12.7**	**14.2**	**8.06**	**16.8**	**18.4**	**14.3**	**13**	**26.1**
Barium	1,500	19,000	12	32.3	**70.3**	**70.2**	**56.8**	**120**	**77.4**	**57.3**	**77.4**	**83.1**	**71.4**	**57.7**	**69.4**	**36.1**	**36.3**	**15.9**
Beryllium	16	200	1.3	2	**1.33**	**1.17**	**1.41**	**1.89**	**1.39**	**1.26**	**1.91**	**1.61**	**0.808**	**0.91**	**1.41**	**1.05**	**1.03**	**0.808**
Cadmium	7	80	0.05	ND	**0.704**	**0.551**	**0.632**	**0.953**	**0.704**	**0.747**	**1.47**	**0.701**	**0.587**	**0.804**	**0.735**	**0.918**	**0.739**	**0.558**
Calcium	NLE	NLE	NLE	921	**997**	**1010**	**3680**	**7320**	**1370**	**1350**	**3880**	**7000**	**1210**	**950**	**7200**	**887**	**830**	**600**
Chromium	12,000	150,000	2,800,000	269	**153**	**133**	**179**	**235**	**145**	**140**	**198**	**197**	**20.3**	**110**	**173**	**102**	**99.5**	**86.4**
Cobalt	2.3	30	0.02	2.5	**1.37**	**1.41**	**0.892**	**2.03**	**1.61**	**1.8**	**3.23**	**1.55**	**7.19**	**1.81**	**1.21**	**2.66**	**2.17**	**1.21**
Copper	310	4,100	2.2	8	**8.34**	**6.08**	**5.34**	**6.75**	**5.48**	**7.01**	**6.5**	**4.95**	**44.1**	**27**	**6.42**	**16.4**	**14.5**	**7.28**
Iron	5500	72,000	27	55,800	**34300**	**27800**	**38000**	**42400**	**32900**	**32100**	**40900**	**40400**	**12700**	**27500**	**38900**	**26400**	**26000**	**28600**
Lead	400	800	NLE	19.5	**18.6**	**20.1**	**7.66**	**8.59**	**22.8**	**16**	**19.6**	**7.92**	**19.4**	**32.1**	**10.6**	**39**	**20.8**	**6.43**
Magnesium	NLE	NLE	NLE	7,230	**3380**	**2680**	**4080**	**5070**	**3090**	**2980**	**4200**	**4210**	**263**	**2460**	**3580**	**2300**	**2210**	**2060**
Manganese	180	2,300	2.1	90.7	**23.8**	**19.3**	**23.3**	**42.6**	**28.2**	**44.3**	**43.2**	**25.4**	**69.7**	**77.3**	**20.1**	**28.4**	**23.9**	**24.7**
Mercury	1	4.3	0.0033	ND	**0.06**	**0.07**	**0.04**	**0.03**	**0.06**	**0.06**	**0.049**	**0.044**	**0.048**	**0.048**	**0.047**	**0.042**	**0.056**	**0.033**
Nickel	150	2000	2	8.4	**6.05**	**5.61**	**5.07**	**8.93**	**6.82**	**8.41**	**27.7**	**6.53**	**22.8**	**5.8**	**5.18**	**9.22**	**8.27**	**4.87**
Potassium	NLE	NLE	NLE	15,400	**9200**	**7500**	**11700**	**14300**	**8680**	**8220**	**11900**	**12400**	**677**	**5390**	**11000**	**5580**	**5310**	**3980**
Selenium	39	510	0.04	1.9	**2.19**	**1.81**	**1.83**	**2.59**	**1.82**	**1.72**	**1.91**	**2.24**	**1.75**	**1.04**	**1.74**	**1.13**	**1.25**	**0.99**
Silver	39	510	0.06	1.1	< 0.690	< 0.523	< 0.689	< 0.623	< 0.704	< 0.762	< 0.786	< 0.783	< 0.778	< 0.788	< 0.502	< 0.688	< 0.76	< 0.726
Sodium	NLE	NLE	NLE	51.6	**100**	**55.3**	**138**	**224**	**90.2**	**53**	**107**	**112**	**198**	**100**	**52.4**	**51**	**46.5**	**59.7**
Thallium	0.08	1	0.0011	ND	< 0.690	< 0.523	< 0.689	< 0.623	< 0.704	< 0.762	< 0.786	< 0.783	< 0.778	< 0.788	< 0.502	< 0.688	< 0.76	< 0.726
Vanadium	39	510	6.3	94.1	**62.3**	**46.2**	**64**	**81.3**	**61.9**	**57.8**	**67**	**61.2**	**27.1**	**57.9**	**52**	**53.3**	**49.3**	**50.3**
Zinc	2,300	31,000	29	81.4	**59.6**	**54.7**	**92.8**	**77.7**	**55.3**	**82.3**	**79**	**76.2**	**44.1**	**102**	**75.9**	**56.2**	**62.8**	**34.3**

Notes:
(1) U.S. Environmental Protection Agency, Regional Screening Levels (RSLs). Residential Soil (TR=1E-06, HQ = 0.1). (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm). Revised November 2013.

(2) Weston, 1995. Final Site Investigation - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December

µg/kg = micrograms per kilogram; mg/kg = milligrams per kilogram.
USEPA RSL for Chromium III is used for Chromium
Dash (--) = only background concentrations for metals are being used as comparison criteria.
RSL values were current at the time the screening was conducted.
B = Analyte detected in both sample and associated laboratory blank.
D = Result from dilution of sample.
DUP = field duplicate sample.
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in = inches.
bgs = below ground surface.
Detections are bolded
Shaded cells = concentration exceeds USEPA Groundwater Protection RSL.
Shaded cells = concentration exceeds USEPA Residential and/or Industrial RSL.
Shaded cells = concentration exceeds all three USEPA comparison criteria.
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TABLE 4.2
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SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	USEPA RSL Residential (HQ=0.1)[1]	USEPA RSL Industrial (HQ=0.1)	USEPA RSL Groundwater Protection (Risk-based)	Weston Background [2]	B-53		B-54		B-55		B-56		B-57		B-58		B-59		B-60		B-61		B-62		B-63		B-64		B-65		B-66	
Sample Date					12/31/98		01/05/99		01/05/99		01/05/99		01/05/99		01/05/99		01/05/99		01/05/99		01/05/99		01/05/99		01/05/99		01/05/99		01/05/99		01/05/99	
Volatile Organic Compounds (µg/kg)																																
Lab Sample ID (VOCs only collected 24 in. bgs)					4164.19		4169.03		4169.05		4169.07		4169.09		4169.11		4169.13		4169.15		4169.17		4169.19		4169.21		4169.23		4169.25		4169.27	
Acetone	6,100,000	63,000,000	240	--	< 590		< 630		< 640		< 790		< 880		< 580		< 530		< 610		< 630		< 600		< 610		< 600		< 620		< 620	
Methylene Chloride	36,000	310,000	2.2	--	< 590		< 630		< 640		< 790		< 880		< 580		< 530		< 610		< 630		< 600		< 610		< 600		< 620		< 620	
Benzene	1,100	5,400	0.2	--	< 290		< 320		< 320		< 400		< 440		< 290		< 260		< 310		< 320		< 300		< 310		< 300		< 310		< 310	
Toluene	500,000	4,500,000	59	--	**560**		< 320		< 320		**750**		< 440		< 290		< 260		< 310		< 320		< 300		< 310		< 300		< 310		< 310	
TICs	NLE	NLE	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Semi-Volatile Organic																																
Lab Sample ID (All analysis except VOCs - collected 0 to 12 in. bgs)					4164.18		4169.02		4169.04		4169.06		4169.08		4169.10		4169.12		4169.14		4169.16		4169.18		4169.20		4169.22		4169.24		4169.26	
Aniline	43,000	300,000	3.7	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100	
Naphthalene	3,600	18,000	0.47	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**3600**		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100	
2-Methylnaphthalene	23,000	220,000	14	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**480**	J	< 1100		< 1100		< 1200		< 1200		< 1100		< 1100	
Acenaphthylene	NLE	NLE	NLE	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100	
Acenaphthene	340,000	3,300,000	410	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**7300**		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100	
Dibenzofuran	7,800	100,000	11	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**4200**		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100	
Diethylphthalate	4,900,000	49,000,000	470	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100	
Fluorene	230,000	2,200,000	400	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**8100**		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100	
Phenanthrene	NLE	NLE	NLE	--	< 1200		**130**	J	< 1200		< 1100		< 1100		< 1100		< 1100		**76000**	D	< 1100		< 1100		< 1200		< 1200		< 1100		**190**	J
Anthracene	1,700,000	17,000,000	4200	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**17000**	JD	< 1100		< 1100		< 1200		< 1200		< 1100		< 1100	
Di-n-butylphthalate	610,000	6,200,000	170	--	**720**	JB	**330**	JB	**1900**	B	**1100**	JB	**22000**	BD	**2000**	B	**900**	JB	**230**	JB	**330**	JB	**340**	JB	**1800**	B	490 JB		**1200**	B	< 1100	
Fluoranthene	230,000	2,200,000	7,000	--	**130**	J	**220**	J	< 1200		< 1100		< 1100		**180**	J	< 1100		**89000**	D	< 1100		< 1100		**130**	J	< 1200		< 1100		**210**	J
Pyrene	170,000	1,700,000	950	--	< 1200		**240**	J	< 1200		< 1100		< 1100		**190**	J	< 1100		**60000**	D	< 1100		< 1100		**120**	J	< 1200		< 1100		**230**	J
Benzo[a]anthracene	150	2,100	10	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**27000**	D	< 1100		< 1100		< 1200		< 1200		< 1100		< 1100	
Chrysene	15,000	210,000	1,100	--	< 1200		**120**	J	< 1200		< 1100		< 1100		< 1100		< 1100		**29000**	D	< 1100		< 1100		< 1200		< 1200		< 1100		**150**	J
bis(2-Ethylhexyl)phthalate	35,000	120,000	1,100	--	< 1200		< 1200		**140**	JB	< 1100		< 1100		**130**	JB	< 1100		< 1100		< 1100		< 1100		**130**	JB	< 1200		**140**	JB	**120**	JB
Benzo[b]fluoranthene	150	2,100	35	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**23000**	D	< 1100		< 1100		< 1200		< 1200		< 1100		< 1100	
Benzo[k]fluoranthene	1,500	21,000	350	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**25000**	D	< 1100		< 1100		< 1200		< 1200		< 1100		**120**	J
Benzo[a]pyrene	15	210	4	--	< 1200		**130**	J	< 1200		< 1100		< 1100		< 1100		< 1100		**26000**	D	< 1100		< 1100		< 1200		< 1200		< 1100		< 1100	
Indeno[1,2,3-cd]pyrene	150	2,100	200	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**13000**		< 1100		< 1100		< 1200		< 1200		< 1100		< 1100	
Dibenz[a,h]anthracene	15	210	11	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**1100**	J	< 1100		< 1100		< 1200		< 1200		< 1100		< 1100	
Benzo[g,h,i]perylene	NLE	NLE	NLE	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1100		< 1100		**18000**	JD	< 1100		< 1100		< 1200		< 1200		< 1100		< 1100	
TICs	NLE	NLE	NLE	--	**6700**		**4500**		**3400**		**2000**		**2700**		**3700**		**1700**		**61060**		**2700**		**2400**		**5200**		**1800**		**2020**		**3700**	
Pesticides/PCBs (mg/kg)																																
4,4'-DDE	1.4	5.1	0.05	--	**0.038**		**0.023**		< 0.0092		< 0.0094		**0.075**		**0.017**		< 0.0093		< 0.0098		**0.015**		**0.013**		< 0.0096		< 0.0100		< 0.0091		**0.693**	
Dieldrin	0.03	0.11	0.000061	--	< 0.0109		< 0.0114		< 0.0115		< 0.0118		< 0.0114		< 0.0114		< 0.0117		< 0.0122		< 0.0113		< 0.0110		< 0.0120		< 0.0125		< 0.0114		< 0.0119	
4,4'-DDD	2	7.2	0.01	--	< 0.0131		**0.02**		< 0.0138		< 0.0142		**0.03**		**0.025**		< 0.0140		< 0.0146		< 0.0135		**0.018**		< 0.0143		< 0.0150		< 0.0137		**0.282**	
Endrin Aldehyde	NLE	NLE	NLE	--	< 0.0109		< 0.0114		< 0.0115		< 0.0118		< 0.0114		< 0.0114		< 0.0117		< 0.0122		< 0.0113		< 0.0110		< 0.0120		< 0.0125		< 0.0114		< 0.0119	
4,4'-DDT	1.7	7	0.07	--	**0.046**		< 0.0250		< 0.0253		< 0.0259		**0.155**		< 0.0251		< 0.0257		< 0.0268		**0.04**		< 0.0241		< 0.0263		< 0.0275		< 0.0251		**2.59**	
gamma-Chlordane	1.6	6.5	0.013	--	< 0.0109		< 0.0114		< 0.0115		< 0.0118		< 0.0114		< 0.0114		< 0.0117		< 0.0122		< 0.0113		< 0.0110		< 0.0120		< 0.0125		< 0.0114		< 0.0119	
alpha-Chlordane	1.6	6.5	0.013	--	< 0.0109		< 0.0114		< 0.0115		< 0.0118		< 0.0114		< 0.0114		< 0.0117		< 0.0122		< 0.0113		< 0.0110		< 0.0120		< 0.0125		< 0.0114		< 0.0119	

TABLE 4.2
SOIL SAMPLING SUMMARY RESULTS - COMPARISION TO USEPA CRITERIA
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	USEPA RSL Residential (HQ=0.1)[1]	USEPA RSL Industrial (HQ=0.1)	USEPA RSL Groundwater Protection (Risk-based)	Weston Background [2]	B-53	B-54	B-55	B-56	B-57	B-58	B-59	B-60	B-61	B-62	B-63	B-64	B-65	B-66
Sample Date					12/31/98	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99
Metals (mg/kg)																		
Aluminum	7,700	99,000	2300	15,200	**10400**	**13200**	**14700**	**22300**	**13700**	**13500**	**16800**	**15300**	**18100**	**14200**	**18900**	**20800**	**17300**	**17100**
Antimony	3.1	41	0.03	ND	**1.31**	< 0.421	**0.733**	< 0.450	**1.34**	< 0.386	**0.608**	< 0.366	< 0.490	**0.726**	< 0.481	< 0.447	< 0.456	< 0.436
Arsenic	0.61	2.4	0.0013	22.9	**18.2**	**25.2**	**12.9**	**52.4**	**19.8**	**14.1**	**18.7**	**25.7**	**27.4**	**16.9**	**19.3**	**32.6**	**18.2**	**28.1**
Barium	1,500	19,000	12	32.3	**106**	**70.5**	**9.4**	**42.4**	**42.1**	**73.6**	**42.1**	**25**	**25.1**	**18.7**	**16.6**	**18.7**	**53.6**	**10.3**
Beryllium	16	200	1.3	2	**0.935**	**2.12**	**1.28**	**0.993**	**1.32**	**2.37**	**1.03**	**1.81**	**2.37**	**0.91**	**2.92**	**3.24**	**1.4**	**2.84**
Cadmium	7	80	0.05	ND	**1.65**	**1.98**	**0.595**	**0.609**	**1.28**	**2.51**	**0.623**	**0.763**	**0.977**	**0.708**	**1.11**	**1.13**	**0.556**	**0.949**
Calcium	NLE	NLE	NLE	921	**865**	**5110**	**1330**	**463**	**1330**	**4410**	**1020**	**1070**	**1080**	**2160**	**1030**	**529**	**581**	**453**
Chromium	12,000	150,000	2,800,000	269	**138**	**215**	**172**	**135**	**172**	**198**	**114**	**211**	**277**	**98.7**	**325**	**367**	**149**	**323**
Cobalt	2.3	30	0.02	2.5	**2.31**	**3.04**	**1.04**	**2.17**	**1.78**	**4.58**	**2**	**1.24**	**0.914**	**1.49**	**0.937**	**1.36**	**1.87**	**0.482**
Copper	310	4,100	2.2	8	**141**	**11.3**	**10.2**	**8.67**	**45.5**	**11.6**	**17**	**13.8**	**21**	**10.2**	**9.68**	**14.2**	**21.7**	**11.1**
Iron	5500	72,000	27	55,800	**50100**	**48900**	**28600**	**33200**	**35100**	**43500**	**29300**	**50800**	**55600**	**32600**	**63400**	**75300**	**38500**	**62000**
Lead	400	800	NLE	19.5	**263**	**19.3**	**7.49**	**6.08**	**58.7**	**26.2**	**30.6**	**8.44**	**32.4**	**6.73**	**9.96**	**48**	**12.5**	**7.33**
Magnesium	NLE	NLE	NLE	7,230	**2540**	**7020**	**4840**	**3870**	**4980**	**6270**	**3790**	**6710**	**9020**	**3470**	**10700**	**12500**	**4760**	**10300**
Manganese	180	2,300	2.1	90.7	**125**	**54.1**	**35.4**	**60**	**177**	**52.3**	**50.2**	**56.6**	**28.8**	**66.5**	**35.2**	**23.6**	**67**	**19.3**
Mercury	1	4.3	0.0033	ND	**0.104**	**0.034**	< 0.027	< 0.026	**0.072**	**0.066**	< 0.025	< 0.025	< 0.027	< 0.021	< 0.026	< 0.027	**0.027**	< 0.023
Nickel	150	2000	2	8.4	**10.7**	**17.3**	**4.83**	**6.5**	**7.8**	**25.3**	**7.99**	**7.75**	**6.94**	**6.34**	**8.88**	**8.23**	**6.32**	**6.38**
Potassium	NLE	NLE	NLE	15,400	**6200**	**16000**	**9210**	**6320**	**9370**	**14200**	**6650**	**13900**	**19500**	**5070**	**24700**	**28900**	**10100**	**24100**
Selenium	39	510	0.04	1.9	**0.661**	**2.21**	< 0.648	**1.04**	**0.736**	**1.64**	**1.01**	**1.13**	< 0.735	< 0.656	**0.989**	**0.771**	**0.99**	< 0.653
Silver	39	510	0.06	1.1	< 0.590	< 0.631	< 0.648	< 0.675	< 0.640	< 0.578	< 0.636	< 0.549	< 0.735	< 0.656	< 0.722	< 0.670	< 0.684	< 0.653
Sodium	NLE	NLE	NLE	51.6	**83**	**188**	**211**	**165**	**109**	**161**	**213**	**154**	**183**	**168**	**155**	**159**	**211**	**115**
Thallium	0.08	1	0.0011	ND	< 0.590	< 0.631	< 0.648	< 0.675	< 0.640	< 0.578	< 0.636	< 0.549	< 0.735	< 0.656	< 0.722	< 0.670	< 0.684	< 0.653
Vanadium	39	510	6.3	94.1	**58.6**	**86.2**	**81**	**74.5**	**80.6**	**83**	**63.7**	**91.2**	**119**	**57.1**	**141**	**144**	**77.7**	**127**
Zinc	2,300	31,000	29	81.4	**337**	**93.8**	**97.9**	**41.2**	**207**	**110**	**53.7**	**71.3**	**70.7**	**39.8**	**71.7**	**72**	**48.2**	**65.2**

Notes:
(1) U.S. Environmental Protection Agency, Regional Screening Levels (RSLs). Residential Soil (TR=1E-06, HQ = 0.1). (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm). Revised November 2013.

(2) Weston, 1995. Final Site Investigation - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December

µg/kg = micrograms per kilogram; mg/kg = milligrams per kilogram.
USEPA RSL for Chromium III is used for Chromium
Dash (--) = only background concentrations for metals are being used as comparison criteria.
RSL values were current at the time the screening was conducted.
B = Analyte detected in both sample and associated laboratory blank.
D = Result from dilution of sample.
DUP = field duplicate sample.
E = Estimated value.
J = Analyte detected between MDL and practical quantitation limit (PQL).
NA = not analyzed.
ND = not detected.
NLE = No limit established.
< = analyte not detected above method detection limit (MDL).
µg/kg = micrograms per kilogram.
mg/kg = milligrams per kilogram.
VOCs = volatile organic compounds.
in = inches.
bgs = below ground surface.
Detections are bolded
Shaded cells = concentration exceeds USEPA Groundwater Protection RSL.
Shaded cells = concentration exceeds USEPA Residential and/or Industrial RSL.
Shaded cells = concentration exceeds all three USEPA comparison criteria.
Shaded cells = concentration exceeds Weston (1995) background concentration.

TABLE 4.2
SOIL SAMPLING SUMMARY RESULTS - COMPARISION TO USEPA CRITERIA
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	USEPA RSL Residential (HQ=0.1)[1]	USEPA RSL Industrial (HQ=0.1)	USEPA RSL Groundwater Protection (Risk-based)	Weston Background [2]	B-67		B-68		B-69		B-70		B-71		B-71 Dup		B-72		B-73		B-74		B-75		B-76		B-77		B-78		B-79	
Sample Date					01/05/99		01/05/99		01/05/99		01/05/99		01/05/99		01/05/99		01/06/99		01/06/99		01/06/99		01/06/99		01/06/99		01/06/99		01/06/99		01/06/99	
Volatile Organic Compounds (µg/kg)																																
Lab Sample ID (VOCs only collected 24 in. bgs)					4169.29		4169.31		4169.33		4169.35		4169.37		4169.39		4173.03		4173.05		4173.07		4173.09		4173.11		4173.13		4173.15		4173.17	
Acetone	6,100,000	63,000,000	240	--	< 610		< 620		< 700		< 560		< 640		< 590		< 630		< 590		< 680		< 580		< 630		< 590		< 660		< 570	
Methylene Chloride	36,000	310,000	2.2	--	**940**		**910**		**1000**		**440**	J	**960**		**390**	J	**950**		**400**	J	**550**	J	**420**	J	**420**	J	**1100**		**2000**		**1900**	
Benzene	1,100	5,400	0.2	--	< 310		< 310		< 350		< 280		< 320		< 290		< 310		< 300		< 340		< 290		< 320		< 300		< 330		< 290	
Toluene	500,000	4,500,000	59	--	< 310		< 310		< 350		< 280		< 320		< 290		< 310		< 300		< 340		< 290		< 320		< 300		< 330		< 290	
TICs	NLE	NLE	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Semi-Volatile Organic																																
Lab Sample ID (All analysis except VOCs - collected 0 to 12 in. bgs)					4169.28		4169.30		4169.32		4169.34		4169.36		4169.38		4173.02		4173.04		4173.06		4173.08		4173.10		4173.12		4173.14		4173.16	
Aniline	43,000	300,000	3.7	--	< 1100		< 1200		**610**	J	< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		< 1200		< 1200		< 1200		< 1200	
Naphthalene	3,600	18,000	0.47	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		**160**	J	< 1200		< 1200		< 1200	
2-Methylnaphthalene	23,000	220,000	14	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		**130**	J	< 1200		< 1200		< 1200	
Acenaphthylene	NLE	NLE	NLE	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		< 1200		< 1200		< 1200		< 1200	
Acenaphthene	340,000	3,300,000	410	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		**1400**		< 1200		< 1200		< 1200	
Dibenzofuran	7,800	100,000	11	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		**720**	J	< 1200		< 1200		< 1200	
Diethylphthalate	4,900,000	49,000,000	470	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		**210**	J	< 1200		< 1200		< 1200		< 1200	
Fluorene	230,000	2,200,000	400	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		**1500**		< 1200		< 1200		< 1200	
Phenanthrene	NLE	NLE	NLE	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		**16000**	D	< 1200		**250**	J	< 1200	
Anthracene	1,700,000	17,000,000	4200	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		**6400**		< 1200		< 1200		< 1200	
Di-n-butylphthalate	610,000	6,200,000	170	--	**1100**	JB	**1700**	B	**1000**	JB	**2700**	B	**250**	JB	**360**	JB	**660**	JB	**280**	JB	**1300**	B	**1200**	JB	**910**	JB	**340**	JB	**1400**	B	**1000**	JB
Fluoranthene	230,000	2,200,000	7,000	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		**180**	J	**25000**	D	< 1200		**280**	J	< 1200	
Pyrene	170,000	1,700,000	950	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		**140**	J	**18000**	D	< 1200		**430**	J	< 1200	
Benzo[a]anthracene	150	2,100	10	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		**11000**		< 1200		**200**	J	< 1200	
Chrysene	15,000	210,000	1,100	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		**11000**		< 1200		**260**	J	< 1200	
bis(2-Ethylhexyl)phthalate	35,000	120,000	1,100	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		**130**	J	< 1200		< 1200		< 1200		< 1200		< 1200	
Benzo[b]fluoranthene	150	2,100	35	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		**11000**		< 1200		< 1200		< 1200	
Benzo[k]fluoranthene	1,500	21,000	350	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		**6600**		< 1200		< 1200		< 1200	
Benzo[a]pyrene	15	210	4	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		**10000**		< 1200		**150**	J	< 1200	
Indeno[1,2,3-cd]pyrene	150	2,100	200	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		**4100**		< 1200		< 1200		< 1200	
Dibenz[a,h]anthracene	15	210	11	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		**1200**		< 1200		< 1200		< 1200	
Benzo[g,h,i]perylene	NLE	NLE	NLE	--	< 1100		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		**4600**		< 1200		< 1200		< 1200	
TICs	NLE	NLE	NLE	--	**2500**		**3300**		**2960**		**3500**		**3500**		ND		**5800**		**3800**		**14900**		**8300**		**26770**		**4900**		**12430**		**7900**	
Pesticides/PCBs (mg/kg)																																
4,4'-DDE	1.4	5.1	0.05	--	**0.015**		< 0.0097		**0.019**		< 0.0097		**0.131**		**0.117**		**0.018**		**0.002**		< 0.0005		**0.001**		< 0.0005		**0.014**		**0.292**		**0.022**	
Dieldrin	0.03	0.11	0.000061	--	< 0.0120		< 0.0122		< 0.0118		< 0.0121		< 0.0119		< 0.0116		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006	
4,4'-DDD	2	7.2	0.01	--	**0.033**		< 0.0146		**0.028**		< 0.0146		**0.101**		**0.128**		**0.017**		**0.001**		**0.017**		< 0.0007		< 0.0007		**0.003**		**1.132**		**0.007**	
Endrin Aldehyde	NLE	NLE	NLE	--	< 0.0120		< 0.0122		< 0.0118		< 0.0121		< 0.0119		< 0.0116		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006	
4,4'-DDT	1.7	7	0.07	--	< 0.0264		< 0.0268		< 0.0260		< 0.0267		**0.095**		**0.117**		**0.025**		< 0.0012		< 0.0013		**0.002**		< 0.0013		**0.03**		**0.349**		**0.062**	
gamma-Chlordane	1.6	6.5	0.013	--	< 0.0120		< 0.0122		< 0.0118		< 0.0121		**0.057**		**0.08**		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006	
alpha-Chlordane	1.6	6.5	0.013	--	< 0.0120		< 0.0122		< 0.0118		< 0.0121		**0.04**		**0.057**		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006	

TABLE 4.2
SOIL SAMPLING SUMMARY RESULTS - COMPARISION TO USEPA CRITERIA
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	USEPA RSL Residential (HQ=0.1)(1)	USEPA RSL Industrial (HQ=0.1)	USEPA RSL Groundwater Protection (Risk-based)	Weston Background (2)	B-67	B-68	B-69	B-70	B-71	B-71 Dup	B-72	B-73	B-74	B-75	B-76	B-77	B-78	B-79
Sample Date					01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/05/99	01/06/99	01/06/99	01/06/99	01/06/99	01/06/99	01/06/99	01/06/99	01/06/99
Metals (mg/kg)																		
Aluminum	7,700	99,000	2300	15,200	**17900**	**20000**	**7700**	**14200**	**13500**	**16900**	**13500**	**15100**	**12800**	**17900**	**16200**	**19300**	**16000**	**12000**
Antimony	3.1	41	0.03	ND	< 0.474	**1.47**	**1.04**	**0.494**	**2.09**	**1.97**	< 0.436	**0.568**	< 0.485	< 0.548	< 0.521	**1.18**	**0.822**	**0.426**
Arsenic	0.61	2.4	0.0013	22.9	**30.2**	**23**	**17.4**	**14.3**	**15.5**	**20.8**	**29.7**	**18.4**	**12.7**	**29.5**	**27.8**	**21.7**	**21**	**22.7**
Barium	1,500	19,000	12	32.3	**13**	**51.2**	**44.8**	**22.6**	**63.2**	**90.5**	**19.8**	**22.7**	**41**	**37.6**	**27.2**	**28.5**	**45.4**	**10.4**
Beryllium	16	200	1.3	2	**2.49**	**2.52**	**1.03**	**0.795**	**1.33**	**1.72**	**1.98**	**1.52**	**1.04**	**2.47**	**1.85**	**2.9**	**1.76**	**1.86**
Cadmium	7	80	0.05	ND	**0.814**	**1.09**	**0.495**	**0.433**	**1.91**	**2.1**	**0.823**	**0.572**	**0.478**	**1.2**	**1**	**1.49**	**1.18**	**0.759**
Calcium	NLE	NLE	NLE	921	**1200**	**919**	**848**	**519**	**796**	**987**	**2030**	**546**	**636**	**965**	**1020**	**745**	**1230**	**1090**
Chromium	12,000	150,000	2,800,000	269	**302**	**227**	**66**	**101**	**165**	**199**	**237**	**182**	**89.4**	**301**	**215**	**327**	**206**	**210**
Cobalt	2.3	30	0.02	2.5	**1.13**	**4.37**	**10.5**	**1.36**	**1.4**	**1.51**	**1.43**	**1.14**	**3.78**	**1.11**	**1.25**	**2.26**	**1.62**	**0.564**
Copper	310	4,100	2.2	8	**7.46**	**39.1**	**283**	**19.1**	**41.8**	**55.3**	**9.26**	**9.69**	**5.03**	**45**	**106**	**60.3**	**44.4**	**24.7**
Iron	5500	72,000	27	55,800	**60300**	**44300**	**19800**	**25900**	**35500**	**43900**	**53700**	**38300**	**30400**	**63700**	**47900**	**69300**	**46200**	**39300**
Lead	400	800	NLE	19.5	**4.28**	**54.5**	**39.8**	**12.3**	**93.7**	**75.8**	**8.01**	**9.17**	**6.67**	**35.3**	**96.1**	**58.2**	**74.8**	**45.2**
Magnesium	NLE	NLE	NLE	7,230	**9660**	**6630**	**1850**	**3250**	**4670**	**6020**	**7460**	**5090**	**3070**	**8980**	**6230**	**10400**	**6060**	**5630**
Manganese	180	2,300	2.1	90.7	**24.3**	**37.1**	**91.4**	**49.4**	**32.5**	**41.8**	**16.2**	**21.9**	**62.7**	**37**	**99.1**	**40.1**	**67.1**	**25.6**
Mercury	1	4.3	0.0033	ND	< 0.025	< 0.027	< 0.023	< 0.027	**3.61**	**2.89**	**0.115**	**0.036**	**0.028**	**0.075**	**0.066**	**0.176**	**0.055**	**0.031**
Nickel	150	2000	2	8.4	**7.42**	**16.8**	**88**	**4.87**	**6.93**	**7.13**	**8.87**	**6.7**	**6.71**	**7.77**	**6.64**	**9.43**	**8.03**	**5.25**
Potassium	NLE	NLE	NLE	15,400	**22000**	**15200**	**4270**	**5040**	**9960**	**13500**	**18100**	**11600**	**7100**	**21100**	**14100**	**25600**	**14600**	**13300**
Selenium	39	510	0.04	1.9	< 0.711	**2.76**	**0.942**	< 0.681	**0.716**	**1.11**	**0.927**	**1.17**	**0.832**	**1.3**	**1.08**	**1.72**	**0.851**	< 0.594
Silver	39	510	0.06	1.1	< 0.711	< 0.613	< 0.717	< 0.681	**2.9**	**5**	< 0.654	< 0.757	< 0.728	< 0.822	< 0.782	< 0.792	< 0.764	< 0.594
Sodium	NLE	NLE	NLE	51.6	**475**	**212**	**216**	**92.8**	**164**	**151**	**291**	**123**	**164**	**188**	**99.9**	**94.8**	**302**	**90.6**
Thallium	0.08	1	0.0011	ND	< 0.711	< 0.613	< 0.717	< 0.681	< 0.701	< 0.735	< 0.654	< 0.757	< 0.728	< 0.822	< 0.782	< 0.792	< 0.764	< 0.594
Vanadium	39	510	6.3	94.1	**121**	**108**	**40.1**	**54.1**	**68.7**	**84.7**	**87.3**	**79.1**	**56**	**123**	**94.5**	**121**	**90.9**	**83.5**
Zinc	2,300	31,000	29	81.4	**59.1**	**65.6**	**93.6**	**48.1**	**106**	**113**	**62**	**49.9**	**61.6**	**141**	**203**	**168**	**133**	**74.6**

Notes:
(1) U.S. Environmental Protection Agency, Regional Screening Levels (RSLs). Residential Soil (TR=1E-06, HQ = 0.1). (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm). Revised November 2013.

(2) Weston, 1995. Final Site Investigation - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December

µg/kg = micrograms per kilogram; mg/kg = milligrams per kilogram.
USEPA RSL for Chromium III is used for Chromium
Dash (--) = only background concentrations for metals are being used as comparison criteria.
RSL values were current at the time the screening was conducted.
B = Analyte detected in both sample and associated laboratory blank.
D = Result from dilution of sample.
DUP = field duplicate sample.
E = Estimated value.
J = Analyte detected between MDL and practical quantitation limit (PQL).
NA = not analyzed.
ND = not detected.
NLE = No limit established.
< = analyte not detected above method detection limit (MDL).
µg/kg = micrograms per kilogram.
mg/kg = milligrams per kilogram.
VOCs = volatile organic compounds.
in = inches.
bgs = below ground surface.
Detections are bolded
Shaded cells = concentration exceeds USEPA Groundwater Protection RSL.
Shaded cells = concentration exceeds USEPA Residential and/or Industrial RSL.
Shaded cells = concentration exceeds all three USEPA comparison criteria.
Shaded cells = concentration exceeds Weston (1995) background concentration.

TABLE 4.2
SOIL SAMPLING SUMMARY RESULTS - COMPARISION TO USEPA CRITERIA
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	USEPA RSL Residential (HQ=0.1)[1]	USEPA RSL Industrial (HQ=0.1)	USEPA RSL Groundwater Protection (Risk-based)	Weston Background [2]	B-80		B-81		B-82		B-83		B-84		B-85		B-86		B-87		B-88		B-89		B-90		B-91		B-92		B-93	
Sample Date					01/06/99		01/06/99		01/06/99		01/06/99		01/06/99		01/06/99		01/06/99		01/07/99		01/07/99		01/07/99		01/07/99		01/07/99		01/07/99		01/07/99	
Volatile Organic Compounds (µg/kg)																																
Lab Sample ID (VOCs only collected 24 in. bgs)					4173.19		4173.21		4173.23		4173.25		4173.27		4173.29		4173.31		4177.03		4177.05		4177.07		4177.09		4177.11		4177.13		4177.15	
Acetone	6,100,000	63,000,000	240	--	< 560		< 540		< 550		< 630		< 570		< 610		< 640		< 630		< 730		< 860		< 860		< 970		< 940		< 870	
Methylene Chloride	36,000	310,000	2.2	--	**1100**		**1700**		**1800**		**1100**		**1800**		**2000**		**2100**		**720**		**830**		**400**	J	**680**		**510**	J	**670**		< 580	
Benzene	1,100	5,400	0.2	--	< 280		< 270		< 270		< 310		< 290		< 310		< 320		< 310		< 360		< 290		< 290		< 320		< 310		< 290	
Toluene	500,000	4,500,000	59	--	< 280		< 270		< 270		< 310		< 290		< 310		< 320		< 310		< 360		< 290		< 290		< 320		< 310		< 290	
TICs	NLE	NLE	NLE	--	ND		ND		ND		ND		ND		ND		ND		**2600**		ND		ND		ND		**2200**		ND		ND	
Semi-Volatile Organic																																
Lab Sample ID (All analysis except VOCs - collected 0 to 12 in. bgs)					4173.18		4173.20		4173.22		4173.24		4173.26		4173.28		4173.30		4177.02		4177.04		4177.06		4177.08		4177.10		4177.12		4177.14	
Aniline	43,000	300,000	3.7	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Naphthalene	3,600	18,000	0.47	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
2-Methylnaphthalene	23,000	220,000	14	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Acenaphthylene	NLE	NLE	NLE	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Acenaphthene	340,000	3,300,000	410	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		**150**	J	< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Dibenzofuran	7,800	100,000	11	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Diethylphthalate	4,900,000	49,000,000	470	--	< 1200		< 1200		**130**	J	< 1100		< 1100		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Fluorene	230,000	2,200,000	400	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		**130**	J	< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Phenanthrene	NLE	NLE	NLE	--	< 1200		**170**	J	< 1200		< 1100		< 1100		< 1200		< 1200		**1500**	J	< 1100		< 1200		< 1100		**210**	J	< 1200		< 1200	
Anthracene	1,700,000	17,000,000	4200	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		**370**	J	< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Di-n-butylphthalate	610,000	6,200,000	170	--	**1200**	B	**870**	JB	**2200**	B	**300**	JB	**360**	JB	**1900**	B	**1300**	B	**830**	JB	**230**	JB	**310**	JB	**700**	JB	**920**	JB	**1500**	B	**1000**	JB
Fluoranthene	230,000	2,200,000	7,000	--	< 1200		**430**	J	< 1200		< 1100		< 1100		**140**	J	< 1200		**1700**		< 1100		< 1200		< 1100		**300**	J	< 1200		< 1200	
Pyrene	170,000	1,700,000	950	--	< 1200		**340**	J	< 1200		< 1100		< 1100		< 1200		< 1200		**1500**		< 1100		< 1200		< 1100		**260**	J	< 1200		< 1200	
Benzo[a]anthracene	150	2,100	10	--	< 1200		**190**	J	< 1200		< 1100		< 1100		< 1200		< 1200		**620**	J	< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Chrysene	15,000	210,000	1,100	--	< 1200		**220**	J	< 1200		< 1100		< 1100		< 1200		< 1200		**880**	J	< 1100		< 1200		< 1100		**180**	J	< 1200		< 1200	
bis(2-Ethylhexyl)phthalate	35,000	120,000	1,100	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		**140**	J	< 1100		< 1200		< 1100		< 1200		**160**	J	**140**	J
Benzo[b]fluoranthene	150	2,100	35	--	< 1200		**140**	J	< 1200		< 1100		< 1100		< 1200		< 1200		**480**	J	< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Benzo[k]fluoranthene	1,500	21,000	350	--	< 1200		**200**	J	< 1200		< 1100		< 1100		< 1200		< 1200		**520**	J	< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Benzo[a]pyrene	15	210	4	--	< 1200		**190**	J	< 1200		< 1100		< 1100		< 1200		< 1200		**540**	J	< 1100		< 1200		< 1100		**120**	J	< 1200		< 1200	
Indeno[1,2,3-cd]pyrene	150	2,100	200	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		**270**	J	< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Dibenz[a,h]anthracene	15	210	11	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
Benzo[g,h,i]perylene	NLE	NLE	NLE	--	< 1200		**140**	J	< 1200		< 1100		< 1100		< 1200		< 1200		**260**	J	< 1100		< 1200		< 1100		< 1200		< 1200		< 1200	
TICs	NLE	NLE	NLE	--	**9100**		**6600**		**6300**		**4400**		**5200**		**4700**		**7300**		**10600**		**6600**		**11800**		**14600**		**7390**		**20200**		**14300**	
Pesticides/PCBs (mg/kg)																																
4,4'-DDE	1.4	5.1	0.05	--	< 0.0005		**0.004**		**0.004**		**0.125**		**0.046**		**0.015**		**0.004**		**0.005**		**0.002**		**0.234**		**0.058**		**0.003**		**0.058**		**0.001**	
Dieldrin	0.03	0.11	0.000061	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006	
4,4'-DDD	2	7.2	0.01	--	< 0.0007		**0.001**		**0.001**		**0.013**		**0.05**		**0.002**		**0.001**		**0.004**		**0.002**		**0.027**		**0.01**		< 0.0007		**0.069**		< 0.0007	
Endrin Aldehyde	NLE	NLE	NLE	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006	
4,4'-DDT	1.7	7	0.07	--	< 0.0013		**0.006**		**0.007**		**0.224**		**0.047**		**0.021**		**0.007**		**0.009**		< 0.0013		**0.351**		**0.07**		< 0.0013		**0.347**		**0.002**	
gamma-Chlordane	1.6	6.5	0.013	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006	
alpha-Chlordane	1.6	6.5	0.013	--	< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006	

TABLE 4.2
SOIL SAMPLING SUMMARY RESULTS - COMPARISION TO USEPA CRITERIA
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	USEPA RSL Residential (HQ=0.1)[1]	USEPA RSL Industrial (HQ=0.1)	USEPA RSL Groundwater Protection (Risk-based)	Weston Background [2]	B-80	B-81	B-82	B-83	B-84	B-85	B-86	B-87	B-88	B-89	B-90	B-91	B-92	B-93
Sample Date					01/06/99	01/06/99	01/06/99	01/06/99	01/06/99	01/06/99	01/06/99	01/07/99	01/07/99	01/07/99	01/07/99	01/07/99	01/07/99	01/07/99
Metals (mg/kg)																		
Aluminum	7,700	99,000	2300	15,200	**12100**	**16600**	**15300**	**15300**	**8640**	**19700**	**16000**	**22100**	**17400**	**15800**	**5610**	**14700**	**14400**	**17400**
Antimony	3.1	41	0.03	ND	**0.471**	**1.67**	**0.635**	**0.635**	< 0.471	**0.495**	**0.512**	**1.55**	**0.789**	< 0.402	**0.526**	**0.654**	< 0.502	**0.434**
Arsenic	0.61	2.4	0.0013	22.9	**19.4**	**20.7**	**21**	**21**	**6.64**	**27.5**	**24.8**	**32.6**	**28.1**	**14.1**	**2.96**	**18.8**	**13.9**	**24.7**
Barium	1,500	19,000	12	32.3	**10.1**	**102**	**27.8**	**27.8**	**17**	**37.9**	**38.6**	**153**	**54.1**	**23.7**	**12.4**	**26.4**	**81.9**	**24.1**
Beryllium	16	200	1.3	2	**0.778**	**1.81**	**1.6**	**1.6**	**0.572**	**2.82**	**2.53**	**2.57**	**2.26**	**1.54**	**0.375**	**1.14**	**1.83**	**2.58**
Cadmium	7	80	0.05	ND	**0.444**	**1.65**	**1.05**	**1.05**	**0.719**	**1.79**	**1.15**	**1.52**	**2.49**	**0.846**	**0.541**	**0.661**	**1.09**	**1.7**
Calcium	NLE	NLE	NLE	921	**436**	**31100**	**447**	**447**	**427**	**1190**	**786**	**1060**	**885**	**246**	**221**	**691**	**4230**	**513**
Chromium	12,000	150,000	2,800,000	269	**83.8**	**214**	**178**	**178**	**71.5**	**325**	**286**	**307**	**268**	**168**	**37.1**	**137**	**207**	**305**
Cobalt	2.3	30	0.02	2.5	**0.953**	**2.23**	**1.01**	**1.01**	**1.32**	**2.09**	**0.935**	**4.48**	**2.38**	**2.18**	**1.14**	**1.45**	**1.47**	**0.971**
Copper	310	4,100	2.2	8	**8.25**	**76.7**	**38.2**	**38.2**	**9.02**	**44.1**	**58.4**	**118**	**51.3**	**6.72**	**3.52**	**34.3**	**104**	**20.3**
Iron	5500	72,000	27	55,800	**28300**	**44100**	**39900**	**39900**	**16500**	**76100**	**57700**	**63100**	**26000**	**41300**	**9870**	**26900**	**47800**	**63700**
Lead	400	800	NLE	19.5	**5.47**	**237**	**53.8**	**53.8**	**9.32**	**44.7**	**44.9**	**111**	**61.2**	**6.61**	**3.65**	**75.9**	**3.33**	**11.5**
Magnesium	NLE	NLE	NLE	7,230	**2510**	**6070**	**5100**	**5100**	**1710**	**10700**	**8550**	**8610**	**7600**	**4830**	**985**	**3580**	**5590**	**9110**
Manganese	180	2,300	2.1	90.7	**35.5**	**210**	**33.7**	**33.7**	**27.2**	**44.1**	**41.4**	**145**	**107**	**33.3**	**24.1**	**42.6**	**29**	**34**
Mercury	1	4.3	0.0033	ND	< 0.025	**0.089**	**0.04**	**0.04**	**0.039**	**0.041**	**0.04**	**0.212**	**0.106**	**0.048**	**0.037**	**0.081**	**0.058**	**0.038**
Nickel	150	2000	2	8.4	**3.87**	**8.56**	**5.48**	**5.48**	**6.16**	**9.33**	**6.01**	**10.5**	**7.33**	**7.21**	**3.93**	**4.4**	**6.49**	**6.54**
Potassium	NLE	NLE	NLE	15,400	**4370**	**13900**	**11700**	**11700**	**3620**	**26700**	**21300**	**20100**	**19300**	**12400**	**2090**	**7510**	**15200**	**24000**
Selenium	39	510	0.04	1.9	< 0.674	< 0.700	< 0.727	< 0.727	< 0.707	**1.97**	**3.33**	**2.13**	**0.91**	**0.796**	< 0.758	< 0.742	**1.77**	**0.666**
Silver	39	510	0.06	1.1	< 0.674	< 0.700	< 0.727	< 0.727	< 0.707	< 0.654	< 0.618	< 0.700	< 0.742	< 0.603	< 0.758	< 0.742	< 0.752	< 0.587
Sodium	NLE	NLE	NLE	51.6	**106**	**850**	**83.2**	**83.2**	**67.6**	**159**	**111**	**169**	**242**	**74.2**	**82.1**	**122**	**118**	**232**
Thallium	0.08	1	0.0011	ND	< 0.674	< 0.700	< 0.727	< 0.727	< 0.707	< 0.654	< 0.618	< 0.700	< 0.742	< 0.603	< 0.758	< 0.742	< 0.752	< 0.587
Vanadium	39	510	6.3	94.1	**47.1**	**98**	**77.4**	**77.4**	**46.1**	**122**	**125**	**134**	**113**	**99.5**	**22.8**	**69.5**	**82.9**	**121**
Zinc	2,300	31,000	29	81.4	**31.7**	**362**	**101**	**101**	**49.6**	**144**	**82.4**	**158**	**147**	**50.4**	**33.6**	**67.1**	**92.3**	**71.8**

Notes:
(1) U.S. Environmental Protection Agency, Regional Screening Levels (RSLs). Residential Soil (TR=1E-06, HQ = 0.1). (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm). Revised November 2013.

(2) Weston, 1995. Final Site Investigation - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December

µg/kg = micrograms per kilogram; mg/kg = milligrams per kilogram.
USEPA RSL for Chromium III is used for Chromium
Dash (--) = only background concentrations for metals are being used as comparison criteria.
RSL values were current at the time the screening was conducted.
B = Analyte detected in both sample and associated laboratory blank.
D = Result from dilution of sample.
DUP = field duplicate sample.
E = Estimated value.
J = Analyte detected between MDL and practical quantitation limit (PQL).
NA = not analyzed.
ND = not detected.
NLE = No limit established.
< = analyte not detected above method detection limit (MDL).
µg/kg = micrograms per kilogram.
mg/kg = milligrams per kilogram.
VOCs = volatile organic compounds.
in = inches.
bgs = below ground surface.
Detections are bolded
Shaded cells = concentration exceeds USEPA Groundwater Protection RSL.
Shaded cells = concentration exceeds USEPA Residential and/or Industrial RSL.
Shaded cells = concentration exceeds all three USEPA comparison criteria.
Shaded cells = concentration exceeds Weston (1995) background concentration.

TABLE 4.2
SOIL SAMPLING SUMMARY RESULTS - COMPARISION TO USEPA CRITERIA
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	USEPA RSL Residential (HQ=0.1)[1]	USEPA RSL Industrial (HQ=0.1)	USEPA RSL Groundwater Protection (Risk-based)	Weston Background [2]	B-94		B-95		B-95 Dup		B-96		B-97		B-98		B-99		B-100		B-101		B-102		B-103		B-104		B-105		B-106	
Sample Date					01/07/99		01/07/99		01/07/99		01/11/99		01/11/99		01/11/99		01/11/99		01/11/99		01/11/99		01/11/99		01/11/99		01/11/99		01/11/99		01/11/99	
Volatile Organic Compounds (µg/kg)																																
Lab Sample ID (VOCs only collected 24 in. bgs)					4177.17		4177.19		4177.21		4179.03		4179.05		4179.07		4179.09		4179.11		4179.13		4179.15		4179.17		4179.19		4179.21		4179.23	
Acetone	6,100,000	63,000,000	240	--	< 930		< 940		< 580		< 790		< 610		< 560		< 640		< 610		< 610		< 590		< 580		< 620		< 650		< 670	
Methylene Chloride	36,000	310,000	2.2	--	**700**		**730**		< 580		< 790		< 610		< 560		< 640		< 610		< 610		< 590		< 580		< 620		< 670		< 670	
Benzene	1,100	5,400	0.2	--	< 310		< 310		< 290		< 400		< 310		< 280		< 320		< 310		< 300		< 290		< 290		< 310		< 320		< 330	
Toluene	500,000	4,500,000	59	--	< 310		< 310		< 290		< 400		< 310		< 280		< 320		< 310		< 300		< 290		< 290		< 310		< 320		< 330	
TICs	NLE	NLE	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Semi-Volatile Organic																																
Lab Sample ID (All analysis except VOCs - collected 0 to 12 in. bgs)					4177.16		4177.18		4177.20		4179.02		4179.04		4179.06		4179.08		4179.10		4179.12		4179.14		4179.16		4179.18		4179.20		4179.22	
Aniline	43,000	300,000	3.7	--	< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		< 1200	
Naphthalene	3,600	18,000	0.47	--	< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		< 1200	
2-Methylnaphthalene	23,000	220,000	14	--	< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		< 1200	
Acenaphthylene	NLE	NLE	NLE	--	< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		< 1200	
Acenaphthene	340,000	3,300,000	410	--	< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		< 1200	
Dibenzofuran	7,800	100,000	11	--	< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		< 1200	
Diethylphthalate	4,900,000	49,000,000	470	--	< 1200		< 1200		< 1100		**190**	J	< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		< 1200	
Fluorene	230,000	2,200,000	400	--	< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		< 1200	
Phenanthrene	NLE	NLE	NLE	--	< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200		**670**	J	< 1200		< 1100		< 1100		< 1200		< 1200	
Anthracene	1,700,000	17,000,000	4200	--	< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		< 1200	
Di-n-butylphthalate	610,000	6,200,000	170	--	**200**	JB	**270**	JB	**830**	JB	**540**	JB	**300**	JB	**1300**	B	**380**	JB	**1400**	B	**370**	JB	**380**	JB	**1300**	B	**880**	JB	**1300**	B	**370**	JB
Fluoranthene	230,000	2,200,000	7,000	--	< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200		**640**	J	< 1200		< 1100		< 1100		**140**	J	**140**	J
Pyrene	170,000	1,700,000	950	--	< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200		**770**	J	< 1200		< 1100		< 1100		**130**	J	**120**	J
Benzo[a]anthracene	150	2,100	10	--	< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200		**330**	J	< 1200		< 1100		< 1100		< 1200		< 1200	
Chrysene	15,000	210,000	1,100	--	< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200		**660**	J	< 1200		< 1100		< 1100		< 1200		< 1200	
bis(2-Ethylhexyl)phthalate	35,000	120,000	1,100	--	< 1200		< 1200		< 1100		< 1400		**120**	J	**160**	J	< 1200		**130**	J	< 1100		< 1200		< 1100		**110**	J	**160**	J	< 1200		< 1200	
Benzo[b]fluoranthene	150	2,100	35	--	< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200		**240**	J	< 1200		< 1100		< 1100		< 1200		< 1200	
Benzo[k]fluoranthene	1,500	21,000	350	--	< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200		**290**	J	< 1200		< 1100		< 1100		< 1200		< 1200	
Benzo[a]pyrene	15	210	4	--	< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200		**270**	J	< 1200		< 1100		< 1100		< 1200		< 1200	
Indeno[1,2,3-cd]pyrene	150	2,100	200	--	< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200		**180**	J	< 1200		< 1100		< 1100		< 1200		< 1200	
Dibenz[a,h]anthracene	15	210	11	--	< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200		< 1100		< 1200		< 1100		< 1100		< 1200		< 1200	
Benzo[g,h,i]perylene	NLE	NLE	NLE	--	< 1200		< 1200		< 1100		< 1400		< 1200		< 1200		< 1200		< 1200		**190**	J	< 1200		< 1100		< 1100		< 1200		< 1200	
TICs	NLE	NLE	NLE	--	**13400**		**8300**		**21100**		**7500**		**6500**		**20400**		**9000**		**11900**		**12150**		**6100**		**12000**		**16000**		**19700**		**3600**	
Pesticides/PCBs (mg/kg)																																
4,4'-DDE	1.4	5.1	0.05	--	**0.007**		**0.488**		**0.269**		**0.206**		**0.034**		**0.075**		**0.084**		**0.002**		**0.066**		**0.029**		**0.02**		**0.024**		**0.013**		**0.109**	
Dieldrin	0.03	0.11	0.000061	--	< 0.0006		< 0.0006		< 0.0006		< 0.0007		< 0.0006		**0.001**		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006	
4,4'-DDD	2	7.2	0.01	--	**0.003**		**0.049**		**0.025**		**0.019**		**0.017**		**0.172**		**0.136**		< 0.0007		**0.061**		**0.003**		**0.002**		**0.051**		**0.006**		**0.031**	
Endrin Aldehyde	NLE	NLE	NLE	--	< 0.0006		< 0.0006		< 0.0006		< 0.0007		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006	
4,4'-DDT	1.7	7	0.07	--	**0.023**		**0.516**		**0.202**		**0.213**		**0.028**		**0.309**		**2.93**		**0.003**		**0.283**		**0.029**		**0.018**		**0.005**		**0.029**		**0.355**	
gamma-Chlordane	1.6	6.5	0.013	--	< 0.0006		< 0.0006		< 0.0006		< 0.0007		< 0.0006		< 0.0006		< 0.0006		< 0.0006		**0.003**		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006	
alpha-Chlordane	1.6	6.5	0.013	--	< 0.0006		< 0.0006		< 0.0006		< 0.0007		< 0.0006		< 0.0006		< 0.0006		< 0.0006		**0.002**		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0006	

TABLE 4.2
SOIL SAMPLING SUMMARY RESULTS - COMPARISION TO USEPA CRITERIA
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	USEPA RSL Residential (HQ=0.1)(1)	USEPA RSL Industrial (HQ=0.1)	USEPA RSL Groundwater Protection (Risk-based)	Weston Background (2)	B-94	B-95	B-95 Dup	B-96	B-97	B-98	B-99	B-100	B-101	B-102	B-103	B-104	B-105	B-106
Sample Date					01/07/99	01/07/99	01/07/99	01/11/99	01/11/99	01/11/99	01/11/99	01/11/99	01/11/99	01/11/99	01/11/99	01/11/99	01/11/99	01/11/99
Metals (mg/kg)																		
Aluminum	7,700	99,000	2300	15,200	**12400**	**10700**	**10100**	**13600**	**12400**	**15100**	**14900**	**3190**	**1420**	**4570**	**4140**	**1600**	**1500**	**3380**
Antimony	3.1	41	0.03	ND	< 0.497	< 0.429	< 0.494	< 0.623	< 0.493	**0.611**	< 0.472	**0.566**	< 0.503	< 0.508	**0.461**	< 0.460	< 0.540	< 0.466
Arsenic	0.61	2.4	0.0013	22.9	**16.1**	**18**	**6.88**	**8.96**	**23.2**	**29.9**	**28**	**24.4**	**6.59**	**9.69**	**6.47**	**1.14**	**14.9**	**17**
Barium	1,500	19,000	12	32.3	**16.4**	**13.8**	**14.9**	**16.6**	**17.6**	**41.5**	**16.9**	**6.78**	**16**	**13.6**	**16.8**	**4.92**	**34**	**10.2**
Beryllium	16	200	1.3	2	**1.35**	**1.66**	**1.13**	**1.06**	**2.03**	**2.12**	**2.8**	**0.162**	< 0.126	**0.257**	**0.295**	< 0.115	**0.217**	**0.217**
Cadmium	7	80	0.05	ND	**0.892**	**1.36**	**0.734**	**0.743**	**1.26**	**1.66**	**1.92**	**0.415**	**0.504**	**0.569**	**0.418**	**0.183**	**0.952**	**0.532**
Calcium	NLE	NLE	NLE	921	**427**	**180**	**294**	**270**	**765**	**1860**	**1060**	**432**	**135**	**148**	**143**	**73.7**	**9270**	**808**
Chromium	12,000	150,000	2,800,000	269	**150**	**113**	**93.1**	**109**	**231**	**237**	**317**	**41.3**	**18.9**	**40.4**	**32.4**	**9.66**	**13.8**	**25.8**
Cobalt	2.3	30	0.02	2.5	**0.93**	**1.06**	**1.23**	**1.59**	**0.771**	**1.86**	**0.628**	**0.677**	**0.437**	**0.655**	**0.303**	**0.248**	**1.02**	**0.562**
Copper	310	4,100	2.2	8	**18.5**	**4.68**	**4.69**	**7.04**	**11.7**	**32.9**	**20.6**	**10.9**	**10.6**	**5.24**	**3.56**	**2.61**	**10.3**	**12.5**
Iron	5500	72,000	27	55,800	**35400**	**53200**	**29600**	**30400**	**48600**	**51300**	**64100**	**7170**	**6930**	**10500**	**7410**	**2320**	**8270**	**10200**
Lead	400	800	NLE	19.5	**28.7**	**6.11**	**5.14**	**6.11**	**10.8**	**47.3**	**12.2**	**4.86**	**24.6**	**4.79**	**2.21**	**1.21**	**17.9**	**7.06**
Magnesium	NLE	NLE	NLE	7,230	**4130**	**2970**	**3170**	**3160**	**6380**	**6730**	**8860**	**346**	**163**	**350**	**214**	**51**	**4600**	**232**
Manganese	180	2,300	2.1	90.7	**22.6**	**24.8**	**24.8**	**28.6**	**20.8**	**100**	**21.9**	**11.3**	**5.13**	**11**	**5.04**	**1.55**	**36.3**	**16.7**
Mercury	1	4.3	0.0033	ND	**0.086**	**0.028**	**0.044**	**0.062**	**0.039**	**0.102**	**0.05**	**0.031**	**0.164**	**0.04**	**0.039**	**0.055**	**0.799**	**0.154**
Nickel	150	2000	2	8.4	**4.57**	**4.84**	**5.04**	**5.57**	**5.7**	**11**	**7.42**	**1.46**	**1.23**	**2.31**	**1.54**	**1.44**	**5.85**	1..81
Potassium	NLE	NLE	NLE	15,400	**10500**	**7970**	**8490**	**7990**	**16400**	**17800**	**23800**	**608**	**369**	**717**	**231**	**96.6**	**700**	**535**
Selenium	39	510	0.04	1.9	< 0.746	**2.12**	< 0.741	< 0.935	< 0.740	**1.23**	**0.725**	< 0.713	< 0.755	< 0.762	< 0.543	< 0.690	**1.09**	< 0.699
Silver	39	510	0.06	1.1	< 0.746	< 0.643	< 0.741	< 0.935	< 0.740	< 0.674	< 0.708	< 0.713	**1.03**	< 0.762	< 0.543	< 0.690	< 0.811	< 0.699
Sodium	NLE	NLE	NLE	51.6	**199**	**80.1**	**95.6**	**334**	**139**	**178**	**93.5**	**63.7**	**63.9**	**87.5**	**50.2**	**66**	**115**	**56.9**
Thallium	0.08	1	0.0011	ND	< 0.746	< 0.643	< 0.741	< 0.935	< 0.740	< 0.674	< 0.708	< 0.713	< 0.755	< 0.762	< 0.543	< 0.690	< 0.811	< 0.699
Vanadium	39	510	6.3	94.1	**66.8**	**102**	**47.8**	**63.6**	**100**	**104**	**126**	**14.2**	**9.61**	**31.3**	**30.3**	**9.7**	**8.8**	**14.3**
Zinc	2,300	31,000	29	81.4	**44.2**	**46.7**	**43.4**	**40.4**	**61.7**	**95.5**	**76.1**	**24.9**	**16.6**	**27.6**	**23.5**	**17**	**59.4**	**24.3**

Notes:
(1) U.S. Environmental Protection Agency, Regional Screening Levels (RSLs). Residential Soil (TR=1E-06, HQ = 0.1). (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm). Revised November 2013.

(2) Weston, 1995. Final Site Investigation - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December

µg/kg = micrograms per kilogram; mg/kg = milligrams per kilogram.
USEPA RSL for Chromium III is used for Chromium
Dash (--) = only background concentrations for metals are being used as comparison criteria.
RSL values were current at the time the screening was conducted.
B = Analyte detected in both sample and associated laboratory blank.
D = Result from dilution of sample.
DUP = field duplicate sample.
E = Estimated value.
J = Analyte detected between MDL and practical quantitation limit (PQL).
NA = not analyzed.
ND = not detected.
NLE = No limit established.
< = analyte not detected above method detection limit (MDL).
µg/kg = micrograms per kilogram.
mg/kg = milligrams per kilogram.
VOCs = volatile organic compounds.
in = inches.
bgs = below ground surface.
Detections are bolded
Shaded cells = concentration exceeds USEPA Groundwater Protection RSL.
Shaded cells = concentration exceeds USEPA Residential and/or Industrial RSL.
Shaded cells = concentration exceeds all three USEPA comparison criteria.
Shaded cells = concentration exceeds Weston (1995) background concentration.

TABLE 4.2
SOIL SAMPLING SUMMARY RESULTS - COMPARISION TO USEPA CRITERIA
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	USEPA RSL Residential (HQ=0.1)[1]	USEPA RSL Industrial (HQ=0.1)	USEPA RSL Groundwater Protection (Risk-based)	Weston Background [2]	B-107		B-108		B-109		B-110		B-111		B-112		B-113		B-114		B-115		B-116		B-117		B-118		B-119		B-119 Dup	
Sample Date					01/12/99		01/12/99		01/12/99		01/12/99		01/12/99		01/12/99		01/13/99		01/13/99		01/13/99		01/13/99		01/13/99		01/13/99		01/13/99		01/13/99	
Volatile Organic Compounds (µg/kg)																																
Lab Sample ID (VOCs only collected 24 in. bgs)					4184.03		4184.05		4184.07		4184.09		4184.11		4184.13		4189.03		4189.05		4189.07		4189.09		4189.11		4189.13		4189.15		4189.17	
Acetone	6,100,000	63,000,000	240	--	< 640		< 620		< 590		< 620		< 570		< 570		< 600		< 590		< 560		< 630		< 570		< 600		< 520		< 540	
Methylene Chloride	36,000	310,000	2.2	--	< 640		< 620		< 590		< 620		< 570		< 570		< 600		< 590		< 560		< 630		< 570		< 600		< 520		< 540	
Benzene	1,100	5,400	0.2	--	< 320		< 310		< 290		< 310		< 290		< 280		< 300		< 300		< 280		< 320		< 280		< 300		< 260		< 270	
Toluene	500,000	4,500,000	59	--	< 320		< 310		< 290		< 310		< 290		< 280		< 300		< 300		< 280		< 320		< 280		< 300		< 260		< 270	
TICs	NLE	NLE	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Semi-Volatile Organic																																
Lab Sample ID (All analysis except VOCs - collected 0 to 12 in. bgs)					4184.02		4184.04		4184.06		4184.08		4184.10		4184.12		4189.02		4189.04		4189.06		4189.08		4189.10		4189.12		4189.14		4189.16	
Aniline	43,000	300,000	3.7	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1000		< 1100		< 1200		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Naphthalene	3,600	18,000	0.47	--	< 1200		< 1200		< 1200		< 1100		< 1100		**110**	J	< 1100		< 1200		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
2-Methylnaphthalene	23,000	220,000	14	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1000		< 1100		< 1200		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Acenaphthylene	NLE	NLE	NLE	--	< 1200		< 1200		< 1200		< 1100		< 1100		**520**	J	< 1100		**170**	J	< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Acenaphthene	340,000	3,300,000	410	--	< 1200		< 1200		< 1200		< 1100		< 1100		**130**	J	< 1100		< 1200		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Dibenzofuran	7,800	100,000	11	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1000		< 1100		< 1200		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Diethylphthalate	4,900,000	49,000,000	470	--	< 1200		< 1200		< 1200		< 1100		< 1100		< 1000		< 1100		< 1200		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Fluorene	230,000	2,200,000	400	--	< 1200		< 1200		< 1200		< 1100		< 1100		**310**	J	< 1100		< 1200		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Phenanthrene	NLE	NLE	NLE	--	**1200**		< 1200		< 1200		< 1100		< 1100		**6400**		< 1100		**860**	J	< 1200		< 1200		< 1000		< 1100		**110**	J	< 1100	
Anthracene	1,700,000	17,000,000	4200	--	**300**	J	< 1200		< 1200		< 1100		< 1100		**860**	J	< 1100		**270**	J	< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Di-n-butylphthalate	610,000	6,200,000	170	--	**1900**	B	**1200**	B	**30000**	BD	**2000**	B	**1100**	JB	**1200**	B	**380**	JB	**470**	JB	**380**	JB	**1200**	JB	**310**	JB	**1400**	B	**3000**	B	**1200**	B
Fluoranthene	230,000	2,200,000	7,000	--	**1600**		< 1200		< 1200		< 1100		< 1100		**7900**		< 1100		**6400**		< 1200		< 1200		< 1000		< 1100		**250**	J	**200**	J
Pyrene	170,000	1,700,000	950	--	**1300**		< 1200		< 1200		< 1100		< 1100		**6400**		< 1100		**4800**		< 1200		< 1200		< 1000		**110**	J	**190**	J	**150**	J
Benzo[a]anthracene	150	2,100	10	--	**640**	J	< 1200		< 1200		< 1100		< 1100		**2800**		< 1100		**2400**		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Chrysene	15,000	210,000	1,100	--	**920**	J	< 1200		< 1200		< 1100		< 1100		**3900**		< 1100		**2600**		< 1200		< 1200		< 1000		< 1100		**120**	J	< 1100	
bis(2-Ethylhexyl)phthalate	35,000	120,000	1,100	--	**150**	J	**170**	J	**200**	J	**130**	J	**140**	J	**150**	J	< 1100		< 1200		< 1200		< 1200		**120**	J	**170**	J	< 1100		< 1100	
Benzo[b]fluoranthene	150	2,100	35	--	**400**	J	< 1200		< 1200		< 1100		< 1100		**2000**		< 1100		**2200**		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Benzo[k]fluoranthene	1,500	21,000	350	--	**490**	J	< 1200		< 1200		< 1100		< 1100		**2100**		< 1100		**2100**		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Benzo[a]pyrene	15	210	4	--	**480**	J	< 1200		< 1200		< 1100		< 1100		**2300**		< 1100		**2500**		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Indeno[1,2,3-cd]pyrene	150	2,100	200	--	**280**	J	< 1200		< 1200		< 1100		< 1100		**950**	J	< 1100		**1200**	J	< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Dibenz[a,h]anthracene	15	210	11	--	< 1200		< 1200		< 1200		< 1100		< 1100		**310**	J	< 1100		**340**	J	< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
Benzo[g,h,i]perylene	NLE	NLE	NLE	--	**260**	J	< 1200		< 1200		< 1100		< 1100		**1100**		< 1100		**1500**		< 1200		< 1200		< 1000		< 1100		< 1100		< 1100	
TICs	NLE	NLE	NLE	--	**11800**		**11800**		**14700**		**8200**		**39180**		**11250**		**2300**		**3700**		**2100**		**3690**		**2500**		**5900**		**6080**		**5550**	
Pesticides/PCBs (mg/kg)																																
4,4'-DDE	1.4	5.1	0.05	--	**0.04**		**0.007**		**0.001**		**0.024**		**0.003**		**0.117**		**0.046**		**0.387**		**0.743**		**0.186**		**0.155**		**0.094**		**0.136**		**0.092**	
Dieldrin	0.03	0.11	0.000061	--	< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0005		< 0.0109		< 0.0119		< 0.0114		< 0.0118		< 0.0105		**0.013**		< 0.0109		< 0.0108	
4,4'-DDD	2	7.2	0.01	--	**0.025**		**0.001**		< 0.0007		**0.002**		< 0.0007		**0.149**		< 0.0131		**0.072**		**0.695**		< 0.0142		**0.015**		< 0.0132		**0.022**		< 0.0129	
Endrin Aldehyde	NLE	NLE	NLE	--	< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0005		< 0.0109		< 0.0119		< 0.0114		< 0.0118		< 0.0105		< 0.0110		< 0.0109		**0.057**	
4,4'-DDT	1.7	7	0.07	--	**0.144**		**0.006**		< 0.0013		**0.012**		**0.003**		**0.509**		**0.036**		**0.466**		**4.142**		**0.152**		**0.165**		**0.08**		**0.113**		< 0.0237	
gamma-Chlordane	1.6	6.5	0.013	--	< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0005		< 0.0109		< 0.0119		< 0.0114		< 0.0118		< 0.0105		< 0.0110		< 0.0109		< 0.0108	
alpha-Chlordane	1.6	6.5	0.013	--	< 0.0006		< 0.0006		< 0.0006		< 0.0005		< 0.0006		< 0.0005		< 0.0109		< 0.0119		< 0.0114		< 0.0118		< 0.0105		< 0.0110		< 0.0109		< 0.0108	

TABLE 4.2
SOIL SAMPLING SUMMARY RESULTS - COMPARISION TO USEPA CRITERIA
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Field Sample Location	USEPA RSL Residential (HQ=0.1)(1)	USEPA RSL Industrial (HQ=0.1)	USEPA RSL Groundwater Protection (Risk-based)	Weston Background (2)	B-107	B-108	B-109	B-110	B-111	B-112	B-113	B-114	B-115	B-116	B-117	B-118	B-119	B-119 Dup
Sample Date					01/12/99	01/12/99	01/12/99	01/12/99	01/12/99	01/12/99	01/13/99	01/13/99	01/13/99	01/13/99	01/13/99	01/13/99	01/13/99	01/13/99
Metals (mg/kg)																		
Aluminum	7,700	99,000	2300	15,200	**12800**	**16600**	**17100**	**4320**	**3040**	**3070**	**18000**	**16300**	**17000**	**17300**	**2720**	**12100**	**5260**	**6590**
Antimony	3.1	41	0.03	ND	**0.663**	< 0.380	**0.483**	**0.581**	**1.03**	**1.16**	< 0.387	< 3.328	**0.588**	< 0.492	**0.792**	**0.407**	**0.424**	< 0.437
Arsenic	0.61	2.4	0.0013	22.9	**16.2**	**11.8**	**11.7**	**1.9**	**1.12**	**1.92**	**23.3**	**25.6**	**19.3**	**23.4**	**1.36**	**11.8**	**5.03**	**6.05**
Barium	1,500	19,000	12	32.3	**26.5**	**26.5**	**26.9**	**10.7**	**10.1**	**17.5**	**26.2**	**29.2**	**17.6**	**40.3**	**12.9**	**20.8**	**19.8**	**18**
Beryllium	16	200	1.3	2	**1.38**	**1.85**	**1.29**	**0.255**	**0.197**	**0.319**	**2.54**	**2.16**	**2.3**	**2.39**	**0.19**	**1.15**	**0.47**	**0.63**
Cadmium	7	80	0.05	ND	**0.786**	**1.02**	**0.714**	**0.313**	**0.326**	**0.25**	**1.21**	**1.09**	**1**	**3.17**	**0.268**	**0.539**	**0.276**	**0.334**
Calcium	NLE	NLE	NLE	921	**749**	**116**	**134**	**201**	**199**	**299**	**634**	**1200**	**758**	**1180**	**162**	**386**	**235**	**276**
Chromium	12,000	150,000	2,800,000	269	**161**	**188**	**142**	**32.7**	**19.3**	**19.8**	**308**	**254**	**258**	**280**	**16.3**	**135**	**51**	**71**
Cobalt	2.3	30	0.02	2.5	**0.996**	**1.83**	**1.89**	**0.634**	**0.425**	**1.41**	**0.573**	**1.07**	**0.298**	**0.959**	**0.443**	**0.938**	**0.692**	**0.84**
Copper	310	4,100	2.2	8	**52.1**	**36.6**	**30.1**	**23.6**	**20.1**	**21.3**	**65.4**	**31.9**	**25.5**	**34.2**	**4.8**	**33**	**7.5**	**7.75**
Iron	5500	72,000	27	55,800	**37900**	**51300**	**35400**	**6360**	**5400**	**8550**	**64400**	**55300**	**55900**	**57600**	**4980**	**31000**	**13900**	**17100**
Lead	400	800	NLE	19.5	**28.8**	**6.91**	**7.09**	**2.6**	**2.41**	**40.7**	**32.5**	**36.5**	**16.1**	**45.2**	**8.16**	**30.5**	**11.9**	**13.5**
Magnesium	NLE	NLE	NLE	7,230	**4880**	**6450**	**4150**	**728**	**470**	**831**	**10100**	**8290**	**8380**	**9020**	**474**	**4270**	**1520**	**2210**
Manganese	180	2,300	2.1	90.7	**21.7**	**23.4**	**30.3**	**15.9**	**12.2**	**20.5**	**22.2**	**30.4**	**18.2**	**47**	**18.5**	**29.6**	**24.1**	**23.8**
Mercury	1	4.3	0.0033	ND	**0.154**	**0.054**	**0.07**	**0.055**	**0.054**	**0.066**	**0.073**	**0.97**	**0.044**	**0.069**	**0.037**	**0.313**	**0.068**	**0.051**
Nickel	150	2000	2	8.4	**5.69**	**7.82**	**6.76**	**2.43**	**2.31**	**3.81**	**7.11**	**7.88**	**6.36**	**8**	**2.26**	**10.9**	**3.16**	**3.39**
Potassium	NLE	NLE	NLE	15,400	**10500**	**15400**	**8550**	**1050**	**566**	**1910**	**22800**	**18600**	**19600**	**20500**	**770**	**9350**	**3070**	**4560**
Selenium	39	510	0.04	1.9	**1.14**	**0.711**	**1.11**	< 0.614	< 0.711	**1.16**	**2.48**	**2.11**	**1.94**	**1.67**	**0.661**	**1.08**	**0.705**	**0.959**
Silver	39	510	0.06	1.1	< 0.699	< 0.570	< 0.561	< 0.614	< 0.711	< 0.590	< 0.580	< 4.992	< 0.712	< 0.738	< 0.637	< 0.533	< 0.514	< 0.655
Sodium	NLE	NLE	NLE	51.6	**174**	**118**	**194**	**71.6**	**69.4**	**79.5**	**148**	**118**	**238**	**124**	**74.9**	**130**	**64.9**	**62.2**
Thallium	0.08	1	0.0011	ND	< 0.699	< 0.570	< 0.561	< 0.614	< 0.711	< 0.590	< 0.580	< 4.992	< 0.712	< 0.738	< 0.637	< 0.533	< 0.514	< 0.655
Vanadium	39	510	6.3	94.1	**65.7**	**98.4**	**84.4**	**23**	**14**	**12.6**	**120**	**82.4**	**94.6**	**118**	**9.79**	**57.2**	**24.1**	**32.1**
Zinc	2,300	31,000	29	81.4	**52.7**	**75.9**	**43.1**	**15.8**	**20.1**	**37.7**	**84.9**	**85.3**	**70.5**	**156**	**26.7**	**49.8**	**32.6**	**39.3**

Notes:
(1) U.S. Environmental Protection Agency, Regional Screening Levels (RSLs). Residential Soil (TR=1E-06, HQ = 0.1). (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm). Revised November 2013.

(2) Weston, 1995. Final Site Investigation - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December

µg/kg = micrograms per kilogram; mg/kg = milligrams per kilogram.
USEPA RSL for Chromium III is used for Chromium
Dash (--) = only background concentrations for metals are being used as comparison criteria.
RSL values were current at the time the screening was conducted.
B = Analyte detected in both sample and associated laboratory blank.
D = Result from dilution of sample.
DUP = field duplicate sample.
E = Estimated value.
J = Analyte detected between MDL and practical quantitation limit (PQL).
NA = not analyzed.
ND = not detected.
NLE = No limit established.
< = analyte not detected above method detection limit (MDL).
µg/kg = micrograms per kilogram.
mg/kg = milligrams per kilogram.
VOCs = volatile organic compounds.
in = inches.
bgs = below ground surface.
Detections are bolded
Shaded cells = concentration exceeds USEPA Groundwater Protection RSL.
Shaded cells = concentration exceeds USEPA Residential and/or Industrial RSL.
Shaded cells = concentration exceeds all three USEPA comparison criteria.
Shaded cells = concentration exceeds Weston (1995) background concentration.

TABLE 4.3
SOIL SAMPLING SUMMARY OF EXCEEDANCES
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Analyte	Maximum Detected Concentration		Location of Maximum Concentration	Number of Samples	Number of Detections	Number of Exceedances							Evaluated as COPC in Risk Assessment?	Rationale
						Residential Direct Contact		Non-Residential Direct Contact		Impact to Groundwater		Background		
						NJDEP RDCSRS [1]	USEPA RSL Residential (HQ=0.1) [2]	NJDEP NRDCSRS	USEPA Industrial RSL	NJDEP Impact to Ground Water [3]	USEPA Groundwater Protection RSL	Maximum Background (Weston, 1995) [4]		
Volatile Organic Compounds (µg/kg)														
Acetone	17000		B-34	124	1	0	0	NLE	0	0	1	n/a	No	Less than RSL
Methylene Chloride	17000		B-34	124	41	0	0	0	0	41	41	n/a	No	Less than RSL
Benzene	300		B-52	124	1	0	0	0	0	1	1	n/a	No	Less than RSL
Toluene	750		B-56	124	2	0	0	0	0	0	2	n/a	No	Less than RSL
TICs	2600		B-87	124	2	NLE	NLE	NLE	NLE	NLE	NLE	n/a	No	No RSLs
Semi-Volatile Organic Compounds (µg/kg)														
Aniline	610	J	B-69	124	1	NLE	0	NLE	0	NLE	1	n/a	No	Less than RSL
Naphthalene	3600		B-60	124	6	0	0	0	0	0	6	n/a	No	Less than RSL
2-Methylnaphthalene	1100		B-8	124	6	0	0	0	0	0	6	n/a	No	Less than RSL
Acenaphthylene	1100		B-8	124	9	NLE	NLE	0	NLE	NLE	NLE	n/a	No	No RSLs and < NJDEP NRDCSRS
Acenaphthene	7300		B-60	124	5	0	0	0	0	0	2	n/a	No	Less than RSL
Dibenzofuran	4200		B-60	124	3	NLE	0	NLE	0	NLE	3	n/a	No	Less than RSL
Diethylphthalate	210	J	B-75	124	5	0	0	0	0	0	0	n/a	No	Less than RSL
Fluorene	8100		B-60	124	7	0	0	0	0	0	3	n/a	No	Less than RSL
Phenanthrene	76000	D	B-60	124	33	NLE	NLE	0	NLE	NLE	NLE	n/a	No	No RSLs and < NJDEP NRDCSRS
Anthracene	17000	JD	B-60	124	12	0	0	0	0	0	2	n/a	No	Less than RSL
Di-n-butylphthalate	31000	BD	B-9	124	122	0	0	0	0	0	122	n/a	No	Less than RSL
Fluoranthene	89000	D	B-60	124	46	0	0	0	0	0	3	n/a	No	Less than RSL
Pyrene	60000	D	B-60	124	47	0	0	0	0	0	9	n/a	No	Less than RSL
Benzo[a]anthracene	27000	D	B-60	124	23	10	17	5	5	7	23	n/a	**Yes**	Exceeds Residential RSL at 17 locations
Chrysene	29000	D	B-60	124	33	0	1	0	0	0	7	n/a	**Yes**	Exceeds Residential RSL at 1 location
bis(2-Ethylhexyl)phthalate	230	JB	B-1	124	40	0	0	0	0	0	0	n/a	No	Less than RSL
Benzo[b]fluoranthene	23000	D	B-60	124	20	8	14	3	3	3	20	n/a	**Yes**	Exceeds Residential RSL at 14 locations
Benzo[k]fluoranthene	25000	D	B-60	124	25	2	5	1	1	0	11	n/a	**Yes**	Exceeds Residential RSL at 5 locations
Benzo[a]pyrene	26000	D	B-60	124	28	15	28	15	15	15	28	n/a	**Yes**	Exceeds Residential RSL at 28 locations
Indeno[1,2,3-cd]pyrene	13000		B-60	124	13	5	12	2	2	1	11	n/a	**Yes**	Exceeds Residential RSL at 12 locations
Dibenz[a,h]anthracene	1200		B-76	124	9	6	9	6	5	2	9	n/a	**Yes**	Exceeds Residential RSL at 9 locations
Benzo[g,h,i]perylene	18000	JD	B-60	124	15	0	NLE	0	NLE	NLE	NLE	n/a	No	No RSLs and < NJDEP NRDCSRS
TICs	64920		B-22 Dup	124	121	NLE	NLE	NLE	NLE	NLE	NLE	n/a	No	No RSLs

TABLE 4.3
SOIL SAMPLING SUMMARY OF EXCEEDANCES
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Analyte	Maximum Detected Concentration	Location of Maximum Concentration	Number of Samples	Number of Detections	Number of Exceedances							Evaluated as COPC in Risk Assessment?	Rationale
					Residential Direct Contact		Non-Residential Direct Contact		Impact to Groundwater		Background		
					NJDEP RDCSRS [1]	USEPA RSL Residential (HQ=0.1) [2]	NJDEP NRDCSRS	USEPA Industrial RSL	NJDEP Impact to Ground Water [3]	USEPA Groundwater Protection RSL	Maximum Background (Weston, 1995) [4]		
Pesticides/PCBs (mg/kg)													
4,4'-DDE	0.743	B-115	124	109	0	0	0	0	0	37	n/a	No	Less than RSL
Dieldrin	0.013	B-118	124	4	0	0	0	0	1	4	n/a	No	Less than RSL
4,4'-DDD	1.132	B-78	124	96	0	0	0	0	0	79	n/a	No	Less than RSL
Endrin Aldehyde	0.057	B-119 (Dup)	124	1	NLE	NLE	NLE	NLE	NLE	NLE	n/a	No	No RSLs
4,4'-DDT	4.142	B-115	124	99	4	4	0	0	0	47	n/a	**Yes**	Exceeds Residential RSL at 4 locations
gamma-Chlordane	0.08	B-71 (Dup)	124	7	0	0	0	0	2	2	n/a	No	Less than RSL
alpha-Chlordane	0.057	B-71 (Dup)	124	6	0	0	0	0	1	2	n/a	No	Less than RSL
Metals (mg/kg)													
Aluminum	101000	B-51 (Dup)	124	124	1	90	0	1	103	121	31	**Yes**	Exceeds Residential RSL at 90 locations and maximum background at 31 locations
Antimony	2.09	B-71	124	90	0	0	0	0	0	90	90	No	Less than RSL
Arsenic	168	B-28	124	124	37	124	37	119	37	124	25	**Yes**	Exceeds Residential RSL at 124 locations and maximum background at 25 locations
Barium	153	B-87	124	124	0	0	0	0	0	115	74	No	Less than RSL
Beryllium	3.24	B-64	124	122	0	0	0	0	109	68	23	No	Less than RSL
Cadmium	6.29	B-18	124	124	0	0	0	0	5	124	124	No	Less than RSL
Calcium	31100	B-81	124	124	NLE	NLE	NLE	NLE	NLE	NLE	72	No	Essential Nutrient
Chromium	367	B-64	124	124	NLE	0	NLE	0	NLE	0	14	No	Less than RSL
Cobalt	15	B-36	124	124	0	19	0	0	0	124	16	**Yes**	Exceeds Residential RSL at 19 locations and maximum background at 16 locations
Copper	283	B-69	124	124	0	0	0	0	0	124	74	No	Less than RSL
Iron	76100	B-85	124	124	NLE	121	NLE	2	NLE	124	14	No	Essential Nutrient
Lead	263	B-53	124	124	0	0	0	0	5	NLE	49	No	Less than RSL
Magnesium	12500	B-64	124	124	NLE	NLE	NLE	NLE	NLE	NLE	18	No	Essential Nutrient
Manganese	296	B-18	124	124	0	2	0	0	16	123	11	**Yes**	Exceeds Residential RSL at 2 locations and maximum background at 11 locations
Mercury	3.61	B-71	124	105	0	2	0	0	20	105	105	**Yes**	Exceeds Residential RSL at 2 locations and maximum background at 105 locations
Nickel	88	B-69	124	123	0	0	0	0	1	119	30	No	Less than RSL
Potassium	28900	B-64	124	124	NLE	NLE	NLE	NLE	NLE	NLE	22	No	Essential Nutrient
Selenium	3.33	B-86	124	96	0	0	0	0	0	96	30	No	Less than RSL
Silver	5	B-71 (Dup)	124	3	0	0	0	0	3	3	2	No	Less than RSL
Sodium	850	B-81	124	124	NLE	NLE	NLE	NLE	NLE	NLE	120	No	Essential Nutrient
Thallium	All non detect	n/a	124	0	0	0	0	0	0	0	0	No	Less than RSL
Vanadium	144	B-64	124	124	41	102	0	0	NLE	124	25	**Yes**	Exceeds Residential RSL at 102 locatons and maximum background at 25 locations
Zinc	362	B-81	124	124	0	0	0	0	0	115	32	No	Less than RSL

TABLE 4.3
SOIL SAMPLING SUMMARY OF EXCEEDANCES
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Analyte	Maximum Detected Concentration	Location of Maximum Concentration	Number of Samples	Number of Detections	Number of Exceedances							Evaluated as COPC in Risk Assessment?	Rationale
					Residential Direct Contact		Non-Residential Direct Contact		Impact to Groundwater		Background		
					NJDEP RDCSRS [1]	USEPA RSL Residential (HQ=0.1) [2]	NJDEP NRDCSRS	USEPA Industrial RSL	NJDEP Impact to Ground Water [3]	USEPA Groundwater Protection RSL	Maximum Background (Weston, 1995) [4]		

Notes:

(1) New Jersey Department of Environmental Protection (NJDEP) Residential and Non-Residential Screening values (N.J.A.C 7:26D; amended May 7, 2012). Available at: http://www.state.nj.us/dep/srp/regs/rs/.

(2) U.S. Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs) for Soil (USEPA RSL 2013), Residential, Industrial, Protection of groundwater. Available at: http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/docs/master_sl_table_run_MAY2013.pdf.

(3) NJDEP Impact to Ground Water (NJDEP guidance document; Dec 2008)

(4) Weston, 1995. Final Site Investigation - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December.

µg/kg = micrograms per kilogram; mg/kg = milligrams per kilogram; VOC = volatile organic compounds; in. = inches; bgs = below ground surface

RSL values were current at the time the screening was conducted.

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL).

B = Analyte detected in both sample and blank.

D = Results from dilution of sample.

Dup = Field duplicate sample.

n/a = Not applicable, all organics are being evaluated in the risk assessment.

ND = Not detected in any background sample, no background concentration available.

NLE = No limit established.

TABLE 4.4
GROUNDWATER SAMPLING SUMMARY RESULTS FOR MARCH 2008 TO AUGUST 2011
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

				M14MW18			M14MW19																									
Round No.	**NJDEP GWQS (1)**	**USEPA Tapwater RSL (2)**	**Background Concentration (3)**	LF1	LF2	LF3	46		47		48		48 Dup		49		49 Dup		50		51		51 Dup		52		52 Dup		52		52 Dup		LF1	
Date Collected				3/3/2011	5/11/2011	8/2/2011	3/18/2008		5/19/2008		8/14/2008		8/14/2008		10/30/2008		10/30/2008		3/31/2009		6/17/2009		6/17/2009		9/10/2009		9/10/2009		11/20/2009		11/20/2009		3/31/2010	
ANALYTE/Lab ID				1108005	1120111	1132005	80089.04		80167.04		80299.04		80299.03		80395.04		80395.03		90139.04		90242.04		90242.03		90375.03		90375.02		90452.04		90452.03		10114.07	
Volatile Organic Compounds (µg/L)																																	
1,4-Dichlorobenzene	75	0.42	--	<0.15	<0.15	<0.26	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Acetone	6000	1,200	-	<0.32	<0.32	<7.6	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Carbon disulfide	700	72	--	<0.12	<0.12	<0.18	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Chlorobenzene	50	7.2	--	<0.12	<0.12	<0.22	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Cyclohexane [4]	100	1300	--	NA	NA	<0.29	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methylcyclohexane [4]	100	NLE	--	NA	NA	<0.18	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methylene chloride	3	8.4	--	<0.26	<0.26	<0.20	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
TICs*	500	NLE	--	ND	ND	**0**	ND		**6**	J	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Pesticides (Not Detected In Any Samples; Results Not Shown)																																	
Metals (µg/L)																																	
Aluminum	200	1,600	121,000	<200	**209**	**2650**	**94.7**	ER	**1450**		ND		ND		**263**		**192**		ND		**85.1**	ER	**95.9**	ER	**60.6**		**96.4**	ER	**36.1**	ER	**47.2**	ER	**319**	
Antimony	6	0.60	20.7	<6.0	<6.0	<6.0	ND		ND		ND		ND		ND		ND		**12**		**3.05**	ER	**1.67**	ER	ND		ND		ND		**4.94**	ER		
Arsenic	3	0.05	89.3	**11.2**	<3.0	**9.2**	ND		ND		**2.97**	ER	ND		ND		ND		**32.4**		**14.6**		**16.3**		**11.2**		**9.69**		**1.03**	ER	**0.68**	ER	**0.89**	ER
Barium	6000	290	699	<200	<200	<200	**32.5**		**25.3**		**16.8**		**17.5**		**61.1**		**61.2**		**47.7**		**52.4**		**58.1**		**45**		**55.7**		**72.2**		**90.7**		**12.1**	
Beryllium	1	1.60	2.1	<1.0	<1.0	<1.0	ND		**0.253**	ER	ND		ND		**0.112**	ER	ND		ND		ND		ND		ND		ND		ND		ND		**0.047**	ER
Cadmium	4	0.69	9.5	<3.0	<3.0	<3.0	ND		**1.08**	ER	**1.51**	ER	**1.42**	ER	ND		ND		ND		ND		**0.227**	ER	**0.573**	ER	**1.08**	ER	ND		ND		ND	
Calcium	NLE	NLE	45,400	**6830**	<5000	**5270**	**18900**		**11700**		**17500**		**18000**		**16100**		**16100**		**21700**		**15300**		**14900**		**20600**		**21200**		**18900**		**21400**		**12700**	
Chromium	70	0.03	191	<10	<10	**35.2**	ND		**17.8**		**0.372**	ER	**0.511**	ER	**2.08**	ER	**1.49**	ER	**1.32**	ER	**2.23**	ER	**2.36**	ER	ND		ND		**1.81**	ER	**1.09**	ER	**3.64**	ER
Cobalt	100	0.47	18.3	<50	<50	<50	ND		**0.198**	ER	ND		ND		**0.594**	ER	**0.63**	ER	ND		ND		ND		ND		ND		ND		ND		ND	
Copper	1300	62	65.6	<10	<10	<10	**7.19**		**4.4**	ER	ND		ND		**6.21**		**4.79**	ER	ND		**7.03**		**7.5**		ND		ND		ND		ND		**1.09**	ER
Iron	300	1,100	431,000	**5490**	**5420**	**12300**	**19800**		**8680**		**11200**		**11600**		**12200**		**11500**		**19000**		**14500**		**14600**		**13900**		**14600**		**11500**		**13600**		**8110**	
Lead	5	NLE	22.7	<3.0	<3.0	**4.8**	ND		**10.2**		ND		ND		**2.73**	ER	**2.01**	ER	**6.67**		**3.97**	ER	**6.79**		ND		**4.72**	ER	ND		**3.11**	ER	**3.65**	ER
Magnesium	NLE	NLE	62,700	<5000	<5000	<5000	**2580**		**2120**		**2510**		**2620**		**2450**		**2460**		**2970**		**2310**		**2260**		**2800**		**2840**		**2970**		**3170**		**1950**	
Manganese	50	32	331	**26.1**	<15	**27.3**	**98.9**		**74.3**		**84.1**		**88.9**		**182**		**185**		**151**		**115**		**116**		**126**		**133**		**132**		**154**		**58.9**	
Mercury	2	0.06	0.26	<0.20	<0.20	<0.20	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Nickel	100	30	187	<10	<10	<10	ND		**1.71**	ER	**0.506**	ER	ND		**1**	ER	**0.729**	ER	ND		**3.55**	ER	**3.62**	ER	ND		ND		**2.62**	ER	**2.42**	ER	**1.61**	ER
Potassium	NLE	NLE	137,000	<10000	<10000	<10000	**6320**		**5230**		**6410**		**6640**		**4150**		**4290**		**5470**		**4410**		**4210**		**6380**		**6300**		**4890**		**4890**		**5890**	
Selenium	40	7.80	29.6	<10	<10	<10	ND		ND		ND		ND		ND		ND		**33.6**		ND		**7.08**	ER	**12.7**		**10.2**		ND		ND		**17.8**	ER
Silver	40	7.10	ND	<10	<10	<10	ND		ND		**2.41**	ER	**2.25**	ER	ND		ND		ND		**0.591**		**0.604**	ER	ND		ND		ND		ND		ND	
Sodium	50000	NLE	21500	<10000	<10000	<10000	**5300**		**3330**		**6790**		**7240**		**4750**	ER	**4230**	ER	**5840**		**3880**		**3950**	ER	**5860**		**5300**		**5500**		**5870**		**4160**	ER
Thallium	2	0.02	5.5	<2.0	<2.0	<2.0	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	NLE	6.3	108	<50	<50	<50	ND		**8.06**		**0.731**	ER	**0.894**	ER	**2.17**	ER	**1.69**	ER	**0.8**		**0.909**	ER	**0.992**	ER	**1.98**	ER	**2.03**		**2.6**	ER	**2.8**	ER	**1.32**	ER
Zinc	2000	470	233	<20	<20	<20	**53.9**		**44.7**		ND		ND		**22.3**	ER	**21.4**	ER	**13.2**		**103**		**112**		**7.67**	ER	**11.8**		**70.3**		**65.4**		**53**	

Notes:

(1) New Jersey Department of Environmental Protection Ground Water Quality Standards, Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm)

(2) U.S. Environmental Protection Agency, Regional Screening Levels (RSLs). (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm). Revised November 2013.

(3) Background data from Weston. 1995. Site Investigation Report - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December.

(4) New Jersey Interim Generic Ground Water Quality Criteria for synthetic organics; see http://www.nj.gov/dep/wms/bwqsa/Appendix_Table_2.htm

RSL values were current at the time the screening was conducted.
NA = Not analyzed.
ND = Not detected.
NLE = No limit established.
ER = Estimated Result.
< = analyte not detected above method detection limit (MDL).
µg/L = micrograms per liter.
Detections are bolded
Shaded cells = concentration exceeds NJDEP GWQS
Shaded cells = concentration exceeds USEPA Tapwater RSLs
Shaded cells = concentration exceeds NJDEP GWQS and USEPA Tapwater RSLs.
Shaded cells = concentration exceeds Weston (1995) background

TABLE 4.4
GROUNDWATER SAMPLING SUMMARY RESULTS FOR MARCH 2008 TO AUGUST 2011
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

				M14MW19									M14MW20							
Round No.	**NJDEP GWQS [1]**	**USEPA Tapwater RSL [2]**	**Background Concentration [3]**	LF2	LF2 Dup	LF3	LF4	LF4 Dup	LF5	LF6	LF6 Dup	LF7	46	47	48	49	50	50 Dup	51	52
Date Collected				6/4/2010	6/4/2010	8/26/2010	12/9/2010	12/9/2010	3/3/2011	5/11/2011	5/11/2011	8/2/2011	3/18/2008	5/19/2008	8/14/2008	10/30/2008	3/31/2009	3/31/2009	6/17/2009	9/10/2009
ANALYTE/Lab ID				10237.04	10237.03	1036304	1054104	1054103	1108008	1120104	1120103	1132006	80089.05	80167.05	80299.05	80395.05	90139.05	90139.03	90242.05	90375.04
Volatile Organic Compounds (µg/L)																				
1,4-Dichlorobenzene	75	0.42	--	ND	ND	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.26	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	6000	1,200	-	ND	ND	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<7.6	ND	ND	**2.8**	ND	ND	ND	ND	ND
Carbon disulfide	700	72	--	ND	ND	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.18	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	50	7.2	--	ND	ND	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.22	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane [4]	100	1300	--	ND	ND	NA	NA	NA	NA	NA	NA	<0.29	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane [4]	100	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	<0.18	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	3	8.4	--	ND	ND	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.20	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	**0**	ND	**4** J	ND	ND	ND	ND	ND	ND
Pesticides (Not Detected In Any Samples; Results Not Shown)																				
Metals (µg/L)																				
Aluminum	200	1,600	121,000	**15.4** ER	ND	<100	<100	<100	<200	<200	<200	<200	**78.5** ER	ND	**1050**	**51.3** ER	ND	ND	ND	**56.5** ER
Antimony	6	0.60	20.7	ND	**8.64** ER	<10	<10	<10	<6.0	<6.0	<6.0	<6.0	ND	ND	ND	ND	**9.38** ER	**8.68** ER	**1.88** ER	ND
Arsenic	3	0.05	89.3	ND	ND	**1.83** ER	**0.77** ER	**1.06** ER	<3.0	<3.0	<3.0	<3.0	**2.74** ER	**4.5** ER	**6.1**	**3.27** ER	**54.2**	**47.5**	**24.6**	**22.7**
Barium	6000	290	699	**9.41**	**8.56**	**13.1**	**12.8**	**13.2**	<200	<200	<200	<200	**18.8**	ND	**92.1**	**19.8**	**25.4**	**42.3**	**15.9**	**18.9**
Beryllium	1	1.60	2.1	**0.108** ER	**0.086** ER	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	ND	**1.2** ER	**0.145** ER	ND	ND	ND	ND	ND
Cadmium	4	0.69	9.5	ND	**0.527** ER	**0.663** ER	<2	**0.431** ER	<3.0	<3.0	<3.0	<3.0	**0.902** ER	**0.586** ER	**2.13**	ND	ND	ND	**0.621** ER	ND
Calcium	NLE	NLE	45,400	**13700**	**12400**	**19700**	**15800**	**16400**	**15500**	**17800**	**19200**	**27400**	**30800**	**27.6**	**35500**	**36600**	**27900**	**28800**	**30200**	**33700**
Chromium	70	0.03	191	ND	ND	<5	<5	**0.69** ER	<10	<10	<10	<10	**0.315** ER	ND	**4.07** ER	ND	**1.22** ER	**0.873** ER	**0.476** ER	ND
Cobalt	100	0.47	18.3	ND	ND	<2	<2	<2	<50	<50	<50	<50	ND	**0.898** ER	ND	ND	ND	ND	**0.445** ER	ND
Copper	1300	62	65.6	ND	ND	**1.6** ER	<5	<5	<10	<10	<10	<10	**4.99** ER	ND	ND	ND	**2.9** ER	**2.18** ER	**11.8**	ND
Iron	300	1,100	431,000	**10900**	**9950**	**14400**	**11900**	**12200**	**11900**	**19000**	**19100**	**21300**	**2850**	**335** ER	**8760**	**8210**	**6730**	**8400**	**5850**	**5890**
Lead	5	NLE	22.7	ND	ND	<5	<5	**2.79** ER	<3.0	<3.0	<3.0	<3.0	ND	ND	ND	ND	**5.46**	ND	**1.79** ER	ND
Magnesium	NLE	NLE	62,700	**1970**	**1810**	**2930**	**2090**	**2170**	<5000	<5000	<5000	<5000	**1850**	**13.9** ER	**2440**	**3240**	**2390**	**2410**	**2370**	**3050**
Manganese	50	32	331	**57.7**	**53.5**	**98.7**	**70.4**	**73**	**69.6**	**115**	**128**	**213**	**123**	ND	**59.7**	**47.7**	**129**	**197**	**68.3**	**45.3**
Mercury	2	0.06	0.26	**0.08** ER	**0.06** ER	<0.5	<0.5	<0.5	<0.20	<0.20	<0.20	<0.20	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	100	30	187	ND	ND	**0.828** ER	<5	<5	<10	<10	<10	<10	**1.92** ER	ND	**1.68** ER	ND	ND	ND	**1.64** ER	ND
Potassium	NLE	NLE	137,000	**5610**	**5010**	**6340**	**7260**	**7450**	<10000	<10000	<10000	<10000	**3360**	ND	**5490**	**5840**	**4150**	**4170**	**4940**	**6380**
Selenium	40	7.80	29.6	NR	NR	**41.2**	<5	<5	<10	<10	<10	<10	ND	**6.8** ER	ND	ND	**51.2**	**60.2**	**8.42** ER	**24.1**
Silver	40	7.10	ND	**2.13** ER	**2.39**	**2.46** ER	**1.75** ER	**0.896** ER	<10	<10	<10	<10	**1.47** ER	ND	**2.01** ER	ND	ND	ND	ND	ND
Sodium	50000	NLE	21500	**5120**	**4120**	**6210**	**2440** ER	**5010**	<10000	<10000	<10000	<10000	**5670**	**838** ER	**6720**	**6050**	**11400**	**11500**	**7840**	**5890**
Thallium	2	0.02	5.5	ND	ND	<5	<5	<5	<2.0	<2.0	<2.0	<2.0	ND	**4.94** ER	ND	ND	ND	ND	ND	ND
Vanadium	NLE	6.3	108	ND	ND	<5	**0.583** ER	**0.789** ER	<50	<50	<50	<50	**0.754** ER	ND	**2.57** ER	**0.566** ER	**1.31** ER	**1.15** ER	**0.213** ER	**1.33** ER
Zinc	2000	470	233	ND	ND	**1.54** ER	<50	<50	<20	**20.8**	**21.3**	<20	**8.04** ER	ND	**4.87** ER	**3.92** ER	**5.84** ER	**5.53**	ND	**3.7** ER

Notes:

(1) New Jersey Department of Environmental Protection Ground Water Quality Standards, Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm)

(2) U.S. Environmental Protection Agency, Regional Screening Levels (RSLs). (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm). Revised November 2013.

(3) Background data from Weston. 1995. Site Investigation Report - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December.

(4) New Jersey Interim Generic Ground Water Quality Criteria for synthetic organics; see http://www.nj.gov/dep/wms/bwqsa/Appendix_Table_2.htm

RSL values were current at the time the screening was conducted.
NA = Not analyzed.
ND = Not detected.
NLE = No limit established.
ER = Estimated Result.
< = analyte not detected above method detection limit (MDL).
µg/L = micrograms per liter.
Detections are bolded
Shaded cells = concentration exceeds NJDEP GWQS
Shaded cells = concentration exceeds USEPA Tapwater RSLs
Shaded cells = concentration exceeds NJDEP GWQS and USEPA Tapwater RSLs.
Shaded cells = concentration exceeds Weston (1995) background

TABLE 4.4
GROUNDWATER SAMPLING SUMMARY RESULTS FOR MARCH 2008 TO AUGUST 2011
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

| | | | | M14MW20 | | | |

TABLE 4.4
GROUNDWATER SAMPLING SUMMARY RESULTS FOR MARCH 2008 TO AUGUST 2011
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

				M14MW21										M14MW22									
Round No.	**NJDEP GWQS [1]**	**USEPA Tapwater RSL [2]**	**Background Concentration [3]**	53	LF1	LF2	LF3	LF4	LF5	LF6	LF7	LF7 Dup	46	47	48	49	50	51	52	53
Date Collected				11/20/2009	3/31/2010	6/7/2010	8/26/2010	12/9/2010	3/4/2011	5/11/2011	8/3/2011	8/3/2011	3/18/2008	5/19/2008	8/14/2008	10/30/2008	3/31/2009	6/17/2009	9/10/2009	11/20/2009
ANALYTE/Lab ID				90452.06	10114.05	10240.05	1036306	1054106	1108304	1120106	1132304	1132303	80089.07	80167.07	80299.07	80395.07	90139.07	90242.07	90375.06	90452.07
Volatile Organic Compounds (µg/L)																				
1,4-Dichlorobenzene	75	0.42	--	ND	ND	ND	<0.15	<0.15	<0.15	<0.15	<0.26	<0.26	ND	ND	**0.65** J	**0.74** J	ND	ND	ND	**0.61**
Acetone	6000	1,200	-	ND	ND	ND	<0.32	<0.32	<0.32	<0.32	<7.6	<7.6	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	72	--	ND	ND	ND	<0.12	<0.12	<0.12	<0.12	<0.18	<0.18	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	50	7.2	--	ND	ND	ND	<0.12	<0.12	<0.12	<0.12	<0.22	<0.22	ND	ND	**5.56**	**4.6**	**1.34** ER	ND	**1.84**	**5.21**
Cyclohexane [4]	100	1300	--	NA	NA	NA	NA	NA	NA	NA	<0.29	<0.29	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane [4]	100	NLE	--	NA	NA	NA	NA	NA	NA	NA	<0.18	<0.18	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	3	8.4	--	ND	ND	ND	<0.26	<0.26	<0.26	<0.26	<0.20	<0.20	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**16**	ND	ND	ND	ND	ND
Pesticides (Not Detected In Any Samples; Results Not Shown)																				
Metals (µg/L)																				
Aluminum	200	1,600	121,000	ND	**159**	ND	<100	<100	<200	<200	<200	<200	**65.9** ER	ND	ND	**95.9** ER	**22.4** ER	ND	**41** ER	ND
Antimony	6	0.60	20.7	ND	**12.2**	**6.5** ER	<10	<10	<6.0	<6.0	<6.0	<6	ND	ND	ND	**2.93** ER	**21.8**	**4.92** ER	ND	ND
Arsenic	3	0.05	89.3	**0.75** ER	**1.04** ER	ND	<5	**0.67** ER	<3.0	<3.0	<3	<3	ND	**3.33** ER	**4.02** ER	ND	**52.1**	**28.1**	**22.7**	**0.97** ER
Barium	6000	290	699	**51.9**	**14.4**	**26.7**	**29.3**	**22.8**	<200	<200	<200	<200	**33.7**	**41.7**	**143**	**346**	**184**	**213**	**156**	**393**
Beryllium	1	1.60	2.1	ND	ND	**0.065** ER	<0.5	<0.5	<1.0	<1.0	<1.0	<1	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	4	0.69	9.5	ND	**0.622** ER	ND	<2	<2	<3.0	<3.0	<3.0	<3	ND	**0.665** ER	**2.5**	ND	ND	**0.743** ER	**1.21** ER	**0.521** ER
Calcium	NLE	NLE	45,400	**60200**	**107000**	**29100**	**31900**	**31900**	**34800**	**34400**	**31500**	**31100**	**47100**	**43400**	**68300**	**103000**	**69300**	**75700**	**63600**	**98300**
Chromium	70	0.03	191	ND	ND	ND	<5	<5	<10	<10	<10	<10	ND	**0.814** ER	**0.561** ER	ND	**1.05** ER	ND	ND	ND
Cobalt	100	0.47	18.3	ND	ND	ND	<2	<2	<50	<50	<50	<50	ND	ND	ND	**5.05**	**0.65**	**0.194** ER	ND	ND
Copper	1300	62	65.6	ND	**3.29** ER	ND	**2.14** ER	<5	<10	<10	<10	<10	**1.53** ER	ND	ND	ND	ND	**1.39** ER	ND	ND
Iron	300	1,100	431,000	**3660**	**430**	**2400**	**2300**	**959**	**1730**	**2370**	**2420**	**2590**	**7840**	**6110**	**21800**	**45800**	**51100**	**37300**	**21300**	**47300**
Lead	5	NLE	22.7	ND	ND	ND	<5	<5	<3.0	<3.0	<3.0	<3	ND	ND	ND	ND	**9.96**	ND	ND	**2.41** ER
Magnesium	NLE	NLE	62,700	**9820**	**12100**	**4880**	**5350**	**4180**	<5000	<5000	<5000	<5000	**3760**	**3620**	**6060**	**23600**	**9700**	**7770**	**6030**	**20800**
Manganese	50	32	331	**198**	**13.8**	**102**	**110**	**96.5**	**119**	**108**	**105**	**103**	**112**	**97.8**	**242**	**600**	**520**	**328**	**231**	**550**
Mercury	2	0.06	0.26	ND	ND	**0.12** ER	<0.5	<0.5	<0.20	<0.20	<0.20	<0.2	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	100	30	187	**0.745** ER	**17.3**	ND	<5	<5	<10	<10	<10	<10	ND	**1.11** ER	**0.643** ER	**11.3**	ND	**0.518** ER	ND	**6.02**
Potassium	NLE	NLE	137,000	**10500**	**2840**	**7480**	**7630**	**7690**	<10000	<10000	<10000	<1000	**9910**	**18200**	**6600**	**10000**	**6650**	**7720**	**6350**	**10300**
Selenium	40	7.80	29.6	ND	**86.7**	NR	**62.5**	<5	<10	<10	<10	<10	ND	ND	ND	ND	**42.5**	**9.71** ER	**33.2**	ND
Silver	40	7.10	ND	**0.993** ER	**6.02**	ND	**0.778** ER	<5	<10	<10	<10	<10	ND	**0.568** ER	**4.08** ER	ND	ND	ND	ND	ND
Sodium	50000	NLE	21500	**77500**	**10600**	**11300**	**12500**	**5700**	<10000	<10000	**15400**	**15400**	**9670**	**11000**	**10400**	**153000**	**39200**	**17900**	**12700**	**134000**
Thallium	2	0.02	5.5	ND	ND	ND	<5	<5	<2.0	<2.0	<2.0	<2	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	NLE	6.3	108	**1.62** ER	**0.97** ER	ND	<5	<5	<50	<50	<50	<50	ND	**0.757** ER	**0.786** ER	**0.796** ER	**4.3** ER	ND	**3.05** ER	**8.65**
Zinc	2000	470	233	ND	**19.2** ER	ND	<50	<50	<20	<20	<20	<20	**9.45** ER	**3.72** ER	ND	**376**	**39.8**	**11.1** ER	**9.71** ER	**93.5**

Notes:

(1) New Jersey Department of Environmental Protection Ground Water Quality Standards, Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm)

(2) U.S. Environmental Protection Agency, Regional Screening Levels (RSLs). (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm). Revised November 2013.

(3) Background data from Weston. 1995. Site Investigation Report - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December.

(4) New Jersey Interim Generic Ground Water Quality Criteria for synthetic organics; see http://www.nj.gov/dep/wms/bwqsa/Appendix_Table_2.htm

RSL values were current at the time the screening was conducted.
NA = Not analyzed.
ND = Not detected.
NLE = No limit established.
ER = Estimated Result.
< = analyte not detected above method detection limit (MDL).
µg/L = micrograms per liter.
Detections are bolded
Shaded cells = concentration exceeds NJDEP GWQS
Shaded cells = concentration exceeds USEPA Tapwater RSLs
Shaded cells = concentration exceeds NJDEP GWQS and USEPA Tapwater RSLs.
Shaded cells = concentration exceeds Weston (1995) background

TABLE 4.4
GROUNDWATER SAMPLING SUMMARY RESULTS FOR MARCH 2008 TO AUGUST 2011
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

| | | | | M14MW22 | | | |

TABLE 4.4
GROUNDWATER SAMPLING SUMMARY RESULTS FOR MARCH 2008 TO AUGUST 2011
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

| | | | | M14MW23 | | | |

TABLE 4.4
GROUNDWATER SAMPLING SUMMARY RESULTS FOR MARCH 2008 TO AUGUST 2011
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

				M14MW24							M14MW25							M14MW26						
Round No.	**NJDEP GWQS [1]**	**USEPA Tapwater RSL [2]**	**Background Concentration [3]**	LF2	LF3	LF4	LF5	LF6	LF7		LF1	LF1 Dup	LF2	LF3		LF1	LF2	LF3	LF4	LF5	LF6	LF6 Dup
Date Collected				6/7/2010	8/27/2010	12/9/2010	3/4/2011	5/11/2011	8/3/2011		8/12/2010	8/12/2010	8/27/2010	12/9/2010		10/29/2010	11/12/2010	12/9/2010	3/3/2011	5/11/2011	8/2/2011	8/2/2011
ANALYTE/Lab ID				10240.07	1036504	1054108	1108305	1120108	1132306		1034104	1034103	10366.01	1054110		1046801	1048301	1054111	1108004	1120110	1132004	1132003
Volatile Organic Compounds (µg/L)																						
1,4-Dichlorobenzene	75	0.42	--	ND	<0.15	<0.15	<0.15	<0.15	<0.26		<0.15	<0.15	<0.15	<0.15		<0.15	<0.15	<0.15	<0.15	<0.15	<0.26	<0.26
Acetone	6000	1,200	-	ND	<0.32	<0.32	<0.32	<0.32	<7.6		<0.32	<0.32	<0.32	<0.32		**4.29**	<0.32	<0.32	<0.32	<0.32	<7.6	<7.6
Carbon disulfide	700	72	--	ND	<0.12	<0.12	<0.12	<0.12	<0.18		**0.63**	**0.6**	<0.12	<0.12		**1.03**	<0.12	<0.12	<0.12	<0.12	<0.18	<0.18
Chlorobenzene	50	7.2	--	ND	<0.12	<0.12	<0.12	<0.12	<0.22		<0.12	<0.12	<0.12	<0.12		<0.12	<0.12	<0.12	<0.12	<0.12	<0.22	<0.22
Cyclohexane [4]	100	1300	--	NA	NA	NA	NA	NA	<0.29		NA	NA	NA	NA		NA	NA	NA	NA	NA	<0.29	<0.29
Methylcyclohexane [4]	100	NLE	--	NA	NA	NA	NA	NA	<0.18		NA	NA	NA	NA		NA	NA	NA	NA	NA	<0.18	<0.18
Methylene chloride	3	8.4	--	ND	<0.26	<0.26	<0.26	<0.26	<0.20		<0.26	<0.26	<0.26	<0.26		<0.26	<0.26	<0.26	<0.26	<0.26	<0.20	<0.20
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND
Pesticides (Not Detected In Any Samples; Results Not Shown)																						
Metals (µg/L)																						
Aluminum	200	1,600	121,000	**41.7**	<100	<100	**239**	<200	<200		**139**	**157**	**174**	**48.3**	ER	**32.9**	**41.8**	**21.2**	<200	**702**	**626**	**1060**
Antimony	6	0.60	20.7	**13.2**	**13.5**	**6.59** ER	<6.0	<6.0	<6		<4.8	<10	<4.8	<4.70		**5.03** ER	<4.70	<10	<6.0	<6.0	<6.0	<6
Arsenic	3	0.05	89.3	**4.74** ER	**1.58** ER	**2.88** ER	<3.0	**6.1**	**7.2**		**2.74** ER	**3.15**	**10.25**	**9.86**		**3.16** ER	**3.97** ER	**9.2**	<3.0	**4.6**	**10**	**19.6**
Barium	6000	290	699	**21.8**	**19.6**	**28.3**	<200	<200	<200		**33.3**	**35.8**	**10.1**	**7.51**		**22.9**	**28.1**	**20.1**	<200	<200	<200	<200
Beryllium	1	1.60	2.1	**0.135** ER	<0.5	**0.416** ER	<1.0	<1.0	<1		**0.072** ER	**0.071**	<0.04	<0.40		<0.40	<0.40	<0.5	<1.0	<1.0	<1.0	<1
Cadmium	4	0.69	9.5	**0.624** ER	<2	**1.75** ER	<3.0	<3.0	<3		<0.500	<2	<0.500	<0.40		<0.40	<0.40	<2	<3.0	<3.0	<3.0	<3
Calcium	NLE	NLE	45,400	**162000**	**151000**	**221000**	**187000**	**206000**	**200000**		**8020**	**8560**	**7980**	**6480**		**30200**	**15400**	**16000**	**5610**	<5000	**6940**	**8920**
Chromium	70	0.03	191	ND	<5	<5	<10	<10	<10		<1.0	<5	**1.05** ER	<0.60		**0.883** ER	<0.60	<5	<10	<10	<10	**10.6**
Cobalt	100	0.47	18.3	ND	<2	**1.33** ER	<50	<50	<50		**2.54**	**2.72**	<0.400	<0.30		**2.8**	**3.24**	**1.75** ER	<50	<50	<50	<50
Copper	1300	62	65.6	ND	**3.02** ER	**3.58** ER	<10	**27.1**	<10		**2.45** ER	**2.81**	**3.94** ER	<0.80		<0.80	<0.80	<5	<10	**29.4**	<10	<10
Iron	300	1,100	431,000	**2830**	**78** ER	**649**	**924**	**2860**	**8490**		**574**	**497**	**6240**	**5080**		**217** ER	**617**	**928**	**407**	**1860**	**3910**	**6620**
Lead	5	NLE	22.7	ND	<5	<5	<3.0	<3.0	<3		<2.4	<5	<2.4	<2.10		<2.10	<2.10	<5	<3.0	<3.0	<3.0	<3
Magnesium	NLE	NLE	62,700	**26500**	**29800**	**23100**	**17700**	**22100**	**31200**		**1670**	**1760**	**1640**	**1320**		**2970**	**2240**	**1730**	<5000	<5000	<5000	<5000
Manganese	50	32	331	**90.7**	**54.8**	**90.5**	**164**	**211**	**286**		**50.3**	**54.3**	**42.3**	**25.6**		**62.1**	**54.9**	**47**	**21.3**	**15**	**30.7**	**37.9**
Mercury	2	0.06	0.26	**0.1** ER	**0.19** ER	<0.5	<0.20	<0.20	<0.2		<0.050	<0.5	**0.1** ER	<0.254		<0.254	<0.254	<0.5	<0.20	<0.20	<0.20	<0.2
Nickel	100	30	187	**2.05** ER	**2.14** ER	**28.3**	**34.4**	**21.2**	<10		**9.75**	**9.81**	**3.8** ER	<0.70		**4.31** ER	**5.76**	**3.14** ER	<10	<10	<10	<10
Potassium	NLE	NLE	137,000	**10000**	**13300**	**5460**	<10000	<10000	**13300**		**6300**	**6740**	**6250**	**6480**		**4250**	**5410**	**5360**	<10000	<10000	<10000	<10000
Selenium	40	7.80	29.6	NR	**119**	<5	<10	<10	<10		**18.7** ER	**21.9**	**30.1**	<1.36		<1.36	<1.36	<5	<10	<10	<10	<10
Silver	40	7.10	ND	ND	<5	<5	<10	<10	<10		<0.500	<5	**1.7** ER	**0.981** ER		<0.60	<0.60	<5	<10	<10	<10	<10
Sodium	50000	NLE	21500	**50300**	**81300**	**18800**	**13900**	**25800**	**65600**		**6840**	**7720**	**7150**	**4100** ER		**7030**	**7920**	**4690** ER	<10000	<10000	<10000	<10000
Thallium	2	0.02	5.5	ND	<5	<5	<2.0	<2.0	<2		<0.53	<5	<0.53	<0.53		<0.53	<0.53	<5	<2.0	<2.0	<2.0	<2
Vanadium	NLE	6.3	108	**2.28** ER	**2.98** ER	**0.903** ER	<50	<50	<50		<0.600	<5	**0.726** ER	**0.629** ER		**0.713** ER	**0.957** ER	<5	<50	<50	<50	<50
Zinc	2000	470	233	ND	<50	**8.76** ER	**31.8**	<20	<20		**21.1** ER	**23.6**	**9.58** ER	<2.50		**5.27** ER	**12.6** ER	**9.27** ER	<20	<20	**22.3**	<20

Notes:

(1) New Jersey Department of Environmental Protection Ground Water Quality Standards, Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm)

(2) U.S. Environmental Protection Agency, Regional Screening Levels (RSLs). (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm). Revised November 2013.

(3) Background data from Weston. 1995. Site Investigation Report - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December.

(4) New Jersey Interim Generic Ground Water Quality Criteria for synthetic organics; see http://www.nj.gov/dep/wms/bwqsa/Appendix_Table_2.htm

RSL values were current at the time the screening was conducted.
NA = Not analyzed.
ND = Not detected.
NLE = No limit established.
ER = Estimated Result.
< = analyte not detected above method detection limit (MDL).
µg/L = micrograms per liter.
Detections are bolded
Shaded cells = concentration exceeds NJDEP GWQS
Shaded cells = concentration exceeds USEPA Tapwater RSLs
Shaded cells = concentration exceeds NJDEP GWQS and USEPA Tapwater RSLs.
Shaded cells = concentration exceeds Weston (1995) background

TABLE 4.5
BASELINE GROUNDWATER ANALYTICAL SUMMARY RESULTS FOR
AUGUST 2013
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

SAMPLE ID:	NJDEP GWQS[1]	USEPA Tapwater RSL [2]	FTMM-14-GW-M14MW19-10.5		FTMM-14-GW-M14MW19-15.5		FTMM-14-GW-M14MW20-11.42		FTMM-14-GW-M14MW21-10.3	
DATE SAMPLED:			27-Aug-2013		27-Aug-2013		27-Aug-2013		27-Aug-2013	
LAB SAMPLE ID:			R1306281-010		R1306281-011		R1306281-012		R1306281-013	
SAMPLE DEPTH (ft bgs):			10.5		15.5		11.42		10.3	
Volatile Organics - SW8260C (µg/L)										
1,4-Dichlorobenzene	75	0.42	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	6,000	1,200	**1.8**	BJ	**7.3**		**1.8**	BJ	**2.2**	BJ
Chlorobenzene	50	7.2	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	3	8.4	1.0	U	1.0	U	1.0	U	1.0	U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
Detections are bolded.
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA tapwater RSL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).

[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).

[3] Interim generic groundwater quality criteria.

[4] Interim specific groundwater quality criteria.

RSL values were current at the time the screening was conducted.

NLE - No screening level established.

TABLE 4.5
BASELINE GROUNDWATER ANALYTICAL SUMMARY RESULTS FOR
AUGUST 2013
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

SAMPLE ID:	NJDEP GWQS[1]	USEPA Tapwater RSL [2]	FTMM-14-GW-M14MW21-13.5		FTMM-14-GW-M14MW22-12.18		FTMM-14-GW-M14MW22-19.13		FTMM-14-GW-M14MW23-9.59	
DATE SAMPLED:			27-Aug-2013		27-Aug-2013		27-Aug-2013		27-Aug-2013	
LAB SAMPLE ID:			R1306281-014		R1306281-015		R1306281-016		R1306281-017	
SAMPLE DEPTH (ft bgs):			13.5		12.18		19.13		9.59	
Volatile Organics - SW8260C (µg/L)										
1,4-Dichlorobenzene	75	0.42	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	6,000	1,200	5.0	U	**2.2**	BJ	**1.5**	BJ	**2.5**	BJ
Chlorobenzene	50	7.2	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	3	8.4	1.0	U	1.0	U	1.0	U	1.0	U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
Detections are bolded.
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA tapwater RSL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).

[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).

[3] Interim generic groundwater quality criteria.

[4] Interim specific groundwater quality criteria.

RSL values were current at the time the screening was conducted.

NLE - No screening level established.

TABLE 4.5
BASELINE GROUNDWATER ANALYTICAL SUMMARY RESULTS FOR
AUGUST 2013
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

SAMPLE ID:	NJDEP GWQS[1]	USEPA Tapwater RSL [2]	FTMM-14-GW-M14MW23-17.31		FTMM-14-GW-M14MW24-10.74		FTMM-14-GW-M14MW124-10.74*		FTMM-14-GW-M14MW24-14.24	
DATE SAMPLED:			27-Aug-2013		27-Aug-2013		27-Aug-2013		27-Aug-2013	
LAB SAMPLE ID:			R1306281-018		R1306281-019		R1306281-001		R1306281-020	
SAMPLE DEPTH (ft bgs):			17.31		10.74		10.74		14.24	
Volatile Organics - SW8260C (µg/L)										
1,4-Dichlorobenzene	75	0.42	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	6,000	1,200	**2.2**	BJ	**1.9**	BJ	**2.3**	BJ	**1.9**	BJ
Chlorobenzene	50	7.2	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	3	8.4	1.0	U	1.0	U	1.0	U	1.0	U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
Detections are bolded.
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA tapwater RSL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).

[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).

[3] Interim generic groundwater quality criteria.

[4] Interim specific groundwater quality criteria.

RSL values were current at the time the screening was conducted.

NLE - No screening level established.

TABLE 4.6

GROUNDWATER SAMPLING RESULTS SUMMARY OF EXCEEDANCES FOR NOVEMBER 2009 TO AUGUST 2011 AND AUGUST 2013 SAMPLING EVENT SITE FTMM-14 FORT MONMOUTH, NEW JERSEY

Analyte	Maximum Concentration		Location of Maximum Concentration	Date of Maximum Detection	Number of Samples [1]	Number of Detections	Number of Exceedances			Evaluated as COPC in Risk Assessment	Rationale
							NJDEP GWQS [2]	USEPA Tapwater RSL [3]	Weston 1995 Background (Main Post) [4]		
Volatile Organic Compounds (µg/L)											
1,4-Dichlorobenzene	0.81	J	MW22	8/3/2011	81	2	0	2	n/a	No	No GWQS exceedances, slight exceedance of USEPA Tapwater RSL in only 2 of 81 samples (occurred at MW22; at most recent events)
Acetone	7.3		MW19	8/27/2013	81	2	0	0	n/a	No	Less than RSL
Carbon disulfide	1.03		MW26	10/29/2010	69	3	0	0	n/a	No	Less than RSL
Chlorobenzene	5.8		MW22	8/3/2011	81	4	0	0	n/a	No	Less than RSL
Cyclohexane [8]	3	J	MW22	8/3/2011	12	1	NLE	0	n/a	No	Less than RSL
Methylcyclohexane [8]	1.8	J	MW22	8/3/2011	10	1	0	NLE	n/a	No	No RSL, less than GWQS
Methylene chloride	0.42	J	MW23	8/26/2010	81	1	0	0	n/a	No	Less than RSL
TICs*	0		NA	NA	69	3	0	NLE	n/a	No	No RSL, less than GWQS
Metals (µg/L)											
Aluminum	2650		MW18	8/2/2011	69	31	13	1	0	No	Less than maximum background
Antimony	22.5		MW22	8/27/2010	69	22	17	22	1	No	Anomalous occurrence; exceeded background in only 1 sample and monitoring well (MW22), followed by multiple sample events where not detected or less than maximum background
Arsenic	19.6		MW26	8/2/2011	69	42	21	42	0	No	Less than maximum background
Barium	393		MW22	11/20/2009	69	42	0	1	0	No	Less than maximum background
Beryllium	0.593		MW22	12/9/2010	69	15	0	0	0	No	Less than RSL
Cadmium	145		MW22	8/27/2010	69	14	4	8	3	No	Anomalous occurrence; exceeded background in only 2 monitoring wells (MW22 and MW23), followed by multiple sample events where not detected or less than maximum background
Calcium	221000		MW24	12/9/2010	70	67	NLE	NLE	18	No	Essential nutrient
Chromium	35.2		MW18	8/2/2011	69	9	0	9	0	No	Less than maximum background
Cobalt	51.2		MW22	8/27/2010	69	12	0	11	1	No	Anomalous occurence; exceeded background during one event at one monitoring well, followed by multiple sample events where not detected or less than maximum background
Copper	115		MW22	8/27/2010	69	22	0	1	1	No	Anomalous occurrence; exceeded background in only 1 sample and monitoring well (MW22), followed by multiple sample events where below RSL and background
Iron	47300		MW22	11/20/2009	69	69	64	46	0	No	Essential nutrient
Lead	9.32		MW22	8/27/2010	69	12	3	NLE	0	No	Less than maximum background
Magnesium	110000		MW22	8/27/2010	69	50	NLE	NLE	2	No	Essential nutrient
Manganese	921		MW23	3/3/2011	69	67	48	54	7	No	Exceedances of maximum background are inconsistent, limited to 2 monitoring wells (MW22 and MW23), and in the minority when looking at low flow events.
Mercury	0.21	ER	MW22	8/27/2010	69	12	0	11	0	No	Less than maximum background

TABLE 4.6

GROUNDWATER SAMPLING RESULTS SUMMARY OF EXCEEDANCES FOR NOVEMBER 2009 TO AUGUST 2011 AND AUGUST 2013 SAMPLING EVENT SITE FTMM-14 FORT MONMOUTH, NEW JERSEY

Analyte	Maximum Concentration	Location of Maximum Concentration	Date of Maximum Detection	Number of Samples [1]	Number of Detections	Number of Exceedances			Evaluated as COPC in Risk Assessment	Rationale
						NJDEP GWQS [2]	USEPA Tapwater RSL [3]	Weston 1995 Background (Main Post) [4]		
Nickel	205	MW22	8/27/2010	69	31	1	6	1	No	Anomalous occurrence; exceeded background in only 1 sample and monitoring well (MW22), followed by multiple sample events where not detected or less than maximum background
Potassium	22800	MW22	8/27/2010	69	43	NLE	NLE	0	No	Essential nutrient
Selenium	119	MW24	8/27/2010	69	18	10	18	13	No	Anomalous occurrence; exceeded RSL in 6 monitoring wells, but in each case was followed by multiple sample events where not detected
Silver	10.5	MW24	11/20/2009	69	18	0	1	18	No	Anomalous occurrence; exceeded RSL in only 1 sample and monitoring well (MW24), followed by multiple sample events where not detected or less than RSL
Sodium	791000	MW22	8/27/2010	69	53	11	NLE	17	No	Essential nutrient
Thallium	1.74 ER	MW22	3/31/2010	69	1	0	1	0	No	Less than maximum background
Vanadium	8.65	MW22	11/20/2009	69	22	NLE	1	0	No	Less than maximum background
Zinc	11800	MW22	8/27/2010	69	33	3	4	5	No	Anomalous occurrence; exceeded RSL in 2 monitoring wells (MW22 and MW23) for 2 sampling rounds at each, followed by multiple sample events at concentrations below the RSL

TABLE 4.6

GROUNDWATER SAMPLING RESULTS SUMMARY OF EXCEEDANCES FOR NOVEMBER 2009 TO AUGUST 2011 AND AUGUST 2013 SAMPLING EVENT SITE FTMM-14 FORT MONMOUTH, NEW JERSEY

Analyte	Maximum Concentration	Location of Maximum Concentration	Date of Maximum Detection	Number of Samples (1)	Number of Detections	Number of Exceedances			Evaluated as COPC in Risk Assessment	Rationale
						NJDEP GWQS (2)	USEPA Tapwater RSL (3)	Weston 1995 Background (Main Post) (4)		

Notes:

(1) Data from the most recent 8 quarters of groundwater sampling are included here, plus data from August 2013.

(2) New Jersey Department of Environmental Protection Ground Water Quality Standards, Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels.

(3) U.S. Environmental Protection Agency, Regional Screening Levels (RSLs). Residential Tapwaters (TR=1E-06, THQ = 0.1). (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm). Revised November 2013.

(4) Weston, 1995. Final Site Investigation - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, December.

(5) B and BJ qualified data were treated as nondetected chemicals and are not considered COPCs.

(6) Essential nutrients (calcium, iron, magnesium, potassium, and sodium) are not considered COPCs.

(7) Essential nutrients (calcium, iron, magnesium, potassium, and sodium) are not considered COPCs.

(8) New Jersey Interim Generic Ground Water Quality Criteria for synthetic organics; see http://www.nj.gov/dep/wms/bwqsa/Appendix_Table_2.htm

µg/L = micrograms/liter.

COPC = contaminant of potential concern.

Dash (--) = background concentrations are given only for metals for use as comparison criteria.

BJ = Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.

ER = Estimated Result.

UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.

n/a = not applicable.

RSL values were current at the time the screening was conducted.

NLE = No limit established.

TABLE 4.7
SURFACE WATER SAMPLING SUMMARY RESULTS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

	NJDEP SWQS Saline Water (SE) Human Health Criteria (1)	USEPA National Recommended Water Quality Criteria (2)	SS-9																									
Round Number			42		43		44		45		46		47		48		49		50		51		52		53		54		55		56	
Date Collected			3/13/2007		6/26/2007		9/13/2007		12/19/2007		3/25/2008		6/26/2008		9/30/2008		12/29/2008		3/24/2009		6/29/2009		9/25/2009		12/7/2009		3/28/2010		6/22/2010		9/21/2010	
Analyte/Lab ID			70093.08		70230.08		70339.08		70541.08		80095.04		80213.08		80346.07		80478.07		90119.07		90268.07		90398.07		90472.07		10110.06		10277.07		10402.07	
Volatile Organic Compounds (µg/L)																														
Acetone (3)	NLE	1,400	**0.82**	J	ND		**0.69**		**1.91**	J	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Bromodichloromethane	17	17	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		**0.42**	J	ND	
Chloroform	2,100	470	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		**1.17**		ND	
cis -1,2-Dichloroethene (3)	NLE	3.6	**5.28**		ND		**0.52**	J	**2.78**		**1.87**	J	**0.92**	J	**1.71**	J	**2.21**		**1.17**	J	**1.81**	J	**0.25**	J	**1.19**		**2.8**		**0.7**		**0.71**	
Dibromochloromethane	13	13	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Methyl *tert* -butyl ether (3)	NLE	14	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
tert -Butyl alcohol	NLE	NLE	ND		ND		**7.83**	J	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Trichloroethene	12	30	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Vinyl chloride	8.1	2.4	ND		ND		ND		**0.97**	J	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
TICs	NLE	NLE	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		**9**		ND		ND		ND	
Metals (µg/L)																														
Arsenic	0.061	0.14	ND		ND		ND		ND		ND		**3.22**		ND		**2.45**		**56.6**		**18.1**		**28.1**		**1.65**	ER	**1.69**	ER	**1.16**	ER	**1.6**	ER
Lead (3)	NLE	15	ND		**1.04**	ER	ND		ND		ND		**2.39**		ND		**1.88**		**9.2**		ND		ND		ND		ND		ND		ND	
Wet Chemistry																														
Ammonia (mg/L)	NLE	NLE	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		NA		NA		NA		NA		NA	
Fecal Coliform (cfu/100mL)	NLE	NLE	NA		**550**		**3200**		**300**		ND		**20**		**800**		**60**		ND		NA		NA		NA		NA		NA		NA	
Nitrates (mg/L) (4)	NLE	10	**1.44**		ND		ND		NA		**6.56**		**8.93**		ND		**1.11**		**1.37**		**0.839**		NA		NA		NA		NA		NA	
Oxygen (dissolved; mg/L)	NLE	NLE	**8.37**		**6.17**		**5.18**		**0.9**		**2.66**		**7.23**		**8.02**		**6.45**		**7.35**		**6.09**		**3.08**		**4.11**		**4.03**		**6.11**		**5.68**	
pH	NLE	5-9	**6.91**		**7.05**		**7.28**		**6.08**		**8.09**		**7.94**		**7.07**		**7.14**		**7.68**		**6.48**		**7.81**		**6.49**		**7.05**		**7.05**		**7.45**	
Phosphate (mg/L)	NLE	NLE	ND		ND		ND		NA		**0.01**		ND		ND		ND		**0.01**		ND		NA		NA		NA		NA		NA	
Salinity (%)	NLE	NLE	**0**		**0**		**0**		**0**		**0**		**0**		**0**		**0**		**0**		**0**		**0.1**		**0.1**		**0**		**0**		**0.02**	
Sulfate (mg/L)	NLE	NLE	**50.6**		**208**		**290**		NA		**30.9**		**78.12**		**30.1**		**77.2**		**60.6**		**185**		NA		NA		NA		NA		NA	
Temperature (ºC)	NLE	NLE	**9.44**		**28.5**		**19.8**		**5.56**		**8.2**		**24.63**		**21.1**		**8.74**		**7.51**		**21.94**		**23.41**		**4.49**		**7.48**		**25.2**		**20.13**	
Total Coliform (cfu/100mL)	NLE	NLE	**550**		**3450**		**11600**		**1700**		**300**		**6560**		**2050**		**900**		**780**		NA		NA		NA		NA		NA		NA	

Notes:

(1) New Jersey Department of Environmental Protection (NJDEP) Surface Water Quality Standards (N.J.A.C. 7:9B), Human Health standards for Saline Waters of estuaries (SE).
(2) United States Environmental Protection Agency (USEPA) National Recommended Water Quality Criteria (Human Health Criteria, Organism Only). (http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm#hhtable)

(3) Tapwater RSL was used in place of NRWQC, available at http://www.epa.gov/region9/superfund/prg/. RSL values were current at the time the screening was conducted.

(4) U.S. Environmental Protection Agency (USEPA) National Recommended Water Quality Criteria (NRWQC) for protection of human health (water + organism) was used in place of the organism only value. Available at: http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm.

B = Compound detected in the sample and its associated blank sample.

ER = Estimated result.

J = Estimated concentration exceeds the MDL and is less than the RL.

mg/L = milligrams/liter; µg/L = micrograms/liter; cfu/100 mL = colony-forming units/100 milliliters.

NA = Not analyzed.

ND = Not detected.

NLE = No limit established.

* = Water + Organism.

Detections are Bolded.

Shaded cells = concentration exceeds NJDEP Saline Criterion.

Shaded cells = concentration exceeds USEPA National Recommended Water Quality Criteria.

Shaded cells = concentration exceeds NJDEP and USEPA criteria.

TABLE 4.7
SURFACE WATER SAMPLING SUMMARY RESULTS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

| | NJDEP SWQS Saline Water (SE) Human Health Criteria (1) | USEPA National Recommended Water Quality Criteria (2) | SS-11 | | |

TABLE 4.7
SURFACE WATER SAMPLING SUMMARY RESULTS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

	NJDEP SWQS Saline Water (SE) Human Health Criteria (1)	USEPA National Recommended Water Quality Criteria (2)	SS-12																		
Round Number			42	43	44	45		46	47	48		49	50		51	52	53	54	55		56
Date Collected			3/13/2007	6/26/2007	9/13/2007	12/19/2007		3/25/2008	6/26/2008	9/30/2008		12/29/2008	3/24/2009		6/29/2009	9/25/2009	12/7/2009	3/28/2010	6/22/2010		9/21/2010
Analyte/Lab ID			70093.07	70230.07	70339.07	70541.07		80094.08	80213.07	80346.09		80478.09	90119.09		90268.09	90398.09	90472.09	10110.08	10277.09		10402.09
Volatile Organic Compounds (µg/L)																					
Acetone (3)	NLE	1,400	ND	**3.19**	**2.91**	ND		ND	**4.35**	ND		ND	ND		ND	ND	ND	ND	ND		ND
Bromodichloromethane	17	17	ND	ND	ND	ND		ND	ND	ND		ND	ND		ND	ND	ND	ND	**1.08**		ND
Chloroform	2,100	470	ND	ND	ND	ND		ND	ND	ND		ND	ND		ND	ND	ND	ND	**2.73**		ND
cis -1,2-Dichloroethene (3)	NLE	3.6	**8.58**	**2.93**	**2.59**	**2.79**		**2.47**	**2.38**	**1.02**	J	**3.63**	**1.15**	J	**4.1**	**1.84**	**1.67**	**2.57**	**1.47**		**1.43**
Dibromochloromethane	13	13	ND	ND	ND	ND		ND	ND	ND		ND	ND		ND	ND	ND	ND	**0.32**	J	ND
Methyl *tert* -butyl ether (3)	NLE	14	ND	ND	ND	ND		ND	ND	ND		ND	ND		ND	ND	ND	ND	**0.25**	J	ND
tert -Butyl alcohol	NLE	NLE	ND	ND	ND	ND		ND	ND	ND		ND	ND		ND	ND	ND	ND	ND		ND
Trichloroethene	12	30	ND	ND	ND	ND		ND	ND	ND		ND	ND		ND	ND	ND	ND	ND		ND
Vinyl chloride	8.1	2.4	ND	ND	ND	**1.13**	J	ND	ND	ND		ND	ND		ND	ND	ND	ND	ND		ND
TICs	NLE	NLE	ND	ND	ND	**4**		ND	ND	ND		**7**	ND		ND	ND	ND	ND	ND		ND
Metals (µg/L)																					
Arsenic	0.061	0.14	NA	NA	NA	NA		NA	NA	NA		NA	NA		NA	NA	NA	NA	NA		NA
Lead (3)	NLE	15	NA	NA	NA	NA		NA	NA	NA		NA	NA		NA	NA	NA	NA	NA		NA
Wet Chemistry																					
Ammonia (mg/L)	NLE	NLE	ND	ND	ND	ND		ND	ND	ND		ND	ND		ND	NA	NA	NA	NA		NA
Fecal Coliform (cfu/100mL)	NLE	NLE	NA	**50**	**2000**	**250**		ND	**40**	**50**		**40**	ND		NA	NA	NA	NA	NA		NA
Nitrates (mg/L) (4)	NLE	10	**1.59**	ND	ND	NA		**3.76**	**6.2**	**1.27**		**1.11**	**1.58**		**0.96**	NA	NA	NA	NA		NA
Oxygen (dissolved; mg/L)	NLE	NLE	**8.71**	**6.81**	**8.29**	**3.28**		**9.21**	**7.65**	**7.81**		**6.74**	**7.11**		**7.97**	**6.9**	**6.64**	**3.58**	**7.11**		**4.37**
pH	NLE	5-9	**6.74**	**7.62**	**7.93**	**6.84**		**8**	**8.77**	**6.76**		**7.32**	**7.88**		**7.71**	**7.22**	**7.47**	**7.02**	**7.02**		**6**
Phosphate (mg/L)	NLE	NLE	ND	ND	ND	NA		**0.01**	ND	ND		ND	ND		ND	NA	NA	NA	NA		NA
Salinity (%)	NLE	NLE	**0**	**0**	**0**	**0.01**		**0**	**0**	**0**		**0**	**0**		**0**	**0**	**0**	**0**	**0**		**0**
Sulfate (mg/L)	NLE	NLE	**24.4**	**16.9**	**11.4**	NA		**21.7**	**13.04**	**22.7**		**17.7**	**23.8**		**14.6**	NA	NA	NA	NA		NA
Temperature (ºC)	NLE	NLE	**8.59**	**26.5**	**21.3**	**6.32**		**9**	**24.84**	**19.72**		**8.82**	**6.88**		**24.03**	**20.19**	**6.03**	**8.08**	**21.84**		**17.02**
Total Coliform (cfu/100mL)	NLE	NLE	**450**	**900**	**11800**	**2150**		**180**	**2320**	**1850**		**820**	**820**		NA	NA	NA	NA	NA		NA

Notes:

(1) New Jersey Department of Environmental Protection (NJDEP) Surface Water Quality Standards (N.J.A.C. 7:9B), Human Health standards for Saline Waters of estuaries (SE).

(2) United States Environmental Protection Agency (USEPA) National Recommended Water Quality Criteria (Human Health Criteria, Organism Only). (http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm#hhtable)

(3) Tapwater RSL was used in place of NRWQC, available at http://www.epa.gov/region9/superfund/prg/. RSL values were current at the time the screening was conducted.

(4) U.S. Environmental Protection Agency (USEPA) National Recommended Water Quality Criteria (NRWQC) for protection of human health (water + organism) was used in place of the organism only value. Available at: http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm.

B = Compound detected in the sample and its associated blank sample.

ER = Estimated result.

J = Estimated concentration exceeds the MDL and is less than the RL.

mg/L = milligrams/liter; µg/L = micrograms/liter; cfu/100 mL = colony-forming units/100 milliliters.

NA = Not analyzed.

ND = Not detected.

NLE = No limit established.

* = Water + Organism.

Detections are Bolded.

Shaded cells = concentration exceeds NJDEP Saline Criterion.

Shaded cells = concentration exceeds USEPA National Recommended Water Quality Criteria.

Shaded cells = concentration exceeds NJDEP and USEPA criteria.

TABLE 4.7
SURFACE WATER SAMPLING SUMMARY RESULTS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

	NJDEP SWQS Saline Water (SE) Human Health Criteria (1)	USEPA National Recommended Water Quality Criteria (2)	SS-19																									
Round Number			42		43		44		45		46	47		48	49	50		51	52	53		54		55		56	
Date Collected			3/13/2007		6/26/2007		9/13/2007		12/19/2007		3/25/2008	6/26/2008		9/30/2008	12/29/2008	3/24/2009		6/26/2009	9/25/2009	12/7/2009		3/28/2010		6/22/2010		9/21/2010	
Analyte/Lab ID			70093.10		70230.10		70339.10		70541.10		80094.12	80213.10		80346.13	80478.13	90119.13		90268.13	90398.13	90472.13		10110.12		10277.13		10402.13	
Volatile Organic Compounds (µg/L)																												
Acetone (3)	NLE	1,400	ND		ND		**0.28**		ND		ND	**3.91**		ND	ND	ND		ND	ND	ND		ND		ND		ND	
Bromodichloromethane	17	17	ND		ND		ND		ND		ND	ND		ND	ND	ND		ND	ND	ND		ND		**1.03**		ND	
Chloroform	2,100	470	ND		ND		ND		ND		ND	ND		ND	ND	ND		ND	ND	ND		ND		**2.49**		ND	
cis -1,2-Dichloroethene (3)	NLE	3.6	**8**		**2.9**		**1.89**	J	**4.64**		**4.14**	**2.11**		**2.97**	**3.7**	**1.53**	J	**2.4**	**1.37**	**1.75**		**3.98**		**1.16**		**1.4**	
Dibromochloromethane	13	13	ND		ND		ND		ND		ND	ND		ND	ND	ND		ND	ND	ND		ND		**0.3**	J	ND	
Methyl *tert* -butyl ether (3)	NLE	14	ND		ND		ND		ND		ND	ND		ND	ND	ND		ND	ND	ND		**0.25**	J	ND		ND	
tert -Butyl alcohol	NLE	NLE	ND		ND		ND		ND		ND	ND		ND	ND	ND		ND	ND	ND		ND		ND		ND	
Trichloroethene	12	30	ND		ND		ND		ND		ND	ND		ND	ND	ND		ND	ND	ND		ND		ND		ND	
Vinyl chloride	8.1	2.4	**0.37**	J	ND		ND		**1.77**	J	ND	ND		ND	ND	ND		ND	ND	ND		ND		ND		ND	
TICs	NLE	NLE	ND		ND		ND		**4**		ND	ND		ND	ND	ND		ND	ND	ND		ND		ND		ND	
Metals (µg/L)																												
Arsenic	0.061	0.14	ND		**3.06**	ER	ND		ND		ND	**2.88**	ER	ND	ND	**61.1**		**14**	**16.2**	ND		**0.75**	ER	ND		**1.42**	ER
Lead (3)	NLE	15	ND		ND		ND		ND		ND	ND		ND	**3.21**	**5.78**		ND	ND	**4.03**	ER	ND		ND		ND	
Wet Chemistry																												
Ammonia (mg/L)	NLE	NLE	ND		ND		ND		ND		ND	ND		ND	ND	ND		ND	NA	NA		NA		NA		NA	
Fecal Coliform (cfu/100mL)	NLE	NLE	NA		**50**		**3400**		**350**		ND	**60**		**200**	**20**	**20**		NA	NA	NA		NA		NA		NA	
Nitrates (mg/L) (4)	NLE	10	**1.46**		ND		ND		NA		**2.93**	**7.01**		ND	ND	**1.29**		**1.11**	NA	NA		NA		NA		NA	
Oxygen (dissolved; mg/L)	NLE	NLE	**8.31**		**6.86**		**6.73**		**3.33**		**8.27**	**8.29**		**7.38**	**7.63**	**7.58**		**8.07**	**6.73**	**6.82**		**4.11**		**5.85**		**4.67**	
pH	NLE	5-9	**7.66**		**7.32**		**7.86**		**7.01**		**7.82**	**8.59**		**7.29**	**7.24**	**7.88**		**7.29**	**7.17**	**7.5**		**7.21**		**7.88**		**7.29**	
Phosphate (mg/L)	NLE	NLE	ND		ND		ND		NA		**0.1**	ND		ND	ND	ND		ND	NA	NA		NA		NA		NA	
Salinity (%)	NLE	NLE	**0**		**0**		**0**		**0**		**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**		**0**		**0**		**0**	
Sulfate (mg/L)	NLE	NLE	**19.7**		**11.9**		**12.3**		NA		**14**	**11.76**		ND	**20**	**22.1**		**14.7**	NA	NA		NA		NA		NA	
Temperature (ºC)	NLE	NLE	**8.67**		**26**		**21.5**		**4.71**		**8.82**	**24.36**		**19.11**	**8.08**	**6.95**		**21.64**	**19.4**	**5.16**		**7.35**		**23.36**		**20.25**	
Total Coliform (cfu/100mL)	NLE	NLE	**450**		**4050**		**15800**		**2650**		**400**	**4560**		**4200**	**860**	**1580**		NA	NA	NA		NA		NA		NA	

Notes:

(1) New Jersey Department of Environmental Protection (NJDEP) Surface Water Quality Standards (N.J.A.C. 7:9B), Human Health standards for Saline Waters of estuaries (SE).
(2) United States Environmental Protection Agency (USEPA) National Recommended Water Quality Criteria (Human Health Criteria, Organism Only). (http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm#hhtable)

(3) Tapwater RSL was used in place of NRWQC, available at http://www.epa.gov/region9/superfund/prg/. RSL values were current at the time the screening was conducted.

(4) U.S. Environmental Protection Agency (USEPA) National Recommended Water Quality Criteria (NRWQC) for protection of human health (water + organism) was used in place of the organism only value. Available at: http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm.

B = Compound detected in the sample and its associated blank sample.

ER = Estimated result.

J = Estimated concentration exceeds the MDL and is less than the RL.

mg/L = milligrams/liter; µg/L = micrograms/liter; cfu/100 mL = colony-forming units/100 milliliters.

NA = Not analyzed.

ND = Not detected.

NLE = No limit established.

* = Water + Organism.

Detections are Bolded.

Shaded cells = concentration exceeds NJDEP Saline Criterion.

Shaded cells = concentration exceeds USEPA National Recommended Water Quality Criteria.

Shaded cells = concentration exceeds NJDEP and USEPA criteria.

TABLE 4.8
SURFACE WATER SAMPLING RESULTS
SUMMARY OF EXCEEDANCES
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

						Number of Exceedances			
Analyte/Lab ID	**Maximum Concentration**	**Location of Maximum Concentration**	**Date of Maximum Concentration**	**Number of Samples (1)**	**Number of Detections**	**NJDEP SWQS Saline Water (SE) Human Health Criteria (2)**	**USEPA National Recommended Water Quality Criteria (3)**	**Evaluated as COPC in Risk Assessment?**	**Rationale**
Volatile Organic Compounds (µg/L)									
Acetone	No Detections	NA	NA	32	0	NLE	0	No	Not detected in recent samples
Bromodichloromethane	1.03	SS-12	6/22/2010	32	3	0	0	No	Less than NRWQC
Chloroform	2.73	SS-12	6/22/2010	32	3	0	0	No	Less than NRWQC
cis -1,2-Dichloroethene	10.4	SS-11	12/29/2008	32	32	NLE	12	No	Exceedances are at upsteam locations with the highest concentrations at S-11, where Husky Brook flows onto FTMM property; dections are the result of an off-site source.
Dibromochloromethane	0.32 J	SS-12	6/22/2010	32	2	0	0	No	Less than NRWQC
Methyl *tert* -butyl ether	0.51	SS-11	6/22/2010	32	6	NLE	0	No	No NRWQC
tert -Butyl alcohol	No Detections	NA	NA	32	0	NLE	NLE	No	Not detected in recent samples
Trichloroethene	0.35 J	SS-11	12/7/2009	32	2	0	0	No	Less than NRWQC
Vinyl chloride	0.76	SS-11	3/28/2010	32	3	0	0	No	Less than NRWQC
TICs	370	SS-11	12/29/2008	32	3	NLE	NLE	No	No NRWQC
Metals (µg/L)									
Arsenic	69.2	SS-11	3/24/2009	24	17	17	17	No	Detected upstream at similar concentrations.
Lead	9.2	SS-9	3/24/2009	24	6	NLE	NLE	No	No NRWQC
Wet Chemistry									
Ammonia (mg/L)	No Detections	NA	NA	12	0	NLE	NLE	No	No NRWQC
Fecal Coliform (cfu/100mL)	60	SS-9	12/29/2008	8	5	NLE	NLE	No	No NRWQC
Nitrates (mg/L)	1.69	SS-11	3/24/2009	12	11	NLE	0	No	Less than NRWQC
Oxygen (dissolved; mg/L)	9.21	SS-11	3/24/2009	32	32	NLE	NLE	No	No NRWQC
pH	8.02	SS-11	3/24/2009	32	32	NLE	0	No	Within NRWQC Range
Phosphate (mg/L)	0.01	SS-9	3/24/2009	12	2	NLE	NLE	No	No NRWQC
Salinity (%)	0.1	SS-9	9/25/2009	32	32	NLE	NLE	No	No NRWQC
Sulfate (mg/L)	185	SS-9	6/29/2009	12	12	NLE	NLE	No	No NRWQC
Temperature (ºC)	25.2	SS-9	6/22/2010	32	32	NLE	NLE	No	No NRWQC
Total Coliform (cfu/100mL)	1580	SS-19	3/24/2009	8	8	NLE	NLE	No	No NRWQC

Notes:

(1) The samples from the most recent 8 quarters of surface water sampling are included here.

(2) New Jersey Department of Environmental Protection (NJDEP) Surface Water Quality Standards (SWQS) for saline (SE) waters as per N.J.A.C. 7:9B effective 4-4-11. Available at: http://www.nj.gov/dep/wms/bwqsa/swqs.htm.

(3) U.S. Environmental Protection Agency (USEPA) Surface Water Human Health Criteria. Available at: http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm.

mg/L = milligrams/liter; µg/L = micrograms/liter; cfu/100 mL = colony-forming units/100 milliliters

Dup = duplicate sample collected

NA = Not Applicable; all concentrations were less than the detection limit, therefore, no location of maximum value identified.

NLE = No limit established

TABLE 4.9
SEDIMENT PCB RESULTS
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Boring ID	Sample Depth (bgs)	Date Collected	Total PCBs (mg/kg)	Aroclor 1254 (mg/kg)
B-1	0-6"	4/10/2000	< 0.0224	< 0.0012
	6"-12"	4/10/2000	< 0.0268	< 0.0014
	18"-24"	4/10/2000	< 0.0196	< 0.0010
B-2	0-6"	4/10/2000	< 0.0236	< 0.0012
	6"-12"	4/10/2000	< 0.0202	< 0.0011
B-3	0-6"	4/10/2000	< 0.0199	< 0.0010
	6"-12"	4/10/2000	< 0.0211	< 0.0011
B-4	0-6"	4/10/2000	< 0.0173	< 0.0009
	6"-12"	4/10/2000	< 0.0187	< 0.0010
	18"-24"	4/10/2000	< 0.0196	< 0.0010
B-5	0-6"	4/10/2000	< 0.0200	< 0.0011
	6"-12"	4/10/2000	< 0.0177	< 0.0009
B-6	0-6"	4/10/2000	< 0.0177	< 0.0009
	6"-12"	4/10/2000	< 0.0194	< 0.0010
	18"-24"	4/10/2000	< 0.0177	< 0.0009
B-7	0-6"	4/10/2000	< 0.0188	< 0.0010
	6"-12"	4/10/2000	< 0.0129	< 0.0007
B-8	0-6"	4/10/2000	< 0.0194	< 0.0010
	6"-12"	4/10/2000	< 0.0209	< 0.0011
B-9	0-6"	4/10/2000	< 0.0181	< 0.0010
	6"-12"	4/10/2000	< 0.0198	< 0.0010
B-10	0-6"	4/10/2000	< 0.0189	< 0.0010
	6"-12"	4/10/2000	< 0.0209	< 0.0011
B-11	0-6"	4/10/2000	< 0.0121	< 0.0006
	6"-12"	4/10/2000	< 0.0696	< 0.0037
B-11 (Dup)	0-6"	4/10/2000	**0.279**	**0.279**
	6"-12"	4/10/2000	< 0.0189	< 0.0010

NJDEP RDCSRS	0.2	NLE
NJDEP NRDCSRS	1	NLE
USEPA RSL - Residential	NLE	0.11
USEPA RSL - Non-Residential	NLE	0.74

Notes:
PCBs = Polychlorinated Biphenyls
bgs = below ground surface
mg/kg = milligram per kilogram
Dup = duplicate
NLE = No limit established
NJDEP = New Jersey Department of Environmental Protection
USEPA = United States Environmental Protection Agency

TABLE 6.1
RISK RATIO CALCULATIONS FOR POTENTIAL EXPOSURE TO SOIL BY A CURRENT/FUTURE OUTDOOR WORKER
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

CAS No.	Compound	Exposure Point Concentration (EPC) (units) [1]			USEPA Regional Screening Level Industrial Soil (HQ = 1.0) (units) [2]			Carcinogenic? [3]	Percent of cumulative non-carcinogenic risk?	Percent of cumulative carcinogenic risk?	Outdoor worker Non-Carcinogenic Risk Ratio (EPC/USEPA RSL)	Outdoor worker Carcinogenic Risk Ratio (EPC/USEPA RSL)
					non-carcinogenic	carcinogenic						
	Semivolatile Organic Coumpounds											
56-55-3	Benzo[a]anthracene	27 D	mg/kg	Max	--	2.9	mg/kg	yes	--	24%	--	9.3E-06
50-32-8	Benzo[a]pyrene	1.1	mg/kg	UCL	--	0.29	mg/kg	yes	--	9.5%	--	3.7E-06
205-99-2	Benzo[b]fluoranthene	23 D	mg/kg	Max	--	2.9	mg/kg	yes	--	21%	--	7.9E-06
207-08-9	Benzo[k]fluoranthene	25 D	mg/kg	Max	--	29	mg/kg	yes	--	2.2%	--	8.6E-07
218-01-9	Chrysene	29 D	mg/kg	Max	--	290	mg/kg	yes	--	0.26%	--	1.0E-07
53-70-3	Dibenz[a,h]anthracene	1.2	mg/kg	Max	--	0.29	mg/kg	yes	--	11%	--	4.1E-06
193-39-5	Indeno[1,2,3-cd]pyrene	13	mg/kg	Max	--	2.9	mg/kg	yes	--	12%	--	4.5E-06
	Pesticides / PCBs											
50-29-3	4,4'-DDT	4.1	mg/kg	Max	520	8.6	mg/kg	both	2.5%	1.2%	0.008	4.8E-07
	Metals											
7429-90-5	Aluminum	101000	mg/kg	Max	1100000	--	mg/kg	no	29%	--	0.092	--
7440-38-2	Arsenic	23	mg/kg	UCL	480	3.0	mg/kg	both	15%	20%	0.048	7.6E-06
7440-48-4	Cobalt	15	mg/kg	Max	350	1900	mg/kg	both	14%	0.020%	0.04	7.9E-09
7439-96-5	Manganese	296	mg/kg	Max	26000	--	mg/kg	no	3.6%	--	0.011	--
7439-97-6	Mercury	3.6	mg/kg	Max	40	--	mg/kg	no	28%	--	0.090	--
7440-62-2	Vanadium	144	mg/kg	Max	5800	--	mg/kg	no	7.8%	--	0.025	--
								Cumulative Risk Ratio			**0.3**	**4E-05**

Notes:

(1) Exposure point concentration (EPC) is the maximum detected concentration or 95% UCL for each analyte for all soil samples combined. 95% UCLs are calculated using ProUCL (version 5.0) and the output files are presented in Appendix B. 95% UCLs are presented in blue font.

(2) USEPA Regional Screening Level (RSL) for Industrail soil, Target Risk (TR) = 1 x 10^{-6} and Target Hazard Quotient (THQ) = 1.0. Revised January 2015. http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/docs/indsoil_sl_table_run_JAN2015.pdf

(3) "yes" indicates that the chemical exerts carcinogenic effects; "no" indicates that the chemical exerts non-carcinogenic effects; and "both" indicates that the chemical exerts both carcinogenic and non-carcinogenic effects

mg/kg = milligrams per kilogram

Max = Maximum detected concentration

UCL = Upper confidence limit

D = Result from dilution of sample

TABLE 6.2
RISK RATIO CALCULATIONS FOR POTENTIAL EXPOSURE TO SOIL BY A FUTURE UTILITY WORKER
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

CAS No.	Compound	Exposure Point Concentration (EPC) (units) [1]			Utility Worker Screening Level (SL) (HQ = 1.0) (units) [2]			Carcinogenic? [3]	Percent of cumulative non-carcinogenic risk?	Percent of cumulative carcinogenic risk?	Utility Worker Non-Carcinogenic Risk Ratio (EPC/SL)	Utility Worker Carcinogenic Risk Ratio (EPC/SL)
					non-carcinogenic	carcinogenic						
	Semivolatile Organic Coumpounds											
56-55-3	Benzo[a]anthracene	27 D	mg/kg	Max	--	243	mg/kg	yes	--	23%	--	1.1E-07
50-32-8	Benzo[a]pyrene	1.1	mg/kg	UCL	--	24	mg/kg	yes	--	9.2%	--	4.4E-08
205-99-2	Benzo[b]fluoranthene	23 D	mg/kg	Max	--	243	mg/kg	yes	--	20%	--	9.5E-08
207-08-9	Benzo[k]fluoranthene	25 D	mg/kg	Max	--	2430	mg/kg	yes	--	2.2%	--	1.0E-08
218-01-9	Chrysene	29 D	mg/kg	Max	--	24300	mg/kg	yes	--	0.25%	--	1.2E-09
53-70-3	Dibenz[a,h]anthracene	1.2	mg/kg	Max	--	24	mg/kg	yes	--	10%	--	4.9E-08
193-39-5	Indeno[1,2,3-cd]pyrene	13	mg/kg	Max	--	243	mg/kg	yes	--	11%	--	5.3E-08
	Pesticides / PCBs											
50-29-3	4,4'-DDT	4.1	mg/kg	Max	1420	585	mg/kg	both	3.1%	1.5%	0.0029	7.1E-09
	Metals											
7429-90-5	Aluminum	101000	mg/kg	Max	2930000	--	mg/kg	no	37%	--	0.034	--
7440-38-2	Arsenic	23	mg/kg	UCL	1390	216	mg/kg	both	18%	22%	0.017	1.1E-07
7440-48-4	Cobalt	15	mg/kg	Max	884	918000	mg/kg	both	18%	0.0034%	0.017	1.6E-11
7439-96-5	Manganese	296	mg/kg	Max	69900	--	mg/kg	no	4.6%	--	0.0042	--
7439-97-6	Mercury	3.6	mg/kg	Max	455	--	mg/kg	no	8.6%	--	0.0079	--
7440-62-2	Vanadium	144	mg/kg	Max	14800	--	mg/kg	no	10%	--	0.010	--
								Cumulative Risk Ratio			**0.09**	**5E-07**

Notes:

(1) Exposure point concentration (EPC) is the maximum detected concentration or 95% UCL for each analyte for all soil samples combined. 95% UCLs are calculated using ProUCL (version 5.0) and the output files are presented in Appendix B. 95% UCLs are presented in blue font.

(2) Calculated screening level for utility workers using the USEPA RSL calculator for outdoor worker, using site-specific and receptor-specific exposure parameters. The calculations and exposure parameters are provided in Appendix B.

(3) "yes" indicates that the chemical exerts carcinogenic effects; "no" indicates that the chemical exerts non-carcinogenic effects; and "both" indicates that the chemical exerts both carcinogenic and non-carcinogenic effects

mg/kg = milligrams per kilogram

Max = Maximum detected concentration

UCL = Upper confidence limit

D = Result from dilution of sample

TABLE 6.3
RISK RATIO CALCULATIONS FOR POTENTIAL EXPOSURE TO SOIL BY A FUTURE RECREATIONAL USER
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

CAS No.	Compound	Exposure Point Concentration (EPC) (units) [1]				Recreational User Soil Calculated Screening Level (SL) (HQ = 1.0) (units) [2]			Carcinogenic? [3]	Percent of cumulative non-carcinogenic risk?	Percent of cumulative carcinogenic risk?	Recreational User Non-Carcinogenic Risk Ratio (EPC/SL)	Recreational User Carcinogenic Risk Ratio (EPC/SL)
						non-carcinogenic	carcinogenic						
	Semivolatile Organic Coumpounds												
56-55-3	Benzo[a]anthracene	27 D		mg/kg	Max	--	7.6	mg/kg	yes	--	27%	--	3.5E-06
50-32-8	Benzo[a]pyrene	1.1 D		mg/kg	UCL	--	0.76	mg/kg	yes	--	11%	--	1.4E-06
205-99-2	Benzo[b]fluoranthene	23 D		mg/kg	max	--	7.6	mg/kg	yes	--	23%	--	3.0E-06
207-08-9	Benzo[k]fluoranthene	25 D		mg/kg	max	--	76	mg/kg	yes	--	2.5%	--	3.3E-07
218-01-9	Chrysene	29 D		mg/kg	max	--	763	mg/kg	yes	--	0.30%	--	3.8E-08
53-70-3	Dibenz[a,h]anthracene	1.2		mg/kg	max	--	0.76	mg/kg	yes	--	12%	--	1.6E-06
193-39-5	Indeno[1,2,3-cd]pyrene	13		mg/kg	max	--	7.6	mg/kg	yes	--	13%	--	1.7E-06
	Pesticides / PCBs												
50-29-3	4,4'-DDT	4.1		mg/kg	max	3090	53	mg/kg	both	3.3%	0.61%	0.0013	7.8E-08
	Metals												
7429-90-5	Aluminum	101,000		mg/kg	max	6670000	--	mg/kg	no	37%	--	0.02	--
7440-38-2	Arsenic	23		mg/kg	UCL	2930	19	mg/kg	both	19%	9.4%	0.008	1.2E-06
7440-48-4	Cobalt	15		mg/kg	max	2010	91800	mg/kg	both	18%	0.0013%	0.01	1.6E-10
7439-96-5	Manganese	296		mg/kg	max	159000	--	mg/kg	no	4.5%	--	0.002	--
7439-97-6	Mercury	3.6		mg/kg	max	1090	--	mg/kg	no	8.0%	--	0.003	--
7440-62-2	Vanadium	144		mg/kg	max	33700	--	mg/kg	no	10%	--	0.004	--
									Cumulative Risk Ratio			**0.04**	**1E-05**

Notes:

(1) Exposure point concentration (EPC) is the maximum detected concentration or 95% UCL for each analyte for all soil samples combined. 95% UCLs are calculated using ProUCL (version 5.0) and the output files are presented in Appendix B. 95% UCLs are presented in blue font.

(2) Calculated screening level for recreational users using the USEPA RSL calculator for recreator, using site-specific and receptor-specific exposure parameters. The calculations and exposure parameters are provided in Appendix B.

(3) "yes" indicates that the chemical exerts carcinogenic effects; "no" indicates that the chemical exerts non-carcinogenic effects; and "both" indicates that the chemical exerts both carcinogenic and non-carcinogenic effects

mg/kg = milligrams per kilogram

Max = Maximum detected concentration

SL = Screening level

UCL = Upper confidence limit

D = Result from dilution of sample

FIGURES

Figure 1.1 Fort Monmouth Location
Figure 1.2 FTMM-14 Location
Figure 1.3 Layout of FTMM-14
Figure 2.1 FTMM-14 Soil Sample Locations
Figure 2.2 FTMM-14 Surface Water and Sediment Sample Locations
Figure 4.1 Summary of Method to Determine COPCs
Figure 6.1 Evaluation of Risk to Human Receptors
Figure 6.2 Human Health Conceptual Site Model

Legend

Installation Boundary

Site Description:
Fort Monmouth
Main Post & Charles Wood Area
Monmouth County, NJ
Longitude: 74˚ 2' 33.39" W
Latitude: 40˚ 18' 49.33" N
Longitude and Latitude represent the center point of Main Post.

N

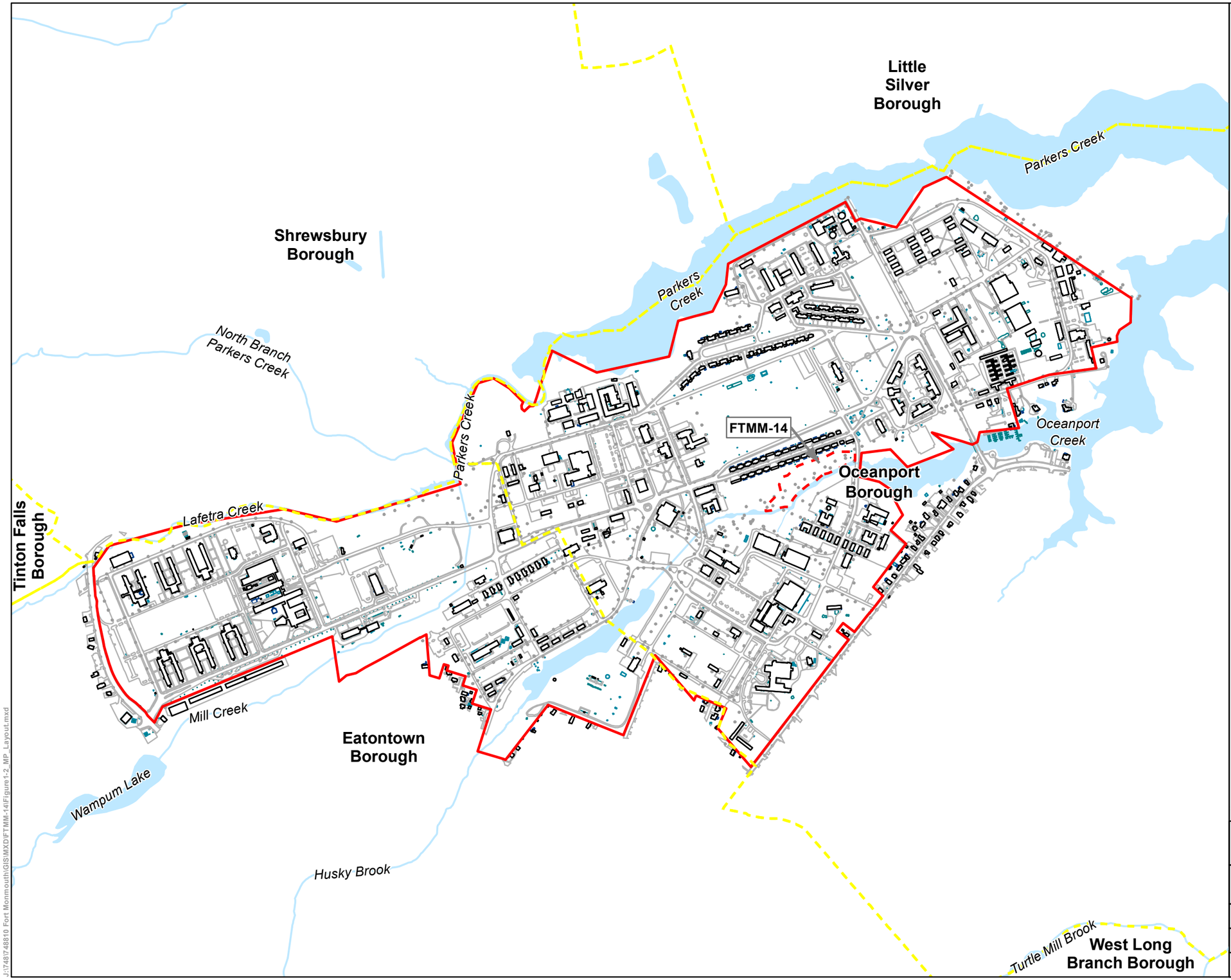
1 inch = 2,500 feet

0 0.5 1 Miles

Source: ESRI online imagery; ESRI Data and Maps, 2011.

PARSONS 401 Diamond Drive NW, Huntsville AL	Fort Monmouth New Jersey
Fort Monmouth Location	
CREATED BY: TS	REVIEWED BY: JH
DATE: May 2014	FIGURE NUMBER: Figure 1.1
PROJECT NUMBER: 748810.02070	FILE: Figure1-1_Location.mxd

J:\748\748810 Fort Monmouth\GIS\MXD\FTMM-14\Figure1-1_Location.mxd



Legend

- Surface Water Feature
- FTMM-14 Landfill Boundary
- Municipal Boundary
- Installation Boundary

N

1 inch = 1,000 feet

0 250 500 1,000 1,500 2,000 2,500 Feet

Source: FTMM Supplied CAD, 2013; ESRI Data and Maps, 2011; USGS NHD, 2012.

PARSONS 401 Diamond Drive NW, Huntsville AL	Fort Monmouth New Jersey
FTMM-14 Location	
CREATED BY: TS	REVIEWED BY: JH
DATE: May 2014	FIGURE NUMBER: Figure 1.2
PROJECT NUMBER: 748810.02070	FILE: Figure1-2_MP_Layout.mxd

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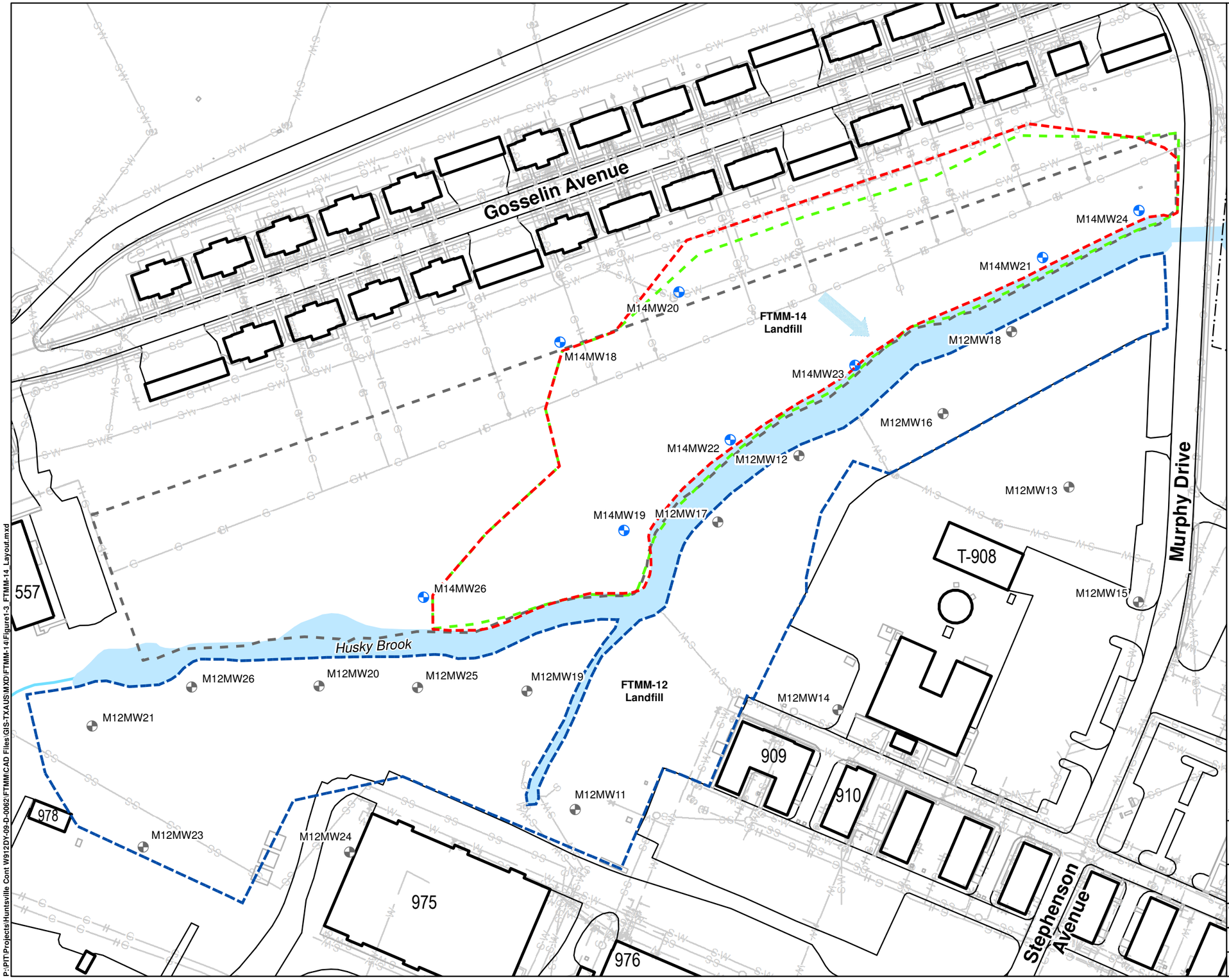


LEGEND:

- Shallow Monitoring Well
- FTMM-12 Shallow Monitoring Well
- FTMM-14 Landfill Revised Boundary (2015)
- FTMM-14 Landfill Revised Boundary (2010)
- FTMM-14 Landfill Original Boundary
- FTMM-12 Landfill Boundary (2015)
- Installation Boundary
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Estimated Groundwater Flow Direction

NOTE:

The location of monitoring well M14MW25 is unknown.

N

1 inch = 120 feet

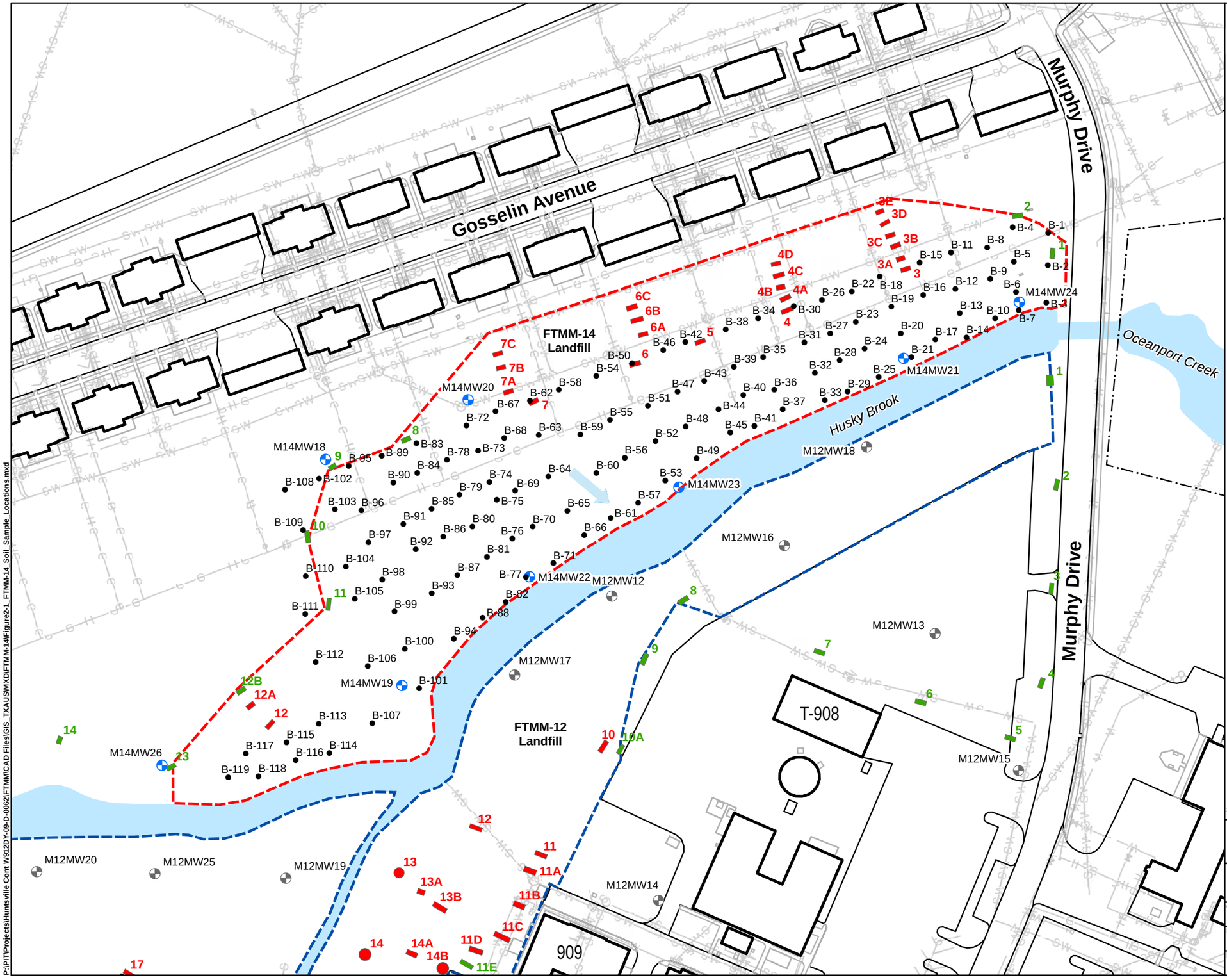
0 50 100 200 Feet

Source: FTMM Supplied CAD, 2013.

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**

LAYOUT OF FTMM-14

CREATED BY: RR	REVIEWED BY: JH
DATE: JUN. 2015	FIGURE NUMBER: FIGURE 1.3
PROJECT NUMBER: 748810-02070	FILE: Figure1-3_FTMM-14_Layout.mxd



LEGEND:

- Soil Boring Location
- Shallow Monitoring Well
- FTMM-12 Shallow Monitoring Well
- Landfill Trench - Debris Not Present
- Landfill Trench - Debris Present
- FTMM-14 Landfill Boundary (2015)
- FTMM-12 Landfill Boundary (2015)
- Installation Boundary
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Estimated Groundwater Flow Direction

Note: The location of monitoring well M14MW25 is unknown.

Source: FTMM Supplied CAD, 2013.

PARSONS 401 Diamond Drive NW, Huntsville AL	Fort Monmouth New Jersey

FTMM-14 SOIL SAMPLE LOCATIONS

CREATED BY: RR	REVIEWED BY: ME
DATE: MAR. 2015	FIGURE NUMBER: FIGURE 2-1
PROJECT NUMBER: 748810-02070	FILE: Figure2-1_FTMM-14_Soil_Sample_Locations.mxd

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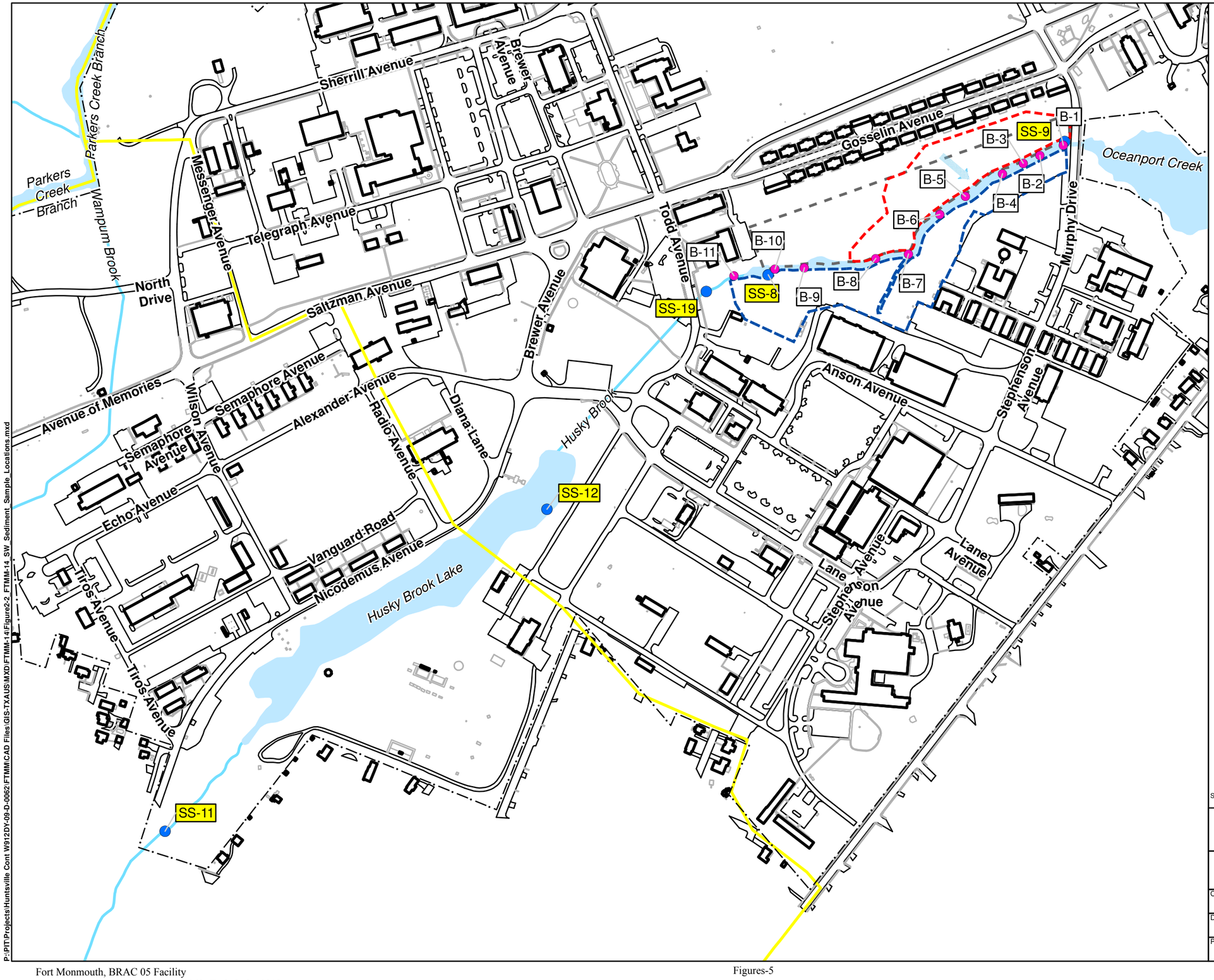

LEGEND:

- Sediment Sample Location
- Surface Water Sampling Location
- FTMM-14 Landfill Revised Boundary (2015)
- FTMM-12 Landfill Boundary (2015)
- FTMM-14 Landfill Original Boundary
- Installation Boundary
- Municipal Boundary
- Estimated Groundwater Flow Direction
- SS-9 — Surface Water Sample Location Associated with FTMM-14
- B-1 — Sediment Sample Location Associated with FTMM-14

N

1 inch = 400 feet

0 100 200 400 600 800 Feet

Source: FTMM Supplied CAD, 2013.

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**

FTMM-14 SURFACE WATER AND SEDIMENT SAMPLE LOCATIONS

CREATED BY: RR	REVIEWED BY: RF
DATE: JUN, 2015	FIGURE NUMBER: FIGURE 2-2
PROJECT NUMBER: 748810-02070	FILE: Figure2-2_FTMM-14_SW_Sediment_Sample_Locations.mxd

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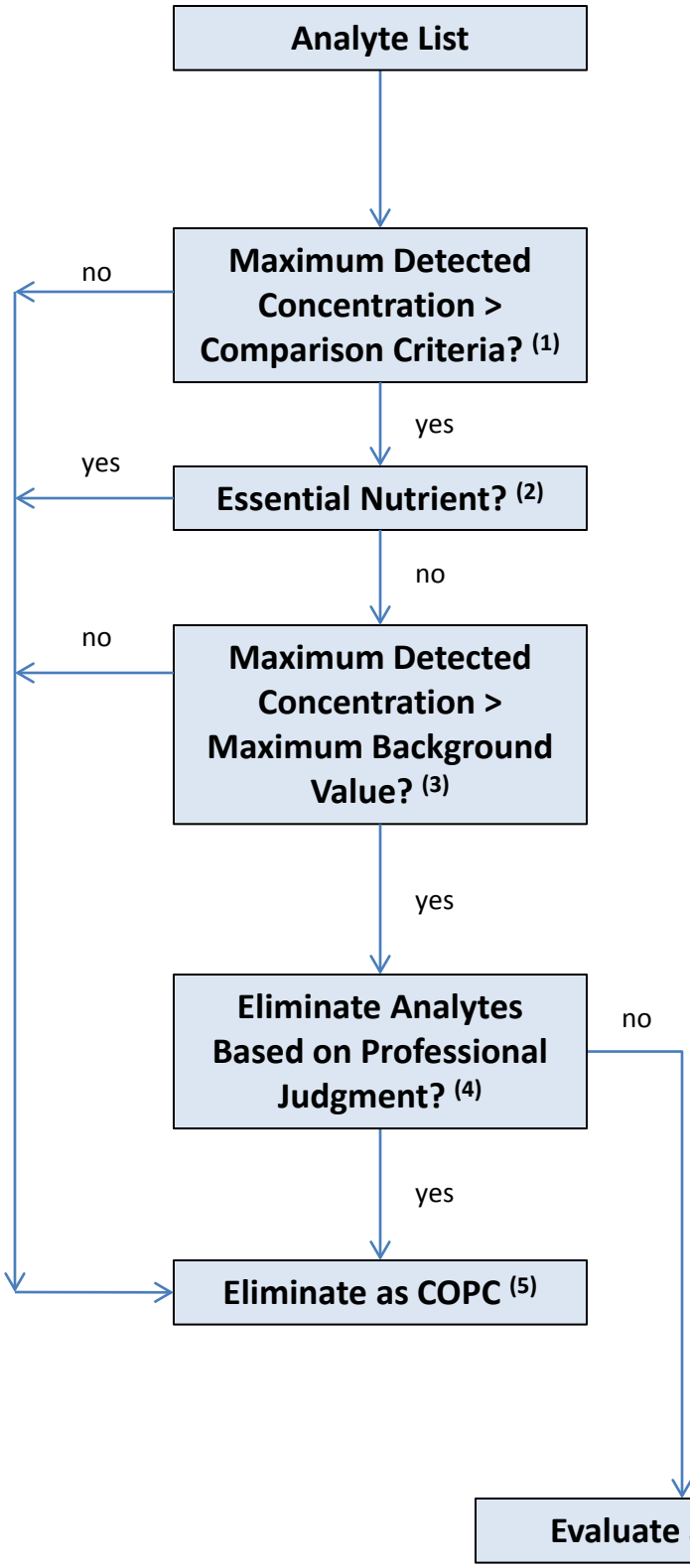
FIGURE 4.1
Summary of Method to Determine COPCs



(1) Preliminary Comparison Criteria are:

a. Soil: USEPA Residential Regional Screening Levels (RSLs) (Target Risk [TR] = 1 X 10^{-6} and Target Hazard Quotient [THQ] = 0.1)
b. Groundwater: USEPA Tapwater RSLs (TR = 1 X 10^{-6} and THQ = 0.1)
c. Surface Water: A hierarchy of USEPA human health criteria was used in the priority shown below.
    1. National Recommended Water Quality Criteria (NRWQC) (organism only),
    2. NRWQC (water + organism),
    3. Tapwater RSLs, and
    4. Maximum Contaminant Levels (MCLs)
d. Sediment: USEPA Residential RSLs for Soil (TR = 1 X 10^{-6} and THQ = 0.1)

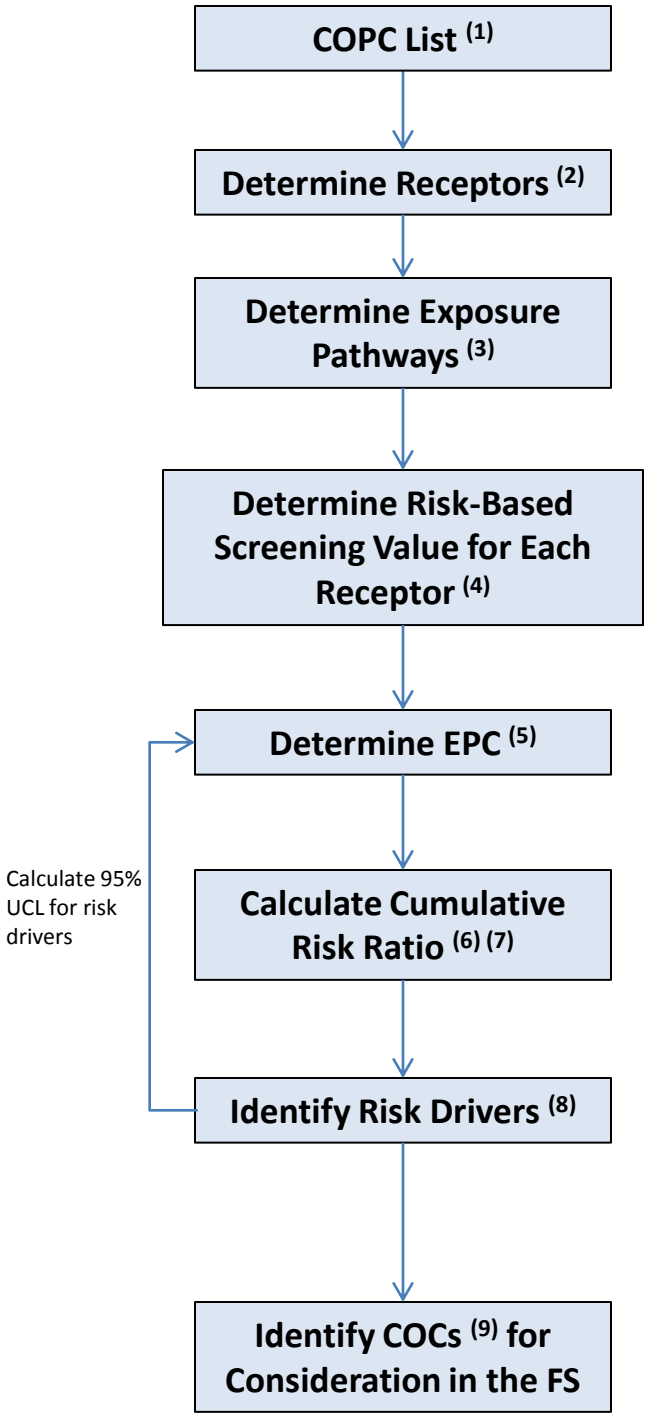
(2) Essential nutrients : calcium, iron, magnesium, sodium, and potassium

(3) Maximum background concentrations for metals were used because background data set was small (10 data points) and did not follow a parametric distribution. Weston (1995) concluded that the maximum background was approximately equivalent to a 95% Upper Tolerance Limit (UTL) for metals.

(4) Assessment (primarily for groundwater and surface water) as to whether exceedances of comparison criteria are representative of site-related contamination or are due to turbidity, upstream/upgradient sources, laboratory contamination, natural background conditions, etc.

(5) Constituent of potential concern

Figure 6.1
Evaluation of Risk to Human Receptors



(1) COPCs determined from comparison to screening criteria (see previous flow chart)

(2) Receptors include current and future outdoor workers, utility workers, and future recreational users

(3) Soil: incidental ingestion, dermal contact and inhalation of particulates and volatiles
Groundwater: ingestion as drinking water and dermal contact
Surface water/sediment: incidental ingestion and dermal contact

(4) The screening values used in the risk ratio will be:
- Soil: USEPA Industrial worker regional screening level (RSL) (Target Risk (TR) = 1 X 10^{-6} and Target Hazard Quotient (THQ) = 1.0); site-specific recreational user screening level calculated for each analyte
- Groundwater: USEPA tap water RSL (TR = 1 X 10^{-6} and THQ=1.0) (which includes outdoor workers and recreational users)
- Surface water: USEPA National Recommended Water Quality Criteria, Human Health Criteria, Organism Only
- Sediment: USEPA Industrial worker RSL (TR = 1 X 10^{-6} and THQ=1.0)

(5) Exposure Point Concentration, initially the maximum detected concentration

(6) Risk ratio calculated for carcinogens as:
Cumulative risk = Σ(Target Risk) x (EPC/Screening level)
For non-carcinogens as:
HI = Σ(Target Hazard Index) x (EPC/Screening level)

(7) Lead is evaluated based on the potential for exposure to increase blood lead levels. Therefore, lead is not included in the cumulative non-carcinogenic and carcinogenic risk estimates. The risk ratio for lead is calculated as: lead risk = (EPC/Screening level)

(8) Risk drivers are the individual analytes that contribute more than 25% to the cumulative risk ratio. For risk drivers a 95% Upper Confidence Limit (UCL) will be calculated.

(9) Constituent of Concern

Figure 6.2
Human Health Conceptual Site Model
Site FTMM-14
Fort Monmouth, New Jersey

Potential Medium of Concern	Potential Route of Exposure	Potentially Exposed Population	Pathway Completeness and Assumptions
Soil	• Incidental ingestion of soil • Inhalation of volatiles and particulates from soil • Dermal contact with soil	• Current industrial receptor (outdoor worker) • Future industrial receptor (outdoor worker) • Future industrial receptor (indoor worker) • Future recreational user • Future utility worker	• FTMM-14 is a landfill that was used as a general purpose disposal area for building rubble and was later covered with dredged material from Husky Brook Pond. It is currently vacant and unused. There are no new development activities occurring. The Fort Monmouth Economic Redevelopment Planning Authority reuse plan calls for the Fort Monmouth landfills to be designated as passive open space. • There are potentially complete exposure pathways associated with the current outdoor worker via incidental ingestion, inhalation of volatiles and particulates, and dermal contact. An exposure frequency of 225 days per year and an exposure duration of 25 years are assumed for this scenario. Thus, it is a very conservative evaluation for a potential current outdoor worker who would have much less exposure (*e.g.*, current worker that visits the site to perform mowing and landscaping activities). • There are potentially complete exposure pathways associated with the future outdoor worker via incidental ingestion, inhalation of volatiles and particulates, and dermal contact. This pathway is not included in the risk ratio analysis because it is assumed to be conservatively evaluated under the current outdoor worker scenario (based on the exposure frequency and exposure duration). There are potentially complete exposure pathways associated with the future indoor worker via incidental ingestion, inhalation of volatiles and particulates, and dermal contact, if commercial buildings were constructed on the site. This pathway is not included in the risk ratio analysis because it is assumed to be conservatively evaluated under the current outdoor worker scenario (future indoor

Figure 6.2
Human Health Conceptual Site Model
Site FTMM-14
Fort Monmouth, New Jersey

Potential Medium of Concern	Potential Route of Exposure	Potentially Exposed Population	Pathway Completeness and Assumptions
			workers would have much less exposure to soil). • Future recreational users have a complete exposure pathway to soil via incidental ingestion, inhalation of volatiles and particulates, and dermal contact, in part as an adolescent (aged 6-16) and in part as an adult (aged 16-30 for non carcinogens). An exposure frequency of 50 days per year and an exposure duration of 24 years are assumed for this scenario. This potentially exposed population also includes persons who may be trespassing at the site, as they are expected to be on-site no more frequently than recreational users. • Future utility workers have a complete exposure pathway to soil via incidental ingestion, inhalation of volatiles and particulates, and dermal contact. An exposure frequency of 30 days per year for a one year project duration are assumed for this scenario. • The site is not residential and is not planned for residential use. Therefore, residential exposure pathways are incomplete.

Figure 6.2
Human Health Conceptual Site Model
Site FTMM-14
Fort Monmouth, New Jersey

Potential Medium of Concern	Potential Route of Exposure	Potentially Exposed Population	Pathway Completeness and Assumptions
Surface Water/Sediment	• Ingestion of aquatic organisms (e.g., fish and shellfish) • Incidental ingestion of surface water/sediment • Inhalation of volatiles from surface water/sediment • Dermal contact with surface water/sediment	• Current industrial receptor (outdoor worker) • Future industrial receptor (outdoor worker) • Future recreational user • Future utility workers	• Husky Brook flows along the northern border of FTMM-14. This creek is saline near the downstream end of FTMM-14. The surface water is not used as a drinking water source. • No COPCs were identified in the surface water or sediment, so the surface water and sediment exposure pathways are incomplete for all receptors.

Figure 6.2
Human Health Conceptual Site Model
Site FTMM-14
Fort Monmouth, New Jersey

Potential Medium of Concern	Potential Route of Exposure	Potentially Exposed Population	Pathway Completeness and Assumptions
Groundwater	• Incidental ingestion of groundwater • Inhalation of volatiles in groundwater • Dermal contact with groundwater	• Future utility worker	• FTMM-14 is a landfill that was used as a general purpose disposal area for building rubble and was later covered with dredged material from Husky Brook Pond. It is currently vacant and unused. There are no new development activities occurring. The Fort Monmouth Economic Redevelopment Planning Authority reuse plan calls for the Fort Monmouth landfills to be designated as passive open space. • The site is not residential and is not planned for residential use. Therefore, residential exposure pathways are incomplete. • No COPCs were identified in the groundwater, so the groundwater exposure pathways are incomplete for all receptors.

APPENDICES

Appendix A Key Historical Reports and Background Information (included electronically on CD)

Appendix B Utility Worker and Recreational User Screening Level Equations and Calculations; ProUCL Output

Appendix C Cost Estimate

APPENDIX A
KEY HISTORICAL REPORTS AND BACKGROUND INFORMATION

(Appendix A is included separately on the CD of this report)

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Case Management
Mail Code 401-05F
P.O. Box 420
Trenton, New Jersey 08625-0420
Telephone: 609-633-1455

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

February 5, 2015

Wanda Green
BRAC Environmental Coordinator
OACSIM – U.S. Army Fort Monmouth
PO Box 148
Oceanport, NJ 07757

Approval

Re: *November 26, 2014 Response to Comments –on the Final Baseline Ground Water Sampling Report (August 2013)*
Fort Monmouth
Monmouth County
PI # G000000032
Activity Number: RPC000001

Dear Ms. Green:

The New Jersey Department of Environmental Protection (Department) has completed a review of the referenced Response to Comments dated November 26, 2014, submitted in response to the Department's comment letter dated July 3, 2014 regarding the Final Baseline Ground Water Sampling Report.

The *Response to Comments* agrees with or acknowledges the Department's comments for areas FTMM-03, FTMM-04, FTMM-05, FTMM-08, FTMM-12, FTMM-14, FTMM-22, FTMM-25, FTMM-53, FTMM-54, FTMM-55, FTMM-56, FTMM-57, FTMM-58, FTMM-59, FTMM-61, FTMM-64, and FTMM-66.

FTMM-18
The Department had indicated low-flow sampling must also be performed if Passive Diffusion Bag Sampling (PDBS) is conducted, for comparison purposes. The *Response to Comments* submittal contends as low-flow sampling has been historically conducted at this area, PDBS sampling only is appropriate. Based upon this reasoning, the Department agrees the performance via PDBS only is acceptable for the ensuing round of ground water sampling. The PDBS results are to be compared to the previous low-flow sampling results and presented in the forthcoming sampling report.

FTMM-68
The Department had expressed concern regarding the use of PDBS for long-term monitoring. FTMM-68 has not been fully characterized, and the use of PDBS for longer term monitoring is acceptable only for well characterized sites, as per the DEP's Field Sampling Procedures

Manual. As per information provided in the *Response to Comments* submittal, a Remedial Investigation to fully characterize the area is to be conducted in the near future using low-flow sampling methodology, and request approval for the use of PDBS to characterize contaminant concentrations in the interim. This is acceptable based on the stipulation that a full remedial investigation is to be performed. The November '14 *Response to Comments* (Section V), however, indicated the Remedial Investigation Workplan for FTMM-68 was awaiting DEP approval. Although some clarification was requested, the proposed remedial activities, soil and ground water, were approved for the FTMM-68 area via letter dated *January 8, 2014*, which addressed the RI/FS Workplan for FTMM-22, FTMM-53, FTMM-59 & FTMM-68.

If you have any questions, please contact me at (609)984-6606, or via email at Linda.Range@dep.nj.gov.

Sincerely,

Linda Range

Linda Range
Bureau of Case Management

cc: Joe Pearson, Calibre
Rick Harrison, FMERA
Joe Fallon, FMERA
Frank Barricelli, RAB

Notes from review of aerial photos conducted at NJDEP in March and April 2010

April 6, 1940 – Photo print

- M14 Landfill: Area undisturbed. Natural stream present that is oriented East-West.

September 19, 1947 (CNB-83D-55, CNB-3D-56) – Photo Prints

- M3 Landfill: Some minor disturbance on east end – inconsequential
- M4 Landfill: undisturbed (all vegetated, i.e., non-existent)
- M5 Landfill: void of vegetation except for tires near Sherrill Avenue
- M8 Landfill (former incinerator building): Truck ramp visible
- M12 and M14 Landfills: Void of vegetation but no distinct evidence of landfilling
- M18 Landfill: No activity

February 25, 1951 (289831, 289832) – Photo Prints

- Area labeled "1" on map: It appears this area on M-14 undergoing disruption and a structure/vehicle is present.
- Area labeled "2" on map: Area on M-12 Landfill has shows some disturbance but it does not appear to be as active as "1".
- Area labeled "3" on map: Area of M-3 Landfill appears to show a pistol range with a building/shack on northeastern most portion of M-3 Landfill.
- Bldg 1122 does not exist – this area was vegetated.

April 9, 1954 (778-111) – Photo Print (B&W)

- M2 Landfill: undisturbed and vegetated
- M8 Landfill (former incinerator building): Truck ramp visible
- M12 and M14 Landfills: Void of vegetation but no distinct evidence of landfilling
- M14 Landfill: disturbed
- M18 Landfill: No activity

May 2, 1957 (CNB-8R-145, CNB-85-146) – B&W Transparency

The edge of M14 Landfill appears near 332 Gosselin Avenue and extends to 334 Gosselin Avenue (see attached map for approximate edges of landfill observed on aerial photo). It also appears that the edge of the landfill near 332 Gosselin Avenue is slightly elevated than the area adjacent to Murphy Drive.

May 4, 1961 (1116-48-2781, 1116-48-2782) – B&W Transparency

The photos clearly show the areal extent of the M-14 Landfill. In comparison to the 1957 aerial photo, it appears the 1961 landfill is more reflective of current edges of the landfill. It would appear that the western edge of the 'landfill' observed in the 1957 aerial photo is cleared of vegetation. Also, it appears that rectangular shaped debris (e.g., refrigerators) appeared in the eastern portion of the landfill, south of 239 Gosselin Avenue.

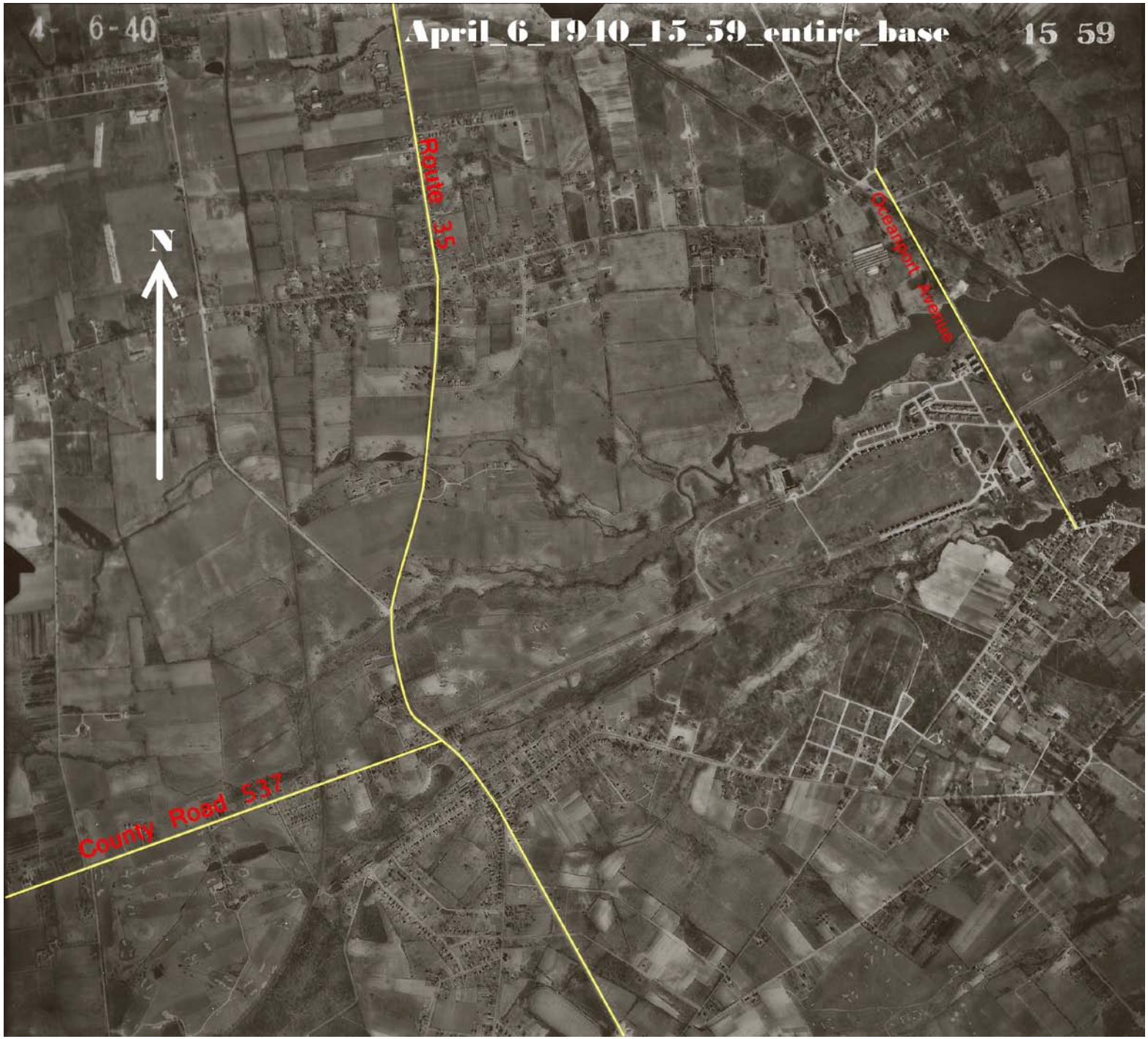
A small area in the westernmost portion of the M-2 Landfill and south of Bldg 1150 appears undisturbed. The remainder of the landfill appeared operational.

August 24, 1971 (CJP-COL-580, CJP-COL-581) Color transparency (scanned copy too dark to display)

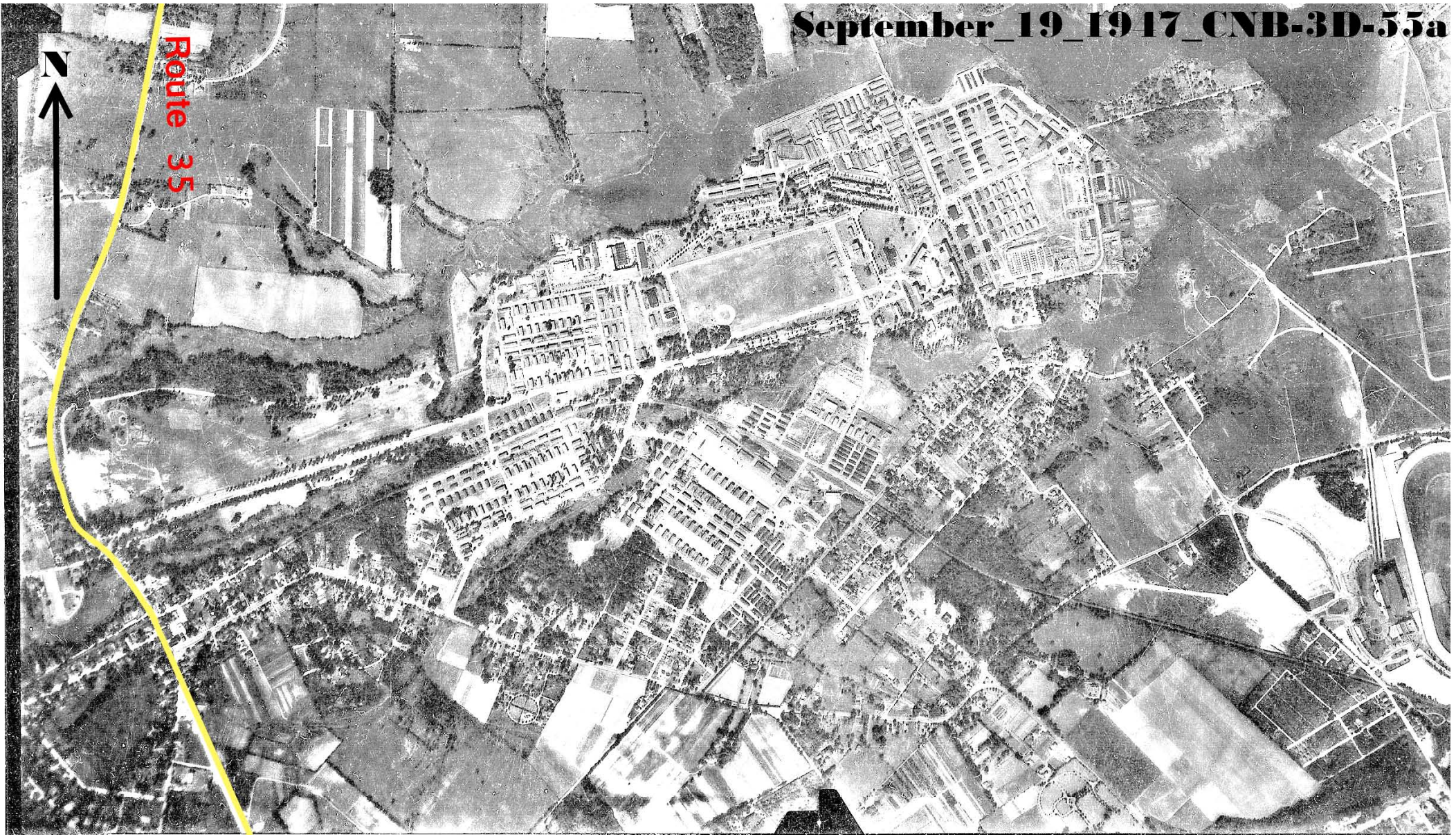
- M4 Landfill: large concrete pad with overhead lighting constructed due west of Bldg 689 near middle of landfill.
- M5 Landfill: is being utilized for activities other than landfilling.
- M8 Landfill: Significant operations are evident on this parcel as seen on CJP-COL-443 photo
- M14 Landfill: Not in use

September 9, 1977 Color transparency (scanned copy too dark to display)

- M3, M4, and M5 Landfills: No landfill activities. Concrete pad at M-4 evident.
- M8 Landfill: Still active.
- M18 Landfill: No activity.


4- 6-40
April_6_1940_15_59_entire_base
15 59
N
Route 35
Oceanport Avenue
County Road 537

April_6_1940_15_59_MP
N
Route 35
Oceanport Avenue


September_19_1947_CNB-3D-55a
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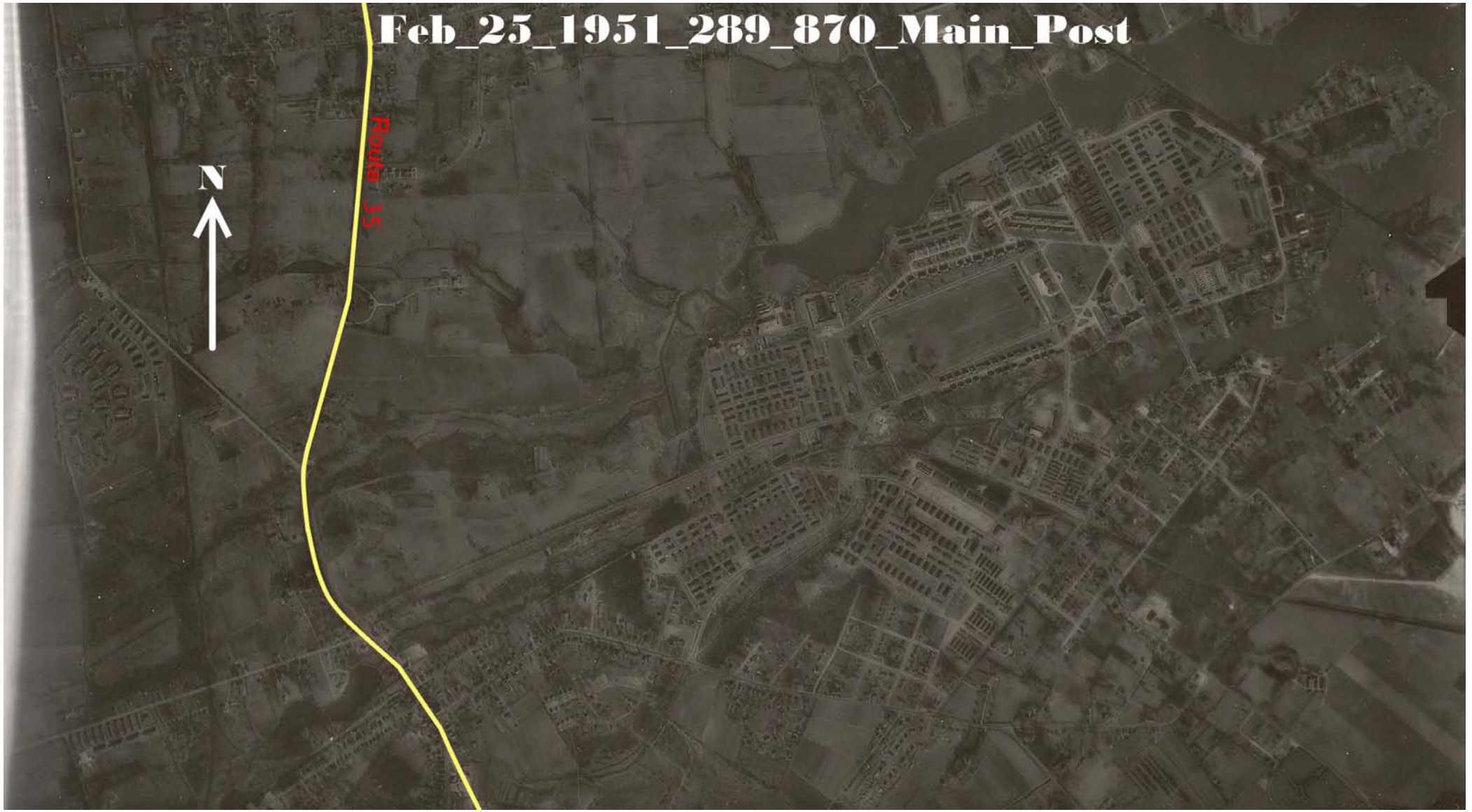
Route 35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N
Route 35

MP_April_9_1954_zoomed
N
Route 35

MP_May_2_1957_zoomed
N
Route 35

MP_May_4_1961
N
Route 35

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LIST OF ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
µg/L	micrograms per liter
µmhos	micromhos
ACM	Asbestos-Containing Materials
ADD	Average Daily Dose
AST	Above-ground Storage Tank
AUF	Area Use Factor
BAF	Bioaccumulation Factor
BCF	Bioconcentration Factor
BEE	Baseline Ecological Evaluation
bgs	below ground surface
BRAC	Base Realignment and Closure Act of 1990
CEA	Classification Exception Area
CECOM	U.S. Army Communications and Electronics Command
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
COC	Chain-of-Custody
COPEC	Contaminant of Potential Ecological Concern
CORRACTS	Corrective Action Activity Site
CWA	Charles Wood Area
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane
DER	Declaration of Environmental Restriction
DPW	Directorate of Public Works
DQO	Data Quality Objective
Eco-SSL	Ecological Soil Screening Level
ECP	Environmental Condition of Property
EDR	Environmental Data Resources, Inc.
EMI	Electromagnetic Induction
ER-L	Effects Range-Low
ER-M	Effects Range-Medium
ESC	Ecological Screening Criteria
FSPM	Field Sampling Procedures Manual
ft msl	feet above mean sea level
FTMM	Fort Monmouth

gamma-BHC	gamma-Hexachlorocyclohexane
GC/MS	Gas Chromatography/Mass Spectrometry
GIS	Geographic Information System
GPS	Global Positioning System
GWQC	Groundwater Quality Criteria
HA	Hectare
HQ	Hazard Quotient
IA	Installation Assessment
IDW	Investigation-Derived Waste
IR	Ingestion Rate
IRP	Installation Restoration Program
LEL	Lowest Effect Level
LOAEL	Lowest Observable Adverse Effect Level
LUST	Leaking Underground Storage Tank
MDL	Method Detection Limit
mg/kg	milligrams per kilogram
MP	Main Post
MTBE	Methyl *tert*-Butyl Ether
N.J.A.C.	New Jersey Administrative Code
NAD	North American Datum
ND	Non-Detect
NFA	No Further Action
NFRA	No Further Remedial Action
NFRAP	No Further Remedial Action Planned
NJDEP	New Jersey Department of Environmental Protection
NJPDES	New Jersey Pollutant Discharge Elimination System
NOAA	National Oceanic and Atmospheric Administration
NOAEL	No Observable Adverse Effect Level
NPL	National Priorities List
ORNL	Oak Ridge National Laboratory
PA	Preliminary Assessment
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PCE	Tetrachloroethene
PID	Photoionization Detector
PPE	Personal Protective Equipment
ppt	parts per thousand
PRG	Preliminary Remediation Goal
QC	Quality Control

R&D	Research and Development
RA	Remedial Action
RAM	Radioactive Materials
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RPD	Relative Percent Difference
SEL	Severe Effect Level
Shaw	Shaw Environmental, Inc.
SHWS	State Hazardous Waste Site
SI	Site Investigation
SOP	Standard Operating Procedure
SQG	Small Quantity Generator
SRP	Site Remediation Program
STP	Sewage Treatment Plant
SVOC	Semivolatile Organic Compound
SWQC	Surface Water Quality Criteria
TAL	Target Analyte List
TBA	*tert*-Butyl Alcohol
TCE	Trichloroethene
TCL	Target Compound List
TIC	Tentatively Identified Compound
TPH	Total Petroleum Hydrocarbons
TRSR	Technical Requirements for Site Remediation
TRV	Toxicity Reference Value
TSDF	Transport, Storage, and Disposal Facility
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	Underground Storage Tank
UTM	Universal Transverse Mercator
VCP	Voluntary Cleanup Program
VOC	Volatile Organic Compound
VSI	Visual Site Inspection
Weston	Roy F. Weston, Inc.
WP	Work Plan

EXECUTIVE SUMMARY

The U.S. Army Corps of Engineers (USACE), Baltimore District, tasked Shaw Environmental, Inc. (Shaw) to perform a Baseline Ecological Evaluation (BEE) at Fort Monmouth (FTMM) to fulfill requirements as set forth in New Jersey Department of Environmental Protection (NJDEP) Technical Requirements for Site Remediation (TRSR) [New Jersey Administrative Code (N.J.A.C.) 7:26E-3.11]. This BEE Report has been prepared under the Baltimore Architectural and Engineering Services Contract Number W912DR-05-D-0026 (Task Order 40) and is based on the Scope of Work dated June 3, 2008; information obtained through consultation with FTMM, U.S. Army Environmental Command, USACE, and NJDEP personnel; and the final Work Plan (WP) dated January 2010. A draft final WP, dated July 2009, was submitted to the NJDEP for review. NJDEP comments (dated September 1, 2009) were addressed and a conference call was held on November 13, 2009 to finalize the WP. The final WP was submitted to the NJDEP for review and approval prior to implementation of the work and an approval letter was obtained from the NJDEP on April 28, 2010 (**Appendix I**).

FTMM is an Army installation occupying approximately 1,126 acres in Monmouth County in central New Jersey, approximately 40 miles east of Trenton. FTMM is comprised of two operational areas known as the Main Post (MP) and the Charles Wood Area (CWA). The MP encompasses a 673-acre area and the CWA encompasses a 489-acre area.

The primary mission of FTMM was to provide command, administrative, and logistical support for Headquarters, U.S. Army Communications and Electronics Command. The support provided by the Garrison was used by tenants in the performance of research, development, procurement, and production of prototype communications and electronics equipment for use by the U.S. Armed Forces. The MP provides supporting administrative, training, and housing functions, as well as many of the community and industrial facilities for FTMM. These facilities are distributed across the property, with no distinct clustering of functions. The CWA was used primarily for research and development, testing, housing, and recreation. The CWA research, development, and testing facilities occupy the southwest corner of CWA. The northwest corner formerly consisted of residential units but is currently undeveloped. Residential units currently occupy the southeastern boundary, and the golf course occupies the northeast corner. In 2005, FTMM was identified as a facility to be closed as part of the Defense Base Realignment and Closure Act of 1990 (BRAC), Public Law 101-510, as amended. As part of this process, it is necessary for the Army to identify and document the environmental liabilities associated with installations where the BRAC action will involve the disposal of property. The environmental condition of property (ECP) process is the mechanism to provide a summary of the current environmental condition of a property.

A Phase I ECP Assessment was conducted in 2006 and 2007. The final Phase I ECP Report for FTMM was completed on January 29, 2007 (Shaw, 2007). The Phase I ECP evaluated the existing environmental conditions, and characterized the property into parcels according to their environmental condition based on Department of Defense guidelines. Using the results of the Phase I ECP Report, site investigation (SI) sampling recommendations were developed for 21 specific parcels and two areas of concern where no existing data or insufficient data were present to fully evaluate the environmental condition of the property. The ECP SI was conducted in 2007 and 2008 and the final SI Report for FTMM was completed on July 21, 2008 (Shaw, 2008). Eight parcels identified through the FTMM SI were deemed to require additional evaluation through the BEE process to fully evaluate the environmental condition of the property. NJDEP concurred with the determination that a BEE is required for these eight ECP sites in correspondence dated October 28, 2008.

Within the FTMM MP and CWA are 27 active/open Installation Restoration Program (IRP) Sites. The NJDEP indicated to the Army that, pursuant to N.J.A.C. 7:26E-3.11, BEEs are required at open/active IRP sites prior to considering No Further Action (NFA) determinations. Of these 27 IRP Sites, in consultation with NJDEP, 14 have been determined to require additional evaluation through the BEE process as having the potential for contamination migration and impacts to ecological receptors. In addition to these IRP Sites, it was determined that a BEE should also be conducted related to FTMM-20, which had been listed as Response Complete in the 2007 Installation Action Plan for FTMM (Fort Monmouth, 2007).

The NJDEP describes the purpose of conducting a BEE as follows (NJDEP, 2009a):

A critical part of every site investigation is the baseline ecological evaluation required in N.J.A.C 7:26E-3.11. The Technical Requirements for Site Remediation require each person conducting the remediation of a contaminated site or area of concern to conduct a baseline ecological evaluation as part of the process to ensure that the resulting remedy is protective of the environment. The Department uses the information that the person is already required to collect in the baseline ecological evaluation as the first step in determining whether or not natural resource injuries potentially exist as a result of a discharge at a site. In the baseline ecological evaluation, the person responsible for conducting the remediation must determine whether or not any natural resources may have been injured by a discharge.

The BEE is Tier I of the ecological evaluation and ecological risk assessment process as developed by the Site Remediation Program (SRP), and is defined in the TRSR and Site Remediation News (NJDEP, 1997). The BEE was developed to be an efficient and cost-effective screening process. As such, the results of a BEE will determine whether potential ecological impacts are negligible or whether more site-specific ecological evaluation is warranted.

The objective of the BEE at FTMM is to examine each of the 23 identified sites (8 ECP parcels and 15 IRP sites) and the sample results from sediment, surface water, soil, and groundwater at these sites for the co-occurrence of 1) contaminants of potential ecological concern (COPECs), 2) environmentally sensitive natural resources, and 3) a chemical migration pathway to these sensitive natural resources. In order to reach this objective, a data and literature review were conducted, a field investigation, including field sampling as applicable, was performed, and data analysis and ecological hazard characterization were completed within the BEE report. An additional objective of the field sampling was to provide information regarding the general background characteristics of surface water and sediment in the FTMM area through the collection of several upgradient samples to assist risk managers in the decision-making process.

The occurrence of COPECs is typically determined through a comparison of existing site data with ecological screening levels. Additional data needs were identified prior to the BEE and environmental samples were collected in 2010 as part of the BEE. The occurrence of environmentally sensitive natural resources and of potential chemical migration pathways was determined from existing literature for the site, a qualitative site visit, and other available information such as the NJDEP Natural Heritage database. Reviews of NJDEP tidal and freshwater wetland maps, U.S. Geological Survey (USGS) topographic maps, and U.S. Department of Agriculture (USDA) Soil Conservation Service soil survey maps were performed to provide an overview of the habitat expected to occur at or in the vicinity of the site. The qualitative site visit was conducted for the purpose of verifying information gathered and to identify existing ecology communities and species, environmentally sensitive natural resources, and potential contaminant pathways.

In order to evaluate the nature of contaminants detected at the FTMM sites and to identify the COPECs, several steps were followed. The first step was to review the analytical data collected from the environmental media with regards to the sites and selection of the data appropriate for use in the BEE. Site data addressed in this BEE is comprised of data previously collected for Remedial Investigations (e.g., near surface soil data for former landfills), ECP SIs, and routine environmental monitoring (e.g., groundwater data) and data collected specifically to fill data gaps for the BEE. The second step was the identification of the most appropriate and applicable criteria or benchmarks for comparison to data. The third step was the identification of the COPECs at the sites and an evaluation of these COPECs in terms of potential ecological impact.

COPECs are defined for the purposes of this BEE as those constituents that were detected above the appropriate screening benchmarks in any of the samples from a given medium from a site. These ecological screening concentrations (ESC) are intentionally conservative values and exceedances of these concentrations are not meant to imply ecological risks. A qualitative determination of the potential for adverse effects from site constituents was made based on the COPECs, the presence of environmentally sensitive areas, and the potential migration pathways of site constituents, as well as site history, natural geology, and other potential sources.

The character of the land use surrounding the FTMM properties typifies mixed use, small town development in New Jersey. Commercial services and shopping centers populate main roads interspersed with residential structures, apartments and office buildings. Business and light industrial parks are found along highways, streams and railroad tracks. Surrounding properties include National Priorities List (NPL) sites, State Hazardous Waste Sites, Leaking Underground Storage Tank Sites, and Voluntary Cleanup Program sites. These, as well as general small urban development activities lend to an increase in general anthropogenic inputs in the area.

Elevated concentrations of many metals, relative to the conservatively low ESC, are naturally found within the urban coastal plain region in which FTMM is located. In particular, glauconitic soils which are prevalent at FTMM and have been reported in the creek sediments are naturally high in arsenic, beryllium, chromium, nickel and vanadium as well as other metals.

COPECs identified in soils generally represent limited potential for direct ecological exposure as they are either from subsurface (e.g., landfill near surface samples) or are not within ecological habitats (e.g., near buildings, roads, and parking areas). COPECs identified in groundwater are not representative of direct ecological exposures. COPECs in both soil and groundwater, however, may migrate to nearby surface water or sediment where ecological exposures may occur.

Many organic COPECs identified in soil or groundwater were not identified as COPECs in surface water or sediment, suggesting limited organic contaminant migration to sensitive ecological receptors. Most of these were detected infrequently in soil or groundwater or at low concentrations in relation to the ESC.

Many organic COPECs identified in surface water or sediment were not identified as COPECs in soil or groundwater, suggesting the sources are unrelated to the sites under investigation, or were at low concentrations in relation to the ESC, which are intentionally conservative values. Polycyclic aromatic hydrocarbons (PAHs), in particular, though identified as COPECs, were found in sediments and surface water at concentrations similar to background sample concentrations or at locations indicative of other sources (e.g., at the upstream extent of the site and downstream of active roads or parking areas).

In surface water, lead was most often identified as a COPEC; however, it was found at similar concentrations at most of the sites and in the background samples. Most of the sediment metals identified as COPECs were at concentrations similar to background. Some metals (chromium, copper, lead, mercury, silver, and zinc) were found at a few locations above background levels measured during the BEE investigation, but many of these are similar to those reported for ambient soil in the region (BEM Systems, Inc., 1998) or, in particular, glauconitic soils (Dooley, 2001). Though there may be a potential for some ecological risk due to elevated metals in these limited areas, it is likely that these metals are related to natural geology or other anthropogenic sources.

Conservative screening level food chain models indicated estimated exposures to wildlife exceeded toxicity values. Based on the overly conservative nature of the food chain models (exposure to locations of maximum concentration, conservative model parameters, assumptions and toxicity values) and the biased sampling approach used in the BEE sediment investigations, it is unlikely that current site conditions present any risk to wildlife.

Though metals may be present above the background concentrations measured in limited areas during the 2010 BEE, many of these concentrations may still be related to natural or general anthropogenic sources and the differences in site concentrations from the measured background concentrations can be a function of the greater number of site samples collected compared to background samples. Regardless, these figures show that the area of metal concentrations greater than the measured background concentrations is limited in extent, with no definitive spatial distribution that would suggest the source of metals are related to sites evaluated in the BEE. Though these may represent a potential ecological risk in limited areas, it is concluded that constituents at FTMM are unlikely to have a deleterious effect on sensitive ecological receptors or habitats, and additional ecological assessments at FTMM are not warranted or recommended. **Table ES-1** presents a summary of the results of this BEE.

Table ES-1
Fort Monmouth Main Post and Charles Wood Area
Baseline Ecological Evaluation Summary

ECP Parcel / IRP Site Designation	Associated Building / Feature	Acreage	Proximal Ecological Feature Evaluated	COPECs Identified Based on BEE results	Potential for Ecological Effects from COPECs	Recommendation
Main Post						
IRP Site FTMM-2	Landfill 2	8.10	Mill Creek	Near Surface Soil: SVOCs, Pesticides, PCBs, Metals Groundwater: VOCs, Pesticides, Metals Surface Water: SVOCs, Lead Sediment: SVOCs, PCBs, Metals	low	No Additional Ecological Assessment
IRP Site FTMM-3	Landfill 3	8.00	Lafetra Creek	Near Surface Soil: SVOCs, Pesticides, PCBs, Metals Groundwater: None Surface Water: None Sediment: SVOCs, Pesticides, Metals	low	No Additional Ecological Assessment
IRP Site FTMM-4	Landfill 4	1.40	Mill Creek	Near Surface Soil: SVOCs, Pesticides, Metals Groundwater: Metals Surface Water: None Sediment: SVOCs, PCBs, Metals	low	No Additional Ecological Assessment
IRP Site FTMM-5	Landfill 5	3.20	Mill Creek	Near Surface Soil: SVOCs, Pesticides, PCBs, Metals Groundwater: None Surface Water: None Sediment: SVOCs, Pesticides, Metals	low	No Additional Ecological Assessment
IRP Site FTMM-8	Landfill 8	7.20	Parkers Creek	Near Surface Soil: SVOCs, Pesticides, PCBs, Metals Groundwater: Pesticides Surface Water: None Sediment: Pesticides, PCBs, Metals	low	No Additional Ecological Assessment
IRP Site FTMM-12	Landfill 12	7.10	Husky Brook	Near Surface Soil: SVOCs, Pesticides, Metals Groundwater: Metals Surface Water: None Sediment: SVOCs, Pesticides, PCBs, Metals	low	No Additional Ecological Assessment
IRP Site FTMM-14	Landfill 14	6.90	Husky Brook	Near Surface Soil: SVOCs, Pesticides, Metals Groundwater: Metals Surface Water: None Sediment: SVOCs, Pesticides, PCBs, Metals	low	No Additional Ecological Assessment
IRP Site FTMM-15	Water Tank	0.30	Parkers Creek	Surface Soil: Not Applicable/Not Evaluated Groundwater: Not Applicable/Not Evaluated Surface Water: None Sediment: Pesticides, Metals	low	No Additional Ecological Assessment
IRP Site FTMM-16	Building 498, Pesticide Storage	0.12	Oceanport Creek	Surface Soil: Not Applicable/Not Evaluated Groundwater: Not Applicable/Not Evaluated Surface Water: None Sediment: SVOCs, Metals	low	No Additional Ecological Assessment
IRP Site FTMM-18	Former Training Area	4.85	Parkers Creek	Surface Soil: SVOCs, Pesticides, Metals Groundwater: Metals Surface Water: None Sediment: Metals	low	No Additional Ecological Assessment
IRP Site FTMM-20 Pre-1941 STP	Pre-1941 Former Sanitary Sewage Treatment Plant	0.77	Parkers Creek	Surface Soil: Not Applicable/Not Evaluated Groundwater: Not Applicable/Not Evaluated Surface Water: None Sediment: Metals	low	No Additional Ecological Assessment
IRP Site FTMM-59 Building 1122	Building 1122, Unknown Discharge	0.34	Mill Creek	Surface Soil: Not Applicable/Not Evaluated Groundwater: None Surface Water: SVOCs, Lead Sediment: SVOCs,Metals	low	No Additional Ecological Assessment
ECP Parcel 43	Building 1122, "Do-it-Youself" Vehicle Repair Shop	1.54				

Table ES-1
Fort Monmouth Main Post and Charles Wood Area
Baseline Ecological Evaluation Summary

ECP Parcel / IRP Site Designation	Associated Building / Feature	Acreage	Proximal Ecological Feature Evaluated	COPECs Identified Based on BEE results	Potential for Ecological Effects from COPECs	Recommendation
Main Post						
IRP Site FTMM-61 Building 283	Building 283, Leaking UST, Gasoline	0.20		Surface Soil: SVOCs, PCBs, Metals		
ECP Parcel 49	Buildings 283, 288, 291, 292, 293, 295, Former Squier Laboratory Complex	9.09	Parkers Creek	Groundwater: Zinc Surface Water: None Sediment: Metals	low	No Additional Ecological Assessment
ECP Parcel 39	Building 1150, Former Photoprocessing Activities	0.50	Mill Creek	Surface Soil: Metals Groundwater: Not Applicable/Not Evaluated Surface Water: SVOCs, Lead Sediment: SVOCs, PCBs, Metals	low	No Additional Ecological Assessment
ECP Parcel 61	Building 1075, Patterson Army Health Clinic	14.66	Husky Brook	Surface Soil: SVOCs, Metals Groundwater: Not Applicable/Not Evaluated Surface Water: None Sediment: SVOCs, Metals	low	No Additional Ecological Assessment
ECP Parcel 69	Building 900, Former Tactical Motor Pool	0.31	Oceanport Creek	Surface Soil: Metals Groundwater: None Surface Water: None Sediment: SVOCs, Metals	low	No Additional Ecological Assessment
Charles Wood Area						
IRP Site CW-6 FTMM-28	Former Pesticide Storage - Building 2044	0.67	Un-named Wetland, Wampum Brook	Surface Soil: Pesticides, SVOCs, Metals Groundwater: Metals Surface Water: PCBs, Metals Wetland Sediment: Pesticides, PCBs, SVOCs, Metals	low	No Additional Ecological Assessment
ECP Parcel 15	Building 2700, Meyers Center Laboratory	37.99	Shrewsbury Creek	Surface Soil: Not Applicable/Not Evaluated Groundwater: Metals Surface Water: Lead Sediment: Chromium	low	No Additional Ecological Assessment
IRP Site CW-3A FTMM-25	Suspected Former Landfill, CW-3A	2.08	Shrewsbury Creek	Near Surface Soil: Pesticides, PCBs, SVOCs, Metals Groundwater: Metals Surface Water: SVOCs, Cadmium, Zinc Sediment: Pesticides, SVOCs, Metals	low	No Additional Ecological Assessment
ECP Parcel 27	Southwest portion of CWA that includes the former Pulse Power Center, Machine Shop, Paint and Fabrication facility, Former Motor Pool, and portions of the former Watson Laboratories	29.83	Shrewsbury Creek	Surface Soil: Metals Groundwater: Not Applicable/ Not Evaluated Surface Water: Metals Sediment: Metals	low	No Additional Ecological Assessment
ECP Parcel 28	Former Eatontown Laboratory, Battery Test Facility, Safety Calibration Laboratory Office, Former Motor Pool	37.78	Shrewsbury Creek	Surface Soil: None Groundwater: Cadmium Surface Water: Lead Sediment: Chromium	low	No Additional Ecological Assessment

BEE - Baseline Ecological Evaluation
COPEC - Constituent of
CWA - Charles Wood
ECP - Environmental
IRP - Installation
PAH - Polycyclic
PCB - Polychlorinated
SVOC - Semivolatile
UST - Underground
VOC - Volatile Organic Compound

1.0 INTRODUCTION

The U.S. Army Corps of Engineers (USACE), Baltimore District, tasked Shaw Environmental, Inc. (Shaw) to perform a Baseline Ecological Evaluation (BEE) at Fort Monmouth (FTMM) to fulfill requirements as set forth in New Jersey Department of Environmental Protection (NJDEP) Technical Requirements for Site Remediation (TRSR) [New Jersey Administrative Code (N.J.A.C.) 7:26E-3.11]. This BEE report has been prepared under the Baltimore Architectural and Engineering Services Contract Number W912DR-05-D-0026 (Task Order 40) and is based on the Scope of Work dated June 3, 2008, the Work Plan (WP) dated January 2010, and information obtained through consultation with FTMM, U.S. Army Environmental Command, USACE, and NJDEP personnel. A draft final WP, dated July 2009, was submitted to the NJDEP for review. NJDEP comments (dated September 1, 2009) were addressed and a conference call was held on November 13, 2009, to finalize the WP. The final WP was submitted to the NJDEP for review and approval prior to implementation of the work and an approval letter was obtained from the NJDEP on April 28, 2010 (**Appendix I**).

FTMM is located in the central-eastern portion of New Jersey in Monmouth County (**Figure 1-1**). The installation includes Main Post (MP), Charles Wood Area (CWA), and the Evans Area. This WP only addresses the MP (**Figure 1-2**) and the CWA (**Figure 1-3**). The MP encompasses an area of approximately 637 acres and the CWA encompasses an area of approximately 489 acres and is located 1 mile west of the MP. The MP and CWA were selected in 2005 for closure under the Defense Base Realignment and Closure Act of 1990 (BRAC), Public Law 101-510, as amended.

The primary mission of FTMM is to provide command, administrative, and logistical support for Headquarters, U.S. Army Communications and Electronics Command. The support provided by the Garrison is used by tenants in the performance of research, development, procurement, and production of prototype communications and electronics equipment for use by the U.S. Armed Forces. The MP provides supporting administrative, training, and housing functions, as well as many of the community and industrial facilities for FTMM. These facilities are distributed across the property, with no distinct clustering of functions. The CWA is used primarily for research and development (R&D), testing, housing, and recreation. The CWA research, development, and testing facilities occupy the southwest corner of CWA. The northwest corner formerly consisted of residential units but is currently undeveloped. Residential units currently occupy the southeastern boundary, and the golf course occupies the northeast corner. FTMM was identified as a facility to be closed as part of BRAC 2005. As part of this process, it is necessary for the Army to identify and document the environmental liabilities associated with installations where the BRAC action will involve the disposal of property. The environmental condition of property (ECP) process is the mechanism to provide a summary of the current environmental condition of a property.

A Phase I ECP Assessment was conducted in 2006 and 2007. The final Phase I ECP Report for FTMM was completed on January 29, 2007 (Shaw, 2007). The Phase I ECP evaluated the existing environmental conditions, and characterized the property into parcels according to their environmental condition based on Department of Defense guidelines. Using the results of the Phase I ECP Report, site investigation (SI) sampling recommendations were developed for 21 specific parcels and two areas of concern where no existing data or insufficient data were present to fully evaluate the environmental condition of the property. The SI was conducted in 2007 and 2008 and the final SI Report for FTMM was completed on July 21, 2008 (Shaw, 2008). Eight parcels identified through the FTMM SI were deemed to require additional evaluation through the BEE process to fully evaluate the environmental condition of the property. NJDEP concurred with the determination that a BEE is required for these eight ECP sites in correspondence dated October 28, 2008.

Within the FTMM MP and CWA are 27 active/open Installation Restoration Program (IRP) Sites. The NJDEP indicated to the Army that, pursuant to the TRSR (N.J.A.C. 7:26E-3.11; NJDEP, 2009b), BEEs are required at open/active IRP sites prior to considering No Further Action (NFA) determinations. The NJDEP determination was documented in correspondence pertaining to IRP Sites M-12 and M-14 Landfills (dated July 25, 2007), IRP Site M-18 Landfill (dated August 14, 2007), and Building 283 (dated October 24, 2007). Of the 27 IRP Sites, 14 (FTMM-2, 3, 4, 5, 8, 12, 14, 15, 16, 18, 25, 28, 59, and 61) have been determined to require additional evaluation through the BEE process. In addition to these IRP

Sites, it was determined that a BEE should also be conducted related to FTMM-20, which had been listed as Response Complete in the 2007 Installation Action Plan for FTMM (Fort Monmouth, 2007). **Section 3.0** of this WP describes each of the IRP and ECP sites that were selected for inclusion in the BEE process, summarizes the previous findings, and describes the rationale for inclusion.

1.1 PURPOSE AND OBJECTIVES

The BEE is Tier I of the ecological evaluation and ecological risk assessment process as developed by the Site Remediation Program (SRP), and is defined in the TRSR and Site Remediation News (NJDEP, 1997). The BEE was developed to be an efficient and cost-effective screening process. As such, the results of the BEE will determine whether potential ecological impacts are negligible or whether more site-specific ecological evaluation is warranted.

The objective of the BEE at FTMM is to assess whether the presence of constituents of concern in sediments, surface water, soil, and groundwater on MP and CWA have the potential for adverse effects to biological receptors. This assessment is made through the examination of information on each of the 23 identified sites (8 ECP parcels and 15 IRP sites) and the sample results from sediment, surface water, soil, and groundwater at the sites for the co-occurrence of 1) contaminants of potential ecological concern (COPECs), 2) environmentally sensitive natural resources, and 3) a chemical migration pathway to these sensitive natural resources. This objective was accomplished based on the results of a data and literature review, a qualitative site visit, field sampling, data analysis and ecological hazard characterization, and an evaluation of the general background characteristics of surface water and sediment in the FTMM area.

The occurrence of COPECs is determined through a comparison of existing site data with ecological screening levels. The occurrence of environmentally sensitive natural resources and of potential chemical migration pathways is determined from existing literature for the site, a qualitative site visit, and other available information such as the NJDEP Natural Heritage database. NJDEP tidal and freshwater wetland maps, U.S. Geological Survey (USGS) topographic maps, and U.S. Department of Agriculture (USDA) Soil Conservation Service soil survey maps.

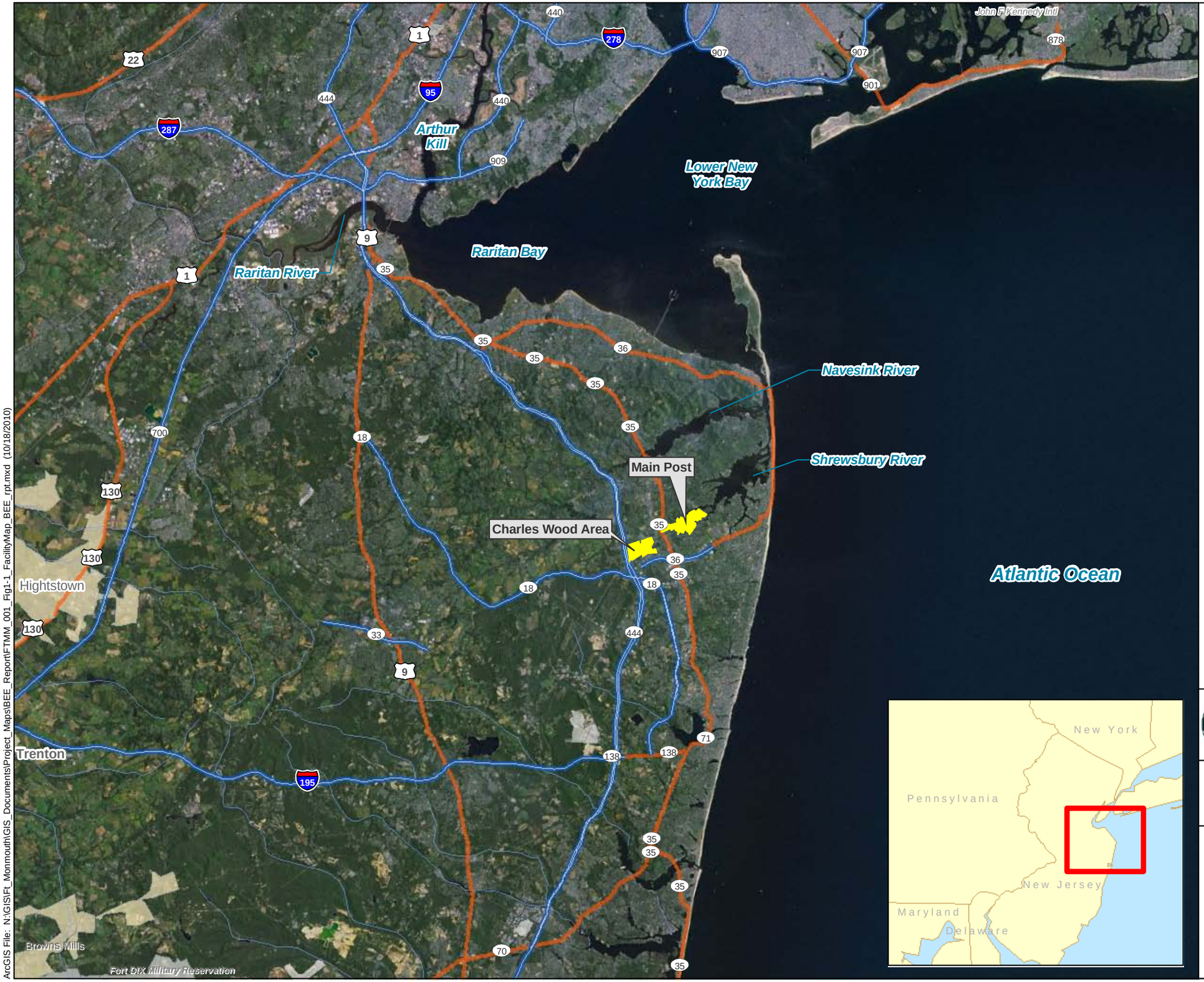
If it is determined through the BEE process that there are COPECs present, that there are environmentally sensitive natural resources at or near the sites, and that there are potential pathways from the contamination to the environmentally sensitive natural resources, then COPECs are compared to background and ambient levels and screening level food web models are evaluated to determine if further ecological investigation or risk assessments may be required. The nature of these investigations or Tier II and Tier III assessments are determined based on the findings of the BEE and they would be conducted in accordance with U.S. Environmental Protection Agency (USEPA, 1989a) and other applicable guidance.

This investigation will be used by the Army to determine if any future needs or actions are necessary in order to obtain a NFA Letter from NJDEP. The NJDEP SRP, as well as the Office of Natural Resources Restoration, will determine whether ecological injuries may have occurred and whether further investigations are required.

1.2 REPORT ORGANIZATION

Section 2.0 describes the location of the sites, provides site background information, and summarizes the environmental setting at FTMM. This section also identifies and describes the individual sites that are addressed in the BEE, including general history and previous investigation results, presence of ecologically sensitive areas, and potential contaminant migration pathways. **Section 3.0** presents the data evaluation performed to identify the COPECs at each site. **Section 4.0** presents a qualitative evaluation of potential for adverse effects at each site, including the use of conservative wildlife exposure models. **Section 5.0** presents a summary and conclusions. **Section 6.0** provides a list of references used in developing the WP. **Appendix A** through **Appendix D** contain the data evaluated in this BEE. **Appendix E** contains the applicable NJDEP Ecological Screening Criteria (ESC). **Appendix F** contains the analytical data packages for environmental samples collected as part of the BEE. **Appendix G** contains field documentation and field measured parameters. **Appendix H** contains Fort Monmouth Maximum Background Concentrations from the 1995 SI Report. **Appendix I** contains the NJDEP letter of approval, dated April 28, 2010, of the final WP. **Appendix J** contains Fort Monmouth salinity data for

several locations within the Main Post for the period 2004 through 2009. **Appendix K** contains utility maps for locations addressed in this BEE. **Appendix L** contains previously collected PCB analytical data for sediments samples during the landfill site Remedial Investigations.



LEGEND

Ft Monmouth Installation Area

Note: Aerial photography (1-meter resolution) was obtained from ESRIArcOnline World Imagery Map Services.

N

Scale:

0 2 4 8 Miles

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

Shaw® Shaw Environmental, Inc.

FIGURE 1-1

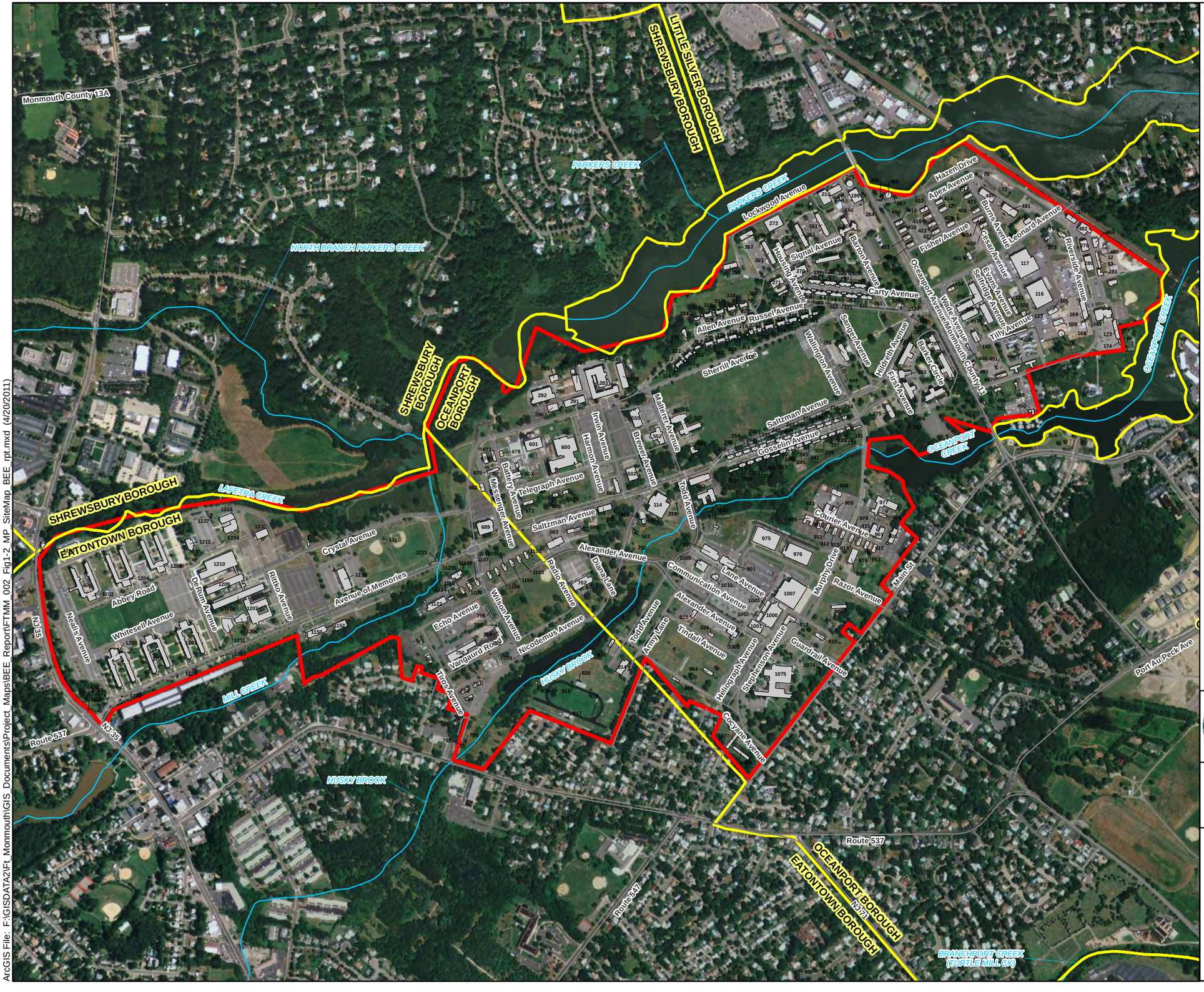
FORT MONMOUTH
BASELINE ECOLOGICAL
EVALUATION REPORT

FACILITY LOCATION MAP

FORT MONMOUTH
NEW JERSEY

ArcGIS File: N:\GIS\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_001_Fig1-1_FacilityMap_BEE_rpt.mxd (10/18/2010)

ArcGIS File: F:\GIS\DATA2\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_002_Fig1-2_MP_SiteMap_BEE_rpt.mxd (4/20/2011)



LEGEND

- Water Feature
- Road Centerline
- Building
- Municipal Boundary
- Installation Boundary

Note: Aerial photography (0.5-meter resolution) was obtained from ESRI ArcOnline USA Imagery Map Services.

N

Scale:

0 450 900 1,800 Feet

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

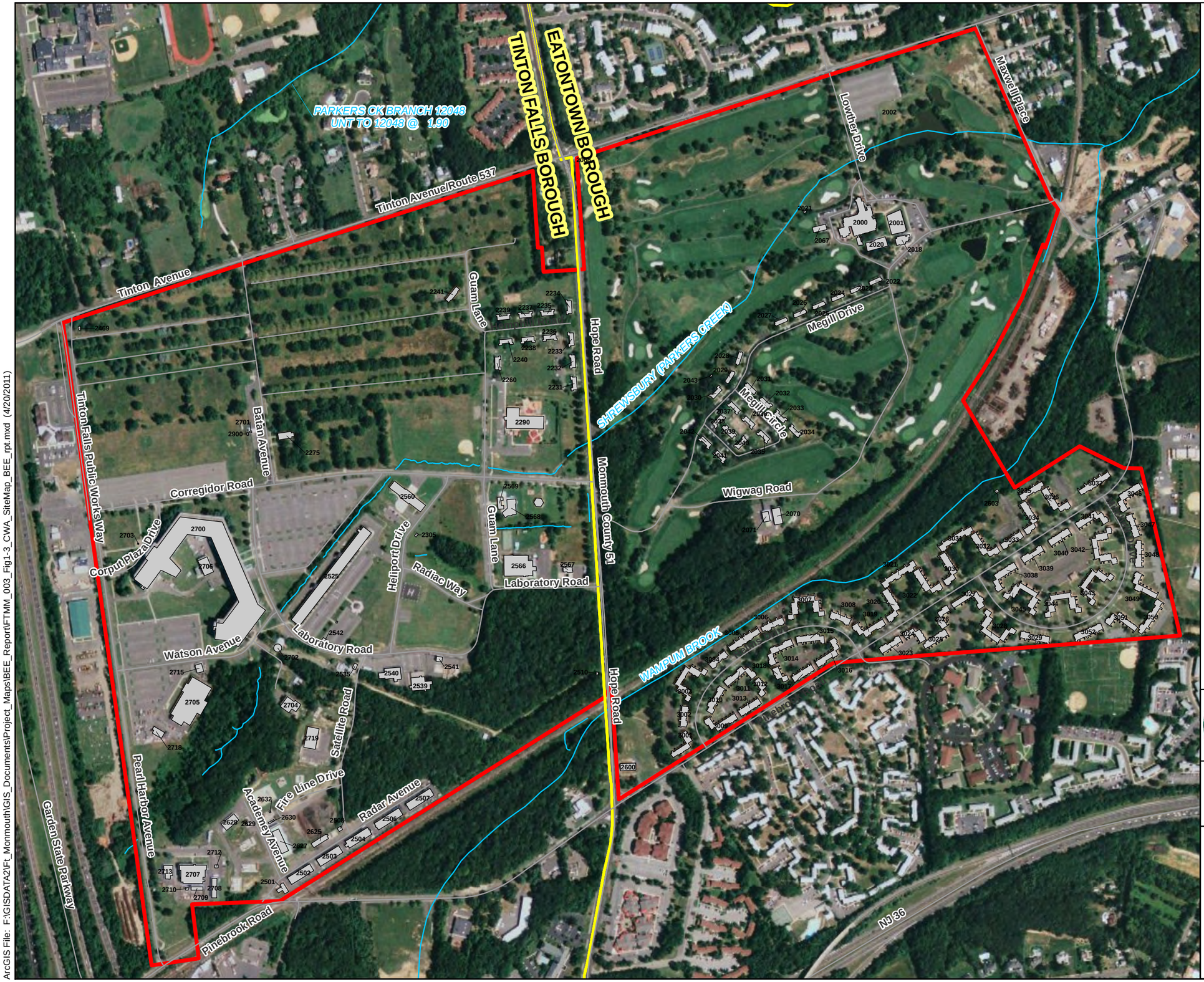
Shaw® Shaw Environmental, Inc.

FIGURE 1-2

FORT MONMOUTH BASELINE ECOLOGICAL EVALUATION REPORT

MAIN POST SITE MAP

FORT MONMOUTH
NEW JERSEY



LEGEND

- Road Centerline
- Water Feature
- Building
- Municipal Boundary
- Installation Boundary

Note: Aerial photography (0.5-meter resolution) was obtained from ESRI ArcOnline USA Imagery Map Services.

N

Scale:

0 290 580 1,160 Feet

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

Shaw® Shaw Environmental, Inc.

FIGURE 1-3

FORT MONMOUTH BASELINE ECOLOGICAL EVALUATION REPORT

CHARLES WOOD AREA SITE MAP

FORT MONMOUTH
NEW JERSEY

ArcGIS File: F:\GISDATA2\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_003_Fig1-3_CWA_SiteMap_BEE_rpt.mxd (4/20/2011)

2.0 FORT MONMOUTH BACKGROUND AND GENERAL ENVIRONMENTAL SETTING

The following sections summarize the site background and environmental setting of the geographical area surrounding the FTMM MP and CWA. Included is a description of the site location, site background and current conditions, and environmental setting, including regional and local geology, hydrogeology, topography, surface drainage, ecology, and land use.

2.1 LOCATION AND DESCRIPTION

FTMM is located in the central-eastern portion of New Jersey in Monmouth County, approximately 45 miles south of New York City, 70 miles northeast of Philadelphia, and 40 miles north of Trenton. The Atlantic Ocean is approximately 3 miles to the east. FTMM falls within the boroughs of Eatontown, Oceanport, and Tinton Falls. The areas surrounding FTMM are characterized by a mixture of residential, commercial, and light industrial uses (**Section 2.4.8**). A review of the land use plans for the surrounding municipalities shows that land uses are compatible with those along the inside perimeter of FTMM. FTMM occupies approximately 1,126 acres and is currently comprised of two operational areas: the MP and the CWA. The two areas are located about 2 miles from one another.

The primary mission of FTMM is to provide command, administrative, and logistical support for the U.S. Army Communications and Electronics Command (CECOM) Headquarters. The Installation performs research, development, procurement, and production of prototype communications and electronics equipment for use by the U.S. Armed Forces.

2.1.1 MAIN POST

The MP provides supporting administrative, training, and housing functions, as well as many of the community and industrial facilities for FTMM. These facilities are distributed across the property, with no distinct clustering of functions. The MP encompasses approximately 637 acres and contains a total of 397 buildings and structures. The MP is bounded by State Highway 35 to the west, Parkers Creek to the north, the New Jersey Transit Railroad to the east, and Main Street and State Highway 71 to the south. Universal Transverse Mercator (UTM) coordinate locations [North American Datum (NAD) 83, Zone 18 (meters)] for the MP include:

- Northeast Corner: 582178.33995, 4463977.92694
- Southeast Corner: 582755.27789, 4463525.90188
- Northwest Corner: 579532.14255, 4462789.29460
- Southwest Corner: 579689.14842, 4462269.63793

2.1.2 CHARLES WOOD AREA

The CWA is used primarily for R&D, testing, housing, and recreation. The CWA R&D and testing facilities occupy the southwest corner of the subpost. Residential areas are located along the southeastern boundary and were formerly located in the northwest corner; the golf course occupies the northeast corner. The CWA, located 2 miles west of the MP, is composed of approximately 489 acres and contains a total of 241 buildings and structures. The CWA is bounded by the Garden State Parkway to the west, Tinton Avenue to the north, Maxwell Place and the New Jersey Transit Railroad to the east, and Pinebrook Road to the south. UTM coordinate locations for the CWA [NAD83, Zone 18 (meters)] include:

- Northeast Corner: 578997.83200, 4462033.09195
- Southeast Corner: 579386.98486, 4460899.58327
- Northwest Corner: 577293.44846, 4461472.84017
- Southwest Corner: 577466.30241, 4460271.56946

2.2 HISTORICAL LAND USE

Historical Army uses of the FTMM MP and CWA property are well documented in *A Concise History of the U.S. Army Communications-Electronics Life Cycle Management Command and Fort Monmouth, New Jersey* (U.S. Army Communications-Electronics Life Cycle Management Command,

2005) and *Fort Monmouth: Landmarks and Place Names* (Kozlowski, 2004). The following sections provide a brief summary of the historical uses of the sites.

2.2.1 MAIN POST

The original FTMM Army camp, established for signal troop training in 1917, was located at Little Silver, New Jersey. Historical land use of the area included a 1-mile horse racing track, Monmouth Park, which had been established in 1870 and operated for 20 years. The track was located in the vicinity of Patterson Army Health Clinic near the intersection of Broad Street and Park Avenue. A larger Monmouth Park was reconstructed and opened on July 4, 1890. The oval track was centered on present day Greeley Field. The entire facility encompassed 640 acres (almost all of the MP area). Grandstands and a luxury hotel along Parkers Creek were part of the associated land uses. The Monmouth Park Race Track closed in 1893. Vacated buildings and structures fell into ruin and the hotel burned to the ground in 1915. The land was owned by Melvin Redacted - Privacy Act when it was evaluated for use by Camp Little Silver. The Army leased 468 acres from Redacted - Privacy Act on May 16, 1917. Prior to the Army's lease, the land had been farmed, producing a potato crop for approximately 4 years. The leased area was bounded on the north by the Shrewsbury River (currently referred to as Parkers' Creek), on the west and south by a stone road from Eatontown, and on the east by Oceanport-Little Silver Road. The condition of the land was reported as overgrown and overrun with poison ivy. The land was purchased by the government in 1919.

2.2.2 CHARLES WOOD AREA

The CWA was acquired by the Army in 1941. The CWA tract included the former Monmouth County Country Club (originally Sun Eagles Country Club), Olmstead Gardens, and areas currently occupied by the golf course and Myer Center. FTMM personnel indicated an orchard was located in the golf course area prior to Army acquisition. The Sun Eagles Country Club was constructed in the 1920s and included a clubhouse (currently Gibbs Hall), an 18-hole golf course, a polo field, and an airfield. A 7,000-troop cantonment area was immediately built on the land, including barracks, mess halls, a school building, an office building, a recreation hall, a Post Exchange, an infirmary, and a chapel.

2.3 FACILITY HISTORY

The MP of FTMM was established on June 17, 1917, as Camp Little Silver. The name of the Camp was changed after 3 months to Camp Alfred Vail. The initial mission of the Camp was to train Signal Corps operators for service in World War I. In the first 19 months of the Camp's existence, 129 semi-permanent structures were built, a tent camp established on the site of a former swamp, and a parade ground established on the site of a former marsh. A radio laboratory and an airfield were constructed in 1918. After the war, Camp Vail was designated as the site of the Signal Corps School, the only training area for Signal Corpsmen in the country. All but four World War I structures were demolished by 1924.

In 1925, the facility became a permanent post, and its name was changed to Fort Monmouth. The primary mission of FTMM continued to be Signal Corps training and electronics research. In 1934, laboratory operations were consolidated in a new facility, Squier Laboratory (Building 283). Research on radios and radar continued here until the early 1950s. During World War II, the pace of training increased tremendously at FTMM. The expanded laboratory effort was accomplished by starting new laboratories at other post facilities. Squier Laboratory continued to be the principal laboratory on the MP until 1954. In 1955 and 1956, 72 World War II wooden structures were demolished to make room for permanent structures. These new buildings were used for residential, administrative, commercial, and recreational purposes. A small number of additional administrative buildings were completed during the 1970s, 1980s, and 1990s.

Camp Charles Wood was purchased in 1941 and opened in 1942. The eastern half of the property was formerly a golf course, and the western half was residential property and farmland. During World War II, the Camp was used for training Signal Corpsmen. Antenna shelters were constructed on 26.5 acres of land and used by the Signal Corps Laboratory for R&D purposes.

A new R&D facility, the Myer Center (Building 2700), was completed in 1954. R&D activities that had formerly been conducted at Squier Laboratory and some activities from the Evans Area were

transferred to the Myer Center. To this day, laboratories within the Myer Center facility continue to develop state-of-the-art electronic and communications equipment for use by the U.S. Armed Forces. FTMM has a long history of R&D activity. The majority of this activity has been related to communications and electronic equipment. For the completion of these research activities, FTMM has operated and continues to operate a variety of laboratories. Additionally, FTMM has a significant history of training and housing troops. In support of these activities, FTMM has had a full complement of support activities including vehicle maintenance, warehousing, medical and dental services, photo processing, printing, historic solid waste handling methods (e.g., landfills), and facility infrastructure [e.g., underground storage tanks (USTs)]. Many of the former activities have resulted in environmental releases that are being addressed within the IRP and BRAC ECP processes.

2.4 ENVIRONMENTAL SETTING

The following is a description of the geological and hydrogeological setting of the area as well as the surrounding land use characteristics. The information in the following sections was taken from previous environmental reports produced by Roy F. Weston, Inc. (Weston, 1995) and Shaw (2007; 2008).

2.4.1 CLIMATE

The climate, temperature, and humidity of Monmouth County, New Jersey, are characteristic of the temperate zone of the Mid-Atlantic states. The mean annual temperature for Monmouth County is about 52 degrees Fahrenheit (°F); the summers are generally warm, with an average temperature around 70 °F and average minimum and maximum temperatures exceed 60 and 80 °F, respectively. Winters are moderate, with an average temperature around 30 °F.

Precipitation in Monmouth County averages between 40 and 50 inches per year; slightly more than half the total annual precipitation falls between April and September. Thunderstorms generally occur during the summer months, and hurricanes or tropical storms move northward along the Mid-Atlantic coast.

2.4.2 TOPOGRAPHY

The land surface at the MP is relatively flat and ranges in elevation from 4 feet above mean sea level (ft msl) in the east at Oceanport Creek to 32 ft msl at the western end of the post, near Highway 35. The eastern half of the post is generally 10 ft msl in elevation. The greatest elevation is at the M-8 Landfill, located on Parkers Creek, and along Lafetra Creek, Mill Creek, and Husky Brook.

At CWA, the land surface slopes from 72 ft msl in the southwest to 20 ft msl at the eastern end of the golf course. In general, the southwestern corner of CWA is gently rolling and has the greatest relief.

2.4.3 SURFACE WATER DRAINAGE AND WETLANDS

Within the western part of the MP, surface water runoff flows either north into Lafetra Creek or south into Mill Creek, both of which originate off site to the west of the MP. Mill Creek flows along the southern boundary of MP until it turns north and joins Lafetra Creek to form Parkers Creek. Parkers Creek flows eastward along the northern boundary and joins Oceanport Creek east of MP. Most of Parkers, Lafetra, and Mill Creeks in the vicinity of the MP are tidally influenced.

Surface water runoff from the southern half of the MP flows into Husky Brook and Husky Brook Lake through a series of drainage ditches and outfalls. Husky Brook originates off site to the west of the MP and flows into Husky Brook Lake on site. Husky Brook exits Husky Brook Lake and flows into Oceanport Creek, which forms the southern boundary of the eastern area. Oceanport Creek and Husky Brook below Husky Brook Lake are tidally influenced.

Parkers and Oceanport Creeks, as well as the tributaries to these creeks, on the Main Post are classified by the NJDEP, for the purposes of determining surface water quality criteria, as fresh nontrout water/saline water (FW2-NT/SE1). This classification indicates that the waterbody may exhibit a saltwater/freshwater interface; the point of demarcation between freshwater and saltwater is determined through salinity measurements. These waterbodies are characterized as freshwater FW2-NT where the mean salinity at high tide is 3.5 parts per thousand (ppt) or less and as saline SE1 where the mean salinity at high tide is greater than 3.5 ppt (N.J.A.C. 7:9B *et seq*.).

Salinity measurements were collected during surface water and sediment sample collection in June 2010 for the BEE investigation. These data are provided in **Appendix G**. Though these data represent conditions at the time of sample collection and not necessarily high tide conditions, several salinity measurements were recorded at or near high tide, based on National Oceanic and Atmospheric Administration (NOAA) tidal charts for Gooseneck Point which is located east of the MP (NOAA, 2010). These data are indicated as such in **Appendix G**. Quarterly salinity data collected by Fort Monmouth between 2004 and 2009 are provided in **Appendix J**. Data known to be collected during high tide are indicated as such in **Appendix J**. A summary of the average high tide salinity for waterbodies in the MP based on the documented high tide data are summarized below in **Table 2-1** and presented in **Figure 2-1**.

Table 2-1. Summary of High Tide Salinity Data

Creek	FTMM Site	FTMM Station	Average High Tide Salinity (ppt) n=3	BEE Station	Average High Tide Salinity (ppt) n=1	Overall Site Average High Tide Salinity (ppt)
Parkers Creek						
	Downgradient of Main Post	21	21.3			21.3
	Site M-18			P49-SW3	20.36	17.5
				P49-SW2	20.13	
		27	15.7			
	Site M-8			M8-SD5	16.3	15.5
		28	14.3			
				M8-SD6	17.37	
				M8-SD7	16.54	
Lafetra Creek						
	Site M-3	5	9.7			9.7
		26	7.0			7.0
		3	4.0			4.0
	Upgradient End of Main Post	14	0.0			0.0
Mill Creek						
	Site M-4	5	9.7			9.7
	Site M-2	24	6.7			3.4
				M2-SD08	0.27	
				M2-SD09	0.27	
				M2-SD10	0.27	
				M2-SD11	0.27	
				M2-SD12	0.27	
				M2-SD13	0.27	
		15	5.3			
	Upgradient End of Main Post	13	0.0			0.0
Oceanport Creek						
	Downgradient of Main Post	22	21.0			21.0
	Site M-16			M16-SD4	21.04	21.0
	Sites M-12/M-14	9	18.3			11.2
				P61-SW1	10.45	
		19	4.3			
	Husky Brook Pond	12	0.0	M14-SW14	0.13	0.0
	Upgradient End of Main Post	11	0.0			0.0

Based on the high tide salinity measurements, the freshwater/saltwater demarcation line lies between Landfill M-3 and the upgradient end of the Main Post on Lafetra Creek, between Landfill M-4 and Landfill M-2 on Mill Creek, and between Landfills M-12 and M-14 and Husky Brook Pond on Husky Brook. Therefore, all of Parkers and Lafetra Creeks, in the vicinity of the sites addressed in this BEE as well as all of Mill Creek on the Main Post west of Landfill M-4 and Oceanport Creek and Husky Brook below Husky Brook Pond are classified as SE1 waters. Areas of these creeks upgradient of the MP are classified as FW2-NT. These freshwater and saltwater designations are consistent with those presented in the Weston SI report (Weston, 1995), which designated all their surface water and sediment sampling locations at the MP to be saltwater with the exception of Landfill M-2, based on field-observations of tidal influence.

The U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory indicates the presence of wetlands at the MP. Parkers and Oceanport Creeks are classified as estuarine and marine deepwater with estuarine and marine wetland areas. Husky Brook and Lafetra Creek are classified predominantly as freshwater riverine, emergent wetland, and forested/shrub wetland. Husky Brook Lake is classified as a freshwater pond.

Surface water runoff at the CWA is drained by Wampum Brook and Shrewsbury Creek. Shrewsbury Creek flows eastward through the center of the CWA and Wampum Brook flows along the southern boundary. These join east of the CWA before becoming Wampum Lake. Wampum Lake discharges into Mill Creek, which flows through the MP. All surface water streams at the CWA are classified as FW2-NT by the NJDEP for the purposes of determining surface water quality criteria, indicating they are non-trout freshwaters.

Several CWA wetland areas are identified on the USFWS National Wetland Inventory. Most of Shrewsbury Creek and Wampum Brook are classified as freshwater forested/shrub wetland, and the open water in the golf course in the eastern portion of the CWA is classified as a freshwater pond.

2.4.4 REGIONAL AND LOCAL GEOLOGY

Monmouth County lies within the New Jersey Section of the Atlantic Coastal Plain physiographic province. The MP, as well as the CWA and the Evans Area, are located in what may be referred to as the Outer Coastal Plain subprovince or the Outer Lowlands.

In general, New Jersey Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, and gravel. These formations, which typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile, were deposited on Precambrian and lower Paleozoic rocks. The sediments, predominantly derived from deltaic, shallow marine, and continental shelf environments, date from the Cretaceous through the Quaternary Periods. The mineralogy ranges from quartz to glauconite.

The formations record several major transgressive/regressive cycles and contain units that are generally thicker to the southeast and reflect a deeper water environment. More than 20 regional geologic units are present within the sediments of the Coastal Plain. Regressive, upward coarsening deposits are usually aquifers (e.g., the Englishtown and Kirkwood Formations, and the Cohansey Sand), while the transgressive deposits are typically confining units (e.g., the Merchantville, Marshalltown and Navesink formations). The individual thicknesses for these units vary greatly (that is, from several feet to several hundred feet).

Based on the regional geologic map, the Cretaceous Age Red Bank and Tinton Sands outcrop at the MP. The Red Bank sand conformably overlies the Navesink Formation and dips to the southeast at a slope of 35 feet per mile. The upper member of the Red Bank Sand (Shrewsbury) is a yellowish-gray to reddish-brown clayey, medium- to coarse-grained sand that contains abundant rock fragments, minor mica, and glauconite. The lower member (Sandy Hook) is a dark gray to black, medium- to fine-grained sand with abundant clay, mica, and glauconite.

The Tinton Sand conformably overlies the Red Bank sand and ranges from a clayey medium- to very coarse-grained feldspathic quartz, and glauconite sand to a glauconitic coarse sand. The color varies from dark yellowish-orange or light brown to moderate brown, and from light olive to grayish-olive.

Glauconite may constitute 60 to 80 percent of the sand fraction in the upper part of the unit. The upper part of the Tinton Sand is often highly oxidized and iron-oxide encrusted.

Both the Tinton Sand and the Hornerstown Sand (or marl) crop out at the CWA. The Hornerstown unconformably overlies the Tinton Sand and is a dusky-green to grayish-olive or grayish-olive-green clayey glauconitic sand that may oxidize to moderate reddish-brown and dusky red. The percentage of quartz sand ranges from a few percent to 30 percent. Approximately half of this formation is composed of silt and clay.

The Kirkwood Formation (part of the Kirkwood-Cohansey system) crops out southeast of the MP and dips to the southeast at a slope of 20 feet per mile. The Kirkwood Formation consists of alternating layers of sand and clay. The upper unit is a light gray to yellowish-brown fine-grained quartz sand with quartz nodules and small pebbles. The lower unit is a brown silt in Monmouth County.

2.4.5 SOILS

According to the Monmouth County Soil Survey (USDA, 2008), much of the MP is covered by urban land (developed land with disturbed soils). The majority of the area is of the Udorthents-Urban land complex with 0 to 8 percent slopes (UDauB). The following soil series and classification units are mapped in the MP Area:

AptAV – Appoquinimink-Transquaking-Mispillion complex, 0-1% slope, very frequently flooded

DoeB – Downser sandy loam, 2-5% slopes

FrkB – Freehold sandy loam, 2-5% slopes

FrrC – Freehold-Urban land complex, 0-10% slopes

HumAt – Humaquepts, 0-3% slopes, frequently flooded

KrhB – Kresson loam, 2-5% slopes

ShrA – Shrewsbury sandy loam, 0-2% slopes

ThgB – Tinton loamy sand, 0-5% slopes

ThhB – Tinton-Urban land complex, 0-5% slopes

UdaB – Udorthents, 0-8% slopes

UdauB – Urban land complex, 0-8% slopes

The CWA is covered by less urban land complexes than the MP. The Shrewsbury sandy loam, Freehold sandy loam, and Freehold-Urban land complex are the dominant soil types. The following soil series and classification units are mapped in the CWA:

AtsA – Atsion sand, 0-2% slopes

EveB – Evesboro sand, 0-5% slopes

FrkB – Freehold sandy loam, 2-5% slopes

FrkC – Freehold sandy loam, 5-10% slopes

FrrC – Freehold-Urban land complex, 0-10% slopes

HocA – Holmdel sandy loam, 0-2% slopes

HofB – Holmdel-Urban land complex, 0-5% slopes

PHG – Pits, sand and gravel

ShrA – Shrewsbury sandy loam, 0-2% slopes

UdauB – Udorthents-Urban land complex, 0-8% slopes

2.4.6 HYDROGEOLOGY

FTMM lies in the Atlantic and Eastern Gulf Coastal Plain groundwater region. This groundwater region is underlain by undeformed unconsolidated to semi-consolidated sedimentary deposits. Water chemistry near the surface is variable with low dissolved solids and high iron concentrations. In the areas underlain by glauconitic sediments such as the Red Bank and Tinton sands, the water chemistry is dominated by calcium, magnesium, and iron. The sediments in the area of the site were deposited in fluvial-deltaic to nearshore environments.

The water table aquifer is identified as part of the composite confining units or minor aquifers, which include the Navesink Formation, the Red Bank Sand, Tinton Sand, Hornerstown Sand, Vincentown Formation, the Manasquan Formation, Shark River Formation, Piney Point Formation, and the basal clay of the Kirkwood Formation. The Hornerstown Sand probably serves as an aquitard or aquiclude rather than as an aquifer due to its high silt and clay content.

2.4.7 NATURAL BACKGROUND CONSTITUENTS

The local geology and soil types determine the levels of naturally-occurring constituents present in soil. For instance, glauconitic soils, such as those present in the Cretaceous Age Red Bank and Tinton Sands of the FTMM area, can exhibit high concentrations of naturally-occurring arsenic and beryllium (Dooley, 2001), and the upper part of the Tinton Sand is often highly iron-oxide encrusted. The ambient levels of metals in soils of the urban coastal plain region are reported by Sanders (2003) based on an extensive characterization study conducted by BEM Systems, Inc. (1998). These natural background levels are meant to be inclusive of naturally-occurring levels in soil as well as those from regional deposition but not those from point source contamination. **Table 2-2** presents a summary of these ambient levels.

Naturally-occurring metals present in soil also affect the concentrations of these constituents measured in groundwater. Elevated concentrations of arsenic and lead in groundwater at FTMM have been found within the glauconitic-rich soil layers and are most likely attributed to these natural conditions (FTMM, 2011). The presence of glauconitic soils were noted in sediment samples collected during the BEE investigation, particularly in Parkers, Lafetra, and Mill Creeks in the MP (**Appendix H**). Dooley (2001) reported higher than ambient concentrations in glauconitic soils for several metals. In particular, the 90th percentile concentrations of aluminum [49,130 milligrams per kilogram (mg/kg)], arsenic (77 mg/kg), barium (340 mg/kg), beryllium (9.6 mg/kg), chromium (769 mg/kg), cobalt (11 mg/kg), nickel (24 mg/kg), vanadium (213 mg/kg), and zinc (196 mg/kg) were greater than those reported as ambient soil levels for the urban coastal region (BEM Systems, Inc).

2.4.8 ECOLOGY

The MP and CWA are within the Atlantic Coastal Plain, in the Outer Coastal Plain physiographic region of New Jersey, and contain both upland and wetland ecological habitats. Coastal plains are typically of low relief and consequently suitable for the formation of wetlands. Areas of wetlands are present on both the MP and CWA, with estuarine and fresh water wetlands present on the MP. Much of the upland areas of the MP and CWA consist of extensive areas of regularly mowed lawns and landscaped areas. However, upland ecological habitats are present, and include forested areas and old field herbaceous habitat. Except for occasional transient species, no federally listed or proposed threatened or endangered flora or fauna are known to exist on the site. There was one observance in 1992 of a New Jersey listed endangered species, the clustered sedge. In addition, no federal or state listed species were observed during the BEE site visit conducted on the MP and CWA on September 15, 2009. This section includes descriptions of the important ecological habitats present at the MP and CWA. As indicated in **Section 2.4.3**, the USFWS National Wetland Inventory maps have designated wetland areas at the MP and CWA. Areas along Oceanport Creek and Parkers Creek are designated estuarine and marine wetlands or open waters; areas along Mill Creek, Husky Brook, Lafetra and Shrewsbury Creeks are freshwater emergent or forested/shrub wetlands.

Estuarine Wetlands. Estuarine wetlands on the MP are associated with the tidal brackish waters of Parkers and Oceanport Creeks. They include both mesohaline areas of moderate salinity (5-18 ppt) and oligohaline areas of low salinity (0.5-5 ppt). Emergent wetlands in mesohaline tidal areas of New Jersey are often characterized by smooth cordgrass (*Spartina alterniflora*) and common reed (*Phragmites*

australis). Other species present often include marsh elder (*Iva frutescens*), eastern baccharis (*Baccharis halimifolia*), spike grass (*Distichlis spicata*), salt hay (*Spartina patens*), seaside goldenrod (*Solidago sempervirens*), and salt marsh asters (*Aster subulatus* and *A. tenuifolius*). Where present on the MP, estuarine wetlands are dominated by common reed. Common reed tends to create a monoculture and, although they can provide valuable habitat, are generally not considered to be high quality wetlands. Common reed wetlands provide nesting habitat for many avian species, including Pied-billed Grebe (*Podilymbus podiceps*), Black-crowned and Yellow-crowned Night Heron (*Nycticorax nycticorax* and *Nyctanassa violacea*), American and Least Bittern (*Botaurus lentiginosus* and *Ixobrychus exilis*), Green Heron (*Butorides virescens*), Coot (*Fulica americana),* Common Moorhen (*Gallinula chloropus*), King and Virginia Rail (*Rallus elegans* and *Rallus limicola*), grackles (*Quiscalus* sp.), Red-winged Blackbird (*Agelaius phoeniceus*), Swamp Sparrow (*Melospiza georgiana*), Marsh Wren (*Cistothorus palustris*), and several waterfowl species. White-tailed deer (*Odocoileus virginianus*), northern raccoon (*Procyon lotor*), and other mammalian species use common reed wetlands for refuge cover. In many areas of the MP steep banks along the creeks limit the extent of the riparian zone and thereby prevent the formation of extensive wetlands. These areas have a narrow riparian zone dominated by marsh elder, also known as high-tide bush. Avian wildlife species observed utilizing estuarine wetlands at the MP during the BEE site visit included Double-crested Cormorant (*Phalacrocorax auritus*), Common Egret (*Ardea alba*), Great Blue Heron (*Ardea herodias*), Little Blue Heron (*Egretta caerulea*), Wilson's Plover (*Charadrius wilsonia*), and numerous small sandpipers (*Calidris sp.*).

Freshwater Wetlands. Freshwater wetlands occur on both the MP and CWA. The most extensive of these are forested wetlands, with areas of emergent wetlands associated with the fresh water portions of the several creeks that traverse the MP and CWA. Forested wetlands in the area are typically dominated by red maple (*Acer rubrum*) and other hardwoods, including sweetgum (*Liquidambar styraciflua*), and black gum (*Nyssa sylvatica*). Shrubs/vines include arrowwood (*Viburnum dentatum*), coastal sweet pepperbush (*Clethra alnifolia*), and greenbrier (*Smilax rotundifolia*). Herbaceous species found in these forested wetlands include smartweed (*Polygonum sp.*), jewelweed (*Impatiens capensis*), violets (*Viola sp.*), asters, sedges and ferns. Forested wetlands at the MP and CWA may be utilized by mammalian species including white-tailed deer, eastern gray squirrel (*Sciurus carolinensis*), northern raccoon, Virginia opossum (*Didelphis virginiana*), and striped skunk (*Mephitis mephitis*). Numerous avian species are known to utilize forested wetlands habitat for nesting and foraging including: Barred Owl (*Strix varia*), Veery (*Catharus fuscescens*), Wild Turkey (*Meleagris gallopavo*), American Woodcock (*Scolopax minor*), and several species of woodpeckers and warblers. Although several streams are present at the MP and CWA, fresh water emergent wetlands are limited in some areas due to stream bank stabilization. Fresh water emergent vegetation includes cattail (*Typha latifolia*), water smartweed (*Polygonum amphibium*), arrowhead (*Sagittaria sp.*), pondweed (*Potamogeton sp.*), sedges, and rushes. Although limited in extent, emergent wetlands at the MP and CWA may provide habitat for muskrat (*Ondatra zibethicus*), Mallard (*Anas platyrhynchos*) and other species of water fowl, and for herptiles including northern water snake (*Nerodia sipedon*) and several frog species. Avian species observed utilizing freshwater wetlands or adjacent open waters at the MP during the BEE site visit included Mallard and Belted Kingfisher (*Megaceryle alcyon*).

Forested Uplands. Although most upland areas of the MP and CWA are developed, patches of upland forest are present in several areas. Dominant tree species include red oak (*Quercus rubra*), chestnut oak (*Quercus prinus*), tuliptree (*Liriodendron tulipifera*), and sweetgum (*Liquidambar styraciflua*). Understory species include sassafras (*Sassafras albidum*), flowering dogwood (*Cornus florida*), and black cherry (*Prunus serotina*). Mammals utilizing forested uplands include white-tailed deer, eastern gray squirrel, northern raccoon, Virginia opossum, striped skunk, eastern chipmunk (*Tamias striatus*), red fox (*Vulpes vulpes*), and white-footed mouse (*Peromyscus leucopus*). Avian species inhabiting forested uplands at the MP and CWA and utilizing these areas for foraging and nesting habitat are likely to include Red-tailed Hawk (*Buteo jamaicensis*), Cooper's Hawk (*Accipiter cooperii*), Blue Jay (*Cyanocitta cristata*), Tufted Titmouse (*Baeolophus bicolor*), Carolina Chickadee (*Parus carolinensis*), Red-eyed Vireo (*Vireo olivaceus*), Wood Thrush (*Hylocichla mustelina*), and several species of wood warblers. Avian species observed or heard in forested upland habitat during the BEE site visit included Catbird (*Dumetella carolinensis*), Carolina Chickadee, and American Robin (*Turdus migratorius*).

Old Field Habitat. Old field habitats include formerly mowed areas where the vegetation includes grasses and forbes and often immature trees. Old field habitat at the MP includes grasses, many forbes including Queen Ann's lace (*Daucus carota*), pokeweed (*Phytolacca americana*), goldenrod (*Solidago sp.*), milkweed (*Asclepias syriaca*), and sparse saplings of tree species including eastern red cedar (*Juniperus virginiana*) and winged sumac (*Rhus copallinum*). Mammals utilizing this habitat at the MP and CWA are likely to include include white-tailed deer, groundhog (*Marmota monax*), eastern cottontail (*Sylvilagus floridanus*), and meadow vole (*Microtus pennsylvanicus*). Deer and groundhog burrows were observed in this habitat at MP in the vicinity of IRP Site M-14. Avian species that prefer open old field habitat and are likely to be present at the MP and CWA include Northern Mockingbird (*Mimus polyglottos*), Eastern Bluebird (*Sialia sialis*), American Goldfinch (*Spinus tristis*), Rufus-sided Towhee (*Pipilo erythrophthalmus*), Common Yellowthroat (*Geothlypis trichas*), and other warblers, and several sparrow species. Birds observed or heard in or in the vicinity of old-field habitat during the BEE site visit included Mourning Dove (*Zenaida macroura*), House Finch (*Carpodacus mexicanus*), Carolina Wren (*Thryothorus ludovicianus*), Fish Crow (*Corvus ossifragus*), and Northern Mockingbird.

2.4.9 SURROUNDING LAND USE

In addition to ambient levels of background constituents, contaminants can also be present in the environment within the region of FTMM due to proximal off-site sources. This section describes the surrounding general land use, properties observed during surveys, and a review of regulatory databases. This information is adapted from that contained in the Environmental Condition of Property Report (Shaw, 2007) and recent searches of the NJDEP web-based application (http://www.nj.gov/dep/gis/deptutorial.htm#), performed to update information obtained during the 2007 effort.

2.4.9.1 ADJACENT PROPERTIES

The character of land use surrounding the FTMM properties typifies mixed use, small town development in New Jersey. Commercial services and shopping centers populate main roads, periodically interspersed with a residential structure, apartments, or an office building. Boundaries between towns are typically unnoticeable, although each town still tries to maintain a downtown "Main Street" shopping district. Tracts of housing subdivisions offer privacy from commonly traveled roads. Residential development is characteristically along grid-style side roads which are becoming encroached with small business and commercial service endeavors. Business and light industrial parks are tucked away along highways, streams, and RR tracks. **Figure 2-2** presents a schematic representation of general land use categories surrounding FTMM.

Main Post. The MP is surrounded by four towns. Little Silver lies to the northeast, Oceanport to the southeast, Eatontown to the southwest, and Shrewsbury to the northwest. The northeast boundary of MP is bordered by the Shrewsbury River, from the northeast corner to the area north of Battery Avenue, where the water narrows and becomes known as Parkers Creek. The downtown commercial and business district of Little Silver runs along Oceanport Avenue. Light industrial businesses are located east of Oceanport Avenue. Commercial businesses, including an animal hospital are located along the west side of Oceanport Avenue. An apartment complex is also located along the west side of Oceanport Avenue. Gas stations, the railroad station, and various stores surround the intersection of Oceanport Avenue and Sycamore Avenue. Further to the east, development is primarily residential. The eastern boundary of the MP is the railroad tracks with residential development along Horseneck Point Road.

The southeast boundary of the MP is bordered by Oceanport Creek, from the southeast corner to Wallington Avenue, where the water narrows. The area south of Oceanport Creek and east of the railroad tracks is developed with residential structures. Monmouth Park Racetrack is just west of the railroad and south of Bridgewaters Drive. Main Street in Oceanport borders the MP to the south, west of Oceanport Avenue. Residential houses, a church, and houses converted to small service businesses are located along Main Street to the south. The land immediately adjacent to the MP, north along Main Street, is residential development and a fire station. Another small area of residences borders the south boundary of MP north of the intersection of Main and Broad Streets. The Eatontown Sewage Authority, a church, residences, apartments, and the Eatontown municipal building are adjacent to the south of the MP along Throckmorton Avenue.

The intersection of Broad and Main Streets, Eatontown is located to the southwest of the MP. Small commercial stores, restaurants, and gas stations line Main Street in this area. A park surrounds Wampum Lake north of West Street. Storage USA is immediately adjacent along the southwest boundary of the MP, developed with an office and six self-service storage buildings. Two gas stations are located at the intersection of Main Street and Tinton Avenue. North along Main Street, the area is developed with banks, hotels, office buildings, and shopping centers. The Revmont Park Office Building is immediately adjacent to the MP on the northwest corner of the property, followed by Register Plaza Office Park, and a shopping center. As Main Street heads north towards Sycamore Avenue, development trends towards older residential structures. North of MP, Lafetra Creek runs along the property line. North of the creek are wooded areas with new subdivision housing developments. The entire area north of MP to Sycamore Avenue is primarily residential development.

Table 2-3 highlights specific properties observed during the adjacent property survey and the regulatory database review as presented in the Environmental Condition of Property Report (Shaw, 2007). The properties highlighted were documented with releases of contaminants or were observed with potentially hazardous substances on their premises.

Table 2-3. Properties Observed During Main Post Property Survey

Location	Property	Concern	Potential Impact
Oceanport Avenue & Main Street	Abandoned Shell Gas Station	Observed monitoring wells. State Hazardous Waste Site (SHWS) – Closed with restrictions 3/2005 (1).	Low due to hydraulic separation by Oceanport Creek.
61/63 Main Street	Residence	Observed above-ground storage tank (AST) along MP fence line.	High if there is a release.
9 Monmouth Park Place	Hi Tech Turf	Observed 55-gallon drum and AST. SHWS – Active 4/2004 (2).	High due to status and upgradient location.
25 Lake Avenue		SHWS – Active 10/2005 (3).	High due to status and upgradient location.
330 Broad Street		SHWS – Active 04/1997 (4).	Moderate due to date and upgradient location.
25 Cloverdale Avenue		SHWS – Active 09/2005 (5).	High due to status and upgradient location.
29 Rose Court	Residence	New Jersey Spills & Voluntary Cleanup Program (VCP) – 11/1999 (6).	Moderate due to date and upgradient location.
Broad & Rose	Getty Gas Station	Observed monitoring wells. SHWS – Active 08/2004 (7).	High due to status and upgradient location.
Route 35 & Tinton Avenue	Lukoil Gas Station – previous location of Mobil Station	SHWS – Active 04/1997 (8).	Moderate due to date and upgradient location.
Route 35 & Tinton Avenue	Exxon Gas Station	Historic Leaking Underground Storage Tank (historic LUST) 1991 (9).	Moderate due to date and upgradient location.
160 Main Street (Route 35)	Abandoned Amoco Gas Station	Observed monitoring wells. SHWS – Active 01/2001 (10).	High due to status and upgradient location.
37 Tinton Avenue	Residence	SHWS – Active 10/2000 (11).	High due to status and upgradient location.

Charles Wood Area. The CWA is surrounded by two towns. Eatontown lies to the east and south and Tinton Falls lies to the west and north. Tinton Avenue runs along the entire northern boundary of the CWA. North of the Golf Course, across Tinton Avenue, the land is developed with apartment complexes and the Ranney School. The northern branch of Parkers Creek also bisects this area. The area north of Tinton Avenue and west of Hope Road is developed with apartments, residential structures

and the Monmouth Regional High School. Further west on Tinton Avenue, across the Garden State Parkway, a nursery business occupies a large tract of land.

Tinton Falls Borough Department of Public Works facilities are located along the entire western property line of the CWA. Construction of new buildings is underway closest to Tinton Avenue. South of the new construction are the police department buildings. Further south are Department of Public Works storage warehouses for equipment, sand, and mulch, parking, a fueling station, and the equipment/truck storage yard. The Department of Public Works also operates a recycling collection center in this area. The southwest adjacent land appears to be cultivated with rows of bushes or trees. West of the Department of Public Works facilities is the Garden State Parkway and the Monmouth County Highway Department Site 3&6. Materials, equipment, sand, and mulch are stored outside in this area.

The southern boundary of the CWA is Pinebrook Road. A light industrial park is located along Park Road, from the southwest corner of the CWA to Hope Road. Businesses in this area include Standard Co., Hatteras Press, the Residence Inn, Garden State Delivery, IROC, DRS Technologies, Comcast, Ranger Industries, the Marriott, and Applebee's. Several commercial establishments are located along Pinebrook Road, south of the CWA, including an air conditioning and heating contractor, a construction contractor, and a 7-Eleven convenience store.

East of Hope Road, along Pinebrook Road to the south, the area is developed with office buildings and apartment complexes. Further south is Route 36. Apartment complexes and the Vetter School are located adjacent to the southeast corner of the CWA. The Eatontown Department of Public Works is located east of the CWA along Pinebrook Road. The facility has storage buildings, outside storage of materials and equipment, and a fueling station. A railroad switch storage yard and the Indian Head Enterprises (utility, pipe, and sewer company) are also located in this area along Pinebrook Road. Another railroad materials and equipment storage yard boarders the CWA property to the east off of Maxwell Road. The Borough of Eatontown also operates a recycling collection center along Lewis Street to the east of the CWA.

Maxwell Road runs along the eastern border of the CWA golf course. Fiore Paving facilities are located along Maxwell Road next to the railroad tracks. Further north along Maxwell the area is developed with residential structures. Several residences were observed to have ASTs.

Table 2-4 highlights specific properties observed during the adjacent property survey and the regulatory database review conducted in 2007. The properties highlighted were documented with releases of contaminants in the Environmental Data Resources, Inc. (EDR) report or were observed with potentially hazardous substances on their premises.

Table 2-4. Properties Observed During CWA 2007 ECP Property Survey

Location	Property	Concern	Potential Impact
539 Tinton Avenue	Concession Supply Company	Observed AST & Cylinders. SHWS – Active 05/2002. Inst Control – 08/2005 (1).	High due to status and upgradient location.
535 & 556 Tinton Avenue	Tinton Falls Borough	Observed AST and outside equipment /materials storage. SHWS – Active 10/1999 (2).	High due to status and upgradient location.
600 Tinton Avenue	CECOM (7)	SHWS – Active 12/2005 (3).	High due to status and upgradient location.
Pinebrook Road & GSP	Monmouth County Highway Dist 3&6	Observed outside storage of equipment/materials. SHWS – Active 11/1995. Class. Exempt area (4).	High due to status and upgradient location.
100 Park Road	Standard Company	Observed outside storage of equipment/materials. Historic LUST/New Jersey Release.	Low due to NFA 09/1994.

Table 2-4. Properties Observed During CWA 2007 ECP Property Survey

Location	Property	Concern	Potential Impact
45 Park Road	Hecon Corporation	Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) – No Further Remedial Action (NFRA) Transport, Storage, and Disposal Facility (TSDF)	Low due to NFA 11/1998.
14 Park Road	Mazel Company	CERCLA-NFRA	Low due to NFA 04/1984.
1 Coldstream Way	Metallurgical Industries	Area observed to be vacant field. Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) – Remedial Action (RA) 06/1997. SHWS – Active 03/1995. Industrial Site Recovery Act – 03/1995 (5).	High due to status and upgradient location.
Pinebrook & Hope Roads	Fitzpatrick & Associates	Observed outside equipment/materials storage.	High if there is a release.
250 Pinebrook Road	Eatontown Borough	Observed AST and outside equipment /materials storage. SHWS – Closed with Restrictions - 08/1995. Inst Control - (6)	Moderate due to continued fueling operations and closure status with restrictions.
37 Maxwell Road	Fiore Paving	Observed outside equipment/materials storage. New Jersey manifest.	High if there is a release.
Maxwell & Mill	Residence	Observed AST.	High if there is a release.

Numerous adjacent properties have the potential to impact the surface water quality in the vicinity of FTMM. Historically, there was concern that FTMM sewage plants were degrading surface water quality. In response to NJDEP concerns that sewage discharges were causing deleterious effects on Parkers Creek, an evaluation of the effluent and the receiving streams was performed in 1971. The evaluation concluded that the effluent met all written requirements of federal, state and local water pollution agencies. There was no visual evidence of contamination, no noticeable sewage odor and the color and turbidity of the effluent were less than that of the receiving stream (First U.S. Army Medical Laboratory, 1971). Another evaluation of the impact of wastewater discharges on the environment concluded that the impact was minimal (USAEHA, 1977). It was noted that the condition of the streams entering the installation were of similar or poorer quality due to a variety of upstream industrial operations such as Styrofoam cup manufacturing, metal plating and photo processing as well as domestic discharges. Water samples collected from Wampum Brook upstream of the CWA Sewage Treatment Plant (STP) outfall indicated no evidence of life in the brook (USAEHA, 1976).

2.4.9.2 STANDARD ENVIRONMENTAL RECORD SOURCES

A comprehensive search of state and federal environmental databases was undertaken for the facility as part of the ECP Report (Shaw, 2007) and any listed sites within standard search distances were identified. Two EDR area studies were performed: one for the MP and one for the CWA. The findings of this search, as it pertains to the FTMM surrounding land use and this BEE, are summarized below and the complete search results are provided in Appendix K of the ECP Report (Shaw, 2007).

Main Post Off-Site Facilities Summary. **Table 2-5** summarizes the results of the EDR search for the MP area. Within each database type, the location relative to MP (i.e., upgradient or downgradient)

has been provided. The location of these facilities relative to MP was based on topographic gradient, as identified on the USGS topographic quadrangle maps provided in the EDR report.

One Resource Conservation and Recovery Act (RCRA) Corrective Action Activity Site (CORRACTS) facility is reported within the 1-mile radius of the MP. The Lowe's Home Improvement Center, 118 Highway 35 South, Eatontown, is approximately ¾-mile south and upgradient from the MP. Twenty RCRA Small Quantity Generators (SQGs) facilities are reported within the ¼-mile radius of the MP. A total of 73 SHWS facilities are reported within the 1-mile radius of the MP. Eight leaking underground storage tank (LUST) facilities are reported within a ½-mile radius of the MP, an additional 22 are on the historical LUST database (this database has been inactive since 2002), and 19 facilities are also listed as registered UST sites. A total of 126 participants are listed in the VCP within a ½-mile radius of the MP.

The facilities identified in the EDR search include several service stations with USTs and other light industrial facilities. Though many are hydraulically separate from MP to prevent the migration of shallow groundwater to the MP, migration of contaminants towards Parkers Creek, Oceanport Creek, and their tributaries is feasible.

Table 2-5. MP Standard Environmental Record Results

Record(s) Source for FTMM MP	Number of Sites	Minimum Search Distance (miles)
Federal RCRA CORRACTS Facilities	1	1.0
Federal RCRA Small Quantity Generators	21	0.25
New Jersey State Hazardous Waste Sites	73	1.0
New Jersey State Landfill, Historic Landfill, and Approved Class B Recycling Facilities	3	0.5
New Jersey Active LUST Facilities	8	0.5
New Jersey Historical LUST Facilities	22	0.5
New Jersey Engineering Controls	1	0.5
New Jersey Institutional Controls	4	0.5
New Jersey VCP Facilities	126	0.5
New Jersey Registered UST Facilities	19	0.25

Charles Wood Area Off-Site Facilities Summary. **Table 2-6** summarizes the results of the EDR search for the CWA. Within each database type, the location relative to CWA (i.e., upgradient or downgradient) has been provided. The location of these facilities relative to CWA was based on topographic gradient, as identified on the USGS topographic quadrangle maps provided in the EDR report.

One National Priorities List (NPL) facility, the Naval Weapons Station Earl, is approximately ¾-mile southwest of the CWA in Colts Neck Township. Two RCRA CORRACTS facilities are reported within the ½-mile radius of the CWA: the Lowe's Home Improvement Center and the Naval Weapons Station Earl. One CERCLIS facility is reported within the ½-mile radius of the CWA; the Metallurgical Industries site participates in a state-lead cleanup program. Two additional CERCLIS facilities are listed as No Further Remedial Action Planned (NFRAP): Mazel Chemical Company and Hecon Corporation. Hecon Corporation is listed as a RCRA TSDF. There is one facility within a ¼-mile radius listed as a RCRA Large Quantity Generator (The Standard Group) and nine listed as RCRA SQGs, including public works facilities and cleaners. A total of 53 SHWS facilities are reported within the ½-mile radius of the CWA. Two facilities are listed in the Historic Solid Waste Facility Directory (Tinton Falls Borough Compost and All County Recycling) and are located upgradient of the CWA. Four LUST facilities are reported within a ½-mile radius of the CWA, an additional 20 are on the historical LUST database (this database has been inactive since 2002), and 16 facilities are also listed as registered UST sites. A total of 16 participants are listed in the VCP within a ½-mile radius of the CWA.

The facilities identified in the EDR search include several service stations with USTs and other light industrial facilities. Some of these sites are located upgradient and contaminant migration in shallow groundwater from these sites could impact groundwater at the CWA. Many, though, are hydraulically separate from CWA preventing the migration of shallow groundwater to the CWA; migration of contaminants towards Shrewsbury Creek and Wampum Brook is feasible.

Table 2-6. CWA Standard Environmental Record Results

Record(s) Source for FTMM Charles Wood Area	Number of Sites	Minimum Search Distance (miles)
Federal NPL Facilities	1	1.0
Federal RCRA CORRACTS Facilities	2	1.0
Federal CERCLIS Facilities	1	0.5
Federal CERCLIS-NFRAP Facilities	2	0.5
Federal RCRA TSD Facilities	1	0.5
Federal RCRA Large Quantity Generators	1	0.25
Federal RCRA Small Quantity Generators	9	0.25
New Jersey State Hazardous Waste Sites	53	1.0
New Jersey State Landfill, Historic Landfill, and Approved Class B Recycling Facilities	3	0.5
New Jersey Active LUST Facilities	4	0.5
New Jersey Historical LUST Facilities	20	0.5
New Jersey Institutional Controls	3	0.5
New Jersey VCP Facilities	16	0.5
New Jersey Registered UST Facilities	16	0.25

2.5 SITE DESCRIPTION AND ENVIRONMENTAL SETTING

The Phase I ECP Assessment conducted in 2006 and 2007 evaluated the existing environmental conditions of FTMM MP and CWA (including IRP sites) and the entirety of MP and CWA were characterized into 95 parcels according to their environmental condition (Shaw, 2007). **Tables 2-7 and 2-8** list all ECP parcels and IRP sites at CWA and MP, respectively. **Tables 2-7 and 2-8** are organized by ECP parcel, with all IRP sites listed with the parcel in which they are included. Within the FTMM MP and CWA are 21 parcels that were evaluated through the FTMM SI under the BRAC 2005 ECP process and 27 active/open IRP Sites. Within the 27 active/open IRP Sites, 14, as well as 1 IRP site listed as Response Complete (Fort Monmouth, 2007), have been determined to require additional evaluation through the BEE process. **Tables 2-7 and 2-8** provide the rationale for inclusion, or non-inclusion, of all parcels in the BEE based on the potential for contaminant migration and impacts to ecological receptors.

In addition, eight of the 21 ECP parcels included in the FTMM SI under the BRAC 2005 ECP process are deemed to require a BEE based on NJDEP correspondence. In total, 23 sites/parcels were evaluated as part of this BEE. The IRP sites and ECP parcels evaluated as part of the BEE are summarized in **Table 2-9**.

This section provides brief site descriptions and summaries of the previous investigations or remedial actions at the IRP and ECP sites that are addressed in the BEE. Though detected concentrations were often compared to criteria within these previous reports, the criteria are not necessarily ecologically based. The comparisons discussed in this section are simply summarized and do not imply ecological risks.

Table 2-9. Fort Monmouth Main Post/Charles Wood Area BEE Sites

Site No.	Associated Building/Feature	AEDB-R No.	Proximal Ecological Feature to be Evaluated
Main Post			
IRP Site M-2	Landfill 2	FTMM-02	Mill Creek
IRP Site M-3	Landfill 3	FTMM-03	Lafetra Creek
IRP Site M-4	Landfill 4	FTMM-04	Mill Creek
IRP Site M-5	Landfill 5	FTMM-05	Mill Creek
IRP Site M-8	Landfill 8	FTMM-08	Parkers Creek
IRP Site M-12	Landfill 12	FTMM-12	Husky Brook
IRP Site M-14	Landfill 14	FTMM-14	Husky Brook
IRP Site M-15	Water Tank	FTMM-15	Parkers Creek
IRP Site M-16	Building 498, Pesticide Storage	FTMM-16	Oceanport Creek
IRP Site M-18	Former Training Area	FTMM-18	Parkers Creek
IRP Site Pre-1941 STP	Pre-1941 Former Sanitary STP	FTMM-20	Parkers Creek
IRP Site Building 1122	Building 1122, Unknown Discharge	FTMM-59	Mill Creek
IRP Site Building 283	Building 283, LUST, Gasoline	FTMM-61	Parkers Creek
ECP Parcel 39	Building 1150, Former Photoprocessing Activities	N.A.	Mill Creek
ECP Parcel 43	Building 1122, “Do-It-Yourself” Vehicle Repair Shop	N.A.	Mill Creek
ECP Parcel 49	Buildings 283, 288, 291, 292, 293, 295, Former Squier Laboratory Complex	N.A.	Parkers Creek
ECP Parcel 61	Building 1075, Patterson Army Health Clinic	N.A.	Husky Brook
ECP Parcel 69	Building 900, Former Tactical Motor Pool	N.A.	Oceanport Creek
Charles Wood Area			
IRP Site CW-3A	Landfill, CW-3A	FTMM-25	Shrewsbury Creek
IRP Site CW-6	Former Pest. Storage	FTMM-28	Un-named Wetland
ECP Parcel 15	Building 2700, Meyers Center laboratory	N.A.	Shrewsbury Creek
ECP Parcel 27	Buildings 2507 and 2704	N.A.	Shrewsbury Creek
ECP Parcel 28	Building 2525	N.A.	Shrewsbury Creek

2.5.1 MAIN POST

2.5.1.1 LANDFILL 2 (FTMM-2)

The FTMM-2 Landfill is located in the southwestern corner of the MP, on the south bank of Mill Creek. The 8.1-acre landfill operated from 1964 until 1968. The types of materials disposed in the landfill have been reported to include construction debris, scrap metal, asbestos-containing materials (ACM), vegetative waste, unwashed containers that previously held hazardous materials/wastes, outdated photographic chemicals, small quantities of outdated drugs, sludge from the STP, soot and boiler scale, incinerator ash, oil spill debris, oil filters, batteries, fluorescent tubes, and electronic components. Metal, concrete, and other types of landfill debris had previously been observed protruding from the stream bank along Mill Creek. The bank has since undergone stabilization and debris is no longer protruding from the stream bank.

Under the IRP SI phase, three monitoring wells were installed to evaluate groundwater quality. In addition, surface water samples were collected from Mill Creek. All samples were analyzed for target compound list (TCL)+30, target analyte list (TAL) metals, and cyanide. The results are as follows:

- Chlorobenzene, arsenic, and lead were detected in downgradient monitoring wells at concentrations exceeding NJDEP Ground Water Quality Criteria (GWQC).
- Trichloroethene (TCE) and tetrachloroethene (PCE) were detected in surface water at concentrations exceeding the NJDEP Surface Water Quality Criteria (SWQC).

Under an enhanced SI phase, seven additional monitoring wells were installed to further evaluate groundwater quality. Subsequently, consecutive quarterly rounds of groundwater samples were collected for analysis. The results are as follows:

- Benzene, chlorobenzene, cadmium, and lead have been detected in six of the seven downgradient monitoring wells at concentrations exceeding the NJDEP GWQC.

A remedial investigation (RI) to delineate contaminants of concern within groundwater and soil has been completed. A second RI that evaluated the potential for environmental contaminants being present within the existing landfill cover material has also been completed. The results are as follows:

- Polychlorinated biphenyls (PCBs) were identified in site soils at two separate areas within the boundary of the landfill.

The IRP recommended a NFA for near surface soil (Versar, Inc., 2001). For PCB contamination in subsurface soils, the Directorate of Public Works (DPW) incorporated a document equivalent to a Declaration of Environmental Restriction (DER) into the FTMM Installation Master Plan. For groundwater, the DPW established a Classification Exception Area (CEA). Subsequently, it was determined that the FTMM-2 Landfill required additional evaluation through the BEE process.

As part of the BEE, 12 sediment samples and two surface water samples were collected from Mill Creek adjacent to Landfill 2 (FTMM-2), one surface water and one sediment sample were collected upstream of Landfill 2 (FTMM-2), and two surface water samples were collected downstream of Landfill 2 (FTMM-2). These are discussed further in **Section 3.4.2.1**.

Mill Creek borders Landfill 2 (FTMM-2) along its north side and a small drainage tributary to Mill Creek borders it along its west side. The bank of Mill Creek along Landfill 2 (FTMM-2) has undergone stabilization and a service road lies adjacent to Mill Creek. The site slopes gently to the north and surface runoff is discharged to Mill Creek. Groundwater underlying Landfill 2 (FTMM-2) flows to the north-northwest to Mill Creek. Conductivity and salinity monitoring conducted in 1995 in Mill Creek indicate the presence of freshwater with conductivity readings less than 240 micromhos (µmhos) and salinity readings less than 0.2 ppt with a maximum tidal fluctuation of 1.2 feet (Weston, 1995).

As indicated on the FTMM utility maps in **Appendix K**, several storm water outfalls discharge into Mill Creek in the vicinity of Landfill 2 (FTMM-2) from the vicinity of Building 1150 and Building 1152 located in Parcel 39 (**Section 2.5.1.14**) located north of Mill Creek from Landfill 2. A gas utility line and a storm water line located in the southeastern corner of Landfill 2 may provide additional migration pathways for contaminants from Landfill 2; migration along these pathways would not be in the direction of Mill Creek.

The vegetative cover of Landfill 2 (FTMM-2) is mostly cut field with isolated areas of wood-shrub habitat. Silver maple (*Acer saccharinum*), viburnum (*Viburnum* sp.), smartweed (*Polygonum* sp.), and blackgum (*Nyssa sylvatica*) are present along Mill Creek. The upland portions contain black walnut (*juglans nigra*), silver maple, boxwood (*Buxus* sp.), catalpa (*Catalpa speciosa*), and black locust (*Robinia pseudoacacia*).

Geographic Information System (GIS) digital data available through the NJDEP indicate the presence of deciduous wetlands along Mill Creek and to the east and west of Landfill 2 (FTMM-2) as well as herbaceous wetlands across the site. A site visit on September 9, 2009, confirmed the presence of deciduous wetlands bordering Mill Creek and Landfill 2 (FTMM-2); however, the site was typical of upland habitat and not herbaceous wetlands.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species.

2.5.1.2 LANDFILL 3 (FTMM-3)

The M-3 Landfill is located between North Drive and Lafetra Creek in the west-central part of the MP and it is bordered by Mill Creek to the east. The 8.0-acre landfill operated from 1959 until 1964. The types of materials disposed of in the landfill have been reported to include construction debris, scrap metal, ACM, vegetative waste, unwashed containers that previously held hazardous materials/wastes, outdated photographic chemicals, small quantities of outdated drugs, sludge from the STP, soot and boiler scale, incinerator ash, oil spill debris, oil filters, batteries, fluorescent tubes, and electronic components. The stream bank has undergone stabilization along Lafetra Creek.

Under the IRP SI, three monitoring wells were installed to evaluate groundwater quality. In addition, surface water samples were collected from Lafetra Creek. All samples were analyzed for TCL+30, TAL metals, and cyanide. The results are as follows:

- Chlorobenzene and lead were detected in downgradient monitoring wells at concentrations exceeding the NJDEP GWQC.
- No contaminants of concern were detected in surface water samples collected during the SI phase.
- Surface water samples collected under a New Jersey Pollutant Discharge Elimination System (NJPDES) permit identified PCE at concentrations exceeding the NJDEP SWQC.

Under an enhanced SI, five additional monitoring wells were installed to further evaluate groundwater quality. Subsequently, consecutive quarterly rounds of groundwater samples have been collected for analysis. The results are as follows:

- Benzene, chlorobenzene, cadmium, and lead were detected in all five downgradient monitoring wells at concentrations exceeding the NJDEP GWQC.

The IRP recommended NFA for near surface soil (Versar, Inc. 2004a), and a CEA was prepared for groundwater. Subsequently, the M-3 Landfill was considered to require additional evaluation through the BEE process.

As part of the BEE, 11 sediment samples and two surface water samples were collected from Lafetra Creek and five sediment samples and one surface water sample were collected from Mill Creek adjacent to Landfill 3 (FTMM-3), and one surface water and one sediment sample were collected upstream of Landfill 3 (FTMM-3) on Mill Creek. These are discussed further in **Section 3.4.2.2**.

Lafetra Creek borders Landfill 3 (FTMM-3) along its north side and Mill Creek borders it along its east side. The banks of Mill Creek and Lafetra Creek along Landfill 3 (FTMM-3) have undergone stabilization and a service road lies adjacent to Mill Creek and Lafetra Creek. The site slopes gently to the north and east and surface runoff is discharged to Mill Creek or Lafetra Creek. Groundwater underlying Landfill 3 (FTMM-3) flows predominantly to the north to Lafetra Creek.

As indicated on the FTMM utility maps in **Appendix K**, there are no outfalls or discharges from FTMM into Lafetra Creek or Mill Creek in the vicinity of Landfill 3 (FTMM-3) that may serve as potential contaminant migration pathways nor utility lines through Landfill 3 that may provide additional contaminant migration pathways from Landfill 3.

The vegetative cover of Landfill 3 (FTMM-3) is mostly cut field with isolated areas of wood-shrub habitat. Silver maple is present along the bank growing through the stabilizing riprap and poison ivy (*Toxicodendron radicans*) can be found on many of the trees. Opposite the landfill, emergent wetlands are dominated by cattail (*Typha* sp.) with patches of common reed (*Phragmites australis*). In the upland areas are black gum, American beech (*Fagus grandifolia*), pin oak (*Quercus palustris*), and silver maple as wells as mixed grasses and forbes including foxtail (*Alopercurus* sp.) and catalpa as well as Japanese knotweed (*Polygonum cuspidatum*) and wild grape (*Vitis* sp.).

GIS digital data available through the NJDEP indicate the presence of freshwater tidal wetlands along the Lafetra Creek opposite Landfill 3 (FTMM-3) as well as deciduous wetlands further to the north and to the west of Landfill 3 (FTMM-3).

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species. Lafetra Creek, as well as the adjacent wetlands, is Conservation Rank 4 as potential bald eagle foraging habitat, indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. However, the presence of bald eagles has not been documented for this site.

2.5.1.3 LANDFILL 4 (FTMM-4)

The M-4 Landfill is located on MP in the area bounded by Avenue of Memories to the south, North Drive to the north, Mill Creek to the west, and Wilson Avenue to the east. The 1.4-acre landfill operated from 1955 until 1956. The types of materials disposed of in the landfill have been reported to include construction debris, scrap metal, ACM, vegetative waste, unwashed containers that previously held hazardous materials/wastes, outdated photographic chemicals, small quantities of outdated drugs, sludge from the STP, soot and boiler scale, incinerator ash, oil spill debris, oil filters, batteries, fluorescent tubes, and electronic components. A stream bank stabilization project was completed for this site.

Under the IRP SI, three monitoring wells were installed to evaluate groundwater quality. All samples were analyzed for TCL+30 parameters, TAL metals, and cyanide. The results are as follows:

- A single pesticide [4,4′-dichlorodiphenyltrichloroethane (4,4′-DDT)] was detected in an upgradient monitoring well at concentrations exceeding the NJDEP GWQC. As of 2002, 15 consecutive quarterly rounds of groundwater samples had been collected for subsequent analysis. Lead was initially detected in site monitoring wells at concentrations exceeding the NJDEP GWQC.

The IRP recommended NFA for the site (Versar, Inc., 2004b, 2005a). Subsequently, it was determined that the FTMM-4 Landfill required additional evaluation through the BEE process.

As part of the BEE, six sediment samples and one surface water sample were collected from Mill Creek adjacent to Landfill 4 (FTMM-4). These are discussed further in **Section 3.4.2.3**.

Mill Creek borders Landfill 4 (FTMM-4) along its west side. Both banks of Mill Creek along Landfill 4 (FTMM-4) have undergone stabilization. The site slopes gently to the west and surface runoff is discharged to Mill Creek. Groundwater underlying Landfill 4 (FTMM-4) flows to the west in the direction of Mill Creek.

As indicated on the FTMM utility maps in **Appendix K**, storm water outfalls discharge into Mill Creek in the vicinity of Landfill 4 (FTMM-4) near the northern and southern end of Landfill 4 (FTMM-4) which direct discharges from the surrounding area including the vicinity of Buildings 689, 1123, and 1221. The storm water line discharging into the northern end of Landfill 4 crosses Landfill 4 in a northwesterly direction and may act as a preferentially migration pathway for contaminants from Landfill 4 towards Mill Creek.

Landfill 4 (FTMM-4) is mostly mowed lawn with scattered large trees with grasses and forbes and small trees along Mill Creek. Along the creek are grasses and forbes with small trees; dominant vegetation is poison ivy, black cherry (*Prunus serotina*), catalpa, and goldenrod (*Solidago* sp.). To the south along the creek are Virginia creeper and wild rose, as well as pin oak and black willow (*salix nigra*). Black locust (*Robinia pseudoacacia*) and black oak (*Quercus velutina*) are present in the mowed area as well as Norway maple (*Acer platanoides*) and American bittersweet (*Celastrus scandens*) bordering the road.

No significant habitats in the vicinity of Landfill 4 (FTMM-4) are identified within GIS digital data available through the NJDEP.

2.5.1.4 LANDFILL 5 (FTMM-5)

The FTMM-5 Landfill is located just north of the FTMM-4 Landfill in the area bounded by North Drive to the south, an unpaved road south of Building 198 to the north, Wilson Avenue to the east, and Mill Creek and Parkers Creek to the west. The 3.2-acre landfill operated from 1952 until 1959. The types of materials disposed of in the landfill have been reported to include construction debris, scrap metal, ACM, vegetative waste, unwashed containers that previously held hazardous materials/wastes, outdated

photographic chemicals, small quantities of outdated drugs, sludge from the STP, soot and boiler scale, incinerator ash, oil spill debris, oil filters, batteries, fluorescent tubes, and electronic components. A stream bank stabilization project was completed for this site.

Under the IRP SI, two monitoring wells were installed to evaluate groundwater quality. All samples were analyzed for TCL+30, TAL metals, and cyanide. The results are as follows:

- PCE was detected in one monitoring well at concentrations exceeding the NJDEP GWQC. Subsequently, consecutive quarterly rounds of groundwater samples have been collected for analysis.
- Surface water samples collected under an NJPDES permit identified PCE at concentrations exceeding the NJDEP SWQC.

Under the RI, approximately 260 groundwater and soil samples were collected by means of a Geoprobe® sampling device. Following the Geoprobe® investigation, 13 additional monitoring wells were installed to further evaluate groundwater quality. At present, the extent of the PCE plume has been delineated both vertically and horizontally.

The IRP recommended NFA for near surface soil (Versar, Inc., 2004c), and a CEA was prepared for groundwater. Subsequently, it was determined that the M-5 Landfill required additional evaluation through the BEE process.

As part of the BEE, six sediment samples and one surface water sample were collected from Mill Creek adjacent to Landfill 5 (FTMM-5). These are discussed further in **Section 3.4.2.4**.

Mill Creek borders Landfill 5 (FTMM-5) along its west side. Landfill 3 (FTMM-3) lies across Mill Creek to the west, Landfill 8 (FTMM-8) is to the north, and Landfill 4 (FTMM-4) is to the south. The bank of Mill Creek along Landfill 5 (FTMM-5) has undergone stabilization. The site slopes gently to the west and surface runoff is discharged to Mill Creek. Groundwater at the Landfill 5 (FTMM-5) flows to the west to Mill Creek.

As indicated on the FTMM utility maps in **Appendix K**, there are no outfalls or discharges from FTMM into Mill Creek adjacent Landfill 5 (FTMM-5) that may serve as potential contaminant migration pathways, though there are storm water utility discharges located immediate upstream of Landfill 5 (FTMM-5) that serve to drain the surrounding roads and building areas. There are, however, storm water lines within Landfill 5 that may act as additional contaminant migration pathways for transport from Landfill 5, particularly toward Landfill 8 (FTMM-8) located to the north (**Section 2.5.1.5**).

Landfill 5 (FTMM-5) is mostly mowed lawn with scattered large trees: white oak (*Quercus alba*), red mulberry (*Morus rubra*), black gum, and red maple. Along the creek are mixed forbs and shrubs: black locust, horseweed (*Conyza* sp.), Queen Anne's lace (*Daucus carota*), black-eyed Susan (*Rudbeckia hirta*), and cone flowers (*Echinacea* sp.).

Though the GIS digital data available through the NJDEP do not indicate the presence of critical habitats at Landfill 5 (FTMM-5), the forested area to the north is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species, and is listed as Conservation Rank 4 as potential bald eagle foraging habitat, indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. However, the presence of bald eagles has not been documented for this site.

2.5.1.5 LANDFILL 8 (FTMM-8)

The FTMM-8 Landfill is located north of Buildings 692 and 697 along a bend of Parkers Creek. The 7.2-acre landfill operated from 1962 until 1981. Following closure of the FTMM-8 Landfill, all solid wastes generated at FTMM were directed off-Post to the Monmouth County Landfill. The types of materials disposed of in the landfill have been reported to include construction debris, scrap metal, ACM, vegetative waste, unwashed containers that previously held hazardous materials/wastes, outdated photographic chemicals, small quantities of outdated drugs, sludge from the STP, soot and boiler scale, incinerator ash, oil spill debris, oil filters, batteries, fluorescent tubes, and electronic components. A stream bank stabilization project was completed for this site.

Under the SI, four monitoring wells were installed to evaluate groundwater quality. All samples were analyzed for TCL+30, TAL metals, and cyanide. The results are as follows:

- Benzene and chlorobenzene were detected in downgradient monitoring wells at concentrations exceeding the NJDEP GWQC.

Under an enhanced SI phase, seven additional monitoring wells were installed to further evaluate groundwater quality. The results are as follows:

- Benzene and chlorobenzene were detected in four downgradient monitoring wells at concentrations exceeding the NJDEP GWQC.

Contaminant concentrations are consistent with those identified during the IRP SI phase and subsequent quarterly long-term monitoring results for surface water and groundwater at the FTMM-8 Landfill.

PCB soil contamination was identified at one location within the FTMM-8 Landfill. A second RI was also completed that evaluated the potential for environmental contaminants being present within the existing landfill cover material.

The IRP recommended NFA for near surface soil (Versar, Inc., 2004d). For subsurface soils, the DPW incorporated a document equivalent to a DER into the FTMM Installation Master Plan for PCB soil contamination. A CEA was prepared for groundwater. Subsequently, it was determined that the FTMM-8 Landfill required additional evaluation through the BEE process.

As part of the BEE, 10 sediment samples and two surface water samples were collected from Parkers Creek adjacent to Landfill 8 (FTMM-8), and one surface water and one sediment sample were collected upstream of Landfill 8 (FTMM-8) on the North Branch Parkers Creek. These are discussed further in **Section 3.4.2.5**.

Parkers Creek borders Landfill 8 (FTMM-8) along its west, north, and east sides. The bank of Parkers Creek along Landfill 8 (FTMM-8) has undergone stabilization and a service road lies adjacent to Parkers Creek. The site slopes sharply toward Parkers Creek and surface runoff is discharged to Parkers Creek. Groundwater underlying Landfill 8 (FTMM-8) flows to the north-northwest to Parkers Creek.

As indicated on the FTMM utility maps in **Appendix K**, storm water outfalls discharge into Parkers Creek at the western end of Landfill 8 (FTMM-8), as well as to the east of Landfill 8, which may direct discharges from the surrounding area, including Landfill 5 (**Section 2.5.1.4**), to Parkers Creek. Storm water utility lines in the south and eastern end of Landfill 8 may provide additional contaminant migration pathways from Landfill 8 including towards Parkers Creek to the west.

Common reed dominates the emergent wetlands opposite Parkers Creek from Landfill 8 (FTMM-8). The upland area is heavily wooded. Dominant species are cedar (*Chamaecyparis* sp.), sweet gum (*Liquidambar styraciflua*), black locust, Japanese knotweed, staghorn sumac (*Rhus typhina*), foxtail grass, Asiatic dayflower (*Commelina communis*), pin oak, common mullein (*Verbascum thapsus*), boxwood (*Buxus* sp.), black willow, poison ivy, silver maple, yellow birch (*Betula alleghaniensis*), Norway maple, red oak, and tree of heaven (*Ailanthus altissima*).

GIS digital data available through the NJDEP indicate the presence of Phragmites dominated wetlands along Parkers Creek opposite Landfill 8 (FTMM-8), with deciduous shrub/scrub wetlands and deciduous wetlands present further from the landfill. Landfill 8 (FTMM-8) is identified as coastal forest habitat.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland areas across Parkers Creek and the forested areas on Landfill 8 (FTMM-8) are habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species. Parkers Creek and the wetlands and forested areas are listed as Conservation Rank 4 as potential bald eagle foraging habitat, indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. However, the presence of bald eagles has not been documented for this site.

2.5.1.6 LANDFILL 12 (FTMM-12)

The M-12 Landfill is located on the MP, on the south side of Husky Brook, west of Murphy Drive. Dates of operation for the 7.1-acre landfill are unknown. The types of materials disposed in the landfill have been reported to include construction debris, scrap metal, ACM, vegetative waste, unwashed containers that previously held hazardous materials/wastes, outdated photographic chemicals, small quantities of outdated drugs, sludge from the STP, soot and boiler scale, incinerator ash, oil spill debris, oil filters, batteries, fluorescent tubes, and electronic components. Metal, concrete, and other types of landfill debris had previously been observed protruding from the stream bank along Husky Brook. The bank has since undergone stabilization, and debris no longer protrudes from the stream bank..

Under the IRP SI, three monitoring wells were installed to evaluate groundwater quality. All samples were analyzed for TCL+30, TAL metals, and cyanide. The results are as follows:

- Arsenic, cadmium, mercury, and lead were detected in site monitoring wells at concentrations less than the NJDEP GWQC.

An RI of site groundwater has been completed and eight additional monitoring wells have been installed at the site. The results are as follows:

- Arsenic was consistently detected in two monitoring wells at concentrations exceeding the NJDEP GWQC.

An RI that evaluated the potential for environmental contaminants being present within the existing landfill cover material was completed.

The IRP recommended NFA for near surface soil (Versar, Inc., 2003), and a CEA was submitted for groundwater. Subsequently, it was determined that the FTMM-12 Landfill required additional evaluation through the BEE process.

As part of the BEE, nine sediment samples and two surface water samples were collected from Husky Brook adjacent to Landfill 12 (FTMM-12), one surface water sample and one sediment sample were collected downstream of Landfill 12 (FTMM-12) on Oceanport Creek, one surface water and two sediment samples were collected immediately upstream of Landfill 12 (FTMM-12), and one surface water sample and one sediment sample were collected further upstream. These are discussed further in **Section 3.4.2.6**.

Husky Brook borders Landfill 12 (FTMM-12) along its north side and a small tributary to Husky Brook divides Landfill 12 (FTMM-12) into an east and a west section. The bank of Husky Brook along Landfill 12 (FTMM-12) has undergone stabilization. The site is generally flat and groundwater underlying Landfill 12 (FTMM-12) flows to the north to Husky Brook.

As indicated on the FTMM utility maps in **Appendix K**, several storm water outfalls discharge into Husky Brook, as well as the small tributary to Husky Brook, in the vicinity of Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14) from the surrounding areas. Several of the storm water utility lines cross through Landfill 12 and may act as preferential contaminant migration pathways for transport from Landfill 12 towards Husky Brook.

The riparian zone on both banks of Husky Brook is characterized as hardwoods and shrubs and contains groundsel bush, locust trees, black cherry, common wormwood (*Artemisia vulgaris*), bayberry, black oak, milkweed, horseweed, goldenrod, eastern cottonweed, staghorn sumac, Queen Anne's lace, red cedar, marsh elder, silver maple, and pin oak. Some common reed is present nearest Wallington Avenue-Murphy Drive. The upland area south of Husky Brook is old field habitat and includes common reed and tall grasses, mugwort, goldenrod, Queen Anne's lace, vetch, as well as black locust, marsh elder, groundsel bush, wild grape, staghorn sumac, bayberry, silver maple, crab apple, and gray birch.

GIS digital data available through the NJDEP indicate the presence of deciduous wooded wetlands along both banks of Husky Brook in the western half of Landfill 12 (FTMM-12) as well as along the small tributary that divides Landfill 12 (FTMM-12). Based on on-site observations, these wetlands are less extensive than indicated through the NJDEP data.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland areas along Husky Brook and the small tributary are habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species. To the east of Landfill 12 (FTMM-12), on the opposite side of Wallington Avenue-Murphy Drive, the emergent wetland areas are habitat Rank 4 for the Least Tern; this rank indicates at least one or more occurrences of a state endangered species. Husky Brook, as well as the wetlands and the forested areas of Landfill 12 (FTMM-12), is listed as Conservation Rank 4 as potential bald eagle foraging habitat, indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. However, the presence of bald eagles has not been documented for this site.

2.5.1.7 LANDFILL 14 (FTMM-14)

The M-14 Landfill is located on the MP, on the north side of Husky Brook, west of Murphy Drive. The 6.9-acre landfill operated from 1965 until 1966. The types of materials disposed of in the landfill have been reported to include construction debris, scrap metal, ACM, vegetative waste, unwashed containers that previously held hazardous materials/wastes, outdated photographic chemicals, small quantities of outdated drugs, sludge from the STP, soot and boiler scale, incinerator ash, oil spill debris, oil filters, batteries, fluorescent tubes, and electronic components. Metal, concrete, and other types of landfill debris were previously observed protruding from the stream bank along Husky Brook. The bank has since undergone stabilization and debris no longer protrudes from the stream bank.

Under the IRP SI, three monitoring wells were installed to evaluate groundwater quality. In addition, surface water samples were collected from Husky Brook. All samples were analyzed for TCL+30, TAL metals, and cyanide. The results are as follows:

- Lead was detected in one downgradient monitoring well above NJDEP GWQC.

As of 2002, 11 consecutive quarterly rounds of groundwater samples had been collected for subsequent analysis. The results are as follows:

- Arsenic was detected in one site monitoring well at concentrations exceeding the NJDEP GWQC.
- Lead and *cis*-1,2-dichloroethene were detected in surface water samples less than the NJDEP SWQC.

The IRP recommended NFA for the site (Versar, Inc., 2004e). Subsequently, it was determined that the FTMM-14 Landfill required additional evaluation through the BEE process.

As part of the BEE, 10 sediment samples and two surface water samples were collected from Husky Brook adjacent to Landfill 14 (FTMM-14), one surface water sample and one sediment sample were collected downstream of Landfill 14 (FTMM-14) on Oceanport Creek, one surface water and two sediment samples were collected immediately upstream of Landfill 14 (FTMM-14), and one surface water sample and one sediment sample were collected further upstream. These are discussed further in **Section 3.4.2.7**.

Husky Brook borders Landfill 14 (FTMM-14) along its south side. An access road/walking trail lies adjacent to Husky Brook for most of the length of Landfill 14 (FTMM-14) before crossing over Husky Brook. The bank of Husky Brook along Landfill 14 (FTMM-14) has undergone stabilization. The site is generally flat and groundwater underlying Landfill 14 (FTMM-14) flows to the south to Husky Brook.

As indicated on the FTMM utility maps in **Appendix K**, several storm water outfalls discharge into Husky Brook, as well as the small tributary to Husky Brook, in the vicinity of Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14) from the surrounding areas. Though several of the storm water utility lines cross through Landfill 12 and may act as preferential contaminant migration pathways for transport from Landfill 12 towards Husky Brook, the storm water and gas lines located in the northern section of Landfill 14 may act as contaminant migration pathways from Landfill 14 to the east, west, and north, away from Husky Brook.

The riparian zone on both banks of Husky Brook is characterized as hardwoods and shrubs and contains groundsel bush, locust trees, black cherry, common wormwood, bayberry, black oak, milkweed,

horseweed, goldenrod, eastern cottonweed, staghorn sumac, Queen Anne's lace, red cedar, marsh elder, silver maple, and pin oak. Some common reed is present nearest Wallington Avenue-Murphy Drive. The area to the east and north of the trail is mostly mixed tall grasses. To the west of the field area is a heavily wooded section; this area contains boxwood, sweetgum, pin oak, black locust, goldenrod, milkweed, pokeweed, wild rose, black cherry, poison ivy, Asiatic bittersweet, sassafras, and black oak. An emergent wetland area is present bordering Husky Brook and is characterized by cattail, smartweed, and vibernum. The far western section is maintained lawn with isolated trees.

GIS digital data available through the NJDEP indicate the presence of deciduous wooded wetlands along both banks of Husky Brook in the western half of Landfill 14 (FTMM-14) as well as along the small tributary that divides Landfill 12 (FTMM-12). Based on on-site observations, these wetlands are less extensive than indicated through the NJDEP data.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland areas along Husky Brook and the small tributary are habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species. To the east of Landfill 14 (FTMM-14), on the opposite side of Wallington Avenue-Murphy Drive, the emergent wetland areas are habitat Rank 4 for the Least Tern; this rank indicates at least one or more occurrences of a state endangered species. Husky Brook, as well as the wetlands and the forested areas of Landfill 14 (FTMM-14), is listed as Conservation Rank 4 as potential bald eagle foraging habitat, indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. However, the presence of bald eagles has not been documented for this site.

2.5.1.8 WATER TANK (FTMM-15)

The 1980 Installation Assessment (IA) report (USATHAMA, 1980) identified the 0.3-acre FTMM-15 site as a potential Area of Concern. A 500,000-gallon AST is located at the FTMM-15 site. The tank, built in 1941, is of steel construction and was always used for the storage of potable water. The tank is located in the northeast section of the MP next to Parkers Creek, a tributary of the Shrewsbury River.

Under the IRP SI, environmental contaminants in the form of pesticides and heavy metals were identified in site soil. The results are as follows:

- Two pesticides, 4,4′-dichlorodiphenyldichloroethylene (4,4′-DDE) and 4,4′-DDT, were identified at concentrations exceeding the NJDEP Residential Direct Contact Soil Cleanup Criteria. It was determined that the pesticide contamination was the result of past over spraying practices.
- Three heavy metals—cadmium, lead, and zinc—were also identified at concentrations exceeding the NJDEP Residential Direct Contact Soil Cleanup Criteria.

Under the IRP RI, environmental sampling confirmed that the contaminants of concern had migrated horizontally towards Parkers Creek. A corrective action was implemented at the FTMM-15 site involving the removal of the contaminated soil from the site, thereby eliminating the contaminants of concern. Final remedial activities were completed in November of 1999. An RA report will be submitted to NJDEP with a NFA recommendation from the Army.

The IRP recommended NFA for the site. Subsequently, it was determined that FTMM-15 required additional evaluation through the BEE process.

As part of the BEE, four sediment samples and three surface water samples were collected from Parkers Creek adjacent to FTMM-15, of which one surface water sample and one sediment sample were collected immediately downstream of FTMM-15 and one surface water sample and one sediment sample were collected immediately upstream of FTMM-15. These are discussed further in **Section 3.4.2.8**.

Parkers Creek borders FTMM-15 along its north side. Parkers Creek is a wide, open water tidal water body in this area. The banks along Parkers Creek are steep and groundwater underlying FTMM-15 flows to the north to Parkers Creek.

The area of FTMM-15 immediately surrounding the water tank is maintained lawn. The banks along Parkers Creek are steep and vegetated. Vegetation includes poison ivy, pin oak, alder, Japanese knotweed, black willow, staghorn sumac, black locust, rose, and Norway maple.

No significant habitats in the vicinity of FTMM-15 are identified within GIS digital data available through the NJDEP.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that Parkers Creek is listed as Conservation Rank 4 as potential bald eagle foraging habitat, indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. However, the presence of bald eagles has not been documented for this site.

2.5.1.9 PESTICIDE STORAGE, BUILDING 498 (FTMM-16)

A former pesticide storage and mixing area was located at the 0.12-acre FTMM-16 site on the MP. The facility (Building 498) is a brick structure and was constructed in 1939. Pesticide management was conducted at the site until the late 1950s. Following this, the operation was moved to Building 65.

Under the IRP SI, a total of 10 pesticide compounds were detected greater than laboratory quantitative limits in site soil. Five pesticide compounds were found at concentrations exceeding the NJDEP Residential Direct Contact Soil Cleanup Criteria.

Environmental sampling confirmed that the contaminants were migrating horizontally in the direction of Oceanport Creek. The creek is located approximately 250 feet downgradient of the FTMM-16 site. A corrective action was implemented to remove the contaminated soil from the site, and final remedial activities were completed in February of 1999.

The IRP recommended a NFA for the site. Subsequently, it was determined that FTMM-16 required additional evaluation through the BEE process.

As part of the BEE, four sediment samples and three surface water samples were collected from Oceanport Creek near FTMM-16, of which one surface water sample and one sediment sample were collected downstream of FTMM-16, and one surface water sample and one sediment sample were collected upstream of FTMM-16. These are discussed further in **Section 3.4.2.9**.

Site FTMM-16 is approximately 100 yards north of Oceanport Creek which is a wide, open water tidal water body in this area. Immediately south of Site FTMM-16 is a marina and the banks of Oceanport Creek are contained by bulkheads. West of the marina and east of Oceanport Avenue the bank slopes gently to Oceanport Creek. Groundwater underlying FTMM-16 flows to the south to Oceanport Creek.

The area immediately surrounding the FTMM-16 site is maintained lawn. Along Oceanport Creek are buildings, structures, and pavement associated with the marina. West of the marina is an emergent wetland area of sedges and rushes dominated by cattails and common reeds.

GIS digital data available through the NJDEP indicate the presence of low marsh saline wetlands west of the marina and east of Oceanport Avenue.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area along Oceanport Creek is habitat Rank 4 for the Least Tern; this rank indicates at least one or more occurrences of a state endangered species. Oceanport Creek, as well as the wetlands, is listed as Conservation Rank 4 as potential bald eagle foraging habitat, indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. However, the presence of bald eagles has not been documented for this site.

2.5.1.10 FORMER TRAINING AREA/LANDFILL (FTMM-18)

The FTMM-18 site is a former training area utilized by the Army Signal School and other Army units. The FTMM-18 site is located on the MP, between Parkers Creek to the north and Buildings 283, 289, 293, and 294 to the south. The 4.85-acre site is partially paved and the remaining portion is an open sandy area. A tidal marsh adjoins the site. The 1980 IA report (USATHAMA, 1980) identifies diesel and gasoline generators and military vehicles being used at this site. The report states that several fuel spills occurred as a result of these activities. A stream bank stabilization project was completed for this site.

Under the IRP SI, nine soil borings in a grid pattern were drilled at the site. Two soil samples were collected from each boring, either 6 to 12 inches or 12 to 18 inches below the bottom of the asphalt (to avoid bias) and either from intervals with visible staining or from just above the water table. Soil samples were analyzed for volatile organic compounds (VOCs) and total petroleum hydrocarbons (TPH). The results are as follows:

- No compounds of concern were detected at concentrations exceeding the NJDEP Direct Residential Contact Soil Cleanup Criteria.

Two soil boring locations were converted to monitoring wells in order to evaluate groundwater quality. One existing monitoring well was also used to evaluate groundwater quality. Groundwater samples were analyzed for TCL+30, TAL metals, and TPH. The results are as follows:

- Arsenic, lead, and 4,4′-dichlorodiphenyldichloroethane (4,4′-DDD) were detected in downgradient monitoring wells at concentrations exceeding the NJDEP GWQC.

Under an enhanced SI under the IRP, three additional monitoring wells were installed to further evaluate groundwater quality. Subsequently, consecutive quarterly rounds of groundwater samples have been collected for analysis. The results are as follows:

- Benzene and lead were detected in four of the six site monitoring wells at concentrations exceeding the NJDEP GWQC.

A geophysical survey was also conducted under the SI to determine whether the M-18 site was a former landfill. The data gathered from geophysical survey identified waste materials buried at the site. Subsequent trenching work confirmed the presence of construction debris.

An RI that evaluated the potential for environmental contaminants being present within the existing landfill cover material was completed. This resulted in a NFA determination regarding the landfill cover material.

The IRP recommended NFA for near surface soil (Versar, Inc., 2004f), and a CEA was submitted for groundwater. Subsequently, it was determined that FTMM-18 required additional evaluation through the BEE process.

As part of the BEE, four sediment samples and one surface water sample were collected from Parkers Creek adjacent to Site FTMM-18, and one surface water sample and one sediment sample were collected immediately upstream of Site FTMM-18. These are discussed further in **Section 3.4.2.10**.

Parkers Creek borders Site FTMM-18 along all but its southern boundary. At the western end, Parkers Creek is narrow (approximately 10 yards) but then opens to a wide (approximately 100 yard) open water tidal area at the eastern end. The bank of Parkers Creek on the western side of Site FTMM-18 has undergone stabilization. The central portion of the site is generally flat with greater slopes to the north and east and groundwater underlying Site FTMM-18 flows toward Parkers Creek.

As indicated on the FTMM utility maps in **Appendix K**, several storm water utility lines may discharge into Parkers Creek in the vicinity of Site FTMM-18. These storm water lines drain areas south and east of Site FTMM-18 including Buildings 291 to 296 and Building 283 (FTMM-61) in Parcel 49 (**Sections 2.5.1.13 and 2.5.1.15**). Several of the storm water utility lines cross through Site FTMM-18 in a northerly direction and may act as preferential contaminant migration pathways for transport from Site FTMM-18 towards Parkers Creek.

The western and central portion of Site FTMM-18 is maintained lawn with some hardwoods and small pockets of emergent wetland dominated by common reed. The western border, adjacent to Parkers Creek, contains shrubs and small hardwoods. Some pines are planted in this area and an active Osprey platform is present. Bordering Parkers Creek to the north and east are extensive emergent wetlands dominated by common reed in the high marsh and sedge-reed wetlands in the low marsh. The northeastern and eastern portions also contain forested wetlands sloping sharply to the emergent wetlands and Parkers Creek. Common vegetation at Landfill 18 (FTMM-18) includes black locust, black cherry, northern boxwood, Asian bittersweet, wild grape, marsh elder, goldenrod, red cedar, poison ivy, tree of heaven, red mulberry, and bayberry.

GIS digital data available through the NJDEP indicate the presence of Phragmites dominated coastal wetlands and high marsh saline wetlands adjacent to Parkers Creek. Based on observations, there is also an area of deciduous wetlands between the maintained lawns and the emergent wetlands, and a small emergent wetlands within the area of maintained lawn.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland areas along Parker Creek are habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species. Parkers Creek, as well as the associated wetlands, is listed as Conservation Rank 4 as potential bald eagle foraging habitat, indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. However, the presence of bald eagles has not been documented for this site.

2.5.1.11 PRE-1941 FORMER SANITARY SEWAGE TREATMENT PLANT (FTMM-20)

Site FTMM-20 is the location of the former Sanitary STP adjacent to Parkers Creek in an area north of Allen Avenue in approximately the same location as current Building 259. Though the date of construction and period of operation are unknown, it is believed that this STP operated until the second MP STP came on line in 1941.

As part of the IRP SI (Weston, 1995), one sediment sample was collected from Parkers Creek at the former wastewater discharge point. The results from this sample are as follows:

- Arsenic, cadmium, chromium, and zinc were detected at concentrations exceeding NJDEP sediment criteria and background levels.

Additional sediment samples were collected during the IRP RI to delineate the extent of the metal contamination at the site (Versar, Inc., 2004g). Sediment samples at three depths at seven locations in the vicinity of the former wastewater discharge point, as well as three locations northwest and away from the influence of the STP discharge were collected. The RI results are as follows:

- Heavy metal concentrations at the site were consistent with background metal concentrations from nearby, undisturbed locations.

The RI Report was submitted to the NJDEP in 2004 requesting a NFA determination. Subsequently, it was determined that the FTMM-20 Landfill required additional evaluation through the BEE process.

As part of the BEE, two sediment samples and two surface water samples were collected from Parkers Creek adjacent to Site FTMM-20. These are discussed further in **Section 3.4.2.11**.

The majority of the area of Site FTMM-20 is pavement and maintained lawns sloping towards Parkers Creek to the northwest. Adjacent to Parkers Creek the banks are steep and dominated by hardwoods and shrubs. Emergent wetlands exist at the bottom of the slope dominated by common reed. Groundwater in the vicinity of Site FTMM-20 is to the northwest and toward Parkers Creek.

No significant habitats in the vicinity of Site FTMM-20 are identified within GIS digital data available through the NJDEP.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that Parkers Creek is listed as Conservation Rank 4 as potential bald eagle foraging habitat, indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. However, the presence of bald eagles has not been documented for this site.

2.5.1.12 BUILDING 1122, UNKNOWN DISCHARGE (FTMM-59)

Site FTMM-59 is located on Alexander Avenue, adjacent to Mill Creek on the MP. The 0.34-acre Site FTMM-59 contains Building 1122, which is also identified as part of the 1.54-acre Parcel 43. Site FTMM-59 and ECP Parcel 43 are addressed in this BEE as one site – FTMM-59.

Building 1122 is located on the MP and houses a modern “do-it-yourself” vehicle repair shop. Building 1122 is a single story slab building approximately 11,600 square feet in size. Furniture paint stripping was reported in the Woodworking Craft Shop section of Building 1122 in 1973. Currently, all vehicle repairs are done by FTMM personnel and are performed inside the building. Degreasing solvents

are used, which generates hazardous waste. Pneumatic lifts are present. The 2006 Stormwater Pollution Prevention Plan states, "Floor drains located near the pneumatic lifts, have been closed off." Used oil is collected in a 55-gallon drum stored inside the shop. When filled, the contents are pumped into a 995-gallon, double-walled AST located between the repair shop and the car wash (Building 1124). The floors drains, previously connected to the car wash facility in Building 1124, were sealed in June 2007. The enclosed car wash facility is located east of the repair shop. All wash water is recycled and reused and an active oil/water separator is in place. A 1993 renovation plan, which details the replacement of the floor drains, shows that the drains were connected to the sanitary sewer system. A former oil/water separator was associated with this building.

In 2007, as part of the ECP SI (Shaw, 2008), sediment, soil gas, and indoor air samples were collected to assess environmental conditions on Parcel 43. Six sediment samples were collected from three sample borings located along the south bank of Mill Creek at potential discharge locations adjacent to Building 1122. Mill Creek is a tidally influenced water body in this portion of the facility. At each sample location, two samples were collected: one from the 0- to 6-inch below ground surface (bgs) interval and the other from the 12- to 18-inch bgs interval. No visual or olfactory evidence of impacted sediment was noted. All samples collected were analyzed for TCL+30 (without pesticides) and TAL metals. The results are as follows:

A total of 11 semivolatile organic compounds (SVOCs), 2 VOCs, and 18 metals were detected in sediment samples.

- Eight SVOCs [anthracene, benzo(*a*)anthracene, benzo(*a*)pyrene, benzo(*k*)fluoranthene, chrysene, fluoranthene, phenanthrene, and pyrene] were detected at concentrations that exceeded the salt water sediment criteria in two samples.
- The two VOCs were detected at concentrations less than the salt water sediment criteria .
- Eight of 18 metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc) were detected at concentrations that exceeded the salt water sediment criteria in all six samples.

Five soil gas samples (including one duplicate) and an indoor air sample were collected in and around Building 1122 to evaluate vapor intrusion. Samples were analyzed for VOCs. The results are as follows:

Twenty-one VOCs were detected in all five soil gas samples. A total of 25 VOCs were detected in the indoor air sample.

- Of the 21 VOCs detected in soil, 2 (PCE and TCE) exceeded the NJDEP generic vapor intrusion non-residential indoor air screening levels.
- Of the 25 VOCs detected in indoor air, 2 (benzene and dichloromethane) exceeded the NJDEP generic vapor intrusion screening levels.

The DPW removed one UST located next to Building 1122 (a self-help vehicle repair shop) in June 1994. The UST was a single wall steel tank used for storing No. 2 fuel oil. During tank closure activities, a petroleum discharge to site soil and groundwater was identified. Upon further investigation, the DPW determined that a second UST was removed from the same area during the late 1980s. Discussions with site personnel indicated that the tank was removed because of inventory control problems. It is assumed that the site was not fully remediated during the first UST closure.

In accordance with NJDEP UST Site Assessment activity requirements, all petroleum contaminated soils have been removed and disposed. In addition, the DPW has installed two monitoring wells to determine any adverse impact to groundwater. The results are as follows:

- TCE was initially detected at concentrations exceeding the NJDEP GWQC.

Subsequently, consecutive quarterly rounds of groundwater samples have been collected for analysis. The results are as follows:

- TCE continues to be quantified in one of the two site monitoring wells at concentrations exceeding the NJDEP GWQC.

Surface water sampling points (Mill Creek) downstream from the site and are currently being monitored.

The IRP recommended a CEA for groundwater, and a BEE was recommended for Parcel 43 in the ECP SI.

As part of the BEE, two surface water samples were collected from Mill Creek adjacent to Building 1122, FTMM-59 and Parcel 43. These are discussed further in **Section 3.4.2.12**.

Mill Creek borders Building 1122, FTMM-59, and Parcel 43 along its north side. The bank of Mill Creek along this area has not undergone stabilization. FTMM-59 and Parcel 43 is mostly paved with small patches of mowed and maintained lawns. The site slopes gently to the north and the banks immediately adjacent to Mill Creek are steep. Surface runoff is discharged to Mill Creek. Groundwater underlying FTMM-59 and Parcel 43 flows to the north-northwest to Mill Creek.

As indicated on the FTMM utility maps in **Appendix K**, a storm water outfall may discharge into Mill Creek to the east of Building 1122. This storm water line may drain the area of Building 1122 and Parcel 43 as well as buildings to the east. Storm water and gas lines located around Building 1122 may also act as contaminant migration pathways from Parcel 43 away from Mill Creek.

The vegetative cover along Mill Creek adjacent to FTMM-59 and Parcel 43 is mostly hardwoods with a thick understory. Common vegetation includes black jack oak, black cherry, black locust, pin oak, poison ivy, sassafras, jewelweed, greenbrier, Japanese knotweed, crab apple, and wild rose.

GIS digital data available through the NJDEP indicate the presence of deciduous wetlands along Mill Creek in the area of Building 1122, FTMM-59, and Parcel 43.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species.

2.5.1.13 BUILDING 283, LEAKING UST, GASOLINE (FTMM-61)

Site FTMM-61 is located off of Sherrill Avenue in the northern section of the MP and encompasses an area of less than 0.2 acre. Because FTMM-61 is within Parcel 49, the two areas are addressed in this BEE as one site: FTMM-61. On August 28, 1997, a 3,000-gallon steel UST (No. 0081533-229) used to store gasoline was removed. The UST was located within the courtyard of Building 283. Following its removal, the UST was inspected and numerous holes were noted. Soils within the tank excavation that corresponded with the locations of the holes in the tank were dark in color and appeared to be contaminated. Based on site assessment activities, it was concluded that a discharge to the environment had occurred. The NJDEP hotline was notified and the site was assigned Case # 97-8-28-1330-33. Approximately 400 cubic yards of contaminated soil was removed and disposed off-site in accordance with NJDEP requirements. Groundwater was encountered at 12.0 feet below grade and a sheen was observed on the groundwater. In response to this observation, one groundwater sample was collected. The sample was analyzed for VOCs to include a calibration for xylenes plus 15 tentatively identified compounds (TICs). The results are as follows:

- Benzene, ethylbenzene, toluene, and lead were detected at concentrations exceeding the NJDEP GWQC.

Subsequently, consecutive quarterly rounds of groundwater samples have been collected for analysis. The results are as follows:

- Benzene was detected at a concentration at concentrations exceeding the GWQC.
- Ethyl benzene was detected at a concentration at concentrations exceeding the GWQC.
- Toluene was detected at a concentration at concentrations exceeding the GWQC.
- Lead was detected at a concentration at concentrations exceeding the GWQC.

The IRP recommended that a CEA for groundwater be submitted. Subsequently, the site was considered to require additional evaluation through the BEE process.

As part of the BEE, two surface water samples were collected from Parkers Creek adjacent to Parcel 49 and Building 283. These are discussed further in **Section 3.4.2.13**.

Parkers Creek borders FTMM-61 and Parcel 49 along its north side. The bank of Parkers Creek adjacent to FTMM-61 and Parcel 49 has not undergone stabilization and is steep and well-vegetated. Parcel 49 is mostly buildings and pavement with small portions of mowed and maintained lawns. The site slopes gently to the north and surface runoff is discharged to Parkers Creek. Groundwater underlying Parcel 49 flows to the north toward Parkers Creek.

As indicated on the FTMM utility maps in **Appendix K**, several storm water utility lines may discharge into Parkers Creek in the vicinity of Building 283 and Parcel 49 (**Section 2.5.1.15**). These storm water lines drain the areas around Building 283 and Parcel 49. Several of the storm water utility lines cross through Site FTMM-18 in a northerly direction and may act as preferential contaminant migration pathways for transport from Parcel 49 to Site FTMM-18 and Parkers Creek. Two storm water utility lines discharge northeast of Building 283 directly into Parkers Creek. Storm water, gas, and water lines located around Building 283 and Parcel 49 may also act as contaminant migration pathways from Parcel 49 and not directly to Parkers Creek.

The vegetative cover of the wooded area along Parkers Creek adjacent to FTMM-61 and Parcel 49 contains red oak, white oak, black locust, and black gum.

GIS digital data available through the NJDEP indicate the presence of mixed high marsh saline wetlands and Phragmites dominated coastal wetlands along Parkers Creek on the western portion of FTMM-61 and Parcel 49.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species. In addition, Parkers Creek is listed as Conservation Rank 4 as potential bald eagle foraging habitat, indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. However, the presence of bald eagles has not been documented for this site.

2.5.1.14 BUILDING 1150 (PARCEL 39)

Parcel 39 is located in the southwestern portion of the MP and encompasses the area between Building 1150 (Vail Hall) and Mill Creek, approximately 0.5 acre. Building 1150 is utilized for administrative purposes. Within the basement is a large Uninterruptible Power Supply Room, emergency generator, floor drains, and a sump pump strictly for high water table events (discharges to basin behind the building and ultimately to Mill Creek). Film developing activities formerly occurred in the basement of the building.

In 2007, as part of an ECP SI (Shaw, 2008), sediment and surface soil were collected to assess environmental conditions on Parcel 39.

A total of four sediment samples were collected from two sample borings located along the north bank of Mill Creek adjacent to Building 1150. Samples were collected from deposition locations immediately downgradient of the drainage basin located directly behind Building 1150. At each sample location, two samples were collected: one from the 0- to 6-inch bgs interval and the other from the 18- to 24-inch bgs interval. No visual or olfactory evidence of impacted sediment was noted. All samples collected were analyzed for TCL+30 (without pesticides) and TAL metals. The results are as follows:

A total of 9 SVOCs and 18 metals were detected in Parcel 39 sediment samples.

- Six [benzo(*a*)anthracene, benzo(*a*)pyrene, chrysene, fluoranthene, phenanthrene, and pyrene] of the nine SVOCs were detected at concentrations that exceeded the freshwater comparison criteria in two samples.
- Arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc were detected at concentrations that exceeded the freshwater comparison criteria in all four samples.

Based upon the resulting data, the ECP SI recommended NFA for soil within Parcel 39.

One surface soil sample was collected from one boring located below an outfall on the north bank of Mill Creek adjacent to Building 1150. The outfall is the end of an underground terracotta pipe that leads from the direction of Building 1150. A sample was collected in order to determine if any contamination exists from potential historical discharges from Building 1150. The surface soil sample for non-VOC analysis was collected from the 0- to 6-inch interval bgs, and the soil sample for VOC analysis was collected from the 18- to 24-inch bgs interval. No visual or olfactory evidence of soil contamination was noted. All samples collected were analyzed for TCL+30 (without pesticides) and TAL metals. The results are as follows:

- A total of 4 SVOCs and 18 metals were detected at concentrations less than the non-residential and impact to groundwater comparison criteria in the Parcel 39 surface soil sample.

Based upon the resulting data, the ECP SI recommended that a BEE be conducted for surface water and sediment at Parcel 39.

As part of the BEE, three sediment samples and one surface water sample were collected from Mill Creek adjacent to Parcel 39. Parcel 39 is on the opposite bank of Mill Creek from Landfill 2 (FTMM-2) and these samples were also collected as part of the Landfill 2 investigation. These are discussed further in **Section 3.4.2.14**.

Mill Creek borders Parcel 39 along its south side. The bank of Mill Creek along Parcel 39 has not undergone stabilization, though the opposite bank along Landfill 2 has been stabilized. Parcel 39 consists mostly of buildings and pavement with some mowed and maintained lawns. The site slopes gently to the south and the banks to Mill Creek are steep; surface runoff is discharged to Mill Creek. Groundwater underlying Parcel 39 flows to the south towards Mill Creek.

As indicated on the FTMM utility maps in **Appendix K**, several storm water outfalls discharge into Mill Creek from the vicinity of Building 1150 and Building 1152 located in Parcel 39 located north of Mill Creek from Landfill 2 (**Section 2.5.1.1**), and these storm water utility lines may act as preferential contaminant migration pathways towards Mill Creek.

Within the lawn areas are tulip trees and black gum. Near Mill Creek, the vegetative cover includes Norway maple, silver maple, black cherry, Asiatic bittersweet, Japanese knotweed, poison ivy, pignut hickory (*Carya glabra*), black willow, black gum, Asiatic dayflower, and burning bush (*Euonymus alata*).

GIS digital data available through the NJDEP indicate the presence of deciduous wetlands and herbaceous wetlands along Mill Creek.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the forested wetland area along Mill Creek adjacent to Parcel 39 is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species.

2.5.1.15 BUILDINGS 283, 288, 291, 292, 293, 295 (ECP PARCEL 49)

Parcel 49 encompasses the buildings associated with the former Squier Laboratory and other facilities with similar operational histories in the north-central portion of the MP and incorporates an area of approximately 4 acres. The Squier Laboratory Complex included existing Buildings 283, 285, 288, 292, 293, and 298, and former Buildings S-5, S-6, S-6 Annex, S-9, S-10, S-11, S-12, and S-15. Buildings 291, 294, and 295, and former Buildings 289, 290, L-3, T-45, X-9, and X-7 have a similar operational history and are included in Parcel 49 along with the Squier Laboratory buildings. Environmental concerns associated with Squier Laboratory operations include the use of chemicals, solvents, radioisotopes, and metals when waste handling procedures may not have been sufficiently protective to preclude a release to the environment.

A corollary investigation of the historical use of radioactive materials (RAM) was conducted by Cabrera during the Phase I ECP. A Special Investigation Report issued in 1951 for the Squier Signal Laboratory Director discussed a wipe test performed on samples of aluminum covered with polonium

lacquer (approximately 230 microcuries) to ensure that no hazard was present at Building 283. Building 292 serves as storage space for the communications-electronics museum. This storage space contains or contained a Chinese radio and a vacuum tube where radiological commodities were identified with radiological readings above background levels, and radium-contaminated components were found in a posted radioactive storage locker. This storage space once contained 65 items containing RAM, but numerous non-radioactive items have since been removed.

In 2007, as part of the ECP SI (Shaw, 2008), sediment, soil, and groundwater samples were collected to assess environmental conditions on Parcel 49.

Seven (including one duplicate) sediment samples were collected from three sample borings located along the south bank of Parkers Creek. Parkers Creek is a tidally influenced water body in this portion of the facility. Samples were collected in order to determine if previous discharges from former septic and sump systems associated with the Squier Complex have impacted sediment within Parkers Creek. At each sample location, two samples were collected; one from the 0- to 6-inch bgs interval, and the other from the 18- to 24-inch bgs interval. No visual or olfactory evidence of impacted sediment was noted. All samples collected were analyzed for TCL+30 (without pesticides), TAL metals, and cyanide. The results are as follows:

A total of 10 SVOCs, 1 VOC, and 20 metals were detected in Parcel 49 sediment samples.

- All 10 SVOCs and the 1 VOC (acetone) were detected at concentrations less than the saltwater sediment criteria.
- Of the 20 metals, 9 (arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc) were detected at concentrations that exceeded the saltwater sediment criteria in all seven sediment samples.

Six surface soil samples and seven subsurface soil samples (including one duplicate sample) were collected from six distinct Geoprobe® borings located throughout Parcel 49. An additional seven surface soil samples were collected via hand-auger throughout Parcel 49. Surface soil samples for non-VOC analysis were collected from the 0- to 6-inch interval bgs. For borings located in paved areas, non-VOC surface soil samples were collected from the 0- to 6-inch interval directly below the pavement sub-base. Surface soil samples for VOC analysis were collected from the 18- to 24-inch interval bgs. Subsurface soil samples were collected from the 6-inch interval directly above the water table. No visual or olfactory evidence of contaminated soil was noted. All soil samples were analyzed for TCL+30 (without pesticides), TAL metals, and cyanide. The results are as follows:

A total of 22 SVOCs, 5 VOCs, 20 metals, and 1 Aroclor were detected in Parcel 49 soil samples.

- Of the 22 SVOCs, 7 [benzo(*a*)anthracene, benzo(*a*)pyrene, benzo(*b*)fluoranthene, benzo(*k*)fluoranthene, chrysene, dibenzo(*a,h*)anthracene, and indeno(1,2,3-*cd*)pyrene] were detected at concentrations that exceeded the non-residential comparison criteria in five surface soil samples.
- The five VOCs were detected at concentrations less than the applicable criteria.
- Of the 20 metals, 1 (arsenic) was detected at concentrations that exceeded regulatory criteria.
- Aroclor 1260 was detected in one surface soil sample at a concentration that exceeded regulatory criteria.
- Cyanide was not detected in soil.

Two groundwater samples were collected from two temporary wells that were installed using the Geoprobe®. Temporary wells P49GW-1 and P49GW-1 were installed north of Building 293 and east of former Building 289, respectively. The samples were analyzed for TCL+30 (without pesticides/PCBs) and *tert*-butyl alcohol (TBA). Five groundwater samples (including one duplicate sample) were collected from four existing FTMM monitoring wells located along the northern perimeter of the former Squier Complex area to evaluate groundwater on a parcel-wide basis. These samples were analyzed for TCL+30 (without pesticides), TBA, TAL metals, and cyanide. The results are as follows:

A total of 4 SVOCs, 9 VOCs, and 18 metals were detected in groundwater samples collected in Parcel 49.

- Of the four SVOCs, one [bis(2-ethylhexyl) phthalate] was detected at concentrations that exceeded the NJDEP GWQC in three groundwater samples. The contamination was likely the result of the polyethylene sampling tube that is commonly used for sampling wells. Therefore, it is not considered to be a contaminant of concern in groundwater at Parcel 49.
- Of the nine VOCs, two (benzene and bromodichloromethane) were detected at concentrations that exceed the NJDEP GWQC in two groundwater samples.
- Of the 18 metals, 6 (aluminum, arsenic, beryllium, iron, manganese, and sodium) were detected at concentrations that exceeded the NJDEP GWQC.

Based upon the resulting data, the SI recommended additional evaluation of soils, further evaluation of groundwater under the M-18 groundwater CEA, and that Parcel 49 be included as part of the BEE.

As part of the BEE, two surface water samples were collected from Parkers Creek adjacent to Parcel 49 and Building 283. These are discussed further in **Section 3.4.2.15**.

Parkers Creek borders Parcel 49 along its north side. The bank of Parkers Creek adjacent to Parcel 49 has not undergone stabilization and is steep and well-vegetated. Parcel 49 is mostly buildings and pavement with small portions of mowed and maintained lawns. The site slopes gently to the north and surface runoff is discharged to Parkers Creek. Groundwater underlying Parcel 49 flows to the north toward Parkers Creek.

As indicated on the FTMM utility maps in **Appendix K**, several storm water utility lines may discharge into Parkers Creek in the vicinity of Building 283 (**Section 2.5.1.13**) and Parcel 49. These storm water lines drain the areas around Building 283 and Parcel 49. Several of the storm water utility lines cross through Site FTMM-18 in a northerly direction and may act as preferential contaminant migration pathways for transport from Parcel 49 to Site FTMM-18 and Parkers Creek. Two storm water utility lines discharge northeast of Building 283 directly into Parkers Creek. Storm water, gas, and water lines located around Building 283 and Parcel 49 may also act as contaminant migration pathways from Parcel 49 and not directly to Parkers Creek.

The vegetative cover of the wooded area along Parkers Creek adjacent to Parcel 49 contains red oak, white oak, black locust, and black gum.

GIS digital data available through the NJDEP indicate the presence of mixed high marsh saline wetlands and Phragmites dominated coastal wetlands along Parkers Creek on the western portion of Parcel 49.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species. In addition, Parkers Creek is listed as Conservation Rank 4 as potential bald eagle foraging habitat, indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. However, the presence of bald eagles has not been documented for this site.

2.5.1.16 BUILDING 1075 (ECP PARCEL 61)

Parcel 61, located in the south-central portion of the MP, encompasses Patterson Army Health Clinic (Building 1075) and the surrounding land (approximately 15 acres). Constructed in 1961 to house Patterson Army Hospital, Building 1075 has been used continuously since that time, although it was downgraded to a health clinic in 1995. Operations in the 1960s, 1970s, and 1980s included X-ray processing and laboratory operations. Operations in the building extensively used mercury-containing equipment, developing chemicals, and other chemicals and waste associated with medical operations.

In 2007, as part of the ECP SI (Shaw, 2008), sediment and surface soil samples were collected to assess environmental conditions on Parcel 61.

Four sediment samples were collected from two borings to investigate potential historical discharges to stormwater from Building 1075. One sample was collected at the stormwater outfall, MP17, located along the southeast bank of Oceanport Creek directly north of Building 975. The other sample was collected downstream on the southeast bank of the tributary to Oceanport Creek. Oceanport Creek is a tidally influenced water body in this portion of the facility. At each sample location, two samples were collected, one from the 0- to 6-inch bgs interval, and the other from the 18- to 24-inch bgs interval. No visual or olfactory evidence of impacted sediment was noted. All samples were analyzed for TCL+30 (without pesticides) and TAL metals. The results are as follows:

A total of 16 SVOCs, 1 VOC, and 18 metals were detected in Parcel 61 sediment samples.

- Of the 16 SVOCs, 11 [acenaphthene, anthracene, benzo(*a*)anthracene, benzo(*a*)pyrene, benzo(*k*)fluoranthene, chrysene, fluoranthene, fluorene, naphthalene, phenanthrene, and pyrene] were detected at concentrations that exceeded the freshwater sediment criteria in all four sediment samples.
- The VOC toluene was detected at concentrations below the freshwater sediment criteria in one sample.
- Of the 18 metals, 4 (arsenic, chromium, copper, and lead) were detected at concentrations that exceeded the freshwater sediment criteria.

Four surface soil samples were collected from one hand auger location (P61SS-1) and three Geoprobe® boring locations (P61SS-2, 3, and 4). Samples were located along the southeast and northeast corners of Building 1075. Sample P61SS-1 was collected in a grass-covered area near a door at the southeastern corner of Building 1075. Samples P61SS-2 and P61SS-3 were collected near the loading docks of Building 1075. Sample P61SS-4 was collected near the basement door at the northeast corner of Building 1075. Surface soil samples for non-VOC analysis were collected from the 0- to 6-inch interval bgs. For surface soil samples located in paved areas, non-VOC surface soil samples were collected from the 0- to 6-inch interval directly below the pavement sub-base. Surface soil samples collected for VOC analysis were collected from the 18- to 24-inch interval bgs. All samples were analyzed for TCL+30 (without pesticides), TAL metals, and cyanide. No visual or olfactory evidence of soil contamination was noted. The results are as follows:

A total of 19 SVOCs and 18 metals were detected in Parcel 61 soil samples.

- Of the 19 SVOCs, 3 [benzo(*a*)anthracene, benzo(*b*)fluoranthene, and benzo(*a*)pyrene] were detected at concentrations exceeding the non-residential comparison criteria in one surface soil sample.
- All 18 metals identified in soil were detected below the Non-Residential Direct Contact Soil Cleanup Criteria.
- Cyanide was not detected in soil at Parcel 61.

Based upon the resulting data, the SI recommended soil for additional evaluation and inclusion of Parcel 61 in a BEE.

As part of the BEE, one surface water sample from the tributary to Oceanport Creek. This is discussed further in **Section 3.4.2.16**.

Parcel 61 is mostly buildings and pavement with small portions of mowed and maintained lawns. Though no significant habitats are present in the immediate vicinity of Parcel 49, stormwater discharges to a small tributary to Husky Brook.

As indicated on the FTMM utility maps in **Appendix K**, several storm water utility lines drain the area around Building 1075 and Parcel 61. These direct discharges to a small tributary to Husky Brook in the vicinity of Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14) (**Sections 2.5.1.6 and 2.5.1.7**). The numerous storm water, gas, and water lines located in and around Parcel 61 may also act as contaminant migration pathways from Parcel 61 to or away from Husky Brook or its tributary.

The vegetative cover along the small tributary to Husky Brook includes boxwood, sweetgum, pin oak, black locust, goldenrod, milkweed, pokeweed, wild rose, black cherry, poison ivy, Asiatic bittersweet, sassafras, and black oak.

GIS digital data available through the NJDEP indicate the presence of deciduous shrub/scrub wetlands along the tributary to Husky Brook.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species. In addition, Husky Brook and the adjacent wetlands are listed as Conservation Rank 4 as potential bald eagle foraging habitat, indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. However, the presence of bald eagles has not been documented for this site.

2.5.1.17 BUILDING 900 (ECP PARCEL 69)

Building 900 is a former tactical motor pool located in the southeastern portion of the MP, which has been utilized for general storage for approximately the last 10 years. It encompasses approximately 0.3 acre. A waste oil tank immediately outside the building was connected by a fill pipe originating from inside the building (since removed). A storm sewer inlet was observed in the parking lot in close proximity to the building during the 2006 Visual Site Inspections (VSIs). A boiler was formerly located outside the building. A 1993 U.S. Army Environmental Hygiene Agency report cites a TCE parts cleaner and 500-gallon waste oil AST being present at the building during the 1993 site visit. The tank has been removed from the building. All TCE parts cleaners were eliminated from use (MP and CWA) in February 1994 under Environmental Program Requirements Project FM0094F088.

Solvents were previously used for cleaning vehicle parts at various locations throughout FTMM. Both the military and the contractors operated solvent parts cleaners. These solvent parts cleaners consisted of a tank and sink with nozzle. The military used Super Agitene for its parts cleaners while the contractor used Siloo Tyme II. Each parts cleaner held about 30 gallons of fluid, which was reused until it needed changing. Fluid changes occurred every 4 months to every 3 years, depending on location and usage.

In 2007, as part of the ECP SI (Shaw, 2008), sediment, soil, and groundwater samples were collected to assess environmental conditions on Parcel 69.

Five sediment samples (including one duplicate sample) were collected from two borings located along the south bank of Oceanport Creek. Oceanport Creek is a tidally influenced water body in this portion of the facility. Sediment samples were collected in order to investigate any potential historical discharges to stormwater from Building 900. One sample was collected directly at a stormwater outfall within Oceanport Creek upstream of Murphy Drive, and the other sample was collected at a stormwater outfall discharging to Oceanport Creek downstream of Murphy Drive. At each sample location, two samples were collected; one from the 0- to 6-inch bgs interval, and the other from the 18- to 24-inch bgs interval. No visual or olfactory evidence of impacted sediment was noted.

All samples collected were analyzed for TCL+30 (without pesticides) and TAL metals.

The results are as follows:

A total of 8 SVOCs, 4 VOCs, and 20 metals were detected in Parcel 69 sediment samples.

- Of the eight SVOCs, seven [acenaphthene, anthracene, benzo(*a*)anthracene, chrysene, fluoranthene, phenanthrene, and pyrene] were detected at concentrations that exceeded the saltwater sediment criteria.
- All four VOCs were detected at concentrations below the saltwater sediment criteria.
- Of the 20 metals, 9 (arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc) were detected at concentrations that exceeded the saltwater sediment criteria.

Four surface soil samples and five subsurface soil samples (including one duplicate sample) were collected from four distinct Geoprobe® borings. Three borings, P69SB1, P69SB2, and P69SB3, were

located in the vicinity of the former waste oil AST. The other boring, P69SB-4, was located north of Building 900 to evaluate the absence or presence of contamination downgradient of the building. Surface soil samples for non-VOC analysis were collected from the 0- to 6-inch bgs interval. At borings located in paved areas, non-VOC surface soil samples were collected from the 0- to 6-inch interval directly below the pavement sub-base. Surface soil samples collected for VOC analysis were collected from the 18- to 24-inch bgs interval. Subsurface soil samples were collected from the 6-inch interval directly above the water table. No visual or olfactory evidence of soil contamination was noted. All samples collected were analyzed for TCL+30 (without pesticides), TAL metals, and cyanide. The results are as follows:

- A total of 5 SVOCs, 17 metals, and 2 VOCs were detected in concentrations less than the Non-Residential Direct Contact Soil Cleanup Criteria in Parcel 69 surface soil.

Three groundwater samples (including one duplicate sample) were collected from two distinct temporary wells that were installed with the Geoprobe® rig. One temporary well, P69GW-1, was installed in an area of the former waste oil AST east of Building 900, and the other well, P69GW-4, was installed downgradient (north) of Building 900. Samples were analyzed for TCL+30 (without pesticides/PCBs). The results are as follows:

A total of one SVOC and three VOCs were detected in Parcel 69 groundwater.

- The SVOC bis(2-ethylhexyl) phthalate was detected at concentrations exceeding the NJDEP GWQC in two samples. The contamination was likely the result of the polyethylene sampling tube that is commonly used for sampling wells. Therefore, it is not considered to be a contaminant of concern in groundwater at Parcel 69.
- Of the three VOCs detected, one (PCE) was detected at a concentration that exceeds the NJDEP GWQC in one sample.

Based upon the resulting data, the SI recommended NFA for soil, but additional evaluation for groundwater. In accordance with N.J.A.C 7:26E-3.11 (NJDEP, 2009b), Parcel 69 will be addressed as part of this facility-wide BEE.

As part of the BEE, one surface water sample was collected from Oceanport Creek. This is discussed further in **Section 3.4.2.17**.

Parcel 69 is mostly buildings and pavement with small portions of mowed and maintained lawns. Though no significant habitats are present in the immediate vicinity of Parcel 69, stormwater discharges to Oceanport Creek.

The vegetation at Oceanport Creek near stormwater discharge from Parcel 69 is dominated by common reed.

GIS digital data available through the NJDEP indicate the presence of Phragmites dominated coastal wetlands.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the emergent wetland area along Oceanport Creek is habitat Rank 4, which is assigned to patches with one or more occurrences of a state endangered species, in this case the Least Tern. Oceanport Creek and the adjacent wetlands are also listed as Conservation Rank 4 as potential bald eagle foraging habitat, indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. However, the presence of bald eagles has not been documented for this site.

2.5.2 CHARLES WOOD AREA

2.5.2.1 LANDFILL, SITE CW-3A (FTMM-25)

The CW-3A site (3.1 acres) was identified as a suspected landfill area during the Preliminary Assessment (PA) phase study under the IRP as IRP Site FTMM-25. Interviews with long-term DPW employees suggested that a former landfill might be present at the site in question. The suspected landfill is located north of the Pulse Power facility (Building 2707), which is also located in the southwestern part of the CWA.

On September 25, 1997, several test pits were excavated at the CW-3A site (FTMM-25) to ascertain whether the site was previously utilized as a landfill. Upon excavating the test pits, waste materials, mostly in the form of construction debris, were observed within the test pits. The debris itself consisted of concrete, asphalt, brick, wood, glass, and assorted scrap metals. Coal ash was also observed within each of the test pits. To evaluate the potential impact the landfill may have had on site soils and groundwater, four shallow monitoring wells were installed on-site. During monitoring well construction, continuous split-spoon soil samples were collected in 4-foot increments. Based upon field observations and measurements, soil samples were collected at the following depth intervals bgs: 0 to 6 inches, 18 to 24 inches, and immediately above the water table. Samples collected at the 18- to 24-inch interval were collected solely for VOCs to include a gas chromatography/mass spectrometry (GC/MS) library search. Samples collected at the 0- to 6-inch interval were analyzed for TCL+30 minus the VOC parameters, TAL metals, and cyanide. Samples collected just above the water table were analyzed for TCL+30 parameters, TAL metals, and cyanide. The results are as follows:

- Benzo(a)anthracene, benzo(*a*)pyrene, and cadmium were detected at concentrations exceeding NJDEP Residential Direct Contact Soil Cleanup Criteria.

A coal ash sample was also collected on December 17, 1997, and was analyzed for TCL+30, TAL metals, and cyanide.

During the week of January 12, 1998, groundwater samples were collected from each of the four monitoring wells. A second round of groundwater samples was collected during the week of January 26, 1998. All groundwater samples were analyzed for TCL+30, TAL metals, and cyanide. The results are as follows:

- Benzene and lead were detected in three downgradient monitoring wells at concentrations exceeding the NJDEP GWQC.
- Arsenic, chromium, and lead were detected in one upgradient monitoring well at concentrations exceeding the NJDEP GWQC.

As of 2002, eight consecutive quarterly rounds of groundwater samples had been collected for chemical analysis. A second RI that evaluated the potential for the presence of environmental contaminants within the existing landfill cover material also was completed.

The IRP recommended NFA for the site (Versar, Inc., 2004h, 2005b). Subsequently, it was determined that the CW-3A Landfill (FTMM-25) required additional evaluation through the BEE process.

As part of the BEE, two surface water samples and six sediment samples were collected from Shrewsbury Creek in the area of Landfill CW-3A (FTMM-25), and one surface water and one sediment sample were collected from Shrewsbury Creek immediately upstream of Landfill CW-3A (FTMM-25). These are discussed further in **Section 3.4.3.1**.

Shrewsbury Creek borders Landfill CW-3A (FTMM-25) along its northern boundary. In this area, Shrewsbury Creek is narrow (less than 5 feet) and is non-tidal freshwater. The banks of Shrewsbury Creek are fairly steep and have not undergone stabilization. The southern portion of the site is generally flat with greater slopes to the north and east and groundwater underlying Landfill CW-3A (FTMM-25) flows toward Shrewsbury Creek.

As indicated on the FTMM utility maps in **Appendix K**, several storm water utility lines drain the area of Parcel 27 around Buildings 2707 and 2713 which discharges to Shrewsbury Creek at the western end of Landfill CW-3A (FTMM-25). The storm water and water lines that cross through the southern end of Landfill CW-3A (FTMM-25) may also act as contaminant migration pathways from Landfill CW-3A.

The southwestern portion of Landfill CW-3A (FTMM-25) is mowed and maintained lawn surrounded by trees including black locust, black walnut, red cedar, Virginia creeper, and Asiatic bittersweet; the largest portion of Landfill CW-3A, though, is heavily wooded. Along Shrewsbury Creek the vegetation includes wild grape, honeysuckle, wild rose, goldenrod, coastal sweet pepperbush (*Clethra alnifolia*), arrowwood, greenbrier, jewelweed, smartweed, Asiatic dayflower, and poison ivy. The upland areas are forested with a closed canopy and sparse vegetation on the forest floor; dominant species include beech, chestnut oak, sassafras, American holly, black oak, and red maple.

GIS digital data available through the NJDEP indicate the presence of deciduous wooded wetlands along Shrewsbury Creek.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species.

2.5.2.2 FORMER PESTICIDE STORAGE AREA, SITE CW-6 (FTMM-28)

Building 2044 was part of a small complex of buildings located in the southwest section of the CWA golf course. The complex also included Building 2070, a large metal shed, and two smaller metal igloos. Currently, Buildings 2070, 2071, and 2046 are located in the area as confirmed by the VSI. Building 2070 is used to store golf course maintenance and landscaping equipment, such as mowers and tractors. Building 2071 is used as the equipment repair facility. Building 2046 is used as a golf cart and equipment wash area (closed loop) and was also used for pesticide mixing until 2001. The golf course maintenance complex may predate the purchase of the golf course by the Army. Pesticides and herbicides may have been stored and mixed in this area prior to Army ownership of the property. The 1980 IA report (USATHAMA, 1980) contains a 1979 inventory of pesticides and herbicides that were used on the golf course and stored in Building 2044. Pesticides that were present in significant quantities include malathion, sevin, resmethrin, Borocel IV, chlordane, and Dibrom. The IA also discusses a pest control program that was in effect in 1979. The compounds that were used in large quantities include carbaryl (sevin), malathion, chlordane, and diazinon. Some of the herbicides identified in the IA include 2,4-dichlorophenoxyacetic acid, Dacthal, 2,4,5-trichlorophenoxyacetic, and sodium arsenite (USATHAMA, 1980).

The course groundskeeper, who had been part of the grounds crew for 33 years (1960 to 1993), was interviewed during the PA phase. The groundskeeper stated that pesticides and herbicides also were stored inside the two metal igloos and that former mixing activities generally took place directly outside the two igloos. Pesticides and herbicides are not currently stored or mixed on site. The facility has hired an outside contractor to apply pesticides and herbicides.

Under the IRP SI, soil borings were completed at two locations where pesticide mixing was documented to occur within the 0.6-acre site. Two soil samples were collected from each boring, one surface sample and the other sample from the interval just above the water table. In addition, each boring was converted to a monitoring well in order to evaluate groundwater quality. Both soil and groundwater samples were analyzed for TCL+30. The results are as follows:

- Dieldrin was identified in one soil sample at concentrations exceeding the NJDEP Residential Direct Contact Soil Cleanup Criteria.
- Benzene was detected in one groundwater sample at concentrations exceeding the NJDEP GWQC.

Two additional monitoring wells were installed during the IRP RI phase. As of 2002, 15 consecutive quarterly rounds of groundwater samples had been collected for subsequent analysis. The results are as follows:

- Heptachlor epoxide and arsenic were initially detected in two of the four site monitoring wells at concentrations exceeding the NJDEP GWQC. Alpha-chlordane, gamma-chlordane, and 4,4′-DDD also were detected in the two monitoring wells; however, these contaminants were identified at concentrations less than the NJDEP GWQC.

The IRP recommended NFA for the site (Versar, Inc., 2005c). Subsequently, Site CW-6 (FTMM-28) was considered to require additional evaluation through the BEE process.

As part of the BEE, four soil samples were collected from the forested area to the west of the building complex and four sediment samples were collected from the wetlands south-southwest of the building complex in the vicinity of Wampum Brook. These are discussed further in **Section 3.4.3.2**.

Though the building complex is primarily paved areas and buildings, the area immediately west is forested wetland with Wampum Brook to the south of the site. Groundwater underlying Site CW-6 (FTMM-28) flows toward Wampum Brook.

As indicated on the FTMM utility maps in **Appendix K**, storm water, gas, and water utility lines in the area of FTMM-28 may act as additional contaminant migration pathways from Landfill CW-3A away from the direction of Wampum Brook.

The forested areas are dominated by black gum with some red oak and sweet gum. Milkweed is present along the roads. Ferns are present on the forest floor and there are few forbs and grasses. Coastal sweetpepperbush and poison ivy present and skunk cabbage (*Symplocarpus foetidus*) is prevalent in the wetter areas to the southwest.

GIS digital data available through the NJDEP indicate that the area west and south of Site CW-6 is deciduous wooded wetlands.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 2, which is assigned to patches containing one or more occurrences of a species of special concern, in this case the Wood Thrush.

2.5.2.3 BUILDING 2700 (ECP PARCEL 15)

The Myer Center facility (Building 2700) is located in the CWA of FTMM at the intersection of Pearl Harbor Avenue and Corregidor Road. Parcel 15 encompasses an area of approximately 70 acres of which the Building 2700 footprint is 171,000 square feet. It was built in 1954 and has an extensive history of laboratory operations, photoprocessing, and paint spraying booths. Operations included electrochemical research, growing and shaping of crystals, various plating operations, mixing of magnetic powders, machining, welding, spray painting, use of solvents for equipment cleaning, and other miscellaneous laboratory operations utilizing standard laboratory chemicals. By 1959, additional operations included shock and vibration testing of certain components; glass blowing; a plastics laboratory that made plastic castings, laminates, and forms sprayed with polyester resins; and a ceramics laboratory. A satellite dispensary and dental clinic was present in 1972 that serviced 2,610 employees. During the 2006 VSI performed as part of the Phase I ECP, the Dental Clinic was no longer operational at Building 2700. According to FTMM personnel, no chemical wastes have been discharged to the sanitary sewer since the mid-1980s. Activities at Building 2700 have since been converted primarily to administrative functions. Current waste management practices prohibit the discharge of any materials, other than water and biodegradable soaps, into the sanitary sewer system.

In 2007, as part of the ECP SI (Shaw, 2008), sediment, soil, groundwater, soil gas, and indoor air samples were collected to assess environmental conditions on Parcel 15. Geophysical surveys were conducted to determine if USTs remained on site.

Seven sediment samples (including one duplicate sample) were collected from three sample borings located adjacent to three stormwater outfalls within Shrewsbury Creek. These sample locations were south of the walking bridge, near the southwest portion of Building 2525 on the western side of Shrewsbury Creek. Samples were collected to investigate any potential historical discharges from Building 2700 into Shrewsbury Creek. Shrewsbury Creek is a non-tidal water body in this portion of the facility located southeast of Building 2700 in the CWA.

At each sample location, two samples were collected: one from the 0- to 6-inch bgs interval and the other from the 18- to 24-inch bgs interval. No visual or olfactory evidence of impacted sediment was noted. Samples collected were analyzed for TCL+30 (without pesticides) and TAL metals. The results are as follows:

A total of 12 SVOCs and 18 metals were detected in Parcel 15 sediment samples.

- Of the 12 SVOCs, 2 (acenaphthene and fluorene) were detected at concentrations that exceeded the freshwater sediment criteria in one sample.
- Of the 18 metals, 2 (chromium and copper) were detected at concentrations that exceeded the freshwater sediment criteria in three samples.

Fifty-three surface soil samples and 59 subsurface soil samples (including 6 duplicate samples) were collected from 53 distinct Geoprobe® borings in order to investigate any potential releases associated with former barracks located north of Building 2700. Surface soil samples for non-VOC analysis were collected from the 0- to 6-inch interval bgs. For borings located in paved areas, non-VOC surface soil samples were collected from the 0- to 6-inch interval directly below the pavement sub-base. Surface soil samples collected for VOC analysis were collected from the 18- to 24-inch bgs interval. Subsurface soil samples were collected from the 6-inch interval directly above the water table from each boring. Samples were analyzed for TPH and VOC+10. The results are as follows:

- TPH was detected in 7 of the 53 surface soil samples and in 2 of the 59 subsurface soil samples. None of the TPH results exceeded regulatory standards; therefore, VOCs were not analyzed.

Seven groundwater samples (including one duplicate sample) were collected from six distinct temporary wells that were installed. Temporary wells were installed along the downgradient boundary of the parcel (along Shrewsbury Creek). Groundwater samples were collected to investigate any potential release from possible former heating oil USTs associated with former barracks, as well as other potential discharges from historical activities at Building 2700. Samples were analyzed for TCL+30 (without pesticides or PCBs) and TAL metals. The results are as follows:

A total of 1 SVOC, 1 VOC, and 19 metals were detected in Parcel 15 groundwater samples.

- One SVOC, bis(2-ethylhexyl) phthalate, was detected at concentrations that exceeded the NJDEP GWQC. The contamination was most likely the result of the polyethylene sampling tube that is commonly used for sampling wells. Therefore, it is not considered to be a concern in groundwater at Parcel 15.
- One VOC, toluene, was detected at a concentration less than the NJDEP GWQC.
- Of the 19 metals detected, 6 (aluminum, arsenic, iron, lead, manganese, and sodium) were detected at concentrations exceeding the NJDEP GWQC.

A total of 15 soil gas and 15 indoor air samples were collected in and around Building 2700. A total of 32 VOCs were detected in Parcel 15 soil gas samples and a total of 22 VOCs were detected in Parcel 15 indoor air samples. The results are as follows:

- Of the 32 VOCs detected, 4 (benzene, PCE, TCE, and vinyl chloride) were detected at concentrations that exceeded the NJDEP generic vapor intrusion non-residential soil gas screening levels in 14 soil gas samples.
- Twenty-two VOCs were detected at concentrations less than the NJDEP generic vapor intrusion non-residential indoor air screening levels in indoor air samples.

As part of the geophysical survey, an electromagnetic induction (EMI) survey was conducted throughout the area of the parcel where former barracks were identified to determine if USTs are present. Follow-up ground-penetrating radar surveys were conducted where anomalies were identified during the EMI surveys. No suspected USTs were identified as a result of the geophysical survey.

Based upon the resulting data, the SI recommended that NFA be taken for soil and groundwater within Parcel 15 and surface water and sediment be further evaluated within a BEE.

As part of the BEE, two surface water samples were collected from Shrewsbury Creek in the vicinity of the stormwater outfalls. These are discussed further in **Section 3.4.3.3**.

Shrewsbury Creek is east of Building 2700. In this area, Shrewsbury Creek is narrow and is non-tidal freshwater. Both banks of Shrewsbury Creek are steep and have not undergone stabilization. Though the banks are heavily vegetated, the surrounding area is predominantly pavement and buildings.

As indicated on the FTMM utility maps in **Appendix K**, several storm water lines drain the area of Parcel 15 around Building 2700, as well as the area of Parcel 27 around Building 2525, which discharges to Shrewsbury Creek. Numerous storm water, gas, and water utility lines in the area of Parcel 15 may act

as additional contaminant migration pathways from Parcel 15 with direction dependent on the utility gradients.

Vegetation along the banks of Shrewsbury Creek is thick and includes common reed, black walnut, pin oak, wild grape, wild morning glory, pokeweed, Asiatic bittersweet, poison ivy, wild rose, sweet gum, milkweed, goldenrod, Virginia creeper, red cedar, Norway maple, white mulberry, black cherry, sassafras, and winged sumac.

GIS digital data available through the NJDEP indicate the presence of deciduous scrub/shrub wetlands along the narrow corridor of Shrewsbury Creek.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species.

2.5.2.4 BUILDINGS 2507 AND 2704 (ECP PARCEL 27)

Parcel 27 is located in the southwest portion of CWA and includes the Environmental Test Facility (Building 2704), former Pulse Power Center (Building 2707), Sheet Metal Shop (Building 2502), Machine Shop (2503), Paint and Fabrication Facility (2506), and a Former Motor Pool (2501). Parcel 27 encompasses an area of approximately 30 acres.

Building 2704 has been used as an environmental test chamber since 1965. Chemical use in this building is limited to hydraulic fluid and standard shop chemicals (i.e., petroleum-based solvents, oils, and greases). While current waste handling practices are modern, historical waste handling practices are unknown. The building has multiple floor drains which, according to engineering drawings, are connected to the storm sewer.

Building 2507 is the Tactical Vehicle Repair Shop where petroleum and solvent use would be common during vehicle maintenance operations.

In 2007, as part of the ECP SI (Shaw, 2008), sediment and surface soil were collected to assess environmental conditions on Parcel 27. Geophysical surveys were conducted to determine if a former debris burial area remained on site.

Four sediment samples were collected from two sample borings located within Shrewsbury Creek. One sample was located adjacent to a stormwater outfall and the other was located downstream. At each sample location, two samples were collected; one from the 0- to 6-inch interval bgs, and the other from the 12- to 18-inch interval bgs. No visual or olfactory evidence of sediment contamination was noted. All samples were analyzed for TCL+30 (without pesticides) and TAL metals. The results are as follows:

A total of 8 SVOCs and 20 metals were detected in Parcel 27 sediment samples.

- Of the eight SVOCs, none were detected that exceeded the freshwater sediment criteria.
- Of the 20 metals, 8 (arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc) were detected at concentrations that exceeded the freshwater sediment criteria in all four samples.

Two surface soil samples were collected from two sample borings located in the wooded area to the northeast of Building 2507. At each location, the sample was collected from the 0- to 6-inch bgs interval, and a sample for VOC analysis was collected from the 18- to 24-inch bgs interval. No visual or olfactory evidence of soil contamination was noted. All samples collected were analyzed for TCL+30 (without pesticides) and TAL metals. The results are as follows:

- A total of 8 SVOCs and 18 metals were detected in Parcel 27 surface soil samples below the Non-Residential Direct Contact Soil Cleanup Criteria.

An EMI survey was conducted over the area identified as a possible debris burial area.

- No anomalies indicative of debris burial areas were identified.

Based upon the resulting data, the SI recommended that NFA be taken for soil within Parcel 27 and surface water and sediment be further evaluated within a BEE.

As part of the BEE, two surface water samples were collected from Shrewsbury Creek in the vicinity of the stormwater outfalls. These are discussed further in **Section 3.4.3.4**.

Shrewsbury Creek is north of Building 2704. In this area, Shrewsbury Creek is narrow and is non-tidal freshwater.

Along Shrewsbury Creek the vegetation includes wild grape, honeysuckle, wild rose, goldenrod, coastal sweet pepperbush, arrowwood, greenbrier, jewelweed, smartweed, Asiatic dayflower, and poison ivy.

GIS digital data available through the NJDEP indicate the presence of deciduous wooded wetlands along Shrewsbury Creek.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species.

2.5.2.5 BUILDING 2525 (PARCEL 28)

Parcel 28, with an area of approximately 30 acres, is located in the CWA and encompasses Building 2525 – the former Eatontown Laboratory complex. Building 2525 was constructed between 1941 and 1942. The Eatontown Signal Laboratory was renamed Watson Laboratories in 1945 and subsequently moved to Rome, New York, in 1951.

Three separate septic tanks and leach fields and one underground transformer vault are within the Building 2525 area. The main sanitary sewer line from the building is shown to discharge to a septic tank and leach field east of the building. A review of the DPW map and engineering drawings repository indicated a 2-inch “acid proof drain” leading from Bay 1 to a dry well southeast of the building. Floor drains were shown to discharge to the brook northwest of the building. Building revitalization plans show all floor drains were later connected to the sanitary sewer system. Building 2525 was included in the Watson Laboratory complex in the mid-1940s. Crystal growing and processing operations were conducted in the Watson Laboratory building located in the southwest portion of the CWA in the early 1950s. Operations included cleaning of crystals, quartz etching, soldering, and gold (and other metal) plating, which was conducted in Building 2532. These operations involved chemicals such as carbon tetrachloride, ammonium bifluoride, cadmium sulfate, and sulfuric acid. Crystal etching using ammonium bifluoride was also noted in Building 2538. Other processes associated with the Watson Laboratories included machining of metals and remelting lead in Building 2533, growing of crystals and physical chemistry in Building 2534, and machining of crystals in Building 2538.

Following the 1951 Watson Laboratories move, the Aviation Research and Development Command Laboratory was moved from the Myer Center to Building 2525. This laboratory operation occupied the building until 1978. A 1978 industrial hygiene survey reported ozalid reproduction in Room 5101 of Building 2525. Building revitalization plans show all floor drains connected to the sanitary sewer system. No sumps or floor drains were noted during the 2006 VSI. The use of the building has been strictly administrative since the late 1990s, as confirmed during the VSI.

Parcel 28 also contains the CECOM laboratory and radiological testing facility housed in Building 2540. This building contains a gamma irradiator, Radiac calibrators, a storage room for low-level RAM with multiple radioactive sources from the demilitarization of commodities, a nuclear counting laboratory, and several health physics laboratories. A survey of the interior of Building 2540 will be performed as part of the radiological scoping surveys.

According to the 1993 Environmental Research, Inc., Aerial Photographic Site Analysis, there are a fenced open storage area and possible tank pads in the northern portion of Parcel 28, to the northeast of Building 2525.

In 2007, as part of the ECP SI (Shaw, 2008), sediment, soil, and groundwater samples were collected to assess environmental conditions on Parcel 28. Geophysical surveys were conducted to

determine the absence or presence of formerly utilized septic tanks, associated leaching fields, and USTs.

A total of four sediment samples were collected from two sample borings located along the southeast bank of Shrewsbury Creek adjacent to Building 2525. Samples were located directly downgradient of potential former discharge pipes observed on the southeast bank of the creek. Samples were collected to investigate any potential historical discharges from former floor drains to outfalls that were associated with Building 2525 into Shrewsbury Creek. Shrewsbury Creek is a non-tidal water body in this portion of the facility located southeast of Building 2700 in the CWA. At each sample location, two samples were collected: one from the 0- to 6-inch bgs interval and the other from the 12- to 18-inch bgs interval. No visual or olfactory evidence of impacted sediment was noted. All samples were analyzed for TCL+30 (without pesticides) and TAL metals. The results are as follows:

A total of 5 SVOCs, 1 VOC, and 17 metals were detected in Parcel 28 sediment samples.

- All SVOCs and the one VOC (acetone) were detected at concentrations less than the freshwater sediment criteria.
- Of the 17 metals, 1 (chromium) was detected at a concentration that exceeded the freshwater sediment criteria in all for samples.

A total of three surface soil samples and three subsurface soil samples were collected from three distinct Geoprobe® borings in order to investigate potential septic system discharges and former storage pads that were identified through aerial analysis. An additional two surface soil samples were collected from hand-augered borings. Surface soil samples for non-VOC analysis were collected from the 0- to 6-inch bgs interval. Surface soil samples collected for VOC analysis were collected from the 18- to 24-inch bgs interval. Subsurface soil samples were collected from the 6-inch interval directly above the water table from each boring. No visual or olfactory evidence of soil contamination was noted during field operations. Samples were analyzed for TCL+30 (without pesticides) and TAL metals. The results are as follows:

A total of 12 SVOCs, 1 VOC, and 17 metals were detected in Parcel 28 surface and subsurface soil samples. The results are as follows:

- The 12 SVOCs and 1 VOC (acetone) were detected at concentrations less than the Non-Residential Direct Contact Soil Cleanup Criteria.
- Of the 17 metals, 1 (arsenic) was detected at a concentration in excess of the Non-Residential Direct Contact Soil Cleanup Criteria in one sample.

Four test pits located in an open field east of Building 2525 and Heliport Drive, and one test pit northeast of Building 2525, were excavated to determine if any contamination exists from former septic tank and leach fields that once serviced Building 2525. Soil sample depths were contingent upon field observations (e.g., depth to water table, thickness of layered engineered gravel) and field screening results. A total of eight subsurface soil samples (including two duplicate samples) were collected from the five test pits. No visual or olfactory evidence of impacted soil was noted. All samples were analyzed for TCL+30 (minus pesticides) and TAL metals. The results are as follows:

- A total of 12 SVOCs, 1 VOC, and 17 metals were detected in concentrations less than the Non-Residential Direct Contact Soil Cleanup Criteria in soil samples collected from test pits.

A total of five groundwater samples (including one duplicate sample) were collected from four distinct temporary wells that were installed with the Geoprobe® rig. Three temporary wells were installed downgradient of former drainage fields, and one temporary well was installed downgradient of a former storage pad area located in an open field west of Building 2290 and Guam Lane. Samples were analyzed for TCL+30 (without pesticides/PCBs), TAL metals, ammonia, nitrate, and nitrite.

A total of 1 SVOC, 3 VOCs, and 13 metals were detected in Parcel 28 groundwater samples. The results are as follows:

- One SVOC, bis(2-ethylhexyl) phthalate, was detected at concentrations less than the NJDEP GWQC.

- Three VOCs (acetone, chloroform, and toluene), were detected at concentrations less than the NJDEP GWQC in Parcel 28 groundwater samples.
- Two metals (aluminum and manganese) were detected at concentrations exceeding the NJDEP GWQC.
- Nitrite and nitrate were detected at concentrations less than the GWQC.

The geophysical survey was conducted to investigate the location of former septic tanks, USTs, and drywells. The results are as follows:

- No drywell was identified within Parcel 28; however, one possible UST (P28-8), one suspected septic holding tank, and one suspected septic distribution box and associated piping were identified.

Based upon the resulting data, the SI recommended that NFA be taken for soil within Parcel 28 and surface water and sediment be further evaluated within a BEE.

As part of the BEE, four surface water samples were collected from Shrewsbury Creek in the vicinity of the stormwater outfalls. These are discussed further in **Section 3.4.3.5**.

Shrewsbury Creek is north of Building 2525. In this area, Shrewsbury Creek is narrow and is non-tidal freshwater. Both banks of Shrewsbury Creek are steep and have not undergone stabilization. Though the banks are heavily vegetated, the surrounding area is predominantly pavement and buildings.

As indicated on the FTMM utility maps in **Appendix K**, several storm water lines drain the area of Parcel 28 around Building 2525, as well as the area of Parcel 15 around Building 2700, which discharges to Shrewsbury Creek. Numerous storm water, gas, and water utility lines in the area of Parcel 28 may act as additional contaminant migration pathways from Parcel 28 with direction dependent on the utility gradients.

Vegetation along the banks of Shrewsbury Creek is thick and includes common reed, black walnut, pin oak, wild grape, wild morning glory, pokeweed, Asiatic bittersweet, poison ivy, wild rose, sweet gum, milkweed, goldenrod, Virginia creeper, red cedar, Norway maple, white mulberry, black cherry, sassafras, and winged sumac.

GIS digital data available through the NJDEP indicate the presence of deciduous scrub/shrub wetlands along the narrow corridor of Shrewsbury Creek.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species.

Table 2-2
Ambient Levels of Selected Metals and Other Analytes in Soil

Parameter	N	Detects	MDL (mg/kg)	Mean (mg/kg)	Median (mg/kg)	Minimum (mg/kg)	Maximum (mg/kg)	90th Percentile (mg/kg)	95th Percentile (mg/kg)	Geometric Mean (mg/kg)
Metals										
Aluminum	95	95	20	6734	6800	424	23100	10800	12300	5425
Antimony	95	0	6	NA	NA	NA	NA	NA	NA	NA
Arsenic	95	86	1	7.9	5.2	0.50	83.1	13.6	15.7	4.7
Barium	95	62	20	36.0	28.3	10.0	154	65.8	83.7	27.3
Beryllium	95	15	0.5	0.36	0.29	0.25	1.80	0.68	0.76	0.33
Cadmium	95	5	0.5	0.36	0.29	0.25	2.70	0.32	0.85	0.32
Calcium	95	61	500	1312	995	250	21600	2000	3810	797
Chromium	95	95	1	18.7	11.8	1.1	171	34.7	39.8	12.9
Cobalt	95	7	5	3.5	2.9	2.5	32.0	3.2	6.7	3.1
Copper	95	86	2.5	15.0	9.3	1.3	93.0	33.3	41.3	9.7
Iron	95	95	10	11909	8830	735	68900	21100	35700	8448
Lead	95	86	10	59.7	37.6	5	344	144	179	37.5
Magnesium	95	56	500	1056	673	250	13800	1870	2660	664
Manganese	94	94	1.5	111	62.4	2.6	1030	206	423	60.1
Mercury	95	40	0.1	0.18	0.06	0.05	6.10	0.21	0.33	0.09
Nickel	94	42	4	5.2	2.4	2.0	16.9	12.3	13.9	4.1
Potassium	94	45	500	1022	310	250	22300	1750	2090	568
Selenium	94	0	1	NA	NA	NA	NA	NA	NA	NA
Silver	94	3	1	0.68	0.6	0.50	6.30	0.65	0.65	0.61
Sodium	94	0	500	NA	NA	NA	NA	NA	NA	NA
Thallium	94	2	1	0.67	0.6	0.50	1.70	1.15	1.25	0.64
Vanadium	94	89	5	21.1	16	2.5	202	35.5	46.3	15.8
Zinc	94	91	2	53.4	39.9	1.0	259	106	157	36.4
PAHs										
Benzo(a)anthracene	94	54	0.029	0.14	0.04	0.01	1.82	0.43	0.57	0.04
Benzo(a)pyrene	94	48	0.037	0.14	0.02	0.01	1.8	0.42	0.67	0.04
Benzo(b)fluoranthene	94	49	0.04	0.35	0.19	0.05	4.09	0.66	1.24	0.23
Benzo(b+k)fluoranthene	95	47	0.08	0.35	0.19	0.05	4.1	0.66	1.2	0.23
Dibenzo(a,h)anthracene	94	9	0.037	0.03	0.01	0.01	0.29	0.02	0.13	0.01
Indeno(1,2,3-c,d)pyrene	94	33	0.018	0.07	0.01	0.01	0.57	0.23	0.37	0.02
Chrysene	94	53	0.022	0.15	0.05	0.01	1.78	0.47	0.7	0.05

Notes:
Source - BEM Systems, Inc., 1998
N = Number of samples
MDL = Method detection limit

Table 2-7
Charles Wood Area
ECP Parcel and IRP Site Summary

Parcel Number	Building No. / Site Name	Design Use Description	Size of Parcel (Acres)	Selected for BEE	Basis/Remarks
1	2600, 3001 - 3052, 3216	Pine Brook residential housing area, General Storage Warehouse	63.14	No	This is the Pine Brook residential housing area in the southeast portion of Charles Wood Area (CWA) and includes one general storage warehouse (2600). No release or disposal of hazardous substances or petroleum products has occurred, and there has been no migration of such substances from adjacent areas. Tank AST-2070-a (500-gallon capacity for gasoline) and tank AST-2070-b (500-gallon capacity for diesel fuel) are in use; secondary containment is in place; and no evidence of a release was identified. Former residential fuel oil storage tanks have been either removed or closed in place and no contamination was identified during closure. No evidence of release or contamination has been detected; a Baseline Ecological Evaluation (BEE) is not required.
2	IRP Site FTMM-63 (Bldg 2603)	Sewage Lift Station	0.19	No	This parcel is a sewage lift station at which a 275-gallon underground storage tank (UST) and 225 cubic yards of potentially contaminated soil were removed in 1998. No contaminants remain at the site in soil or groundwater at concentrations above New Jersey Department of Environmental Protection (NJDEP) cleanup criteria. Tank AST-2603 (500-gallon capacity for diesel) and an emergency generator are present for the lift station; secondary containment is in place; and no evidence of a release was identified. Though Wampum Brook runs past Parcel 2, potentially contaminated soil was removed and no contamination remains in soil or groundwater. No migration pathway exists to environmentally sensitive areas. A BEE is not required. BEEs and sampling being conducted related to CW-6 also addresses Parcel 2 and Wampum Brook.
3	3050	Former UST	0.05	No	This is the location of a former residential UST for #2 fuel oil (UST-3050-30). The UST and 23 cubic yards of potentially contaminated soil have been removed. A Closure Report was submitted to NJDEP on 06/01/00, and a No Further Action (NFA) approval letter was received from the NJDEP on 8/29/00. Contaminated soils have been removed and no migration pathway exists to environmentally sensitive areas, so a BEE is not required.
4	3027	Former UST	0.05	No	This is the location of a former residential UST for #2 fuel oil (UST-3027-28). The UST and 8.7 cubic yards of petroleum-contaminated soil have been removed. A closure report was submitted to the NJDEP requesting an NFA determination on 10/17/2001; however, no regulatory concurrence is required for former residential USTs. Contaminated soils have been removed and no migration pathway exists to environmentally sensitive areas, so a BEE is not required.
5	3021	Former UST	0.08	No	Former Residential UST-3021-27 (#2 fuel oil) and 113 tons of contaminated soil were removed from this parcel. No contamination above NJDEP criteria remains in groundwater. A Closure Report was submitted to the NJDEP, and an NFA approval letter was received from the NJDEP on 10/17/00. Though Wampum Brook runs past Parcel 5, potentially contaminated soil was removed and no contamination remains in soil or groundwater; a BEE is not required. No migration pathway exists to environmentally sensitive areas. BEEs and sampling being conducted related to CW-6 also addresses Parcel 5 and Wampum Brook.
6	FTMM-31 (CW-9)	Former Sludge Disposal	1.60	No	This parcel was investigated under the Fort Monmouth Installation Restoration Program (IRP). Sludge generated from Fort Monmouth sewage treatment plants was historically stored in this area before being used as a soil conditioner and fertilizer on the golf course. This parcel is located on the CWA Golf Course southeast of Building 2070. No contaminants were identified above NJDEP Direct Contact Soil Cleanup Criteria or groundwater quality standards during the Site Investigation. An NFA determination was approved by the NJDEP in 1996. Since no contaminants are present, a BEE is not required.
7	IRP Site FTMM-28 (CW-6)	Former Pesticide Storage Building 2044 UST-2044-24 UST-2044-32 UST-2044-33	0.67	Yes	This parcel was investigated under the Fort Monmouth IRP. Use of pesticides and herbicides prior to and as part of Army ownership have occurred in this parcel. The pesticide dieldrin was detected in one soil sample slightly above NJDEP Direct Contact Soil Cleanup Criteria; pesticides - heptachlor epoxide and chlordane as well as arsenic were historically detected above criteria in groundwater but have been at concentrations below criteria in recent rounds of sampling. A Remedial Investigation (RI) report requesting an NFA determination from the NJDEP was submitted in May 2005. Three former USTs and potentially contaminated soil were removed in 1993. Fuel-related contaminants were initially detected in groundwater above NJDEP criteria and a long term monitoring program was initiated. No fuel-related contaminants were detected subsequent to 1997, and an NFA approval letter for all three former USTs was received from the NJDEP on 1/10/2003. A BEE is recommended to address potential contamination related to CW-6 in soils and sediment/soils in adjacent deciduous wooded wetlands as well as Wampum Brook.
8	2043	UST-2043-36	0.05	No	This is the location of a former UST for diesel fuel (UST-2043-36). The UST and potentially contaminated soil have been removed. No contaminants were detected in groundwater above the NJDEP groundwater criteria. A closure report was submitted to the NJDEP requesting an NFA determination in 1998, and an NFA approval letter was received from the NJDEP on 10/23/2000. Contaminated soils have been removed and no migration pathway exists to environmentally sensitive areas, so a BEE is not required.

Table 2-7
Charles Wood Area
ECP Parcel and IRP Site Summary

Parcel Number	Building No. / Site Name	Design Use Description	Size of Parcel (Acres)	Selected for BEE	Basis/Remarks
9	2068 Golf Course Pesticide Mixing Area Outdoor Pool & Chlorination facilities Residential housing	Golf Course Pesticide Mixing Area Outdoor Pool & Chlorination facilities Residential housing	161.27	No	This parcel is inclusive of the CWA Golf Course (including clubhouse, maintenance facilities, and current pesticide mixing facilities), residential housing along Megill Drive (Buildings 2022 - 2042), and the outdoor pool and associated chlorination facilities. The current pesticide mixing facilities are state-of-the-art and include secondary containment. No storage of pesticides occurs on Fort Monmouth property. No release or disposal of hazardous substances or petroleum products has occurred, and there has been no migration of such substances from adjacent areas. Tanks AST-2021, AST-2043, and AST-2044 are in use; secondary containment is in place; and no evidence of a release was identified. Twenty-one (21) former residential fuel oil USTs have been removed, no contamination was identified during closure, and no regulatory concurrence is required. Four non-residential USTs have been removed; no contamination was identified during closure; and NFA approval letters were received from the NJDEP in 2000. No contamination or releases have been identified; a BEE is not required.
10	2000	Former UST	0.04	No	Former Residential UST-2000-38 (#2 fuel oil). Petroleum-related contaminants were detected in post-excavation soil samples at concentrations below the NJDEP cleanup criteria. A Closure Report was submitted to the NJDEP, and an NFA approval letter was received from the NJDEP on 1/10/2003. Contaminated soils were removed and no migration pathways are present to environmentally sensitive areas; a BEE is not required.
11	2067	UST-2067-37	0.08	No	This is the location of a former UST for #2 fuel oil (UST-2067-37). The UST and 90 cubic yards of potentially contaminated soil have been removed. A closure report was submitted to the NJDEP requesting an NFA determination in 2002, and an NFA approval letter was received from the NJDEP on 1/10/2003. Contaminated soils were removed and no migration pathways are present to environmentally sensitive areas; a BEE is not required.
12	FTMM-29 (CW-7)	Former Polychlorinated Biphenyl (PCB) Transformer Location	0.10	No	This parcel was investigated under the Fort Monmouth IRP. A PCB transformer, formerly located in front of the Officers Club in Building 2000, was removed from service in 1990 and disposed off site; PCB contamination in the soil was removed in 1998. An RI report requesting an NFA determination from the NJDEP was submitted in September 2004. Subsequent to NJDEP's response to the NFA request, additional surface water, sediment, and soil samples were collected and concentrations were below criteria. An additional request for an NFA determination will be submitted to NJDEP. Though Parkers Creek is within 300 feet of Parcel 12, PCB contaminated soil has been removed and migration pathways to Parkers Creek are not present; a BEE is not required.
13	Former Residential Bldgs 2004 - 2016	Potential USTs associated with former residential housing	6.42	No	A 1956 fuel distribution plan displays fuel oil USTs associated with former residential dwellings in this area. Due to the age of these USTs, there is no documentation regarding whether they have been removed. This area is currently paved. No contamination has been detected and no suspected USTs were identified during a geophysical survey conducted as part of the 2008 Site Investigation; a BEE is not required.
14	NW Area of CWA	Former Residential Housing in NW Area of CWA Former #2 Fuel oil UST Former wash rack, vehicle storage area	77.47	No	Former residential area in northwest portion of CWA. Based on the timeframe in which these early structures existed (buildings were demolished prior to 1960), it is likely that USTs were utilized for fuel storage. No documentation exists confirming whether USTs have been removed. One suspected UST was identified during a geophysical survey conducted as part of the 2008 Site Investigation and is currently being addressed. This parcel also includes a former UST for #2 fuel oil (UST-2275-12) at which a release was noted during removal activities. The UST and contaminated soils have been removed. A closure report was submitted to the NJDEP requesting an NFA determination in 1998, and an NFA approval letter was received from the NJDEP on 8/29/2000. This parcel includes the area identified in a 1947 aerial photograph as a vehicle wash rack and vehicle storage area. Contaminated soil has been removed, evidence of a release to groundwater has not been detected, and there are no migration pathways to environmentally sensitive areas; a BEE is not required. BEEs and sampling being conducted related to Parcel 15 and Parcel 28 also address Parcel 14 and Shrewsbury Creek.

Table 2-7
Charles Wood Area
ECP Parcel and IRP Site Summary

Parcel Number	Building No. / Site Name	Design Use Description	Size of Parcel (Acres)	Selected for BEE	Basis/Remarks
15	2700 (Myer Center) 2705 FTMM-23 (CW-2)	Industrial and Laboratory Activities	37.99	Yes	This parcel encompasses current and former laboratory and industrial processes within Building 2700 and the surrounding area. Building 2705 is a former photo processing facility and night vision laboratory. Chemical and hazardous susbstance use has been extensively documented in association with the historic and current research and industrial activities in this parcel. Due to groundwater volatile organic compound contamination identified in adjacent parcel 16, vapor intrusion is a potential recognized environmental condition in this area. The former wastewater treatment lime pit located northwest of Building 2700 was investigated under the Fort Monmouth IRP as Site FTMM-23 (CW-2). The lime pit was demolished and disposed of in 2002. An NFA determination has been requested from the NJDEP. No response has been received from the NJDEP. Tank AST-2700A (500-gallon capacity for diesel fuel) and tank AST-2700B (500-gallon capacity for diesel fuel) are in use; secondary containmen is in place; and no evidence of a release was identified. A 1999 freon release due to a ruptured disc on equipment in Building 2706 is listed in the New Jersey Hazardous Material Incident Database. Acenaphthene, fluorene, chromium, and copper were identified as constituents of concern in sediment during the 2008 Site Investigation. A BEE is recommended for Parcel 15 to address potential discharges through stormwater outfalls into Shrewsbury Creek.
16	FTMM-22 (CW-1)	Former Wastewater Treatment Lime Pit	0.62	No	The former wastewater treatment lime pit located in the courtyard of Building 2700 and is being addressed under the Fort Monmouth IRP as Site FTMM-22 (CW-1). Volatile organic compounds are present in groundwater at concentrations above NJDEP Groundwater Quality Criteria. At present, the contaminant plume has not encroached upon Building 2700. However, the downgradient migration pathway is in the direction of the referenced building and vapor intrusion is a potential recognized environmental condition. A contaminant treatment system (soil vapor extraction and air sparging) was in place until 2005. Treatment of the groundwater through enhanced bioremediation (Hydrogen Release Compound [HRC] injection) will commence in FY 07 with the goal of achieving groundwater compliance by FY10. No migration of contaminants towards Parker Creek is occurring and a BEE is not recommended.
17	UST-2700-36 UST-2700-37 UST-2700-38 UST-2700-39	Former #6 Fuel oil USTs	0.16	No	Five former #6 fuel oil tanks (UST-2700-35, UST-2700-36, UST-2700-37, UST-2700-38, and UST-2700-39) and a total of 500 cubic yards of potentially contaminated soil were removed in 1998. A closure report was submitted to the NJDEP requesting an NFA determination in 2000, and an NFA approval letter was received from the NJDEP on 10/23/2000. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
18	UST-2700-61	Former #2 Fuel oil UST	0.05	No	A former #2 fuel oil UST and potentially contaminated soil were removed in 1994. Petroleum-related contaminants were detected in confirmatory soil samples at concentrations below the NJDEP cleanup criteria. A closure report was submitted to the NJDEP requesting an NFA determination in 2002, and an NFA approval letter was received from the NJDEP on 1/10/2003. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required. BEEs and sampling being conducted related to Parcel 15 and Parcel 28 also address Parcel 18 and Shrewsbury Creek.
19	UST-2337-65	Former #2 Fuel oil UST	0.17	No	A former #2 fuel oil UST and petroleum-contaminated soil were removed in 1994. Petroleum-related contaminants were detected in confirmatory soil samples at concentrations below the NJDEP cleanup criteria. A closure report was submitted to the NJDEP requesting an NFA determination in 2002, and an NFA approval letter was received from the NJDEP on 1/10/2003. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required. BEEs and sampling being conducted related to Parcel 15 and Parcel 28 also address Parcel 19 and Shrewsbury Creek.
20	along SW portion Parkers Creek	SW portion Parkers Creek	8.30	No	This is the undisturbed, wooded area surrounding Parkers Creek in the southwest portion of the CWA. No release or disposal of hazardous substances or petroleum products has occurred; a BEE is not required.
21	FTMM-25 (CW-3A)	Suspected former landfill	2.08	Yes	The suspected former landfill located in the southwestern portion of the CWA north of Building 2707 is being addressed under the Fort Monmouth IRP as Site FTMM-25 (CW-3A). Construction debris and coal ash were identified during the excavation of exploratory test pits. No contaminants of concern were identified in soil or groundwater at this site during RIs conducted under the IRP, and an NFA determination was submitted for NJDEP approval. A BEE is recommended since a potential migration pathway may exist for contaminants to enter Shrewsbury Creek.
22	UST-2707-40	Former #2 Fuel oil UST	0.05	No	A former #2 fuel oil UST and petroleum-contaminated soil were removed in 1998. A closure report was submitted to the NJDEP requesting an NFA determination in 1999, and an NFA approval letter was received from the NJDEP on 2/24/2000. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
23	UST-2500-53 UST-2500-54 UST-2500-55	Former Gasoline USTs	0.05	No	Five former gasoline USTs and petroleum-contaminated soil were removed in 1993. A closure report was submitted to the NJDEP requesting an NFA determination in 1996, and an NFA approval letter was received from the NJDEP on 4/20/2001. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.

Table 2-7
Charles Wood Area
ECP Parcel and IRP Site Summary

Parcel Number	Building No. / Site Name	Design Use Description	Size of Parcel (Acres)	Selected for BEE	Basis/Remarks
24	UST-2502-13	Former #2 Fuel oil UST	0.03	No	A former #2 fuel oil UST and petroleum-contaminated soil were removed in 1996. A closure report was submitted to the NJDEP requesting an NFA determination in 1998, and an NFA approval letter was received from the NJDEP on 8/29/2000. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
25	UST-2503-14	Former #2 Fuel oil UST	0.03	No	A former #2 fuel oil UST and petroleum-contaminated soil were removed in 1996. A closure report was submitted to the NJDEP requesting an NFA determination in 1998, and an NFA approval letter was received from the NJDEP on 7/10/1998. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
26	UST-2504-15	Former #2 Fuel oil UST	0.05	No	A former #2 fuel oil UST and petroleum-contaminated soil were removed in 1995. A closure report was submitted to the NJDEP requesting an NFA determination in 2000, and an NFA approval letter was received from the NJDEP on 10/23/00. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
27	2501 2503 2506 2507 2624 2625 2630 2632 2704 2707 2708 2709 2710 2713 Former Watson Laboratories	Southwest portion of CWA that includes the former Pulse Power Center, Machine Shop, Paint and Fabrication facility, Former Motor Pool, and portions of the former Watson laboratories	29.83	Yes	This parcel in the southwestern portion of CWA includes numerous current and former industrial and research operations. This area formerly housed the Pulse Power Center (2707, 2708, 2709, 2710, 2713), a paint shop (2506), a machine shop (2503), motor pool (2501), hazardous waste storage locations, and portions of the former Watson laboratories. 2501 - Former motor pool. 2503 - This facility is a machine shop and formerly contained a parts cleaner that utilized solvents. 2506 - Former paint and fabrication shop that utilized solvents and petroleum products. 2507 - Tactical Vehicle Repair Shop where petroleum and solvent use would be common during vehicle maintenance operations. 2624 - Former Hazardous Waste Storage Facility; 1980 U.S. Army Toxic and Hazardous Materials Agency reported that this facility was used for storage of bulk research chemicals. 2704 - Environmental testing of electronic equipment. Floor drains shown as connected to storm sewer. Former Watson Laboratories - this former complex of laboratories included Buildings 2532, 2533, 2534, and 2538. Operations at these former facilities occurred in the early to mid-1950s. The buildings have been demolished. Four aboveground storage tanks currently in use. Twelve (12) USTs removed from 1993 to 2002. No releases noted. NJDEP Closure Approval Letters received for seven closures. Awaiting NJDEP response for five tanks closed in 2002. Metals were identified as constituents of concern in sediment during the 2008 Site Investigation. A BEE is recommended to address potential discharges from floor drains and storm sewers from Buildings 2507 and 2704 into Shrewsbury Creek.
28	2525 2535 2539 2540 Former Motor Pool NW of 2566	Former Eatontown Laboratory, Battery Test Facility, Safety calibration laboratory office, Former Motor Pool	37.78	Yes	This parcel encompasses Buildings 2525, 2535, 2539, 2540, and all land within this area. Numerous demolished buildings located to the east and southeast of 2525. Industrial operations include the battery test facility (2535), former Eatontown laboratory (2525), and the Safety office calibration laboratory. Outdoor storage and ground staining were identified in the area of the former motor pool in aerial photographs from 1947, 1957, 1963, 1974, and 1991. Ten (10) former fuel oil USTs have been removed; no contamination was identified during closure; and NFA approval letters were received from the NJDEP. Chromium was identified as a constituent of concern in sediment during the 2008 Site Investigation. A BEE is recommended to address potential historic discharges from former floor drains to outfalls that were associated with Building 2525 into Shrewsbury Creek.
29	UST-2561-31	Former #2 Fuel oil UST	0.05	No	A former #2 fuel oil UST and petroleum-contaminated soil were removed in 1995. A closure report was submitted to the NJDEP requesting an NFA determination in 1998, and an NFA approval letter was received from the NJDEP on 7/10/98. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
30	UST-2562-41	Former gasoline UST	0.05	No	A former gasoline UST and potentially contaminated soil were removed in 1993. All confirmatory soil analytical results were below NJDEP criteria. Methyl-tertiary-butyl ether (MTBE) and lead were previously detected in groundwater above NJDEP criteria, but have been below the standards since November 1998. A closure report requesting NFA was submitted to the NJDEP on 01/02/02. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
31	UST-2537-27	Former #2 Fuel oil UST	0.05	No	A former #2 fuel oil UST and 15 cubic yards of petroleum-contaminated soil were removed in 1997. A closure report was submitted to the NJDEP requesting an NFA determination in 1998, and an NFA approval letter was received from the NJDEP on 8/29/00. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
32	Former Indoor Small Arms Range (Bldg T-2537) FTMM-26 (CW-4)	Former Indoor Small Arms Range (Bldg T-2537)	0.33	No	The former indoor small arms firing range located west of Building 2566 was investigated under the Fort Monmouth IRP as Site FTMM-26 (CW-4). Lead identified in soil above NJDEP Direct Contact Soil Cleanup Criteria, spent rounds, and casings were removed in 1997. An RI report requesting an NFA determination from the NJDEP was submitted in October 2005. An NFA was issued on April 26, 2007. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas. A BEE is not required.

Table 2-7
Charles Wood Area
ECP Parcel and IRP Site Summary

Parcel Number	Building No. / Site Name	Design Use Description	Size of Parcel (Acres)	Selected for BEE	Basis/Remarks
33	UST-2534-24	Former #2 Fuel oil UST	0.05	No	A former #2 fuel oil UST was removed in 1994. Petroleum-related contaminants were detected in post-excavation soil samples at concentrations below the NJDEP cleanup criteria. A Closure Report was submitted to the NJDEP, and an NFA approval letter was received from the NJDEP on 1/10/2003. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
34	2567 FTMM-58	Army & Air Force Exchange Service (AAFES) Gasoline Station (FTMM-58)	1.26	No	This parcel is being addressed under the Fort Monmouth IRP as Site FTMM-58 (Building 2567). Site FTMM-58 is an active gasoline service station operated by the AAFES organization. Three modern gasoline USTs are in use at Building 2567. The station is located at the corner of Hope Road and Laboratory Road. Five single-walled steel USTs and 1,000 cubic yards of petroleum-contaminated soil were removed as part of a renovation project that was initiated in 1991. Gasoline-related contaminants were detected in groundwater above NJDEP groundwater quality criteria. Due to groundwater contamination from volatile organic compounds, vapor intrusion is a recognized environmental condition in this area. A Classification Exception Area was filed with the NJDEP; and in situ bioremediation (Oxygen Release Compound [ORC] injection) and monitored natural attenuation, including groundwater monitoring, were selected as the remedial approach. Groundwater contamination is restricted to the immediate vicinity of Building 2567 and no evidence of migration to environmentally sensitive areas has been detected; a BEE is not required.
35	Child Development Center (2290) Residential Housing (2231-2240, 2260) FTMM-27 Former sewage treatment plant	2290, 2231 - 2240, 2260	58.88	No	This parcel includes the Child Development Center (2290), existing residential housing (2231 - 2240, 2260), the former sewage treatment plant, and the wooded portion of CWA south of 2566. No release or disposal of hazardous substances or petroleum products has occurred, and there has been no migration of such substances from adjacent areas. The former Charles Wood Sanitary Treatment Plant (STP) is addressed under the Fort Monmouth IRP as Site FTMM-27 (CW-5). The former STP was located in the center of the CWA, bounded by Hope Road to the east, Corregidor Road to the north, Guam Lane to the west, and Laboratory Road to the south. The STP was closed on October 29, 1975, and demolished in 1983. No compounds of concern were detected above NJDEP criteria, and an NFA determination was approved by the NJDEP in 1994. Eleven former residential fuel oil USTs have been removed; no contamination was identified during closure; and no regulatory concurrence is required. Since no contamination is present, a BEE is not required.

Table 2-8
Main Post, Fort Monmouth, New Jersey
ECP Parcel and IRP Site Summary

Parcel Number	Building No. / Associated IRP Site / Associated UST	Design Use Description	Size of Parcel (Acres)	Selected for BEE	Basis/Remarks
36	1200 1201 1202 1203 1204 1205 1206 1207 1208 1209 1210 1211 1212 1230 1231 1152 170 200 FTMM-09, 47	Current use is administrative and government tenant activities, electrical substation (1231), Military Academy Prep School (1204, 1230), former Signal School (1200)	118.54	No	This parcel is the western portion of Main Post. Batteries associated with Uninterrupted Power Supplies (UPSs) are present in association with electrical substations and computer/mission activities throughout the area. Two aboveground storage tanks (ASTs), one located at Building 200 and one located at Building 127, are in use with secondary containment in place. One underground storage tank (UST) with leak detection and secondary containment in place is located at Building 1203. FTMM-09 (M-9 Former Polychlorinated Biphenyl [PCB] Transformer Site) and FTMM-47 (Buildings 1002, 1208, and 1209 former PCB transformer site) were investigated under the Intallation Restoration Program (IRP) and it was determined no transformers were leaking and all transformers are considered non-PCB class equipment. Staining of concrete and elevated concentrations of PCBs in concrete samples collected below existing transformers at Buildings 1208 and 1209 were determined to be minor in nature and will be addressed accordingly upon removal or replacement of existing transformers. A No Further Action (NFA) determination was approved by the New Jersey Department of Environmental Protection (NJDEP) in 1994. No release or disposal of hazardous substances or petroleum products has occurred, and there has been no migration of such substances from adjacent areas; therefore, no Baseline Ecological Evaluation (BEE) is required.
37	1220 FTMM-10	Boiler Plant	1.06	No	This parcel includes the boiler plant (Building 1220), small amounts of various chemicals utilized during operation of the facility, and associated current and former petroleum storage locations. Ten former fuel oil USTs and petroleum-contaminated soil were removed, and NFA approval letters were received from the NJDEP in 2000 and 2003. FTMM-10 (Asbestos Storage Area) was inspected under the IRP, no asbestos containing material was found, and an NFA determination was approved by the NJDEP in 1994. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
38	Former Outdoor Firing Range (1940-1955 Pistol Range) FTMM-21	Former Outdoor Small Arms Firing Range	0.59	No	This parcel is the 1940-1955 Small Arms Training Range and is included in the Fort Monmouth Military Munitions Response Program (MMRP). The area has been a maintained grass-covered area for over 40 years. Due to the historic use of this site as a small arms firing range, metals contamination in soil was investigated and no metals were found above NJDEP soil criteria. The former pistol range is overlain by maintained grass areas and asphalt pavement. No contaminants were identified during the 2008 Site Investigation; therefore, no BEE is required.
39	1150	Vail Hall - Communications back up and administrative offices	0.60	Yes	This parcel is the area between Building 1150 and Parkers Creek. Floor drains and a sump pump are present in the basement of 1150 for high water table intrusion and ultimately discharge to Parkers Creek via a basin behind the building. Building 1150 houses a large UPS room in the basement for communications backup and previous activities included film developing. Base/Neutrals (B/Ns) and metals were identified as constituents of concern in sediment during the 2008 Site Investigation. A BEE is recommended to address potential discharges to Parkers Creek.
40	FTMM-02	Former Landfill	8.10	Yes	This parcel was investigated under the Fort Monmouth IRP as Site FTMM-02. This is the location of former landfill M-2. An NFA recommendation was submitted to the NJDEP for near surface soil; NJDEP's response in June 2009 included a request for additional sediment samples from Mill Creek and a BEE. An equivalent to a Declaration of Environmental Restriction has been incorporated into the Fort Monmouth Master Plan for PCB contamination in below grade soil. A Groundwater CEA was established with the NJDEP. Volatile organic compounds present in groundwater at concentrations above NJDEP Groundwater Quality Criteria (NJ GWQC) are being remediated via enhanced bioremediation (Oxygen Release Compound [ORC] injection) through FY08. Long-term monitoring of groundwater and surface water continues on a quarterly basis. Potential migration pathways may exist for contaminants to enter Mill Creek from the Landfill; a BEE is recommended.
41	FTMM-59	Groundwater in vicinity of Building 1122	0.34	No	This parcel was investigated under the Fort Monmouth IRP as IRP Site FTMM-59. A Groundwater Classification Exception Area (CEA) was submitted to the NJDEP. Volatile organic compounds present in groundwater at concentrations above NJ GWQC are being remediated via enhanced bioremediation (Hydrogen Release Compound [HRC] injection). Long-term monitoring of groundwater and surface water continues on a quarterly basis. The identification of volatile organic compounds in the groundwater in excess of criteria and the potential for migration into overlying buildings qualifies vapor intrusion as a recognized environmental concern in this area. The contaminated groundwater will be evaluated through the BEE for Parcel 43 (Building 1122).
42	UST-1122-171	Former UST	0.02	No	A fuel oil tank and potentially contaminated soil were removed in 1994. Metals were detected in groundwater above criteria. Agreement was reached with the NJDEP in 1998 to conduct 4 rounds of sampling and close out the groundwater monitoring due to high background metals. Report was submitted and no response has been received from the NJDEP; monitoring is ongoing. The metals in groundwater will be evaluated through the BEE for Parcel 43 (Building 1122).
43	1122	Do-it-Yourself Auto Repair and Craft Shop	1.54	Yes	This parcel encompasses Building 1122 (Do-it-yourself auto repairs) and Building 1124 (Car wash). Building 1122 is a hazardous waste generator and numerous areas of patched asphalt and old concrete pads have been noted. An oil/water separator (w/vessel) and floor drains confirmed to be connected to sanitary system per 1993 floor plans. Surface drainage from this area may have had the potential to allow contaminants to migrate into Mill Creek and B/Ns and metals were identified as constituents of concern in sediment during the 2008 Site Investigation. A BEE is recommended.

Table 2-8
Main Post, Fort Monmouth, New Jersey
ECP Parcel and IRP Site Summary

Parcel Number	Building No. / Associated IRP Site / Associated UST	Design Use Description	Size of Parcel (Acres)	Selected for BEE	Basis/Remarks
44	Former Skeet Range FTMM-03, 04, 05, 06, and 08	Former Skeet Range and Former Landfills	25.30	Yes	This parcel includes one MMRP site (1940-1955 Skeet Range) and IRP sites FTMM-03, 04, 05, 06, and 08. The IRP sites are former landfill areas (M-3, M-4, M-5, M-8) and a post burning area (M-6). Extensive soil evaluation has been conducted throughout this parcel, and an NFA determination has been requested from the NJDEP in relation to near surface soils throughout the parcel. No response has been received from the NJDEP. The Department of Public Works incorporated an equivalent to a Declaration of Environmental Restriction into the Fort Monmouth Master Plan for PCB below grade soil contamination at M-8. FTMM-03 - Groundwater - CEA currently being prepared for subsequent submission to the NJDEP. A Monitored Natural Attenuation (MNA) program is approved by the NJDEP and is currently under way. Long-term monitoring of groundwater and surface water continues on a quarterly basis. FTMM-05 - Groundwater - CEA currently being prepared for subsequent submission to the NJDEP. An HRC injection program is approved by the NJDEP and is currently under way through FY08 to address volatile organic compounds in groundwater. Long-term monitoring of groundwater and surface water continues on a quarterly basis throughout the parcel. BEE recommended for Former Landfills since a potential migration pathway may exist for contaminants to enter either Lafetra Creek, Mill Creek or Parkers Creek from the Landfills.
45	UST-697-194 UST-697-195 UST-697-195	Former USTs	0.04	No	Three 1,000-gallon waste oil tanks were removed on June 1, 1990. No documentation existed on condition of tanks or adjacent soils during removal. A site assessment was initiated at the suspected locations of the former USTs in November 1992. Petroleum-related compounds were detected in soil samples below State criteria. Initial groundwater samples exceeded NJ GWQC for chlorinated volatile organic compounds and pesticides. Closure Report submitted to NJDEP on 02/26/96 recommending additional groundwater sampling. Quarterly groundwater samples were collected from August 1997 to December 2001. Groundwater concentrations in the 2001 samples were below the NJ GWQC. Revised Closure Report submitted to NJDEP on 5/15/02. NJDEP closure approval letter received 01/10/2003. No contamination remains at the site and no migration to environmentally sensitive areas has been detected; therefore, no BEE is required. BEEs and sampling being conducted related to M-8 and M-18 also address Parcel 45 and Parkers Creek.
46	FTMM-07	Former Incinerator	0.03	No	This parcel was investigated under the Fort Monmouth IRP as Site FTMM-07 (M-7 Burning Area). The M-7 burning area was a former incinerator located within Building 697. The incinerator was used until 1990 for burning classified documents. The Incinerator was dismantled in 1993; NFA determination approved by NJDEP in 1994. There is no contamination present at Parcel 46 or evidence of migration to environmentally sensitive areas; therefore, no BEE is required. BEEs and sampling being conducted related to M-8 and M-18 also address Parcel 46 and Parkers Creek.
47	FTMM-19	Former Pistol Range	2.23	No	This parcel includes a former pistol range and the former sanitary treatment plant (FTMM-19). The firing range was used from 1935 to 1940 for small arms. The sewage treatment plant closed in 1975. No compounds of concern detected above NJDEP criteria for soil or sediment. NFA approved by NJDEP in 1996. Since no contaminants were found at Parcel 47, no BEE is required.
48	FTMM-18	Former Training Area	4.85	Yes	This parcel was investigated under the Fort Monmouth IRP as Site FTMM-18 - Near Surface Soils (Cover Soil). A geophysical survey and subsequent trenching identified buried waste materials at the site. A BEE is recommended since a potential migration pathway may exist for contaminants to enter Parkers Creek.
49	283, 288, 291, 292, 293, 295	Former Squier Laboratory Complex, Museum, Battery Test Facility	9.09	Yes	Building 283 is currently administrative space. Previous use included the Squier laboratory - primary R&D laboratory until 1954 (when the laboratory operations were transferred to Building 2700). Former repair/experimental work within this parcel included photographic equipment, a battery test facility (which was destroyed by fire in the 1980s and subsequently rebuilt), climatic testing lab, plastics research and development. Numerous former buildings existed in this parcel that were associated with Squier laboratory operations in the 1950s. B/Ns and PCBs were identified as constituents of concern in soil and metals were identified as constituents of concern in sediment during the 2008 Site Investigation. Migration of contaminants from UST at Building 283 or discharges from former septic and sump systems associated with Squier Complex to Parkers Creek may have occurred, so a BEE is recommended.
50	FTMM-54 Building 296) FTMM-55 (Building 290) FTMM-61 (Building 283)	Former fuel distribution facility, Former USTs	2.18	No	Three sites within this parcel are included in the Fort Monmouth IRP. Site FTMM-54 is a former abandoned fuel distribution facility that was removed during a renovation project at Building 296. Benzene and lead are present in groundwater above criteria and are being addressed through the implementation of MNA, which includes quarterly groundwater monitoring. Site FTMM-55 is the site of a former UST system which was located at Building 290. Petroleum-contaminated soil has been removed; lead and arsenic detections in groundwater are being addressed through MNA (including quarterly groundwater monitoring), while a request for an NFA determination is under review by the NJDEP. FTMM-61 is a former 3,000-gallon UST site at which petroleum-contaminated soil was removed and petroleum-related contaminants are present in groundwater. In situ bioremediation (ORC injection) is being conducted through FY08 to address groundwater, long-term monitoring of groundwater is ongoing. In total within this parcel, 15 USTs that were removed had evidence of petroleum release during closure and were properly addressed via removal of contaminated soil, and NFA approval letters were received for all 15 USTs. Contaminated groundwater is addressed through the Fort Monmouth IRP as summarized above. The identification of volatile organic compounds in the groundwater in excess of criteria indicates vapor intrusion is a potential recognized environmental concern in this area. Contaminated soils have been removed and no pathways to environmentally sensitive areas are present; no BEE is required. BEEs and sampling being conducted related to M-8 and M-18 also address Parcel 50 and Parkers Creek.

Table 2-8
Main Post, Fort Monmouth, New Jersey
ECP Parcel and IRP Site Summary

Parcel Number	Building No. / Associated IRP Site / Associated UST	Design Use Description	Size of Parcel (Acres)	Selected for BEE	Basis/Remarks
51	750 Area 787, 788, 789 500 Area 600 Area 1100 former Barracks FTMM-11	Motor Pool Administrative Barracks Former USTs	87.00	No	This parcel includes the 750 motor pool; the area around Buildings 787, 788, and 789; the 600 Area Buildings; 500 Area Buildings; former barracks along Semaphore Ave, and IRP Site FTMM-11. Per communications with facility personnel involved with the 750 Motor Pool construction project in the 1980s, multiple former USTs associated with former barracks in the area were removed during construction. Extensive soil sampling and three UST removals were conducted in the area of Buildings 787, 788, and 789 as part of the U.S. Army's Residential Communities Initiative (RCI) and Enhanced Use Leasing (EUL) programs. Soil grid sampling was conducted throughout the area. Locations at which contaminated soil was identified above NJDEP residential cleanup criteria were excavated and disposed off site. Numerous UST removals and extensive investigation of the 600 Area were conducted under the 600 Area Work Plan that was approved by the NJDEP. A petroleum release was documented to have potentially occurred at 24 of the removed USTs in this parcel. An NFA approval letter was obtained from the NJDEP for all 24 locations where evidence of a petroleum release was identified. Current operations in the 600 Area include dry metal fabrication of vehicle equipment shelters (no solvents used). Small amounts of chemicals are utilized in this area, and lead acid batteries are present in association with emergency generators and UPSs. FTMM-11 (M-11 Elevated Water Tank) was investigated unde the IRP. Site reconnaissance work revealed no visible stains, stressed vegetation or soil at the site and an NFA determination was approved by the NJDEP in 1994. Eleven suspected USTs were identified during a geophysical survey conducted as part of the 2008 Site Investigation and are currently being addressed. This parcel consists of maintained grass and pavement associated with residential housing and the 750 motor pool. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
52	FTMM-53, Bldg 699	gasoline service station	1.38	No	This parcel was investigated under the Fort Monmouth IRP as FTMM-53 (Building 699). Site FTMM-53 is an active gasoline service station operated by the Army & Air Force Exchange Service (AAFES) organization. On November 5, 1984, a tank tightness test identified a leak in two USTs. No action was taken until 1989 when a line leak was identified; subsequently, the piping was excavated and replaced. Volatile organic compounds were identified in soil and groundwater at concentrations exceeding NJDEP cleanup criteria. Since that time, a groundwater treatment system (to recover free product and to control plume migration) has been operating in conjunction with a quarterly groundwater monitoring program. The cleanup strategy is to continue remedial action activities and monitoring efforts at the Building 699 site. Shut-down of the treatment system is expected in FY08 and quarterly groundwater monitoring of 13 wells will be performed for 2 years after shut-down. A CEA is currently being prepared for subsequent submission to the NJDEP. The identification of volatile organic compounds in the soil and groundwater in excess of criteria indicates vapor intrusion is a potential recognized environmental concern in this area and tetrachloroethene was identified as a constituent of concern in soil gas during the 2008 Site Investigation. Contaminated soil has been removed and contaminated groundwater is contained in the immediate vicinity of Building 699; no migration to environmentally sensitive areas had been detected; a BEE is not required.
53	700 Area	former housing	11.53	No	Extensive soil sampling and numerous UST removals were conducted as part of the U.S. Army's RCI and EUL programs. Soil grid sampling was conducted throughout the area. Locations at which contaminated soil was identified above NJDEP residential cleanup criteria were excavated and disposed off site and there are no migration pathways to environmentally sensitive areas; therefore, no BEE is recommended.
54	700 Area 800 Area	Lane Hall (Social events and food service) Former Dental Clinic	44.74	No	This parcel includes a sewage lift station (Building 752) at which antifreeze is stored for an emergency generator, former dental clinic and photoprocessing facility currently utilized as a locker room (Building 814); and Lane Hall (Building 702) which is utilized for social events and food service. No release or disposal of hazardous substances or petroleum products has occurred; therefore, no BEE is required.
55	876 FTMM-47	Former Motor Pool Former Medical and Veterinarian Laboratory	11.80	No	Medical and veterinarian laboratories were previously located in former Building 876 and a 1999 Chemical Inventory recorded storage of hazardous substances in this former building. A motor pool formerly existed within this parcel. FTMM-47 (Buildings 1002, 1208, and 1209 former PCB transformer site) was investigated under the IRP and it was determined the staining of concrete and elevated concentrations of PCBs in concrete samples collected below existing transformers at Building 1002 was minor in nature and will be addressed accordingly upon removal or replacement of existing transformers. An NFA determination was approved by the NJDEP. There are no migration pathways to environmentally sensitive areas; a BEE is not required.
56	800 Area RCI Project	Former housing	15.18	No	Extensive soil sampling and numerous UST removals were conducted as part of the U.S. Army's RCI and EUL programs. Soil grid sampling was conducted throughout the area. Locations at which contaminated soil was identified above NJDEP residential cleanup criteria were excavated and disposed off site. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
57		Former Coal Storage and RR Unloading area	8.71	No	Former coal storage and unloading area along former railroad in south central portion of Main Post. B/Ns were identified as constituents of concern in soil and metals were identified as constituents of concern in groundwater during the 2008 Site Investigation and are being further evaluated. No migration pathway to ecological receptors has been identified. There are no migration pathways to environmentally sensitive areas; a BEE is not required. BEE and sampling being conducted related to M-14 also addresses Parcel 57 and Husky Brook.

Table 2-8
Main Post, Fort Monmouth, New Jersey
ECP Parcel and IRP Site Summary

Parcel Number	Building No. / Associated IRP Site / Associated UST	Design Use Description	Size of Parcel (Acres)	Selected for BEE	Basis/Remarks
58	UST-800-127 UST-801-129	Former #2 fuel oil USTs	1.04	No	Two #2 fuel oil USTs and associated petroleum-contaminated soil were removed. Initial groundwater results showed one semi-volatile organic compound exceeded the NJ GWQC. A monitoring well was installed and no compounds were detected above NJ GWQC in four rounds of sampling. Closure Reports requesting NFA were submitted to the NJDEP, and an NFA approval letter was received from the NJDEP on 1/10/2003. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
60	1077, 1078	Residential Housing	4.22	No	Residential housing area southwest of Patterson Army Health Clinic. No release or disposal of hazardous substances or petroleum products has occurred, and there has been no migration of such substances from adjacent areas. Since no contaminants are present and no release has occurred, no BEE is required.
61	810, 1075, 1076	Medical Facility Veterinary Clinic	14.66	Yes	This parcel includes the veterinary clinic (Building 810), Patterson Army Health Clinic (Building 1075), and former Patterson Boiler Plant (former Building 1076). Former X-ray operations were conducted with film development at 1075; over the counter medicines stored on site; medical waste disposed through 1075. Based on extensive previous medical activities within this parcel, potential for historic release of developing chemicals and other waste associated with medical operations exists. B/Ns were identified as constituents of concern in soil and B/Ns and metals were identified as constituents of concern in sediment during the 2008 Site Investigation. Stormwater discharges to a tributary to Oceanport Creek from Building 1075 may have occurred; a BEE is recommended.
62	FTMM-13	Former Pathogenic Waste Incinerator	0.13	No	This parcel was investigated under the Fort Monmouth IRP as FTMM-13 (M-13 Pathogenic Waste Incinerator). The pathogenic waste incinerator formerly located on the west side of former Building 1076 was constructed in 1975. The pathogenic waste incinerator was taken out of service in December 1992. Site reconnaissance work revealed no ash or debris in or around the incinerator unit and the incinerator was dismantled in November 1993. An NFA determination was approved by the NJDEP in 1994. No contaminants have been identified and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
63	UST-810-131	Former #2 fuel oil UST	0.12	No	A former #2 fuel oil UST was removed in 1998. Visible petroleum contamination of soil was observed during the removal of the UST, and potentially contaminated soil was removed. No detections in groundwater or soil samples were above NJDEP criteria. A closure report was submitted to the NJDEP requesting an NFA determination in 2000, and an NFA approval letter was received from the NJDEP on 8/29/2000. No pathway to environmentally sensitive areas is present, so no BEE is required.
64	FTMM-64 (Building 812)	former gasoline distribution area	3.18	No	This parcel was investigated under the Fort Monmouth IRP as FTMM-64 (Building 812). This parcel is a former gasoline distribution area. Volatile organic compounds and metals are present in groundwater above the NJ GWQC; no contaminants identified in soil above criteria. Treatment of groundwater is underway via enhanced bioremediation (HRC/ORC injection). A CEA was submitted with the NJDEP, awaiting response. Long-term monitoring of groundwater continues on a quarterly basis. The identification of volatile organic compounds in the groundwater in excess of criteria indicates vapor intrusion is a potential recognized environmental concern in this area. There is no migration pathway to environmentally sensitive areas, so no BEE is required.
65	FTMM-66 (Building 886)	former fuel oil storage area	3.15	No	This parcel is addressed under the Fort Monmouth IRP as FTMM-66 (Building 886). Based upon historical records, Site FTMM-66 was identified as a former fuel oil storage area. Aerial photos indicate a former AST was located adjacent to Building 886, located off Murphy Drive on the Main Post. The AST had a storage capacity of 250,000 gallons and stored #2 fuel oil. The AST was removed in the 1970s. Soil contamination was identified at the site during the removal of a 1,000-gallon steel, fuel oil UST located on the west side of Building 886. Soils contained petroleum contamination exceeding NJDEP residential direct contact soil cleanup criteria, and free product was observed in groundwater. 4,000 tons of soil were removed in February 2003. A CEA was filed with the NJDEP and MNA, including groundwater monitoring, was selected as the remedial approach. Long-term groundwater monitoring continues on a quarterly basis. There is no migration pathway to environmentally sensitive areas, so no BEE is required.
66	900 Building Area	Electrical Substation General Storage Police Station	28.92	No	This parcel includes general storage (Buildings 908, 975 and 976), the police station (977), and an electrical substation (Building 978). The electrical substation (Building 978) houses 18 lead acid batteries and non-PCB transformers, all contained within secondary containment. Building 977 houses lead acid batteries associated with an emergency generator. Building 901, currently used in an administrative capacity, formerly housed radar training. Chemicals utilized in this operation included alcohols and freon 113. No release or disposal of hazardous substances or petroleum products has occurred, and there has been no migration of such substances from adjacent areas. Therefore, no BEE is required.
67	UST-949-203	Former #2 fuel oil UST	0.12	No	A former diesel UST and potentially contaminated soil were removed in 1998. One volatile organic compound was detected above the NJ GWQC during the initial round of groundwater sampling. Subsequent quarterly samples collected in 9/2000, 10/2000, 1/2001, and 4/2001 showed no compounds above NJ GWQC. Closure Report requesting NFA submitted to NJDEP on 07/17/2001. NJDEP Closure Approval Letter received on 01/10/2003. No contaminants remain at the site and there is no pathway to environmentally sensitive areas, so no BEE is required.
68	900 Building Area former USTs	Former #2 fuel oil USTs	4.74	No	This parcel includes 12 former USTs. Petroleum discharges were identified at five of the USTs and associated petroleum-contaminated soil was remediated. NFA approval letters were received in 2000 (UST-909-147, UST-914-152, UST-977-204, and UST-979-205) and 2003 (UST-905-145). Lead acid batteries associated with an emergency generator are present at Building 979. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.

Table 2-8
Main Post, Fort Monmouth, New Jersey
ECP Parcel and IRP Site Summary

Parcel Number	Building No. / Associated IRP Site / Associated UST	Design Use Description	Size of Parcel (Acres)	Selected for BEE	Basis/Remarks
69	900	Former vehicle repair/motor pool	0.31	Yes	This facility is a former vehicle repair/motor pool facility where solvent-based parts cleaners were previously utilized as part of routine vehicle maintenance activities. This building has been used as general storage for the past 10 years. Metals and B/Ns were identified as constituents of concern in sediment during the 2008 Site Investigation. Stormwater outfalls discharging into Oceanport Creek may have the potential to have led to migration of contaminants to Oceanport Creek, so a BEE is recommended.
70	551	Classroom, former (early 1950s) photoprocessing	1.73	No	Former industrial processes included the use of carbon tetrachloride, benzol, acids, and photographic chemicals in an adjacent Quonset hut in the early 1950s. This facility is currently used for administrative and classroom activities. No constituents of concern were identified in sediment or soil during the 2008 Site Investigation. Though Husky Brook is adjacent to Parcel 70, no contaminants have been found in environmental media, so a BEE is not required.
71	FTMM-12, FTMM-14	Former Landfill	14.65	Yes	This parcel was investigated under the Fort Monmouth IRP as FTMM-12 (M-12 Landfill) and FTMM-14 (M-14 Landfill). A remedial action that addressed soil erosion problems along Husky Brook was completed in June of 2001. An NFA recommendation for near surface soil was submitted to the NJDEP; NJDEP's response in July 2007 included a request for additional sediment samples from Husky Brook and a BEE. Metals and volatile organic compounds have been detected in groundwater slightly above the NJ GWQC. Long-term monitoring of groundwater and surface water continues on a quarterly basis, and a CEA request has been submitted to the NJDEP for groundwater. An NFA recommendation was submitted to the NJDEP. A BEE is recommended since a potential migration pathway may exist for contaminants to enter Husky Brook.
72	200 Area 300 Area	Residential Housing Parade Grounds Administrative	101.38	No	This parcel is located in the north-central portion of Main Post and includes residential housing along Gosselin Ave., Sherrill Ave., Allen Ave., and Signal Ave.; the parade grounds; administrative offices in Building 286 (Russell Hall), and electronic research facilities in the northeastern portion of the parcel. Hospital facilities were formerly located in Building 209 prior to the construction of Patterson Army Health Clinic. Building 209 is now used for administrative purposes. No release or disposal of hazardous substances or petroleum products has occurred, and there has been no migration of such substances from adjacent areas. Forty-five (45) former fuel oil USTs have been removed and no contamination was identified during closure. Approval of an NFA recommendation was received from the NJDEP for six USTs, the remaining 39 removed USTs were residential USTs for which no regulatory concurrence is required. Since no contamination is present related to Parcel 72, no BEE is required.
73	UST-286-60	Former #2 fuel oil UST	0.12	No	A former #2 fuel oil UST and 3 cubic yards of petroleum-contaminated soil were removed. A closure report was submitted to the NJDEP requesting an NFA determination in 1999, and an NFA approval letter was received from the NJDEP on 2/24/2000. Additionally, there are no migration pathways to environmentally sensitive areas, so no BEE is required.
74	205, 206, 207, 208, 257, 282, 287	Residential Housing, Fire House, and former fuel oil USTs	10.74	No	This parcel includes the fire house and existing housing southeast of Hidreth Ave. Eight former residential fuel oil USTs and associated petroleum-contaminated soil have been removed. No regulatory concurrence is required for residential USTs. Despite no requirement for regulatory concurrence, an NFA approval letter was obtained for 7 of the 8 USTs. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
75	FTMM-20	Pre-1941 Sewage Treatment Plant	0.28	Yes	This parcel is addressed under the Fort Monmouth IRP as FTMM-20 (Pre-1941 Sewage Treatment Plant). During the RI, metals were detected in sediment samples above criteria. Though these metals may be comparable to background levels; a BEE is recommended.
76	200 Area 300 Area	Residential Housing Former Barracks	12.06	No	This parcel includes the existing residential housing buildings north of Housing Ave. and the former 300 Area Barracks. Numerous USTs are illustrated on historic maps associated with the 300 Area Barracks that are not documented to have been removed. Thirteen (13) residential USTs and associated petroleum-contaminated soil (for which no NJDEP closure approval is required) were removed in association with existing residential housing in this parcel as well. Seven suspected USTS were identified during a geophysical survey conducted as part of the 2008 Site Investigation; however, no constituents of concern were identified in soil or groundwater. The 7 suspected USTs are currently being investigated. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
77	UST-210-8	Former #2 fuel oil UST	0.37	No	A former #2 fuel oil UST and 10 cubic yards of petroleum-contaminated soil were removed in 1994, and no contaminants were detected in groundwater above NJDEP criteria. A closure report was submitted to the NJDEP requesting an NFA determination in 1996. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
78	FTMM-15	Elevated Water Tank	0.30	Yes	This parcel is addressed under the Fort Monmouth IRP as Site FTMM-15 (M-15 Water Tank). Two pesticides and three metals were identified above NJDEP direct contact soil cleanup criteria. A corrective action was implemented in 1999 involving the removal of the contaminated soil from the site. A Remedial Action report will be submitted to NJDEP with an NFA recommendation from the Army. RI sampling had confirmed that horizontal migration towards Parkers Creek had occurred prior to Remedial Action, so BEE is recommended.

Table 2-8
Main Post, Fort Monmouth, New Jersey
ECP Parcel and IRP Site Summary

Parcel Number	Building No. / Associated IRP Site / Associated UST	Design Use Description	Size of Parcel (Acres)	Selected for BEE	Basis/Remarks
79	142 494 Bldg 75 Former Tank Farm	Box/Crate Shop Marina Former Bulk Petroleum Storage Tanks	43.64	No	This parcel includes the Box/Crate shop (all hazmat packaged and shipped through this building, but not stored at this location), the water supply treatment building (Building 494), former Building 75 Tank Area adjacent to the railroad, the marina, and the former 400 area housing. There were 38 USTs removed from this parcel. Eight of the tanks had leaked and soil removals were conducted. Some of the USTs were residential and did not require closure documentation. Twenty-five (25) approval letters for the UST removals were received from the NJDEP. Four suspected USTs were identified during a geophysical survey conducted as part of the 2008 Site Investigation; however, no constituents of concern were identified in soil or groundwater. The four suspected USTs are currently being investigated. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
80	Former Buildings 105 and 106		0.93	No	This parcel includes former Buildings 105 and 106 - former photoprocessing facilities located northeast of Oceanport Ave., directly southeast of the current credit union (Building 495). These building served as photoprocessing facilities from the 1940s until they were demolished in the 1980s. No constituents of concern wer idetified during the 2008 Site Investigation and the parcel consists of maintained lawn, pavement, and buildigns. No migration pathway to sensitive environmental resource is present; a BEE is not required.
81	FTMM-16 (Bldg 498)	Former Pesticide Storage Area	0.12	Yes	A former pesticide storage and mixing area was located at the M-16 site on Main Post. The facility (Building 498) is a brick structure and was constructed in 1939. Pesticide management practices were conducted at the site until the late 1950s. Remedial actions were completed in 1999 under the Fort Monmouth IRP to remove pesticide-contaminated soil. A Remedial Action report will be submitted to NJDEP with an NFA recommendation from the Army. Sampling prior to Remedial Action confirmed that migration horizontally in the direction of Oceanport Creek had occurred, so a BEE is recommended.
82	400 Area RCI	Remediated soil contamination in 400 Area	0.13	No	PCB-contaminated soil was excavated to below NJDEP cleanup criteria and disposed off site in 2005 as part of the U.S. Army's RCI and EUL programs. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
83	109	Former photoprocessing Current and former maintenance shops (carpentry, plumbing, heating, HVAC, electrical) Former coal storage	35.34	No	This parcel is located in the northeastern portion of the Main Post and is associated with numerous current and former industrial processes and vehicle operations including former vehicle wash platforms, former photoprocessing and printing plants, current and former vehicle maintenance areas, former heating plants, former refrigerant repair, former coal storage, and current and former carpentry, plumbing, and electrical shops. Three modern USTs are currently in use at Building 273 (Garrison Motor Pool), three waste oil ASTs are present at Building 484, one waste oil AST is present at Building 481, and one waste oil AST is present at Building 121. All existing USTs and ASTs have secondary containment in place. Numerous former USTs have been removed throughout this parcel, and petroleum-contaminated soil was addressed when encountered at each UST location. Lead and B/Ns were identified as constituents of concern in surface soil during the 2008 Site Investigation. The entire parcel consists of maintained lawn, pavement, and buildings. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
84	FTMM-56 (Former Building 80)	Former #2 fuel oil UST	0.29	No	This parcel is addressed under the Fort Monmouth IRPas Site FTMM-56 (Building 80). A former #2 fuel oil UST and 56 cubic yards of petroleum-contaminated soil were removed in 1993. Although a discharge was identified during the UST closure, the discharge is believed to have come from activities prior to and not related to the UST removal (pre-1984). Gasoline-related constituents and one pesticide were detected at concentrations above the NJ GWQC. MNA (which includes quarterly groundwater monitoring) has been implemented as the remedial approach for this parcel pending approval of an NFA recommendation by the NJDEP. An RI report requesting an NFA determination was submitted to the NJDEP in May 2005. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
85	UST-116-9	Former #2 fuel oil UST	0.13	No	A former #2 fuel oil UST and petroleum-contaminated soil were removed in 1994. A closure report was submitted to the NJDEP requesting an NFA determination in 2000, and an NFA approval letter was received from the NJDEP on 10/23/00. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
86	UST-117-72	#2 fuel oil UST	0.13	No	A former #2 fuel oil UST was removed in 1994. Petroleum-related contaminants were detected in confirmatory soil samples at concentrations below the NJDEP cleanup criteria. A closure report was submitted to the NJDEP requesting an NFA determination in 1998. There are no migration pathways to environmentally sensitive areas; a BEE is not required.
87	UST-64-4 (#2 fuel oil) UST-65-5 (#2 fuel oil) UST-161-14 (#2 fuel oil) UST-161-68 (waste oil) UST-173-19 (#2 fuel oil)	5 former USTs	0.45	No	This parcel includes 5 former USTs and associated petroleum-contaminated soil that were removed. Closure Reports requesting NFA have been submitted for all 5 USTs. NFA approval letters were received from NJDEP for UST-64-4 on 10/23/00, UST-65-5 on 8/29/2000, and UST-173-19 on 1/10/2003. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
88	FTMM-17 (Former Building 65)	Former Pesticide Storage Area	0.27	No	This parcel was included in the Fort Monmouth IRP under Site FTMM-17 (M-17 Former Pesticide Storage Area, Bldg 65). Building 65 has been demolished; chlordane was detected in the soil 6-12 inches below grade consistent with termite control practices in the 1980s; no chlordane was detected in groundwater. An NFA determination was approved by the NJDEP in 1994. There are no migration pathways to environmentally sensitive areas; a BEE is not required.

Table 2-8
Main Post, Fort Monmouth, New Jersey
ECP Parcel and IRP Site Summary

Parcel Number	Building No. / Associated IRP Site / Associated UST	Design Use Description	Size of Parcel (Acres)	Selected for BEE	Basis/Remarks
89	UST-64-3 'UST-485-57	2 former #2 fuel oil USTs	0.14	No	Two former #2 fuel oil tanks (UST-64-3, UST-485-57) and petroleum-contaminated soil were removed. A closure report was submitted to the NJDEP requesting an NFA determination in 2000, and an NFA approval letter was received from the NJDEP on 8/29/2000. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
90	FTMM-57 (Former Bldg 108 USTs)	5 former #2 fuel oil USTs	0.38	No	Five former USTs associated with former Building 108 are addressed under the Fort Monmouth IRP as Site FTMM-57. The 5 USTs were removed in 1993; volatile organic compounds and metals have been detected in groundwater above NJ GWQC. A CEA for site groundwater, which restricts the use of groundwater within a defined area until such time that contaminants of concern achieve compliance with the NJ GWQC, was filed with the NJDEP. An RI report requesting an NFA determination has been submitted to the NJDEP. Currently, as part of a monitoring program, four groundwater monitoring wells are sampled on a quarterly basis. Contaminated groundwater is restricted to the area in the vicinit of the former USTs and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
91	UST-280-25	Former #2 Fuel oil UST	0.14	No	A former #2 fuel oil UST and petroleum-contaminated soil were removed in 1997. A closure report was submitted to the NJDEP requesting an NFA determination in 2000, and an NFA approval letter was received from the NJDEP on 10/23/2000. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
92	UST-484-56	Former #2 Fuel oil UST	0.04	No	A former #2 fuel oil UST and 13 cubic yards of petroleum-contaminated soil were removed in 1995. Petroleum-related contaminants were detected in confirmatory soil samples at concentrations below the NJDEP cleanup criteria. A closure report was submitted to the NJDEP requesting an NFA determination in 1998, and an NFA approval letter was received from the NJDEP on 8/29/2000. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
93	UST-482-54	Former #2 Fuel oil UST	0.04	No	A former #2 fuel oil UST and petroleum-contaminated soil were removed in 1994. Petroleum-related contaminants were detected in confirmatory soil samples at concentrations below the NJDEP cleanup criteria and groundwater results were below the NJ GWQC. A closure report was submitted to the NJDEP requesting an NFA determination in 2002, and an NFA approval letter was received from the NJDEP on 1/10/2003. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
94	UST-164-15 UST-277-24	Former #2 Fuel oil USTs	0.17	No	Two former #2 fuel oil tanks (UST-164-15, UST-277-24) and petroleum-contaminated soil were removed. A closure report was submitted to the NJDEP requesting an NFA determination in 2002, and an NFA approval letter was received from the NJDEP on 1/10/2003. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.
95	PCB Transformer leak near Bldgs 454 and 456	Pole Mounted PCB Transformer leak	0.44	No	This parcel is located northeast of Oceanport Ave. in the vicinity of Buildings 454 and 456. Three pole-mounted 50 KVA transformers (PCB-contaminated class) were knocked to the ground as a result of a storm in 1992 and the contents of two of the transformers leaked onto the ground. The transformers were properly disposed of along with 50 cubic yards of PCB-contaminated soil. Final post-excavation samples were non-detect for PCBs and showed levels of total petroleum hydrocarbons (TPH) below the NJDEP standard. An additional 20 surface soil samples were collected from the perimeter of the entire excavation. These samples were analyzed for TPH. None of these samples contained TPH in excess of the NJDEP soil standard. Contaminated soil has been removed and there are no migration pathways to environmentally sensitive areas; a BEE is not required.

ArcGIS File: F:\GISDATA2\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_021_Fig2-1_High_Tide_Salinity_BEE_rpt.mxd (4/20/2011)

LEGEND

- **Surface Water Sampling Point** — High Tide Salinity Measurements (ppt)
- **BEE Sampling Location** — High Tide Salinity Measurement (ppt)
- Water Feature
- Road Centerline
- IRP Site
- ECP Parcel
- Building
- Water Body
- Installation Boundary
- Municipal Boundary

N

0 500 1,000 2,000

Scale: Feet

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

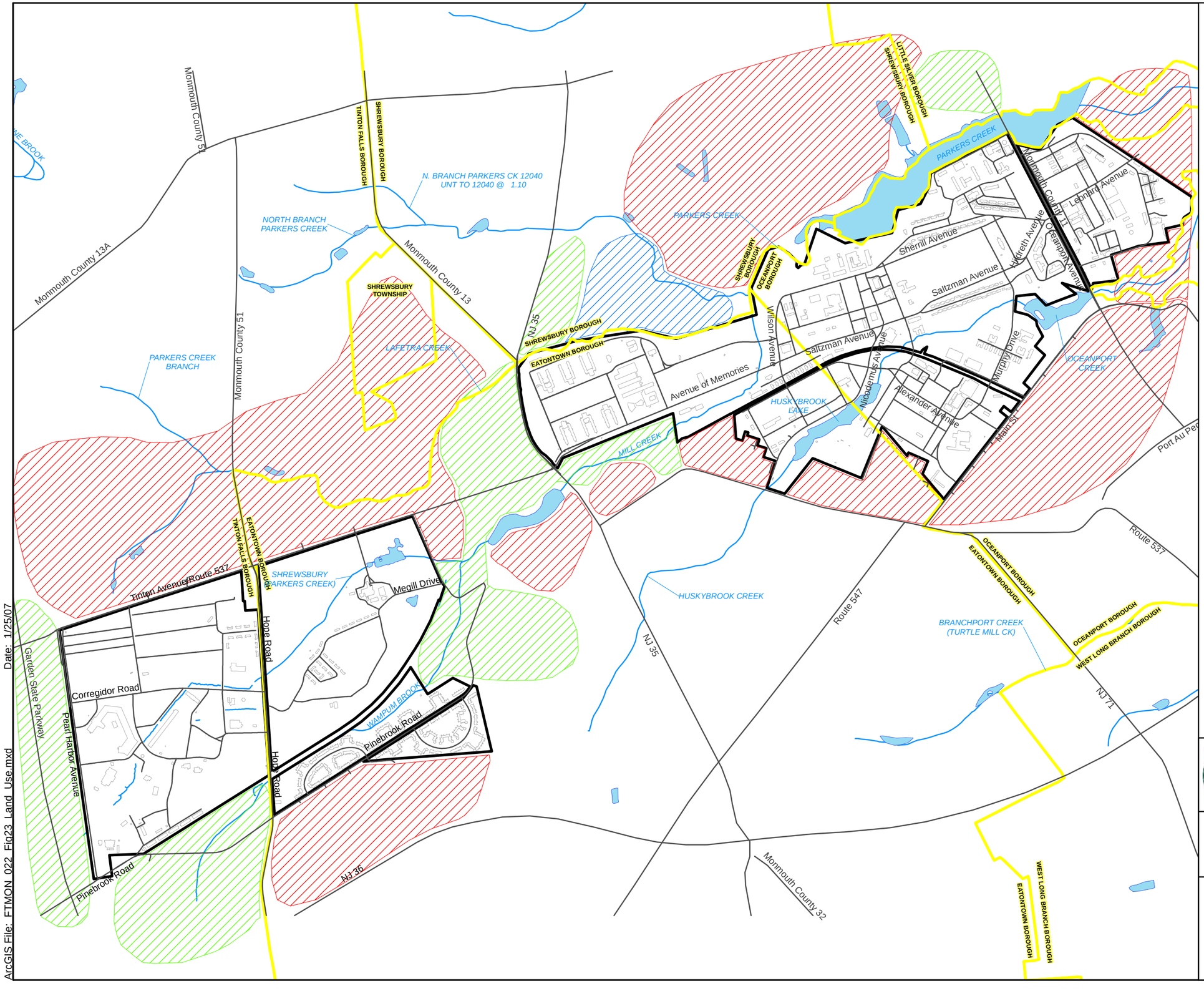
Shaw® Shaw Environmental, Inc.

FIGURE 2-1

FORT MONMOUTH
BASELINE ECOLOGICAL
EVALUATION REPORT

HIGH TIDE SALINITY RESULTS

MAIN POST
FORT MONMOUTH
NEW JERSEY



LEGEND

- Road Centerline
- Water Feature
- Building
- Water Body
- Installation Boundary
- Municipal Boundary

Land Use

- Industrial/Commercial
- Residential/Recreational
- Undeveloped

N

Scale:

0 750 1,500 3,000 Feet

Note: Schematic representation of prevalent surrounding land use only. Boundaries of surrounding land use designations are not exact.

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

Shaw® Shaw Environmental, Inc.

FIGURE 2-2

ADJACENT LAND USE MAP

FORT MONMOUTH
NEW JERSEY

Date: 1/25/07

ArcGIS File: FTMON_022_Fig23_Land_Use.mxd

3.0 DATA EVALUATION

In order to evaluate the nature of contaminants detected at the FTMM sites and to identify the COPECs, several steps were followed. The first step was a review of the analytical data collected from the environmental media with regards to the sites and selection of the data appropriate for use in the BEE. The second step was the identification of the most appropriate and applicable criteria or benchmarks for comparison to data. The third step was the identification of the COPECs at the sites and an evaluation of these COPECs in terms of potential ecological impact, including the use of conservative wildlife exposure models. The following sections describe these steps in detail.

3.1 REVIEW OF AVAILABLE SITE DATA

Site data addressed in this BEE include data previously collected for RIs (e.g., near surface soil data for former landfills), ECP SIs, and routine environmental monitoring (e.g., groundwater data) and data collected specifically to fill data gaps for the BEE. The data evaluated in this BEE appear in **Appendix A** (RI data), **Appendix B** (ECP SI data), **Appendix C** (groundwater monitoring data), and **Appendix D** (BEE investigation data).

Exposure of ecological receptors to contaminants in soil predominantly occurs within the surface soils. Ecological receptors are not frequently exposed to subsurface soils; therefore, subsurface soils collected at 2 feet bgs and below are not evaluated in this BEE. Near-surface soil data are available for most IRP sites in RI reports [Landfill 2 (FTMM-2), Landfill 3 (FTMM-3), Landfill 4 (FTMM-4), Landfill 5 (FTMM-5), Landfill 8 (FTMM-8), Landfill 12 (FTMM-12), Landfill 14 (FTMM-14), Former Training Area/Landfill (FTMM-18), and Landfill CW-3A (FTMM-25)] and most ECP Parcels in the SI report (Parcel 15, Parcel 27, Parcel 5, Parcel 39, Parcel 49, Parcel 61, Parcel 69). Contaminated soils have been excavated and removed and the areas backfilled and graded at Building 283, Building 1122, the Water Tank FTMM-15, the pre-1941 STP (FTMM-20), and Building 498 (FTMM-16); soils at these sites are not addressed in the BEE. Only subsurface soil sample data was previously available for the Former Pesticide Storage Area, CW-6 (FTMM-28); soils samples were collected as part of the BEE investigation from this site to support the BEE.

Though ecological receptors are not exposed directly to contaminants in groundwater, pathways may exist by which groundwater may flow to potential exposure points (e.g., discharge of groundwater into surface water bodies). Therefore, the most recent 2-year period of readily available groundwater data from routine environmental monitoring are evaluated in this BEE to best represent current conditions; this constitutes the 2008 and 2009 calendar years. Though groundwater may discharge to surface water bodies, groundwater contaminant concentrations are not meant to represent potential surface water concentrations. It should be noted also that, though the CEAs are meant to minimize the potential human health exposure to contaminants in groundwater, they do not inhibit potential ecological exposures. Groundwater data are available from the routine environmental monitoring for applicable IRP sites [Landfill 2 (FTMM-2), Landfill 3 (FTMM-3), Landfill 4 (FTMM-4), Landfill 5 (FTMM-5), Landfill 8 (FTMM-8), Landfill 12 (FTMM-12), Landfill 14 (FTMM-14), Building 498/FTMM-16, Former Training Area/Landfill FTMM-18, Landfill CW-3A (FTMM-25), Former Pesticide Storage Area/CW-6 (FTMM-28), Building 1122 (FTMM-59), and Building 283 (FTMM-61)] and from the SI Report (Shaw, 2008) for applicable ECP sites (Parcel 15, Parcel 28, Parcel 49, and Parcel 69). No groundwater samples were collected as part of the BEE.

Ecological receptors may be exposed directly to contaminants in surface water and sediment of the various creeks and ponds that drain the sites. As with soils, ecological receptors are not frequently exposed to contaminants in subsurface sediments. The top 6.0 inches of sediment is usually considered to be the biotic zone, and only data from the top 6 inches of sediments is evaluated in this BEE. Previous sediment data for most IRP sites addressed only PCBs. Sediment samples were collected as part of the BEE from applicable IRP sites for an expanded analytical program [Landfill 2 (FTMM-2), Landfill 3 (FTMM-3), Landfill 4 (FTMM-4), Landfill 5 (FTMM-5), Landfill 8 (FTMM-8), Landfill 12 (FTMM-12), Landfill 14 (FTMM-14), Water Tank/FTMM-15, Building 498/FTMM-16, Former Training Area/Landfill FTMM-18, Pre-1941 STP/FTMM-20, Landfill CW-3A (FTMM-25), Former Pesticide Storage Area/CW-6 (FTMM-28), Building 1122 (FTMM-59), and Building 283 (FTMM-61)]. The data from the samples collected as part of this BEE, and not the previous IRP sediment samples, are evaluated in this BEE. The previous IRP

sediment data, though not quantitatively addressed in the BEE, are provided in **Appendix L** and are consistent with the current BEE investigation data. Sediment data are also available from the SI Report (Shaw, 2008) for applicable ECP sites (Parcel 15, Parcel 27, Parcel 28, Parcel 39, Parcel 43, Parcel 49, Parcel 61, and Parcel 69) and are evaluated in this BEE.

As with sediment, surface water analysis in previous samples, particularly for IRP sites, has been for a limited suite of parameters. Surface water samples evaluated in this BEE were collected as part of the BEE for an expanded analytical program; surface water samples were collected for applicable IRP and ECP sites [Landfill 2 (FTMM-2), Landfill 3 (FTMM-3), Landfill 4 (FTMM-4), Landfill 5 (FTMM-5), Landfill 8 (FTMM-8), Landfill 12 (FTMM-12), Landfill 14 (FTMM-14), Water Tank/FTMM-15, Building 498/FTMM-16, Former Training Area/Landfill FTMM-18, Pre-1941 STP/FTMM-20, Landfill CW-3A (FTMM-25), Former Pesticide Storage Area/CW-6 (FTMM-28), Building 1122 (FTMM-59), Building 283 (FTMM-61), Parcel 15, Parcel 27, Parcel 28, Parcel 39, Parcel 43, Parcel 49, Parcel 61, and Parcel 69).

3.2 BEE SITE INVESTIGATION METHODOLOGIES

This section describes the methods utilized in conducting the BEE field activities. This work included the following:

- Surface soil sampling.
- Sediment sampling.
- Surface water sampling.

This section also describes the collection procedures for field quality control (QC) samples, the decontamination procedures for sampling equipment, and the management procedures for investigation-derived wastes (IDW). **Table 3-1** and **Table 3-2** present a list of all samples collected and parameters analyzed as part of the BEE field activities. The sample locations are presented on **Figure 3-1** for the MP and on **Figure 3-2** for the CWA. The 2010 sampling and analysis activities were conducted to meet NJDEP requirements (N.J.A.C. 7:26E-3.11; NJDEP, 2009b) for a BEE. Though a BEE is often performed as part of an SI, this work is not intended to satisfy the general requirements of an SI or RI as presented in the TRSR (N.J.A.C. 7:26E; NJDEP, 2009b) nor is it intended to provide data necessary for a sediment quality evaluation (NJDEP, 1998). Previous reports and comments were reviewed to identify previous data gaps and data needs, and surface water, sediment, and surface soil samples were collected to fill data gaps and gather enough information to satisfy the requirements of a BEE.

3.2.1 SURFACE SOIL SAMPLING

Surface soil samples collected during the BEE were collected from the top 6 inches of the soil. Soil samples were collected from the surface through use of a decontaminated hand trowel. The surficial vegetative material was first removed from the sampling location prior to sample collection. A decontaminated stainless steel trowel was than manually inserted in the soil to extract the sample and transfer it into a decontaminated stainless steel bowl for homogenization.

Once collected all surface soil samples were field screened with a properly calibrated photoionization detector (PID) instrument. To field screen the soil sample, a decontaminated stainless-steel trowel was used to make a cross-sectional slice of the soil sample in order to expose the porous surface.

During the sampling, samples collected for VOCs analysis were collected in accordance with TRSR, N.J.A.C. 7:26E-2.1(a)4 (NJDEP, 2009b) and NJDEP sampling procedures (NJDEP, 2005) using the En Core® method. For this method, laboratory prepared sample bottles are used but do not contain preservatives, and the following procedures were followed:

- Surface soil was trimmed away from the soil boring and the sample was collected immediately from the exposed surface using the coring device.
- The En Core® sampler was loaded according to manufacturer's instructions.
- The lid was secured immediately and the container was placed within the designated resealable bag.

- No additional tape/adhesive labels were affixed to the sample container but the resealable bags were properly labeled.
- Samples were placed upright into an iced cooler.
- An additional aliquot was collected from each sample location to determine percent moisture content.

The remaining soil was used for other analyses, which included SVOCs, pesticides, PCBs, metals, grain size, and organic carbon content. The procedure for homogenizing and sampling for these analyses was as follows:

- Any rocks or large organic matter was removed from the sample.
- The sample was thoroughly mixed within the stainless steel bowl by turning the entire sample over at least three times using a stainless steel trowel or scoop.
- The entire sample was then homogenized using the coning and quartering procedure.
- The required soil volume was then placed into the appropriate sample bottles.
- A label containing the applicable sample specific information was affixed to each sample bottle.
- The sample bottles were placed into an iced cooler.

The latitude and longitude of each sample location was recorded with a hand-held global positioning system (GPS) unit. Disposable latex gloves were used during all sampling activities and were changed between each sample location. The chain-of-custody (COC) was completed after sample collection and sealed in a plastic bag and taped to the lid inside the sample cooler for transport to the analytical laboratory.

3.2.2 SURFACE WATER SAMPLING

The collection of surface water samples proceeded from downstream to upstream locations so that disturbances related to prior sampling would not affect sample quality. In tidal waters where downstream and upstream is dependent on the predominant direction of flow of the surface water at the time of collection, surface water samples were collected during outgoing tides for consistency between samples. At each location, the surface water sample was collected prior to sediment sample collection to reduce sediment load in the samples.

Surface water samples were collected by simple immersion of laboratory cleaned sample bottles in accordance with the Field Sampling Procedures Manual (FSPM) (NJDEP, 2005). This was accomplished by gently dipping an unpreserved, pre-cleaned bottle in the water with the mouth of the bottle facing the upgradient direction to eliminate the collection of resuspended sediments from lowering the bottle. Where sample bottles could not be dipped without disturbing underlying sediment, an extendable pole was used to dip the sample bottles. The sample water was then transferred to the appropriate (preserved, if applicable) sample containers.

The following steps were taken during the sample water collection:

- For samples taken from a boat, the boat was anchored or secured in an appropriate location to enable the boat to drift over the desired sample location.
- The water depth was measured and the state of the tide was estimated.
- The probe of the calibrated multi-parameter water quality meter was lowered to mid-depth of the water column and the field parameters were recorded after stabilization of the readings.
- A clean, sample-dedicated bottle was then dipped below the surface.
- All appropriate sample containers were carefully filled by pouring the surface water from the sampling bottle into the appropriate sample containers.

- For dissolved metals, a peristaltic pump equipped with dedicated tubing and an in-line 0.45 micrometer filter was used to transfer surface water samples directly into appropriate preserved sample containers.
- A label containing the applicable sample specific information was affixed to each sample bottle.
- The sample bottles were placed into an iced cooler.

The latitude and longitude of each sample location was recorded with a hand-held GPS unit. Disposable latex gloves were used during all sampling activities and were changed between each sample location. The COC was completed after sample collection and sealed in a plastic bag and taped to the lid inside the sample cooler for transport to the analytical laboratory.

3.2.3 SEDIMENT SAMPLING

The collection of sediment samples proceeded from downstream to upstream locations so that disturbances related to prior sampling would not affect sample quality. The sampling of tidal waters was completed from the predominant downgradient flow of the surface water at the time of collection. Sediment samples were collected from previous sample locations, depositional zones, or potential migration pathways. Areas where stream bank stabilization efforts disturbed sediments were avoided during sediment sampling; in these areas, sediment sampling was conducted when tides were low enough to visually identify undisturbed sediments. At each location where applicable, sediment samples were collected after surface water samples.

Sediment sampling was conducted, whenever possible, from the shoreline. Sediment samples were collected from the 0- to 6-inch interval. Sediment samples from wetland areas without overlying water (e.g., sediments in the wetlands near the Former Pesticide Storage Area/CW-6) were collected with a hand trowel. Submerged sediments were collected with a hand auger. All sampling locations were GPS located.

The following steps were taken during sample collection:

- For samples taken from a boat, the boat was anchored or secured in an appropriate location to enable the boat to drift over the desired sample location.
- The water depth was measured and the state of the tide was estimated.
- The probe of the calibrated multi-parameter water quality meter was lowered to mid-depth of the water column and the field parameters were recorded after stabilization of the readings.
- The sediment sample was collected and the top 6 inches of material was transferred to a stainless steel bowl.
- Once collected, the sediment samples were field screened with a properly calibrated PID.
- The sample for VOC analysis was immediately collected from the stainless steel bowl using En Core methods previously described for soil samples.
- The remaining sample was then homogenized using the coning and quartering method described for soil samples.
- All appropriate sample containers were carefully filled using a dedicated soil sampling scoop.
- A label containing the applicable sample specific information was affixed to each sample bottle.
- The sample bottles were placed into an iced cooler.

3.2.4 DECONTAMINATION PROCEDURES

All equipment that came into contact with potentially contaminated material was decontaminated prior to use at each sampling location. Given that surface water samples were collected through immersion of dedicated sampling bottles and filtered samples used dedicated tubing and in-line filters,

decontamination was not applicable to surface water sampling. Decontamination procedures for field equipment were in accordance with the NJDEP FSPM (NJDEP, 2005) three-step decontamination procedure for non-aqueous samples, which is detailed below. All equipment was thoroughly decontaminated before use and between sampling locations.

All decontaminated equipment was stored on plastic sheeting or wrapped in aluminum foil. Stainless steel hand augers, bowls, trowels, and other sampling equipment were decontaminated as follows:

- Equipment was cleaned with a brush in a tap water and Alconox wash.
- Equipment was rinsed with tap water.
- Equipment was rinsed with distilled and deionized water.

3.2.5 INVESTIGATION-DERIVED WASTE

Sampling activities performed as part of the BEE generated a variety of IDW including used person protective equipment (PPE), decontamination fluids, and disposable sampling equipment. The procedures and practices of handling IDW generated during the BEE site activities were consistent with the NJDEP FSPM (NJDEP, 2005) and the guide "Management of Investigation-Derived Waste During Site Inspections" (USEPA, 1991).

Decontamination of sampling equipment generated IDW consisting of decontamination waters. Decontamination water was re-applied to the ground surface since all of the following criteria were met:

- The water was not permitted to migrate off site.
- There was no potential for contaminating a previously uncontaminated aquifer.
- The discharge would not cause contamination to the ground surface soil.
- There was no immediate threat to human health or the environment.
- There was no indication from field instrumentation or visual observations to indicate that the material is a potential RCRA hazardous waste.

IDW was also generated from use of PPE (e.g., gloves) and disposable equipment (filters, tubing, soil scoops) during the BEE. This material was stored in plastic garbage bags and taken off site for proper disposal.

3.2.6 QUALITY CONTROL

To ensure the quality of the data collected during the 2010 BEE sampling event, all field procedures were conducted in accordance with methodologies outlined in **Section 3.1** and the BEE WP (Shaw, 2010). The field sampling methodologies utilized were developed based on the NJDEP FSPM, N.J.A.C. 7:14 – Technical Requirements for Site Remediation, and N.J.A.C 7:14B – USTs. All laboratory analyses were conducted by NJDEP certified and National Environmental Laboratory Accreditation Program approved laboratories. Included within **Appendix E** is a table that provides the minimum of ESC for each contaminant included in the analytical program and the subcontract laboratory's expected Method Detection Limits (MDLs).

3.2.6.1 COMPLETENESS

Completeness is a measure of the amount of information that must be collected during a field investigation to allow for a successful achievement of the sampling activities. Sampling completeness for this BEE was assessed through the evaluation of the total number of samples proposed in the WP versus the actual number of samples collected and analyzed. A total of 151 samples were proposed for collection in the WP and 152 samples were collected. Thus, the resulting sampling completeness for this project was 100.6 percent for all matrices. One proposed surface water sample (CW3-SW8) was not collected because there was no water existing in Shrewsbury Creek at the proposed location. The furthest upgradient location on Shrewsbury Creek at which surface water existed and a sample was able to be collected was location CW3-SW8. One surface water and one sediment sample (CWA-SD1 and

CWA-SW1) were added to the sampling and analysis program during field operations. The samples added were collected within Shrewsbury Creek at the furthest point downstream on the CWA property.

3.2.6.2 REPRESENTATIVENESS AND DOCUMENTATION QUALITY REVIEW

Representativeness is a measure of the degree to which the results accurately reflect the media that were sampled. Procedures based on NJDEP protocol were utilized to ensure that samples collected were representative of their respective media. These procedures contained sampling protocols (e.g., sediment sampling) and field handling protocols (e.g., storage, shipping) which were designed to protect the representativeness of the collected samples. Field activities were audited and documentation of sample collection, shipment, and receipt activities were reviewed for accuracy and completeness and to ensure the implementation of standard operating procedures (SOPs).

Review of accuracy, precision, and completeness of sample documentation and observations from field audits suggest that the designed sampling program for the BEE was followed and resulted in the collection of representative samples.

3.2.6.3 REVIEW OF QC SAMPLES

Standard QC checks were implemented during all field and laboratory activities conducted during the 2010 BEE. These included field checks such as the collection of field/rinse blanks, trip blanks, and duplicate samples for laboratory analysis, as well as laboratory QC checks such as method blanks. Laboratory reports included in **Appendix F** contain a full description of the final results, methods of analysis, levels of detection, and method blank data.

Analytical data were evaluated against method blank, trip blank, and field blank data in order to evaluate the contribution of constituents detected in QC samples to the analytical results. Results of the analyses of field/rinse blanks were used to assess the effectiveness of equipment decontamination procedures in preventing cross-contamination between samples and to determine if compounds detected in the collected samples were attributable to the sampling equipment. One field/rinse blank was collected on each day of sampling and analyzed for all parameters.

Trip blanks were used to determine if any on-site atmospheric contaminants were seeping into the sample bottles, or if cross-contamination of samples was occurring during shipment or storage of the sample containers. Trip blanks are applicable to aqueous VOC samples. The trip blanks accompanied the samples into the field prior to sampling, remained with the collected samples during the sampling sequence, accompanied all aqueous VOC sample bottles shipped to the laboratory, and remained with the samples at the off-site laboratory prior to analysis. Trip blanks were analyzed from each day of sampling and analyzed for VOCs, except for on the second day of sampling when a trip blank was not supplied by the laboratory with the sample bottles. Due to the low frequency and concentrations of VOCs detected in aqueous samples, this did not impact the analyses; in most instances, the trip blanks were demonstrated analyte-free. Results of method blank analyses were used to determine if constituents detected in samples were introduced during sample extraction and analysis.

A summary of constituents detected in blank samples (field/rinse blanks and trip blanks) is included in **Appendix F**. Most of the analytes detected in blank samples are common laboratory contaminants and were likely introduced into the samples during laboratory extraction/analysis. The low concentrations of constituents identified in field/rinsate blanks indicate that no significant cross-contamination occurred between samples.

Field duplicates were collected to identify the cumulative precision of the sampling and analytical process and sent to the laboratory blind. The Relative Percent Difference (RPD) was calculated only for those analytes which were detected in both samples of the duplicate pair. Analytes that were non-detect in either or both of the samples of the duplicate pair were excluded from the duplicate assessment. Precision control criterion was established at 50% RPD for the aqueous and solid samples. All analytes exceeding criteria are treated as estimated (“J” qualified) for the field duplicate pair based upon high RPD(s). Most of the high RPDs were observed for analytes that were detected at very low concentrations that were laboratory qualified as estimated due to low concentrations at or below the MDL. The poor precision is probably due to sample non-homogeneity and/or sample matrix effects with the given

analysis. A summary of RPDs for duplicate sample pairs collected during the 2010 BEE is included in **Appendix F**.

Full data validation was not required to achieve the BEE objectives.

3.2.6.4 WORK PLAN VARIANCES

Overall, the sampling and analyses performed were sufficient to meet project objectives and comply with the WP. Variances that occurred during implementation of the field and laboratory efforts were minimal. One proposed surface water sample (CW3-SW8) was not collected because there was no water existing in the creek at the proposed location. The furthest upgradient location at which surface water existed was sampled (location CW3-SW8) as prescribed in the WP. One surface water and one sediment sample (CWA-SD1 and CWA-SW1) were added to the sampling and analysis program during field operations. The two samples were collected within Wampum Brook at the furthest point downstream on the CWA property.

3.2.6.5 REVIEW OF TENTATIVELY IDENTIFIED COMPOUNDS

The VOC+15 and SVOC+15 lists of organic compounds designated for analysis included up to 30 non-targeted organic compounds as detected by GC/MS analysis. A summary of total TICs in samples collected during the 2010 BEE sampling event is provided in **Appendix F**. All detected non-targeted compounds are reported as TICs in the laboratory deliverables, also included in **Appendix F**.

A qualitative review was conducted and TICs were identified at low concentrations in one or more soil, sediment, and surface water samples. TICs are commonly observed in soil, surface water, and sediment samples and are likely attributable to naturally-occurring organic constituents due to elevated carbon content. The majority of observed TICs are commonly detected constituents that were present at low concentrations.

3.2.6.6 METHOD DETECTION LIMITS

In order to accurately identify COPECs in environmental media, it is useful to be able to detect potential contaminants that are present at concentrations greater than the ESC. Thus, one data quality objective (DQO) of the analytical program is to have MDLs at concentrations at or less than the ESC wherever possible. Unfortunately, for some parameters, the conservative benchmarks used as ESC are less than normal laboratory MDLs. The DQO for surface water samples was set at the lower of the freshwater ESC and the saltwater ESC, the DQO for sediment samples was set at the lower of the freshwater sediment ESC and the saltwater sediment ESC, and the DQO for soil was set at the soil ESC (**Section 3.3**). Included within **Appendix E** is a table that provides the minimum of ESC for each contaminant included in the analytical program and the subcontract laboratory's expected MDLs.

In surface water, MDLs for hexachlorobenzene, toxaphene, 4,4′-DDE, cadmium, copper, and silver were greater than the DQOs in all samples. The MDL for benzo(*a*)anthracene was greater than the DQO in one sample and the MDLs for Aroclor 1016 and Aroclor 1254 were greater than the DQOs in some of the samples.

In sediments, MDLs for acrylonitrile, methylene bromide, diethyl phthalate, 2-chlorophenol, 2,4-dichlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, pentachlorophenol, 4-nitrophenol, and toxaphene were greater than the DQOs in all samples. The MDLs for several PAHs [acenaphthene, acenaphthylene, benzo(*a*)pyrene, benzo(*k*)fluoranthene, dibenzo(*a,h*)anthracene, fluorene, 2-methylnaphthalene, and naphthalene], phthalates [bis(2-ethylhexyl) phthalate, butyl benzyl phthalate, and di-*n*-butyl phthalate)], phenolic compounds (phenol and 2-4-dimethylphenol), other SVOCs (2,4-dinitrotoluene, hexachlorobutadiene, hexachloroethane, and nitrobenzene), pesticides (toxaphene, 4,4′-DDT, and heptachlor), PCBs (Aroclor 1016, Aroclor 1221, Aroclor 1232, Aroclor 1248, Aroclor 1260), and metals (antimony, selenium, and silver) were greater than the DQOs in some of the samples.

It should be noted that a MDL greater than the DQO does not imply that the MDL is greater than the media-specific ESC. Additionally, many of the elevated MDLs were in samples in which the parameter was detected; thus, the elevated MDL has no impact on the ability to detect the parameter. The evaluation of COPECs with regard to elevated MDLs is discussed in more detail in **Section 3.4**.

3.3 IDENTIFICATION OF STANDARDS AND BENCHMARKS

The TRSR references several sources for ESC for use in a BEE. This includes ESC sources for sediment, surface water, and soil. The NJDEP also maintains a table of current recommended ESC based on those aforementioned sources as well as others (NJDEP, 2009c). The SRP's Environmental Toxicology and Risk Assessment Unit has developed this table from various sources to allow ease of reference for selection of ESC for surface water, sediment, and soil.

Not all contaminants have listed ESC for all media; contaminants detected in environmental media without ESC are identified in this BEE report, but the development of ESC is beyond the scope of the BEE. The most recent version of the cited ESC is used in this BEE. The NJDEP ESC table, which was last updated on March 10, 2009, is presented in **Appendix E**. Also included within **Appendix E** is a table that provides the minimum of those ESC for each contaminant and the subcontract laboratory's MDLs.

Some contaminants for some media have multiple values provided. The following sections describe the process used in selection of appropriate ESC for this BEE and is meant to provide a systematic approach which maintains appropriate conservativeness in this screening level assessment.

3.3.1 IDENTIFICATION OF STANDARDS AND BENCHMARKS FOR SEDIMENT

For sediments, the TRSR referenced sources are the following:

- USEPA Briefing Report to the EPA Science Advisory Board on the Equilibrium Partitioning Approach to Generate Sediment Quality Criteria (USEPA, 1989b).
- USEPA Technical Basis for Deriving Sediment Quality Criteria for Nonionic Organic Contaminants for the Protection of Benthic Organisms by Using Equilibrium Partitioning (USEPA, 1993a).
- Effects Range-Low (ER-L) and Effects Range-Median (ER-M) values (Long et al., 1995).
- Lowest Effect Level (LEL) and Severe Effect Level (SEL) values (Persaud et al., 1993).

The first two sources provide a method for determining screening criteria based on the equilibrium partitioning approach which uses applicable surface water screening criteria organic carbon partitioning coefficients. As such, these criteria are a function of the site-specific organic carbon content in the sediment and are usually presented based on 1% total organic carbon content.

The ER-L and ER-M values were developed for marine environments and are based on evaluation of data from numerous studies including equilibrium partitioning modeling, laboratory bioassays, and field studies. The ER-L values represent a concentration at which adverse effects are only found in approximately 10% of the studies. The ER-M values represent a concentration at which adverse effects are found in approximately 50% of the studies.

The LEL and SEL values were developed for freshwater environments and are also based on evaluation of data from numerous studies and include equilibrium partitioning modeling, laboratory bioassays, and field studies, as well as sediment background levels. The LEL values represent a level of contamination that has no effect on the majority of sediment-dwelling organisms. The SEL values represent a level of contamination which is likely to affect the health of sediment-dwelling organisms.

NJDEP (1998) recommends using benchmarks listed in the TRSR from Long et al. (1995) and Persaud et al. (1993) as well as chronic values from MacDonald et al. (1992) for several VOCs.

The NJDEP maintains a table of current recommended ESC based on these aforementioned sources as well as others (NJDEP, 2009c). This table often has more than one value for a given parameter and a given medium (e.g., sediment, surface water, soil). For this BEE, the three sources listed above (Long et al., 1995; Persaud et al., 1993; MacDonald et al., 1992) as presented in the NJDEP table (NJDEP, 2009c) are used as the primary source of ESC.

For saltwater sediments, the ER-L (Long et al., 1995) is used as the ESC. If an ER-L is not available, but a chronic value based on equilibrium partitioning (MacDonald et al., 1992) is available, then the chronic value is used. If no values are provided from one of these two primary sources, then values

available from secondary sources [e.g., USEPA Region V ecological screening values (USEPA Region 5, 2003)] are used.

For freshwater sediments, the LEL (Persaud et al., 1993) is used as the ESC. If an LEL is not available, but the table recommends the use of either the saltwater chronic value based on equilibrium partitioning (MacDonald et al., 1992) or the saltwater ER-L (Long et al., 1995), then the saltwater chronic value or saltwater ER-L is used. It should be noted that though the table may list a value as an LEL it may not actually be the LEL as determined by Persaud et al. (1993). If no values are provided from one of these three primary sources, then values available from secondary sources [e.g., USEPA Region V ecological screening values (USEPA Region 5, 2003), NOAA Quick Screening Reference Tables (Buchman, 2008)] are used.

3.3.2 IDENTIFICATION OF STANDARDS AND BENCHMARKS FOR SURFACE WATER

For surface water, the TRSR referenced sources are the following:

- USEPA Ambient Water Quality Criteria, 40 CFR Part 131 (USEPA, 2006a; 2010).
- New Jersey Surface Water Quality Standards (N.J.A.C., 2010).

These sources contain values for freshwater and saltwater and include values for the protection of human health and protection of aquatic organisms from effects due to both acute and chronic exposures. The NJDEP table (NJDEP, 2009c) includes values from these sources and they are used as the primary source of surface water ESC. Values developed for the protection of human health are never used as ESC for an ecological evaluation. If provided, values used for the protection from chronic effects are used as ESC. Acute values are only used as ESC if, values used for the protection of aquatic life from chronic effects are not available.

The freshwater surface water ESC for several metals are functions of site-specific hardness. The equations used for these calculations are provided with the NJDEP table (**Appendix E**). The minimum hardness detected in a surface water body during the BEE investigation near an individual site where freshwater criteria are potentially applicable was used to calculate the site-specific ESC for the individual site. Freshwater hardness-dependent criteria were not calculated for individual sites where only saltwater criteria are applicable and the magnitude of the measured hardness render the calculated criteria irrelevant.

For chromium, values may be presented for total chromium, trivalent chromium, or hexavalent chromium. When available from primary sources, the value for total chromium is used as the ESC for this BEE. If not available from a primary source for total chromium, then the value for trivalent chromium is used for this BEE. Values provided for hexavalent chromium are used as ESC in this BEE if, and only if, values from primary sources for total chromium and trivalent chromium are not available. The freshwater ESC used in this BEE is based on total chromium and the saltwater ESC is based on hexavalent chromium.

The freshwater surface water ESC for pentachlorophenol is a function of pH. A pH value of 6 was used to determine an ESC for surface water bodies at the MP and a value of 5.76 was used at the CWA; these represent the minimum pH values measured during the BEE investigation.

If no values are provided from one of these primary sources, then values available from secondary sources [e.g., USEPA Region V ecological screening values (USEPA Region 5, 2003)] are used. The NJDEP table also provides some values that were developed specific to Shell Oil at an active remediation site. These values are not used as ESC in this BEE, since other sources were available.

3.3.3 IDENTIFICATION OF STANDARDS AND BENCHMARKS FOR SOIL

For soil, the TRSR referenced sources are the following:

- Fish and Wildlife Service Contaminant Hazard Reviews (Eisler, 1999).
- Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Terrestrial Plants (Will and Suter, 1995).

The contaminant hazard reviews available from the Fish and Wildlife Service do not necessarily provide values to use as soil ESC but provide information related to toxicity, bioaccumulation, and bioavailability of contaminants to wildlife. This information is utilized by others (USEPA, 2005a; Efroymson et al., 1997a; Sample et al.,1996) in developing appropriate values.

The toxicological benchmarks for plants cited above have been revised (Efroymson et al., 1997b) and, like the 1994 revision, were developed for Oak Ridge National Laboratory (ORNL) using a method similar to that used for calculating the ER-L and ER-M values (Long and Morgan, 1990; Long et al., 1995). Other benchmarks for the protection of wildlife for contaminants in soil have also been derived for ORNL (Sample et al., 1996). In this document, several species-specific benchmarks are determined based on food chain modeling for different contaminants. The NJDEP table provides the minimum of the plant toxicity and wildlife benchmarks as wildlife preliminary remediation goals (PRGs) for potential use as soil ESC.

The USEPA (2005a) developed ecological soil screening levels (Eco-SSLs). These represent the result of a multi-stakeholder group consisting of federal, state, consulting, industry, and academic participants performed in order to conserve resources by limiting the need for EPA and other risk assessors to perform repetitious toxicity data literature searches and data evaluations for the same contaminants at every site. The general approach to develop these Eco-SSLs involved a literature search, screening the literature for acceptability, evaluating the results for applicability in deriving the Eco-SSLs, and deriving the value. These values represent a broad spectrum of wildlife and include mammals, birds, plants, and soil invertebrates. The literature screened in this process included that used by ORNL in developing wildlife PRGs.

The USEPA Eco-SSLs (USEPA, 2005a), the ORNL wildlife PRGs (Sample et al., 1996), and the ORNL plant toxicity benchmarks (Efroymson et al., 1997b), are considered the primary source of values for ESC in this BEE. The most conservative (i.e., minimum) values from the NJDEP tables (2009c) that represent either the USEPA Eco-SSLs or the ORNL wildlife PRGs or plant toxicity benchmarks are used as ESC for this BEE. If values are not available from either of these sources, then secondary sources are used for ESC. These include the USEPA Region V ecological screening values (USEPA Region 5, 2003). Though developed from food chain models, as were those for Eco-SSLs and wildlife PRGs, these values did not involve as comprehensive an effort in either the literature review or screening for acceptability and do not provide sufficient supporting documentation.

3.4 IDENTIFICATION OF COPECS

COPECs are defined for the purposes of this BEE as those constituents that were detected at concentrations greater than the appropriate screening benchmarks in any of the samples from a given medium from a site. For some parameters, the conservative benchmarks used as ESC are lower than normal laboratory method detection limits (MDLs). If these parameters are not detected, it is possible that they are present at a concentration exceeding the ESC. This is particularly important for surface water and sediment, the two media to which ecological receptors may be directly and routinely exposed. Therefore, for parameters not detected in samples from either surface water or sediment, the MDLs were also compared to the ESC. These parameters were not identified as possible COEPCs if any of the following were true:

- These parameters were not identified as COPECs in other site media.
- These parameters were not detected exceeding the ESC in samples for which the MDL was not greater than the conservative ESC.
- The MDLs for these parameters were only marginally greater than the conservative ESC, or related parameters (e.g., other chlorinated benzenes, other related pesticides) were not detected above ESC in these samples.
- These parameters are not expected to be found as site-related contaminants.

For surface water, MDLs for a few SVOCs, pesticides, PCBs, and metals were above one or both ESC in some or all samples.

- The MDLs for hexachlorobenzene exceeded the freshwater ESC in all surface water samples; there is no saltwater ESC. However, this organic compound was not identified as a COPEC in other media at the sites and is not considered a COPEC in surface water. The MDL for benzo(*a*)pyrene exceeded the freshwater ESC in one sample at one site; it was, however, detected in that sample and is considered a COPEC at that site.

- The MDLs for toxaphene exceeded the freshwater and saltwater ESC in all surface water samples; however, this pesticide was not identified as a COPEC in other media at the sites and is not considered a COPEC in surface water. The MDLs for 4,4′-DDE exceeded the freshwater ESC in all surface water samples; there is no saltwater ESC. Though 4,4′-DDE was identified as a COPEC in soil, groundwater, or sediment at some sites, 4,4′-DDE is not considered to be mobile in abiotic media and is expected to adsorb strongly to organic matter; however, based on the extremely low ESC for 4,4′-DDE in surface water [0.00000000451 micrograms/liter (µg/L)], 4,4′-DDE is considered a possible COPEC in surface water if it is identified as a COPEC in sediment.

- The MDLs for Aroclor 1016 and Aroclor 1254 were marginally greater than the freshwater ESC at some sites, but less than the saltwater ESC. These Aroclors are considered possible COPECs in surface water only if they are detected at concentrations exceeding the ESC.

- The MDLs for cadmium, copper, and silver were greater than one or both ESC in some or all samples. The MDLs for cadmium and silver exceeded the freshwater ESC in all samples but were below the saltwater ESC. The MDLs for copper exceeded the saltwater ESC but were below the freshwater ESC. Cadmium, copper, and silver are identified as possible COPECs in surface water if they are identified as COPECs in other site media.

For sediment, MDLs for some VOCs, SVOCs, pesticides, PCBs, and metals were greater than one or both ESC in some or all samples. It should be noted that organic parameters that were not detected in the BEE investigation sediment samples were reported at the MDL. Those in the SI data are presented as non-detect at a reporting limit; organic parameters were routinely presented detectable to a detection limit concentration of one-tenth this reporting limit.

- The MDLs for acrylonitrile and methyl bromide exceeded the freshwater sediment ESC in all samples; there are no saltwater sediment ESC. These were not identified as COPECs in other media and are not considered COPECs in sediment. The MDL for 1,1-dichloroethene exceeded the freshwater ESC in one sample at one site in the BEE investigation and in all samples in the SI. It was not detected at the BEE investigation site in the other samples nor was it identified as a COPEC in other media at these sites; and it is not considered a COPEC in sediment at the site. The MDL for 1,2-dichlorobenzene exceeded the saltwater ESC in all SI samples; it was not identified as a COPEC in other media at those sites and is not considered a COPEC in sediment.

- The MDLs for nine PAHs [acenaphthene, acenaphthylene, anthracene, benzo(*g,h,i*)perylene, benzo(*k*)fluoranthene, dibenzo(*a,h*)anthracene, fluorene, 2-methylnaphthalene, and naphthalene] were only marginally greater than the ESC in some or all samples from some sites. In samples where MDLs exceeded applicable ESC in only some samples, these PAHs were either detected in samples at the sites and considered COPECs or not detected in the samples at the site for which MDLs met the ESC and are not considered COPECs. In samples where MDLs exceeded applicable ESC in all samples, these PAHs were considered possible COPECs in sediment if identified as COPECs in other site media.

- The MDLs for four phthalates [bis(2-ethylhexyl) phthalate, butyl benzyl phthalate, diethyl phthalate, and di-*n*-butyl phthalate) exceeded the ESC in some or all samples at some sites. Most of these MDLs were only marginally greater than the ESC, and these phthalates were not detected in sediment samples for which the MDLs met the ESC or identified as COPECs in other site media. These phthalates are not considered COPECs in sediment.

- The MDLs for several phenolic compounds (phenol, 2-chlorophenol, 2,4-dichlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, pentachlorophenol, 2,4-dimethylphenol,

4-nitrophenol, and 2,4-dinitrophenol) exceeded the ESC in some or all samples at some sites. Of these, only 2,4-dintirophenol was detected in any sediment samples and it is considered a COPEC at those sites. The other phenolic compounds were not identified as COPECs in other media at these sites and were not detected in other samples for which the MDLs met the ESC; these phenolic compounds are not considered COPECs at the sites.

- The MDLs for four other SVOCs (2,4-dinitrotoluene, hexachlorobutadiene, hexachloroethane, 1,2,4-trichlorobenzene, hexachlorobenzene, and nitrobenzene) exceeded the ESC in some or all samples at some sites. Of these, hexachlorobutadiene was detected in sediment at one site and it is considered a COPEC at that site and was identified as a COPEC in surface water at another site; it is considered a possible COPEC in sediment at that site. The other SVOCs were not identified as COPECs in other media at these sites, were not detected in other samples for which the MDLs met the ESC, and related compounds were not identified as COPECs at the sites; these SVOCs are not considered COPECs at the sites.
- The MDLs for three pesticides (toxaphene, 4,4′-DDT, and heptachlor) exceeded the ESC in some or all samples at some sites. The MDLs for toxaphene exceeded the freshwater sediment ESC in all samples; there is no saltwater sediment ESC for toxaphene. Toxaphene was not identified as a COPEC in other media and it is not considered a COPEC in sediment. The MDL for 4,4′-DDT exceeded the freshwater sediment ESC in one samples; it was, however, detected in that sample and is considered a COPEC at the site. The MDLs for heptachlor only marginally exceeded the saltwater sediment ESC in some samples but were all below the freshwater sediment ESC.
- The MDLs for five PCB mixtures (Aroclor 1016, Aroclor 1221, Aroclor 1232, Aroclor 1248, and Aroclor 1260) marginally exceeded the ESC in some or all samples at some sites. The Aroclor 1221 and Aroclor 1232 MDLs slightly exceeded the saltwater ESC in some samples at one site, but were below the freshwater ESC; these Aroclors were not detected in the samples where the MDLs met the ESC and are not considered COPECs at the sites. The MDL for Aroclor 1248 in one sample marginally exceeded the freshwater ESC; Aroclor 1248 was not detected in the other samples and it is not considered a COPEC at the site. The MDLs for Aroclor 1016 and Aroclor 1260 marginally exceeded the ESC in samples at several sites. Aroclor 1260 was detected in samples at three sites and is considered a COPEC at those sites. Aroclor 1016 and Aroclor 1260 were not detected in any of the other sediment samples at the other sites where MDLs met the ESC and they were not identified as COPECs in other media; Aroclor 1016 and Aroclor 1260 are not considered COPECs in sediment at these sites.
- The MDLs of three metals (antimony, selenium, and silver) exceeded the ESC at a few sites. Where selenium MDLs exceeded the ESC, selenium was detected exceeding the ESC and selenium is considered a COPEC. The MDLs for antimony and silver exceeded the ESC in only one sample at one site. Antimony and silver were not detected at concentrations exceeding the ESC in the other samples at the site where the MDLs met the ESC and these metals are not considered COPECs in sediment at the site.

The following sections present the concentrations measured in background media during the BEE investigation and address the identification of COPECs, as well as possible COPECs based on MDL review, for each of the sites and parcels addressed in this BEE.

3.4.1 CONSTITUENTS IN BACKGROUND MEDIA

As noted in **Section 2.4.7**, the local geology and soil types determine the levels of naturally-occurring constituents present in soil. These natural background levels (**Table 2-3**) are meant to be inclusive of naturally-occurring levels in soil as well as those from regional deposition but not those from point source contamination. The local geology and soil types determine the levels of naturally-occurring constituents present in soil (Dooley, 2001; Sanders, 2003; BEM Systems, Inc., 1998).

Background levels for FTMM were reported by Weston (1995) in the SI report (**Appendix H**). FTMM-specific background levels were reported for soil, groundwater, surface water, and sediment, and

background levels were reported for Monmouth County for soil and groundwater for select constituents. In addition to characterizing background levels related to soil geology and regional deposition, the FTMM-specific levels also incorporate effects from local land use (**Section 2.4.9**).

Background concentrations of constituents were also investigated during the BEE investigation. Surface water and sediment samples were analyzed for the same constituents as were site samples. Nine surface water and sediment samples were collected from locations upgradient of the MP on Husky Brook, Mill Creek, Lafetra Creek, and Northern Branch of Parkers Creek. One surface water and two sediment samples were collected from locations upgradient of the CWA on Shrewsbury Creek. One surface water and sediment sample were collected from Wampum Brook in the CWA, but upgradient of site activities. Additionally, one surface water and one sediment sample each were collected from both Shrewsbury Creek and Wampum Brook in the CWA at points near the downgradient (eastern) border of the CWA. The background samples are intended to describe the general background characteristics of surface water and sediment in the FTMM area from natural and regional anthropogenic inputs. Though background samples collected on Mill Creek are downgradient of the CWA, they are intended to provide information regarding the constituents and concentrations that may enter the MP from upgradient natural or anthropogenic sources; the samples collected immediately downgradient of the CWA on Shrewsbury Creek and Wampum Brook provide additional information. All background sampling locations were in freshwater areas, and the following discussions compare results to both freshwater and saltwater criteria since background concentrations can affect both freshwater and saltwater areas on site.

3.4.1.1 MAIN POST BACKGROUND

3.4.1.1.1 Main Post Surface Water Background

Nine surface water samples were collected from locations upgradient of the MP activities. Two were collected from Husky Brook, three were collected from Mill Creek, three were collected from Lafetra Creek, and one was collected from the North Branch of Parkers Creek. Parameters detected in surface water samples are presented in **Table D-1**.

VOCs. Three VOCs were detected in surface water from MP background samples. Chloroform and PCE were detected in one sample each, and *cis*-1,2-dichloroethene was detected in three samples. All detected concentrations were less than the available freshwater and saltwater ESC.

Pesticides/PCBs. No pesticides or PCBs were detected in surface water from MP background samples.

SVOCs. Four SVOCs were detected in surface water from MP background samples. Benzoic acid and 1,2,4-tetrachlorobenzene were detected in one sample each; anthracene and benzo(*a*)anthracene were detected in two samples each. The detected concentrations of anthracene and benzo(*a*)anthracene were greater than the applicable freshwater or saltwater ESC.

Metals. A total of 14 metals were detected in surface water from MP background samples: aluminum, arsenic, barium, calcium, iron, lead, magnesium, manganese, mercury, nickel, potassium, sodium, thallium, and zinc. Only lead was detected at concentrations greater than the applicable freshwater or saltwater ESC.

A summary of the MP background surface water concentrations is presented in **Table 3-3**. This table includes the number of detected concentrations, the number of exceedances for freshwater ESC and saltwater ESC, the range of detected concentrations, and the location of the maximum detected concentration.

3.4.1.1.2 Main Post Sediment Background

Nine sediment samples were collected from locations upgradient of the MP activities. Two were collected from Husky Brook, three were collected from Mill Creek, three were collected from Lafetra Creek, and one was collected from the North Branch of Parkers Creek. Parameters detected in surface sediment samples are presented in **Table D-2**.

VOCs. Four VOCs were detected in sediment from MP background samples. Acetone was detected in six samples, methylene chloride was detected in four samples, toluene was detected in one

sample, and 2-butanone was detected in two samples. All detected concentrations were less than the available freshwater and saltwater sediment ESC.

Pesticides. Two pesticides (4,4′-DDD and 4,4′-DDE) were detected in sediment from MP background samples. 4,4′-DDD and 4,4′-DDE were detected in samples from Mill Creek and Husky Brook and most detected concentrations exceeded the saltwater sediment ESC but not the freshwater sediment ESC.

PCBs. Two PCB mixtures (Aroclor 1242 and Aroclor 1254) were detected in sediment from MP background samples. PCBs were detected in samples from Mill Creek. Most detected concentrations exceeded the fresh water or saltwater sediment ESC.

SVOCs. A total of 20 SVOCs were detected in sediment from MP background samples. Bis(2-ethylhexyl) phthalate, butyl benzyl phthalate, and dimethyl phthalate were detected in some sediment samples, but, as noted elsewhere, phthalates are commonly found in field and laboratory QC samples and may not be representative of actual conditions. Other SVOCs detected in sediment from MP background samples were acenaphthene, acenaphthylene, anthracene, benzo(*a*)anthracene, benzo(*a*)pyrene, benzo(*b*)fluoranthene, benzo(*g,h,i*)perylene, benzo(*k*)fluoranthene, chrysene, dibenzo(*a,h*)anthracene, dibenzofuran, 3,3′-dichlorobenzidine, fluoranthene, fluorene, indeno(1,2,3-*cd)*pyrene, phenanthrene, and pyrene. Most were found at concentrations that were greater than the freshwater or saltwater sediment ESC.

Metals. A total of 23 metals were detected in sediment from MP background samples: aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc. Most of the metals with applicable freshwater or saltwater sediment ESC were found at concentrations in one or more sediment sample exceeding the ESC: antimony, arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver, vanadium, and zinc.

A summary of the MP background sediment concentrations is presented in **Table 3-4**. This table includes the number of detected concentrations, the number of exceedances for freshwater ESC and saltwater sediment ESC, the range of detected concentrations, and the location of the maximum detected concentration.

3.4.1.2 CHARLES WOOD AREA BACKGROUND

3.4.1.2.1 Charles Wood Area Surface Water Background

Two surface water samples were collected from locations upgradient of the CWA activities. One was collected from Shrewsbury Creek and one was collected from Wampum Brook. Parameters detected in surface water samples are presented in **Table D-3**.

VOCs. One VOC was detected in surface water from CWA background samples. Methyl *tert*-butyl ether (MTBE) was detected in one sample. The detected concentration was less than the freshwater and saltwater ESC.

Pesticides. One pesticide was detected in surface water from CWA background samples. 4,4′-DDD was detected in one surface water sample. There are no available freshwater or saltwater ESC for 4,4′-DDD.

PCBs. One PCB mixture was detected in surface water from CWA background samples. Aroclor 1242 was detected in one surface water sample at a concentration greater than both the freshwater and saltwater ESC.

SVOCs. One SVOC was detected in surface water from CWA background samples. Anthracene was detected in one surface water sample; the concentration was greater than the applicable freshwater ESC.

Metals. A total of 19 metals were detected in surface water from CWA background samples: aluminum, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, sodium, vanadium, and zinc. The detected

concentrations of total cadmium, total chromium, total copper, total lead, total vanadium, and total zinc exceeded the applicable freshwater ESC in one or both samples; however, only the dissolved concentrations of cadmium, cobalt, and lead were above the applicable freshwater ESC. These exceedances of dissolved concentration ESC were all from the surface water sample from Wampum Brook. Concentrations of total nickel and dissolved nickel exceeded the saltwater ESC. Total chromium, copper, lead, and zinc also exceeded the saltwater ESC in at least one sample.

A summary of the CWA background surface water concentrations is presented in **Table 3-5**. This table includes the number of detected concentrations, the number of exceedances for freshwater ESC and saltwater ESC, the range of detected concentrations, and the location of the maximum detected concentration.

3.4.1.2.2 Charles Wood Area Sediment Background

Three sediment samples were collected from locations upgradient of the CWA activities. Two were collected from Shrewsbury Creek and one was collected from Wampum Brook. Parameters detected in surface sediment samples are presented in **Table D-4**.

VOCs. Five VOCs were detected in sediment from CWA background samples. Acetone, methylene chloride, and 2-butanone were detected in one or two samples from Shrewsbury Creek. Styrene and toluene were detected in the sample from Wampum Brook. All detected concentrations were less than the available freshwater and saltwater sediment ESC.

Pesticides. One pesticide (4,4′-DDD) was detected in sediment from CWA background samples. 4,4′-DDD was detected in one sample from Shrewsbury Creek. The detected concentration was less than the applicable freshwater sediment ESC but above the saltwater sediment ESC.

PCBs. No PCBs were detected in sediment from CWA background samples.

SVOCs. A total of 18 SVOCs were detected in sediment from CWA background samples. Dimethyl phthalate was detected in all sediment samples, but, as noted elsewhere, phthalates are commonly found in field and laboratory QC samples and may not be representative of actual conditions. Other SVOCs detected in sediment from CWA background samples were acenaphthene, acenaphthylene, anthracene, benzo(*a*)anthracene, benzo(*a*)pyrene, benzo(*b*)fluoranthene, benzo(*g,h,i*)perylene, benzo(*k*)fluoranthene, chrysene, dibenzofuran, fluoranthene, fluorene, indeno(1,2,3-*cd*)pyrene, 2-methylnaphthalene, naphthalene, phenanthrene, and pyrene. Though all 18 were detected in Wampum Brook, dimethyl phthalate and three of the PAHs [anthracene, benzo(*a*)anthracene, and benzo(*a*)pyrene] were also detected in Shrewsbury Creek. Most of the PAHs in Wampum Brook were found at concentrations that were greater than the freshwater or saltwater sediment ESC.

Metals. A total of 20 metals were detected in sediment from CWA background samples: aluminum, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, sodium, vanadium, and zinc. Seven of the metals with applicable freshwater or saltwater sediment ESC were found at concentrations in one or more sediment sample greater than the ESC: barium, cadmium, chromium, lead, mercury, nickel, and selenium.

A summary of the CWA background sediment concentrations is presented in **Table 3-6**. This table includes the number of detected concentrations, the number of exceedances for freshwater ESC and saltwater sediment ESC, the range of detected concentrations, and the location of the maximum detected concentration.

3.4.1.3 CHARLES WOOD AREA DOWNGRADIENT SURFACE WATER

Two surface water samples were collected from locations downgradient of the CWA activities. One was collected from Shrewsbury Creek and one was collected from Wampum Brook. Parameters detected in surface water samples are presented in **Table D-5**.

VOCs. VOCs were not detected in surface water from CWA downgradient samples.

Pesticides. No pesticides were detected in surface water from CWA downgradient samples.

PCBS. One PCB mixture was detected in surface water from CWA downgradient samples. Aroclor 1242 was detected in the sample from Wampum Brook at a concentration less than that from the Wampum Brook background sample. The detected concentration was above both the freshwater and saltwater ESC.

SVOCs. One SVOC was detected in surface water from CWA background samples. Hexachlorobutadiene was detected in the Shrewsbury Creek downgradient sample at a concentration greater than the applicable freshwater ESC.

Metals. A total of 15 metals were detected in surface water from CWA downgradient samples: aluminum, arsenic, barium, calcium, cadmium, cobalt, iron, lead, magnesium, manganese, nickel, potassium, selenium, sodium, and zinc. The detected concentrations of total cadmium exceeded the freshwater ESC in Wampum Brook but not in Shrewsbury Creek; the dissolved concentrations were below the ESC. Total lead and dissolved lead exceeded the freshwater ESC in both samples. Dissolved selenium also slightly exceeded the freshwater ESC in the Shrewsbury Creek sample.

A summary of the CWA downgradient surface water concentrations is presented in **Table 3-7**. This table includes the number of detected concentrations, the number of exceedances for freshwater ESC and saltwater ESC, the range of detected concentrations, and the location of the maximum detected concentration.

3.4.1.4 CHARLES WOOD AREA DOWNGRADIENT SEDIMENT

Two sediment samples were collected from locations downgradient of the CWA activities. One was collected from Shrewsbury Creek and one was collected from Wampum Brook. Parameters detected in surface sediment samples are presented in **Table D-6**.

VOCs. Two VOCs were detected in sediment from CWA downgradient samples. Acetone was detected in both sediment samples and methylene chloride was detected in the sample from Shrewsbury Creek. All detected concentrations were less than the available freshwater and saltwater sediment ESC.

PCBs. Aroclor 1242 was detected in sediment from CWA downgradient samples. Aroclor 1242 was detected in the sample from Wampum Brook. The detected concentration was below the applicable freshwater sediment ESC but above the saltwater sediment ESC. No other PCBs were detected in sediment from CWA downgradient samples.

SVOCs. A total of eight SVOCs were detected in sediment from CWA downgradient samples. Dimethyl phthalate was detected in both sediment samples, but, as noted elsewhere, phthalates are commonly found in field and laboratory QC samples and may not be representative of actual conditions. Other SVOCs detected in sediment from CWA downgradient samples were anthracene, benzo(*a*)anthracene, and benzo(*a*)pyrene which were detected in both samples, acenaphthene and phenanthrene which were detected in the Shrewsbury Creek sample, and fluoranthene and pyrene which were detected in the Wampum Brook sample. The concentrations of acenaphthene and phenanthrene in the Wampum Brook sample were greater than the freshwater sediment ESC.

Metals. A total of 21 metals were detected in sediment from CWA downgradient samples: aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, sodium, vanadium, and zinc. Seven of the metals with applicable freshwater or saltwater sediment ESC were found at concentrations in one or more sediment sample exceeding the ESC: cadmium, chromium, and selenium in both samples; arsenic, mercury, and lead in Shrewsbury Creek; and nickel in Wampum Brook.

A summary of the CWA downgradient sediment concentrations is presented in **Table 3-8**. This table includes the number of detected concentrations, the number of exceedances for freshwater ESC and saltwater sediment ESC, the range of detected concentrations, and the location of the maximum detected concentration.

3.4.2 MAIN POST

3.4.2.1 LANDFILL 2 (FTMM-2)

Near surface soil, groundwater, surface water, and sediment analytical data were evaluated for the identification of COPECs related to Landfill 2 (FTMM-2).

3.4.2.1.1 COPECs for Soil at Landfill 2 (FTMM-2)

Near surface (6-12 inches bgs) soil samples were collected from Landfill 2 (FTMM-2) as part of the IRP RI investigation (Versar, 2001). A total of 195 samples were analyzed for SVOCs, pesticides, PCBs, and metals. Parameters detected in near surface soil samples are presented in **Table A-1**.

SVOCs. A total of 22 SVOCs were detected in near surface soil samples from Landfill 2 (FTMM-2). Of these 22 SVOCs, five were detected at concentrations exceeding the soil ESC in at least one sample. Benzo(*a*)pyrene was detected in five samples at concentrations exceeding the 1.52 mg/kg ESC. Benzo(*a*)anthracene, chrysene, naphthalene and bis(2-ethylhexyl) phthalate were detected at concentrations exceeding the soil ESC in one or two samples each. Bis(2-ethylhexyl) phthalate is commonly found in field and laboratory QC samples, and bis(2-ethylhexyl) phthalate is not considered a COPEC. These four PAHs, benzo(*a*)pyrene, benzo(*a*)anthracene, chrysene, and naphthalene, are considered COPECs in soil at Landfill 2 (FTMM-2).

Pesticides. Eight pesticides were detected in near surface soil samples from Landfill 2 (FTMM-2). Six of these pesticides were detected at concentrations exceeding the soil ESC in at least one sample. 4,4′-DDT was detected in most of the soil samples and the majority of these contained 4,4′-DDT at concentrations that were greater than the 0.00035 mg/kg ESC. 4,4′-DDD was detected in two samples at concentrations that exceeded the 0.758 mg/kg ESC. 4,4′-DDE was detected in only one sample at a concentration that exceeded the 0.596 mg/kg ESC. Dieldrin was detected in several samples with concentrations exceeding the 0.0049 mg/kg ESC. Endrin was detected in one sample at a concentration exceeding the 0.0101 mg/kg ESC. gamma-BHC was also detected in one sample at a concentration exceeding the 0.005 mg/kg ESC. These six pesticides (4,4′-DDD, 4,4′-DDT, 4,4′-DDE, dieldrin, endrin, and gamma-BHC) are considered COPECs at Landfill 2 (FTMM-2).

PCBs. Four Aroclors were detected in near surface soil samples from Landfill 2 (FTMM-2). These were detected infrequently. Aroclor 1242 and Aroclor 1248 were detected in one sample each. Aroclor 1254 was detected in four samples and Aroclor 1260 was detected in three samples. Most of these concentrations exceeded the ESC. These PCB mixtures (Aroclor 1242, Aroclor 1248, Aroclor 1254, and Aroclor 1260) are considered COPECs in soil at Landfill 2 (FTMM-2).

Metals. A total of 23 metals were detected in near surface soil samples from Landfill 2 (FTMM-2) of which most metals were detected in the majority of the samples. Thallium and silver were detected in 1 and 10 samples, respectively. Eighteen metals (aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, vanadium, and zinc) were detected at concentrations exceeding the soil ESC. Aluminum, like iron, is a common component of soils and sediments and is not considered a COPEC except in conditions of very low pH where aluminum could be bioavailable; aluminum is not considered a COPEC in soil at Landfill 2 (FTMM-2). The other 17 metals (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, vanadium, and zinc) are considered COPECs in soil at Landfill 2 (FTMM-2).

3.4.2.1.2 COPECs for Groundwater at Landfill 2

Sixteen groundwater monitoring wells at Landfill 2 (FTMM-2) have been monitored during the 2008-2009 time period. Mill Creek could receive groundwater discharge from Landfill 2 (FTMM-2). Mill Creek, in the vicinity of Landfill 2 (FTMM-2), is classified as freshwater (**Section 2.4.3**). Parameters detected in groundwater samples are presented in **Table C-1**.

VOCs. A total of nine VOCs were detected in groundwater samples from Landfill 2 (FTMM-2) during the 2008-2009 time period. Of these 16 VOCs, one (chlorobenzene) was detected at concentrations exceeding the freshwater ESC (47 µg/L); these samples were all collected from one

monitoring well (M2MW03). Mill Creek, in the vicinity of Landfill 2 (FTMM-2), is freshwater. Chlorobenzene is considered a COPEC in groundwater at Landfill 2 (FTMM-2).

SVOCs. A total of four SVOCs were detected in groundwater samples from Landfill 2 (FTMM-2) during the 2008-2009 time period. No SVOCs were detected at concentrations exceeding the freshwater ESC; SVOCs are not considered COPECs in groundwater at Landfill 2 (FTMM-2).

PCBs. No PCBs were detected in groundwater samples from Landfill 2 (FTMM-2) during the 2008-2009 time period. PCBs are not considered COPECs in groundwater at Landfill 2 (FTMM-2).

Pesticides. A total of 19 pesticides were detected in groundwater samples from Landfill 2 (FTMM-2) during the 2008-2009 time period. Of the 19 pesticides, nine pesticides were detected exceeding the freshwater ESC in at least one sample. Aldrin, alpha-chlordane, gamma-chlordane, 4,4′-DDE, 4,4′-DDT, endrin, heptachlor, heptachlor epoxide, and methoxychlor were detected at concentrations above their ESC. Of these, aldrin and endrin were detected exceeding the ESC in only one of the wells, and alpha-chlordane and heptachlor epoxide were detected exceeding the ESC in only two of the monitoring wells. These nine pesticides (aldrin, alpha-chlordane, gamma-chlordane, 4,4′-DDE, 4,4′-DDT, endrin, heptachlor, heptachlor epoxide, and methoxychlor) are considered COPECs in groundwater at Landfill 2 (FTMM-2).

Metals. A total of eight metals were detected in groundwater samples from Landfill 2 (FTMM-2) during the 2008-2009 time period. Of these eight, five (antimony, barium, cadmium, lead, and selenium) were detected in at least one groundwater sample at concentrations exceeding the freshwater ESC. One sample had an antimony concentration exceeding the freshwater ESC of 80 µg/L. Barium concentrations in four of the monitoring wells had concentrations exceeding the 220 µg/L freshwater ESC. Cadmium was detected at a concentration exceeding the freshwater ESC (0.16 µg/L) in one well. Lead and selenium were detected at concentrations exceeding the ESC (5.4 and 5 µg/L, respectively) in most, if not all, of the wells. Antimony, barium, cadmium, lead, and selenium are considered COPECs in groundwater at Landfill 2 (FTMM-2).

3.4.2.1.3 COPECs for Surface Water at Landfill 2 (FTMM-2)

Two surface water samples were collected from Mill Creek adjacent to Landfill 2 (FTMM-2) as part of the 2010 BEE. One sample was collected immediately downstream of a storm water outfall from the area of Building 1150 in Parcel 39 and the other sample was downstream of all storm water outfalls from Parcel 39 (**Appendix K**). Mill Creek, in the vicinity of Landfill 2 (FTMM-2), is classified as freshwater (**Section 2.4.3**). Parameters detected in surface water samples are presented in **Table D-7**.

Pesticides. No pesticides were detected in surface water samples at Landfill 2 (FTMM-2). Pesticides are not considered COPECs in surface water at Landfill 2 (FTMM-2).

PCBs. No PCBs were detected in surface water samples at Landfill 2 (FTMM-2). PCBs are not considered COPECs in surface water at Landfill 2 (FTMM-2).

VOCs. Three VOCs were detected in at least one of the two surface water samples. PCE, TCE, and *cis*-1,2-dichloroethene were detected at concentrations less than the ESC. VOCs are not considered COPECs in surface water at Landfill 2 (FTMM-2).

SVOCs. Three SVOCs were detected in at least one of the two surface water samples. Anthracene (0.10 and 0.11 µg/L) and benzo(*a*)anthracene (0.22 and 0.23 µg/L) were detected exceeding the freshwater ESC (0.035 and 0.025 µg/L, respectively); 1,2,4-trichlorobenzene was detected in one surface water sample at a concentration less than the ESC. Anthracene and benzo(*a*)anthracene are considered COPECs in surface water at Landfill 2 (FTMM-2).

Metals. A total of 12 metals were detected in surface water samples at Landfill 2 (FTMM-2). One metal was detected at concentrations exceeding the freshwater ESC. Total lead (6.2 and 6.36 µg/L) and dissolved lead (7.86 and 10.1 µg/L) were detected at concentrations exceeding the freshwater ESC for dissolved lead (5.4 µg/L). Lead is considered a COPEC in surface water at Landfill 2 (FTMM-2).

3.4.2.1.4 COPECs for Sediment at Landfill 2 (FTMM-2)

Thirteen sediment samples (including one duplicate sample) were collected from Mill Creek adjacent to Landfill 2 (FTMM-2) as part of the 2010 BEE. Sediment sample locations were based on previous sediment sampling conducted for the RI and were located in the field based on depositional characteristics and potential contaminant migration pathways and included storm water outfalls (**Appendix K**) into Mill Creek in the vicinity of Landfill 2 (FTMM-2) from the area of Building 1150 and Parcel 39 (**Section 3.4.2.13**). Mill Creek, in the vicinity of Landfill 2 (FTMM-2), is classified as freshwater (**Section 2.4.3**). Parameters detected in sediment samples are presented in **Table D-8**.

VOCs. Three VOCs (acetone, methylene chloride, and 2-butanone) were detected in at least one sediment sample each, but none were detected at concentrations exceeding the ESC.

Pesticides. Four pesticides (4,4'-DDT, 4,4'-DDE, 4,4'-DDD, and alpha-chlordane) were detected in at least one sediment sample each from Landfill 2. None were detected at concentrations exceeding the freshwater sediment ESC and pesticides are not considered COPECs in sediment at Landfill 2 (FTMM-2).

PCBs. Three PCBs mixtures (Aroclor 1242, Aroclor 1254, and Aroclor 1260) were detected in at least one sediment sample each from Landfill 2 (FTMM-2); each was detected at a concentration greater than the freshwater sediment ESC in at least one sample. Aroclor 1242 was detected in one sample (0.12 mg/kg) greater than the ESC for PCBs of 0.07 mg/kg. Aroclor 1254 was detected in one sample (0.064 mg/kg) greater than the 0.06 mg/kg freshwater sediment ESC for Aroclor 1254, and Aroclor 1260 was detected in two samples (0.01 and 0.04 mg/kg) greater than the 0.005 mg/kg freshwater sediment ESC for Aroclor 1260. Aroclor 1242, Aroclor 1254, and Aroclor 1260 are considered COPECs in sediment at Landfill 2 (FTMM-2).

SVOCs. A total of 20 SVOCs were detected in surface sediment samples at Landfill 2 (FTMM-2). Of the 20 detected SVOCs, six were detected in at least one sediment sample at concentrations exceeding the ESC. Bis(2-ethylhexyl) phthalate was detected in one sediment sample at a concentration (0.28 mg/kg) which exceeds the freshwater sediment ESC of 0.182 mg/kg. As noted elsewhere, bis(2-ethylhexyl) phthalate is commonly found in field and laboratory QC samples and is not considered a COPEC in sediment at Landfill 2 (FTMM-2). Chrysene (0.37 mg/kg), dibenzo(*a,h*)anthracene (0.1 mg/kg), 2,4-dinitrophenol (1.1 mg/kg), and pyrene (0.71 mg/kg) were detected in one sample each above the freshwater sediment ESC. Fluoranthene (0 0.92 mg/kg) was detected above the ESC in one sample. All SVOC exceedances were detected in only 2 of the 12 sediment samples (M2-SD7 and M2-SD13). Chrysene, dibenzo(*a,h*)anthracene, 2,4-dinitrophenol, fluoranthene, and pyrene are considered COPECs in sediment at Landfill 2 (FTMM-2).

Metals. Of the 22 metals detected in sediment at Landfill 2 (FTMM-2), seven (arsenic, cadmium, chromium, copper, lead, mercury, and nickel) were detected in at least one sample at concentrations exceeding the freshwater sediment ESC. Arsenic concentrations in one sample (8.09 mg/kg), cadmium concentrations in all 12 samples (1.44 to 2.76 mg/kg), chromium concentrations in all 12 samples (31.8 to 125 mg/kg), copper concentrations in one sample (22.5 mg/kg), lead in four samples (31.2 to 52.8 mg/kg), mercury in one sample (0.21 mg/kg), and nickel in one sample (29.2 mg/kg) exceeded the freshwater sediment ESC (6 mg/kg arsenic, 0.6 mg/kg cadmium, 26 mg/kg chromium, 16 mg/kg copper, 31 mg/kg lead, 0.2 mg/kg mercury, and 16 mg/kg nickel). Though there are no freshwater sediment ESC for barium and selenium, detected concentrations of these metals were detected at concentrations greater than the available saltwater sediment ESC in some sediment samples. These metals were identified as COPECs in soil and groundwater at Landfill 2 (FTMM-2) and are considered COPECs in sediment. Arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, and selenium are considered COPECs in sediment at Landfill 2 (FTMM-2).

3.4.2.1.5 Summary of COPECs for Landfill 2 (FTMM-2)

Parameters detected in soil, groundwater, surface water, or sediment at Landfill 2 (FTMM-2) at concentrations greater than the applicable ESC are identified as COPECs for the site. Though cadmium and 4,4′-DDE were not detected in surface water at Landfill 2 (FTMM-2), their MDLs were greater than the freshwater ESC. Given that cadmium is considered a COPEC in soil, groundwater, and sediment and 4,4′-DDE is considered a COPEC in soil and groundwater (though not sediment), they are considered

possible COPECs in surface water. The COPECs, and possible COPECs, identified for Landfill 2 (FTMM-2) are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
Not Applicable	Chlorobenzene	None	None
Pesticides			
Gamma-BHC 4,4′-DDD 4,4′-DDE 4,4′-DDT Dieldrin Endrin	Aldrin gamma-Chlordane alpha-Chlordane DDE DDT Endrin Heptachlor Heptachlor epoxide Methoxychlor	None	None
PCBs			
Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1260	None	None	Aroclor 1242 Aroclor 1254 Aroclor 1260
SVOCs			
Benzo(*a*)anthracene Benzo(*a*)pyrene Chrysene Naphthalene	None	Anthracene Benzo(*a*)anthracene	Chrysene Dibenzo(*a,h*)anthracene 2,4-Dinitrophenol Fluoranthene Pyrene
Metals			
Antimony Arsenic Barium Beryllium Cadmium Chromium Cobalt Copper Lead Manganese Mercury Nickel Selenium Silver Thallium Vanadium Zinc	Antimony Barium Cadmium Lead Selenium	Lead	Arsenic Barium Cadmium Chromium Copper Lead Mercury Nickel Selenium
Possible COPECs			
		DDE Cadmium	

3.4.2.2 LANDFILL 3 (FTMM-3)

Near surface soil, groundwater, surface water, and sediment analytical data were evaluated for the identification of COPECs related to Landfill 3.

3.4.2.2.1 COPECs for Soil at Landfill 3 (FTMM-3)

Near surface (6-12 inches bgs) soil samples were collected from Landfill 3 (FTMM-3) as part of the IRP RI investigation (Versar, 2004a). A total of 205 samples were analyzed for SVOCs, pesticides, PCBs, and metals. Parameters detected in near surface soil samples are presented in **Table A-2**.

SVOCs. A total of 23 SVOCs were detected in near surface soil samples from Landfill 3 (FTMM-3). Of these 23 SVOCs, 13 were detected at concentrations exceeding the soil ESC in at least one sample. Phenanthrene, fluoranthene, pyrene, benzo(*b*)fluoranthene, indeno(1,2,3-*cd)*pyrene, dibenzo(*a,h*)anthracene, and benzo(*g,h,i*)perylene were detected exceeding the ESC in one soil sample each; most of these exceedances occurred in the same soil sample. In addition, benzo(*a*)anthracene, naphthalene, and chrysene were detected in several soil samples at concentrations exceeding the ESC. Benzo(*a*)pyrene was detected at concentrations exceeding the ESC in more than 10% of the soil samples. Bis(2-ethylhexyl) phthalate and di-*n*-butyl phthalate were also detected at concentrations greater than the ESC. As noted elsewhere, phthalates are commonly found in field and laboratory QC samples, and these phthalates are not considered COPECs. Benzo(*a*)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(*g,h,i*)perylene, chrysene, dibenzo(*a,h*)anthracene, fluoranthene, indeno(1,2,3-*cd*)pyrene, naphthalene, phenanthrene, and pyrene are considered COPECs in soil at Landfill 3 (FTMM-3).

Pesticides. Ten pesticides were detected in near surface soil samples from Landfill 3 (FTMM-3). Nine of these pesticides were detected at concentrations exceeding the soil ESC in at least one sample. 4,4′-DDT was detected in most of the samples and the majority of the concentrations exceeded the 0.0035 mg/kg ESC. 4,4′-DDD was detected in two samples at concentrations that were greater than the 0.758 mg/kg ESC. 4,4′-DDE, dieldrin, and gamma-BHC were detected in several samples at concentrations that were exceeding the ESC. Endrin was detected in one sample at a concentration above the 0.0101 mg/kg ESC. Heptachlor was detected in one sample at a concentration above the 0.00598 mg/kg ESC. Gamma- and alpha-chlordane were detected in two samples each above the 0.224 mg/kg chlordane ESC. 4,4′-DDD, 4,4′-DDE, 4,4′-DDT, dieldrin, endrin, gamma-BHC, alpha-chlordane, gamma-chlordane, and heptachlor are considered COPECs at Landfill 3 (FTMM-3).

PCBs. One PCB Aroclor was detected in near surface soil samples from Landfill 3 (FTMM-3). Aroclor 1260 was detected in six samples. These concentrations were above the 0.371 mg/kg ESC. Aroclor 1260 is considered a COPEC in soil at Landfill 3 (FTMM-3).

Metals. A total of 23 metals were detected in near surface soil samples from Landfill 3 (FTMM-3) of which most metals were detected in the majority of the samples. Thallium and silver were detected infrequently, being detected in 2 and 25 samples, respectively; antimony was detected in less than half the samples (102 of 205). Sixteen metals (aluminum, antimony, arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver, vanadium, and zinc) were detected at concentrations exceeding the soil ESC. Aluminum, like iron, is a common component of soils and sediments and is not considered a COPEC except in conditions of very low pH where aluminum could be bioavailable; aluminum is not considered a COPEC in soil at Landfill 3 (FTMM-3). Antimony, arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver, vanadium, and zinc are considered COPECs in soil at Landfill 3 (FTMM-3).

3.4.2.2.2 COPECs for Groundwater at Landfill 3 (FTMM-3)

Eight groundwater monitoring wells at Landfill 3 (FTMM-3) have been monitored for VOCs during the 2008-2009 time period. Lafetra Creek could receive groundwater discharge from Landfill 3 (FTMM-3). Lafetra Creek, in the vicinity of Landfill 3 (FTMM-3), is classified as saline estuarine (**Section 2.4.3**). Parameters detected in groundwater samples are presented in **Table C-2**.

VOCs. A total of 11 VOCs were detected in groundwater samples from Landfill 3 (FTMM-3) during the 2008-2009 time period. None of the detected VOCs were at concentrations greater than the applicable saltwater ESC. VOCs are not considered COPECs in groundwater at Landfill 3 (FTMM-3).

3.4.2.2.3 COPECs for Surface Water at Landfill 3 (FTMM-3)

Two surface water samples were collected from Lafetra Creek adjacent to Landfill 3 (FTMM-3) as part of the 2010 BEE. Lafetra Creek, in the vicinity of Landfill 3 (FTMM-3), is classified as saline estuarine (**Section 2.4.3**). Parameters detected in surface water samples are presented in **Table D-9**.

VOCs. No VOCs were detected in surface water samples at Landfill 3 (FTMM-3). VOCs are not considered COPECs in surface water at Landfill 3 (FTMM-3).

SVOCs. No SVOCs were detected in surface water samples at Landfill 3 (FTMM-3). SVOCs are not considered COPECs in surface water at Landfill 3 (FTMM-3).

Pesticides. No pesticides were detected in surface water samples at Landfill 3 (FTMM-3). Pesticides are not considered COPECs in surface water at Landfill 3 (FTMM-3).

PCBs. No PCBs were detected in surface water samples at Landfill 3 (FTMM-3). PCBs are not considered COPECs in surface water at Landfill 3 (FTMM-3).

Metals. A total of 13 metals were detected in surface water samples at Landfill 3 (FTMM-3). None of these were detected at concentrations exceeding the saltwater ESC. Metals are not considered COPECs in surface water at Landfill 3 (FTMM-3).

3.4.2.2.4 COPECs for Sediment at Landfill 3 (FTMM-3)

Twelve sediment samples (including one duplicate sample) were collected from Lafetra Creek adjacent to Landfill 3 (FTMM-3) as part of the 2010 BEE. Sediment sample locations were based on previous sediment sampling conducted for the RI and were located in the field based on depositional characteristics and potential contaminant migration pathways. Lafetra Creek, in the vicinity of Landfill 3 (FTMM-3), is classified as saline estuarine (**Section 2.4.3**). Parameters detected in sediment samples are presented in **Table D-10**.

VOCs. A total of seven VOCs were detected in sediment samples at Landfill 3 (FTMM-3). None were detected at concentrations exceeding the available saltwater sediment ESC. VOCs are not considered COPECs in sediment at Landfill 3 (FTMM-3).

PCBs. No PCBs were detected in sediment samples at Landfill 3 (FTMM-3). PCBs are not considered COPECs at Landfill 3 (FTMM-3).

Pesticides. Three pesticides (4,4'-DDD, 4,4'-DDE, and 4,4'-DDT) were detected in one or two sediment samples each at Landfill 3 (FTMM-3). Only one sample had concentrations exceeding the ESC. Sample M3-SD10 had a concentration of 0.0095 mg/kg 4,4′-DDD, which is greater than the saltwater sediment ESC (0.002 mg/kg) and a concentration of 0.18 mg/kg 4,4′-DDT, which is greater than the saltwater sediment ESC (0.001 mg/kg). 4,4′-DDD and 4,4′-DDT are considered COPECs in sediment at Landfill 3 (FTMM-3).

SVOCs. A total of 15 SVOCs were detected in surface sediment samples at Landfill 3 (FTMM-3). Of the 15 detected SVOCs, one was detected in one sediment sample at a concentration greater than the saltwater ESC. Bis(2-ethylhexyl) phthalate was detected in one sediment sample at a concentration (5.5 mg/kg) exceeding the saltwater sediment ESC of 0.18216 mg/kg. As noted elsewhere, bis(2-ethylhexyl) phthalate is commonly found in field and laboratory QC samples and is not considered a COPEC in sediment at Landfill 3 (FTMM-3).

Metals. Of the 23 metals detected in sediment at Landfill 3 (FTMM-3), 13 (arsenic, barium, cadmium, chromium, cobalt, copper, lead, mercury, nickel, selenium, silver, vanadium, and zinc) were detected in at least one sample at concentrations greater than the saltwater sediment ESC and are considered COPECs in sediment at Landfill 3 (FTMM-3).

3.4.2.2.5 Summary of COPECs for Landfill 3 (FTMM-3)

Parameters detected in soil, groundwater, surface water, or sediment at Landfill 3 (FTMM-3) at concentrations greater than the applicable ESC were identified as COPECs for the site. Though copper was not detected in surface water at Landfill 3 (FTMM-3), its MDLs were greater than the saltwater ESC. Given that copper is considered a COPEC in soil and sediment, it is considered a possible COPEC in surface water. The COPECs, and possible COPECs, identified for Landfill 3 (FTMM-3) are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
Not Applicable	None	None	None
Pesticides			
Gamma-BHC	Not Applicable	None	DDD

Soil	Groundwater	Surface Water	Sediment
alpha-Chlordane gamma-Chlordane 4,4′-DDD 4,4′-DDE 4,4′-DDT Dieldrin Endrin Heptachlor			DDT
PCBs			
Aroclor 1260	Not Applicable	None	None
SVOCs			
Benzo(*a*)anthracene Benzo(*a*)pyrene Benzo(*b*)fluoranthene Benzo(*g,h,i*)perylene Chrysene Dibenzo(*a,h*)anthracene Fluoranthene Indeno(1,2,3-*cd*)pyrene Naphthalene Phenanthrene Pyrene	Not Applicable	None	None
Metals			
Antimony Arsenic Barium Cadmium Chromium Cobalt Copper Lead Manganese Mercury Nickel Selenium Silver Vanadium Zinc	Not Applicable	None	Arsenic Barium Cadmium Chromium Cobalt Copper Lead Mercury Nickel Selenium Silver Vanadium Zinc
Possible COPECs			
		Copper	

3.4.2.3 LANDFILL 4 (FTMM-4)

Near surface soil, groundwater, surface water, and sediment analytical data were evaluated for the identification of COPECs related to Landfill 4 (FTMM-4).

3.4.2.3.1 COPECs for Soil at Landfill 4 (FTMM-4)

Near surface (6-12 inches bgs) soil samples were collected from Landfill 4 (FTMM-4) as part of the IRP RI investigation (Versar, 2004b). A total of 63 samples were analyzed for SVOCs, pesticides, PCBs, and metals. Parameters detected in near surface soil samples are presented in **Table A-3**.

SVOCs. A total of 22 SVOCs were detected in near surface soil samples from Landfill 4 (FTMM-4). Of these 22 SVOCs, three were detected at concentrations exceeding the soil ESC in at least one sample. Bis(2-ethylhexyl) phthalate was detected frequently and several samples had concentrations that were greater than the 0.925 mg/kg ESC. As noted elsewhere, bis(2-ethylhexyl) phthalate is commonly found in field and laboratory QC samples; therefore, it is not considered a COPEC. Benzo(*a*)pyrene was detected in more than half of the 63 samples and two samples had concentrations (3.5 and 1.6 mg/kg) greater than the 1.52 mg/kg ESC. Naphthalene was detected in four samples at

concentrations exceeding the 0.0994 mg/kg ESC. Benzo(*a*)pyrene and naphthalene are considered COPECs in soil at Landfill 4 (FTMM-4).

Pesticides. Four pesticides were detected in near surface soil samples from Landfill 4 (FTMM-4). Three of these pesticides were detected at concentrations exceeding the soil ESC in at least one sample. 4,4′-DDT was detected in most of the 63 samples and the majority of these had concentrations that were greater than the 0.0035 mg/kg ESC. 4,4′-DDD was detected in one sample at a concentration that exceeded the 0.758 mg/kg ESC. 4,4′-DDE was detected in three samples at concentrations that were greater than the 0.596 mg/kg ESC. 4,4′-DDD, 4,4′-DDE, and 4,4′-DDT are considered COPECs at Landfill 4 (FTMM-4).

PCBs. No PCBs were detected in near surface soil samples from Landfill 4 (FTMM-4). PCBs are not considered COPECs in soil at Landfill 4 (FTMM-4).

Metals. A total of 23 metals were detected in near surface soil samples from Landfill 4 (FTMM-4) of which most metals were detected in the majority of the samples. Cadmium, thallium, selenium, and silver were detected infrequently. Thallium and selenium were detected in one sample each, cadmium was detected in four samples, and selenium was detected in 13 samples. Sixteen metals (aluminum, antimony, arsenic, barium, cadmium, chromium, cobalt, copper, lead, mercury, nickel, selenium, silver, thallium, vanadium, and zinc) were detected at concentrations exceeding the soil ESC. Aluminum, like iron, is a common component of soils and sediments and is not considered a COPEC except in conditions of very low pH where aluminum could be bioavailable; aluminum is not considered a COPEC in soil at Landfill 4 (FTMM-4). Antimony, arsenic, barium, cadmium, chromium, cobalt, copper, lead, mercury, nickel, selenium, silver, thallium, vanadium, and zinc are considered COPECs in soil at Landfill 4 (FTMM-4).

3.4.2.3.2 COPECs for Groundwater at Landfill 4 (FTMM-4)

Four monitoring wells at Landfill 4 (FTMM-4) have been monitored for metals during the 2008-2009 time period. Sampling for SVOCs, pesticides, PCBs, and VOCs was discontinued after the October 2004 sampling event per NJDEP approval letter dated November 2004. SVOCs, pesticides, PCBs, and VOCs are not considered COPECs in groundwater at Landfill 4 (FTMM-4). Mill Creek could receive groundwater discharge from Landfill 4 (FTMM-4). Mill Creek, in the vicinity of Landfill 4 (FTMM-4), is classified as saline estuarine (**Section 2.4.3**). Parameters detected in groundwater samples are presented in **Table C-3**.

Metals. A total of 12 metals were detected in groundwater samples from Landfill 4 (FTMM-4) during the 2008-2009 time period. Of these 12, five were detected at concentrations that exceeded the saltwater ESC in at least one sample. Arsenic was detected at concentrations greater than the saltwater ESC in three monitoring wells. Selenium was detected at concentrations greater than the saltwater ESC in two wells. Cadmium, copper, and lead were detected at concentrations exceeding the saltwater ESC in one sample each. Arsenic, cadmium, copper, lead, and selenium are considered COPECs in groundwater at Landfill 4 (FTMM-4).

3.4.2.3.3 COPECs for Surface Water at Landfill 4 (FTMM-4)

One surface water sample was collected from Mill Creek adjacent to Landfill 4 (FTMM-4) as part of the 2010 BEE. One sample was collected downstream of the storm water outfall at the northern end of Landfill 4 (FTMM-4) and the other sample was collected downstream of the storm water outfall at the southern end of Landfill 4 (FTMM-4) (**Appendix K**). Mill Creek, in the vicinity of Landfill 4 (FTMM-4), is classified as saline estuarine (**Section 2.4.3**). Parameters detected in the surface water sample are presented in **Table D-11**.

PCBs. No PCBs were detected in surface water samples at Landfill 4 (FTMM-4). PCBs are not considered COPECs in surface water at Landfill 4 (FTMM-4).

Pesticides. No pesticides were detected in surface water samples at Landfill 4 (FTMM-4). Pesticides are not considered COPECs in surface water at Landfill 4 (FTMM-4).

VOCs. Two VOCs were detected in the surface water sample. PCE (0.6 µg/L) and *cis*-1,2-dichloroethene (1.1 µg/L) were detected at concentrations less than the ESC. VOCs are not considered COPECs in surface water at Landfill 4 (FTMM-4).

SVOCs. Four SVOCs were detected in the surface water sample. There are no saltwater ESC four these SVOCs; they are not considered COPECs in surface water at Landfill 4 (FTMM-4).

Metals. A total of 12 metals were detected in the surface water sample at Landfill 4 (FTMM-4). None of these were detected at concentrations greater than the saltwater ESC. Metals are not considered COPECs in surface water at Landfill 4 (FTMM-4).

3.4.2.3.4 COPECs for Sediment at Landfill 4 (FTMM-4)

Six sediment samples were collected from Mill Creek adjacent to Landfill 4 (FTMM-4) as part of the 2010 BEE. Sediment sample locations were based on previous sediment sampling conducted for the RI and were located in the field based on depositional characteristics and potential contaminant migration pathways and included storm water outfalls (**Appendix K**) into Mill Creek in the vicinity of Landfill 4 (FTMM-4) from the surrounding areas including Buildings 689, 1123, and 1221. Mill Creek, in the vicinity of Landfill 4 (FTMM-4), is classified as saline estuarine (**Section 2.4.3**). Parameters detected in the sediment samples are presented in **Table D-12**.

VOCs. A total of two VOCs (acetone and methylene chloride) were detected in sediment samples at Landfill 4 (FTMM-4). None were detected at concentrations exceeding the available saltwater sediment ESC. VOCs are not considered COPECs in sediment at Landfill 4 (FTMM-4).

PCBs. Three PCB mixtures (Aroclor 1232, Aroclor 1242, and Aroclor 1260) were detected in at least one sediment sample each from Landfill 4 (FTMM-4); all were detected at concentrations greater than the saltwater sediment ESC in at least one sample. Aroclor 1232 was detected in one sample (0.093 mg/kg) and Aroclor 1242 was detected in two samples (0.055 mg/kg and 0.075 mg/kg) greater than the ESC for PCBs in saltwater sediment of 0.023 mg/kg. Aroclor 1260 was detected in five samples (0.010 mg/kg to 0.036 mg/kg) above the 0.005 mg/kg saltwater sediment ESC for Aroclor 1260. These three PCBs are considered COPECs in sediment at Landfill 4 (FTMM-4).

Pesticides. Three pesticides (4,4'-DDD, 4,4'-DDE, and 4,4'-DDT) were detected in one to three sediment samples each at Landfill 4 (FTMM-4). 4,4′-DDD in two samples and 4,4′-DDT in one sample were at concentrations exceeding the saltwater ESC. 4,4′-DDD and 4,4′-DDT are considered COPECs in sediment at Landfill 4 (FTMM-4).

SVOCs. A total of 15 SVOCs were detected in surface sediment samples at Landfill 4 (FTMM-4). Of the 15 detected SVOCs, six were detected in one sediment sample (M4-SD4) at concentrations exceeding the ESC. Acenaphthene (0.12 mg/kg), anthracene (0.15 mg/kg), benzo(*a*)anthracene (0.31 mg/kg), fluoranthene (0.70 mg/kg), fluorene (0.097 mg/kg), and phenanthrene (0.62 mg/kg) were detected above the saltwater sediment ESC at M4-SD4. Acenaphthene, anthracene, benzo(*a*)anthracene, fluoranthene, fluorene, and phenanthrene are considered COPECs in sediment at Landfill 4 (FTMM-4).

Metals. Of the 23 metals detected in sediment at Landfill 4 (FTMM-4), seven (arsenic, cadmium, cobalt, lead, mercury, and selenium) were detected in at least one sample at concentrations greater than the saltwater sediment ESC. Arsenic concentration in one sample (10.2 mg/kg), cadmium concentrations in three samples (1.26 to 1.49 mg/kg), cobalt concentrations in four samples (13.9 to 24.6 mg/kg), lead in two samples (52.3 to 65.1 mg/kg), mercury concentrations in three samples (0.188 to 0.257 mg/kg), and selenium concentrations in all six samples (1.63 to 3.67 mg/kg) exceeded the freshwater sediment ESC (8.2, 1.2, 10, 47, 0.15, and 1 mg/kg, respectively). Arsenic, cadmium, lead, mercury, nickel, and selenium are considered COPECs in sediment at Landfill 4 (FTMM-4).

3.4.2.3.5 Summary of COPECs for Landfill 4 (FTMM-4)

Parameters detected in soil, groundwater, surface water, or sediment at Landfill 4 (FTMM-4) at concentrations greater than the applicable ESC were identified as COPECs for the site. Though copper was not detected in surface water at Landfill 4 (FTMM-4), its MDLs were greater than the saltwater ESC. Given that copper is considered a COPEC in soil and groundwater (though not in sediment), it is

considered a possible COPEC in surface water. The COPECs, and possible COPECs, identified for Landfill 4 (FTMM-4) are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
Not Applicable	None	None	None
Pesticides			
4,4′-DDD 4,4′-DDE 4,4′-DDT	None	None	DDD DDT
PCBs			
None	None	None	Aroclor 1232 Aroclor 1242 Aroclor 1260
SVOCs			
Benzo(*a*)pyrene Naphthalene	None	None	Acenaphthene Anthracene Benzo(a)anthracene Fluoranthene Fluorene Phenanthrene
Metals			
Antimony Arsenic Barium Cadmium Chromium Cobalt Copper Lead Mercury Nickel Selenium Silver Thallium Vanadium Zinc	Arsenic Cadmium Copper Lead Selenium	None	Arsenic Cadmium Cobalt Lead Mercury Selenium
Possible COPECs			
		Copper	

3.4.2.4 LANDFILL 5 (FTMM-5)

Near surface soil, groundwater, surface water, and sediment analytical data were evaluated for the identification of COPECs related to Landfill 5 (FTMM-5).

3.4.2.4.1 COPECs for Soil at Landfill 5 (FTMM-5)

Near surface (6-12 inches bgs) soil samples were collected from Landfill 5 (FTMM-5) as part of the IRP RI investigation (Versar, 2004c). A total of 173 samples were analyzed for SVOCs, pesticides, PCBs, and metals. Parameters detected in near surface soil samples are presented in **Table A-4**.

SVOCs. A total of 27 SVOCs were detected in near surface soil samples from Landfill 5 (FTMM-5). Of these 27 SVOCs, six were detected at concentrations exceeding the soil ESC in at least one sample. Benzo(*a*)anthracene, 2-methylnaphthalene, and chrysene were detected in one or two samples each at concentrations exceeding the ESC. Benzo(*a*)pyrene was detected in eight samples at concentrations exceeding the 1.52 mg/kg ESC. Naphthalene was detected in 16 samples at concentrations exceeding the 0.0994 mg/kg ESC. Bis(2-ethylhexyl) phthalate was detected in two samples at concentrations exceeding the 0.925 mg/kg ESC. As noted elsewhere, bis(2-ethylhexyl) phthalate is commonly found in field and laboratory QC samples; therefore, it is not considered a COPEC.

Benzo(a)anthracene, benzo(a)pyrene, 2-methylnaphthalene, naphthalene, and chrysene are considered COPECs in soil at Landfill 5 (FTMM-5).

Pesticides. Twelve pesticides were detected in near surface soil samples from Landfill 5 (FTMM-5). Eight of these pesticides were detected at concentrations exceeding the soil ESC in at least one sample. 4,4′-DDT was detected at concentrations that were greater than the 0.0035 mg/kg ESC in about 20% of the samples. 4,4′-DDD was detected in three samples at concentrations that were greater than the 0.758 mg/kg ESC. 4,4′-DDE was detected in five samples at concentrations that were greater than the 0.596 mg/kg ESC. Dieldrin was detected in one sample at a concentration greater than the 0.0049 mg/kg ESC. Endosulfan sulfate was detected in one sample at a concentration greater than the 0.0358 mg/kg ESC. Endrin aldehyde was detected in one sample at a concentration greater than the 0.0105 mg/kg ESC. Heptachlor was detected in one sample at a concentration greater than the 0.00598 mg/kg ESC. Heptachlor epoxide was detected in one sample at a concentration greater than the 0.152 mg/kg ESC. Gamma- and alpha-chlordane were detected in one sample each at concentrations exceeding the 0.224 mg/kg chlordane ESC. alpha-Chlordane, gamma-chlordane, 4,4′-DDD, 4,4′-DDE, 4,4′-DDT, dieldrin, endosulfan sulfate, endrin aldehyde, heptachlor, and heptachlor epoxide are considered COPECs at Landfill 5 (FTMM-5).

PCBs. One PCB mixture (Aroclor 1254) was detected in near surface soil samples from Landfill 5 (FTMM-5). Aroclor 1254 was detected in two samples. One concentration was greater than the 0.371 mg/kg ESC. Aroclor 1254 is considered a COPEC in soil at Landfill 5 (FTMM-5).

Metals. A total of 23 metals were detected in near surface soil samples from Landfill 5 (FTMM-5) and most metals were detected in the majority of the samples. Thallium, selenium, and silver were detected infrequently, being detected in 41, 32, and 17 samples, respectively; cadmium was detected in less than half the samples (68 of 173). Eighteen metals (aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, vanadium, and zinc) were detected at concentrations exceeding the soil ESC. Aluminum, like iron, is a common component of soils and sediments and is not considered a COPEC except in conditions of very low pH where aluminum could be bioavailable; aluminum is not considered a COPEC in soil at Landfill 5 (FTMM-5). Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, vanadium, and zinc are considered COPECs in soil at Landfill 5 (FTMM-5).

3.4.2.4.2 COPECs for Groundwater at Landfill 5 (FTMM-5)

Ten groundwater monitoring wells at Landfill 5 (FTMM-5) have been monitored for VOCs during the 2008-2009 time period. Mill Creek could receive groundwater discharge from Landfill 5 (FTMM-5). Mill Creek, in the vicinity of Landfill 5 (FTMM-5), is classified as saline estuarine (**Section 2.4.3**). Parameters detected in groundwater samples are presented in **Table C-4**.

VOCs. A total of six VOCs were detected in groundwater samples from Landfill 5 (FTMM-5) during the 2008-2009 time period. No VOCs were found at concentrations exceeding the available saltwater ESC. VOCs are not considered COPECs in groundwater at Landfill 5 (FTMM-5).

3.4.2.4.3 COPECs for Surface Water at Landfill 5 (FTMM-5)

One surface water sample was collected from Mill Creek adjacent to Landfill 5 (FTMM-5) as part of the 2010 BEE. The surface water sample was collected at an approximate mid-point of Landfill 5 and downstream of potential storm water outfalls located immediately upstream of Landfill 5 (**Appendix K**). Additionally, one surface water sample collected in relation of Landfill 8 (FTMM-8) was collected at the northern end of Landfill 5 just upstream of the confluence of Mill Creek with Lafetra Creek (**Section 3.4.2.5**). Mill Creek, in the vicinity of Landfill 5 (FTMM-5), is classified as saline estuarine (**Section 2.4.3**). Parameters detected in the surface water sample are presented in **Table D-13**.

PCBs. No PCBs were detected in surface water samples at Landfill 5 (FTMM-5). PCBs are not considered COPECs in surface water at Landfill 5 (FTMM-5).

Pesticides. No pesticides were detected in surface water samples at Landfill 5 (FTMM-5). Pesticides are not considered COPECs in surface water at Landfill 5 (FTMM-5).

VOCs. Two VOCs were detected in the surface water sample. PCE (0.69 µg/L) and *cis*-1,2-dichloroethene (0.97 µg/L) were detected at concentrations below the available ESC. VOCs are not considered COPECs in surface water at Landfill 5 (FTMM-5).

SVOCs. Two SVOCs were detected in the surface water sample. None were detected at concentrations exceeding the saltwater ESC. SVOCs are not considered COPECs in surface water at Landfill 5 (FTMM-5).

Metals. A total of 13 metals were detected in the surface water sample at Landfill 5 (FTMM-5). None of these were detected at concentrations exceeding the saltwater ESC. Metals are not considered COPECs in surface water at Landfill 5 (FTMM-5).

3.4.2.4.4 COPECs for Sediment at Landfill 5 (FTMM-5)

Seven sediment samples (including one duplicate sample) were collected from Mill Creek adjacent to Landfill 5 (FTMM-5) as part of the 2010 BEE. Sediment sample locations were based on previous sediment sampling conducted for the RI and were located in the field based on depositional characteristics and potential contaminant migration pathways. Mill Creek, in the vicinity of Landfill 5 (FTMM-5), is classified as saline estuarine (**Section 2.4.3**). Parameters detected in the sediment samples are presented in **Table D-14**.

VOCs. A total of five VOCs were detected in sediment samples at Landfill 5 (FTMM-5). None were detected at concentrations exceeding the available freshwater sediment ESC. VOCs are not considered COPECs in sediment at Landfill 5 (FTMM-5).

PCBs. No PCBs were detected in sediment samples at Landfill 5 (FTMM-5). PCBs are not considered COPECs in sediment at Landfill 5 (FTMM-5).

Pesticides. Four pesticides (alpha-chlordane, 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT) were detected in four sediment samples each at Landfill 5 (FTMM-5). Three of these pesticides, 4,4'-DDD (0.0036 to 0.016 mg/kg), 4,4'-DDE (0.003 to 0.0072 mg/kg), and 4,4'-DDT (0.0011 to 0.0021 mg/kg), were detected in three to four sediment samples at concentrations greater than the saltwater sediment ESC of 0.002 mg/kg for 4,4′-DDD, 0.0022 mg/kg for 4,4′-DDE, and 0.001 mg/kg for 4,4′-DDT. 4,4′-DDD, 4,4′-DDE, and 4,4′-DDT are considered COPECs in sediment at Landfill 5 (FTMM-5).

SVOCs. A total of 16 SVOCs were detected in surface sediment samples at Landfill 5 (FTMM-5). Of the 16 detected SVOCs, nine were detected in at least one sediment sample at concentrations exceeding the saltwater sediment ESC. Acenaphthylene (0.15 mg/kg), anthracene (0.15 to 0.23 mg/kg), benzo(*a*)anthracene (0.34 mg/kg), fluoranthene (0.67 mg/kg), fluorene (0.27 mg/kg), 2-methylnaphthalene (0.40 mg/kg), naphthalene (0.26 mg/kg), phenanthrene (0.36 and 0.96 mg/kg), and pyrene (0.58 and 0.70 mg/kg) were detected at concentrations exceeding the freshwater sediment ESC. Acenaphthylene, anthracene, benzo(*a*)anthracene, fluoranthene, fluorene, 2-methylnaphthalene, naphthalene, phenanthrene, and pyrene are considered COPECs in sediment at Landfill 5 (FTMM-5).

Metals. Of the 23 metals detected in sediment at Landfill 5 (FTMM-5), 12 (arsenic, barium, cadmium, chromium, cobalt, lead, mercury, nickel, selenium, silver, vanadium, and zinc) were detected in at least one sample at concentrations greater than the saltwater sediment ESC. Arsenic concentrations in three samples (11.0 to 43.5 mg/kg), barium in one sample (50.7 mg/kg), cadmium concentrations in three samples (1.72 to 6.65 mg/kg), chromium in one sample (119 mg/kg), cobalt in one sample (13.3 mg/kg), lead in one sample (62.4 mg/kg), mercury in one sample (0.155 mg/kg), nickel in one sample (27.6 mg/kg), selenium in all seven samples (1.33 to 13.2 mg/kg), silver in one sample (1.29 mg/kg), vanadium in one sample (71.6 mg/kg), and zinc in two samples (150 and 203 mg/kg) exceeded the saltwater sediment ESC (8.2, 48, 1.2, 81, 10, 47, 0.15, 21, 1, 1, 57, and 150 mg/kg, respectively). Arsenic, barium, cadmium, chromium, cobalt, lead, mercury, nickel, selenium, silver, vanadium, and zinc are considered COPECs in sediment at Landfill 5 (FTMM-5).

3.4.2.4.5 Summary of COPECs for Landfill 5 (FTMM-5)

Parameters detected in soil, groundwater, surface water, or sediment at Landfill 5 (FTMM-5) at concentrations greater than the applicable ESC were identified as COPECs for the site. Though copper was not detected in surface water at Landfill 5 (FTMM-5), its MDLs were greater than the saltwater ESC.

Given that copper is considered a COPEC in soil (but not in sediment), it is considered a possible COPEC in surface water. The COPECs, and possible COPECs, identified for Landfill 5 (FTMM-5) are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
Not Applicable	None	None	None
Pesticides			
alpha-Chlordane gamma-Chlordane 4,4′-DDD 4,4′-DDE 4,4′-DDT Dieldrin Endosulfan sulfate Endrin aldehyde Heptachlor Heptachlor epoxide	Not Applicable	None	DDD DDE DDT
PCBs			
Aroclor 1254	Not Applicable	None	None
SVOCs			
Benzo(*a*)anthracene Benzo(*a*)pyrene Chrysene Naphthalene 2-Methylnaphthalene	Not Applicable	None	Acenaphthylene Anthracene Benzo(*a*)anthracene Fluoranthene Fluorene 2-Methylnaphthalene Naphthalene Phenanthrene Pyrene
Metals			
Antimony Arsenic Barium Beryllium Cadmium Chromium Cobalt Copper Lead Manganese Mercury Nickel Selenium Silver Thallium Vanadium Zinc	Not Applicable	None	Arsenic Barium Cadmium Chromium Cobalt Lead Mercury Nickel Selenium Silver Vanadium Zinc
Possible COPECs			
		Copper	

3.4.2.5 LANDFILL 8 (FTMM-8)

Near surface soil, groundwater, surface water, and sediment analytical data were evaluated for the identification of COPECs related to Landfill 8 (FTMM-8).

3.4.2.5.1 COPECs for Soil at Landfill 8 (FTMM-8)

Near surface (6-12 inches bgs) soil samples were collected from Landfill 8 (FTMM-8) as part of the IRP RI investigation (Versar, 2004d). A total of 291 samples were analyzed for SVOCs, pesticides, PCBs, and metals. Parameters detected in near surface soil samples are presented in **Table A-5**.

SVOCs. A total of 35 SVOCs were detected in near surface soil samples from Landfill 8 (FTMM-8). Of these 35 SVOCs, 20 were detected at concentrations exceeding the soil ESC in at least one sample. Twelve of these SVOCs exceeded the soil ESC in the same two or three samples; these were 2,4-dimethylphenol, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo(*b*)fluoranthene, benzo(*k*)fluoranthene, indeno(1,2,3-*cd*)pyrene, dibenzo(*a,h*)anthracene, and benzo(*g,h,i*)perylene. Benzo(*a*)anthracene, chrysene, benzo(*a*)pyrene, and 2-methylnaphthalene were detected exceeding the ESC in less than 5 percent of the soil samples and naphthalene was detected above the ESC in about 10% of the soil samples. The highest concentrations of these four PAHs were detected in the same three samples as the exceedances of the other PAH ESC. Hexachlorobenzene was detected in one sample at a concentration greater than the 0.199 mg/kg ESC. Butyl benzyl phthalate and bis(2-ethylhexyl) phthalate were detected in several samples at concentrations exceeding the ESC of 0.239 and 0.925 mg/kg, respectively. As noted elsewhere, phthalates are commonly found in field and laboratory QC samples, and phthalates are not considered COPECs. Naphthalene, 2-methylnaphthalene, 2,4-dimethylphenol, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo(*b*)fluoranthene, benzo(k)fluoranthene, indeno(1,2,3-*cd*)pyrene, dibenzo(a,h)anthracene, benzo(*g,h,i*)perylene, benzo(*a*)anthracene, chrysene, and benzo(*a*)pyrene are considered COPECs in soil at Landfill 8 (FTMM-8).

Pesticides. Ten pesticides were detected in near surface soil samples from Landfill 8 (FTMM-8). Each of these pesticides were detected at concentrations exceeding the soil ESC in at least one sample. 4,4′-DDT was detected in most of the 291 samples and these concentrations greater than the 0.0035 mg/kg ESC. 4,4′-DDD was detected at concentrations greater than the 0.758 mg/kg ESC in less than 5 percent of the samples. 4,4′-DDE was detected in one sample at a concentration that was above the 0.596 mg/kg ESC. Dieldrin was detected at concentrations exceeding the 0.049 mg/kg ESC in about 20% of the samples. Endrin, heptachlor, heptachlor epoxide, alpha-chlordane, gamma-chlordane, and gamma-BHC were detected in one sample each at concentrations that were exceeding the ESC. 4,4′-DDD, 4,4-DDE, 4,4-DDT, dieldrin, endrin, heptachlor, heptachlor epoxide, alpha-chlordane, gamma-chlordane, and gamma-BHC are considered COPECs at Landfill 8 (FTMM-8).

PCBs. Three PCB Aroclors were detected in near surface soil samples from Landfill 8 (FTMM-8) in less than 5% of the samples and most of these concentrations were exceeding the ESC. Aroclor 1016, Aroclor 1254, and Aroclor 1260 are considered COPECs in soil at Landfill 8 (FTMM-8).

Metals. A total of 23 metals were detected in near surface soil samples from Landfill 8 (FTMM-8) of which most metals were detected in the majority of the samples. Thallium was detected infrequently, being detected in only two samples; silver was detected in less than half the samples (83 of 291). Eighteen metals (aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, vanadium, and zinc) were detected at concentrations exceeding the soil ESC. Aluminum, like iron, is a common component of soils and sediments and is not considered a COPEC except in conditions of very low pH where aluminum could be bioavailable; aluminum is not considered a COPEC in soil at Landfill 8 (FTMM-8). Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, vanadium, and zinc are considered COPECs in soil at Landfill 8 (FTMM-8).

3.4.2.5.2 COPECs for Groundwater at Landfill 8 (FTMM-8)

Monitoring for VOCs and pesticides have occurred at 14 groundwater monitoring wells at Landfill 8 (FTMM-8) during the 2008-2009 time period. Sampling for SVOCs, PCBs, and metals was discontinued after the March 2004 sampling event per NJDEP approval letter dated November 2004. SVOCs, PCBs, and metals are not considered COPECs in groundwater at Landfill 8 (FTMM-8). Parkers Creek could receive groundwater discharge from Landfill 8 (FTMM-8). Parkers Creek, in the vicinity of Landfill 8 (FTMM-8), is classified as saline estuarine (**Section 2.4.3**). Parameters detected in groundwater samples are presented in **Table C-5**.

VOCs. A total of 15 VOCs were detected in groundwater samples from Landfill 8 (FTMM-8) during the 2008-2009 time period. None of these were detected in concentrations that exceeded the available saltwater ESC. VOCs are not considered COPECs in groundwater at Landfill 8 (FTMM-8).

Pesticides. A total of 12 pesticides were detected in groundwater samples from Landfill 8 (FTMM-8) during the 2008-2009 time period. Eight of these (alpha- and gamma-chlordane, 4,4'-DDT, dieldrin, endosulfan I, endrin, heptachlor, and methoxychlor) were detected in concentrations that exceeded the saltwater ESC, and they are considered COPECs in groundwater at Landfill 8 (FTMM-8).

3.4.2.5.3 COPECs for Surface Water at Landfill 8 (FTMM-8)

Three surface water samples were collected from Parkers Creek adjacent to Landfill 8 (FTMM-8) as part of the 2010 BEE. One surface water sample was collected at the upstream end Landfill 8 (FTMM-8), at the northern end of Landfill 5 (FTMM-5), just upstream of the confluence of Mill Creek with Lafetra Creek. The other two samples were collected adjacent to Landfill M-8 on the west and east side near existing groundwater monitoring well locations. Additionally, another surface water sample was collected in relation to Site FTMM-18 (**Section 3.4.2.10**) to the east of Landfill 8 (FTMM-8) and near potential storm water outfalls (**Appendix K**). Parkers Creek, in the vicinity of Landfill 8 (FTMM-8), is classified as saline estuarine (**Section 2.4.3**). Parameters detected in surface water samples are presented in **Table D-15**.

PCBs. No PCBs were detected in surface water samples at Landfill 8 (FTMM-8). PCBs are not considered COPECs in surface water at Landfill 8.

Pesticides. No pesticides were detected in surface water samples at Landfill 8 (FTMM-8). Pesticides are not considered COPECs in surface water at Landfill 8 (FTMM-8).

VOCs. No VOCs were detected in surface water samples at Landfill 8 (FTMM-8). VOCs are not considered COPECs in surface water at Landfill 8 (FTMM-8).

SVOCs. One SVOC, dimethyl phthalate, was detected in one surface water sample. There are no available ESC for dimethyl phthalate, and it is not considered a COPEC for surface water at Landfill 8 (FTMM-8).

Metals. A total of 14 metals were detected in surface water samples at Landfill 8 (FTMM-8). None of these were detected at concentrations exceeding the saltwater ESC. Metals are not considered COPECs in surface water at Landfill 8 (FTMM-8).

3.4.2.5.4 COPECs for Sediment at Landfill 8 (FTMM-8)

Twelve sediment samples (including one duplicate sample) were collected from Parkers Creek adjacent to Landfill 8 (FTMM-8) as part of the 2010 BEE. Sediment sample locations were based on previous sediment sampling conducted for the RI and were located in the field based on depositional characteristics and potential contaminant migration pathways and included storm water outfalls (**Appendix K**) into Parkers Creek in the vicinity of Landfill 8 (FTMM-8) and Site FTMM-18 (**Section 3.4.2.10**). Parkers Creek, in the vicinity of Landfill 8 (FTMM-8), is classified as saline estuarine (**Section 2.4.3**). Parameters detected in sediment samples are presented in **Table D-16**.

VOCs. A total of seven VOCs were detected in sediment samples at Landfill 8 (FTMM-8). None were detected at concentrations exceeding the available saltwater sediment ESC. VOCs are not considered COPECs in sediment at Landfill 8 (FTMM-8).

PCBs. Two PCB mixtures (Aroclor 1242 and Aroclor 1260) were detected in one or two sediment samples each at Landfill 8 (FTMM-8). Aroclor 1242 was detected at concentrations greater than the saltwater sediment ESC for PCBs in two samples (0.05 and 0.17 mg/kg) and Aroclor 1260 was detected greater than both the saltwater sediment ESC for Aroclor 1260 in one sample (0.011 mg/kg). Aroclor 1242 and Aroclor 1260 are considered COPECs in sediment at Landfill 8 (FTMM-8).

Pesticides. Two pesticides (4,4'-DDD and 4,4'-DDE) were detected in two to three sediment samples each at Landfill 8 (FTMM-8). Three samples had detected concentrations (0.0021 to 0.0033 mg/kg) of 4,4'-DDD exceeding the saltwater sediment ESC. Detected concentrations of 4,4'-DDE were less than the ESC. Therefore, 4,4'-DDD is considered a COPEC in sediment at Landfill 8 (FTMM-8).

SVOCs. A total of nine SVOCs were detected in surface sediment samples at Landfill 8 (FTMM-8). None of the detected SVOCs exceeded the available saltwater sediment ESC. SVOCs are not considered COPECs in sediment at Landfill 8 (FTMM-8).

Metals. Of the 23 metals detected in sediment at Landfill 8 (FTMM-8), 14 were detected in at least one sample at concentrations greater than the saltwater sediment ESC. Barium in six samples (59.6 to 103 mg/kg), selenium in all 12 samples (2.64 to 13.8 mg/kg), and vanadium in four samples (60.9 to 99.1 mg/kg) exceeded the saltwater sediment ESC of 48, 1, and 57 mg/kg, respectively. One sample had a concentration of manganese (364 mg/kg) greater than the saltwater sediment ESC (260 mg/kg). Concentrations of the other 10 metals (arsenic, cadmium, chromium, cobalt, copper, lead, mercury, nickel, silver, and zinc) exceeded the saltwater sediment ESC in at least three samples each. Arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver, vanadium, and zinc are considered COPECs in sediment at Landfill 8 (FTMM-8).

3.4.2.5.5 Summary of COPECs for Landfill 8 (FTMM-8)

Parameters detected in soil, groundwater, surface water, or sediment at Landfill 8 (FTMM-8) at concentrations greater than the applicable ESC were identified as COPECs for the site. Though copper was not detected in surface water at Landfill 8 (FTMM-8), its MDLs were greater than the saltwater ESC. Given that copper is considered a COPEC in soil and sediment, it is considered a possible COPEC in surface water. The COPECs, and possible COPECs, identified for Landfill 8 (FTMM-8) are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
Not Applicable	None	None	None
Pesticides			
gamma-BHC alpha-Chlordane gamma-Chlordane 4,4′-DDD 4,4′-DDE 4,4′-DDT Dieldrin Endrin Heptachlor Heptachlor epoxide	alpha-Chlordane gamma-Chlordane 4,4′-DDT Dieldrin Endrin Endosulfan I Heptachlor Methoxychlor	None	DDD
PCBs			
Aroclor 1016 Aroclor 1254 Aroclor 1260	None	None	Aroclor 1242 Aroclor 1260
SVOCs			
Acenaphthene Anthracene Benzo(*a*)anthracene Benzo(*b*)fluoranthene Benzo(*a*)pyrene Benzo(*g,h,i*)perylene Benzo(*k*)fluoranthene Chrysene Dibenzo(a,h)anthracene Fluoranthene Fluorene Hexachlorobenzene Indeno(1,2,3-*cd*)pyrene 2-Methylnaphthalene 2,4-Dimethylphenol Naphthalene Phenanthrene	None	None	None

Soil	Groundwater	Surface Water	Sediment
Pyrene			
Metals			
Antimony Arsenic Barium Beryllium Cadmium Chromium Cobalt Copper Lead Manganese Mercury Nickel Selenium Silver Thallium Vanadium Zinc	None	None	Arsenic Barium Cadmium Chromium Cobalt Copper Lead Manganese Mercury Nickel Selenium Silver Vanadium Zinc
Possible COPECs			
		Copper	

3.4.2.6 LANDFILL 12 (FTMM-12)

Near surface soil, groundwater, surface water, and sediment analytical data were evaluated for the identification of COPECs related to Landfill 12 (FTMM-12).

3.4.2.6.1 COPECs for Soil at Landfill 12 (FTMM-12)

Near surface (6-12 inches bgs) soil samples were collected from Landfill 12 (FTMM-12) as part of the IRP RI investigation (Versar, 2003). A total of 147 samples were analyzed for SVOCs, pesticides, PCBs, and metals. Parameters detected in near surface soil samples are presented in **Table A-6**.

SVOCs. A total of 23 SVOCs were detected in near surface soil samples from Landfill 12 (FTMM-12). Of these 23 SVOCs, five were detected at concentrations exceeding the soil ESC in at least one sample. Benzo(*a*)anthracene was detected in four samples at concentrations exceeding the 5.21 mg/kg ESC. Chrysene was detected in four samples at concentrations exceeding the 4.73 mg/kg ESC. Benzo(*a*)pyrene and naphthalene were detected in several samples at concentrations exceeding the ESC of 1.52 and 0.0994 mg/kg, respectively. Bis(2-ethylhexyl) phthalate was detected in one sample at a concentration greater than the 0.925 mg/kg ESC. As noted elsewhere, bis(2-ethylhexyl) phthalate is commonly found in field and laboratory QC samples; therefore, it is not considered a COPEC. Benzo(*a*)anthracene, benzo(*a*)pyrene, naphthalene, and chrysene are considered COPECs in soil at Landfill 12 (FTMM-12).

Pesticides. Six pesticides were detected in near surface soil samples from Landfill 12 (FTMM-12). Four of these pesticides were detected at concentrations exceeding the soil ESC in at least one sample. 4,4′-DDT was detected in most of the 147 samples and the majority of these samples had concentrations that were greater than the 0.0035 mg/kg ESC. 4,4′-DDD, 4,4′-DDE, and dieldrin were detected in a few samples each at concentrations that exceeded the ESC. 4,4′-DDD, 4,4′-DDE, 4,4′-DDT, and dieldrin are considered COPECs at Landfill 12 (FTMM-12).

PCBs. No PCBs were detected in near surface soil samples from Landfill 12 (FTMM-12). PCBs are not considered COPECs in soil at Landfill 12 (FTMM-12).

Metals. A total of 23 metals were detected in near surface soil samples from Landfill 12 (FTMM-12) of which most metals were detected in the majority of the samples. Thallium and silver were detected infrequently, being detected in only one and 11 samples, respectively. Antimony and selenium were detected in less than half the samples. Fourteen metals (aluminum, antimony, arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, selenium, vanadium, and zinc) were detected at concentrations exceeding the soil ESC. Aluminum, like iron, is a common component of soils

and sediments and is not considered a COPEC except in conditions of very low pH where aluminum could be bioavailable; aluminum is not considered a COPEC in soil at Landfill 12 (FTMM-12). Antimony, arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, selenium, vanadium, and zinc are considered COPECs in soil at Landfill 12 (FTMM-12).

3.4.2.6.2 COPECs for Groundwater at Landfill 12 (FTMM-12)

Eleven monitoring wells at Landfill 12 (FTMM-12) have been monitored for metals during the 2008-2009 time period. Husky Brook could receive groundwater discharge from Landfill 12 (FTMM-12). Husky Brook, in the vicinity of Landfill 12 (FTMM-12), is classified as saline estuarine (**Section 2.4.3**). Parameters detected in groundwater samples are presented in **Table C-6**.

Metals. A total of 11 metals were detected in groundwater samples from Landfill 12 (FTMM-12) during the 2008-2009 time period. Of these 11, five were detected at concentrations that exceeded the saltwater ESC in at least one sample. Arsenic, cadmium, copper, nickel, and selenium were detected at concentrations exceeding the saltwater ESC. Arsenic, cadmium, copper, nickel, and selenium are considered COPECs in groundwater at Landfill 12 (FTMM-12).

3.4.2.6.3 COPECs for Surface Water at Landfill 12 (FTMM-12)

Five surface water samples (including a duplicate sample) were collected from Husky Brook in relation to Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14) as part of the 2010 BEE. One surface water sample was collected at the western end of Landfill 12 near a storm water outfall and drainage from Malterer Avenue and surrounding areas. One sample was collected near the confluence with the small tributary to Husky Brook and a sample related to Parcel 61 (**Section 3.4.2.15**) was collected at the southern end of this tributary near storm water outfalls from the areas to the south. One sample was collected in Husky Brook downstream of all storm water outfalls in the vicinity of Landfill 12 and Landfill 14 (**Appendix K**), and the other sample was collected in Oceanport Creek downstream of both Landfill 12 and Landfill 14. The evaluation of surface water samples is discussed in **Section 3.4.1.6** with respect to Landfill 14 (FTMM-14).

3.4.2.6.4 COPECs for Sediment at Landfill 12 (FTMM-12)

Thirteen sediment samples were collected from Husky Brook in relation to Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14) as part of the 2010 BEE. Sediment sample locations were based on previous sediment sampling conducted for the RI and were located in the field based on depositional characteristics and potential contaminant migration pathways and included storm water outfalls (**Appendix K**) into Husky Brook in the vicinity of Landfill 12 and Landfill 14 from the surrounding areas including Building 1075 and Parcel 61 (**Section 3.4.2.15**). The evaluation of sediment samples is discussed in **Section 3.4.2.7.4** with respect to Landfill 14 (FTMM-14).

3.4.2.6.5 Summary of COPECs for Landfill 12 (FTMM-12)

Parameters detected in soil, groundwater, surface water, or sediment at Landfill 12 (FTMM-12) at concentrations greater than the applicable ESC were identified as COPECs for the site. Though copper was not detected in surface water at Landfill 12 (FTMM-12), its MDLs were greater than the saltwater ESC. Given that copper is considered a COPEC in soil, groundwater, and sediment, it is considered a possible COPEC in surface water. The COPECs, and possible COPECs, identified for Landfill 12 (FTMM-12) are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
Not Applicable	Not Applicable	None	None
Pesticides			
4,4'-DDD 4,4'-DDE 4,4'-DDT Dieldrin	Not Applicable	None	4,4'-DDD 4,4'-DDE 4,4'-DDT
PCBs			
None	Not Applicable	None	Aroclor 1254

Soil	Groundwater	Surface Water	Sediment
SVOCs			
Benzo(*a*)anthracene Benzo(*a*)pyrene Chrysene Naphthalene	Not Applicable	None	Acenaphthene Anthracene Benzo(*a*)anthracene Benzo(*a*)pyrene Benzo(*g,h,i*)perylene Benzo(*k*)fluoranthene Chrysene Fluorene Fluoranthene Indeno(1,2,3-*cd*)pyrene Phenanthrene Pyrene
Metals			
Antimony Arsenic Barium Cadmium Chromium Cobalt Copper Lead Manganese Mercury Selenium Vanadium Zinc	Arsenic Cadmium Copper Nickel Selenium	None	Arsenic Barium Cadmium Chromium Cobalt Copper Lead Nickel Selenium Silver Vanadium Zinc
Possible COPECs			
		Copper	

3.4.2.7 LANDFILL 14 (FTMM-14)

Near surface soil, groundwater, surface water, and sediment analytical data were evaluated for the identification of COPECs related to Landfill 14 (FTMM-14).

3.4.2.7.1 COPECs for Soil at Landfill 14 (FTMM-14)

Near surface (6-12 inches bgs) soil samples were collected from Landfill 14 (FTMM-14) as part of the IRP RI investigation (Versar, 2004e). A total of 119 samples were analyzed for SVOCs, pesticides, PCBs, and metals. Parameters detected in near surface soil samples are presented in **Table A-7**.

SVOCs. A total of 21 SVOCs were detected in near surface soil samples from Landfill 14 (FTMM-14). Of these 21 SVOCs, five were detected at concentrations exceeding the soil ESC in at least one sample. Phenanthrene was detected in one sample at a concentration above the ESC of 45.7 mg/kg. Naphthalene was detected in six samples at concentrations that were greater than the 0.0994 mg/kg ESC. Benzo(*a*)anthracene and chrysene were detected at concentrations exceeding the soil ESC in the same two samples. Benzo(*a*)pyrene was detected in five samples at concentrations exceeding the 1.52 mg/kg ESC. The highest concentrations of these PAHs were detected in the same soil sample. Benzo(*a*)pyrene, benzo(*a*)anthracene, chrysene, naphthalene, and phenanthrene are considered COPECs in soil at Landfill 14 (FTMM-14).

Pesticides. Six pesticides were detected in near surface soil samples from Landfill 14 (FTMM-14). Four of these pesticides were detected at concentrations exceeding the soil ESC in at least one sample. 4,4′-DDT was detected in most of the 116 samples and the majority of these had concentrations that were greater than the 0.0035 mg/kg ESC. 4,4′-DDD was detected in one sample at a concentration that exceeded the 0.758 mg/kg ESC. 4,4′-DDE was detected in two samples at concentrations that were greater than the 0.596 mg/kg ESC. Dieldrin was detected in one sample at a concentration that exceeded the 0.049 mg/kg ESC. 4,4′-DDD, 4,4′-DDE, 4,4′-DDT, and dieldrin are considered COPECs at Landfill 14 (FTMM-14).

PCBs. No PCBs were detected in near surface soil samples from Landfill 14 (FTMM-14). PCBs are not considered COPECs in soil at Landfill 14 (FTMM-14).

Metals. A total of 22 metals were detected in near surface soil samples from Landfill 14 (FTMM-14) of which most metals were detected in the majority of the samples. Silver was detected infrequently, being detected in only two samples. Thirteen metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, vanadium, and zinc) were detected at concentrations exceeding the soil ESC. Aluminum, like iron, is a common component of soils and sediments and is not considered a COPEC except in conditions of very low pH where aluminum could be bioavailable; aluminum is not considered a COPEC in soil at Landfill 14 (FTMM-14). Antimony, arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, vanadium, and zinc are considered COPECs in soil at Landfill 14 (FTMM-14).

3.4.2.7.2 COPECs for Groundwater at Landfill 14 (FTMM-14)

Monitoring for VOCs and metals have occurred at six groundwater monitoring wells at Landfill 14 (FTMM-14) during the 2008-2009 time period. Sampling for SVOCs was discontinued after the August 2004 sampling event per NJDEP approval letter dated November 2004. SVOCs are not considered COPECs in groundwater at Landfill 14 (FTMM-14). Husky Brook could receive groundwater discharge from Landfill 14 (FTMM-14). Husky Brook, in the vicinity of Landfill 14 (FTMM-14), is classified as saline estuarine (**Section 2.4.3**). Parameters detected in groundwater samples are presented in **Table C-7**.

VOCs. A total of three VOCs were detected in groundwater samples from Landfill 14 (FTMM-14) during the 2008-2009 time period. None of these were detected in concentrations that exceeded the available saltwater ESC. VOCs are not considered COPECs in groundwater at Landfill 14 (FTMM-14).

Metals. A total of 11 metals were detected in groundwater samples from Landfill 14 (FTMM-14) during the 2008-2009 time period. Of these 11, five were detected at concentrations that exceeded the saltwater ESC in at least one sample. Arsenic, cadmium, copper, nickel, and selenium were detected at concentrations exceeding the saltwater ESC. Arsenic, cadmium, copper, nickel, and selenium are considered COPECs in groundwater at Landfill 14 (FTMM-14).

3.4.2.7.3 COPECs for Surface Water at Landfill 14 (FTMM-14)

Five surface water samples (including a duplicate sample) were collected from Husky Brook in relation to Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14) as part of the 2010 BEE. One surface water sample was collected at the western end of Landfill 14 near a storm water outfall and drainage from Malterer Avenue and surrounding areas. One sample was collected near the confluence with the small tributary to Husky Brook and a sample related to Parcel 61 (**Section 3.4.2.15**) was collected at the southern end of this tributary near storm water outfalls from the areas to the south (**Appendix K**). One sample was collected in Husky Brook downstream of all storm water outfalls in the vicinity of Landfill 12 and Landfill 14, and the other sample was collected in Oceanport Creek downstream of both Landfill 12 and Landfill 14. Husky Brook, in the vicinity of Landfill 12 (FTMM-12), is classified as saline estuarine (**Section 2.4.3**). Parameters detected in surface water samples are presented in **Table D-17**.

PCBs. No PCBs were detected in surface water samples at Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14). PCBs are not considered COPECs in surface water at Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14).

Pesticides. No pesticides were detected in surface water samples at Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14). Pesticides are not considered COPECs in surface water at Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14).

VOCs. Two VOCs, chloroform and *cis*-1,2-dichloroethene, were detected in surface water samples but none were detected at concentrations exceeding the available saltwater ESC. VOCs are not considered COPECs in surface water at Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14).

SVOCs. Five SVOCs [anthracene, benzo(*a*)anthracene, benzo(a)pyrene, 3,3′-dichlorobenzidine, and 1,2,4-trichlorobenzene] were detected in surface water samples. There are no saltwater ESC for the detected SVOCs. SVOCs are not considered COPECs in surface water at Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14).

Metals. A total of 14 metals were detected in surface water samples at Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14). None of these were detected at concentrations exceeding the saltwater ESC. Metals are not considered COPECs in surface water at Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14).

3.4.2.7.4 COPECs for Sediment at Landfill 14 (FTMM-14)

Thirteen sediment samples were collected from Husky Brook in relation to Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14) as part of the 2010 BEE. Husky Brook, in the vicinity of Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14), is classified as saline estuarine (**Section 2.4.3**). Sediment sample locations were based on previous sediment sampling conducted for the RI and were located in the field based on depositional characteristics and potential contaminant migration pathways and included storm water outfalls (**Appendix K**) into Husky Brook in the vicinity of Landfill 12 and Landfill 14 from the surrounding areas including Building 1075 and Parcel 61 (**Section 3.4.2.15**). Parameters detected in sediment samples are presented in **Table D-18**.

VOCs. A total of four VOCs were detected in sediment samples at Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14). None were detected at concentrations exceeding the available saltwater sediment ESC. VOCs are not considered COPECs in sediment at Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14).

PCBs. One PCB mixture (Aroclor 1254) was detected in one sediment sample at Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14). Aroclor 1254 was detected at a concentration greater than the saltwater sediment ESC in one sample (0.23 mg/kg). Aroclor 1254 is considered a COPEC in sediment at Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14).

Pesticides. Four pesticides (alpha-chlordane, 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT) were detected in 4 to 10 sediment samples each at Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14). alpha-Chlordane concentrations did not exceed the saltwater sediment ESC. Nine samples had 4,4'-DDD concentrations (0.0031 to 0.0091 mg/kg) greater than the saltwater sediment ESC (0.002 mg/kg). Seven samples had 4,4'-DDE concentrations (0.0025 to 0.0071 mg/kg) greater than the saltwater sediment ESC (0.0022 mg/kg). Four samples had 4,4'-DDT concentrations (0.0014 to 0.013 mg/kg) greater than the saltwater sediment ESC (0.001 mg/kg). Therefore, 4,4′-DDD, 4,4′-DDE, and 4,4′-DDT are considered COPECs in sediment at Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14).

SVOCs. A total of 15 SVOCs were detected in surface sediment samples at Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14). Bis(2-ethylhexyl) phthalate was detected in one sediment sample; the concentration (0.84 mg/kg) was greater than the saltwater sediment ESC (0.18216 mg/kg). As noted previously, bis(2-ethylhexyl) phthalate is commonly found in field and laboratory QC samples and is not considered a COPEC in sediment at Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14). Twelve PAHs were detected at concentrations exceeding the saltwater ESC in one to six samples each. These 12 PAHs, acenaphthene, anthracene, benzo(*a*)anthracene, benzo(*a*)pyrene, benzo(*g,h,i*)perylene, benzo(*k*)fluoranthene, chrysene, fluoranthene, fluorene, indeno(1,2,3-*cd*)pyrene, phenanthrene, and pyrene, are considered COPECs in sediment at Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14).

Metals. Of the 22 metals detected in sediment at Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14), 12 were detected in at least one sample at concentrations greater than the saltwater sediment ESC. Barium in one sample (54.0 mg/kg), selenium in 10 samples (1.04 to 5.99 mg/kg), and vanadium in one sample (61.1 mg/kg) exceeded the saltwater sediment ESC of 48, 1, and 57 mg/kg, respectively. One sample had a concentration of cobalt (13.7 mg/kg) greater than the saltwater sediment ESC (10 mg/kg). Concentrations of the other seven metals (arsenic, cadmium, chromium, copper, lead, nickel, silver, and zinc) exceeded saltwater ESC in one or two samples each. Arsenic, barium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, vanadium, and zinc are considered COPECs in sediment at Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14).

3.4.2.7.5 Summary of COPECs for Landfill 14 (FTMM-14)

Parameters detected in soil, groundwater, surface water, or sediment at Landfill 14 (FTMM-14) at concentrations greater than the applicable ESC were identified as COPECs for the site. Though copper was not detected in surface water at Landfill 14 (FTMM-14), its MDLs were greater than the saltwater ESC. Given that copper is considered a COPEC in soil, groundwater, and sediment, it is considered a

possible COPEC in surface water. The COPECs, and possible COPECs, identified for Landfill 14 (FTMM-14) are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
Not Applicable	None	None	None
Pesticides			
4,4'-DDD 4,4'-DDE 4,4'-DDT Dieldrin	Not Applicable	None	4,4'-DDD 4,4'-DDE 4,4'-DDT
PCBs			
None	Not Applicable	None	Aroclor 1254
SVOCs			
Benzo(*a*)anthracene Benzo(*a*)pyrene Chrysene Naphthalene Phenanthrene	None	None	Acenaphthene Anthracene Benzo(*a*)anthracene Benzo(*a*)pyrene Benzo(*g,h,*i)perylene Benzo(*k*)fluoranthene Chrysene Fluoranthene Fluorene Indeno(1,2,3-*cd*)pyrene Phenanthrene Pyrene
Metals			
Antimony Arsenic Cadmium Chromium Copper Lead Manganese Mercury Nickel Selenium Vanadium Zinc	Arsenic Cadmium Copper Nickel Selenium	None	Arsenic Barium Cadmium Chromium Cobalt Copper Lead Nickel Selenium Silver Vanadium Zinc
Possible COPECs			
		Copper	

3.4.2.8 WATER TANK (FTMM-15)

Surface water and sediment analytical data were evaluated for the identification of COPECs related to the water tank at Site FTMM-15.

3.4.2.8.1 COPECs for Surface Water at Site FTMM-15

Three surface water samples were collected from Parkers Creek in relation to Site FTMM-15 as part of the 2010 BEE. Parkers Creek could receive groundwater discharge from Site FTMM-15. Parkers Creek, in the vicinity of Site FTMM-15, is classified as saline estuarine (**Section 2.4.3**). Parameters detected in surface water samples are presented in **Table D-19**.

VOCs. No VOCs were detected in surface water samples at Site FTMM-15. VOCs are not considered COPECs in surface water at Site FTMM-15.

Pesticides. No pesticides were detected in surface water samples at Site FTMM-15. Pesticides are not considered COPECs in surface water at Site FTMM-15.

PCBs. No PCBs were detected in surface water samples at Site FTMM-15. PCBs are not considered COPECs in surface water at Site FTMM-15.

SVOCs. Two SVOCs [anthracene and benzo(*a*)anthracene] were detected in surface water samples. There are no available saltwater ESC for the detected SVOCs. PAHs are not considered COPECs in surface water at Site FTMM-15.

Metals. A total of 15 metals were detected in surface water samples at Site FTMM-15. None of these metals were detected at concentrations exceeding the applicable saltwater ESC. Metals are not considered COPECs for surface water at Site FTMM-15.

3.4.2.8.2 COPECs for Sediment at Site FTMM-15

Four sediment samples were collected from Parkers Creek adjacent to Site FTMM-15 as part of the 2010 BEE. Parkers Creek, in the vicinity of Site FTMM-15, is classified as saline estuarine (**Section 2.4.3**). Parameters detected in sediment samples are presented in **Table D-20**.

VOCs. A total of five VOCs were detected in sediment samples at Site FTMM-15. None were detected at concentrations exceeding the available saltwater sediment ESC. VOCs are not considered COPECs in sediment at Site FTMM-15.

PCBs. No PCBs were detected in sediment samples at Site FTMM-15. PCBs are not considered COPECs in sediment at Site FTMM-15.

Pesticides. One pesticide (4,4'-DDT) was detected in one sediment sample at Site FTMM-15. The detected concentration (0.0041 mg/kg) exceeded the saltwater sediment ESC (0.001 mg/kg). 4,4'-DDT is considered a COPEC in sediment at Site FTMM-15.

SVOCs. A total of six SVOCs were detected in surface sediment samples at Site FTMM-15. None of these were detected at concentrations exceeding the saltwater sediment ESC. SVOCs are not considered COPECs in sediment at Site FTMM-15.

Metals. A total of 23 metals were detected in sediment at Site FTMM-15. Of these 23 metals, nine were detected in at least one sample at concentrations exceeding the applicable saltwater sediment ESC. Chromium was detected in one sample at a concentration (95.5 mg/kg) greater than the ESC (81 mg/kg). Vanadium was detected in one sample at a concentration (83.2 mg/kg) greater than the ESC (57 mg/kg). Lead was detected in two samples at concentrations (59.7 and 108 mg/kg) greater than the ESC (47 mg/kg). Zinc was detected in two samples at concentrations (178 and 262 mg/kg) greater than the ESC (150 mg/kg). Arsenic was detected in three samples at concentrations (10.6 to 14.9 mg/kg) greater than the ESC (8.2 mg/kg). Mercury was detected in three samples at concentrations (0.16 to 0.293 mg/kg) greater than the ESC (0.15 mg/kg). Silver was detected in three samples at concentrations (1.25 to 1.44 mg/kg) greater than the ESC (1 mg/kg). All four samples had cadmium concentrations (1.31 to 2.97 mg/kg) and selenium concentrations (3.79 to 6.98 mg/kg) exceeding the ESC of 1.2 mg/kg for cadmium and 1 mg/kg for selenium. Arsenic, cadmium, chromium, lead, mercury, selenium, silver, vanadium, and zinc are considered COPECs in sediment at Site FTMM-15.

3.4.2.8.3 Summary of COPECs for Site FTMM-15

Parameters detected in soil, groundwater, surface water, or sediment at Site FTMM-15 at concentrations greater than the applicable ESC were identified as COPECs for the site. Copper was not detected in surface water at Site FTMM-15 and its MDLs were greater than the saltwater ESC. However, since copper was not identified as a COPEC in other site media, it is not considered a COPEC in surface water. The COPECs, and possible COPECs, identified for Site FTMM-15 are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
Not Applicable	Not Applicable	None	None
Pesticides			
Not Applicable	Not Applicable	None	DDT
PCBs			
Not Applicable	Not Applicable	None	None
SVOCs			
Not Applicable	Not Applicable	None	None

Soil	Groundwater	Surface Water	Sediment
Metals			
Not Applicable	Not Applicable	None	Arsenic Cadmium Chromium Lead Mercury Selenium Silver Vanadium Zinc

3.4.2.9 PESTICIDE STORAGE, BUILDING 498 (FTMM-16)

Surface water and sediment analytical data were evaluated for the identification of COPECs related to the Pesticide Storage, Building 498, at Site FTMM-16. No recent groundwater data is available for evaluation at Site FTMM-16.

3.4.2.9.1 COPECs for Surface Water at Site FTMM-16

Three surface water samples were collected from Oceanport Creek in relation to Site FTMM-16 as part of the 2010 BEE. Oceanport Creek, in the vicinity of Site FTMM-16, is classified as saline estuarine (**Section 2.4.3**). Parameters detected in surface water samples are presented in **Table D-21**.

VOCs. No VOCs were detected in surface water samples at Site FTMM-16. VOCs are not considered COPECs in surface water at Site FTMM-16.

SVOCs. No SVOCs were detected in surface water samples at Site FTMM-16. SVOCs are not considered COPECs in surface water at Site FTMM-16.

Pesticides. No pesticides were detected in surface water samples at Site FTMM-16. Pesticides are not considered COPECs in surface water at Site FTMM-16.

PCBs. No PCBs were detected in surface water samples at Site FTMM-16. PCBs are not considered COPECs in surface water at Site FTMM-16.

Metals. A total of 14 metals were detected in surface water samples at Site FTMM-16. Metals are not considered COPECs for surface water at Site FTMM-16.

3.4.2.9.2 COPECs for Sediment at Site FTMM-16

Five sediment samples (including one duplicate sample) were collected from Oceanport Creek adjacent to Site FTMM-16 as part of the 2010 BEE. Oceanport Creek, in the vicinity of Site FTMM-16, is classified as saline estuarine (**Section 2.4.3**). Parameters detected in sediment samples are presented in **Table D-22**.

VOCs. A total of six VOCs were detected in sediment samples at Site FTMM-16. None were detected at concentrations exceeding the available saltwater sediment ESC. VOCs are not considered COPECs in sediment at Site FTMM-16.

PCBs. No PCBs were detected in sediment samples at Site FTMM-16. PCBs are not considered COPECs in sediment at Site FTMM-16.

Pesticides. One pesticide (4,4'-DDD) was detected in one sediment sample at Site FTMM-16. The detected concentration (0.0014 mg/kg) was not above the saltwater sediment ESC (0.002 mg/kg); 4,4'-DDD is not considered a COPEC in sediment at Site FTMM-16.

SVOCs. A total of seven SVOCs were detected in surface sediment samples at Site FTMM-16. Only one, hexachlorobutadiene, was detected in one sample at a concentration (0.008 mg/kg) greater than the saltwater sediment ESC (0.0013 mg/kg). Hexachlorobutadiene is considered a COPEC in sediment at Site FTMM-16.

Metals. A total of 23 metals were detected in sediment at Site FTMM-16. Of these 23 metals, 12 were detected in three or four samples each at concentrations exceeding the applicable saltwater

sediment ESC. Arsenic was detected in four samples at concentrations (15.1 to 24.5 mg/kg) greater than the ESC (8.2 mg/kg). Cadmium was detected in four samples at concentrations (9.71 to 12.3 mg/kg) greater than the ESC (1.2 mg/kg). Chromium was detected in four samples at concentrations (117 to 144 mg/kg) greater than the ESC (81 mg/kg). Cobalt was detected in three samples at concentrations (12.5 to 13.6 mg/kg) greater than the ESC (10 mg/kg). Copper was detected in four samples at concentrations (42.3 to 124 mg/kg) greater than the ESC (34 mg/kg). Lead was detected in four samples at concentrations (74.5 to 212 mg/kg) greater than the ESC (47 mg/kg). Mercury was detected in three samples at concentrations (0.451 to 0.502 mg/kg) greater than the ESC (0.15 mg/kg). Nickel was detected in three samples at concentrations (30.7 to 35.2 mg/kg) greater than the ESC (21 mg/kg). Selenium was detected in four samples at concentrations (5.32 to 11.0 mg/kg) greater than the ESC (1 mg/kg). Silver was detected in four samples at concentrations (3.78 to 6.44 mg/kg) greater than the ESC (1 mg/kg). Vanadium was detected in three samples at concentrations (81.9 to 106 mg/kg) greater than the ESC (57 mg/kg). Zinc was detected in four samples at concentrations (160 to 500 mg/kg) greater than the ESC (150 mg/kg). Arsenic, cadmium, chromium, cobalt, copper, lead, mercury, nickel, selenium, silver, vanadium, and zinc are considered COPECs in sediment at Site FTMM-16.

3.4.2.9.3 Summary of COPECs for Site M-16

Parameters detected in soil, groundwater, surface water, or sediment at Site FTMM-16 at concentrations greater than the applicable ESC were identified as COPECs for the site. Though copper was not detected in surface water at Site FTMM-16, its MDLs were greater than the saltwater ESC. Given that copper was identified as a COPEC in sediment, it is considered a possible COPEC in surface water. The COPECs, and possible COPECs, identified for Site FTMM-16 are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
Not Applicable	Not Applicable	None	None
Pesticides			
Not Applicable	Not Applicable	None	None
PCBs			
Not Applicable	Not Applicable	None	None
SVOCs			
Not Applicable	Not Applicable	None	Hexachlorobutadiene
Metals			
Not Applicable	Not Applicable	None	Arsenic Cadmium Chromium Cobalt Copper Lead Mercury Nickel Selenium Silver Vanadium Zinc
Possible COPECs			
		Copper	

3.4.2.10 FORMER TRAINING AREA/LANDFILL (FTMM-18)

Near surface soil, groundwater, surface water, and sediment analytical data were evaluated for the identification of COPECs related to Site FTMM-18.

3.4.2.10.1 COPECs for Soil at Site FTMM-18

Near surface (6-12 inches bgs) soil samples were collected from Site FTMM-18 as part of the IRP RI investigation (Versar, 2004f). A total of 62 samples were analyzed for SVOCs, pesticides, PCBs, and metals. Parameters detected in near surface soil samples are presented in **Table A-8**.

SVOCs. A total of 22 SVOCs were detected in near surface soil samples from Site FTMM-18. Of these 22 SVOCs, two were detected at concentrations exceeding the soil ESC: benzo(a)pyrene was detected in two samples at concentrations exceeding the 1.52 mg/kg ESC and naphthalene was detected in five samples at concentrations exceeding the 0.0994 mg/kg ESC. Benzo(a)pyrene and naphthalene are considered COPECs in soil at Site FTMM-18.

Pesticides. Nine pesticides were detected in near surface soil samples from Site FTMM-18. Two of these pesticides was detected at concentrations exceeding the soil ESC in at least one sample. 4,4′-DDT was detected in several samples at concentrations that were greater than the 0.0035 mg/kg ESC and endrin aldehyde were detected in a sample at concentrations exceeding the ESC. 4,4′-DDT and endrin aldehyde are considered COPECs at Site FTMM-18.

PCBs. No PCBs were detected in near surface soil samples from Site FTMM-18. PCBs are not considered COPECs in soil at Site FTMM-18.

Metals. A total of 22 metals were detected in near surface soil samples from Site FTMM-18 of which most metals were detected in the majority of the samples. Silver was detected infrequently, being detected in only five samples. Twelve metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, selenium, silver, vanadium, and zinc) were detected at concentrations exceeding the soil ESC. Aluminum, like iron, is a common component of soils and sediments and is not considered a COPEC except in conditions of very low pH where aluminum could be bioavailable; aluminum is not considered a COPEC in soil at Site FTMM-18. Antimony, arsenic, cadmium, chromium, copper, lead, mercury, selenium, silver, vanadium, and zinc are considered COPECs in soil at Site FTMM-18.

3.4.2.10.2 COPECs for Groundwater at Site FTMM-18

Monitoring for VOCs and metals have occurred at three groundwater monitoring wells at Site FTMM-18 during the 2008-2009 time period. Sampling for SVOCs, pesticides, and PCBs was discontinued after the November 2004 sampling event per NJDEP approval letter dated November 2004. SVOCs, pesticides, and PCBs are not considered COPECs in groundwater at Site FTMM-18. Parkers Creek could receive groundwater discharge from Site FTMM-18. Parkers Creek, in the vicinity of Site FTMM-18, is classified as saline estuarine (**Section 2.4.3**). Parameters detected in groundwater samples are presented in **Table C-8**.

VOCs. One VOC, acetone, was detected in groundwater samples from Site FTMM-18 during the 2008-2009 time period. There are no freshwater or saltwater ESC available for acetone. VOCs are not considered COPECs in groundwater at Site FTMM-18.

Metals. A total of 12 metals were detected in groundwater samples from Site FTMM-18 during the 2008-2009 time period. Four of these metals (arsenic, copper, selenium, and cadmium) were detected at concentrations that exceeded the saltwater ESC. Arsenic, cadmium, copper, and selenium are considered COPECs in groundwater at Site FTMM-18.

3.4.2.10.3 COPECs for Surface Water at Site FTMM-18

Two surface water samples were collected from Parkers Creek adjacent to Site FTMM-18 as part of the 2010 BEE. One surface water sample was collected west of Site FTMM-18 between outfalls between Site FTMM-8 and FTMM-18 (**Appendix K**), and the other sample was collected on the western side of Site FTMM-18 downstream of these two outfalls. Additionally, two surface water samples were collected in relation to Building 283 (FTMM-61) and Parcel 49 (**Section 3.4.2.14**) near storm water outfalls at the eastern end of Site FTMM-18 (**Appendix K**). Parkers Creek, in the vicinity of Site FTMM-18, is classified as saline estuarine (**Section 2.4.3**). Parameters detected in surface water samples are presented in **Table D-23**.

PCBs. No PCBs were detected in surface water samples at Site FTMM-18. PCBs are not considered COPECs in surface water at Site FTMM-18.

Pesticides. No pesticides were detected in surface water samples at Site FTMM-18. Pesticides are not considered COPECs in surface water at Site FTMM-18.

VOCs. No VOCs were detected in surface water samples at Site FTMM-18. VOCs are not considered COPECs in surface water at Site FTMM-18.

SVOCs. No SVOCs were detected in surface water samples at Site FTMM-18. SVOCs are not considered COPECs in surface water at Site FTMM-18.

Metals. A total of 14 metals were detected in surface water samples at Site FTMM-18. None of these metals were detected at concentrations exceeding the applicable saltwater ESC. Metals are not considered COPECs in surface water at Site FTMM-18.

3.4.2.10.4 COPECs for Sediment at Site FTMM-18

Five sediment samples were collected from Parkers Creek adjacent to Site FTMM-18 as part of the 2010 BEE. Sediment sample locations were based on previous sediment sampling conducted for the RI and were located in the field based on depositional characteristics and potential contaminant migration pathways and included storm water outfalls (**Appendix K**) into Parkers Creek in the vicinity of Site FTMM-18 from the surrounding areas including Buildings 291 to 296 and Building 283 (FTMM-61) in Parcel 49 (**Section 3.4.2.14**). Parkers Creek, in the vicinity of Site FTMM-18, is classified as saline estuarine (**Section 2.4.3**). Parameters detected in sediment samples are presented in **Table D-24**.

PCBs. No PCBs were detected in sediment samples at Site FTMM-18. PCBs are not considered COPECs at Site FTMM-18.

Pesticides. No pesticides were detected in sediment samples at Site FTMM-18. Pesticides are not considered COPECs at Site FTMM-18.

VOCs. A total of three VOCs were detected in sediment samples at Site FTMM-18. None were detected at concentrations exceeding the available saltwater sediment ESC. VOCs are not considered COPECs in sediment at Site FTMM-18.

SVOCs. Four SVOCs were detected in surface sediment samples at Site FTMM-18. None of the detected SVOCs exceeded the available saltwater sediment ESC. SVOCs are not considered COPECs in sediment at Site FTMM-18.

Metals. Of the 23 metals detected in sediment at Site FTMM-18, 12 were detected in at least one sediment sample each at concentrations exceeding the applicable saltwater sediment ESC. Arsenic was detected in two samples at concentrations (11.9 and 22.8 mg/kg) greater than the ESC (8.2 mg/kg). Cadmium was detected in four samples at concentrations (3.38 to 5.65 mg/kg) greater than the ESC (1.2 mg/kg). Chromium was detected in three samples at concentrations (84.6 to 132 mg/kg) greater than the ESC (81 mg/kg). Cobalt was detected in two samples at concentrations (11.6 and 56 mg/kg) greater than the ESC (10 mg/kg). Copper was detected in one sample at a concentration (82.9 mg/kg) greater than the ESC (34 mg/kg). Lead was detected in two samples at concentrations (67.7 and 166 mg/kg) greater than the ESC (47 mg/kg). Mercury was detected in three samples at concentrations (0.591 to 0.669 mg/kg) greater than the ESC (0.15 mg/kg). Nickel was detected in two samples at concentrations (22.3 to 45.1 mg/kg) greater than the ESC (21 mg/kg). Selenium was detected in five samples at concentrations (2.47 to 12.3 mg/kg) greater than the ESC (1 mg/kg). Silver was detected in two samples at concentrations (26.1 to 27.9 mg/kg) greater than the ESC (1 mg/kg). Vanadium was detected in one sample at a concentration (63 mg/kg) which exceeds the ESC (57 mg/kg). Zinc was detected in three samples at concentrations (187 to 358 mg/kg) greater than the ESC (150 mg/kg). Arsenic, cadmium, chromium, cobalt, copper, lead, mercury, nickel, selenium, silver, vanadium, and zinc are considered COPECs in sediment at Site FTMM-18.

3.4.2.10.5 Summary of COPECs for Site FTMM-18

Parameters detected in soil, groundwater, surface water, or sediment at Site FTMM-18 at concentrations greater than the applicable ESC were identified as COPECs for the site. Though copper was not detected in surface water at Site FTMM-18, its MDLs were greater than the saltwater ESC. Given that copper was identified as a COPEC in soil, groundwater, and sediment, it is considered a possible COPEC in surface water. The COPECs, and possible COPECs, identified for Site FTMM-18 are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
Not Applicable	None	None	None

Soil	Groundwater	Surface Water	Sediment
Pesticides			
4,4′-DDT Endrin aldehyde	None	None	None
PCBs			
None	None	None	None
SVOCs			
Benzo(a)pyrene Naphthalene	None	None	None
Metals			
Antimony Arsenic Cadmium Chromium Copper Lead Mercury Selenium Silver Vanadium Zinc	Arsenic Cadmium Copper Selenium	None	Arsenic Cadmium Chromium Cobalt Copper Lead Mercury Nickel Selenium Silver Vanadium Zinc
Possible COPECs			
		Copper	

3.4.2.11 PRE-1941 FORMER SANITARY SEWAGE TREATMENT PLANT, FTMM-20

Surface water and sediment analytical data were evaluated for the identification of COPECs related to the Pre-1941 Former Sanitary STP, Site FTMM-20.

3.4.2.11.1 COPECs for Surface Water at the Pre-1941 Former Sanitary STP FTMM-20

Two surface water samples were collected from Parkers Creek adjacent to Site FTMM-20 as part of the 2010 BEE. Parkers Creek, in the vicinity of Site FTMM-20, is classified as saline estuarine (**Section 2.4.3**). Parameters detected in surface water samples are presented in **Table D-25**.

PCBs. No PCBs were detected in surface water samples at Site FTMM-20. PCBs are not considered COPECs in surface water at Site FTMM-20.

Pesticides. No pesticides were detected in surface water samples at Site FTMM-20. Pesticides are not considered COPECs in surface water at Site FTMM-20.

VOCs. No VOCs were detected in surface water samples at Site FTMM-20. VOCs are not considered COPECs in surface water at Site FTMM-20.

SVOCs. One SVOC, dimethyl phthalate was detected in the surface water samples at Site FTMM-20. There are no surface water ESC for dimethyl phthalate. SVOCs are not considered COPECs in surface water at Site FTMM-20.

Metals. A total of 14 metals were detected in surface water samples at Site FTMM-20. Parkers Creek, in the vicinity of Site FTMM-20, is saline. None of these metals were detected at concentrations exceeding the applicable saltwater ESC. Metals are not considered COPECs for surface water at Site FTMM-20.

3.4.2.11.2 COPECs for Sediment at the Pre-1941 Former Sanitary STP FTMM-20

Two sediment samples were collected from Parkers Creek adjacent to Site FTMM-20 as part of the 2010 BEE. Parkers Creek, in the vicinity of Site FTMM-20, is classified as saline estuarine (**Section 2.4.3**). Parameters detected in sediment samples are presented in **Table D-26**.

PCBs. No PCBs were detected in sediment samples at Site FTMM-20. PCBs are not considered COPECs at Site FTMM-20.

Pesticides. No pesticides were detected in sediment samples at Site FTMM-20. Pesticides are not considered COPECs at Site FTMM-20.

VOCs. A total of two VOCs were detected in sediment samples at Site FTMM-20. None were detected at concentrations exceeding the available saltwater sediment ESC. VOCs are not considered COPECs in sediment at Site FTMM-20.

SVOCs. Four SVOCs were detected in surface sediment samples at Site FTMM-20. None of the detected SVOCs exceeded the available saltwater sediment ESC. SVOCs are not considered COPECs in sediment at Site FTMM-20.

Metals. Of the 23 metals detected in sediment at Site FTMM-20, 12 were detected in at least one sediment sample each at concentrations exceeding the applicable saltwater sediment ESC. Arsenic was detected in both samples at concentrations (9.36 and 23.8 mg/kg) greater than the ESC (8.2 mg/kg). Cadmium was detected in both samples at concentrations (1.31 to 2.87 mg/kg) greater than the ESC (1.2 mg/kg). Chromium was detected in one sample at a concentration (99.4 mg/kg) greater than the ESC (81 mg/kg). Cobalt was detected in one sample at a concentration (11.4 mg/kg) greater than the ESC (10 mg/kg). Copper was detected in one sample at a concentration (71.2 mg/kg) greater than the ESC (34 mg/kg). Lead was detected in one sample at a concentration (59.4 mg/kg) greater than the ESC (47 mg/kg). Mercury was detected in one sample at a concentration (0.322 mg/kg) greater than the ESC (0.15 mg/kg). Nickel was detected in one sample at a concentration (21.6 mg/kg) marginally greater than the ESC (21 mg/kg). Selenium was detected in both samples at concentrations (4.04 and 6.86 mg/kg) greater than the ESC (1 mg/kg). Silver was detected in both samples at concentrations (1.35 and 8.07 mg/kg) greater than the ESC (1 mg/kg). Vanadium was detected in one sample at a concentration (60.9 mg/kg) greater than the ESC (57 mg/kg). Zinc was detected in one sample at a concentration (184 mg/kg) greater than the ESC (150 mg/kg). Though Parkers Creek is tidal in the vicinity of Site M-20, the greatest concentrations of these metals were detected in the upstream sample and the lower concentrations were detected in the downstream sample. Arsenic, cadmium, chromium, cobalt, copper, lead, mercury, nickel, selenium, silver, vanadium, and zinc are considered COPECs in sediment at Site FTMM-20.

3.4.2.11.3 Summary of COPECs for Site FTMM-20

Parameters detected in soil, groundwater, surface water, or sediment at Site FTMM-20 at concentrations greater than the applicable ESC were identified as COPECs for the site. Though copper was not detected in surface water at Site FTMM-20, its MDLs were greater than the saltwater ESC. Given that copper was identified as a COPEC in sediment, it is considered a possible COPEC in surface water. The COPECs, and possible COPECs, identified for Site FTMM-20 are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
Not Applicable	Not Applicable	None	None
Pesticides			
Not Applicable	Not Applicable	None	None
PCBs			
Not Applicable	Not Applicable	None	None
SVOCs			
Not Applicable	Not Applicable	None	None
Metals			
Not Applicable	Not Applicable	None	Arsenic Cadmium Chromium Cobalt Copper Lead Mercury

Soil	Groundwater	Surface Water	Sediment
			Nickel Selenium Silver Vanadium Zinc
Possible COPECs			
		Copper	

3.4.2.12 BUILDING 1122, FTMM-59 (ECP PARCEL 43)

Groundwater, surface water, and sediment analytical data were evaluated for the identification of COPECs related to Building 1122, ECP Parcel 43.

3.4.2.12.1 COPECs for Groundwater at Building 1122, FTMM-59 (ECP Parcel 43)

Five groundwater monitoring wells were monitoring for VOCs during the 2008-2009 time period. Sampling for SVOCs, pesticides, PCBs, and metals was discontinued after the October 2004 sampling event per NJDEP approval letter dated November 2004. SVOCs, pesticides, PCBs, and metals are not considered COPECs in groundwater at Building 1122, FTMM-59 and Parcel 43. Mill Creek could receive groundwater discharge at Building 1122, Site FTMM-59 and Parcel 43. Mill Creek, in the vicinity of Building 1122, is classified as freshwater (**Section 2.4.3**). Parameters detected in groundwater samples are presented in **Table C-9**.

VOCs. Six VOCs were detected in groundwater samples during the 20008-2009 period. None of the detected VOCs were at concentrations greater than the applicable freshwater ESC. VOCs are not considered COPECs for groundwater at Building 1122, FTMM-59 and Parcel 43.

3.4.2.12.2 COPECs for Surface Water at Building 1122, FTMM-59 (ECP Parcel 43)

Two surface water samples were collected from Mill Creek adjacent to Building 1122, FTMM-59 and Parcel 43 as part of the 2010 BEE. One surface water sample was collected in Mill Creek to the east of Building 1122 at a storm water outfall, and the other sample was collected in Mill Creek at a point closest to Building 1122. Mill Creek, in the vicinity of Building 1122, FTMM-59 and Parcel 43, is classified as freshwater (**Section 2.4.3**). Parameters detected in surface water samples are presented in **Table D-27**.

PCBs. No PCBs were detected in surface water samples at Building 1122, FTMM-59 and Parcel 43. PCBs are not considered COPECs in surface at Building 1122, FTMM-59 and Parcel 43.

VOCs. Two VOCs (*cis*-1,2-dichloroethene and PCE) were detected in surface water samples at Building 1122, FTMM-59 and Parcel 43 but at concentrations less than the freshwater ESC. VOCs are not considered COPECs in surface at Building 1122, FTMM-59 and Parcel 43.

SVOCs. Six SVOCs, anthracene, benzo(*a*)anthracene, benzo(*a*)pyrene, benzoic acid, 3,3′-dichlorobenzidine, and 1,2,4-trichlorobenzene, were detected in the surface water samples at Building 1122, FTMM-59 and Parcel 43. Anthracene, benzo(a)pyrene, and benzo(a)anthracene concentrations exceeded the applicable freshwater ESC. Both anthracene concentrations (0.12 µg/L) exceeded the 0.035 µg/L ESC. One benzo(*a*)pyrene concentration (0.31 µg/L) exceeded the 0.014 µg/L ESC. Benzo(*a*)anthracene concentrations (0.23 and 0.24 µg/L) exceeded the 0.025 µg/L ESC. Anthracene, benzo(*a*)pyrene, and benzo(*a*)anthracene are considered COPECs in surface water at Building 1122.

Metals. A total of 12 metals were detected in surface water samples at Building 1122, FTMM-59 and Parcel 43. Only lead was detected at concentrations greater than the applicable freshwater ESC in the surface water samples. Total lead concentrations (6.8 and 7.76 µg/L) and dissolved lead concentrations (7.2 and 11.5 µg/L) exceeded the 5.4 µg/L freshwater ESC. Lead is considered a COPEC for surface water at Building 1122.

3.4.2.12.3 COPECs for Sediment at Building 1122, FTMM-59 (ECP Parcel 43)

Three surface sediment samples were collected from Mill Creek adjacent to Building 1122, FTMM-59 and Parcel 43 as part of the ECP SI (Shaw, 2008). These three sediment sample locations were selected to evaluate historical discharges from Building 1122 based on depositional characteristics and potential contaminant migration pathways and included the storm water outfall to the east of Building 1122 (**Appendix K**) into Mill Creek. Mill Creek, in the vicinity of Building 1122, FTMM-59 and Parcel 43, is classified as freshwater (**Section 2.4.3**). Parameters detected in sediment samples are presented in **Table B-1**.

PCBs. No PCBs were detected in sediment samples at Building 1122, FTMM-59 and Parcel 43. PCBs are not considered COPECs at Building 1122, FTMM-59 and Parcel 43.

VOCs. Two VOCs (acetone and methylene chloride) were detected in sediment samples at Building 1122, FTMM-59 and Parcel 43. None were detected at concentrations exceeding the available freshwater sediment ESC. VOCs are not considered COPECs in sediment at Building 1122, FTMM-59 and Parcel 43.

SVOCs. Eleven SVOCs were detected in surface sediment samples at Building 1122, FTMM-59 and Parcel 43. Eight of the detected SVOCs exceeded the available freshwater sediment ESC. Benzo(*a*)anthracene was detected in all three samples and two concentrations (0.510 and 0.610 mg/kg) exceeding the 0.32 mg/kg freshwater sediment ESC. Benzo(*a*)pyrene was detected in all three samples and two concentrations (0.510 and 0.610 mg/kg) exceeding the 0.37 mg/kg freshwater sediment ESC. Benzo(*k*)fluoranthene was detected in all three samples and two concentrations (0.340 and 0.390 mg/kg) exceeding the 0.24 mg/kg freshwater sediment ESC. Chrysene was detected in all three samples and two concentrations (0.86 and 0.88 mg/kg) exceeding the 0.34 mg/kg freshwater sediment ESC. Fluoranthene was detected in all three samples and two concentrations (1.40 and 1.30 mg/kg) exceeding the 0.75 mg/kg freshwater sediment ESC. Phenanthrene was detected in all three samples and one concentration (0.700 mg/kg) exceeded the 0.56 mg/kg freshwater sediment ESC. Pyrene was detected in all three samples and two concentrations (1.60 and 1.40 mg/kg) exceeded the 0.49 mg/kg freshwater sediment ESC. Bis(2-ethylhexyl) phthalate was detected in all three samples at concentrations from 0.440 mg/kg to 1.40 mg/kg. As noted previously, phthalates are common laboratory contaminants and are often found at low concentrations in both field and laboratory QC samples. Bis(2-ethylhexyl) phthalate is not considered a COPEC in surface sediment at Building 1122, FTMM-59 and Parcel 43. Benzo(*a*)anthracene, benzo(*a*)pyrene, benzo(*k*)fluoranthene, chrysene, fluoranthene, phenanthrene, and pyrene are considered COPECs in sediment at Building 1122, FTMM-59 and Parcel 43.

Metals. Of the 18 metals detected in sediment at Building 1122, FTMM-59 and Parcel 43, eight were detected in at least one sediment sample each at concentrations exceeding the applicable freshwater sediment ESC. Arsenic was detected in all three samples and the concentrations (7.48 to 10.2 mg/kg) exceeded the ESC (6 mg/kg). Cadmium was detected in all three samples and two concentrations (1.67 and 1.86 mg/kg) were greater than the ESC (0.6 mg/kg). Chromium was detected in all three samples and the concentrations (155 to 161 mg/kg) exceeded the ESC (26 mg/kg). Copper was detected in all three samples and the concentrations (29.1 to 53.6 mg/kg) were greater than the ESC (16 mg/kg). Lead was detected in all three samples and the concentrations (45.0 to 116 mg/kg) were greater than the ESC (31 mg/kg). Mercury was detected in all three samples and the concentrations (0.25 to 0.47 mg/kg) were greater than the ESC (0.2 mg/kg). Nickel was detected in all three samples and the concentrations (23.7 to 36.4 mg/kg) were greater than the ESC (16 mg/kg). Zinc was detected in all three samples and two concentrations (252 and 286 mg/kg) exceeded the ESC (120 mg/kg). Arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc are considered COPECs in sediment at Building 1122, FTMM-59 and Parcel 43.

3.4.2.12.4 Summary of COPECs for Building 1122, FTMM-59 and Parcel 43

Parameters detected in soil, groundwater, surface water, or sediment at Building 1122, FTMM-59 and Parcel 43 at concentrations greater than the applicable ESC were identified as COPECs for the site. Though cadmium and silver were not detected in surface water at Building 1122, FTMM-59 and Parcel 43, their MDLs were greater than the freshwater ESC. Given that cadmium is considered a COPEC in sediment, it is considered a possible COPEC in surface water. The sediment detection limits

for several PAHs [acenaphthene, acenaphthylene, anthracene, dibenzo(*a,h*)anthracene, fluorene, and 2-methylnaphthalene] exceeded the freshwater sediment ESC. Of these, acenaphthene was identified as a COPEC in surface water. Therefore, anthracene is considered a possible COPEC in sediment. The COPECs, and possible COPECs, identified for Building 1122, FTMM-59 and Parcel 43 are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
Not Applicable	None	None	None
Pesticides			
Not Applicable	None	None	Not Applicable
PCBs			
Not Applicable	None	None	None
SVOCs			
Not Applicable	None	Anthracene Benzo(a)anthracene Benzo(a)pyrene	Benzo(*a*)anthracene Benzo(*a*)pyrene Benzo(*k*)fluoranthene Chrysene Fluoranthene Phenanthrene Pyrene
Metals			
Not Applicable	None	Lead	Arsenic Cadmium Chromium Copper Lead Mercury Nickel Zinc
Possible COPECs			
		Cadmium	Anthracene

3.4.2.13 BUILDING 1150 (PARCEL 39)

Surface soil, surface water, and sediment analytical data were evaluated for the identification of COPECs related to Building 1150, ECP Parcel 39.

3.4.2.13.1 COPECs for Soil at Building 1150 (ECP Parcel 39)

One surface soil sample was collected as part of the ECP SI (Shaw, 2008). This sample was located at the outfall of a clay pipe leading from the direction of Building 1150. Parameters detected in the surface soil sample are presented in **Table B-2**.

VOCs. No VOCs were detected in the surface soil sample. VOCs are not considered COPECs at Parcel 39.

PCBs. No PCBs were detected in the surface soil sample. PCBs are not considered COPECs at Parcel 39.

SVOCs. Four SVOCs were detected in the surface soil sample at Parcel 39. No SVOCs were found at concentrations exceeding the soil ESC. SVOCs are not considered COPECs in surface soil at Parcel 69.

Metals. A total of 18 metals were detected in the surface soil sample. Of these 18, eight were found at concentrations exceeding the soil ESC. The concentration of aluminum (7450 mg/kg) was above the 50 mg/kg soil ESC. Aluminum, like iron, is a common component of soils and sediments and is not considered a COPEC except in conditions of very low pH where aluminum could be bioavailable; aluminum is not considered a COPEC in soil at Parcel 39. Cadmium, chromium, cobalt, lead, mercury, vanadium, and zinc are considered COPECs in soil at Parcel 39.

3.4.2.13.2 COPECs for Surface Water at Building 1150 (ECP Parcel 39)

One surface water sample was collected from Mill Creek adjacent to Building 1150 as part of the 2010 BEE; this surface water sample was also adjacent to Landfill 2, which is located south of Building 1150, across Mill Creek from Building 1150, and was collected immediately downstream of a storm water outfall from the area of Building 1150 in Parcel 39. Additionally, another surface water sample was collected downstream of all storm water outfalls from Parcel 39 (**Appendix K**) as part of the Landfill 2 (FTMM-2) sample collections (**Section 3.4.2.1.3**). Mill Creek, in the vicinity of Building 1150, Parcel 39, is classified as freshwater (**Section 2.4.3**). Parameters detected in the surface water sample are presented in **Table D-28**.

PCBs. No PCBs were detected in surface water samples at Building 1150. PCBs are not considered COPECs in surface water at Building 1150.

Pesticides. No pesticides were detected in surface water samples at Building 1150. Pesticides are not considered COPECs in surface water at Building 1150.

SVOCs. Three SVOCs, anthracene, benzo(*a*)anthracene, and 1,2,4-trichlorobenzene, were detected in the surface water samples at Building 1150. Anthracene and benzo(*a*)anthracene concentrations exceeded the applicable freshwater ESC. The anthracene concentration (0.11 µg/L) exceeded the 0.035 µg/L ESC and the benzo(*a*)anthracene concentration (0.22 µg/L) exceeded the 0.025 µg/L ESC. Anthracene and benzo(*a*)anthracene are considered COPECs in surface water at Building 1150.

Metals. A total of 12 metals were detected in surface water samples at Building 1150. Mill Creek, in the vicinity of Building 1150, is freshwater. Only lead was detected greater than the applicable freshwater ESC in the surface water sample. The total lead concentration (6.2 µg/L) and the dissolved lead concentration (10.1 µg/L) exceeded the 5.4 µg/L freshwater ESC. Lead is considered a COPEC for surface water at Building 1150.

3.4.2.13.3 COPECs for Sediment at Building 1150 (ECP Parcel 39)

Two surface sediment samples were collected from Mill Creek adjacent to Building 1150 as part of the ECP SI (Shaw, 2008). These were collected from deposition locations immediately downgradient of the drainage basin located immediately behind Building 1150 (**Appendix K**). Additionally, four sediment samples were collected as part of the 2010 BEE for Landfill 2 are adjacent to Building 1150 (**Section 3.4.2.1.3**). These sediment sample locations were based on previous sediment sampling conducted for the RI for Landfill 2 (FTMM-2) and were located in the field based on depositional characteristics and potential contaminant migration pathways and included storm water outfalls (**Appendix K**) into Mill Creek from the area of Building 1150 and Parcel 39. Mill Creek, in the vicinity of Building 1150, Parcel 39, is classified as freshwater (**Section 2.4.3**). Parameters detected in sediment samples as part of the ECP SI are presented in **Table B-3** and as part of the BEE are presented in **Table D-29**.

PCBs. One PCB mixture, Aroclor 1254, was detected in 2010 BEE sediment samples at Building 1150. Aroclor 1254 was detected in two samples and one concentration (0.064 mg/kg) exceeded the 0.06 mg/kg freshwater ESC. Aroclor 1254 is considered a COPEC at Building 1150.

VOCs. Three VOCs (acetone, methylene chloride, and 2-butanone) were detected in 2010 BEE sediment samples at Building 1150. None were detected at concentrations exceeding the available freshwater or saltwater sediment ESC. VOCs are not considered COPECs in sediment at Building 1150.

SVOCs. Eight SVOCs were detected in surface sediment samples at Building 1150 during the ECP SI and seven of these [benzo(*a*)anthracene, bis(2-ethylhexyl) phthalate, chrysene, di-*n*-butyl phthalate, fluoranthene, phenanthrene, and pyrene] were detected at concentrations exceeding the freshwater sediment ESC. Though 13 SVOCs were detected in surface sediment samples at Building 1150 during the 2010 BEE, only four of these [bis(2-ethylhexyl) phthalate, chrysene, fluoranthene, and pyrene] were detected at concentrations exceeding the freshwater sediment ESC. Concentrations detected during the 2010 BEE were less than those detected during the previous ECP SI. The concentrations of fluoranthene (0.92 mg/kg), chrysene (0.37 mg/kg), pyrene (0.71 mg/kg), and bis(2-ethylhexyl) phthalate (0.28 mg/kg) exceeded the ESC (0.75 mg/kg, 0.34 mg/kg, 0.49 mg/kg, and

0.182 mg/kg, respectively) in the BEE samples. In the SI samples, the concentrations of benzo(*a*)anthracene (0.54 mg/kg), bis(2-ethylhexyl) phthalate (2.1 and 1.3 mg/kg), chrysene (0.37 and 0.71 mg/kg), di-*n*-butyl phthalate (1.9 mg/kg), fluoranthene (0.99 mg/kg), phenanthrene (0.67 mg/kg), and pyrene (1.0 and 2.0 mg/kg) exceeded the ESC of 0.32, 0.182, 0.34, 1.114, 0.75, 0.56, and 0.49 mg/kg, respectively. As noted previously, phthalates are common laboratory contaminants and are often found at low concentrations in both field and laboratory QC samples. Bis(2-ethylhexyl) phthalate and di-*n*-butyl phthalate are not considered COPECs in surface sediment at Building 1150. Benzo(*a*)anthracene, chrysene, fluoranthene, phenanthrene, and pyrene are considered COPECs in sediment at Building 1150.

Metals. During the ECP SI, 18 metals were detected in sediment at Building 1150 and eight of these (arsenic, cadmium chromium, copper, lead, mercury, nickel, and zinc) were detected at concentrations exceeding the freshwater sediment ESC. Though 22 metals were detected in surface sediment samples at Building 1150 during the 2010 BEE, only three of these (arsenic, cadmium, and chromium) were detected at concentrations exceeding the freshwater sediment ESC. Concentrations detected during the BEE were generally less than those detected during the previous ECP SI. The concentrations of arsenic (8.09 and 8.89 mg/kg), cadmium (0.629 to 2.09 mg/kg), chromium (37.7 to 131 mg/kg), copper (27.7 to 41.0 mg/kg), lead (61.7 mg/kg), mercury (0.67 mg/kg), nickel (32.4 mg/kg), and zinc (210 mg/kg) exceeded the ESC of 6, 0.6, 26, 16, 31, 0.2, 16, and 120 mg/kg, respectively, in the BEE or SI samples. Vanadium was detected at concentrations exceeding the saltwater sediment ESC; there are no freshwater ESC for vanadium. Vanadium was identified as a COPEC in surface soil and is considered a COPEC in sediment. Arsenic, cadmium, chromium, copper, lead, mercury, nickel, vanadium, and zinc are considered COPECs in sediment at Building 1150.

3.4.2.13.4 Summary of COPECs for Building 1150

Parameters detected in soil, groundwater, surface water, or sediment at Building 1150 (Parcel 39) at concentrations greater than the applicable ESC were identified as COPECs for the site. Though cadmium and silver were not detected in surface water at Building 1150, their MDLs were greater than the freshwater ESC. Given that cadmium is considered a COPEC in sediment, it is considered a possible COPEC in surface water. The COPECs, and possible COPECs, identified for Building 1150 are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
None	Not Applicable	None	None
Pesticides			
Not Applicable	Not Applicable	None	None
PCBs			
None	Not Applicable	None	Aroclor 1254
SVOCs			
None	Not Applicable	Anthracene Benzo(*a*)anthracene	Benzo(*a*)anthracene Chrysene Fluoranthene Phenanthrene Pyrene
Metals			
Cadmium Chromium Cobalt Lead Mercury Vanadium Zinc	Not Applicable	Lead	Arsenic Cadmium Chromium Copper Lead Mercury Nickel Vanadium Zinc
Possible COPECs			
		Cadmium	

3.4.2.14 BUILDINGS 283, 288, 291, 293, 295 (FTMM-61 AND ECP PARCEL 49)

Surface soil, groundwater, surface water, and sediment analytical data were evaluated for the identification of COPECs related to Building 283 (FTMM-61) and Buildings 283, 288, 291, 293, and 295 (Parcel 49).

3.4.2.14.1 COPECs for Surface Soil at FTMM-61 and Parcel 49

Ten surface soil samples were collected in relation to FTMM-61 and Parcel 49 as part of the ECP SI (Shaw, 2008). Parameters detected in surface soil samples are presented in **Table B-4**.

PCBs. One PCB mixture, Aroclor 1260, was detected in three of the surface soil samples at FTMM-61 and Parcel 49. Two of the concentrations (0.47 and 8.85 mg/kg) exceeded the soil ESC (0.371 mg/kg). Aroclor 1260 is considered a COPEC in soil at Parcel 49.

SVOCs. Twenty-two SVOCs were detected in surface soil samples in at least one sample each at FTMM-61 and Parcel 49. Ten SVOCs were found at concentrations exceeding the soil ESC; nine of these SVOCs are PAHs. The highest concentrations of these PAHs were found in one of the soil samples: benzo(*a*)anthracene (80 mg/kg), benzo(*a*)pyrene (54 mg/kg), benzo(*b*)fluoranthene (75 mg/kg), chrysene (79 mg/kg), fluoranthene (190 mg/kg), 2-methylnaphthalene (4.4 mg/kg), naphthalene (11 mg/kg), phenanthrene (170 mg/kg), and pyrene (160 mg/kg). Benzo(*a*)anthracene, benzo(a)pyrene, and chrysene were also detected exceeding the ESC in one or two other surface soil samples, but at much lower concentrations. Butyl benzyl phthalate was also detected in three samples at concentrations (0.52 to 1.8 mg/kg) exceeding the 0.239 mg/kg ESC. As noted previously, phthalates are commonly found in field and laboratory QC samples and are not considered COPECs in sediment at FTMM-61 and Parcel 49. Benzo(*a*)anthracene, benzo(*a*)pyrene, benzo(*b*)fluoranthene, chrysene, fluoranthene, 2-methylnaphthalene, naphthalene, phenanthrene, and pyrene are considered COPECs in surface soil at Parcel 49.

Metals. A total of 19 metals were detected in surface soil samples; 10 (aluminum, arsenic, cadmium, chromium, copper, lead, manganese, mercury, vanadium, and zinc) of which were found at concentrations exceeding the soil ESC. Concentrations of aluminum (7,310 to 21,600 mg/kg) were greater than the 50 mg/kg soil ESC. Aluminum, like iron, is a common component of soils and sediments and is not considered a COPEC except in conditions of low pH where aluminum could be bioavailable; aluminum is not considered a COPEC in soil at FTMM-61 and Parcel 49. Arsenic, cadmium, chromium, copper, lead, manganese, mercury, vanadium, and zinc are considered COPECs in soil at FTMM-61 and Parcel 49.

3.4.2.14.2 COPECs for Groundwater at FTMM-61 and Parcel 49

Seven groundwater samples (including one duplicate sample) were collected from two distinct temporary wells and four monitoring wells as part of the ECP SI (Shaw, 2008). One of the temporary wells was located north of Building 283 and the other was located east of former Building 289. The monitoring wells were located along the northern perimeter of the former Squier Complex. Parkers Creek could receive groundwater discharge at FTMM-61 and Parcel 49. Parkers Creek, in the vicinity of FTMM-61 and Parcel 49, is classified as saline estuarine (**Section 2.4.3**). Parameters detected in groundwater samples are presented in **Table B-5**.

VOCs. Nine VOCs (acetone, benzene, bromodichloromethane, chloroform, ethylbenzene, methyl ethyl ketone, vinyl chloride, xylenes, and toluene) were detected in groundwater samples but at concentrations less than the ESC. VOCs are not considered COPECs at FTMM-61 and Parcel 49.

SVOCs. Four SVOCs were also detected in groundwater samples. One SVOC [bis(2-ethylhexyl) phthalate] was detected in the groundwater samples at concentrations exceeding the ESC. As noted previously, bis(2-ethylhexyl) phthalate, a commonly used plasticizer, is present in a wide variety of plastic products and is commonly detected in field and laboratory QC samples. It was detected in the field blank associated with FTMM-61 and Parcel 49 groundwater sampling (Shaw, 2008) and it is not considered a COPEC in groundwater at FTMM-61 and Parcel 49.

Metals. A total of 18 metals were detected in groundwater samples at FTMM-61 and Parcel 49. Only one metal, zinc, was detected at concentrations in at least one sample exceeding the applicable

saltwater ESC. Zinc was detected in three samples and two concentrations (103 and 107 µg/L) were greater than the 81 µg/L ESC. Zinc is considered a COPEC in groundwater at FTMM-61 and Parcel 49.

3.4.2.14.3 COPECs for Surface Water at FTMM-61 and Parcel 49

Two surface water samples were collected from Parkers Creek in relation to FTMM-61 and Parcel 49 as part of the 2010 BEE. These two surface water samples were collected at storm water line outfalls into Parkers Creek, to the east of Building 283 and north of Parcel 49. Parkers Creek, in the vicinity of FTMM-61 and Parcel 49, is classified as saline estuarine (**Section 2.4.3**). Parameters detected in surface water samples are presented in **Table D-30**.

PCBs. No PCBs were detected in surface water samples at FTMM-61 and Parcel 49. PCBs are not considered COPECs in sediment at FTMM-61 and Parcel 49.

VOCs. No VOCs were detected in surface water samples at FTMM-61 and Parcel 49. VOCs are not considered COPECs in sediment at FTMM-61 and Parcel 49.

SVOCs. One SVOC, dimethyl phthalate, was detected in the surface water samples at FTMM-61 and Parcel 49. There are no surface water ESC for dimethyl phthalate. SVOCs are not considered COPECs in surface water at FTMM-61 and Parcel 49.

Metals. A total of 13 metals were detected in surface water samples at FTMM-61 and Parcel 49. None of these metals were detected at concentrations exceeding the applicable saltwater ESC. Metals are not considered COPECs for surface water at FTMM-61 and Parcel 49.

3.4.2.14.4 COPECs for Sediment at FTMM-61 and Parcel 49

Seven surface sediment samples (including one duplicate sample) representing three sediment locations were collected from Parkers Creek in relation to FTMM-61 and Parcel 49 as part of the ECP SI (Shaw, 2008). These three sediment sample locations were selected to evaluate historical discharges from Building 283 and Parcel 49 based on depositional characteristics and potential contaminant migration pathways and included the storm water outfalls in Parkers Creek to the east of Building 283 (**Appendix K**) associated with former septic systems at Building 78 and sump pump discharges related to Building 283. Parkers Creek, in the vicinity of FTMM-61 and Parcel 49, is classified as saline estuarine (**Section 2.4.3**). Parameters detected in sediment samples are presented in **Table B-6**.

VOCs. No VOCs were detected in surface sediment samples at FTMM-61 and Parcel 49. VOCs are not considered COPECs at FTMM-61 and Parcel 49.

PCBs. No PCBs were detected in surface sediment samples at FTMM-61 and Parcel 49. PCBs are not considered COPECs at FTMM-61 and Parcel 49.

SVOCs. Ten SVOCs were detected in surface sediment samples at FTMM-61 and Parcel 49. One of the detected SVOCs exceeded the available saltwater sediment ESC. Di-*n*-butyl phthalate was detected in all samples at concentrations from 0.890 to 2.40 mg/kg. As noted previously, phthalates are common laboratory contaminants and are often found at low concentrations in both field and laboratory QC samples. Di-*n*-butyl phthalate is not considered a COPEC in surface sediment at FTMM-61 and Parcel 49.

Metals. Of the 20 metals detected in sediment at FTMM-61 and Parcel 49, 12 were detected in at least one sediment sample each at concentrations exceeding the applicable saltwater sediment ESC. Aluminum was detected in two sediment samples at concentrations (2.92 and 1.85%) exceeding the saltwater sediment ESC (1.8%). Aluminum, like iron, is a major component of soil and sediment, and is usually not considered a COPEC except in very low pH environments. Aluminum is not considered a COPEC at FTMM-61 and Parcel 49. Arsenic was detected in all samples and the concentrations (14.8 to 29.7 mg/kg) exceeding the ESC (8.2 mg/kg). Barium was detected in all samples and the concentrations (65.3 to 96.4 mg/kg) greater than the ESC (48 mg/kg). Cadmium was detected in all samples and concentrations in three samples (1.65 to 5.55 mg/kg) greater than the ESC (1.2 mg/kg). Chromium was detected in all samples and the concentrations (149 to 353 mg/kg) were greater than the ESC (81 mg/kg). Copper was detected in all samples and three concentrations (76.5 to 111 mg/kg) were greater than the ESC (34 mg/kg). Lead was detected in three samples and one concentration (148 mg/kg) was greater than the ESC (47 mg/kg). Mercury was detected in three samples and the concentrations (0.23 to 0.53

mg/kg) were greater than the ESC (0.15 mg/kg). Nickel was detected in all samples and two concentrations (44.0 and 68.5 mg/kg) were greater than the ESC (21 mg/kg). Silver was detected in one sample and the concentration (1.40 mg/kg) was greater than the ESC (1 mg/kg). Vanadium was detected in all samples and the concentrations (79.3 to 125 mg/kg) were greater than the ESC (57 mg/kg). Zinc was detected in all samples and two concentrations (1320 and 2090 mg/kg) exceeded the ESC (150 mg/kg). Arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, silver, vanadium, and zinc are considered COPECs in sediment at FTMM-61 and Parcel 49.

3.4.2.14.5 Summary of COPECs for FTMM-61 and Parcel 49

Parameters detected in soil, groundwater, surface water, or sediment at FTMM-61 and Parcel 49 at concentrations greater than the applicable ESC were identified as COPECs for the site. Though copper was not detected in surface water at FTMM-61 and Parcel 49, its MDLs were greater than the saltwater ESC. Given that copper was identified as a COPEC in soil and sediment (though not in groundwater), it is considered a possible COPEC in surface water. The sediment detection limits for several PAHs [acenaphthene, acenaphthylene, anthracene, benzo(*g,h,i*)perylene, dibenzo(*a,h*)anthracene, fluorene, 2-methylnaphthalene, and pyrene] were greater than the saltwater sediment ESC. These PAHs were not detected in any of the saltwater samples from FTMM-61 and Parcel 49; however, 2-methylnaphthalene and pyrene are considered COPECs in soil. Therefore, 2-methylnaphthalene and pyrene are considered possible COPECS in sediment. The COPECs, and possible COPECs, identified for FTMM-61 and Parcel 49 are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
Not Applicable	None	None	None
Pesticides			
Not Applicable	Not Applicable	Not Applicable	Not Applicable
PCBs			
Aroclor 1260	Not Applicable	None	None
SVOCs			
Benzo(*a*)anthracene Benzo(*a*)pyrene Benzo(*b*)fluoranthene Chrysene Fluoranthene 2-Methylnaphthalene Naphthalene Phenanthrene Pyrene	None	None	None
Metals			
Arsenic Cadmium Chromium Copper Lead Manganese Mercury Vanadium Zinc	Zinc	None	Arsenic Barium Cadmium Chromium Copper Lead Mercury Nickel Silver Vanadium Zinc
Possible COPECs			
		Copper	2-Methylnaphthalene Pyrene

3.4.2.15 BUILDING 1075 (ECP PARCEL 61)

Surface soil, surface water, and sediment analytical data were evaluated for the identification of COPECs related to Parcel 61.

3.4.2.15.1 COPECs for Surface Soil at Parcel 61

One surface soil sample was collected from Parcel 61 as part of the ECP SI (Shaw, 2008) near the southeastern corner of Building 1075. Parameters detected in the surface soil sample are presented in **Table B-7**.

PCBs. No PCBs were detected in the surface soil sample. PCBs are not considered COPECs at Parcel 61.

SVOCs. A total of 18 SVOCs were detected in the surface soil sample. Of these 18, three were detected above the soil ESC. Benzo(*a*)pyrene (3.7 mg/kg) exceeded the 1.52 mg/kg ESC, chrysene (5.0 mg/kg) exceeded the 4.73 mg/kg ESC, and naphthalene (1.2 mg/kg) exceeded the 0.0994 mg/kg ESC. These three PAHs are considered COPECs at Parcel 61.

Metals. A total of 18 metals were detected in the surface soil sample. Of these 18, eight (aluminum, cadmium, chromium, copper, lead, mercury, vanadium, and zinc) were identified at concentrations exceeding the soil ESC. The concentration of aluminum (10,100 mg/kg) exceeded the 50 mg/kg soil ESC. Aluminum, like iron, is a common component of soils and sediments and is not considered a COPEC except in conditions of very low pH where aluminum could be bioavailable; aluminum is not considered a COPEC in soil at Parcel 61. Cadmium, chromium, copper, lead, mercury, vanadium, and zinc are considered COPECs in soil at Parcel 61.

3.4.2.15.2 COPECs for Surface Water at Parcel 61

One surface water sample was collected from a tributary to Husky Brook in relation to Parcel 61 as part of the 2010 BEE. This surface water sample was collected directly downgradient of the stormwater outfall in the tributary to Husky Brook. Husky Brook, in the vicinity of Parcel 61, is classified as saline estuarine (**Section 2.4.3**). Parameters detected in surface water samples are presented in **Table D-31**.

VOCs. No VOCs were detected in surface water samples at Parcel 61. VOCs are not considered COPECs in surface water at Parcel 61.

PCBs. No PCBs were detected in surface water samples at Parcel 61. PCBs are not considered COPECs in surface water at Parcel 61.

SVOCs. Two SVOCs [benzo(*a*)anthracene and hexachlorobutadiene] were detected in the surface water sample. There are no available saltwater ESC for the detected SVOCs. Benzo(*a*)anthracene and hexachlorobutadiene are not considered COPECs in surface water at Parcel 61.

Metals. A total of 14 metals were detected in surface water samples at Parcel 61. None of these were detected at concentrations exceeding the available saltwater ESC. Metals are not considered COPECs in surface water at Parcel 61.

3.4.2.15.3 COPECs for Sediment at Parcel 61

Two sediment samples were collected from a tributary to Husky Brook in relation to Parcel 61 as part of the ECP SI (Shaw, 2008). One sediment sample was collected directly downgradient of the stormwater outfall into the tributary to Husky Brook and the other was collected downgradient of that near the confluence of the tributary with Husky Brook. Husky Brook, in the vicinity of Parcel 61, is classified as saline estuarine (**Section 2.4.3**). Parameters detected in sediment samples are presented in **Table B-8**.

VOCs. No VOCs were detected in sediment samples at Parcel 61. VOCs are not considered COPECs at Parcel 61.

PCBs. No PCBs were detected in sediment samples at Parcel 61. PCBs are not considered COPECs at Parcel 61.

SVOCs. A total of 13 SVOCs were detected in surface sediment samples at Parcel 61. Bis(2-ethylhexyl) phthalate was detected in both sediment samples; the concentrations (0.380 and 0.460 mg/kg) were greater than the saltwater sediment ESC (0.18216 mg/kg). As noted previously, phthalates are commonly found in field and laboratory QC samples and are not considered COPECs in sediment at Parcel 61. Ten PAHs were detected at concentrations exceeding the saltwater ESC in one or both

samples: acenaphthene (1.60 mg/kg), anthracene (0.160 and 0.290 mg/kg), benzo(a)anthracene (0.490 and 0.740 mg/kg), benzo(*a*)pyrene (0.430 and 0.650 mg/kg), benzo(*k*)fluoranthene (0.380 mg/kg), chrysene (0.710 and 0.920 mg/kg), fluoranthene (1.3 and 1.7 mg/kg), fluorene (0.140 mg/kg), phenanthrene (0.680 and 1.2 mg/kg), and pyrene (1.5 and 2.2 mg/kg). Acenaphthene, anthracene, benzo(*a*)anthracene, benzo(*a*)pyrene, benzo(*k*)fluoranthene, chrysene, fluoranthene, fluorene, phenanthrene, and pyrene are considered COPECs in sediment at Parcel 61.

Metals. Of the 17 metals detected in sediment at Parcel 61, two were detected in at least one sample at concentrations greater than the saltwater sediment ESC. Arsenic in one sample (13.3 mg/kg) was detected greater than the saltwater sediment ESC (8.2 mg/kg). Chromium was detected in one sample at a concentration (86.0 mg/kg) that exceeded the saltwater sediment ESC (81 mg/kg). Arsenic and chromium are considered COPECs in sediment at Parcel 61.

3.4.2.15.4 Summary of COPECs for Parcel 61

Parameters detected in soil, groundwater, surface water, or sediment at Building 1075 (Parcel 61) at concentrations greater than the applicable ESC were identified as COPECs for the site. Though copper was not detected in surface water at Parcel 61, its MDLs were greater than the saltwater ESC. Given that copper was identified as a COPEC in soil (though not in sediment), it is considered a possible COPEC in surface water. Several PAHs [acenaphthylene, benzo(*g,h,i*)perylene, dibenzo(*a,h*)anthracene, and 2-methylnaphthalene] were not detected in sediment samples, but their detection limits were greater than the saltwater sediment ESC in both samples. These were not identified as COPECs in other media at the site and are not considered COPECs in **sediment**. The COPECs, and possible COPECs, identified for Parcel 61 are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
Not Applicable	Not Applicable	None	None
Pesticides			
Not Applicable	Not Applicable	Not Applicable	Not Applicable
PCBs			
None	Not Applicable	None	None
SVOCs			
Benzo(*a*)pyrene Chrysene Naphthalene	Not Applicable	None	Acenaphthene Anthracene Benzo(*a*)anthracene Benzo(*a*)pyrene Benzo(*k*)fluoranthene Chrysene Fluoranthene Fluorene Phenanthrene Pyrene
Metals			
Cadmium Chromium Copper Lead Mercury Vanadium Zinc	Not Applicable	None	Arsenic Chromium
Possible COPECs			
		Copper	

3.4.2.16 BUILDING 900 (ECP PARCEL 69)

Surface soil, groundwater, surface water, and sediment analytical data were evaluated for the identification of COPECs related to Building 900 (Parcel 69).

3.4.2.16.1 COPECs for Soil at Parcel 69

Four surface soil samples were collected in relation to Parcel 69 as part of the ECP SI (Shaw, 2008). Parameters detected in surface soil samples are presented in **Table B-9**.

PCBs. No PCBs were detected in surface soil samples at Parcel 69. PCBs are not considered COPECs in soil at Parcel 69.

SVOCs. Four SVOCs were detected in surface soil samples in at least one sample each at Parcel 69. No SVOCs were found at concentrations exceeding the soil ESC. SVOCs are not considered COPECs in surface soil at Parcel 69.

Metals. A total of 17 metals were detected in surface soil samples. Of these 17, seven were identified at concentrations exceeding the soil ESC. Concentrations of aluminum (6,760 to 9,190 mg/kg) exceeded the 50 mg/kg soil ESC. Aluminum, like iron, is a common component of soils and sediments and is not considered a COPEC except in conditions of very low pH where aluminum could be bioavailable; aluminum is not considered a COPEC in soil at Parcel 69. Chromium, copper, lead, mercury, vanadium, and zinc are considered COPECs in soil at Parcel 69.

3.4.2.16.2 COPECs for Groundwater at Parcel 69

Three groundwater samples (including one duplicate sample) were collected from two distinct temporary wells as part of the ECP SI (Shaw, 2008). One of these was located in an area of a former waste oil AST east of Building 900 and the other was located downgradient of Building 900. Oceanport Creek could receive groundwater discharge at Parcel 69. Oceanport Creek, in the vicinity of Parcel 69, is classified as saline estuarine (**Section 2.4.3**). Parameters detected in groundwater samples are presented in **Table B-10**.

VOCs. Three VOCs (acetone, PCE, and toluene) were detected in groundwater samples but at concentrations less than the ESC. VOCs are not considered COPECs in groundwater at Parcel 69.

SVOCs. One SVOC [bis(2-ethylhexyl) phthalate] was also detected in the groundwater samples. As noted previously, bis(2-ethylhexyl) phthalate, a commonly used plasticizer, is present in a wide variety of plastic products and is commonly detected in field and laboratory QC samples. It was detected in the field blank associated with Parcel 69 groundwater sampling (Shaw, 2008) and it is not considered a COPEC in groundwater at Parcel 69.

3.4.2.16.3 COPECs for Surface Water at Parcel 69

One surface water sample was collected from Oceanport Creek in relation to Parcel 69 as part of the 2010 BEE. Oceanport Creek, in the vicinity of Parcel 69, is classified as saline estuarine (**Section 2.4.3**). Parameters detected in surface water samples are presented in **Table D-32**.

PCBs. No PCBs were detected in surface water samples at Parcel 69. PCBs are not considered COPECs in surface water at Parcel 69.

VOCs. No VOCs were detected in surface water samples at Parcel 69. VOCs are not considered COPECs in surface water at Parcel 69.

SVOCs. No SVOCs were detected in surface water samples at Parcel 69. SVOCs are not considered COPECs in surface water at Parcel 69.

Metals. A total of 10 metals were detected in surface water samples at Parcel 69. None of these metals were detected at concentrations exceeding the applicable saltwater ESC. Metals are not considered COPECs for surface water at Parcel 49.

3.4.2.16.4 COPECs for Sediment at Parcel 69

Four surface sediment samples representing two sediment locations were collected from Oceanport Creek in relation to Parcel 69 as part of the ECP SI (Shaw, 2008). Oceanport Creek, in the vicinity of Parcel 69, is classified as saline estuarine (**Section 2.4.3**). Parameters detected in sediment samples are presented in **Table B-11**.

PCBs. No PCBs were detected in surface sediment samples at Parcel 69. PCBs are not considered COPECs in sediment at Parcel 69.

VOCs. Three VOCs (acetone, carbon disulfide, and methylene chloride) were detected in sediment samples. VOCs are not considered COPECs in sediment at Parcel 69.

SVOCs. Five SVOCs were detected in surface sediment samples at Parcel 69. All five of the detected SVOCs exceeded the available saltwater sediment ESC. Di-*n*-butyl phthalate was detected in both samples at concentrations ranging from 1.20 to 4.80 mg/kg. As noted previously, phthalates are common laboratory contaminants and are often found at low concentrations in both field and laboratory QC samples. Bis(2-ethylhexyl) phthalate is not considered a COPEC in surface sediment at Parcel 69. Acenaphthene in two samples (0.50 and 1.2 mg/kg), fluoranthene (0.79 and 2.8 mg/kg), phenanthrene in one sample (0.25 mg/kg), and pyrene (1.1 and 3.1 mg/kg) exceeded the saltwater ESC of 0.016, 0.6, 0.24, and 0.665 mg/kg, respectively. Acenaphthene, fluoranthene, phenanthrene, and pyrene are considered COPECs in sediment at Parcel 69.

Metals. Of the 20 metals detected in sediment at Parcel 49, 14 were detected in at least one sediment sample each at concentrations exceeding the applicable saltwater sediment ESC. Aluminum was detected in both sediment samples and one concentration (4.13%) exceeded the saltwater sediment ESC (1.8%). Aluminum, like iron, is a major component of soil and sediment, and is usually not considered a COPEC except in very low pH environments. Aluminum is not considered a COPEC at Parcel 69. Arsenic was detected in all samples and one concentration (36.2 mg/kg) exceeded the ESC (8.2 mg/kg). Barium was detected in all samples and one concentration (89.6 mg/kg) exceeded the ESC (48 mg/kg). Cadmium was detected in one sample and the concentration (14.1 mg/kg) exceeded the ESC (1.2 mg/kg). Chromium was detected in all samples and the concentrations (74.5 to 345 mg/kg) were greater than the ESC (81 mg/kg). Cobalt was detected in both samples and one concentration (20.3 mg/kg) exceeded the ESC (10 mg/kg). Copper was detected in all samples and one concentration (203 mg/kg) exceeded the ESC (34 mg/kg). Lead was detected in both samples and one concentration (410 mg/kg) exceeded the ESC (47 mg/kg). Manganese was detected in both samples and one concentration (339 mg/kg) exceeded the ESC (260 mg/kg). Mercury was detected in one sample and the concentration (0.83 mg/kg) exceeded the ESC (0.15 mg/kg). Nickel was detected in all samples and one concentration (53.1 mg/kg) exceeded the ESC (21 mg/kg). Silver was detected in one sample and the concentration (9.99 mg/kg) exceeded the ESC (1 mg/kg). Vanadium was detected in all samples and one concentration (185 mg/kg) exceeded the ESC (57 mg/kg). Zinc was detected in all samples and one concentration (515 mg/kg) exceeded the ESC (150 mg/kg). Arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, silver, vanadium, and zinc are considered COPECs in sediment at Parcel 69.

3.4.2.16.5 Summary of COPECs for Parcel 69

Parameters detected in soil, groundwater, surface water, or sediment at Building 900 (Parcel 69) at concentrations greater than the applicable ESC were identified as COPECs for the site. Though copper was not detected in surface water at Parcel 69, its MDLs were greater than the saltwater ESC. Given that copper was identified as a COPEC in soil and sediment, it is considered a possible COPEC in surface water. Several PAHs [acenaphthylene, anthracene, benzo(*a*)anthracene, benzo(*g,h,i*)perylene, benzo(*k*)fluoranthene, dibenzo(*a,h*)anthracene, fluorene, indeno(1,2,3-*cd*)pyrene, 2-methylnaphthalene, and naphthalene] were not detected in sediment samples but their detection limits were greater than the saltwater sediment ESC in both samples. These PAHs were not identified as COPECs in other site media and are not considered COPECs for sediment. The COPECs, and possible COPECs, identified for Parcel 69 are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
Not Applicable	None	None	None
Pesticides			
Not Applicable	Not Applicable	Not Applicable	Not Applicable
PCBs			
None	Not Applicable	None	None

Soil	Groundwater	Surface Water	Sediment
SVOCs			
None	None	None	Acenaphthene Fluoranthene Phenanthrene Pyrene
Metals			
Chromium Copper Lead Mercury Vanadium Zinc	Not Applicable	None	Arsenic Barium Cadmium Chromium Cobalt Copper Lead Manganese Mercury Nickel Silver Vanadium Zinc
Possible COPECs			
		Copper	

3.4.3 CHARLES WOOD AREA

3.4.3.1 LANDFILL, SITE CW-3A, FTMM-25

Near surface soil, groundwater, surface water, and sediment analytical data were evaluated for the identification of COPECs related to Landfill CW-3A (FTMM-25).

3.4.3.1.1 COPECs for Soil at Landfill CW-3A

Near surface (6-12 inches bgs) soil samples were collected from Landfill CW-3A (FTMM-25) as part of the IRP RI investigation (Versar, 2005b). A total of 48 samples were analyzed for SVOCs, pesticides, PCBs, and metals. Parameters detected in near surface soil samples are presented in **Table A-9**.

SVOCs. A total of 21 SVOCs were detected in near surface soil samples from Landfill CW-3A (FTMM-25). Of these 21 SVOCs, two were detected at concentrations exceeding the soil ESC in at least one sample. Naphthalene was detected in one sample at a concentration greater than the 0.0994 mg/kg ESC. Bis(2-ethylhexyl) phthalate was detected in two samples at concentrations exceeding the 0.925 mg/kg ESC. As noted elsewhere, bis(2-ethylhexyl) phthalate is commonly found in field and laboratory QC samples, and bis(2-ethylhexyl) phthalate is not considered a COPEC. Naphthalene is considered a COPEC in soil at Landfill CW-3A (FTMM-25).

Pesticides. Six pesticides were detected in near surface soil samples from Landfill CW-3A (FTMM-25). Four of these pesticides were detected at concentrations exceeding the soil ESC in at least one sample. 4,4′-DDT was detected in half of the 48 samples and the majority of these had concentrations that were greater than the 0.0035 mg/kg ESC. Dieldrin was detected in four samples and the concentrations were greater than the 0.049 mg/kg ESC. Endrin aldehyde and heptachlor were detected in one sample each at concentrations exceeding the 0.0105 and 0.0538 mg/kg ESC, respectively. 4,4′-DDT, endrin aldehyde, dieldrin, and heptachlor are considered COPECs at Landfill CW-3A (FTMM-25).

PCBs. Two Aroclors were detected in near surface soil samples from Landfill CW-3A (FTMM-25). Aroclor 1260 and Aroclor 1254 were detected in one sample each. The concentration of Aroclor 1254 exceeded the 0.371 mg/kg ESC. Aroclor 1254 is considered a COPEC in soil at Landfill CW-3A (FTMM-25).

Metals. A total of 22 metals were detected in near surface soil samples from Landfill CW-3A (FTMM-25) of which most metals were detected in the majority of the samples. Silver was detected

infrequently, being detected in seven samples; selenium was detected in less than half the samples (14 of 48). Fourteen metals (aluminum, antimony, arsenic, barium, cadmium, chromium, copper, lead, manganese, mercury, selenium, silver, vanadium, and zinc) were detected at concentrations exceeding the soil ESC. Aluminum, like iron, is a common component of soils and sediments and is not considered a COPEC except in conditions of very low pH where aluminum could be bioavailable; aluminum is not considered a COPEC in soil at Landfill CW-3A. Antimony, arsenic, barium, cadmium, chromium, copper, lead, manganese, mercury, selenium, silver, vanadium, and zinc are considered COPECs in soil at Landfill CW-3A (FTMM-25).

3.4.3.1.2 COPECs for Groundwater at Landfill CW-3A (FTMM-25)

Four groundwater monitoring wells at Landfill CW-3A (FTMM-25) have been monitored for metals during the 2008-2009 time period. Shrewsbury Creek could receive groundwater discharge from Landfill CW-3A (FTMM-25). Shrewsbury Creek, in the vicinity of Landfill CW-3A (FTMM-25), is classified as freshwater (**Section 2.4.3**). Parameters detected in groundwater samples are presented in **Table C-10**.

Metals. A total of 10 metals were detected in groundwater samples from Landfill CW-3A (FTMM-25) during the 2008-2009 time period. Of these 10, six (barium, cadmium, chromium, copper, lead, and selenium) were detected in at least one groundwater sample at concentrations exceeding the freshwater ESC. Barium concentrations in one well (CW3AMW02) were all greater than the 220 µg/L freshwater ESC. Barium did not exceed the ESC in any of the other three monitoring wells during this period. Most of the concentrations of copper from one well (CW3AMW03) exceeded the 6.5 µg/L site-specific freshwater ESC. Copper did not exceed the ESC in any of the other three monitoring wells during this period. Chromium was detected in one sample at a concentration greater than the freshwater ESC (19 µg/L). Cadmium, lead, and selenium were detected at concentrations exceeding the ESC in most, if not all, of the wells in at least one sample. Barium, cadmium, chromium, copper, lead, and selenium are considered COPECs in groundwater at Landfill CW-3A (FTMM-25).

3.4.3.1.3 COPECs for Surface Water at Landfill CW-3A (FTMM-25)

Two surface water samples were collected from Shrewsbury Creek adjacent to Landfill CW-3A (FTMM-25) as part of the 2010 BEE. One surface water sample was collected downstream of the stormwater outfall at the western end of Landfill CW-3A (**Appendix K**), and the other surface water sample was collected downgradient of that location. Shrewsbury Creek, in the vicinity of Landfill CW-3A (FTMM-25), is classified as freshwater (**Section 2.4.3**). Parameters detected in surface water samples are presented in **Table D-33**.

VOCs. One VOC was detected in at least one of the two surface water samples. Toluene was detected at a concentration (6.8 µg/L) less than the freshwater ESC. VOCs are not considered COPECs in surface water at Landfill CW-3A (FTMM-25).

SVOCs. Three SVOCs were detected in at least one of the two surface water samples. One sample had a concentration of 3,3′-dichlorobenzidine (0.61 µg/L) less than the freshwater ESC. Anthracene (0.11 µg/L) and benzo(*a*)pyrene (0.31 µg/L) were detected greater than the freshwater ESC (0.035 and 0.014 µg/L, respectively). Anthracene and benzo(*a*)pyrene are considered COPECs in surface water at Landfill CW-3A (FTMM-25).

PCBs. PCBs were not detected in surface water samples and are not considered COPECs in surface water at Landfill CW-3A (FTMM-25).

Pesticides. Pesticides were not detected in surface water samples and are not considered COPECs in surface water at Landfill CW-3A (FTMM-25).

Metals. A total of 18 metals were detected in surface water samples at Landfill CW-3A (FTMM-25). Of these 18, four were detected at concentrations exceeding the freshwater ESC. Total copper (8.48 µg/L) and total lead (6.18 and 8.81 µg/L) were detected at concentrations exceeding the freshwater ESC for dissolved copper (6.5 µg/L) and dissolved lead (5.4 µg/L); dissolved copper and dissolved lead were not detected. Copper and lead are not considered COPECs in surface water. Total cadmium (0.97 µg/L) and dissolved cadmium (0.79 µg/L) were detected at concentrations greater than the freshwater ESC (0.14 µg/L) in one surface water sample, and total zinc (117 µg/L) and dissolved zinc

(99.8 µg/L) were detected greater than the freshwater ESC (88 µg/L) in one surface water sample. Cadmium and zinc are considered COPECs in surface water at Landfill CW-3A (FTMM-25).

3.4.3.1.4 COPECs for Sediment at Landfill CW-3A (FTMM-25)

Six sediment samples were collected from Shrewsbury Creek adjacent to Landfill CW-3A (FTMM-25) as part of the 2010 BEE. Sediment sample locations were based on previous sediment sampling conducted for the RI and were located in the field based on depositional characteristics and potential contaminant migration pathways and included storm water outfalls (**Appendix K**) into Shrewsbury Creek in the vicinity of Landfill CW-3A (FTMM-25) from the area of Buildings 2707 and 2713 in Parcel 27 (**Section 3.4.3.4**). Shrewsbury Creek, in the vicinity of Landfill CW-3A (FTMM-25), is classified as freshwater (**Section 2.4.3**). Parameters detected in sediment samples are presented in **Table D-34**.

VOCs. Four VOCs (acetone, methylene chloride, toluene, and 2-butanone) were detected in at least one sediment sample each, but none were detected at concentrations exceeding the ESC.

PCBs. No PCBs were detected in sediment samples at Landfill CW-3A (FTMM-25).

Pesticides. Three pesticides (4,4'-DDT, 4,4'-DDE, and 4,4'-DDD) were detected in at least one sediment sample each from Landfill CW-3A. Only one sample had a 4,4'-DDD concentration (0.013 mg/kg) exceeding the freshwater sediment ESC (0.008 mg/kg), and 4,4'-DDD is considered a COPEC in sediment at Landfill CW-3A (FTMM-25).

SVOCs. A total of 16 SVOCs were detected in surface sediment samples at Landfill CW-3A (FTMM-25). Of the 16 detected SVOCs, 12 were detected in one sediment sample (CW3-SD6) at concentrations exceeding the freshwater ESC; these were all PAHs: 0.78 mg/kg acenaphthene, 4.1 mg/kg anthracene, 7.0 mg/kg benzo(a)anthracene, 4.6 mg/kg benzo(a)pyrene, 2.0 mg/kg benzo(*g,h,i*)perylene, 2.3 mg/kg benzo(*k*)fluoranthene, 5.6 mg/kg chrysene, 17 mg/kg fluoranthene, 1.4 mg/kg fluorene, 2.0 mg/kg indeno(1,2,3-*cd*)pyrene, 15 mg/kg phenanthrene, and 13 mg/kg pyrene. Acenaphthene, anthracene, benzo(*a*)anthracene, benzo(*a*)pyrene, benzo(*g,h,i*)perylene, benzo(*k*)fluoranthene, chrysene, fluoranthene, fluorene, indeno(1,2,3-*cd*)pyrene, phenanthrene, and pyrene are considered COPECs in sediment at Landfill CW-3A (FTMM-25).

Metals. Of the 20 metals detected in sediment at Landfill CW-3A (FTMM-25), five (arsenic, cadmium, chromium, copper, and lead) were detected in at least one sample at concentrations exceeding the freshwater sediment ESC. Arsenic concentrations in one sample (6.59 mg/kg), cadmium concentrations in three samples (1.07 to 3.38 mg/kg), chromium concentrations in five samples (29.3 to 145 mg/kg), copper concentrations in two samples (23.3 and 31.6 mg/kg), and lead in one sample (31.2 mg/kg) exceeded the ESC of 6, 0.6, 26, 16, and 31 mg/kg, respectively. Though there are no freshwater sediment ESC for barium, selenium, and vanadium, detected concentrations of these metals were detected at concentrations greater than the available saltwater sediment ESC. These metals were identified as COPECs in other environmental media at Landfill CW-3A (FTMM-25) and are considered COPECs in sediment. Arsenic, barium, cadmium, chromium, copper, lead, selenium, and vanadium are considered COPECs in sediment at Landfill CW-3A (FTMM-25).

3.4.3.1.5 Summary of COPECs for Landfill CW-3A (FTMM-25)

Parameters detected in soil, groundwater, surface water, or sediment at Landfill CW-3A (FTMM-25) at concentrations greater than the applicable ESC were identified as COPECs for the site. Though silver was not detected in surface water at Landfill CW-3A (FTMM-25), its MDLs were greater than the freshwater ESC. Given that silver is considered a COPEC in sediment (though not in soil or groundwater), it is considered a possible COPEC in surface water. The COPECs, and possible COPECs, identified for Landfill CW-3A (FTMM-25) are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
Not Applicable	Not Applicable	None	None
Pesticides			
DDT	Not Applicable	None	DDD

Soil	Groundwater	Surface Water	Sediment
Dieldrin Endrin aldehyde Heptachlor			
PCBs			
Aroclor 1254	Not Applicable	None	None
SVOCs			
Naphthalene	Not Applicable	Anthracene Benzo(a)pyrene	Acenaphthene Anthracene Benzo(*a*)anthracene Benzo(*a*)pyrene Benzo(*g,h,i*)perylene Benzo(*k*)fluoranthene Chrysene Fluoranthene Fluorene Indeno(1,2,3-*cd*)pyrene Phenanthrene Pyrene
Metals			
Antimony Arsenic Barium Cadmium Chromium Copper Lead Manganese Mercury Selenium Silver Vanadium Zinc	Barium Cadmium Chromium Copper Lead Selenium	Cadmium Zinc	Arsenic Barium Cadmium Chromium Copper Lead Selenium Vanadium
Possible COPECs			
		Silver	

3.4.3.2 FORMER PESTICIDE STORAGE AREA, SITE CW-6 (FTMM-28)

Surface soil, groundwater, surface water, and wetland sediment analytical data were evaluated for the identification of COPECs related to the Former Pesticide Storage Area, Site CW-6 (FTMM-28).

3.4.3.2.1 COPECs for Soil at Former Pesticide Storage Area, Site CW-6 (FTMM-28)

Four surface soil samples were collected as part of the 2010 BEE at Site CW-6 (FTMM-28). Parameters detected in sediment samples are presented in **Table D-35**.

VOCs. Five VOCs were detected in surface soil samples at Site CW-6 (FTMM-28). None of the VOCs were detected at concentrations exceeding the soil ESC. VOCs are not considered COPECs in soil at Site CW-6 (FTMM-28).

SVOCs. Fifteen SVOCs were detected in surface soil samples at Site CW-6 (FTMM-28). One SVOC, chrysene, was detected at a concentration (22 mg/kg) greater than the soil ESC (4.73 mg/kg). Chrysene is considered a COPEC in soil at Site CW-6 (FTMM-28).

Pesticides. Five pesticides were detected in surface soil samples at Site CW-6 (FTMM-28). Dieldrin (0.0092 mg/kg) and 4,4'-DDT (0.021 to 0.23 mg/kg) were detected in at least one soil sample each greater than the soil ESC of 0.049 and 0.0035 mg/kg, respectively. Dieldrin and 4,4'-DDT are considered COPECs in soil at Site CW-6 (FTMM-28).

PCBs. No PCBs were detected in surface soil samples at Site CW-6 (FTMM-28). PCBs are not considered COPECs in surface soil at Site CW-6 (FTMM-28).

Metals. A total of 23 metals were detected in surface soil samples at Site CW-6 (FTMM-28). Eleven metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, selenium, vanadium, and zinc) were detected exceeding the ESC in at least one of the surface soil samples from Site CW-6 (FTMM-28). Aluminum (1,640 to 6,740 mg/kg), antimony (0.62 to 3.06 mg/kg), chromium (13.1 to 55.2 mg/kg), lead (30.9 to 356 mg/kg), mercury (0.218 to 8.1 mg/kg), selenium (1.1 to 7.61 mg/kg), vanadium (12.3 to 55.6 mg/kg), and zinc (42.5 to 373 mg/kg) were detected at concentrations exceeding the ESC in all four of the surface soil samples. Aluminum, like iron, is a common component of soils and sediments and is not considered a COPEC except in conditions of very low pH where aluminum could be bioavailable; aluminum is not considered a COPEC in soil at Landfill Site CW-6. Antimony, arsenic, cadmium, chromium, copper, lead, mercury, selenium, vanadium, and zinc are considered COPECs in soil at CW-6 (FTMM-28).

3.4.3.2.2 COPECs for Groundwater at Former Pesticide Storage Area, Site CW-6 (FTMM-28)

Four groundwater monitoring wells at Site CW-6 (FTMM-28) have been monitored during the 2008-2009 time period. Sampling for SVOCs and VOCs was discontinued after the November 2004 sampling event per NJDEP approval letter dated November 2004. SVOCs and VOCs are not considered COPECs in groundwater at Landfill 2. Wampum Brook could receive groundwater discharge from Site CW-6 (FTMM-28). Wampum Brook, in the vicinity of Site CW-6 (FTMM-28), is classified as freshwater (**Section 2.4.3**). Parameters detected in groundwater samples are presented in **Table C-11**.

Metals. A total of 11 metals were detected in groundwater samples from Site CW-6 (FTMM-28) during the 2008-2009 time period. Of these 11, four (cadmium, copper, lead, and selenium) were detected in at least one groundwater sample at concentrations exceeding the freshwater ESC. Lead concentrations in one well (CW6MW01) during two quarters in 2008 were greater than the 5.4 µg/L freshwater ESC. Copper exceeded the site-specific freshwater ESC for dissolved copper of 8.1 µg/L in two of the monitoring wells. Cadmium and selenium were detected at concentrations exceeding the ESC (0.14 and 5 µg/L, respectively) in all of the wells in at least one sample. Cadmium, copper, lead, and selenium are considered COPECs in groundwater at Landfill CW-3A.

3.4.3.2.3 COPECs for Surface Water at Former Pesticide Storage Area, Site CW-6 (FTMM-28)

Two surface water samples were collected as part of the 2010 BEE at Site CW-6 (FTMM-28). These were located upstream of Site CW-6 (FTMM-28) where Wampum Brook enters the CWA and downstream of Site CW-6 (FTMM-28) where Wampum Brook exits the CWA. Wampum Brook, in the vicinity of Site CW-6 (FTMM-28), is classified as freshwater (**Section 2.4.3**). Parameters detected in surface water samples are presented in **Table D-36**.

VOCs. One VOC was detected in surface water samples at Site CW-6 (FTMM-28). MTBE was detected in one sample at a concentration less than the freshwater ESC. VOCs are not considered COPECs in surface water at Site CW-6 (FTMM-28).

PCBs. One PCB mixture was detected in surface water samples at Site CW-6 (FTMM-28). Aroclor 1242 was detected in both surface water samples at concentrations (0.13 and 0.3 µg/L) exceeding the freshwater ESC (0.014 µg/L). Aroclor 1242 is considered a COPEC in surface water at Site CW-6 (FTMM-28).

SVOCs. No SVOCs were detected in surface water samples. SVOCs are not considered COPECs in surface water at Site CW-6 (FTMM-28).

Pesticides. No pesticides were detected in surface water samples. Pesticides are not considered COPECs in surface water at Site CW-6 (FTMM-28).

Metals. A total of 13 metals were detected in surface water samples at Site CW-6 (FTMM-28). Of these 13, three (cadmium, lead, and zinc) were detected at concentrations exceeding the freshwater ESC in at least one sample. Total cadmium (0.52 and 1.13 µg/L) and dissolved cadmium (0.8 µg/L) were detected greater than the site-specific freshwater ESC (0.14 µg/L) and total cobalt (29.4 µg/L) and dissolved cobalt (28.7 µg/L) were exceeded the freshwater ESC (24 µg/L) in one surface water sample. This sediment sample was collected from Wampum Brook upstream of Site CW-6 (FTMM-28) at the

upgradient boundary of the CWA. Cobalt is not considered a COPEC in surface water at Site CW-6 (FTMM-28). Total lead (7.94 and 8.09 µg/L) and dissolved lead (6.32 and 8.79 µg/L) were detected at concentrations exceeding the freshwater ESC (5.4 µg/L) in both samples. Cadmium and lead are considered COPECs in surface water at Site CW-6 (FTMM-28).

3.4.3.2.4 COPECs for Sediment at Former Pesticide Storage Area, Site CW-6 (FTMM-28)

Four sediment samples were collected from the wetland area southwest of Site CW-6 (FTMM-28) and two sediment samples were collected from Wampum Brook as part of the 2010 BEE. Wampum Brook, in the vicinity of Site CW-6 (FTMM-28), is classified as freshwater (**Section 2.4.3**). Parameters detected in sediment samples are presented in **Table D-37**.

VOCs. Five VOCs (acetone, methylene chloride, styrene, toluene, and 2-butanone) were detected in at least one sediment sample each, but none were detected at concentrations exceeding the freshwater sediment ESC. VOCs are not considered COPECs in wetland sediments at Site CW-6 (FTMM-28).

Pesticides. One pesticide (4,4'-DDE) was detected in one wetland sediment sample from Site CW-6 (FTMM-28). The concentration (0.006 mg/kg) exceeded the freshwater sediment ESC (0.005 mg/kg) and 4,4'-DDE is considered a COPEC in sediment at Site CW-6 (FTMM-28).

PCBs. Two PCB mixtures (Aroclor 1242 and Aroclor 1260) were detected in one sediment sample each. Aroclor 1260 was detected in one wetland sediment sample at a concentration (0.1 mg/kg) which exceeds the freshwater sediment ESC (0.005 mg/kg); Aroclor 1242 was detected at a concentration less than the freshwater sediment ESC for PCBs (0.07 mg/kg). Aroclor 1260 is considered a COPEC in wetland sediment at Site CW-6 (FTMM-28).

SVOCs. A total of 20 SVOCs were detected in surface sediment samples at Site CW-6 (FTMM-28). Of the 20 detected SVOCs, 15 were detected in one sediment sample (CW6-SD6) at concentrations exceeding the ESC; these were all PAHs: 0.47 mg/kg acenaphthene, 1.6 mg/kg acenaphthylene, 0.3 mg/kg anthracene, 1.0 mg/kg benzo(*a*)anthracene, 1.2 mg/kg benzo(*a*)pyrene, 0.89 mg/kg benzo(*g,h,i*)perylene, 0.74 mg/kg benzo(*k*)fluoranthene, 1.9 mg/kg chrysene, 4.9 mg/kg fluoranthene, 0.82 mg/kg fluorene, 0.98 mg/kg indeno(1,2,3-*cd*)pyrene, 1.3 mg/kg 2-methylnaphthalene, 4.4 mg/kg naphthalene, 8.3 mg/kg phenanthrene, and 3.3 mg/kg pyrene. This sediment sample was collected from Wampum Brook upstream of Site CW-6 (FTMM-28) at the upgradient boundary of the CWA. These PAHs are not considered COPECs in sediment at Site CW-6 (FTMM-28). One SVOC (2,4-dinitrophenol) was detected in two wetland sediment samples at concentrations (1.2 and 1.7 mg/kg) that exceeded the freshwater sediment ESC (0.00621 mg/kg). Thus, 2,4-dinitrophenol is considered a COPEC in wetland sediments at Landfill CW-6 (FTMM-28).

Metals. Of the 22 metals detected in sediment at Site CW-6 (FTMM-28), nine (arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc) were detected in at least one sample at concentrations exceeding the freshwater sediment ESC. Arsenic concentrations in two wetland samples (11.7 and 13.1 mg/kg), cadmium concentrations in five samples (0.9 to 5.56 mg/kg), chromium concentrations in six samples (35.3 to 150 mg/kg), copper concentrations in four samples (26.2 to 56.2 mg/kg), lead in four samples (124 to 218 mg/kg), mercury in three samples (0.426 to 6.6 mg/kg), nickel in three samples (16.2 to 56.2 mg/kg), silver in four samples (1.1 to 12.1 mg/kg), and zinc in one sample (168 mg/kg) exceeded the ESC of 6, 0.6, 26, 16, 31, 0.2, 16, 1.0, and 120 mg/kg, respectively. Though there are no freshwater sediment ESC for barium, selenium, and vanadium, detected concentrations of these metals were detected at concentrations greater than the available saltwater sediment ESC. Of these metals, selenium and vanadium were identified as COPECs in other environmental media at Site CW-6 (FTMM-28) and are considered COPECs in sediment. Arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, vanadium, and zinc are considered COPECs in sediment at Site CW-6 (FTMM-28).

3.4.3.2.5 Summary of COPECs for Site CW-6 (FTMM-28)

Parameters detected in soil, groundwater, surface water, or sediment at Site CW-6 (FTMM-28) at concentrations greater than the applicable ESC were identified as COPECs for the site. Though silver

and 4,4′-DDE were not detected in surface water at Landfill CW-6 (FTMM-28), their MDLs were greater than the freshwater ESC. Given that silver and 4,4′-DDE are considered COPECs in sediment (though not in soil or groundwater), they are considered possible COPECs in surface water. The COPECs, and possible COPECs, identified for Landfill CW-6 are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
None	None	None	None
Pesticides			
DDT Dieldrin	Not Applicable	None	DDE
PCBs			
None	Not Applicable	Aroclor 1242	Aroclor 1260
SVOCs			
Chrysene	None	None	2,4-Dinitrophenol
Metals			
Antimony Arsenic Cadmium Chromium Copper Lead Mercury Selenium Vanadium Zinc	Cadmium Copper Lead Selenium	Cadmium Lead	Arsenic Cadmium Chromium Copper Lead Mercury Nickel Selenium Silver Vanadium Zinc
Possible COPECs			
		DDE Silver	

3.4.3.3 BUILDING 2700 (ECP PARCEL 15)

Groundwater, surface water, and sediment analytical data were evaluated for the identification of COPECs related to Building 2700 and ECP Parcel 15.

3.4.3.3.1 COPECs for Groundwater at Building 2700 (Parcel 15)

Seven groundwater samples (including one duplicate sample) were collected from six distinct temporary wells as part of the ECP SI (Shaw, 2008). These were located along the downgradient boundary of the parcel along Shrewsbury Creek. Shrewsbury Creek could receive groundwater discharge from Parcel 15. Shrewsbury Creek, in the vicinity of Parcel 15, is classified as freshwater (**Section 2.4.3**). Parameters detected in groundwater samples are presented in **Table B-12**.

VOCs. One VOC, toluene, was detected in one groundwater sample but at a concentration less than the ESC. VOCs are not considered COEPCs in groundwater at Parcel 15.

SVOCs. One SVOC, bis(2-ethylhexyl) phthalate, was detected in three groundwater samples at concentrations from 1.19 to 4.04 µg/L exceeding the freshwater ESC of 0.3 µg/L. Bis(2-ethylhexyl) phthalate, a commonly used plasticizer, is present in a wide variety of plastic products and is commonly detected in field and laboratory QC samples. It was detected in the field blank associated with Parcel 15 groundwater sampling (Shaw, 2008) and it is not considered a COPEC in groundwater at Parcel 15.

Metals. A total of 19 metals were detected in Parcel 15 groundwater samples. Of the 19 metals detected, seven (barium, cadmium, chromium, copper, lead, selenium, and vanadium) were detected at least once at concentrations greater than the respective freshwater ESC. Barium, cadmium, chromium, copper, lead, selenium, and vanadium are considered COPECs in groundwater at Parcel 15.

3.4.3.3.2 COPECs for Surface Water at Building 2700 (ECP Parcel 15)

Two surface water samples were collected from Shrewsbury Creek adjacent to Parcel 15 as part of the 2010 BEE. These samples were collected at the discharge points of an underground stream diversion near the southwest end of Building 2525 and of a stormwater pipe outfall (**Appendix K**). Shrewsbury Creek, in the vicinity of Parcel 15, is classified as freshwater (**Section 2.4.3**). Parameters detected in surface water samples are presented in **Table D-38**.

VOCs. No VOCs were detected in surface water samples at Parcel 15. VOCs are not considered COPECs in surface water at Parcel 15.

SVOCs. No SVOCs were detected in surface water samples at Parcel 15. SVOCs are not considered COPECs in surface water at Parcel 15.

PCBs. No PCBs were detected in surface water samples at Parcel 15. PCBs are not considered COPECs in surface water at Parcel 15.

Metals. A total of 12 metals were detected in Parcel 15 surface water samples. Of the 12 metals detected, two (cadmium and lead) were detected at least once exceeding the freshwater ESC. Total cadmium was detected in one surface water sample at a concentration of 0.55 µg/L which exceeds the freshwater ESC of 0.15 µg/L. However, the ESC is based on dissolved cadmium and cadmium was not detected in either of the filtered surface water samples from Parcel 15; cadmium is not considered a COPEC in surface water at Parcel 15. Lead was detected in all surface water samples from Parcel 15. Total lead concentrations ranged from 6.84 to 8.3 µg/L and dissolved lead concentrations ranged from 4.33 to 8.27 µg/L. The freshwater ESC for lead of 5.4 µg/L is based on dissolved lead and one of the two filtered surface water samples had a lead concentration above the ESC. Lead is considered a COPEC in surface water at Parcel 15.

3.4.3.3.3 COPECs for Sediment at Building 2700 (ECP Parcel 15)

A total of three surface sediment samples were collected from three stormwater outfall locations within Shrewsbury Creek adjacent to Parcel 15 as part of the ECP SI (Shaw, 2008). These samples were collected at the discharge points of an underground stream diversion near the southwest end of Building 2525 and of two other stormwater pipe outfalls (**Appendix K**). Shrewsbury Creek, in the vicinity of Parcel 15, is classified as freshwater (**Section 2.4.3**). Parameters detected in sediment samples are presented in **Table B-13**.

SVOCs. A total of 10 SVOCs were detected in Parcel 15 surface sediment samples. One SVOC, bis(2-ethylhexyl) phthalate, was detected in one of three surface sediment samples with a concentration of 1.3 mg/kg which exceeds the freshwater sediment ESC of 0.182 mg/kg. As noted previously, phthalates are common laboratory contaminants and are often found at low concentrations in both field and laboratory QC samples. Bis(2-ethylhexyl) phthalate is not considered a COPEC in surface sediment at Parcel 15.

Metals. A total of 18 metals were detected in Parcel 15 surface sediment samples. Only one metal was detected in surface sediment samples from Parcel 15 at concentrations exceeding the freshwater sediment ESC. Total chromium was detected at concentrations ranging from 29.4 to 37.0 mg/kg. These are above the 26 mg/kg ESC, and chromium is considered a COPEC in sediment at Parcel 15.

3.4.3.3.4 Summary of COPECs for Parcel 15

Parameters detected in soil, groundwater, surface water, or sediment at Building 2700 (Parcel 15) at concentrations greater than the applicable ESC were identified as COPECs for the site. Though cadmium was not detected in filtered surface water samples at Parcel 15, their MDLs were greater than the freshwater ESC. Given that cadmium was detected at concentrations exceeding the freshwater ESC in unfiltered surface water samples and cadmium is considered a COPEC in groundwater, it is considered a possible COPEC in surface water. The COPECs, and possible COPECs, identified for Parcel 15 are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
Not Applicable	None	None	Not Applicable
Pesticides			
Not Applicable	Not Applicable	Not Applicable	Not Applicable
PCBs			
Not Applicable	Not Applicable	None	Not Applicable
SVOCs			
Not Applicable	None	None	None
Metals			
Not Applicable	Barium Cadmium Chromium Copper Lead Selenium Vanadium	Lead	Chromium
Possible COPECs			
		Cadmium	

3.4.3.4 BUILDINGS 2507 AND 2704 (ECP PARCEL 27)

Surface soil, surface water, and sediment analytical data were evaluated for the identification of COPECs related to Buildings 2507 and 2704 in ECP Parcel 27.

3.4.3.4.1 COPECs for Surface Soil at Buildings 2507 and 2704 (ECP Parcel 27)

Three surface soil samples (including one duplicate) were collected at Parcel 27 as part of the SI (Shaw, 2008). Parameters detected in surface soil samples are presented in **Table B-14**.

VOCs. No VOCs were detected in surface soil samples at Parcel 27. VOCs are not considered COPECs in surface soil.

PCBs. No PCBs were detected in surface soil samples at Parcel 27. PCBs are not considered COPECs in surface soil.

SVOCs. A total of eight SVOCs were detected in surface soil samples. Of these, only one was detected greater than the soil ESC. Bis(2-ethylhexyl) phthalate was detected in the duplicate sample at a concentration (0.940 mg/kg) which exceeds the 0.92954 mg/kg soil ESC. As noted elsewhere, bis(2-ethylhexyl) phthalate is commonly found in field and laboratory QC samples, and bis(2-ethylhexyl) phthalate is not considered a COPEC. SVOCs are not considered COPECs in soil at Parcel 27.

Metals. A total of 18 metals were detected in surface soil samples at Parcel 27. Of these, 10 (aluminum, arsenic, cadmium, chromium, copper, lead, manganese, mercury, vanadium, and zinc) were detected in at least one surface soil sample each above the soil ESC. Aluminum, like iron, is a common component of soils and sediments and is not considered a COPEC except in conditions of very low pH where aluminum could be bioavailable; aluminum is not considered a COPEC in soil at Parcel 27. Arsenic, cadmium, chromium, copper, lead, manganese, mercury, vanadium, and zinc are considered COPECs at Parcel 27.

3.4.3.4.2 COPECs for Surface Water at Buildings 2507 and 2704 (ECP Parcel 27)

Two surface water samples were collected from Shrewsbury Creek adjacent to Parcel 27, at an outfall and at an additional location downstream, as part of the 2010 BEE. One surface water sample was collected at a stormwater outfall and the other was collected downstream of that location. Shrewsbury Creek, in the vicinity of Parcel 27, is classified as freshwater (**Section 2.4.3**). Parameters detected in surface water samples are presented in **Table D-39**.

VOCs. No VOCs were detected in surface water samples at Parcel 27. VOCs are not considered COPECs in surface water at Parcel 27.

SVOCs. No SVOCs were detected in surface water samples at Parcel 27. SVOCs are not considered COPECs in surface water at Parcel 27.

PCBs. No PCBs were detected in surface water samples at Parcel 27. PCBs are not considered COPECs in surface water at Parcel 27.

Metals. A total of 14 metals were detected in Parcel 27 surface water samples. Of the 14 metals detected, three (cadmium, chromium, and lead) were detected at least once exceeding the freshwater ESC. Total cadmium was detected at concentrations of 0.76 and 0.88 µg/L and dissolved cadmium was detected at concentrations of 0.52 and 0.69 µg/L; these exceed ESC for dissolved cadmium of 0.16 µg/L. Chromium was detected in one filtered sample at a concentration (28.5 µg/L) greater than the ESC for dissolved chromium of 21 µg/L. Total lead was detected at concentrations of 5.46 and 10.6 µg/L and dissolved lead was detected at concentrations of 5.77 and 8.18 µg/L; these exceed the freshwater ESC for dissolved lead of 5.4 µg/L. Cadmium, chromium, and lead are considered COPECs in surface water at Parcel 27.

3.4.3.4.3 COPECs for Sediment at Buildings 2507 and 2704 (ECP Parcel 27)

Two surface sediment samples were collected from Shrewsbury Creek adjacent to Parcel 27, at an outfall and at an additional location downstream as part of the ECP SI (Shaw, 2008). One sediment sample was collected at a stormwater outfall and the other was collected downstream of that location. Shrewsbury Creek, in the vicinity of Parcel 27, is classified as freshwater (**Section 2.4.3**). Parameters detected in surface sediment samples are presented in **Table B-15**.

SVOCs. A total of seven SVOCs were detected in Parcel 27 surface sediment samples. None of the SVOCs detected in surface sediment samples exceeded the freshwater sediment ESC. SVOCs are not considered COPECs in sediment at Parcel 27.

Of the 17 metals detected, six (arsenic, cadmium, chromium, copper, lead, and zinc) were detected at concentrations exceeding the freshwater sediment ESC. Arsenic (6.11 mg/kg), copper (187 mg/kg), lead (84.9 mg/kg), and zinc (264 mg/kg) were detected greater than their ESC of 6, 16, 31, and 120 mg/kg, respectively, in one of the two surface sediments collected at Parcel 27. Cadmium (0.715 and 1.76 mg/kg) and total chromium (49.8 and 49.6 mg/kg) were detected at concentrations exceeding the ESC (0.6 and 26 mg/kg, respectively) in both surface sediment samples. Arsenic, cadmium, chromium, copper, lead, and zinc are considered COPECs in sediment at Parcel 27.

3.4.3.4.4 Summary of COPECs for Parcel 27

Parameters detected in soil, groundwater, surface water, or sediment at Buildings 2507 and2704 (Parcel 27) at concentrations greater than the applicable ESC were identified as COPECs for the site. The COPECs, and possible COPECs, identified for Parcel 27 are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
None	Not Applicable	None	Not Applicable
Pesticides			
Not Applicable	Not Applicable	Not Applicable	Not Applicable
PCBs			
None	Not Applicable	None	Not Applicable
SVOCs			
None	Not Applicable	None	None
Metals			
Arsenic Cadmium Chromium Copper Lead Manganese Mercury Vanadium Zinc	Not Applicable	Cadmium Chromium Lead	Arsenic Cadmium Chromium Copper Lead Zinc

3.4.3.5 BUILDING 2525 (ECP PARCEL 28)

Surface soil, groundwater, surface water, and sediment analytical data were evaluated for the identification of COPECs related to Building 2525 and ECP Parcel 28.

3.4.3.5.1 COPECs for Surface Soil at Building 2525 (ECP Parcel 28)

Two surface soil samples were collected from Parcel 28 as part of the ECP SI (Shaw, 2008). Parameters detected in surface soil samples are presented in **Table B-16**.

PCBs. No PCBs were detected in surface soil samples and PCBs are not considered COPECs at Parcel 28.

SVOCs. Five SVOCs were detected in surface soil samples but none were detected at concentrations greater than the soil ESC. SVOCs are not considered COPECs in surface soil at Parcel 28.

Metals. A total of 17 metals were detected in surface soil samples. Of these, five (aluminum, chromium, lead, vanadium, and zinc) were detected at concentrations exceeding the ESC in at least one sample each. Aluminum, like iron, is a common component of soils and sediments and is not considered a COPEC except in conditions of very low pH where aluminum could be bioavailable; aluminum is not considered a COPEC in soil at Parcel 28. Chromium, lead, vanadium, and zinc are considered COPECs at Parcel 28.

3.4.3.5.2 COPECs for Groundwater at Building 2525 (ECP Parcel 28)

Five groundwater samples (including one duplicate sample) were collected from four distinct temporary wells as part of the ECP SI (Shaw, 2008). Three of these were located downgradient of former drainage fields and one was located downgradient of a former storage pad area located in an open field west of Building 2290 and Guam Lane. Shrewsbury Creek could receive groundwater discharge from Parcel 28. Shrewsbury Creek, in the vicinity of Parcel 28, is classified as freshwater (**Section 2.4.3**). Parameters detected in groundwater samples are presented in **Table B-17**.

VOCs. Three VOCs (acetone, chloroform, and toluene) were detected in at least one groundwater sample each but at concentrations less than the ESC. VOCs are not considered COPECs in groundwater at Parcel 28.

SVOCs. One SVOC, bis(2-ethylhexyl) phthalate, was detected in three groundwater samples at concentrations from 0.94 to 2.30 µg/L which exceed the ESC of 0.3 µg/L. As discussed earlier, bis(2-ethylhexyl) phthalate, a commonly used plasticizer, is present in a wide variety of plastic products and is commonly detected in field and laboratory QC samples, and it is not considered a COPEC in groundwater at Parcel 28.

Metals. A total of 13 metals were detected in Parcel 28 groundwater samples. Of the 13 metals detected, only cadmium was detected at a concentration greater than the ESC. Detected concentrations ranged from 0.314 to 0.533 µg/L which exceed the freshwater ESC of 0.15 µg/L. Cadmium is considered a COPEC in groundwater at Parcel 28.

3.4.3.5.3 COPECs for Surface Water at Building 2525 (ECP Parcel 28)

Two surface water samples were collected from Shrewsbury Creek adjacent to Parcel 28 as part of the BEE. These were located downgradient of potential former discharge pipes which had been previously observed on the southeast bank of the creek. Shrewsbury Creek, in the vicinity of Parcel 28, is classified as freshwater (**Section 2.4.3**). Parameters detected in surface water samples are presented in **Table D-40**.

VOCs. No VOCs were detected in surface water samples at Parcel 28. VOCs are not considered COPECs in surface water at Parcel 28.

SVOCs. No SVOCs were detected in surface water samples at Parcel 28. SVOCs are not considered COPECs in surface water at Parcel 28.

PCBs. No PCBs were detected in surface water samples at Parcel 28. PCBs are not considered COPECs in surface water at Parcel 28.

Metals. A total of 11 metals were detected in Parcel 28 surface water samples. Of the 11 metals detected, only lead was detected at a concentration exceeding the freshwater ESC. Total lead was detected at concentrations of 6.36 and 7.74 µg/L and dissolved lead was detected at concentrations of 5.74 and 7.14 µg/L; these exceed the freshwater ESC for dissolved lead of 5.4 µg/L. Lead is considered a COPEC in surface water at Parcel 28.

3.4.3.5.4 COPECs for Sediment at Building 2525 (ECP Parcel 28)

Two surface sediment samples were collected from Shrewsbury Creek adjacent to Parcel 28 as part of the ECP SI (Shaw, 2008). These were located along the southeast bank of Shrewsbury Creek adjacent to Building 2525 directly downgradient of potential former discharge pipes observed on the southeast bank of the creek. Shrewsbury Creek, in the vicinity of Parcel 28, is classified as freshwater (**Section 2.4.3**). Parameters detected in surface sediment samples are presented in **Table B-18**.

VOCs. One VOC (acetone) was detected in both Parcel 28 surface sediment samples. There are no available sediment ESC for acetone. VOCs are not considered COPECs in sediment at Parcel 28.

SVOCs. A total of five SVOCs were detected in Parcel 28 surface sediment samples. None of the SVOCs detected in surface sediment samples exceeded the freshwater sediment ESC. SVOCs are not considered COPECs in sediment at Parcel 28.

Metals. Of the 17 metals detected, one (chromium) was detected at concentrations greater than the freshwater sediment ESC. Total chromium (36.8 and 43.0 mg/kg) was detected greater than the ESC (26 mg/kg) in both surface sediment samples. Chromium is considered a COPEC in sediment at Parcel 28.

3.4.3.5.5 Summary of COPECs for Parcel 28

Parameters detected in soil, groundwater, surface water, or sediment at Building 2525 (Parcel 28) at concentrations greater than the applicable ESC were identified as COPECs for the site. Though cadmium was not detected in surface water at Parcel 28, its MDLs were greater than the freshwater ESC. Given that cadmium is considered a COPEC in groundwater, it is considered a possible COPEC in surface water. The COPECs, and possible COPECs, identified for Parcel 28 are summarized below by medium.

Soil	Groundwater	Surface Water	Sediment
VOCs			
Not Applicable	None	None	None
Pesticides			
Not Applicable	Not Applicable	Not Applicable	Not Applicable
PCBs			
None	Not Applicable	None	Not Applicable
SVOCs			
None	None	None	None
Metals			
Chromium Lead Vanadium Zinc	Cadmium	Lead	Chromium
Possible COPECs			
		Cadmium	

Table 3-1
Sample and Analytical Summary
Main Post

IRP or ECP Site	BEE Sample Location Name	Sample Date	Sample Time	Top Depth	Bottom Depth	Media Sampled (SD, SW, and SS)			Analytical Suite												Comments/Variances
									VO+15 (Method 8260B)	BIN+15 (Method 8270C)	PCBs (Method 8082)	Pesticides (Method 8081A)	TAL Metals - SW - field filtered (Method 6010B/7470A)	TAL Metals - SW - unfiltered (Method 6010B/7470A)	TAL Metals - SS/SD - (Method 6010B/7471A)	Hardness (SM2340B)	TOC (Lloyd Kahn)	Grain Size (ASTM D442-53)	Filed Measured Parameters (dissolved oxygen, pH, temperature, salinity, and conductivity)	
M-2	M2-SD3	6/24/10	15:08	0	0.5	SD			x	x	x	x			x		x	x	x	
M-2	M2-SD4	6/24/10	15:24	0	0.5	SD			x	x	x	x			x		x	x	x	
M-2	M2-SD5	6/24/10	15:36	0	0.5	SD			x	x	x	x			x		x	x	x	
M-2	M2-SD6	6/24/10	15:53	0	0.5	SD			x	x	x	x			x		x	x	x	
M-2	M2-SD7	6/25/10	8:45	0	0.5	SD			x	x	x	x			x		x	x	x	
M-2	M2-SD8	6/25/10	9:05	0	0.5	SD			x	x	x	x			x		x	x	x	
M-2	M2-SD9	6/25/10	9:25	0	0.5	SD			x	x	x	x			x		x	x	x	
M-2	M2-SD10	6/25/10	9:40	0	0.5	SD			x	x	x	x			x		x	x	x	
M-2	M2-SD11	6/25/10	9:55	0	0.5	SD			x	x	x	x			x		x	x	x	
M-2	M2-SD12	6/25/10	10:10	0	0.5	SD			x	x	x	x			x		x	x	x	
M-2	M2-SD13	6/25/10	10:30	0	0.5	SD			x	x	x	x			x		x	x	x	
M-2	M2-SD14	6/24/10	14:15	0	0.5	SD			x	x	x	x			x		x	x	x	
M-2	M2-SW6	6/21/10	11:15	na	na		SW		x	x	x	x	x	x		x			x	
M-2	M2-SW11	6/21/10	11:30	na	na		SW		x	x	x	x	x	x		x			x	
Total Samples at M-2						12	2													
M-3	M3-SD1	6/18/10	10:38	0	0.5	SD			x	x	x	x			x		x	x	x	
M-3	M3-SD2	6/18/10	10:50	0	0.5	SD			x	x	x	x			x		x	x	x	
M-3	M3-SD3	6/18/10	11:28	0	0.5	SD			x	x	x	x			x		x	x	x	
M-3	M3-SD4	6/18/10	11:50	0	0.5	SD			x	x	x	x			x		x	x	x	
M-3	M3-SD5	6/18/10	13:33	0	0.5	SD			x	x	x	x			x		x	x	x	
M-3	M3-SD6	6/18/10	13:50	0	0.5	SD			x	x	x	x			x		x	x	x	
M-3	M3-SD7	6/18/10	14:08	0	0.5	SD			x	x	x	x			x		x	x	x	
M-3	M3-SD8	6/21/10	14:40	0	0.5	SD			x	x	x	x			x		x	x	x	
M-3	M3-SD9	6/21/10	14:57	0	0.5	SD			x	x	x	x			x		x	x	x	
M-3	M3-SD10	6/21/10	15:12	0	0.5	SD			x	x	x	x			x		x	x	x	
M-3	M3-SD11	6/21/10	14:25	0	0.5	SD			x	x	x	x			x		x	x	x	
M-3	M3-SW3	6/21/10	8:31	na	na		SW		x	x	x	x	x	x		x			x	
M-3	M3-SW8	6/21/10	8:50	na	na		SW		x	x	x	x	x	x		x			x	
Total Samples at M-3						11	2													

Table 3-1
Sample and Analytical Summary
Main Post

IRP or ECP Site	BEE Sample Location Name	Sample Date	Sample Time	Top Depth	Bottom Depth	Media Sampled (SD, SW, and SS)			Analytical Suite												Comments/Variances
									VO+15 (Method 8260B)	BIN+15 (Method 8270C)	PCBs (Method 8082)	Pesticides (Method 8081A)	TAL Metals - SW - field filtered (Method 6010B/7470A)	TAL Metals - SW - unfiltered (Method 6010B/7470A)	TAL Metals - SS/SD - (Method 6010B/7471A)	Hardness (SM2340B)	TOC (Lloyd Kahn)	Grain Size (ASTM D442-53)	Filed Measured Parameters (dissolved oxygen, pH, temperature, salinity, and conductivity)	
M-4	M4-SD1	6/22/10	13:55	0	0.5	SD			x	x	x	x			x		x	x	x	
M-4	M4-SD2	6/22/10	14:14	0	0.5	SD			x	x	x	x			x		x	x	x	
M-4	M4-SD3	6/22/10	14:30	0	0.5	SD			x	x	x	x			x		x	x	x	
M-4	M4-SD4	6/22/10	14:46	0	0.5	SD			x	x	x	x			x		x	x	x	
M-4	M4-SD5	6/22/10	15:07	0	0.5	SD			x	x	x	x			x		x	x	x	
M-4	M4-SD6	6/22/10	15:30	0	0.5	SD			x	x	x	x			x		x	x	x	
M-4	M4-SW4	6/21/10	9:45	na	na		SW		x	x	x	x	x	x		x			x	
Total Samples at M-4						6	1													
M-5	M5-SD1	6/17/10	12:18	0	0.5	SD			x	x	x	x			x		x	x	x	
M-5	M5-SD2	6/18/10	9:23	0	0.5	SD			x	x	x	x			x		x	x	x	
M-5	M5-SD3	6/18/10	9:37	0	0.5	SD			x	x	x	x			x		x	x	x	
M-5	M5-SD4	6/18/10	9:04	0	0.5	SD			x	x	x	x			x		x	x	x	
M-5	M5-SD5	6/18/10	9:57	0	0.5	SD			x	x	x	x			x		x	x	x	
M-5	M5-SD6	6/18/10	10:17	0	0.5	SD			x	x	x	x			x		x	x	x	
M-5	M5-SW4	6/18/10	8:45	na	na		SW		x	x	x	x	x	x		x			x	
Total Samples at M-5						6	1													

Table 3-1
Sample and Analytical Summary
Main Post

IRP or ECP Site	BEE Sample Location Name	Sample Date	Sample Time	Top Depth	Bottom Depth	Media Sampled (SD, SW, and SS)			Analytical Suite												Comments/Variances
									VO+15 (Method 8260B)	BIN+15 (Method 8270C)	PCBs (Method 8082)	Pesticides (Method 8081A)	TAL Metals - SW - field filtered (Method 6010B/7470A)	TAL Metals - SW - unfiltered (Method 6010B/7470A)	TAL Metals - SS/SD - (Method 6010B/7471A)	Hardness (SM2340B)	TOC (Lloyd Kahn)	Grain Size (ASTM D442-53)	Filed Measured Parameters (dissolved oxygen, pH, temperature, salinity, and conductivity)	
M-8	M8-SD1	6/23/10	13:05	0	0.5	SD			x	x	x	x			x		x	x	x	
M-8	M8-SD2	6/17/10	10:46	0	0.5	SD			x	x	x	x			x		x	x	x	
M-8	M8-SD3	6/17/10	16:24	0	0.5	SD			x	x	x	x			x		x	x	x	
M-8	M8-SD4	6/17/10	16:44	0	0.5	SD			x	x	x	x			x		x	x	x	
M-8	M8-SD5	6/17/10	16:00	0	0.5	SD			x	x	x	x			x		x	x	x	
M-8	M8-SD6	6/23/10	13:29	0	0.5	SD			x	x	x	x			x		x	x	x	
M-8	M8-SD7	6/23/10	13:38	0	0.5	SD			x	x	x	x			x		x	x	x	
M-8	M8-SD8	6/17/10	13:45	0	0.5	SD			x	x	x	x			x		x	x	x	
M-8	M8-SD9	6/17/10	11:35	0	0.5	SD			x	x	x	x			x		x	x	x	
M-8	M8-SD10	6/17/10	11:58	0	0.5	SD			x	x	x	x			x		x	x	x	
M-8	M8-SD12	6/17/10	12:50	0	0.5	SD			x	x	x	x			x		x	x	x	
M-8	M8-SW3	6/17/10	16:18	na	na		SW		x	x	x	x	x	x		x			x	
M-8	M8-SW7	6/23/10	11:05	na	na		SW		x	x	x	x	x	x		x			x	
M-8	M8-SW12	6/23/10	11:20	na	na		SW		x	x	x	x	x	x		x			x	
Total Samples at M-8						11	3													

Table 3-1
Sample and Analytical Summary
Main Post

IRP or ECP Site	BEE Sample Location Name	Sample Date	Sample Time	Top Depth	Bottom Depth	Media Sampled (SD, SW, and SS)			Analytical Suite												Comments/Variances
									VO+15 (Method 8260B)	BIN+15 (Method 8270C)	PCBs (Method 8082)	Pesticides (Method 8081A)	TAL Metals - SW - field filtered (Method 6010B/7470A)	TAL Metals - SW - unfiltered (Method 6010B/7470A)	TAL Metals - SS/SD - (Method 6010B/7471A)	Hardness (SM2340B)	TOC (Lloyd Kahn)	Grain Size (ASTM D442-53)	Filed Measured Parameters (dissolved oxygen, pH, temperature, salinity, and conductivity)	
M-12/M-14	M14-SD1	6/15/10	9:10	0	0.5	SD			x	x	x	x			x		x	x	x	
M-12/M-14	M14-SD2	6/15/10	9:40	0	0.5	SD			x	x	x	x			x		x	x	x	
M-12/M-14	M14-SD3	6/15/10	10:25	0	0.5	SD			x	x	x	x			x		x	x	x	
M-12/M-14	M14-SD4	6/15/10	10:50	0	0.5	SD			x	x	x	x			x		x	x	x	
M-12/M-14	M14-SD5	6/15/10	11:36	0	0.5	SD			x	x	x	x			x		x	x	x	
M-12/M-14	M14-SD6	6/15/10	12:10	0	0.5	SD			x	x	x	x			x		x	x	x	
M-12/M-14	M14-SD7	6/15/10	14:33	0	0.5	SD			x	x	x	x			x		x	x	x	
M-12/M-14	M14-SD8	6/15/10	15:23	0	0.5	SD			x	x	x	x			x		x	x	x	
M-12/M-14	M14-SD9	6/16/10	10:50	0	0.5	SD			x	x	x	x			x		x	x	x	
M-12/M-14	M14-SD10	6/16/10	11:22	0	0.5	SD			x	x	x	x			x		x	x	x	
M-12/M-14	M14-SD11	6/16/10	11:50	0	0.5	SD			x	x	x	x			x		x	x	x	
M-12/M-14	M14-SD12	6/28/10	13:45	0	0.5	SD			x	x	x	x			x		x	x	x	
M-12/M-14	M14-SD13	6/16/10	12:48	0	0.5	SD			x	x	x	x			x		x	x	x	
M-12/M-14	M14-SW3	6/22/10	10:08	na	na		SW		x	x	x	x	x	x		x			x	
M-12/M-14	M14-SW8	6/15/10	15:01	na	na		SW		x	x	x	x	x	x		x			x	
M-12/M-14	M14-SW12	6/28/10	13:53	na	na		SW		x	x	x	x	x	x		x			x	
M-12/M-14	M14-SW13	6/22/10	11:32	na	na		SW		x	x	x	x	x	x		x			x	
Total Samples at M-12/M-14						13	4													

Table 3-1
Sample and Analytical Summary
Main Post

IRP or ECP Site	BEE Sample Location Name	Sample Date	Sample Time	Top Depth	Bottom Depth	Media Sampled (SD, SW, and SS)			Analytical Suite												Comments/Variances
									VO+15 (Method 8260B)	BIN+15 (Method 8270C)	PCBs (Method 8082)	Pesticides (Method 8081A)	TAL Metals - SW - field filtered (Method 6010B/7470A)	TAL Metals - SW - unfiltered (Method 6010B/7470A)	TAL Metals - SS/SD - (Method 6010B/7471A)	Hardness (SM2340B)	TOC (Lloyd Kahn)	Grain Size (ASTM D442-53)	Filed Measured Parameters (dissolved oxygen, pH, temperature, salinity, and conductivity)	
M-15	M15-SD1	6/14/10	13:45	0	0.5	SD			x	x	x	x			x		x	x	x	
M-15	M15-SD2	6/14/10	14:10	0	0.5	SD			x	x	x	x			x		x	x	x	
M-15	M15-SD3	6/14/10	14:30	0	0.5	SD			x	x	x	x			x		x	x	x	
M-15	M15-SD4	6/14/10	15:02	0	0.5	SD			x	x	x	x			x		x	x	x	
M-15	M15-SW1	6/14/10	13:40	na	na		SW		x	x	x	x	x	x		x			x	
M-15	M15-SW2	6/14/10	14:00	na	na		SW		x	x	x	x	x	x		x			x	
M-15	M15-SW4	6/14/10	14:55	na	na		SW		x	x	x	x	x	x		x			x	
Total Samples at M-15						4	3													

Table 3-1
Sample and Analytical Summary
Main Post

IRP or ECP Site	BEE Sample Location Name	Sample Date	Sample Time	Top Depth	Bottom Depth	Media Sampled (SD, SW, and SS)			Analytical Suite											Comments/Variances
									VO+15 (Method 8260B)	BIN+15 (Method 8270C)	PCBs (Method 8082)	Pesticides (Method 8081A)	TAL Metals - SW - field filtered (Method 6010B/7470A)	TAL Metals - SW - unfiltered (Method 6010B/7470A)	TAL Metals - SS/SD - (Method 6010B/7471A)	Hardness (SM2340B)	TOC (Lloyd Kahn)	Grain Size (ASTM D442-53)	Filed Measured Parameters (dissolved oxygen, pH, temperature, salinity, and conductivity)	
M-16	M16-SD1	6/14/10	10:04	0	0.5	SD			x	x	x	x			x		x	x	x	
M-16	M16-SD2	6/14/10	10:44	0	0.5	SD			x	x	x	x			x		x	x	x	
M-16	M16-SD3	6/14/10	11:10	0	0.5	SD			x	x	x	x			x		x	x	x	
M-16	M16-SD4	6/14/10	11:55	0	0.5	SD			x	x	x	x			x		x	x	x	
M-16	M16-SW1	6/23/10	11:55	na	na		SW		x	x	x	x	x	x		x			x	
M-16	M16-SW2	6/23/10	12:05	na	na		SW		x	x	x	x	x	x		x			x	
M-16	M16-SW4	6/23/10	12:18	na	na		SW		x	x	x	x	x	x		x			x	
Total Samples for M-16						4	3													

Table 3-1
Sample and Analytical Summary
Main Post

IRP or ECP Site	BEE Sample Location Name	Sample Date	Sample Time	Top Depth	Bottom Depth	Media Sampled (SD, SW, and SS)			Analytical Suite												Comments/Variances
									VO+15 (Method 8260B)	BIN+15 (Method 8270C)	PCBs (Method 8082)	Pesticides (Method 8081A)	TAL Metals - SW - field filtered (Method 6010B/7470A)	TAL Metals - SW - unfiltered (Method 6010B/7470A)	TAL Metals - SS/SD - (Method 6010B/7471A)	Hardness (SM2340B)	TOC (Lloyd Kahn)	Grain Size (ASTM D442-53)	Filed Measured Parameters (dissolved oxygen, pH, temperature, salinity, and conductivity)	
M-18	M18-SD1	6/16/10	15:45	0	0.5	SD			x	x	x	x			x		x	x	x	
M-18	M18-SD2	6/17/10	9:03	0	0.5	SD			x	x	x	x			x		x	x	x	
M-18	M18-SD3	6/16/10	16:36	0	0.5	SD			x	x	x	x			x		x	x	x	
M-18	M18-SD4	6/16/10	17:00	0	0.5	SD			x	x	x	x			x		x	x	x	
M-18	M18-SD5	6/17/10	10:00	0	0.5	SD			x	x	x	x			x		x	x	x	
M-18	M18-SW3	6/22/10	10:08	na	na		SW		x	x	x	x	x	x		x			x	
M-18	M18-SW5	6/17/10	9:50	na	na		SW		x	x	x	x	x	x		x			x	
Total Samples for M-18						5	2													
M-20	M20-SD1	6/23/10	9:50	0	0.5	SD			x	x	x	x			x		x	x	x	
M-20	M20-SD2	6/23/10	10:15	0	0.5	SD			x	x	x	x			x		x	x	x	
M-20	M20-SW1	6/23/10	9:45	na	na		SW		x	x	x	x	x	x		x			x	
M-20	M20-SW2	6/23/10	10:10	na	na		SW		x	x	x	x	x	x		x			x	
Total Samples for M-20						2	2													

Table 3-1
Sample and Analytical Summary
Main Post

IRP or ECP Site	BEE Sample Location Name	Sample Date	Sample Time	Top Depth	Bottom Depth	Media Sampled (SD, SW, and SS)	Analytical Suite											Comments/Variances
							VO+15 (Method 8260B)	BIN+15 (Method 8270C)	PCBs (Method 8082)	Pesticides (Method 8081A)	TAL Metals - SW - field filtered (Method 6010B/7470A)	TAL Metals - SW - unfiltered (Method 6010B/7470A)	TAL Metals - SS/SD - (Method 6010B/7471A)	Hardness (SM2340B)	TOC (Lloyd Kahn)	Grain Size (ASTM D442-53)	Filed Measured Parameters (dissolved oxygen, pH, temperature, salinity, and conductivity)	
43 & Building 1122	P43-SW2	6/22/10	9:36	na	na	SW	x	x	x		x	x		x			x	
43 & Building 1122	P43-SW3	6/22/10	9:18	na	na	SW	x	x	x		x	x		x			x	
Total Samples for ECP43						2												
49 & Building 283	P49-SW2	6/23/10	8:53	na	na	SW	x	x	x		x	x		x			x	
49 & Building 283	P49-SW3	6/23/10	8:40	na	na	SW	x	x	x		x	x		x			x	
Total Samples for ECP49						2												
61	P61-SW1	6/15/10	14:01	na	na	SW	x	x	x		x	x		x			x	
Total Samples for ECP61						1												
69	P69-SW2	6/28/10	13:30	na	na	SW	x	x	x		x	x		x			x	
Total Samples for ECP69						1												

Table 3-1
Sample and Analytical Summary
Main Post

IRP or ECP Site	BEE Sample Location Name	Sample Date	Sample Time	Top Depth	Bottom Depth	Media Sampled (SD, SW, and SS)			Analytical Suite												Comments/Variances
									VO+15 (Method 8260B)	BN+15 (Method 8270C)	PCBs (Method 8082)	Pesticides (Method 8081A)	TAL Metals - SW - field filtered (Method 6010B/7470A)	TAL Metals - SW - unfiltered (Method 6010B/7470A)	TAL Metals - SS/SD - (Method 6010B/7471A)	Hardness (SM2340B)	TOC (Lloyd Kahn)	Grain Size (ASTM D442-53)	Filed Measured Parameters (dissolved oxygen, pH, temperature, salinity, and conductivity)	
NA	MP-SD1	6/25/10	12:05	0	0.5	SD			x	x	x	x			x		x	x	x	
NA	MP-SD2	6/25/10	14:15	0	0.5	SD			x	x	x	x			x		x	x	x	
NA	MP-SD3	6/25/10	15:05	0	0.5	SD			x	x	x	x			x		x	x	x	
M-2	M2-SD1	6/25/10	13:40	0	0.5	SD			x	x	x	x			x		x	x	x	
M-2	M2-SD2	6/24/10	14:40	0	0.5	SD			x	x	x	x			x		x	x	x	
M-3	M3-SD12	6/21/10	15:40	0	0.5	SD			x	x	x	x			x		x	x	x	
M-3	M3-SD13	6/25/10	11:25	0	0.5	SD			x	x	x	x			x		x	x	x	
M-8	M8-SD11	6/21/10	10:15	0	0.5	SD			x	x	x	x			x		x	x	x	
M-12/M-14	M14-SD14	6/16/10	14:12	0	0.5	SD			x	x	x	x			x		x	x	x	
NA	MP-SW1	6/25/10	11:55	na	na		SW		x	x	x	x	x	x		x			x	
NA	MP-SW2	6/25/10	14:02	na	na		SW		x	x	x	x	x	x		x			x	
NA	MP-SW3	6/25/10	14:58	na	na		SW		x	x	x	x	x	x		x			x	
M-2	M2-SW1	6/25/10	13:38	na	na		SW		x	x	x	x	x	x		x			x	
M-2	M2-SW2	6/24/10	14:33	na	na		SW		x	x	x	x	x	x		x			x	
M-3	M3-SW12	6/22/10	8:43	na	na		SW		x	x	x	x	x	x		x			x	
M-3	M3-SW13	6/25/10	11:15	na	na		SW		x	x	x	x	x	x		x			x	
M-8	M8-SW11	6/21/10	10:05	na	na		SW		x	x	x	x	x	x		x			x	
M-12/M-14	M14-SW14	6/22/10	12:09	na	na		SW		x	x	x	x	x	x		x			x	
Total Upgradient Samples						9	9													
Total Samples at MP						83	38	0	121	121	121	115	38	38	83	38	83	83	121	

Notes:
ASTM - American Society for Testing and Materials
B/N - Base/Neutral
BEE - Baseline Ecological Evaluation
ECP - Environmental Condition of Property
IRP - Installation Restoration Property
na - not applicable
PCB - Polychlorinated Biphenyl
SD - Sediment
SS - Surface Soil
SW - Surface Water
TAL - Target Analyte List
TOC - Total Organic Carbon

Table 3-2
Sampling and Analytical Summary
Charles Wood Area

IRP or ECP Site	BEE Sample Location Name	Sample Date	Sample Time	Top Depth	Bottom Depth	Media Ssampled (SD, SW, and SS)			Analytical Suite											Comments/Variances
									VO+15 (Method 8260B)	BN+15 (Method 8270C)	PCBs (Method 8082)	Pesticides (Method 8081A)	TAL Metals - SW - field filtered (Method 6010B/7470A)	TAL Metals - SW - unfiltered (Method 6010B/7470A)	TAL Metals - SS/SD - (Method 6010B/7471A)	Hardness (SM2340B)	TOC (Lloyd Kahn)	Grain Size (ASTM D442-53)	Filed Measured Parameters (dissolved oxygen, pH, temperature, salinity, and conductivity)	
CW-3	CW3-SD1	6/28/10	8:50	0	0.5	SD			x	x	x	x			x		x	x	x	
CW-3	CW3-SD2	6/28/10	9:05	0	0.5	SD			x	x	x	x			x		x	x	x	
CW-3	CW3-SD3	6/28/10	9:18	0	0.5	SD			x	x	x	x			x		x	x	x	
CW-3	CW3-SD4	6/28/10	9:40	0	0.5	SD			x	x	x	x			x		x	x	x	
CW-3	CW3-SD5	6/28/10	10:20	0	0.5	SD			x	x	x	x			x		x	x	x	
CW-3	CW3-SD6	6/28/10	10:48	0	0.5	SD			x	x	x	x			x		x	x	x	
CW-3	CW3-SW4	6/28/10	9:50	na	na		SW		x	x	x	x	x	x		x			x	
CW-3	CW3-SW5	6/28/10	10:15	na	na		SW		x	x	x	x	x	x		x			x	
Total Samples at CW-3						6	2													
CW-6	CW6-SD1	6/18/10	16:32	0	0.5	SD			x	x	x	x			x		x	x	x	
CW-6	CW6-SD2	6/18/10	16:14	0	0.5	SD			x	x	x	x			x		x	x	x	
CW-6	CW6-SD3	6/18/10	16:42	0	0.5	SD			x	x	x	x			x		x	x	x	
CW-6	CW6-SD4	6/18/10	16:47	0	0.5	SD			x	x	x	x			x		x	x	x	
CW-6	CW6-SD5	6/24/10	10:35	0	0.5	SD			x	x	x	x			x		x	x	x	
CW-6	CW6-SD6	6/24/10	9:40	0	0.5	SD			x	x	x	x			x		x	x	x	
CW-6	CW6-SW5	6/24/10	10:29	na	na		SW		x	x	x	x	x	x		x			x	
CW-6	CW6-SW6	6/24/10	9:33	na	na		SW		x	x	x	x	x	x		x			x	
CW-6	CW6-SS1	6/18/10	15:23	0	0.5			SS	x	x	x	x			x		x	x		
CW-6	CW6-SS2	6/18/10	15:40	0	0.5			SS	x	x	x	x			x		x	x		
CW-6	CW6-SS3	6/18/10	15:50	0	0.5			SS	x	x	x	x			x		x	x		
CW-6	CW6-SS4	6/18/10	15:59	0	0.5			SS	x	x	x	x			x		x	x		
Total Samples at CW-6						6	2	4												
15	P15-SW1	6/24/10	12:33	na	na		SW		x	x	x		x	x		x			x	
15	P15-SW3	6/24/10	12:15	na	na		SW		x	x	x		x	x		x			x	
Total Samples at ECP15							2													

Table 3-2
Sampling and Analytical Summary
Charles Wood Area

IRP or ECP Site	BEE Sample Location Name	Sample Date	Sample Time	Top Depth	Bottom Depth	Media Ssampled (SD, SW, and SS)			Analytical Suite												Comments/Variances
									VO+15 (Method 8260B)	B/N+15 (Method 8270C)	PCBs (Method 8082)	Pesticides (Method 8081A)	TAL Metals - SW - field filtered (Method 6010B/7470A)	TAL Metals - SW - unfiltered (Method 6010B/7470A)	TAL Metals - SS/SD - (Method 6010B/7471A)	Hardness (SM2340B)	TOC (Lloyd Kahn)	Grain Size (ASTM D442-53)	Filed Measured Parameters (dissolved oxygen, pH, temperature, salinity, and conductivity)	
27	P27-SW1	6/25/10	15:58	na	na		SW		x	x	x		x	x		x			x	
27	P27-SW2	6/25/10	15:45	na	na		SW		x	x	x		x	x		x			x	
Total Samples at ECP27							2													
28	P28-SW1	6/24/10	11:54	na	na		SW		x	x	x		x	x		x			x	
28	P28-SW2	6/24/10	11:34	na	na		SW		x	x	x		x	x		x			x	
Total Samples for ECP28							2													
CW-3	CW3-SD7	6/28/10	11:40	0	0.5	SD			x	x	x	x			x		x	x	x	
CW-3	CW3-SD8	6/28/10	12:10	0	0.5	SD			x	x	x	x			x		x	x	x	
CW-3	CW3-SW7	6/28/10	11:35	na	na		SW		x	x	x	x	x	x		x			x	
CW-3	CW3-SW8	na	na	na	na				x	x	x	x	x	x		x			x	Sample not collected. There was no water existing in the creek upstream of the CW3-SW7 sample location.
Total Upgradient Samples						2	1													
CWA	CWA-SD1	6/24/10	9:00	0	0.5	SD			x	x	x	x			x		x	x	x	Sample added to program to evaluate the furthest downgradient location within Wampum Brook on CWA.
CWA	CWA-SW1	6/24/10	8:55	na	na		SW		x	x	x	x	x	x		x			x	Sample added to program to evaluate the furthest downgradient location within Wampum Brook on CWA.
Total Samples Downgradient of CWA						1	1													
Total Samples at CWA						15	12	4	30	30	30	24	12	12	18	12	18	18	26	

Notes:
ASTM - American Society for Testing and Materials
B/N - Base/Neutral
BEE - Baseline Ecological Evaluation
CWA - Charles Wood Area
ECP - Environmental Condition of Property
IRP - Installation Restoration Property
na - not applicable
NEW - indicates location does not coincide with a previous sample location
PCB - Polychlorinated Biphenyl
SD - Sediment
SS - Surface Soil
SW - Surface Water
TAL - Target Analyte List
TOC - Total Organic Carbon

Table 3-3
Summary of Analytes Detected in Main Post Background Surface Water Samples

Analyte	ESC		# of Freshwater ESC Exceedances	# of Saltwater ESC Exceedances	# of Detections	# of Samples	Minimum Concentration	Maximum Concentration	Location of Maximum
	FW-SW	SW-SW							
VOCs (ug/L)									
Chloroform	140	NAV	0	0	1	9	2.9	2.9	M14-SW14
cis-1,2-Dichloroethene	NAV	NAV	0	0	3	9	1.3	3.3	MP-SW3
Tetrachloroethene	45	NAV	0	0	1	9	1.3	1.3	M2-SW2
SVOCs (ug/L)									
Anthracene	0.035	NAV	2	0	2	9	0.052	0.12	M14-SW14
Benzo(a)anthracene	0.025	NAV	2	0	2	9	0.23	0.23	M14-SW14; M3-SW12
Benzoic acid	NAV	NAV	0	0	1	9	12	12	MP-SW1
1,2,4-Trichlorobenzene	30	NAV	0	0	1	9	0.56	0.56	M14-SW14
Pesticides (ug/L)	***None detected***								
PCBs (ug/L)	***None detected***								
Metals (ug/L)									
Aluminum	NAV	NAV	0	0	14	18	6.63	78.6	M3-SW12
Arsenic	150	36	0	0	2	18	4.67	4.73	M8-SW11-Diss
Barium	220	NAV	0	0	18	18	31.4	64.7	M2-SW1; MP-SW2-Diss
Calcium	NAV	NAV	0	0	18	18	22600	40700	M8-SW11
Iron	NAV	NAV	0	0	18	18	84.8	2520	M3-SW12
Lead	5.4	24	18	0	18	18	5.79	18.8	M2-SW1-Diss
Magnesium	NAV	NAV	0	0	18	18	3550	53800	M8-SW11
Manganese	NAV	NAV	0	0	18	18	32.1	106	M8-SW11
Mercury	0.77	0.94	0	0	2	18	0.09	0.11	MP-SW1-Diss
Nickel	33	22	0	0	15	18	4.65	15.8	MP-SW3
Potassium	NAV	NAV	0	0	18	18	2400	19900	M8-SW11
Sodium	NAV	NAV	0	0	18	18	24300	433000	M8-SW11
Thallium	10	NAV	0	0	5	18	3.33	8.77	M8-SW11
Zinc	85	81	0	0	18	18	38.1	59.9	MP-SW2
Misc. (ug/L)									
Hardness	na	na	na	na	9	9	71124	323391	M8-SW11

Notes:
ug/L = micrograms per liter
ESC = Ecological Screening Criteria (See Section 3.3)
FW-SW = Fresh Water-Surface Water
SW-SW = Salt Water-Surface Water
NAV = No Available Value
FW-SW ESC for cadmium, chromium, copper, nickel, and zinc are based on minimum detected hardness in Main Post site and background samples (Appendix E)
na = Not Applicable

Table 3-4
Summary of Analytes Detected in Main Post Background Sediment Samples

Analyte	ESC		# of FW-SED ESC Exceedances	# of SW-SED ESC Exceedances	# of Detections	# of Samples	Minimum Concentration	Maximum Concentration	Location of Maximum
	FW-SED	SW-SED							
VOCs (mg/kg)									
Acetone	NAV	NAV	0	0	6	9	0.012	0.34	MP-SD2
Methylene chloride	0.159	NAV	0	0	4	9	0.0025	0.0088	MP-SD2
Toluene	2.5	2.5	0	0	1	9	0.013	0.013	MP-SD3
2-Butanone	NAV	NAV	0	0	2	9	0.0094	0.095	MP-SD2
SVOCs (mg/kg)									
Acenaphthene	0.016	0.016	2	2	2	9	0.11	0.12	M3-SD12
Acenaphthylene	0.044	0.044	1	1	1	9	0.089	0.089	MP-SD2
Anthracene	0.22	0.085	1	4	6	9	0.017	0.25	MP-SD3
Benzo(a)anthracene	0.32	0.261	4	4	7	9	0.018	1.2	MP-SD3
Benzo(a)pyrene	0.37	0.43	3	3	7	9	0.025	1.2	MP-SD3
Benzo(b)fluoranthene	10.4	1.8	0	0	5	9	0.066	1.8	MP-SD3
Benzo(g,h,i)perylene	0.17	0.17	3	3	3	9	0.38	0.87	MP-SD3
Benzo(k)fluoranthene	0.24	0.24	3	3	4	9	0.13	0.64	MP-SD3
bis(2-Ethylhexyl)phthalate	0.182	0.18216	0	0	1	9	0.069	0.069	M3-SD12
Butylbenzylphthalate	1.97	0.063	0	1	1	9	0.6	0.6	M2-SD2
Chrysene	0.34	0.384	4	4	5	9	0.064	1.7	MP-SD3
Dibenz(a,h)anthracene	0.06	0.063	1	1	1	9	0.088	0.088	M3-SD12
Dibenzofuran	NAV	NAV	0	0	2	9	0.062	0.082	MP-SD2
3,3'-Dichlorobenzidine	0.127	NAV	0	0	1	9	0.016	0.016	M3-SD13
Dimethylphthalate	NAV	NAV	0	0	9	9	0.28	0.79	MP-SD2
Fluoranthene	0.75	0.6	4	4	6	9	0.064	4.5	MP-SD3
Fluorene	0.19	0.019	1	2	2	9	0.13	0.32	MP-SD2
Indeno(1,2,3-c,d)pyrene	0.2	0.2	3	3	4	9	0.095	0.84	MP-SD3
Phenanthrene	0.56	0.24	3	4	5	9	0.15	3.1	MP-SD3
Pyrene	0.49	0.665	4	4	5	9	0.12	3	MP-SD3
Pesticides (mg/kg)									
4,4'-DDD	0.008	0.002	0	3	3	9	0.0022	0.0047	M2-SD1
4,4'-DDE	0.005	0.0022	0	1	2	9	0.0017	0.0034	M14-SD14
PCBs (mg/kg)									
Aroclor 1242	0.07	0.023	0	1	1	9	0.064	0.064	M2-SD2
Aroclor 1254	0.06	0.06	1	1	2	9	0.021	0.086	M2-SD1
Metals (mg/kg)									
Aluminum	25500	18000	0	0	9	9	965	17600	M3-SD13
Antimony	3	9.3	2	0	7	9	1.08	6.96	M2-SD2
Arsenic	6	8.2	7	6	9	9	0.68	61.6	M3-SD13
Barium	NAV	48	0	5	9	9	11.5	196	MP-SD2
Beryllium	NAV	NAV	0	0	9	9	0.2	3.83	MP-SD2
Cadmium	0.6	1.2	9	8	9	9	0.75	17.2	M3-SD13

Table 3-4
Summary of Analytes Detected in Main Post Background Sediment Samples

Analyte	ESC		# of FW-SED ESC Exceedances	# of SW-SED ESC Exceedances	# of Detections	# of Samples	Minimum Concentration	Maximum Concentration	Location of Maximum
	FW-SED	SW-SED							
Calcium	NAV	NAV	0	0	8	9	446	4310	MP-SD1
Chromium	26	81	8	3	9	9	9.24	125	M3-SD13
Cobalt	50	10	0	4	9	9	1.05	16.8	MP-SD2
Copper	16	34	3	2	6	9	1.88	165	M2-SD2
Iron	NAV	NAV	0	0	9	9	2960	162000	M3-SD13
Lead	31	47	4	2	9	9	5.61	945	M2-SD1
Magnesium	NAV	NAV	0	0	9	9	192	4650	M3-SD13
Manganese	630	260	0	1	9	9	4.86	551	MP-SD1
Mercury	0.2	0.15	1	1	8	9	0.02	0.424	MP-SD2
Nickel	16	21	4	3	9	9	2.55	53.5	MP-SD2
Potassium	NAV	NAV	0	0	9	9	507	12000	MP-SD1
Selenium	NAV	1	0	8	9	9	0.95	19	M3-SD13
Silver	1	1	1	1	1	9	11.2	11.2	MP-SD2
Sodium	NAV	NAV	0	0	9	9	28.6	1230	M8-SD11
Thallium	NAV	NAV	0	0	3	9	0.88	3.02	M3-SD13
Vanadium	NAV	57	0	4	9	9	6.82	218	M3-SD13
Zinc	120	150	5	4	9	9	31.4	423	MP-SD2
Misc. (mg/kg)									
Total Organic Carbon	na	na	na	na	9	9	900	6100	MP-SD2

Notes:
mg/kg = micrograms per kilogram
ESC = Ecological Screening Criteria (See Section 3.3)
FW-SED = Fresh Water-Sediment
SW-SED = Salt Water-Sediment
NAV = No Available Value
na = Not Applicable

Table 3-5
Summary of Analytes Detected in Charles Wood Area Background Surface Water Samples

Analyte	ESC		# of Freshwater ESC Exceedances	# of Saltwater ESC Exceedances	# of Detections	# of Samples	Minimum Concentration	Maximum Concentration	Location of Maximum
	FW-SW	SW-SW							
VOCs (ug/L)									
Methyl-tert-butyl ether	51000	18000	0	0	1	2	3.8	3.8	CW3-SW7
SVOCs (ug/L)									
Anthracene	0.035	NAV	1	0	1	2	0.11	0.11	CW3-SW7
Pesticides (ug/L)									
4,4'-DDD	NAV	NAV	0	0	1	2	0.008	0.008	CW3-SW7
PCBs (ug/L)									
Aroclor 1242	0.014	0.03	1	1	1	2	0.3	0.3	CW6-SW6
Metals (ug/L)									
Aluminum	NAV	NAV	0	0	4	4	14	9500	CW3-SW7
Arsenic	150	36	0	0	2	4	6.83	20.7	CW3-SW7
Barium	220	NAV	0	0	4	4	73.8	131	CW3-SW7
Beryllium	3.6	NAV	0	0	1	4	0.8	0.8	CW3-SW7
Cadmium	0.14	8.8	3	0	3	4	0.8	2.07	CW3-SW7
Calcium	NAV	NAV	0	0	4	4	28400	30300	CW3-SW7
Chromium	19	50	1	1	2	4	2.55	55.5	CW3-SW7
Cobalt	24	NAV	2	0	3	4	7.94	29.4	CW6-SW6
Copper	6.5	3.1	1	1	1	4	9.99	9.99	CW3-SW7
Iron	NAV	NAV	0	0	4	4	1440	38400	CW3-SW7
Lead	5.4	24	3	1	3	4	6.32	69.7	CW3-SW7
Magnesium	NAV	NAV	0	0	4	4	5730	14100	CW3-SW7
Manganese	NAV	NAV	0	0	4	4	127	160	CW3-SW7
Mercury	0.77	0.94	0	0	2	4	0.1	0.41	CW3-SW7
Nickel	34	22	0	2	3	4	14.5	32.6	CW6-SW6
Potassium	NAV	NAV	0	0	4	4	3370	14300	CW3-SW7
Sodium	NAV	NAV	0	0	4	4	66800	120000	CW3-SW7-Diss
Vanadium	12	NAV	1	0	2	4	6.91	60.1	CW3-SW7
Zinc	88	81	1	1	4	4	45.2	149	CW3-SW7
Misc. (ug/L)									
Hardness	na	na	na	na	2	2	94486	133738	CW3-SW7

Notes:
ug/L = micrograms per liter
ESC = Ecological Screening Criteria (See Section 3.3)
FW-SW = Fresh Water-Surface Water
SW-SW = Salt Water-Surface Water
NAV = No Available Value
FW-SW ESC for cadmium, chromium, copper, nickel, and zinc are based on minimum detected hardness in Charles Wood Area site and background samples (Appendix E).
na = Not Applicable

Table 3-6
Summary of Analytes Detected in Charles Wood Area Background Sediment Samples

Analyte	ESC		# of FW-SED ESC Exceedances	# of SW-SED ESC Exceedances	# of Detections	# of Samples	Minimum Concentration	Maximum Concentration	Location of Maximum
	FW-SED	SW-SED							
VOCs (mg/kg)									
Acetone	NAV	NAV	0	0	2	3	0.093	0.34	CW3-SD8
Methylene chloride	0.159	0.159	0	0	2	3	0.0093	0.013	CW3-SD7
Styrene	0.254	0.254	0	0	1	3	0.001	0.001	CW6-SD6
Toluene	2.5	2.5	0	0	1	3	0.002	0.002	CW6-SD6
2-Butanone	NAV	NAV	0	0	1	3	0.1	0.1	CW3-SD8
SVOCs (mg/kg)									
Acenaphthene	0.016	0.016	1	1	1	3	0.47	0.47	CW6-SD6
Acenaphthylene	0.044	0.044	1	1	1	3	1.6	1.6	CW6-SD6
Anthracene	0.22	0.085	1	1	3	3	0.011	0.3	CW6-SD6
Benzo(a)anthracene	0.32	0.261	1	1	1	3	0.028	1.0	CW6-SD6
Benzo(a)pyrene	0.37	0.43	1	1	3	3	0.03	1.2	CW6-SD6
Benzo(b)fluoranthene	10.4	1.8	0	1	1	3	2.1	2.1	CW6-SD6
Benzo(g,h,i)perylene	0.17	0.17	1	1	1	3	0.89	0.89	CW6-SD6
Benzo(k)fluoranthene	0.24	0.24	1	1	1	3	0.74	0.74	CW6-SD6
Chrysene	0.34	0.384	1	1	1	3	1.9	1.9	CW6-SD6
Dibenzofuran	NAV	NAV	0	0	1	3	0.48	0.48	CW6-SD6
Dimethylphthalate	NAV	NAV	0	0	3	3	0.45	1.6	CW3-SD7
Fluoranthene	0.75	0.6	1	1	1	3	4.9	4.9	CW6-SD6
Fluorene	0.19	0.019	1	1	1	3	0.82	0.82	CW6-SD6
Indeno(1,2,3-c,d)pyrene	0.2	0.2	1	1	1	3	0.98	0.98	CW6-SD6
2-Methylnaphthalene	0.07	0.07	1	1	1	3	1.3	1.3	CW6-SD6
Naphthalene	0.16	0.16	1	1	1	3	4.4	4.4	CW6-SD6
Phenanthrene	0.56	0.24	1	1	1	3	8.3	8.3	CW6-SD6
Pyrene	0.49	0.665	1	1	1	3	3.3	3.3	CW6-SD6
Pesticides (mg/kg)									
4,4'-DDD	0.008	0.002	0	1	1	3	0.0031	0.0031	CW3-SD7
PCBs (mg/kg)	***None detected***								
Metals (mg/kg)									
Aluminum	25500	18000	0	0	3	3	860	10200	CW3-SD7
Arsenic	6	8.2	0	0	3	3	0.68	5.43	CW3-SD8
Barium	NAV	48	0	2	3	3	4.41	140	CW3-SD8
Beryllium	NAV	NAV	0	0	3	3	0.38	1.14	CW3-SD7
Cadmium	0.6	1.2	2	0	3	3	0.38	1.08	CW3-SD7
Calcium	NAV	NAV	0	0	3	3	16.7	2480	CW3-SD7
Chromium	26	81	3	1	3	3	60.7	97.3	CW3-SD8
Cobalt	50	10	0	0	3	3	3.74	8.94	CW6-SD6
Copper	16	34	0	0	3	3	2.49	7.09	CW3-SD8
Iron	NAV	NAV	0	0	3	3	9040	14700	CW3-SD7
Lead	31	47	1	0	3	3	5.67	36	CW3-SD7
Magnesium	NAV	NAV	0	0	3	3	160	1900	CW3-SD7
Manganese	630	260	0	0	3	3	4.36	69.1	CW3-SD8
Mercury	0.2	0.15	1	1	3	3	0.064	0.251	CW3-SD7
Nickel	16	21	1	1	3	3	9.51	56.2	CW6-SD6
Potassium	NAV	NAV	0	0	3	3	441	2000	CW3-SD7
Selenium	NAV	1	0	3	3	3	1.82	4.15	CW3-SD8
Sodium	NAV	NAV	0	0	3	3	150	4050	CW3-SD8
Vanadium	NAV	57	0	0	3	3	10.7	50.3	CW3-SD7
Zinc	120	150	0	0	3	3	15.3	84.9	CW3-SD7
Misc. (mg/kg)									
Total Organic Carbon	na	na	na	na	3	2	540	8200	CW3-SD8

Notes:
mg/kg = micrograms per kilogram
ESC = Ecological Screening Criteria (See Section 3.3)
FW-SED = Fresh Water-Sediment
SW-SED = Salt Water-Sediment
NAV = No Available Value
na = Not Applicable

Table 3-7
Summary of Analytes Detected in Charles Wood Area Downgradient Surface Water Samples

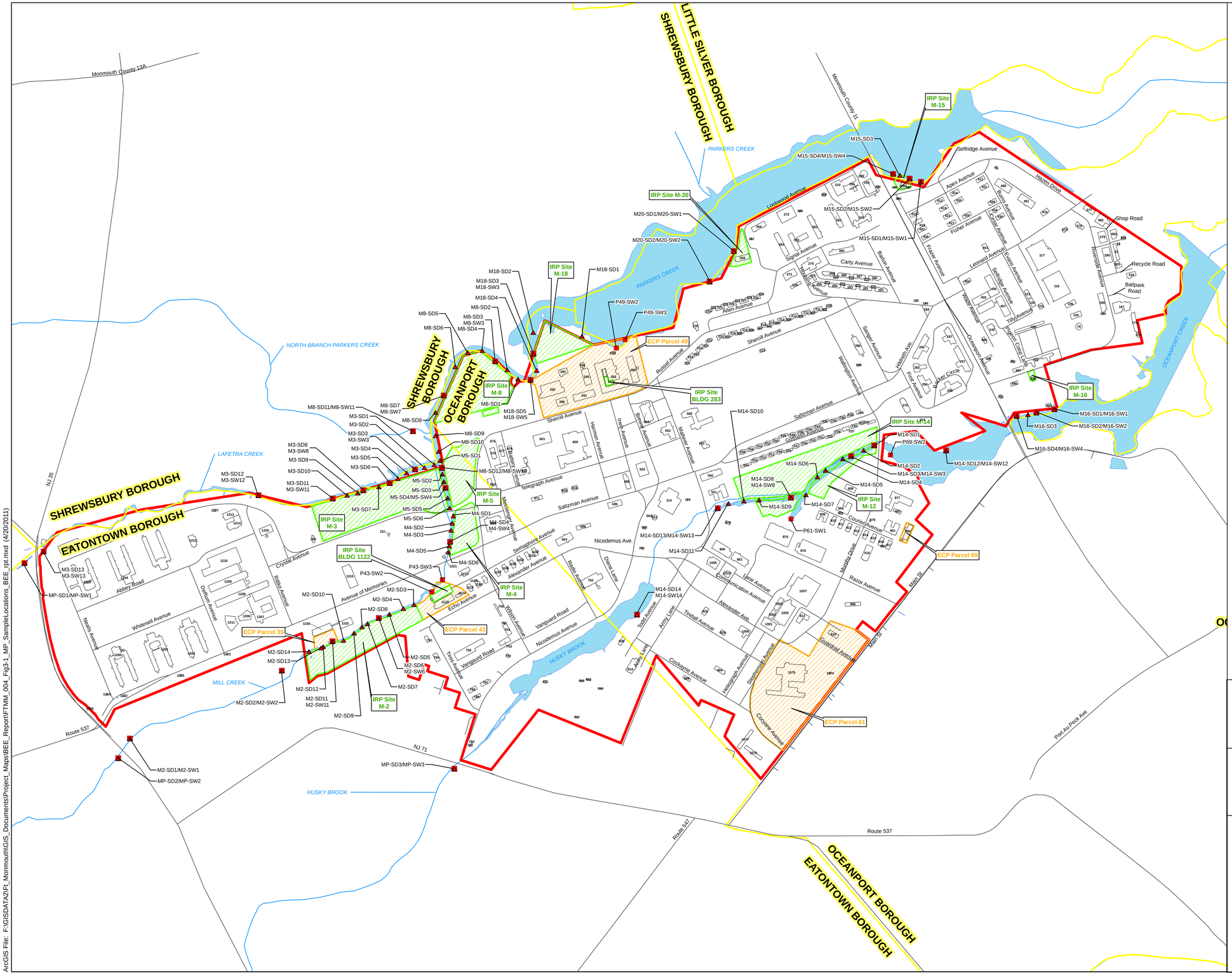
Analyte	ESC		# of Freshwater ESC Exceedances	# of Saltwater ESC Exceedances	# of Detections	# of Samples	Minimum Concentration	Maximum Concentration	Location of Maximum
	FW-SW	SW-SW							
VOCs (ug/L)	***None detected***								
SVOCs (ug/L)									
Hexachlorobutadiene	0.053	NAV	1	0	1	2	0.12	0.12	CWA-SW1
Pesticides (ug/L)	***None detected***								
PCBs (ug/L)	***None detected***								
Aroclor 1242	0.014	0.03	1	1	0	2	0.13	0.13	CW6-SW5
Metals (ug/L)									
Aluminum	NAV	NAV	0	0	4	4	11.4	130	CW6-SW5
Arsenic	150	36	0	0	2	4	7.47	10.2	CWA-SW1
Barium	220	NAV	0	0	2	4	58.5	76.1	CWA-SW1
Cadmium	0.14	8.8	1	0	1	4	0.52	0.52	CW6-SW5
Calcium	NAV	NAV	0	0	4	4	29600	45600	CWA-SW1
Iron	NAV	NAV	0	0	4	4	252	10800	CWA-SW1
Lead	5.4	24	4	0	4	4	8.09	14	CWA-SW1-Diss
Magnesium	NAV	NAV	0	0	4	4	4490	4830	CW6-SW5
Manganese	NAV	NAV	0	0	4	4	109	591	CWA-SW1
Nickel	34	22	0	1	2	4	20.8	23	CW6-SW5
Potassium	NAV	NAV	0	0	4	4	3100	5340	CWA-SW1
Selenium	5	71	1	0	1	4	5.33	5.33	CWA-SW1-Diss
Sodium	NAV	NAV	0	0	4	4	36100	55500	CW6-SW5
Zinc	88	81	0	0	4	4	48.3	80.1	CW6-SW5
Misc. (ug/L)									
Hardness	na	na	na	na	2	2	95205	132498	CWA-SW1

Notes:
ug/L = micrograms per liter
ESC = Ecological Screening Criteria (See Section 3.3)
FW-SW = Fresh Water-Surface Water
SW-SW = Salt Water-Surface Water
NAV = No Available Value
FW-SW ESC for cadmium, chromium, copper, nickel, and zinc are based on minimum detected hardness in Charles Wood Area site and background samples (Appendix E).
na = Not Applicable

Table 3-8
Summary of Analytes Detected in Charles Wood Area Downgradient Sediment Samples

Analyte	ESC		# of FW-SED ESC Exceedances	# of SW-SED ESC Exceedances	# of Detections	# of Samples	Minimum Concentration	Maximum Concentration	Location of Maximum
	FW-SED	SW-SED							
VOCs (mg/kg)									
Acetone	NAV	NAV	0	0	2	2	0.015	0.021	CWA-SD1
Methylene chloride	0.159	NAV	0	0	1	2	0.0032	0.0032	CWA-SD1
SVOCs (mg/kg)									
Acenaphthene	0.016	0.016	1	1	1	2	0.49	0.49	CWA-SD1
Anthracene	0.22	0.085	0	0	2	2	0.0053	0.082	CWA-SD1
Benzo(a)anthracene	0.32	0.261	0	0	2	2	0.031	0.033	CW6-SD5
Benzo(a)pyrene	0.37	0.43	0	0	2	2	0.02	0.036	CW6-SD5
Dimethylphthalate	NAV	NAV	0	0	2	2	0.43	0.53	CWA-SD1
Fluoranthene	0.75	0.6	0	0	1	2	0.093	0.093	CW6-SD5
Phenanthrene	0.56	0.24	1	1	1	2	0.6	0.6	CWA-SD1
Pyrene	0.49	0.665	0	0	1	2	0.068	0.068	CW6-SD5
Pesticides (mg/kg)	***None detected***								
PCBs (mg/kg)	***None detected***								
Aroclor 1242	0.07	0.023	0	1	1	2	0.05	0.05	CW6-SD5
Metals (mg/kg)									
Aluminum	25500	18000	0	0	2	2	2170	4170	CWA-SD1
Antimony	3	9.3	0	0	1	2	0.76	0.76	CWA-SD1
Arsenic	6	8.2	1	0	2	2	3.18	6.29	CWA-SD1
Barium	NAV	48	0	0	2	2	13.1	40.3	CWA-SD1
Beryllium	NAV	NAV	0	0	2	2	0.44	1.02	CW6-SD5
Cadmium	0.6	1.2	2	1	2	2	1.15	1.34	CW6-SD5
Calcium	NAV	NAV	0	0	1	2	5370	5370	CWA-SD1
Chromium	26	81	2	0	2	2	32.8	50.2	CW6-SD5
Cobalt	50	10	0	0	2	2	3.36	5.82	CW6-SD5
Copper	16	34	0	0	2	2	4.63	15.6	CWA-SD1
Iron	NAV	NAV	0	0	2	2	14200	15700	CW6-SD5
Lead	31	47	1	0	2	2	13.4	32.4	CWA-SD1
Magnesium	NAV	NAV	0	0	2	2	316	1270	CWA-SD1
Manganese	630	260	0	0	2	2	4.9	59.6	CWA-SD1
Mercury	0.2	0.15	1	1	2	2	0.047	0.249	CWA-SD1
Nickel	16	21	1	1	2	2	8.06	29.7	CW6-SD5
Potassium	NAV	NAV	0	0	2	2	871	1560	CWA-SD1
Selenium	NAV	1	0	2	2	2	2.72	3.17	CW6-SD5
Sodium	NAV	NAV	0	0	2	2	133	238	CWA-SD1
Vanadium	NAV	57	0	0	2	2	19.9	24.1	CWA-SD1
Zinc	120	150	0	0	2	2	49.8	104	CWA-SD1
Misc. (mg/kg)									
Total Organic Carbon	na	na	na	na	2	2	3700	4700	CW6-SD5

Notes:
mg/kg = micrograms per kilogram
ESC = Ecological Screening Criteria (See Section 3.3)
FW-SED = Fresh Water-Sediment
SW-SED = Salt Water-Sediment
NAV = No Available Value
na = Not Applicable



Base Realignment and Closure 2005

U.S. Army Corps of Engineers

Shaw® Shaw Environmental, Inc.

FIGURE 3-1

FORT MONMOUTH BASELINE ECOLOGICAL EVALUATION REPORT

SAMPLE LOCATIONS

MAIN POST
FORT MONMOUTH
NEW JERSEY

ArcGIS File: F:\GISDATA2\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_004_Fig3-1_MP_SampleLocations_BEE_rpt.mxd (4/20/2011)

TINTON FALLS BOROUGH

EATONTOWN BOROUGH

PARKERS CK BRANCH 12046

UNT TO 12046 @ 1.90

SHREWSBURY (PARKERS CREEK)

WAMPUM BROOK

Route 537

Tinton Avenue

Hope Road

Guam Lane

Hemphill Road

Rabbit Avenue

Tinton Falls Public Works Way

Charles Wood Area

Corregidor Road

Laboratory Road

Coppuck Place Drive

Radiac Way

Hellfgott Drive

Quartz Avenue

Watson Avenue

Pearl Harbor Avenue

Satellite Road

Fire Line Drive

Radar Avenue

Academy Avenue

Monmouth County 51

Megill Drive

Megill Circle

Lowther Drive

Maxwell Place

Wigwag Road

Helms Drive

Pinebrook Road

Mitchell Drive

NJ 36

ECP Parcel 15

ECP Parcel 26

ECP Parcel 27

IRP Site CW-3A

IRP Site CW-6

CWA-SD1/CWA-SW1

CW3-SD1

CW3-SD2

CW3-SD3

CW3-SD4
CW3-SW4

CW3-SD5
CW3-SW5

CW3-SD6

CW3-SD7
CW3-SW7

CW3-SD8

P28-SW2

P28-SW1

P15-SW3

P15-SW1

P27-SW2

P27-SW1

CW6-SS1

CW6-SS2

CW6-SS3

CW6-SS4

CW6-SD1

CW6-SD2

CW6-SD3

CW6-SD4

CW6-SD5/CW6-SW5

CW6-SD6/CW6-SW6

LEGEND

Sample Locations

- Sediment Sample Location
- Surface Water Sample Location
- Sediment/Surface Water Sample Location
- Surface Soil Sample Location
- Road Centerline
- Water Feature
- Building
- Municipal Boundary
- Water Body
- IRP Site
- ECP Parcel
- Installation Boundary

N

Scale:

0 300 600 1,200

Feet

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

Shaw® Shaw Environmental, Inc.

FIGURE 3-2

FORT MONMOUTH BASELINE ECOLOGICAL EVALUATION REPORT

SAMPLE LOCATIONS

CHARLES WOOD AREA
FORT MONMOUTH
NEW JERSEY

ArcGIS File: F:\GISDATA2\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_005_Fig3-2_CWA_SampleLocations_BEE_rpt.mxd (4/20/2011)

4.0 ECOLOGICAL EVALUATION

COPECs were identified in the previous section through a comparison of analytical data from site media (surface soil, groundwater, surface water, and sediment) to concentrations used as screening levels for ecological concern. A qualitative determination of the potential for adverse effects from site constituents is made in this section based on the COPECs, the presence of environmentally sensitive areas, and the potential migration pathways of site constituents.

COPECs identified at potential exposure points, such as surface water and sediments of the creeks and rivers and wetland soils at the Pesticide Storage Area CW-6 (FTMM-28), are compared to background and ambient levels of those constituents (**Section 2.4.7**, **Table 2-2**, **Appendix G**, and **Table 3-3 through Table 3-6**). The potential risk to wildlife exposed to constituents present in surface water, sediment, and food items (aquatic plants, fish, and invertebrates) at concentrations above background are evaluated through the use of food chain models to provide additional lines of evidence to support the conclusions of the ecological evaluations for each of the applicable IRP sites and ECP Parcels addressed in this BEE. The wildlife exposure models are discussed in **Section 4.1**, and the ecological evaluation of each site or parcel is discussed in **Section 4.2** for the MP and **Section 4.3** for the CWA.

4.1 WILDLIFE EXPOSURE MODELS

Wildlife may be exposed through dietary consumption of contaminants present in sediment or wetland soils at concentrations greater than background. In order to assess the potential risks to various feeding guilds from soil or sediment-related constituents, a food web model was constructed for the following target species: the American Robin (*Turdus migratorius*), the Great Blue Heron (*Ardes herodeus*), and the Mallard Duck (*Anas platyrhynchos*). These food web models were used to evaluate wildlife exposure to COPECs present at concentrations above those in background.

The first species, the American Robin, is a terrestrial invertivore and may be exposed to constituents in soil from consumption of invertebrates that accumulate constituents from the soil and from incidental ingestion of soil. The American Robin is chosen to represent exposures to invertivorous species.

The remaining two species are aquatic-based species and may be exposed to constituents present in the sediment through bioaccumulation in dietary items: aquatic plants, small fish, and aquatic vertebrates and invertebrates.

The Great Blue Heron is the largest member of the wading birds in North America with long necks and spear-like bills. It is widely distributed in both saltwater and freshwater environments. Fish are the preferred prey, but Great Blue Herons also eat amphibians, reptiles, crustaceans, insects, birds, and mammals. A limited area of the MP, particularly some of the wetland area along Oceanport Creek, was identified through the NJDEP Landscape Project Critical Wildlife Habitat database as habitat Rank 4 for the Least Tern; this rank indicates at least one or more occurrences of a state endangered species. Like the Great Blue Heron, the Least Tern is piscivorous, but is a more seasonal resident, is limited in adequate foraging areas at the site, is mainly marine, and has a much larger foraging area. The Great Blue Heron was chosen to represent piscivorous birds that may be exposed throughout the waterways in and around FTMM.

The Mallard is a surface-feeding duck common to both freshwater and saltwater wetlands. Their feeding methods often include filtering through soft mud for food, exposing them to potential sediment-related contaminants. They feed mostly on aquatic plants, depending on the season, and are the most abundant duck in the United States being widespread throughout the United States. The Mallard was chosen to represent herbivorous birds with direct exposure to sediments.

The wildlife exposure estimates are expressed as the body weight-normalized average daily doses from all exposure routes: food consumption, water consumption, and incidental soil or sediment consumption. This is expressed through the following equation:

where:

ADD	=	average daily dose (mg/kg-day)
BW	=	body weight (kg)
IR_{food}	=	ingestion rate of food by receptor species (kg/day)
f_i	=	fraction of daily diet comprised of food item i
C_i	=	Concentration of COPEC in food item i (mg/kg)
IR_{water}	=	ingestion rate of water (L/day)
C_{water}	=	Concentration of COPEC in water (mg/L)
f_{soil}	=	fraction of daily diet comprised of soil
M_{diet}	=	weighted average moisture content of diet expressed as a fraction
C_{soil}	=	concentration of COPEC in soil (mg/kg)
AUF	=	area use factor which is the fraction of a species' range occupied by the site

Ingestion rates, exposure factors, and other natural history parameters for these target species are presented in **Table 4-1** and are from the Wildlife Exposure Factors Handbook (USEPA, 1993b).

Literature-derived bioconcentration factors (or bioaccumulation factors or biotransfer factors) were used to estimate COPEC concentrations in food items (e.g., aquatic plants, invertebrates, and fish). The bioaccumulation factors (BAFs) for soil invertebrates, aquatic plants, fish and aquatic vertebrates and invertebrates for the COPECs are listed in **Table 4-2**, **Table 4-3**, and **Table 4-4**, respectively.

The soil-to-invertebrate bioaccumulation factors were obtained from several sources. The primary sources were the recommended BAFs from the USEPA's ecological soil screening level guidance (USEPA. 1995 et seq.). Regression models were developed for Oak Ridge National Laboratory (Sample et al., 1998a) for use in estimating the uptake of inorganic elements from soil by earthworms. The median BAF was used for mercury from this source. The bioconcentration factor (BCF) for the remaining inorganics were from USEPA (1999) or, by default, set at the geometric mean of all the inorganic BCFs from that guidance (USEPA, 1999) as recommended by that guidance. For non-chlorinated organic compounds with log K_{OW} values less than 5, the BCF was set at 0.7 (for dry weight) as recommended by the State of Washington (WAC Title 173) in its wildlife exposure models.

The sediment-to-aquatic plant bioaccumulation factors were obtained mostly from the USEPA's *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities* (1999). In accordance with USEPA (1999), inorganic COPECs without BAFs used the geometric mean of the available inorganic BAFs and organic COPECs without BAFs used the regression equation of Travis and Arms (1988). BAFs for DDD and DDT used the BAF for DDE as a surrogate.

The sediment-to-aquatic invertebrate bioaccumulation factors were obtained mostly from the USEPA's *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities* (1999). These values are also used as a conservative estimate of BAFs for foraging fish which would experience less exposure to sediment contaminants than benthic invertebrates which experience continuous direct contact with sediments. In accordance with USEPA (1999), inorganic COPECs without BAFs used the geometric mean of the available inorganic BAFs. BAFs for DDD and DDT used the BAF for DDE as a surrogate. BAFs for several PAHs were obtained from the USEPA's National Sediment Quality Inventory assuming 10.5% lipid in species and 2% organic carbon content in sediment.

The soil/sediment ingestion rate for the receptor species is most often represented as a percentage of a receptor species' diet expressed as a ratio of dry weights. These soil ingestion rates are presented in **Table 4-4** along with other natural history parameters for the receptor species. In order to account for the methodology used in the estimation of the soil ingestion rates, the moisture content of the receptor species' diets must be accounted for. The relationship used to estimate the soil ingestion rates for the receptors in this BEE is as follows:

Where:

IR_{soil} = ingestion rate of soil (mg/kg-day)
IR_{food} = ingestion rate of food by receptor species (kg/day)
f_{soil} = fraction of daily diet comprised of soil
M_{diet} = weighted average moisture content of diet expressed as a fraction

The bioaccumulation models and the exposure models are related to the concentrations of COPECs in various environmental media (e.g., sediment). For each site addressed in this BEE where constituent concentrations are detected at concentrations above ESCs and above background concentrations, a conservative estimate of the concentration to which a receptor would be exposed over time needs to be estimated. The concentration is referred to as the exposure point concentration and it is the arithmetic average concentration for a COPEC based on a set of sampling results for the area. Average concentrations were calculated using ProUCL Version 4.00.05 using one-half the detection limit or Kaplan-Meir Method when non-detects were present. For the conservative purposes of the screening level risk assessment, the maximum detected concentration is used initially for each site where COPECs are present at concentrations above background.

The area use factor (AUF) is the fraction of a species' foraging range that is occupied by the site. For example, the foraging area for the Great Blue Heron is reported as averaging 4.5 hectares (HA). If the potential foraging area of the site is 0.45 HA, then the fraction intake from the site is only 10% and the AUF is 0.1. Another consideration regarding the fraction intake from the site is the amount of time per year that a species may spend in the habitat associated with the site. With avian species, this is usually due to seasonal differences and migration. It should be noted that, though a species may seem to be present in an area year-round, the winter and breeding season populations are often different with the local winter population migrating further north during the breeding season, and the local breeding season population migrating from the south. For the conservative purposes of the screening level risk assessment, the AUF is initially set equal to one (assumes the target species only forages at the site) and the seasonality is not considered.

Ecological effects due to exposure to contaminants are estimated using toxicity reference values (TRVs). TRVs are analogous to the reference doses used in human health risk assessments. However, reference doses in human health risk assessments are defined as "safe" levels, whereas TRVs may be based on No Observable Adverse Effect Levels (NOAELs), Lowest Observable Adverse Effect Levels (LOAELs), or other toxicity data. Dose-based toxicological benchmarks based on laboratory test animals were obtained from the literature and are presented in **Table 4-5**. Data from chronic toxicity studies and from studies that addressed survival, growth, or reproduction endpoints are used in preference to shorter term studies or studies where effects could not be directly linked to impacts on survival, growth, or reproduction. The primary sources for avian TRVs were the recommended NOAELs from the USEPA's ecological soil screening level guidance (USEPA. 1995 et seq.). When not available through these primary sources, NOAEL TRVs were obtained from the literature (Sample et al., 1996; USEPA, 1999; Eisler, 1987). Though the ecological soil screening level guidance does not recommend LOAELs, LOAELs were obtained from these guidances following their methodology: LOAELs were obtained from the same study that provided the NOAELs or LOAELs were calculated as the geometric means of LOAELs from reproduction and growth studies whenever NOAELs were calculated as the geometric means of those studies.

The potential risks to wildlife via exposure to COPECs through the food web are estimated by comparing the potential exposures (expressed as the average daily dose) to the TRVs. This comparison is made in the form of the hazard quotient (HQ) which is the ratio of the estimated average daily dose (ADD) to the TRV:

$$\frac{\quad}{\quad}$$

For the conservative purposes of the screening level risk assessment, a NOAEL-based HQ is initially determined using the NOAEL-based TRV as the denominator. When the NOAEL-based HQ is greater than one, indicating that the conservatively estimated exposure may be greater than the NOAEL,

then a LOAEL-based HQ is also calculated. The potential wildlife screening level wildlife risk evaluations are presented in the following sections for sites where COPECs are detected in sediment or wetland soils at concentrations above background.

4.2 MAIN POST

On the MP, 13 IRP Sites and five ECP Parcels were addressed in this BEE. Two of the IRP sites are contained within ECP Parcels and are addressed as one.

4.2.1 LANDFILL 2 (FTMM-2)

Near surface soil, groundwater, surface water, and sediment data were evaluated. Ecological receptors are not directly exposed to near surface soils or groundwater, but ecological receptors may be exposed to surface water or sediment. This evaluation identified several pesticides, PCBs, SVOCs, and metals as COPECs in near surface soil and one VOC, several pesticides, and several metals as COPECs in groundwater. Though there are no direct ecological exposures to near surface soils or groundwater, the COPECs may have the potential to migrate towards environmentally sensitive habitats where ecological receptors could be exposed to contaminants. Two SVOCs and lead were identified as COPECs in surface water. PCBs, SVOCs, and metals were identified as COPECs in sediment. Though 4,4′-DDE and cadmium were not detected in surface water, their surface water MDLs were greater than the applicable ESC. Given that 4,4′-DDE is a COPEC in soil and cadmium is a COPEC in soil, groundwater, and sediment, they are considered possible COPECs in surface water. **Table 4-6** and **Table 4-7** provide a summary of the COPECs in surface water and sediment at Landfill 2 (FTMM-2) as well as background and ambient levels of those constituents. Though PCBs and SVOCs in sediment were detected very infrequently at concentrations above the ESCs, some detected concentrations were above background. The maximum sediment barium concentration also exceeded BEE background concentrations. A summary of the wildlife HQs for these COPECs is presented in **Table 4-8**.

GIS digital data available through the NJDEP indicate the presence of deciduous wetlands along Mill Creek and to the east and west of Landfill 2 (**Figure 4-1**) as well as herbaceous wetlands across the site (**Figure 4-2**). A site visit on September 9, 2009, confirmed the presence of deciduous wetlands bordering Mill Creek and Landfill 2 (FTMM-2); however, the site itself was typical of upland habitat and not herbaceous wetlands.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species.

The potential for ecological effects from COPECs at Landfill 2 (FTMM-2) is judged to be minimal for the following reasons:

- Ecological receptors are not frequently exposed to subsurface soils; COPECs are in subsurface soils and ecological exposure is unlikely though contaminants may migrate to potential exposure points.
- Most SVOCs, pesticides, and PCBs in soil were detected infrequently at concentrations exceeding the ESC.
- Ecological receptors are not exposed directly to contaminants in groundwater, though groundwater may flow to potential exposure points.
- Though identified as COPECs in near surface soil or groundwater, VOCs and pesticides were not identified as COPECs in surface water or sediment where exposure may occur.
- Lead concentrations in surface water and sediment were similar to those in background samples (**Table 3-3**).
- PCBs in sediment at low concentrations are ubiquitous due to varied anthropogenic sources. Detected concentrations of PCBs were low, mostly within a factor of 2 of the LELs used for screening and orders of magnitude less than the SELs, and detected concentrations were similar to those in background samples (**Table 3-4**).

- PAHs have many anthropogenic sources and are ubiquitous in environmental media. The few detected concentrations of PAHs identified as COPECs were at low concentrations and at concentrations similar to those in background samples (**Table 3-3** and **Table 3-4**). These SVOCs, though some were identified as COPECs in soil, were not identified as COPECs in groundwater indicating that their current presence in surface water and sediment may not be due to migration from Landfill 2 (FTMM-2).
- The concentrations of metals in surface water and sediment exceeding ESC were similar to those found in background samples (**Table 3-3** and **Table 3-4**).
- Conservative wildlife HQs, assuming foraging only at the point of maximum concentration, for PBCs and SVOCs are less than one. Though the NOAEL-based Great Blue Heron HQ for barium based on foraging only at the maximum detected concentration is greater than one, HQs based on average detected concentrations or the size of the potential foraging area are well below one (0.63 and 0.33, respectively).

Within the landfill, COPECs were identified in soils and groundwater that could migrate to ecological exposure points in nearby surface water or sediment. COPECs in surface water were limited to two PAHs and lead, and COPECs in sediment, though potentially related to landfill soil or groundwater COPECs indicating a potential migration pathway, are at low concentrations relative to the ESC and similar to background concentrations. Based on wildlife exposure models for this site, the HQs do not indicate an ecological concern. Based on these considerations and the information provided in this report, it is concluded that constituents at Landfill 2 (FTMM-2) are unlikely to have a deleterious effect on sensitive ecological receptors or habitats, and additional ecological assessments at Landfill 2 (FTMM-2) are not warranted or recommended.

4.2.2 LANDFILL 3 (FTMM-3)

Near surface soil, groundwater, surface water, and sediment data were evaluated. Ecological receptors are not directly exposed to near surface soils or groundwater, but ecological receptors may be exposed to surface water or sediment. This evaluation identified one PCB, several pesticides, SVOCs, and metals as COPECs in near surface soil. VOCs were not identified as COPECs in groundwater. Though there are no direct ecological exposures to near surface soils, the COPECs in soil may have the potential to migrate towards environmentally sensitive habitats where ecological receptors could be exposed to contaminants. No COPECs were identified as COPECs in surface water; however, given that the surface water MDL for copper was greater than the applicable ESC and copper was identified as a COPEC in other site media, copper is considered a possible COPEC in surface water. Two pesticides and several metals were identified as COPECs in sediment. **Table 4-9** and **Table 4-10** provide a summary of the COPECs in surface water and sediment at Landfill 3 (FTMM-3) as well as background and ambient levels of those constituents. Though DDD and DDT in sediment were detected in only one sample each at concentrations above the ESCs, these detected concentrations were above background. The maximum sediment copper concentration also exceeded BEE background concentrations. A summary of the wildlife HQs for these COPECs is presented in **Table 4-11**.

GIS digital data available through the NJDEP indicate the presence of freshwater tidal wetlands (**Figure 4-2**) along Lafetra Creek opposite Landfill 3 (FTMM-3) as well as deciduous wetlands (**Figure 4-1**) further to the north and to the west of Landfill 3 (FTMM-3).

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species and that Lafetra Creek as well as the adjacent wetlands are Conservation Rank 4 as potential bald eagle foraging habitat (**Figure 4-3**), indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. The presence of bald eagles has not been documented for this site.

The potential for ecological effects from COPECs at Landfill 3 (FTMM-3) is judged to be minimal for the following reasons:

- Ecological receptors are not frequently exposed to subsurface soils; COPECs are in subsurface soils and ecological exposure is unlikely though contaminants may migrate to potential exposure points.
- With the exception of two PAHs and 4,4′-DDT, SVOCs and pesticides in soil were detected infrequently at concentrations exceeding the ESC.
- No COPECs were identified in groundwater that may flow to potential exposure points.
- The concentration of 4,4-DDD (0.0095 mg/kg) exceeded the saltwater sediment ESC (0.002 mg/kg). One detected concentration (0.18 mg/kg) of 4,4′-DDT, exceeded the ER-L value used for screening (0.001 mg/kg) as well as the ER-M value (0.007 mg/kg) but similar to that reported in SI background samples for sediment and soil (Weston, 1995).
- Though identified as COPECs in near surface soil, PCBs were not identified as COPECs in surface water or sediment where ecological exposures may occur.
- PAHs, though identified as COPECs in near surface soil, were not identified as COPECs in surface water or sediment where ecological exposure may occur.
- With the exception of the concentration of copper in one sediment sample, the concentrations of metals were similar to those found in background samples (**Table 3-3** and **Table 3-4**). The remaining sediment sample copper concentrations were low with respect to the ESC and similar to that in most of the background samples.
- Conservative wildlife HQs for DDD and DDT are less than one. Though the NOAEL-based Mallard and Great Blue Heron HQs for copper based on the maximum detected concentration is greater than one, HQs based on average detected concentrations or the size of the potential foraging area are well less than one.

Within the landfill, COPECs were identified in soils that could migrate to ecological exposure points in nearby surface water or sediment. No COPECs were identified in surface water. The metals COPECs in sediment, though potentially related to landfill soil COPECs, are mostly found at low concentrations in relation to the ESC and similar to background concentrations. The wildlife exposure model HQs for this site do not indicate an ecological concern. Based on these considerations and the information provided in this report, it is concluded that constituents at Landfill 3 (FTMM-3) are unlikely to have a deleterious effect on sensitive ecological receptors or habitats, and additional ecological assessments at Landfill 3 (FTMM-3) are not warranted or recommended.

4.2.3 LANDFILL 4 (FTMM-4)

Near surface soil, groundwater, surface water, and sediment data were evaluated. Ecological receptors are not directly exposed to near surface soils or groundwater, but ecological receptors may be exposed to surface water or sediment. This evaluation identified a few pesticides, two SVOCs, and several metals as COPECs in near surface soil. Five metals were identified as COPECs in groundwater. Though there are no direct ecological exposures to near surface soils or groundwater, the COPECs in soil and groundwater may have the potential to migrate towards environmentally sensitive habitats where ecological receptors could be exposed to contaminants. No COPECs were identified as COPECs in surface water; however, given that the surface water MDL for copper was greater than the applicable ESC and copper was identified as a COPEC in other site media, copper is considered a possible COPEC in surface water. Two pesticides, three PCBs, six SVOCs, and six metals were identified as COPECs in sediment. **Table 4-12** and **Table 4-13** provide a summary of the COPECs in surface water and sediment at Landfill 4 (FTMM-4) as well as background and ambient levels of those constituents. Though DDD and DDT in sediment were detected infrequently at concentrations above the ESCs, these detected concentrations were above background. The maximum sediment PCB concentrations also exceeded BEE background concentrations. A summary of the wildlife HQs for these COPECs is presented in **Table 4-14**.

No significant habitats in the vicinity of Landfill 4 are identified within the GIS digital data available through the NJDEP.

The potential for ecological effects from COPECs at Landfill 4 (FTMM-4) is judged to be minimal for the following reasons:

- Ecological receptors are not frequently exposed to subsurface soils; COPECs are in subsurface soils and ecological exposure is unlikely though contaminants may migrate to potential exposure points.
- With the exception of 4,4′-DDT, pesticide and SVOC concentrations in soil exceeding COPECs were detected infrequently at concentrations exceeding the ESC.
- Ecological receptors are not exposed directly to contaminants in groundwater, though groundwater may flow to potential exposure points.
- Though identified as COPECs in near surface soil, pesticides were not identified as COPECs in surface water and detected infrequently in sediment where ecological exposures may occur. Detected concentrations in sediment were low with respect to the applicable ESC.
- Though copper was identified as a potential COPEC in surface water, copper concentrations in sediment were similar to those in background samples (**Table 3-4**).
- Though PCBs were detected in sediment, they were not detected in near surface soils at Landfill 4 (FTMM-4), and may not be related to the Landfill. PCBs at low concentrations are ubiquitous due to varied anthropogenic sources. Detected concentrations of PCBs in sediment were low, all within a factor of 8 of the ER-Ls used for screening and orders of magnitude less than the ER-Ms, and detected concentrations were similar to those in background samples (**Table 3-4**).
- PAHs in surface water and sediment have many anthropogenic sources and are ubiquitous in environmental media. The few detected concentrations of PAHs identified as COPECs were at low concentrations and at concentrations similar to those in background samples (**Table 3-3** and **Table 3-4**).
- The concentrations of metals in surface water and sediment were similar to those found in background samples (**Table 3-3** and **Table 3-4**).
- Conservative wildlife HQs, assuming foraging only at the point of maximum concentration, for DDD, DDT, and PCBs are less than one.

Within the landfill, COPECs were identified in soils and groundwater that could migrate to ecological exposure points in nearby surface water or sediment. COPECs in surface water were limited to lead which is found at similar concentrations within background samples. The metals COPECs in sediment, though potentially related to landfill soil or groundwater COPECs indicating a potential migration pathway, are found at low concentrations in relation to the ESC and similar to background concentrations. Conservative wildlife HQs are all less than one indicating no ecological concern. Based on these considerations and the information provided in this report, it is concluded that constituents at Landfill 4 (FTMM-4) are unlikely to have a deleterious effect on sensitive ecological receptors or habitats, and additional ecological assessments at Landfill 4 (FTMM-4) are not warranted or recommended.

4.2.4 LANDFILL 5 (FTMM-5)

Near surface soil, groundwater, surface water, and sediment data were evaluated. Ecological receptors are not directly exposed to near surface soils or groundwater, but ecological receptors may be exposed to surface water or sediment. This evaluation identified one PCB, several pesticides, SVOCs, and metals as COPECs in near surface soil. No VOCs were identified as COPECs in groundwater. Though there are no direct ecological exposures to near surface soils or groundwater, the COPECs in soil may have the potential to migrate towards environmentally sensitive habitats where ecological receptors could be exposed to contaminants. No COPECs were identified as COPECs in surface water; however, given that the surface water MDL for copper was greater than the applicable ESC and copper was identified as a COPEC in other site media, copper is considered a possible COPEC in surface water. Three pesticides, several SVOCs, and several metals were identified as COPECs in sediment. **Table 4-15** and **Table 4-16** provide a summary of the COPECs in surface water and sediment at Landfill

5 (FTMM-5) as well as background and ambient levels of those constituents. The maximum sediment DDD, DDE, and DDT concentrations also exceeded BEE background concentrations. A summary of the wildlife HQs for these COPECs is presented in **Table 4-17**.

Though the GIS digital data available through the NJDEP do not indicate the presence of critical habitats at Landfill 5 (FTMM-5), the forested area to the north is Habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species, and is listed as Conservation Rank 4 as potential bald eagle foraging habitat (**Figure 4-3**), indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. The presence of bald eagles has not been documented for this site.

The potential for ecological effects from COPECs at Landfill 5 (FTMM-5) is judged to be minimal for the following reasons:

- Ecological receptors are not frequently exposed to subsurface soils; COPECs are in subsurface soils and ecological exposure is unlikely though contaminants may migrate to potential exposure points.
- Most SVOCs, pesticides, and PCBs in soil were detected infrequently at concentrations exceeding the ESC.
- No VOCs were identified as COPECs in groundwater that may flow to potential exposure points.
- Though copper was identified as a potential COPEC in surface water, copper concentrations in sediment were similar to those in background samples (**Table 3-4**).
- All detected concentrations of the pesticides 4,4′-DDD, 4,4′-DDE, and 4,4′-DDT were within a factor of eight of the saltwater sediment ESC (most were within a factor of three of the ER-Ls) and below the ER-Ms.
- Though identified as COPECs in near surface soil, PCBs were not identified as COPECs in surface water or sediment where ecological exposures may occur.
- PAHs have many anthropogenic sources and are ubiquitous in environmental media. The few detected concentrations of PAHs identified as COPECs were at low concentrations and most were similar to those in background samples (**Table 3-3** and **Table 3-4**).
- The concentrations of metals in sediment were similar to those found in background samples (**Table 3-3** and **Table 3-4**).
- Conservative wildlife HQs, assuming foraging only at the point of maximum concentration, for DDD, DDE, and DDT are less than one.

Within the landfill, COPECs were identified in soils and groundwater that could migrate to ecological exposure points in nearby surface water or sediment. No COPECs were identified in surface water. COPECs in sediment, though potentially related to landfill soil COPECs, are at low concentrations and similar to background concentrations. Pesticides in sediment, though potentially related to landfill soil, were detected infrequently and at low concentrations in relation to the ESC. Conservative wildlife HQs are all less than one indicating no ecological concern. Based on these considerations and the information provided in this report, it is concluded that constituents at Landfill 5 (FTMM-5) are unlikely to have a deleterious effect on sensitive ecological receptors or habitats, and additional ecological assessments at Landfill 5 (FTMM-5) are not warranted or recommended.

4.2.5 LANDFILL 8 (FTMM-8)

Near surface soil, groundwater, surface water, and sediment data were evaluated. Ecological receptors are not directly exposed to near surface soils or groundwater, but ecological receptors may be exposed to surface water or sediment. This evaluation identified several pesticides, PCBs, SVOCs, and metals as COPECs in near surface soil. Several pesticides were identified as COPECs in groundwater. Though there are no direct ecological exposures to near surface soils or groundwater, the COPECs in soils and groundwater may have the potential to migrate towards environmentally sensitive habitats

where ecological receptors could be exposed to contaminants. No COPECs were identified as COPECs in surface water; however, given that the surface water MDL for copper exceeded the applicable ESC and copper was identified as a COPEC in other site media, copper is considered a possible COPEC in surface water. Two PCBs, 4,4-DDD, and several metals were identified as COPECs in sediment. **Table 4-18** and **Table 4-19** provide a summary of the COPECs in surface water and sediment at Landfill 8 (FTMM-8) as well as background and ambient levels of those constituents. Though PCBs in sediment were detected infrequently at concentrations above the ESCs, these detected concentrations were above background. The maximum sediment chromium, cobalt, mercury, and nickel concentrations also exceeded BEE background concentrations. A summary of the wildlife HQs for these COPECs is presented in **Table 4-20**.

GIS digital data available through the NJDEP indicate the presence of Phragmites dominated wetlands (**Figure 4-2**) along Parkers Creek opposite Landfill 8 (FTMM-8), with deciduous shrub/scrub wetlands and deciduous wetlands present further from the landfill (**Figure 4-1**). Landfill 8 (FTMM-8) is identified as a coastal forest habitat.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland areas across Parkers Creek and the forested areas on Landfill 8 (FTMM-8) are habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species. Parkers Creek, as well as the wetlands and forested area, is listed as Conservation Rank 4 as potential bald eagle foraging habitat, indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. The presence of bald eagles has not been documented for this site.

The potential for ecological effects from COPECs at Landfill 8 (FTMM-8) is judged to be minimal for the following reasons:

- Ecological receptors are not frequently exposed to subsurface soils; COPECs are in subsurface soils and ecological exposure is unlikely though contaminants may migrate to potential exposure points.
- Most SVOCs, PCBs, and pesticides in soil were detected infrequently at concentrations exceeding the ESC.
- Ecological receptors are not exposed directly to contaminants in groundwater, though groundwater may flow to potential exposure points.
- Though copper was identified as a potential COPEC in surface water, copper concentrations in sediment were similar to those in background samples (**Table 3-4**).
- Though several pesticides were identified as COPECs in near surface soil and groundwater, only 4,4′-DDD was detected as a COPEC in sediment where ecological exposure may occur indicating no significant migration of organic COPECs from the landfill.
- The three detected concentrations (0.0021, 0.0023, and 0.0033 mg/kg) in sediment of the pesticide, 4,4-DDD, were only marginally greater than the saltwater sediment ESC (0.002 mg/kg).
- Though identified as COPECs in near surface soil, PCBs were not identified as COPECs in surface water where ecological exposures may occur.
- PCBs at low concentrations in sediment are ubiquitous due to varied anthropogenic sources. Detected concentrations of PCBs in sediment were all within a factor of eight of the ER-Ls and orders of magnitude less than the ER-Ms, and detected concentrations were similar to those in background samples (**Table 3-4**).
- Though identified as PAHs in near surface soil, PAHs were not identified as COPECs in surface water or sediment where ecological exposures may occur.

- The concentrations of metals were similar to those found in background samples for the BEE investigation (**Table 3-3** and **Table 3-4**) or the background soil and sediment concentrations reported in the SI (Weston, 1995).
- Conservative wildlife HQs, assuming foraging only at the point of maximum concentration, for PCBs and mercury are less than one. Though the NOAEL-based Great Blue Heron HQs for chromium, cobalt, and nickel based on foraging only at the maximum detected concentration are greater than one, HQs based on the size of the potential foraging area are well less than one (0.56, 0.40, and 0.24, respectively).

Within the landfill, COPECs were identified in soils and groundwater that could migrate to ecological exposure points in nearby surface water or sediment. No COPECs were identified in surface water. Pesticides and PCBs in sediment, though potentially related to landfill soil, were detected infrequently and at low concentrations in relation to the ESC. Metals in sediment were found at concentrations similar to the background concentrations from the BEE investigation or SI. The wildlife exposure model HQs for this site do not indicate an ecological concern. Based on these considerations and the information provided in this report, it is concluded that constituents at Landfill 8 are unlikely to have a deleterious effect on sensitive ecological receptors or habitats, and additional ecological assessments at Landfill 8 (FTMM-8) are not warranted or recommended.

4.2.6 LANDFILL 12 (FTMM-12)

Near surface soil, groundwater, surface water, and sediment data were evaluated. Ecological receptors are not directly exposed to near surface soils or groundwater, but ecological receptors may be exposed to surface water or sediment. This evaluation identified several pesticides, SVOCs, and metals as COPECs in near surface soil. Several metals were identified as COPECs in groundwater. Though there are no direct ecological exposures to near surface soils or groundwater, the COPECs in soil and groundwater may have the potential to migrate towards environmentally sensitive habitats where ecological receptors could be exposed to contaminants. No COPECs were identified as COPECs in surface water; however, given that the surface water MDL for copper was greater than the applicable ESC and copper was identified as a COPEC in other site media, copper is considered a possible COPEC in surface water. Three pesticides, one PCB, several PAHs and several metals were identified as COPECs in sediment. **Table 4-21** and **Table 4-22** provide a summary of the COPECs in surface water and sediment at Landfill 12 (FTMM-12) as well as background and ambient levels of those constituents. Though PCBs in sediment were detected in only one sample at a concentration above the ESCs, this detected concentration was above background. The maximum sediment DDD, DDE, DDT, acenaphthene, and anthracene concentrations also exceeded BEE background concentrations. A summary of the wildlife HQs for these COPECs is presented in **Table 4-23**. This table addresses both Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14), which are located on opposite sides of Husky Brook.

GIS digital data available through the NJDEP indicate the presence of deciduous wooded (**Figure 4-1**) wetlands along both banks of Husky Brook in the western half of Landfill 12 (FTMM-12). Based on site observations, these wetlands are less extensive than indicated through the NJDEP data.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland areas along Husky Brook and the small tributary are habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species. To the east of Landfill 12 (FTMM-12), on the opposite side of Wallington Avenue-Murphy Drive, the emergent wetland areas are habitat Rank 4 for the Least Tern; this rank indicates at least one or more occurrences of a state endangered species. Husky Brook, as well as the wetlands and forested areas of Landfill 12 (FTMM-12), is listed as Conservation Rank 4 as potential bald eagle foraging habitat (**Figure 4-3**), indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. The presence of bald eagles has not been documented for this site.

The potential for ecological effects from COPECs at Landfill 12 (FTMM-12) is judged to be minimal for the following reasons:

- Ecological receptors are not frequently exposed to subsurface soils; COPECs are in near surface soils under a clean soil cover and ecological exposure is unlikely though contaminants may migrate to potential exposure points.

- Most of the SVOCs and pesticides in soil were detected infrequently at concentrations exceeding the ESC.
- Ecological receptors are not exposed directly to contaminants in groundwater, though groundwater may flow to potential exposure points.
- Several metals were identified as COPECs in groundwater that may flow to potential exposure points in Husky Brook.
- No VOCs were identified as a COPEC in surface water or sediment.
- Though copper was identified as a potential COPEC in surface water, copper concentrations in sediment were similar to those in background samples (**Table 3-4**).
- Several pesticides were identified as COPECs in near surface soil. Of these, only three (4,4′-DDD, 4,4′-DDE, and 4,4′-DDT) were detected at concentrations exceeding the criteria in sediment. 4,4′-DDD, 4,4′-DDE, and 4,4′-DDT were generally only marginally above the saltwater sediment ESC (0.001 to 0.0022 mg/kg).
- Though one PCB was identified as a COPEC in sediment, PCBs were not identified as COPECs in near surface soil and their presence in sediment may not be related to the landfill.
- PAHs have many anthropogenic sources and are ubiquitous in environmental media. The detected concentrations of PAHs identified as COPECs were at low concentrations and most were similar to those in background samples (**Table 3-3** and **Table 3-4**); the highest concentrations were west of Landfill 12 (FTMM-12) near Malterer Avenue and are more likely due to runoff from roads and parking surfaces than from the landfill. Though above the ER-Ls used for screening, all concentrations were well below the ER-Ms.
- No COPECs were identified in surface water.
- The concentrations of metals in sediment were similar to those found in background samples (**Table 3-4**).
- Conservative wildlife, assuming foraging only at the point of maximum concentration, HQs for PCBs, DDD, DDE, DDT, and PAHs are less than one.

Within the landfill, COPECs were identified in soils and groundwater that could migrate to ecological exposure points in nearby surface water or sediment. No COPECs were identified in surface water. The concentrations of metals in sediment, though potentially related to landfill soil or groundwater COPECs indicating a potential migration pathway, are at low concentrations in relation to the ESC and similar to background concentrations. Conservative wildlife HQs are less than one indicating no ecological concern. Based on these considerations and the information provided in this report, it is concluded that constituents at Landfill 12 (FTMM-12) are unlikely to have a deleterious effect on sensitive ecological receptors or habitats, and additional ecological assessments at Landfill 12 (FTMM-12) are not warranted or recommended.

4.2.7 LANDFILL 14 (FTMM-14)

Near surface soil, groundwater, surface water, and sediment data were evaluated. Ecological receptors are not directly exposed to near surface soils or groundwater, but ecological receptors may be exposed to surface water or sediment. This evaluation identified several pesticides, SVOCs, and metals as COPECs in near surface soil. Several metals were identified as COPECs in groundwater. Though there are no direct ecological exposures to near surface soils or groundwater, the COPECs in soil and groundwater may have the potential to migrate towards environmentally sensitive habitats where ecological receptors could be exposed to contaminants. No COPECs were identified as COPECs in surface water; however, given that the surface water MDL for copper exceeded the applicable ESC and copper was identified as a COPEC in other site media, copper is considered a possible COPEC in surface water. Three pesticides, one PCB, several PAHs and several metals were identified as COPECs in sediment. **Table 4-24** and **Table 4-25** provide a summary of the COPECs in surface water and

sediment at Landfill 14 (FTMM-14) as well as background and ambient levels of those constituents. Though PCBs in sediment were detected in only one sample at a concentration above the ESCs, this detected concentration was above background. The maximum sediment DDD, DDE, DDT, acenaphthene, and anthracene concentrations also exceeded BEE background concentrations. A summary of the wildlife HQs for these COPECs is presented in **Table 4-23**. This table addresses both Landfill 12 (FTMM-12) and Landfill 14 (FTMM-14) since they are located on opposite banks of Husky Brook.

GIS digital data available through the NJDEP indicate the presence of deciduous wooded wetlands (**Figure 4-1**) along both banks of Husky Brook in the western half of Landfill 14 (FTMM-14) as well as along the small tributary that divides Landfill 12 (FTMM-12). Based on site observations, these wetlands are less extensive than indicated through the NJDEP data.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland areas along Husky Brook and the small tributary are habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species. To the east of Landfill 14 (FTMM-14), on the opposite side of Wallington Avenue-Murphy Drive, the emergent wetland areas are habitat Rank 4 for the Least Tern; this rank indicates at least one or more occurrences of a state endangered species. Husky Brook, as well as the wetlands and forested areas of Landfill 14 (FTMM-14), is listed as Conservation Rank 4 as potential bald eagle foraging habitat (**Figure 4-3**), indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. The presence of bald eagles has not been documented for this site.

The potential for ecological effects from COPECs at Landfill 14 (FTMM-14) is judged to be minimal for the following reasons:

- Ecological receptors are not frequently exposed to subsurface soils; COPECs are in near surface soils under a clean soil cover and ecological exposure is unlikely though contaminants may migrate to potential exposure points.
- Most SVOCs and pesticides in soil were detected infrequently at concentrations exceeding the ESC.
- Ecological receptors are not exposed directly to contaminants in groundwater, though groundwater may flow to potential exposure points.
- Several metals were identified as COPECs in groundwater that may flow to potential exposure points.
- No VOCs were identified as COPECs in groundwater, surface water, or sediment.
- No COPECs were identified in surface water.
- Though copper was identified as a potential COPEC in surface water, copper concentrations in sediment were similar to those in background samples (**Table 3-4**).
- Several pesticides were identified as COPECs in near surface soil. Of these, only three (4,4′-DDD, 4,4′-DDE, and 4,4′-DDT) were detected at concentrations exceeding the criteria in sediment. 4,4′-DDD, 4,4′-DDE, and 4,4′-DDT were generally only marginally above the saltwater sediment ESC (0.001 to 0.0022 mg/kg).
- Though one PCB was identified as a COPEC in sediment, PCBs were not identified as COPECs in near surface soil and their presence in sediment may not be related to the landfill.
- PAHs have many anthropogenic sources and are ubiquitous in environmental media. The detected concentrations of PAHs identified as COPECs were at low concentrations and similar to those identified in background samples (**Table 3-3** and **Table 3-4**); the highest concentrations were west of Landfill 14 (FTMM-14) near Malterer Avenue and are more likely due to runoff from roads and parking surfaces than from the landfill. Though above the ER-Ls used for screening, all concentrations were well below the ER-Ms.

- The concentrations of metals were similar to those found in background samples (**Table 3-4**).
- Conservative wildlife HQs, assuming foraging only at the point of maximum concentration, for PCBs, DDD, DDE, DDT, and PAHs are less than one.

Within the landfill, COPECs were identified in soils and groundwater that could migrate to ecological exposure points in nearby surface water or sediment. No COPECs were identified in surface water. The concentrations of metals in sediment, though potentially related to landfill soil or groundwater COPECs indicating a potential migration pathway, are at low concentrations in relation to the ESC and similar to background concentrations. Conservative wildlife HQs are less than one indicating no ecological concern. Based on these considerations and the information provided in this report, it is concluded that constituents at Landfill 14 (FTMM-14) are unlikely to have a deleterious effect on sensitive ecological receptors or habitats, and additional ecological assessments at Landfill 14 (FTMM-14) are not warranted or recommended.

4.2.8 WATER TANK (FTMM-15)

Surface water and sediment data were evaluated. Ecological receptors may be exposed to surface water or sediment. No COPECs were identified in surface water. One pesticide and several metals were identified as COPECs in sediment. **Table 4-26** provides a summary of the COPECs in sediment at Site FTMM-15 as well as background and ambient levels of those constituents. No COPECs in surface water or sediment were detected at concentrations above BEE background levels.

No significant habitats in the vicinity of FTMM-15 are identified within GIS digital data available through the NJDEP.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that Parkers Creek is listed as Conservation Rank 4 as potential bald eagle foraging habitat (**Figure 4-3**), indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. The presence of bald eagles has not been documented for this site.

The potential for ecological effects from COPECs at Site FTMM-15 is judged to be minimal for the following reasons:

- No VOCs, SVOCs, or PCBs were identified as COPECs in surface water or sediment where ecological exposures could occur.
- No pesticides or metals were identified as COPECs in surface water.
- The detected concentration (0.0041 mg/kg) of one pesticide, 4,4-DDT, identified as a COPEC in sediment exceeded the saltwater ER-L (0.001 mg/kg) but less than the ER-M (0.007 mg/kg).
- The concentrations of metals were not above concentrations found in background samples (**Table 3-4**).

No COPECs were identified in surface water. Only one pesticide, in one sample at a low concentration, and metals were identified as COPECs in sediment. Metals were similar to background. Based on these considerations and the information provided in this report, it is concluded that constituents at Site FTMM-15 are unlikely to have a significant effect on sensitive ecological receptors or habitats, and additional ecological assessments at Site M-15 are not warranted or recommended.

4.2.9 PESTICIDE STORAGE, BUILDING 498 (FTMM-16)

Surface water and sediment data were evaluated. Ecological receptors may be exposed to surface water or sediment. No COPECs were identified as COPECs in surface water; however, given that the surface water MDL for copper was greater than the applicable ESC and copper was identified as a COPEC in other site media, copper is considered a possible COPEC in surface water. One SVOC and several metals were identified as COPECs in sediment. **Table 4-27** and **Table 4-28** provide a summary of the COPECs in surface water and sediment at Site FTMM-16 as well as background and ambient levels of those constituents. Although hexachlorobutadiene in sediment was detected in only one sample at a concentration above the ESC, this detected concentration was above background. The maximum

sediment chromium, mercury, and zinc concentrations also exceeded BEE background concentrations. A summary of the wildlife HQs for these COPECs is presented in **Table 4-29**.

GIS digital data available through the NJDEP indicate the presence of low marsh saline wetlands west of the marina and east of Oceanport Avenue (**Figure 4-2**).

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that wetland area along Oceanport Creek is habitat Rank 4 for the Least Tern; this rank indicates at least one or more occurrences of a state endangered species. Oceanport Creek, as well as the wetlands, is listed as Conservation Rank 4 as potential bald eagle foraging habitat (**Figure 4-3**), indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. The presence of bald eagles has not been documented for this site.

The potential for ecological effects from COPECs at Site FTMM-16 is judged to be minimal for the following reasons:

- No VOCs, pesticides, or PCBs were identified as COPECs in surface water or sediment where ecological exposures could occur.
- No PCBs or metals were identified as COPECs in surface water.
- The only SVOC identified as a COPEC in sediment, hexachlorobutadiene, was only detected in one sample and the concentration (0.008 mg/kg) was within an order of magnitude of the saltwater ESC (0.0013 mg/kg).
- The concentrations of two metals were found in sediment at concentrations above those in background samples (**Table 3-4**): chromium and zinc. Site FTMM-16 is a concern due to the presence of pesticides that were detected to have migrated from the site (a soil removal action was completed in 1999). Chromium, lead, and zinc are not expected to be found related to the operations of the Pesticide Storage Area. These concentrations were detected in sediments collected from an active marina and are more likely due to marina activities rather than those related to pesticide storage at Site FTMM-16 or to natural geology or regional anthropogenic deposition; chromium concentrations were similar to those reported for ambient soils in the urban coastal plain (BEM Systems, Inc., 1998), similar to the range of background soil reported for the SI (Weston, 1995), and less than that reported for glauconitic soils (median concentration of 348 mg/kg) by Dooley (2001).
- Conservative wildlife HQs, assuming foraging only at the point of maximum concentration, for hexachlorobutadiene, mercury, and zinc are less than one. Though the NOAEL-based Great Blue Heron HQ for chromium based on foraging only at the maximum detected concentration is greater than one, the HQ based on the size of the potential foraging area is well less than one (0.27).

No COPECs were identified in surface water. Only one SVOC, in one sample at a low concentration, and metals were identified as COPECs in sediment. Though most metals were similar to background, chromium and zinc showed some elevated levels but these are more likely due to marina activities rather than those related to pesticide storage at Site FTMM-16 or natural geology and regional anthropogenic deposition. The wildlife exposure model HQs for this site do not indicate an ecological concern. Based on these considerations and the information provided in this report, constituents related to Site FTMM-16 are unlikely to have a deleterious effect on sensitive ecological receptors or habitats, and additional ecological assessments at Site FTMM-16 are not warranted or recommended.

4.2.10 FORMER TRAINING AREA/LANDFILL (FTMM-18)

Near surface soil, groundwater, surface water, and sediment data were evaluated. Ecological receptors are not directly exposed to near surface soils or groundwater, but ecological receptors may be exposed to surface water or sediment. This evaluation identified two pesticides, two SVOCs, and several metals as COPECs in near surface soil. A few metals were identified as COPECs in groundwater. Though there are no direct ecological exposures to near surface soils or groundwater, the COPECs in soil and groundwater may have the potential to migrate towards environmentally sensitive habitats where ecological receptors could be exposed to contaminants. No COPECs were identified as COPECs in

surface water; however, given that the surface water MDL for copper was greater than the applicable ESC and copper was identified as a COPEC in other site media, copper is considered a possible COPEC in surface water. Several metals were identified as COPECs in sediment. **Table 4-30** and **Table 4-31** provide a summary of the COPECs in surface water and sediment at Site FTMM-18 as well as background and ambient levels of those constituents. The maximum sediment chromium, cobalt, and mercury concentrations exceeded BEE background concentrations. A summary of the wildlife HQs for these COPECs is presented in **Table 4-32**.

GIS digital data available through the NJDEP indicate the presence of Phragmites dominated coastal wetlands and high marsh saline wetlands adjacent to Parkers Creek (**Figure 4-2**); based on on-site observations, there is also an area of deciduous wetlands between the maintained lawns and the emergent wetlands and there are small emergent wetlands within the area of maintained lawn.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland areas along Parkers Creek are habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species. Parkers Creek as well as the associated wetlands are listed as Conservation Rank 4 as potential bald eagle foraging habitat (**Figure 4-3**), indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. The presence of bald eagles has not been documented for this site.

The potential for ecological effects from COPECs at Site FTMM-18 is judged to be minimal for the following reasons:

- Ecological receptors are not frequently exposed to subsurface soils; COPECs are in subsurface soils and ecological exposure is unlikely though contaminants may migrate to potential exposure points.
- The pesticide and PCB COPECs identified in soils were detected infrequently at concentrations exceeding the ESC.
- Ecological receptors are not exposed directly to contaminants in groundwater, though groundwater may flow to potential exposure points.
- A few metals were identified as COPECs in groundwater that may flow to potential exposure points.
- Though copper was identified as a potential COPEC in surface water, copper concentrations in sediment were similar to those in background samples (**Table 3-4**).
- Though a pesticide and a PAH were identified as COPECs in near surface soils, they were not identified as COPECs in surface water or sediment where ecological exposures may occur.
- With the exception of the concentrations of silver in two sediment samples, the concentrations of metals were similar to those found in background samples from the BEE investigation (**Table 3-3** and **Table 3-4**) or SI (Weston, 1995). Siler was identified as a COPEC in near surface soil but not in groundwater or surface water.
- Conservative wildlife HQs, assuming foraging only at the point of maximum concentration, for mercury are less than one. Though the NOAEL-based Great Blue Heron HQs for chromium and cobalt based on foraging only at the maximum detected concentrations are greater than one, HQs based on the size of the potential foraging area and average concentrations (0.85 and 0.13, respectively), or based on LOAELs (0.60 and 0.50, respectively), are well less than one.

Within the landfill, COPECs were identified in soils and groundwater that could migrate to ecological exposure points in nearby surface water or sediment. No COPECs were identified in surface water. Only metals were identified as COPECs in sediment. Though most metals in sediment were found at concentrations similar to background, silver was detected at concentrations above background. Potential risks due to exposure to elevated silver are limited in area around Site FTMM-18. The wildlife

exposure model HQs for this site do not indicate an ecological concern. Based on these considerations and the information provided in this report, constituents related to Site FTMM-18 are unlikely to have a deleterious effect on sensitive ecological receptors or habitats, and additional ecological assessments at Site FTMM-18 are not warranted or recommended.

4.2.11 PRE-1941 FORMER SANITARY SEWAGE TREATMENT PLANT (FTMM-20)

Surface water and sediment data were evaluated. Ecological receptors may be exposed to surface water or sediment. No COPECs were identified as COPECs in surface water; however, given that the surface water MDL for copper was greater than the applicable ESC and copper was identified as a COPEC in sediment, copper is considered a possible COPEC in surface water. Several metals were identified as COPECs in sediment. **Table 4-33** and **Table 4-34** provide a summary of the COPECs in surface water and sediment at Site FTMM-20 as well as background and ambient levels of those constituents. No COPECs in surface water or sediment were detected at concentrations above BEE background levels.

No significant habitats in the vicinity of Site FTMM-20 are identified within GIS digital data available through the NJDEP.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that Parkers Creek is listed as Conservation Rank 4 as potential bald eagle foraging habitat (**Figure 4-3**), indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. The presence of bald eagles has not been documented for this site.

The potential for ecological effects from COPECs at Site FTMM-20 is judged to be minimal for the following reasons:

- No VOCs, SVOCs, pesticides, or PCBs were identified as COPECs in surface water or sediment where ecological exposures may occur.
- No metals were identified as COPECs in surface water.
- Though copper was identified as a potential COPEC in surface water, copper concentrations in sediment were similar to those in background samples (**Table 3-4**).
- The concentrations of metals in sediment were not above those found in background samples (**Table 3-4**). Additionally, though Parkers Creek is tidal in the area of Site FTMM-20, the greatest concentrations were found in the upstream samples.

No COPECs were identified in surface water. Only metals were identified as COPECs in sediment. The concentrations of metals in sediment were not above those in background, consistent with the findings of the SI report (Weston, 1995). Based on these considerations and the information provided in this report, it is concluded that constituents at Site FTMM-20 are unlikely to have a deleterious effect on sensitive ecological receptors or habitats, and additional ecological assessments at Site FTMM-20 are not warranted or recommended.

4.2.12 BUILDING 1122, FTMM-59 (ECP PARCEL 43)

Groundwater, surface water, and sediment data were evaluated. Ecological receptors are not directly exposed to groundwater, but ecological receptors may be exposed to surface water or sediment. No COPECs were identified in groundwater. Only three PAHs and lead were identified as COPECs in surface water. Several PAHs and metals were identified as COPECs in sediment. Though cadmium was not detected in surface water, its MDLs were greater than the freshwater ESC and cadmium was identified as a COPEC in sediment; therefore, cadmium is considered a potential COPEC in surface water. **Table 4-35** and **Table 4-36** provide a summary of the COPECs in surface water and sediment at Parcel 43 as well as background and ambient levels of those constituents. The maximum sediment chromium and mercury concentrations and the maximum surface water benzo(a)anthracene and benzo(a)pyrene concentrations exceeded BEE background concentrations. A summary of the wildlife HQs for these COPECs is presented in **Table 4-37**.

GIS digital data available through the NJDEP indicate the presence of deciduous wetlands along Mill Creek in the area of Building 1122 (FTMM-59) and Parcel 43.

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species.

The potential for ecological effects from COPECs at Building 1122 (FTMM-59) and Parcel 43 is judged to be minimal for the following reasons:

- Ecological receptors are not exposed directly to contaminants in groundwater, though groundwater may flow to potential exposure points.
- No COPECs were identified in groundwater that may flow to potential exposure points.
- Pesticides, PCBs, and VOCs were not identified as COPECs in surface water or sediment where ecological exposures may occur.
- Lead in surface water was found at concentrations similar to those in background samples (**Table 3-3**).
- Though cadmium was identified as a potential COPEC in surface water, cadmium concentrations in sediment were similar to those in background samples (**Table 3-4**).
- PAHs have many anthropogenic sources and are ubiquitous in environmental media. The detected concentrations of PAHs in surface water and sediment identified as COPECs were at low concentrations and most were similar to those in background samples (**Table 3-3** and **Table 3-4**).
- With the exception of chromium, the concentrations of metals were similar to those found in background samples from the BEE investigation (**Table 3-4**) or SI (Weston, 1995). Chromium concentrations were within the range of ambient soil levels determined for the urban coastal region (BEM Systems, Inc., 1998), the range of background soil concentrations reported for the SI (Weston, 1995), and the range of concentrations reported for glauconitic soils (Dooley, 2001); thus, chromium may be related to natural geology or regional deposition.
- Conservative wildlife HQs, assuming foraging only at the point of maximum concentration, for mercury and SVOCs are less than one. Though the NOAEL-based Great Blue Heron HQ for chromium based on foraging only at the maximum detected concentrations is greater than one, the HQ based on the size of the potential foraging area is well less than one (0.21).

No COPECs were identified in groundwater. The only metal identified as a COPEC in surface water was lead, which was found at concentrations similar to background. PAHs identified as COPECs in surface water and sediment were identified at concentrations similar to background and are likely related to general runoff from road surfaces in the area. Though most metals in sediment were found at concentrations similar to background sediment, chromium was detected at concentrations above sediment background but within the range of ambient soil concentrations and below median concentrations for glauconitic soils. The wildlife exposure model HQs for this site do not indicate an ecological concern. Based on these considerations and the information provided in this report, it is concluded that constituents at Building 1122 (FTMM-59) and Parcel 43 are unlikely to have a deleterious effect on sensitive ecological receptors or habitats, and additional ecological assessments at Building 1122 (FTMM-59) and Parcel 43 are not warranted or recommended.

4.2.13 BUILDING 1150 (ECP PARCEL 39)

Surface soil, surface water, and sediment data were evaluated. Ecological receptors have limited potential for exposure to soils in the area, but ecological receptors may be exposed to surface water or sediment. Several metals were identified as COPECs in soil. Only two PAHs and lead were identified as COPECs in surface water. One PCB, five PAHs, and several metals were identified as COPECs in sediment. Though cadmium was not detected in surface water, its MDLs were greater than the freshwater ESC and cadmium was identified as a COPEC in soil and sediment; therefore, cadmium is considered a potential COPEC in surface water. **Table 4-38** and **Table 4-39** provide a summary of the COPECs in surface water and sediment at Parcel 39 as well as background and ambient levels of those

constituents. The maximum sediment chromium and mercury concentrations exceeded BEE background concentrations. A summary of the wildlife HQs for this COPEC is presented in **Table 4-40**.

GIS digital data available through the NJDEP indicate the presence of deciduous wetlands and herbaceous wetlands along Mill Creek in the area of Parcel 39 (**Figure 4-1** and **Figure 4-2**).

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the forested wetland area along Mill Creek adjacent to Parcel 39 is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species.

The potential for ecological effects from COPECs at Parcel 39 is judged to be minimal for the following reasons:

- Soil samples represent concentrations near the buildings and operations of Parcel 39 and are limited in area. Ecological receptors are not frequently exposed to these soils, though contaminants may migrate to potential exposure points.
- No VOCs, PCBs, or SVOCs were identified as COPECs in soil.
- Though one PCB was identified as a COPEC in sediments, it was not identified as a COPEC in other site media. PCBs were not identified as COPECs in surface water or soil and may not be related to Parcel 39. The concentration of PCBs was marginally above the ESC.
- Lead in surface water was found at concentrations similar to those in background samples (**Table 3-3**).
- Though copper was identified as a potential COPEC in surface water, copper concentrations in sediment were similar to those in background samples (**Table 3-4**).
- PAHs have many anthropogenic sources and are ubiquitous in environmental media. The detected concentrations of PAHs identified as COPECs in surface water and sediment were at low concentrations and were similar to those in background samples (**Table 3-3** and **Table 3-4**).
- The concentrations of metals in sediment were similar to those found in background samples (**Table 3-4**).
- Conservative wildlife HQs, assuming foraging only at the point of maximum concentration, for mercury are less than one. Though the NOAEL-based Great Blue Heron HQ for chromium based on foraging only at the maximum detected concentrations is greater than one, the HQ based on the size of the potential foraging area is well less than one (0.03).

In soil at Parcel 39, only metals were identified as COPECs. These soils are limited in area and are located near buildings and active areas where the potential for ecological exposures is limited. Metals and PAHs in surface water or sediment were at concentrations similar to background. The wildlife exposure model HQs for this site do not indicate an ecological concern. Based on these considerations and the information provided in this report, it is concluded that constituents at Parcel 39 are unlikely to have a deleterious effect on sensitive ecological receptors or habitats and the potential for ecological risk is considered low, and additional ecological assessments at Parcel 39 are not warranted or recommended.

4.2.14 BUILDINGS 283, 288, 291, 293, 295 (FTMM-61 AND ECP PARCEL 49)

Surface soil, groundwater, surface water, and sediment data were evaluated. Ecological receptors are not directly exposed groundwater and have limited potential for exposure to soils in the area, but ecological receptors may be exposed to surface water or sediment. One PCB, several PAHs, and metals were identified as COPECs in soil. No VOCs were identified as COPECs in groundwater. No COPECs were identified as COPECs in surface water; however, given that the surface water MDL for copper exceeded the applicable ESC and copper was identified as a COPEC in other site media, copper is considered a possible COPEC in surface water. Several metals were identified as COPECs in sediment. Though pyrene and 2-methylnaphthalene were not detected in sediment, their detection limits

were greater than the freshwater sediment ESC and they were identified as COPECs in soil; therefore, pyrene and 2-methylnaphthalene are considered potential COPECs in sediment. **Table 4-41** and **Table 4-42** provide a summary of the COPECs in surface water and sediment at FTMM-61 and Parcel 49 as well as background and ambient levels of those constituents. The maximum sediment chromium, cobalt, mercury, nickel, and zinc concentrations exceeded BEE background concentrations. A summary of the wildlife HQs for these COPECs is presented in **Table 4-43**.

GIS digital data available through the NJDEP indicate the presence of mixed high marsh saline wetlands and Phragmites dominated wetlands along Parkers Creek on the western portion of Parcel 49 (**Figure 4-2**).

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species, and that Parkers Creek is listed as Conservation Rank 4 as potential bald eagle foraging habitat (**Figure 4-3**), indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. The presence of bald eagles has not been documented for this site.

The potential for ecological effects from COPECs at FTMM-61 and Parcel 49 is judged to be minimal for the following reasons:

- Soil samples represent concentrations near the buildings and operations of FTMM-61 and Parcel 49 and are limited in area. Ecological receptors are not frequently exposed to these soils, though contaminants may migrate to potential exposure points.
- Though PAHs were identified as COPECs in soil, they were not identified as COPECs in other site media where ecological exposures may occur, suggesting limited migration of these constituents.
- Though one PCB was identified as a COPEC in soil, it was not identified as a COPEC in other site media where ecological exposures may occur.
- VOCs and pesticides were not identified as COPECs in environmental media.
- Ecological receptors are not exposed directly to contaminants in groundwater, though groundwater may flow to potential exposure points.
- Zinc was the only COPEC identified in groundwater that may flow to potential exposure points.
- No COPECs were identified in surface water where ecological exposures may occur.
- With the exception of chromium and zinc, the concentrations of metals in sediment were similar to those found in background samples from the BEE investigation (**Table 3-4**) or the SI (Weston, 1995). Concentrations of chromium were greater than the background concentrations but well within the range expected for glauconitic soils (Dooley, 2001); though concentrations were greater than the ER-L they were less than the ER-M. The concentration of zinc in one of two samples and its duplicate sample (1,320 and 2,090 mg/kg) exceeded the ER-M (410 mg/kg).
- Conservative wildlife HQs, assuming foraging only at the point of maximum concentration, for cobalt and mercury are less than one. Though the NOAEL-based Great Blue Heron HQs for chromium, nickel, and zinc based on foraging only at the maximum detected concentrations are greater than one, HQs for nickel and zinc based on the size of the potential foraging area and average concentrations (0.16 and 0.27, respectively), or based on LOAELs, are well less than one, and HQs for chromium based on the size of the potential foraging area are less than one based on LOAELs (0.30) and only slightly greater than one based on NOAELs (1.79).

In FTMM-61 and Parcel 49 soil, PAHs and PCBs were identified as COPECs but were not identified as COPECs in surface water or sediment where ecological exposures may occur, suggesting limited migration. Several metals in soil and zinc in groundwater were identified as COPECs that could

migrate to ecological exposure points in nearby surface water or sediment. No COPECs were identified in surface water. Though most metals in sediment were found at concentrations similar to background, a few (chromium and zinc) were detected at concentrations above background; though chromium concentrations are similar to those in glauconitic soils. The wildlife exposure model HQs for this site do not indicate an ecological concern. Based on these considerations and the information provided in this report, it is concluded that there is a potential for some ecological risk due to elevated metals zinc in sediment in a limited area around FTMM-61 and Parcel 49, though these concentrations may be related to other anthropogenic sources. Additional ecological assessments at FTMM-61 and Parcel 49 are not warranted or recommended. It is unlikely to have a significant deleterious effect on sensitive ecological receptors or habitats and the potential for significant ecological risk is considered minimal.

4.2.15 BUILDING 1075 (ECP PARCEL 61)

Surface soil, surface water, and sediment data were evaluated. Ecological receptors have limited potential for exposure to soils within the area, but ecological receptors may be exposed to surface water or sediment. Three PAHs and several metals were identified as COPECs in soil. No COPECs were identified as COPECs in surface water; however, given that the surface water MDL for copper was greater than the applicable ESC and copper was identified as a COPEC in soil, copper is considered a possible COPEC in surface water. Several PAHs and two metals were identified as COPECs in sediment. **Table 4-44** and **Table 4-45** provide a summary of the COPECs in surface water and sediment at Parcel 61 as well as background and ambient levels of those constituents. The maximum sediment acenaphthene concentration exceeded BEE background concentrations. A summary of the wildlife HQs for this COPEC is presented in **Table 4-46**.

GIS digital data available through the NJDEP indicate the presence of deciduous shrub/scrub wetlands along the tributary to Husky Brook (**Figure 4-1**).

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species, and that Husky Brook is listed as Conservation Rank 4 as potential bald eagle foraging habitat (**Figure 4-3**), indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. The presence of bald eagles has not been documented for this site.

The potential for ecological effects from COPECs at Parcel 61 is judged to be minimal for the following reasons:

- Soil samples represent concentrations near the buildings and operations of Parcel 61 and are limited in area. Ecological receptors are not frequently exposed to these soils, though contaminants may migrate to potential exposure points.
- PAHs, as well as metals, were identified as COPECs in soil that could migrate to surface water or sediment.
- VOCs, pesticides, and PCBs were not identified as COPECs in environmental media.
- Though copper was identified as a potential COPEC in surface water, copper concentrations in sediment were similar to those in background samples (**Table 3-4**).
- Though PAHs have many anthropogenic sources and are ubiquitous in environmental media, elevated concentrations in soil at Parcel 61 may indicate a site-related source of PAHs to surface water and sediment. The detected concentrations of PAHs identified as COPECs were at low concentrations and most were similar to those in background samples (**Table 3-3** and **Table 3-4**). Though concentrations in sediment exceeded the ER-Ls used for screening, all concentrations were less than the ER-Ms.
- The concentrations of metals in sediment were similar to those found in background samples (**Table 3-4**).
- Conservative wildlife HQs, assuming foraging only at the point of maximum concentration, for acenaphthene are less than one.

In soil at Parcel 61, PAHs were identified as COPECs. These were also identified as COPECs in sediment of the small tributary to Husky Brook. Metals in sediment were found at concentrations similar to background. Conservative wildlife HQs are less than one. Based on these considerations and the information provided in this report, it is concluded that there is a potential for some ecological risk due to elevated PAHs in sediment. These exposures are limited in area in the small tributary to Husky Brook around Parcel 61, and may also be related to other anthropogenic sources; all PAH concentrations were well below the ER-M values, and additional ecological assessments at Parcel 61 are not warranted or recommended.

4.2.16 BUILDING 900 (ECP PARCEL 69)

Surface soil, groundwater, surface water, and sediment data were evaluated. Ecological receptors are not directly exposed groundwater and have limited potential for exposure to soils in the area, but ecological receptors may be exposed to surface water or sediment. Several metals were identified as COPECs in soil. No COPECs were identified in groundwater. No COPECs were identified as COPECs in surface water; however, given that the surface water MDL for copper was greater than the applicable ESC and copper was identified as a COPEC in other site media, copper is considered a possible COPEC in surface water. Several PAHs and metals were identified as COPECs in sediment. **Table 4-47** and **Table 4-48** provide a summary of the COPECs in surface water and sediment at Parcel 69 as well as background and ambient levels of those constituents. The maximum sediment acenaphthene, chromium, cobalt, copper, mercury, and zinc concentrations exceeded BEE background concentrations. A summary of the wildlife HQs for these COPECs is presented in **Table 4-49**.

GIS digital data available through the NJDEP indicate the presence of Phragmites dominated coastal wetlands (**Figure 4-2**).

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the emergent wetland area along Oceanport Creek is habitat Rank 4, which is assigned to patches with one or more occurrences of a state endangered species, in this case the Least Tern. Oceanport Creek and the adjacent wetlands are also listed as Conservation Rank 4 as potential bald eagle foraging habitat (**Figure 4-3**), indicating that open water and adjacent emergent wetlands could be used for foraging by bald eagles. The presence of bald eagles has not been documented for this site.

The potential for ecological effects from COPECs at Parcel 69 is judged to be minimal for the following reasons:

- Soil samples represent concentrations near the buildings and operations of Parcel 69 and are limited in area. Ecological receptors are not frequently exposed to these soils, though contaminants may migrate to potential exposure points.
- Only metals were identified as COPECs in soil.
- Ecological receptors are not exposed directly to contaminants in groundwater, though groundwater may flow to potential exposure points.
- No COPECs were identified in groundwater that may flow to potential exposure points.
- VOCs, pesticides, and PCBs were not identified as COPECs in environmental media.
- No COPECs were identified in surface water where ecological exposures may occur.
- Though PAHs were identified as COPECs in sediment, they were not identified as COPECs in other site media; PAHs may not be related to Parcel 69 and at concentrations similar to background (**Table 3-4**).
- With the exception of chromium and zinc, the concentrations of metals in sediment were similar to those found in background samples from the BEE investigation (**Table 3-4**) or the SI (Weston, 1995). Chromium concentrations were similar to those found in glauconitic soils (Dooley, 2001).
- Conservative wildlife HQs, assuming foraging only at the point of maximum concentration, for acenaphthene, cobalt, mercury, and zinc are less than one. Though the NOAEL-based

Mallard or Great Blue Heron HQs for chromium and copper based on foraging only at the maximum detected concentrations are greater than one, the HQs for copper based on the size of the potential foraging area are well less than one (0.52 for Great Blue Heron and less than 0.01 for Mallard), and the Great Blue Heron HQs for chromium based on the size of the potential foraging area are less than one based on LOAELs (0.30) and only slightly greater than one based on NOAELs (1.75).

The wildlife exposure model HQs for this site do not indicate an ecological concern. Based on these considerations and the information provided in this report, it is concluded that though there is a potential for some ecological risk due to elevated metals (including zinc), these exposures are limited in area around Parcel 69 and may be related to regional anthropogenic inputs based on the proximity of the locations to areas of heavy vehicular traffic, and additional ecological assessments at Parcel 69 are not warranted or recommended.

4.3 CHARLES WOOD AREA

In the CWA, two IRP Sites and three ECP Parcels were addressed in this BEE.

4.3.1 LANDFILL, SITE CW-3A (FTMM-25)

Near surface soil, groundwater, surface water, and sediment data were evaluated. Ecological receptors are not directly exposed to near surface soils or groundwater, but ecological receptors may be exposed to surface water or sediment. This evaluation identified four pesticides, one PCB, one PAH, and several metals as COPECs in near surface soil. Six metals were identified as COPECs in groundwater. Though there are no direct ecological exposures to near surface soils or groundwater, the COPECs in soil and groundwater may have the potential to migrate towards environmentally sensitive habitats where ecological receptors could be exposed to contaminants. Two PAHs, cadmium, and zinc were identified as COPECs in surface water. One pesticide, several SVOC, and several metals were identified as COPECs in sediment. Given that the surface water MDL for silver exceeded the applicable ESC and silver was identified as a COPEC in soil, silver is considered a possible COPEC in surface water. **Table 4-50** and **Table 4-51** provide a summary of the COPECs in surface water and sediment at Landfill CW-3A (FTMM-25) as well as background and ambient levels of those constituents. The maximum sediment concentrations of DDD, several PAHs, and chromium exceeded BEE background concentrations; the maximum surface water concentration of benzo(a)anthracene exceeded the BEE background concentrations. A summary of the wildlife HQs for these COPECs is presented in **Table 4-52**.

GIS digital data available through the NJDEP indicate the presence of deciduous wooded wetlands along Shrewsbury Creek (**Figure 4-4**).

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species.

The potential for ecological effects from COPECs at Landfill CW-3A (FTMM-25) is judged to be minimal for the following reasons:

- Ecological receptors are not frequently exposed to subsurface soils; COPECs are in subsurface soils and ecological exposure is unlikely though contaminants may migrate to potential exposure points.
- One PCB was detected in a soil sample at a concentration exceeding the ESC, but PCBs were not identified as COPECs in surface water or sediment where ecological exposures may occur.
- Though two pesticides (4,4′-DDT and dieldrin) were found in soil at concentrations exceeding the ESC, only one pesticide (4,4′-DDD) was identified as a COPEC in sediment and the concentration was low, within a factor of two of the freshwater sediment ESC.
- Ecological receptors are not exposed directly to contaminants in groundwater, though groundwater may flow to potential exposure points.

- Several metals were identified as COPECs in groundwater.
- VOCs were not identified as COPECs in environmental media.
- PAHs have many anthropogenic sources and are ubiquitous in environmental media. With the exception of the most upstream sediment sample, the detected concentrations of PAHs identified as COPECs in surface water and sediment were at low concentrations and most were similar to those in background samples (**Table 3-5** and **Table 3-6**); the highest concentrations were immediately downgradient of Pearl Harbor Avenue at the westernmost extreme of the Landfill boundary. Given that PAHs were not identified as COPECs on the landfill (soil or groundwater), it is likely that the PAHs are not related to the landfill.
- The concentrations of metals in surface water were similar to those found in background samples (**Table 3-5**).
- The concentrations of a few metals exceeded the ESC and the concentrations in CWA background samples (arsenic, cadmium, chromium, copper, mercury) (**Table 3-5** and **Table 3-6**), though concentrations were similar to those measured in background samples at the MP (**Table 3-3** and **Table 3-4**), similar to those measure in background samples in the SI (Weston, 1995), or within the range of background soil levels in the region (BEM Systems, Inc., 1998).
- Conservative wildlife HQs, assuming foraging only at the point of maximum concentration, for DDD and most PAHs are less than one. Though the NOAEL-based Great Blue Heron HQs for pyrene and chromium based on foraging only at the maximum detected concentrations are greater than one, the HQs based on the size of the potential foraging area are well less than one (0.07 and 0.12, respectively).

Within the landfill, COPECs were identified in soils and groundwater that could migrate to ecological exposure points in nearby surface water or sediment. COPECs in surface water were limited to two PAHs, cadmium and zinc. Several PAHs and metals were identified as COPECs in sediment. PAHs are most likely not due to the landfill since they were only identified as COPECs at the upgradient extent of the landfill near Pearl Harbor Avenue, and PAHs were not identified as COPECs in landfill soil. Most metals were identified at concentrations similar to background. Though chromium concentrations in sediment were greater than measured background concentrations, they were similar to soil concentrations from the region. The wildlife exposure model HQs for this site do not indicate an ecological concern. Based on these considerations and the information provided in this report, it is concluded that constituents at Landfill CW-3A (FTMM-25) are unlikely to have a deleterious effect on sensitive ecological receptors or habitats, and additional ecological assessments at Landfill CW-3A (FTMM-25) are not warranted or recommended.

4.3.2 FORMER PESTICIDE STORAGE AREA, SITE CW-6 (FTMM-28)

Surface soil, groundwater, surface water, and wetland sediment data were evaluated. Ecological receptors are not directly exposed to groundwater and have limited exposure to soils in the area, but ecological receptors may be exposed to surface water or sediment. This evaluation identified two pesticides, one PAH, and several metals as COPECs in surface soil. Four metals were identified as COPECs in groundwater. Though there are no direct ecological exposures to groundwater and limited potential for exposure to soil in the area, the COPECs in soil and groundwater have the potential to migrate towards environmentally sensitive habitats where ecological receptors could be exposed to contaminants. One PCB, cadmium and lead were identified as COPECs in surface water. One PCB, one pesticide, one SVOC, and several metals were identified as COPECs in sediment. Given that the surface water MDLs for 4,4′-DDE and silver exceeded the applicable ESC and 4,4′-DDE and silver were identified as COPECs in other site media, 4,4′-DDE and silver are considered possible COPECs in surface water. **Table 4-53** and **Table 4-54** provide a summary of the COPECs in surface water and sediment at Site CW-6 (FTMM-28) as well as background and ambient levels of those constituents. The maximum wetland sediment and soil concentrations of DDT and its metabolites, Dieldrin, PCBs, 2-4-dinitrophenol, chromium, mercury, and silver exceeded BEE background concentrations. A summary of the wildlife HQs for these COPECs is presented in **Table 4-55**.

GIS digital data available through the NJDEP indicate that the area west and south of Site CW-6 (FTMM-28) is deciduous wooded wetlands (**Figure 4-4**).

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 2, which is assigned to patches with one or more occurrences of a species of special concern, in this case the Wood Thrush.

The potential for ecological effects from COPECs at Site CW-6 (FTMM-28) is judged to be minimal for the following reasons:

- Soil samples represent concentrations in a small wooded area west of the buildings and operations of Site CW-6 (FTMM-28) and within an active golf course. Ecological receptors are not frequently exposed to these soils.
- Concentrations of pesticides in surface soil, though exceeding the soil ESC, were at low concentrations. The affected area is of limited size and located within an active golf course limiting the potential for ecological exposures.
- Ecological receptors are not exposed directly to contaminants in groundwater, though groundwater may flow to potential exposure points.
- A few metals were identified as COPECs in groundwater.
- VOCs were not identified as COPECs in environmental media.
- One concentration of a pesticide, 4,4′-DDE, was detected at a concentration exceeding the freshwater sediment ESC in the wetlands. The potential pathways of exposure in the wetlands are more appropriate to those of soil exposures; the concentration is less than the soil ESC.
- COPECs identified in surface water (Aroclor 1242, cadmium, and lead) were found at greater or similar concentrations in Wampum Brook upgradient of Site CW-6 then downgradient of Site CW-6 (FTMM-28) and metals concentrations were similar to background concentrations.
- PAHs have many anthropogenic sources and are ubiquitous in environmental media. With the exception of the most upstream sediment sample, the detected concentrations of PAHs identified as COPECs were at concentrations similar to those in background samples (**Table 3-3** and **Table 3-4**). The greatest concentrations upstream are likely related to other sources and not Site CW-6 (FTMM-28).
- The concentrations of several metals in sediment exceeded the ESC and the concentrations in CWA background samples (**Table 3-5** and **Table 3-6**), though concentrations for most were similar to those measured in background samples at the MP (**Table 3-3** and **Table 3-4**). Only mercury was detected at concentrations that also exceeded the SELs. The greatest concentrations of mercury were found within the wetland area and not in Wampum Brook, and are similar to the range of ambient mercury soil concentrations reported for the urban coastal plain (BEM Systems, Inc., 1998).
- Conservative wildlife HQs, assuming foraging only at the point of maximum concentration, for DDD, DDE, Dieldrin, PCBs and 2,4-dinitrophenol are less than one. Though the NOAEL-based American Robin HQs for chromium, silver, mercury, and DDT based on the maximum detected concentrations are greater than one, the HQs based on the size of the potential foraging area and average concentrations are well less than one (0.64, 0.23, 0.76, and 0.17, respectively).

COPECs were identified in soils representing a small area but ecological exposures are limited due to the size and its location within an active golf course. Though some metals were identified as COPECS in surface water or sediment as well as soil or groundwater indicating a potential pathway may exist, the COPECs in surface water and sediment of Wampum Brook, south of CW-6 (FTMM-28), were found at greater concentrations at the upstream boundary of the site and are most likely not related to Site CW-6 (FTMM-28). Most metals in wetland sediment were found at concentrations similar to

background, though a few were at elevated concentrations they were within the range of ambient soil concentrations reported for the urban coastal plain (BEM Systems, Inc., 1998). The wildlife exposure model HQs for this site do not indicate an ecological concern. Based on these considerations and the information provided in this report, it is concluded that constituents at Site CW-6 (FTMM-28) are unlikely to have a deleterious effect on sensitive ecological receptors or habitats, and additional ecological assessments at Site CW-6 (FTMM-28) are not warranted or recommended.

4.3.3 BUILDING 2700 (ECP PARCEL 15)

Groundwater, surface water, and sediment data were evaluated. Ecological receptors are not directly exposed to groundwater, but ecological receptors may be exposed to surface water or sediment. No VOCs, but several metals, were identified as COPECs in groundwater. Though there are no direct ecological exposures to groundwater and limited potential for exposure to soil in the area, the COPECs in groundwater may have the potential to migrate towards environmentally sensitive habitats where ecological receptors could be exposed to contaminants. Only lead was identified as a COPEC in surface water; however, given that the surface water MDL for cadmium was greater than the applicable ESC cadmium was identified as a COPEC in groundwater, cadmium is considered a possible COPEC in surface water. Only chromium was identified as a COPEC in sediment. **Table 4-56** and **Table 4-57** provide a summary of the COPECs in surface water and sediment at Parcel 15 as well as background and ambient levels of those constituents. No COPEC concentrations at Parcel 15 were above BEE background concentrations.

GIS digital data available through the NJDEP indicate the presence of deciduous scrub/shrub wetlands along the narrow corridor of Shrewsbury Creek (**Figure 4-4**).

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species.

The potential for ecological effects from COPECs at Parcel 15 is judged to be minimal for the following reasons:

- Ecological receptors are not exposed directly to contaminants in groundwater, though groundwater may flow to potential exposure points.
- Several metals were identified as COPECs in groundwater that may flow to potential exposure points.
- No VOCs, PCBs, pesticides, or SVOCs were identified as COPECs in environmental media.
- Only lead in surface water and chromium in sediment were identified as COPECs where ecological exposures could occur.
- Lead in surface water was found at concentrations similar to those in background samples (**Table 3-3**) and slightly greater than the freshwater ESC.
- Though cadmium was identified as a potential COPEC in surface water, cadmium concentrations in sediment were similar to those in background samples (**Table 3-4**).
- Chromium in sediment was found at concentrations similar to those in background samples (**Table 3-4**) and slightly greater than the freshwater sediment ESC.

Several metals were identified as COPECs in groundwater that could migrate to ecological exposure points in nearby surface water or sediment. COPECs in surface water were limited to lead and COPECs in sediment were limited to chromium. Both were found at concentrations similar to those in background samples and only slightly greater than the freshwater ESC. Based on these considerations and the information provided in this report, it is concluded that constituents at Parcel 15 are unlikely to have a deleterious effect on sensitive ecological receptors or habitats, and additional ecological assessments at Parcel 15 are not warranted or recommended.

4.3.4 BUILDINGS 2507 AND 2704 (ECP PARCEL 27)

Surface soil, surface water, and sediment data were evaluated. Ecological receptors have limited potential for exposure to surface soils within the area, but ecological receptors may be exposed to surface water or sediment. Several metals were identified as COPECs in surface soil. Cadmium, chromium, and lead were identified as COPECs in surface water. Six metals were identified as COPECs in sediment. **Table 4-58** and **Table 4-59** provide a summary of the COPECs in surface water and sediment at Parcel 27 as well as background and ambient levels of those constituents. The maximum surface water copper concentration and sediment chromium concentration exceeded BEE background concentrations. A summary of the wildlife HQs for these COPECs is presented in **Table 4-60**.

GIS digital data available through the NJDEP indicate the presence of deciduous wooded wetlands along Shrewsbury Creek (**Figure 4-4**).

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species.

The potential for ecological effects from COPECs at Parcel 27 is judged to be minimal for the following reasons:

- Soil samples represent concentrations near the buildings and operations of Parcel 27 and are limited in area. Ecological receptors are not frequently exposed to these soils, though contaminants may migrate to potential exposure points.
- Only metals were identified as COPECs in soil.
- No VOCs, PCBs, pesticides, or SVOCs were identified as COPECs in environmental media.
- Cadmium, chromium, and lead in surface water were found at concentrations similar to those in background samples (**Table 3-3**).
- The concentrations of a few metals in sediment exceeded the ESC and the concentrations in CWA background samples (arsenic, cadmium, copper, lead, and zinc) (**Table 3-6**), though concentrations were similar to those measured in background samples at the MP (**Table 3-4**).
- Though the conservative NOAEL-based Mallard or Great Blue Heron HQs for chromium and copper based on foraging only at the maximum detected concentrations are greater than one, the HQs for copper based on the size of the potential foraging area are well less than one (0.04 for Great Blue Heron and less than 0.01 for Mallard), and the Great Blue Heron HQ for chromium based on the size of the potential foraging area is less than (0.02).

Several metals were identified as COPECs in soil that could migrate to ecological exposure points in nearby surface water or sediment. Metals in surface water and sediment were found at concentrations similar to those in the area-wide background. The wildlife exposure model HQs for this site do not indicate an ecological concern. Based on these considerations and the information provided in this report, it is concluded that constituents at Parcel 27 are unlikely to have a deleterious effect on sensitive ecological receptors or habitats, and additional ecological assessments at Parcel 27 are not warranted or recommended.

4.3.5 BUILDING 2525 (ECP PARCEL 28)

Surface soil, groundwater, surface water, and sediment data were evaluated. Ecological receptors are not directly exposed to groundwater and have limited potential for exposures to soils within the area, but ecological receptors may be exposed to surface water or sediment. Several metals were identified as COPECs in surface soil. No VOCs or SVOCs, but one metal, cadmium, were identified as COPECs in groundwater. Though there are no direct ecological exposures to groundwater and limited potential for exposure to soil in the area, the COPECs in groundwater may have the potential to migrate towards environmentally sensitive habitats where ecological receptors could be exposed to contaminants. Only lead was identified as a COPEC in surface water; however, given that the surface water MDL for cadmium was greater than the applicable ESC, cadmium was identified as a COPEC in groundwater, cadmium is considered a possible COPEC in surface water. Only chromium was identified as a COPEC

in sediment. **Table 4-61** and **Table 4-62** provide a summary of the COPECs in surface water and sediment at Parcel 28 as well as background and ambient levels of those constituents. No COPEC concentrations at Parcel 28 were above BEE background concentrations.

GIS digital data available through the NJDEP indicate the presence of deciduous scrub/shrub wetlands along the narrow corridor of Shrewsbury Creek (**Figure 4-4**) as well as a strip of emergent wetlands located south of Parcel 28 (**Figure 4-5**).

The NJDEP Landscape Project Critical Wildlife Habitat database indicates that the wetland area is habitat Rank 1, which is assigned to patches that meet suitability requirements for endangered, threatened, or priority wildlife species but do not have confirmed occurrences of such species.

The potential for ecological effects from COPECs at Parcel 28 is judged to be minimal for the following reasons:

- Soil samples represent concentrations near the buildings and operations of Parcel 28 and are limited in area. Ecological receptors are not frequently exposed to these soils, though contaminants may migrate to potential exposure points.
- A few metals were identified as COPECs in soil at Parcel 28.
- Ecological receptors are not exposed directly to contaminants in groundwater, though groundwater may flow to potential exposure points.
- Only one metal, cadmium, was identified as COPECs in groundwater that may flow to potential exposure points. It was not identified as a COPEC in surface water or sediment.
- Though cadmium was identified as a potential COPEC in surface water, cadmium concentrations in sediment were similar to those in background samples (**Table 3-4**).
- No VOCs, PCBs, pesticides, or SVOCs were identified as COPECs in environmental media. Only lead in surface water and chromium in sediment were identified as COPECs where ecological exposures could occur.
- Lead in surface water was found at concentrations similar to those in background samples (**Table 3-3**) and slightly greater than the freshwater ESC.
- Chromium in sediment was found at concentrations similar to those in background samples (**Table 3-4**) and slightly greater than the freshwater sediment ESC.

A few metals were identified as COPECs in soil that could migrate to ecological exposure points in nearby surface water or sediment. Only cadmium was identified as a COPEC in groundwater, but it was not identified as a COPEC in surface water or sediment where ecological exposures may occur. Metals in surface water and sediment were found at concentrations similar to those in background. Based on these considerations and the information provided in this report, it is concluded that constituents at Parcel 28 are unlikely to have a deleterious effect on sensitive ecological receptors or habitats, and additional ecological assessments at Parcel 28 are not warranted or recommended.

Table 4-1
Foodchain Model Target Species Life History Parameters

Common Name	Scientific Name	Foraging Area (HA)	Body Weight (kg wet weight)	Water Intake (L/day)	Food Intake (kg/day)	Food Intake (kg/day)	Incidental Soil Ingestion (kg dry/day)	Dietary Fractions
American Robin	*Turdus migratorius*	0.48[1,a]	0.0773[1,b]	0.0108[1,c]	0.011[1,d] (dry)	0.067[e] (wet)	0.00128[f]	0.93 invertivores[1,j] 0.07 fruit
Mallard	*Anas platyrhynchos*	580[1,k]	1.043[1,l]	0.0605[1,c]	0.0598[1,d] (dry)	0.362[e] (wet)	0.0012[m]	1.00 aquatic vegetation[1,n]
Great Blue Heron	*Ardea herodias*	4.5[1,o]	2.2[1,p]	0.099[1,c]	0.097[1,d] (dry)	0.396[1,q]	0.0019[r]	0.96 fish[s] 0.04 other

Notes:

1 *USEPA, 1993b*
a *Weatherhead and McRae (1990), average data for adults feeding fledglings or nestlings in deciduous forests of Ontario*
b *Clench and Leberman (1978), data for males and females in Pennsylvania*
c *Estimated based on allometic equation of Calder and Braun (1983): IR (L/day) = 0.059 $BW^{0.67}$ (kg)*
d *Estimated based on allometic equation of Nagy (1987): IR (kg dry/day) = 0.0582 $BW^{0.651}$ (kg)*
e *Based on percent moistures of eathworms (84%) and fruit (77%) from USEPA (1993b)*
f *Assumes invertebrate component of diet is 50% earthworms and 50% arthropods, earthworms contain 25% soil by dry weight (Beyer et al., 1993), additional soil ingestion is 2% soil by dry weight of other foods*
j *Wheelwright (1986), adults feeding in the spring in eastern United States*
k *Kirby et al., 1985, average data for adult males and females in Minnesota wetland and river system*
l *Nelson and Martin (1953), average for adult females throughout North America*
m *Assumes 2%, data in USEPA (1993b) list it as <2%.*
n *Dillon (1959), data for mallards in a Louisiana coastal marsh consume 90-99% vegetation; 100% is assumed.*
o *Bayer (1978), average feeding territory size for adults spring and winter in an oregon freshwater marsh and estuary*
p *Quinney (1982) average adult body size in eastern North America*
q *Estimated based on allometric equation of Kushlan (1988) for wading birds.*
r *Assumes 2%*
s *Alexander (1977) for lower Michigan lakes and rivers*

Table 4-2
Soil-to-Invertebrate Bioaccumulation Factors

COPEC	BAF (kg/kg dry)	BAF (kg/kg wet)	Source	
Inorganics				
Chromium	0.31	0.05	USEPA, 2008	Ecological Soil Screening Levels for Chromium
Mercury	1.70	0.28	Sample et al., 1998	
Silver	2.05	0.34	USEPA, 2006b	Ecological Soil Screening Levels for Silver
Pesticides				
DDD	11.20	1.87	USEPA, 2007a	Ecological Soil Screening Levels for DDT and Metabolites
DDE	11.20	1.87	USEPA, 2007a	Ecological Soil Screening Levels for DDT and Metabolites
DDT	11.20	1.87	USEPA, 2007a	Ecological Soil Screening Levels for DDT and Metabolites
Dieldrin	14.7	2.45	USEPA, 2007b	Ecological Soil Screening Levels for Dieldrin
PCBs				
Aroclor 1242	6.77	1.13	USEPA, 1999	*Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
Aroclor 1260	6.77	1.13	USEPA, 1999	*Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
SVOCs				
2,4-Dinitrophenol	0.70	0.12	WAC 173	Dry weight for non-chlorinated organics with log K_{OW}<5

Note:
Conversion of literature dry or wet weight BAFs converted assumed 83.3% moisture

Table 4-3
Sediment-to-Aquatic Plant Bioaccumulation Factors

COPEC	BAF (kg/kg dry)	BAF (kg/kg wet)	Source
Inorganics			
Arsenic	0.036	0.0072	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
Barium	0.15	0.03	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
Chromium	0.0075	0.0015	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
Cobalt	0.01	0.002	Geometric Mean of all inorganic BCFs from USEPA, 1999
Copper	0.4	0.08	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
Lead	0.045	0.009	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
Mercury	0.0375	0.0075	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
Nickel	0.032	0.0064	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
Silver	0.4	0.08	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
Vanadium	0.01	0.002	Geometric Mean of all inorganic BCFs from USEPA, 1999
Zinc	1.2E-12	2.4E-13	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
Pesticides			
DDD	0.0165	0.0033	BAF for DDE used as surrogate
DDE	0.00937	0.001874	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
DDT	0.008	0.0016	BAF for DDE used as surrogate
PCBs			
Aroclor 1232	0.01	0.002	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
Aroclor 1242	0.01	0.002	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
Aroclor 1254	0.01	0.002	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
Aroclor 1260	0.01	0.002	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
SVOCs			
Acenaphthene	0.21	0.042	Equation of Travis and Arms (1988) Log K_{OW} = 3.92
Anthracene	0.105	0.021	Equation of Travis and Arms (1988) Log K_{OW} = 4.44
Benzo(a)anthracene	0.0202	0.00404	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
Benzo(a)pyrene	0.011	0.0022	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
Benzo(g,h,i)perylene	0.0068	0.00136	Equation of Travis and Arms (1988) Log K_{OW} = 6.50
Benzo(k)fluoranthene	0.0101	0.00202	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
Chrysene	0.0187	0.00374	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
Dibenzo(a,h)anthracene	0.0064	0.00128	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
2,4-Dinitrophenol	0.642	0.1284	Equation of Travis and Arms (1988) Log K_{OW} = 3.08
Flouranthene	0.042	0.0084	Equation of Travis and Arms (1988) Log K_{OW} = 5.12
Flourene	0.143	0.0286	Equation of Travis and Arms (1988) Log K_{OW} = 4.21
Hexachlorobutadiene	0.0714	0.01428	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
Indeno(1,2,3-c,d)pyrene	0.0039	0.00078	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for hazardous Waste Combustion Facilities*
Phenanthrene	0.0908	0.01816	Equation of Travis and Arms (1988) Log K_{OW} = 4.55
Pyrene	0.043	0.0086	Equation of Travis and Arms (1988) Log K_{OW} = 5.11

Note:
Conversion of literature dry or wet weight BAFs converted assumed 80% moisture

Table 4-4

Sediment-to-Invertebrate/Fish Bioaccumulation Factors

COPEC	BAF (kg/kg dry)	BAF (kg/kg wet)	Source
Inorganics			
Arsenic	5.4	0.9	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Barium	5.4	0.9	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Chromium	2.3	0.39	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Cobalt	5.4	0.9	Geometric Mean of all inorganic BCFs from USEPA, 1999
Copper	1.8	0.3	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Lead	3.8	0.63	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Mercury	0.4	0.068	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Nickel	5.4	0.9	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Silver	5.4	0.9	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Vanadium	5.4	0.9	Geometric Mean of all inorganic BCFs from USEPA, 1999
Zinc	3.4	0.57	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Pesticides			
DDD	0.0165	0.0033	BAF for DDE used as surrogate
DDE	0.00937	0.001874	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
DDT	0.008	0.0016	BAF for DDE used as surrogate
PCBs			
Aroclor 1232	3.2	0.53	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Aroclor 1242	3.2	0.53	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Aroclor 1254	3.2	0.53	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Aroclor 1260	3.2	0.53	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
SVOCs			
Acenaphthene	9.0	1.5	USEPA, 2004 National Sediment Quality Survey for Chemical Class and 10.3% lipid and 2% OC
Anthracene	9.0	1.5	USEPA, 2004 National Sediment Quality Survey for Chemical Class and 10.3% lipid and 2% OC
Benzo(a)anthracene	8.7	1.45	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Benzo(a)pyrene	9.5	1.59	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Benzo(g,h,i)perylene	9.0	1.5	USEPA, 2004 National Sediment Quality Survey for Chemical Class and 10.3% lipid and 2% OC
Benzo(k)fluoranthene	9.6	1.61	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Chrysene	8.3	1.38	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Dibenzo(a,h)anthracene	9.6	1.61	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
2,4-Dinitrophenol	9.0	1.5	USEPA, 2004 National Sediment Quality Survey for Chemical Class and 10.3% lipid and 2% OC
Flouranthene	9.0	1.5	USEPA, 2004 National Sediment Quality Survey for Chemical Class and 10.3% lipid and 2% OC
Flourene	9.0	1.5	USEPA, 2004 National Sediment Quality Survey for Chemical Class and 10.3% lipid and 2% OC
Hexachlorobutadiene	2.6	0.44	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Indeno(1,2,3-c,d)pyrene	9.6	1.61	USEPA, 1999 *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Phenanthrene	9.0	1.5	USEPA, 2004 National Sediment Quality Survey for Chemical Class and 10.3% lipid and 2% OC
Pyrene	9.0	1.5	USEPA, 2004 National Sediment Quality Survey for Chemical Class and 10.3% lipid and 2% OC

Note:

Conversion of literature dry or wet weight BAFs converted assumed 83.3% moisture

Table 4-5
Avian Toxicity Reference Values

	NOAEL	LOAEL		
Inorganics				
Arsenic	2.24		USEPA, 2005b	Ecological Soil Screening Levels for Arsenic
Barium	20.8	41.7	USEPA, 1999	*Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Chromium	2.66	15.6	USEPA, 2008	Ecological Soil Screening Levels for Chromium
Cobalt	7.61	18.3	USEPA, 2005c	Ecological Soil Screening Levels for Cobalt
Copper	4.05	12.1	USEPA, 2007c	Ecological Soil Screening Levels for Copper
Lead	1.63		USEPA, 2005d	Ecological Soil Screening Levels for Lead
Mercury	0.45	0.9	Sample et al., 1996	
Nickel	6.71	18.6	USEPA, 2007d	Ecological Soil Screening Levels for Nickel
Silver	2.02		USEPA, 2006b	Ecological Soil Screening Levels for Silver
Vanadium	0.344		USEPA, 2005e	Ecological Soil Screening Levels for Vanadium
Zinc	66.1	154	USEPA, 2007e	Ecological Soil Screening Levels for Zinc
Pesticides				
DDD	0.227	2.27	USEPA, 2007a	Ecological Soil Screening Levels for DDT and Metabolites
DDE	0.227	2.27	USEPA, 2007a	Ecological Soil Screening Levels for DDT and Metabolites
DDT	0.227	2.27	USEPA, 2007a	Ecological Soil Screening Levels for DDT and Metabolites
Dieldrin	0.0709	0.223	USEPA, 2007b	Ecological Soil Screening Levels for Dieldrin
PCBs				
Aroclor 1232	0.18	1.8	NOAEL and LOAEL from Aroclor 1254 used as surrogate	
Aroclor 1242	0.18	1.8	NOAEL and LOAEL from Aroclor 1254 used as surrogate	
Aroclor 1254	0.18	1.8	Sample et al., 1996	
Aroclor 1260	0.18	1.8	NOAEL and LOAEL from Aroclor 1254 used as surrogate	
SVOCs				
Acenaphthene	22.9	229	Eisler, 1987	From Patton and Dieter, 1980
Anthracene	22.9	229	Eisler, 1987	From Patton and Dieter, 1980
Benzo(a)anthracene	2.0	20	Lowest NOAEL/LOAEL for High Molecular Weight PAHs from USEPA (2007f)	
Benzo(a)pyrene	2.0	20	Lowest NOAEL/LOAEL for High Molecular Weight PAHs from USEPA (2007f)	
Benzo(g,h,i)perylene	2.0	20	Lowest NOAEL/LOAEL for High Molecular Weight PAHs from USEPA (2007f)	
Benzo(k)fluoranthene	2.0	20	Lowest NOAEL/LOAEL for High Molecular Weight PAHs from USEPA (2007f)	
Chrysene	2.0	20	Lowest NOAEL/LOAEL for High Molecular Weight PAHs from USEPA (2007f)	
Dibenzo(a,h)anthracene	2.0	20	Lowest NOAEL/LOAEL for High Molecular Weight PAHs from USEPA (2007f)	
2,4-Dinitrophenol	0.336	0.561	ATSDR, 1995	Dominguez et al., 1993 applying an uncertainty factor of 0.01
Flouranthene	22.9	229	Eisler, 1987	From Patton and Dieter, 1980
Flourene	22.9	229	Eisler, 1987	From Patton and Dieter, 1980
Hexachlorobutadiene	3.185		USEPA, 1999	*Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*
Indeno(1,2,3-c,d)pyrene	2.0	20	Lowest NOAEL/LOAEL for High Molecular Weight PAHs from USEPA (2007f)	
Phenanthrene	22.9	229	Eisler, 1987	From Patton and Dieter, 1980
Pyrene	2	20	Lowest NOAEL/LOAEL for High Molecular Weight PAHs from USEPA (2007f)	

Table 4-6
Summary of Surface Water COPECs and Background Concentrations at Landfill 2 (FTMM-2)

			BEE Background					SI Bkgd	SI Bkgd	Mo. Cty	Site COPEC Summary		
COPEC	FW ESC (ug/L)	SW ESC (ug/L)	Maximum Detected (ug/L)	Minimum Detected (ug/L)	Frequency of Detection	Mean (ug/L)	95% UCL of Mean (ug/L)	Maximum Surface Water (ug/L)	Maximum Ground Water (ug/L)	Bkgd Ground Water (ug/L)	Maximum Detected (ug/L)	Number Detected Above ESC	Average Concentration (ug/L)
Inorganics													
Lead	5.4	24	18.8	5.79	10 / 11	8.93	11.56	65.9	22.7	<100	10.1	(2 of 2)	8.98
Possible COPECs													
DDE	4.51E-09	NAV	ND	ND	0 / 11	NA	NA	NR	NR	NR	NA	NA	NA
Cadmium	0.14	8.8	0.8	0.8	1 / 11	0.3	NA	ND	9.5	6	NA	NA	NA

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-7
Summary of Sediment COPECs and Background Concentrations at Landfill 2 (FTMM-2)

COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	BEE Background Maximum Detected (mg/kg)	BEE Background Minimum Detected (mg/kg)	BEE Background Frequency of Detection	BEE Background Mean (mg/kg)	BEE Background 95% UCL of Mean (mg/kg)	SI Bkgd Maximum Sediment (mg/kg)	SI Bkgd Maximum Soil (mg/kg)	Mo. Cty Bkgd Soil (mg/kg)	Ambient Soil Levels Maximum Ambient (mg/kg)	Ambient Soil Levels 90th Percentile (mg/kg)	Site COPEC Summary Maximum Detected (mg/kg)	Site COPEC Summary No Detected Above ESC	Site COPEC Summary Average Concentration (mg/kg)
PCBs															
Aroclor 1242	0.07	0.023	0.064	0.064	1 / 12	0.007	NA	NR	NR	NR	NR	NR	**0.12**	(1 of 13)	0.0289
Aroclor 1254	0.06	0.06	0.086	0.021	2 / 12	0.0264	0.0396	NR	NR	NR	NR	NR	0.064	(1 of 13)	0.0282
Aroclor 1260	0.005	0.005	ND	ND	0 / 12	NA	NA	NR	NR	NR	NR	NR	**0.040**	(2 of 13)	0.0123
SVOCs															
Chrysene	0.34	0.384	1.9	0.064	6 / 12	0.526	0.89	0.37	0.65	3	1.78	0.47	0.37	(1 of 13)	0.152
Dibenzo(a,h)anthracene	0.06	0.063	0.088	0.088	1 / 12	0.023	NA	0.12	0.079	ND	0.29	0.02	**0.10**	(1 of 13)	0.030
2,4-Dinitrophenol	0.00621	NAV	ND	ND	0 / 12	NA	NA	NR	NR	NR	NR	NR	**1.1**	(1 of 13)	0.17
Pyrene	0.49	0.665	3.3	0.12	6 / 12	0.987	1.652	2	1.5	ND	NR	NR	0.71	(1 of 13)	0.211
Inorganics															
Arsenic	6	8.2	61.6	0.68	12 / 12	14.38	28.33	14.5	31.6	4.56	83.1	13.6	8.09	(1 of 13)	4.51
Barium	NAV	48	196	4.41	12 / 12	74.56	108.5	87.6	32.3	NR	154	65.8	**356**	(8 of 13)	80.2
Cadmium	0.6	1.2	17.2	0.38	12 / 12	4.252	8.021	NR	ND	0.116	2.7	0.32	2.76	(13 of 13)	1.90
Chromium	26	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	125	(13 of 13)	56.8
Copper	16	34	165	1.88	9 / 12	24.01	84.56	48.4	8	6.05	93	33.3	22.5	(1 of 13)	3.16
Lead	31	47	945	5.61	12 / 12	106	439.5	142	19.5	25.9	344	144	52.8	(4 of 13)	22.5
Mercury	0.2	0.15	0.424	0.02	11 / 12	0.0909	0.247	1.7	ND	NR	6.1	0.21	0.21	(1 of 13)	0.104
Nickel	16	21	56.2	2.55	12 / 12	22.57	37.42	131	8.4	3.2	16.9	12.3	29.2	(1 of 13)	13.0

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-8
Summary of Wildlife Hazard Quotients for Sediment COPECs at Landfill 2 (FTMM-2)

	Sediment Concentrations		Surface Water Concentrations		NOAEL-Based Hazard Quotients (AUF = 1)			
					Mallard		Great Blue Heron	
	Maximum (mg/kg)	Average (mg/kg)	Maximum (mg/L)	Average (mg/L)	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration
PCBs								
Aroclor 1242	0.12	0.0289	ND	ND	0.00	0.00	0.06	0.02
Aroclor 1254	0.064	0.0282	ND	ND	0.00	0.00	0.03	0.02
Aroclor 1260	0.04	0.0123	ND	ND	0.00	0.00	0.02	0.01
SVOCs								
Dibenzo(a,h)anthracene	0.1	0.03	ND	ND	0.00	0.00	0.01	0.00
2,4-Dinitrophenol	1.1	0.17	ND	ND	0.15	0.02	0.89	0.14
Inorganics								
Barium	356	80.2	62.2	61.7	0.20	0.04	2.79	0.63
Barium	NOAEL-Based (AUF = 0.12)						0.33	0.08
Barium	LOAEL-Based (AUF = 1)						1.40	0.32
Barium	LOAEL-Based (AUF = 0.12)						0.17	0.04

Notes:
AUF - Area Use Factor
ND - Not Detected
NOAEL - No Observeable Adverse Effect Level
LOAEL - Lowest Observeable Adverse Effect Level

Table 4-9
Summary of Surface Water COPECs and Background Concentrations at Landfill 3 (FTMM-3)

			BEE Background								Site COPEC Summary		
COPEC	FW ESC (ug/L)	SW ESC (ug/L)	Maximum Detected (ug/L)	Minimum Detected (ug/L)	Frequency of Detection	Mean (ug/L)	95% UCL of Mean (ug/L)	Sl Bkgd Maximum Surface Water (ug/L)	Sl Bkgd Maximum Ground Water (ug/L)	Mo. Cty Bkgd Ground Water (ug/L)	Maximum Detected (ug/L)	Number Detected Above ESC	Average Concentration (ug/L)
Possible COPECs													
Copper	6.5	3.1	ND	ND	0 / 11	NA	NA	10.2	65.6	730	NA	NA	NA

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
Sl Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-10
Summary of Sediment COPECs and Background Concentrations at Landfill 3 (FTMM-3)

COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	BEE Background Maximum Detected (mg/kg)	BEE Background Minimum Detected (mg/kg)	BEE Background Frequency of Detection	BEE Background Mean (mg/kg)	BEE Background 95% UCL of Mean (mg/kg)	SI Bkgd Maximum Sediment (mg/kg)	SI Bkgd Maximum Soil (mg/kg)	Mo. Cty Bkgd Soil (mg/kg)	Ambient Soil Levels Maximum Ambient (mg/kg)	Ambient Soil Levels 90th Percentile (mg/kg)	Site COPEC Summary Maximum Detected (mg/kg)	Site COPEC Summary No Detected Above ESC	Site COPEC Summary Average Concentration (mg/kg)
Pesticides															
DDD	0.008	0.002	0.0047	0.0022	4 / 12	0.00248	0.00291	0.015	0.0096	NR	NR	NR	**0.0095**	(1 of 12)	0.00263
DDT	0.008	0.001	ND	ND	0 / 12	NA	NA	0.11	0.11	NR	NR	NR	**0.18**	(1 of 12)	0.015
Inorganics															
Arsenic	6	8.2	61.6	0.68	12 / 12	14.38	28.33	14.5	31.6	4.56	83.1	13.6	22	(12 of 12)	18.1
Barium	NAV	48	196	4.41	12 / 12	74.56	108.5	87.6	32.3	NR	154	65.8	164	(11 of 12)	78.8
Cadmium	0.6	1.2	17.2	0.38	12 / 12	4.252	8.021	NR	ND	0.116	2.7	0.32	4.78	(12 of 12)	2.87
Chromium	26	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	106	(4 of 12)	67.4
Cobalt	50	10	16.8	1.05	12 / 12	7.253	9.891	119	4.5	NR	32	3.2	12.5	(3 of 12)	6.75
Copper	16	34	165	1.88	9 / 12	24.01	84.56	48.4	8	6.05	93	33.3	**370**	(2 of 12)	41.0
Lead	31	47	945	5.61	12 / 12	106	439.5	142	19.5	25.9	344	144	154	(5 of 12)	66.0
Mercury	0.2	0.15	0.424	0.02	11 / 12	0.0909	0.247	1.7	ND	NR	6.1	0.21	0.295	(4 of 12)	0.125
Nickel	16	21	56.2	2.55	12 / 12	22.57	37.42	131	8.4	3.2	16.9	12.3	30	(3 of 12)	16.0
Selenium	NAV	1	19	0.95	12 / 12	6.645	9.337	1.7	1.9	0.11	ND	ND	8.85	(12 of 12)	6.87
Silver	1	1	11.2	11.2	1 / 12	1.03	NA	NR	1.1	0.21	6.3	0.65	2.14	(3 of 12)	0.64
Vanadium	NAV	57	218	6.82	12 / 12	53.18	91.47	49.1	94.1	1.3	202	35.5	90.2	(6 of 12)	56.4
Zinc	120	150	423	15.3	12 / 12	135.1	215.4	162	81.4	44.6	259	106	352	(6 of 12)	194

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-11
Summary of Wildlife Hazard Quotients for Sediment COPECs at Landfill 3 (FTMM-3)

	Sediment Concentrations		Surface Water Concentrations		NOAEL-Based Hazard Quotients (AUF = 1)			
					Mallard		Great Blue Heron	
	Maximum (mg/kg)	Average (mg/kg)	Maximum (mg/L)	Average (mg/L)	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration
Pesticides								
DDD	0.0095	0.00263	ND	ND	0.00	0.00	0.01	0.00
DDT	0.18	0.015	ND	ND	0.00	0.00	0.14	0.01
Inorganics								
Copper	370	41	ND	ND	2.64	0.29	5.00	0.55
Copper	NOAEL-Based (AUF = 0.012)						0.06	0.01
Copper	LOAEL-Based (AUF = 1)						1.67	0.19
Copper	LOAEL-Based (AUF = 0.012)						0.02	0.00
Copper	NOAEL-Based (AUF = 0.00009)				0.00	0.00		
Copper	LOAEL-Based (AUF = 1)				0.89	0.10		
Copper	LOAEL-Based (AUF = 0.00009)				0.00	0.00		

Notes:

AUF - Area Use Factor

ND - Not Detected

NOAEL - No Observeable Adverse Effect Level

LOAEL - Lowest Observeable Adverse Effect Level

Table 4-12
Summary of Surface Water COPECs and Background Concentrations at Landfill 4 (FTMM-4)

			BEE Background								Site COPEC Summary		
COPEC	FW ESC (ug/L)	SW ESC (ug/L)	Maximum Detected (ug/L)	Minimum Detected (ug/L)	Frequency of Detection	Mean (ug/L)	95% UCL of Mean (ug/L)	SI Bkgd Maximum Surface Water (ug/L)	SI Bkgd Maximum Ground Water (ug/L)	Mo. Cty Bkgd Ground Water (ug/L)	Maximum Detected (ug/L)	Number Detected Above ESC	Average Concentration (ug/L)
Possible COPECs													
Copper	6.5	3.1	ND	ND	0 / 11	NA	NA	10.2	65.6	730	NA	NA	NA

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-13

Summary of Sediment COPECs and Background Concentrations at Landfill 4 (FTMM-4)

			BEE Background					SI Bkgd	SI Bkgd	Mo. Cty	Ambient Soil Levels		Site COPEC Summary		
COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	Maximum Detected (mg/kg)	Minimum Detected (mg/kg)	Frequency of Detection	Mean (mg/kg)	95% UCL of Mean (mg/kg)	Maximum Sediment (mg/kg)	Maximum Soil (mg/kg)	Bkgd Soil (mg/kg)	Maximum Ambient (mg/kg)	90th Percentile (mg/kg)	Maximum Detected (mg/kg)	No Detected Above ESC	Average Concentration (mg/kg)
Pesticides															
DDD	0.008	0.002	0.0047	0.0022	4 / 12	0.00248	0.00291	0.015	0.0096	NR	NR	NR	**0.0062**	(2 of 6)	0.00278
DDT	0.008	0.001	ND	ND	0 / 12	NA	NA	0.11	0.11	NR	NR	NR	**0.0016**	(1 of 6)	0.00034
PCBs															
Aroclor 1232	0.07	0.023	ND	ND	0 / 12	NA	NA	NR	NR	NR	NR	NR	**0.093**	(1 of 6)	0.018
Aroclor 1242	0.07	0.023	0.064	0.064	1 / 12	0.007	NA	NR	NR	NR	NR	NR	**0.075**	(2 of 6)	0.037
Aroclor 1260	0.005	0.005	ND	ND	0 / 12	NA	NA	NR	NR	NR	NR	NR	**0.036**	(5 of 6)	0.0195
SVOCs															
Acenaphthene	0.016	0.016	0.47	0.11	3 / 12	0.141	0.204	NR	0.1	ND	NR	NR	0.12	(1 of 6)	0.033
Anthracene	0.22	0.085	0.3	0.011	9 / 12	0.0931	0.15	0.061	0.1	ND	NR	NR	0.15	(1 of 6)	0.0472
Benzo(a)anthracene	0.32	0.261	1.2	0.018	9 / 12	0.342	0.564	1.3	0.65	ND	1.82	0.43	0.31	(1 of 6)	0.131
Fluoranthene	0.75	0.6	4.9	0.064	7 / 12	1.42	2.454	1.5	0.46	ND	NR	NR	0.7	(1 of 6)	0.221
Fluorene	0.19	0.019	0.82	0.13	3 / 12	0.203	0.326	NR	0.074	ND	NR	NR	0.097	(1 of 6)	0.034
Phenanthrene	0.56	0.24	8.3	0.15	6 / 12	1.359	2.655	0.39	0.39	ND	NR	NR	0.62	(1 of 6)	0.245
Inorganics															
Arsenic	6	8.2	61.6	0.68	12 / 12	14.38	28.33	14.5	31.6	4.56	83.1	13.6	10.2	(1 of 6)	4.96
Cadmium	0.6	1.2	17.2	0.38	12 / 12	4.252	8.021	NR	ND	0.116	2.7	0.32	1.49	(3 of 6)	1.22
Cobalt	50	10	16.8	1.05	12 / 12	7.253	9.891	119	4.5	NR	32	3.2	24.6	(4 of 6)	15.1
Lead	31	47	945	5.61	12 / 12	106	439.5	142	19.5	25.9	344	144	65.1	(2 of 6)	42.3
Mercury	0.2	0.15	0.424	0.02	11 / 12	0.0909	0.247	1.7	ND	NR	6.1	0.21	0.257	(3 of 6)	0.149
Selenium	NAV	1	19	0.95	12 / 12	6.645	9.337	1.7	1.9	0.11	ND	ND	3.67	(6 of 6)	2.62

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-14
Summary of Wildlife Hazard Quotients for Sediment COPECs at Landfill 4 (FTMM-4)

	Sediment Concentrations		Surface Water Concentrations		NOAEL-Based Hazard Quotients (AUF = 1)			
					Mallard		Great Blue Heron	
	Maximum (mg/kg)	Average (mg/kg)	Maximum (mg/L)	Average (mg/L)	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration
PCBs								
Aroclor 1232	0.093	0.018	ND	ND	0.00	0.00	0.05	0.01
Aroclor 1242	0.075	0.037	ND	ND	0.00	0.00	0.04	0.02
Aroclor 1260	0.036	0.0195	ND	ND	0.00	0.00	0.02	0.01
Pesticides								
DDD	0.0062	0.00278	ND	ND	0.00	0.00	0.00	0.00
DDT	0.0016	0.00034	ND	ND	0.00	0.00	0.00	0.00

Notes:

AUF - Area Use Factor

ND - Not Detected

NOAEL - No Observeable Adverse Effect Level

Table 4-15
Summary of Surface Water COPECs and Background Concentrations at Landfill 5 (FTMM-5)

			BEE Background					SI Bkgd	SI Bkgd	Mo. Cty	Site COPEC Summary		
COPEC	FW ESC (ug/L)	SW ESC (ug/L)	Maximum Detected (ug/L)	Minimum Detected (ug/L)	Frequency of Detection	Mean (ug/L)	95% UCL of Mean (ug/L)	Maximum Surface Water (ug/L)	Maximum Ground Water (ug/L)	Bkgd Ground Water (ug/L)	Maximum Detected (ug/L)	Number Detected Above ESC	Average Concentration (ug/L)
Possible COPECs													
Copper	6.5	3.1	ND	ND	0 / 11	NA	NA	10.2	65.6	730	NA	NA	NA

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-16

Summary of Sediment COPECs and Background Concentrations at Landfill 5 (FTMM-5)

			BEE Background					SI Bkgd	SI Bkgd	Mo. Cty	Ambient Soil Levels		Site COPEC Summary		
COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	Maximum Detected (mg/kg)	Minimum Detected (mg/kg)	Frequency of Detection	Mean (mg/kg)	95% UCL of Mean (mg/kg)	Maximum Sediment (mg/kg)	Maximum Soil (mg/kg)	Bkgd Soil (mg/kg)	Maximum Ambient (mg/kg)	90th Percentile (mg/kg)	Maximum Detected (mg/kg)	No Detected Above ESC	Average Concentration (mg/kg)
Pesticides															
DDD	0.008	0.002	0.0047	0.0022	4 / 12	0.00248	0.00291	0.015	0.0096	NR	NR	NR	**0.016**	(3 of 7)	0.00463
DDE	0.005	0.0022	0.0034	0.0017	2 / 12	0.00184	0.00219	0.096	0.071	NR	NR	NR	**0.0072**	(3 of 7)	0.00306
DDT	0.008	0.001	ND	ND	0 / 12	NA	NA	0.11	0.11	NR	NR	NR	**0.0021**	(4 of 7)	0.0014
SVOCs															
Acenaphthylene	0.044	0.044	1.6	0.089	2 / 12	0.215	0.958	NR	0.041	ND	NR	NR	0.15	(1 of 7)	0.033
Anthracene	0.22	0.085	0.3	0.011	9 / 12	0.0931	0.15	0.061	0.1	ND	NR	NR	0.23	(3 of 7)	0.104
Benzo(a)anthracene	0.32	0.261	1.2	0.018	9 / 12	0.342	0.564	1.3	0.65	ND	1.82	0.43	0.34	(1 of 7)	0.147
Fluoranthene	0.75	0.6	4.9	0.064	7 / 12	1.42	2.454	1.5	0.46	ND	NR	NR	0.67	(1 of 7)	0.444
Fluorene	0.19	0.019	0.82	0.13	3 / 12	0.203	0.326	NR	0.074	ND	NR	NR	0.27	(1 of 7)	0.056
2-Methylnaphthalene	0.07	0.07	1.3	1.3	1 / 12	0.12	NA	NR	NR	NR	NR	NR	0.4	(1 of 7)	0.079
Naphthalene	0.16	0.16	4.4	4.4	1 / 12	0.383	NA	NR	NR	NR	NR	NR	0.26	(1 of 7)	0.053
Phenanthrene	0.56	0.24	8.3	0.15	6 / 12	1.359	2.655	0.39	0.39	ND	NR	NR	0.96	(2 of 7)	0.284
Pyrene	0.49	0.665	3.3	0.12	6 / 12	0.987	1.652	2	1.5	ND	NR	NR	0.7	(1 of 7)	0.431
Inorganics															
Arsenic	6	8.2	61.6	0.68	12 / 12	14.38	28.33	14.5	31.6	4.56	83.1	13.6	43.5	(3 of 7)	11.5
Barium	NAV	48	196	4.41	12 / 12	74.56	108.5	87.6	32.3	NR	154	65.8	50.7	(1 of 7)	26.8
Cadmium	0.6	1.2	17.2	0.38	12 / 12	4.252	8.021	NR	ND	0.116	2.7	0.32	6.65	(3 of 7)	2.13
Chromium	26	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	119	(1 of 7)	47.3
Cobalt	50	10	16.8	1.05	12 / 12	7.253	9.891	119	4.5	NR	32	3.2	13.3	(1 of 7)	7.8
Lead	31	47	945	5.61	12 / 12	106	439.5	142	19.5	25.9	344	144	62.4	(1 of 7)	29.6
Mercury	0.2	0.15	0.424	0.02	11 / 12	0.0909	0.247	1.7	ND	NR	6.1	0.21	0.155	(1 of 7)	0.08
Nickel	16	21	56.2	2.55	12 / 12	22.57	37.42	131	8.4	3.2	16.9	12.3	27.6	(1 of 7)	13.9
Selenium	NAV	1	19	0.95	12 / 12	6.645	9.337	1.7	1.9	0.11	ND	ND	13.2	(7 of 7)	4.81
Silver	1	1	11.2	11.2	1 / 12	1.03	NA	NR	1.1	0.21	6.3	0.65	1.29	(1 of 7)	0.413
Vanadium	NAV	57	218	6.82	12 / 12	53.18	91.47	49.1	94.1	1.3	202	35.5	71.6	(1 of 7)	31.0
Zinc	120	150	423	15.3	12 / 12	135.1	215.4	162	81.4	44.6	259	106	203	(2 of 7)	109

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-17
Summary of Wildlife Hazard Quotients for Sediment COPECs at Landfill 5 (FTMM-5)

	Sediment Concentrations		Surface Water Concentrations		NOAEL-Based Hazard Quotients (AUF = 1)			
					Mallard		Great Blue Heron	
	Maximum (mg/kg)	Average (mg/kg)	Maximum (mg/L)	Average (mg/L)	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration
Pesticides								
DDD	0.016	0.00463	ND	ND	0.00	0.00	0.01	0.00
DDE	0.0072	0.00306	ND	ND	0.00	0.00	0.01	0.00
DDT	0.0021	0.0014	ND	ND	0.00	0.00	0.00	0.00

Notes:

AUF - Area Use Factor

ND - Not Detected

NOAEL - No Observeable Adverse Effect Level

Table 4-18
Summary of Surface Water COPECs and Background Concentrations at Landfill 8 (FTMM-8)

			BEE Background					SI Bkgd	SI Bkgd	Mo. Cty	Site COPEC Summary		
COPEC	FW ESC (ug/L)	SW ESC (ug/L)	Maximum Detected (ug/L)	Minimum Detected (ug/L)	Frequency of Detection	Mean (ug/L)	95% UCL of Mean (ug/L)	Maximum Surface Water (ug/L)	Maximum Ground Water (ug/L)	Bkgd Ground Water (ug/L)	Maximum Detected (ug/L)	Number Detected Above ESC	Average Concentration (ug/L)
Possible COPECs													
Copper	6.5	3.1	ND	ND	0 / 11	NA	NA	10.2	65.6	730	NA	NA	NA

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-19
Summary of Sediment COPECs and Background Concentrations at Landfill 8 (FTMM-8)

			BEE Background					SI Bkgd	SI Bkgd	Mo. Cty	Ambient Soil Levels		Site COPEC Summary		
COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	Maximum Detected (mg/kg)	Minimum Detected (mg/kg)	Frequency of Detection	Mean (mg/kg)	95% UCL of Mean (mg/kg)	Maximum Sediment (mg/kg)	Maximum Soil (mg/kg)	Bkgd Soil (mg/kg)	Maximum Ambient (mg/kg)	90th Percentile (mg/kg)	Maximum Detected (mg/kg)	No Detected Above ESC	Average Concentration (mg/kg)
Pesticides															
DDD	0.008	0.002	0.0047	0.0022	4 / 12	0.00248	0.00291	0.015	0.0096	NR	NR	NR	0.0033	(3 of 12)	0.0022
PCBs															
Aroclor 1242	0.07	0.023	0.064	0.064	1 / 12	0.007	NA	NR	NR	NR	NR	NR	**0.17**	(2 of 12)	0.06
Aroclor 1260	0.005	0.005	ND	ND	0 / 12	NA	NA	NR	NR	NR	NR	NR	**0.011**	(1 of 12)	0.0038
Inorganics															
Arsenic	6	8.2	61.6	0.68	12 / 12	14.38	28.33	14.5	31.6	4.56	83.1	13.6	18.9	(6 of 12)	18.9
Barium	NAV	48	196	4.41	12 / 12	74.56	108.5	87.6	32.3	NR	154	65.8	103	(6 of 12)	49.3
Cadmium	0.6	1.2	17.2	0.38	12 / 12	4.252	8.021	NR	ND	0.116	2.7	0.32	6.85	(11 of 12)	3.70
Chromium	26	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	**131**	(4 of 12)	69.6
Cobalt	50	10	16.8	1.05	12 / 12	7.253	9.891	119	4.5	NR	32	3.2	**116**	(10 of 12)	39.6
Copper	16	34	165	1.88	9 / 12	24.01	84.56	48.4	8	6.05	93	33.3	64.5	(4 of 12)	25.57
Lead	31	47	945	5.61	12 / 12	106	439.5	142	19.5	25.9	344	144	179	(7 of 12)	82.3
Manganese	630	260	551	4.36	12 / 12	105.6	218.2	70.2	90.7	59	1030	206	364	(1 of 12)	76.8
Mercury	0.2	0.15	0.424	0.02	11 / 12	0.0909	0.247	1.7	ND	NR	6.1	0.21	**0.853**	(9 of 12)	0.365
Nickel	16	21	56.2	2.55	12 / 12	22.57	37.42	131	8.4	3.2	16.9	12.3	**60.5**	(7 of 12)	24.8
Selenium	NAV	1	19	0.95	12 / 12	6.645	9.337	1.7	1.9	0.11	ND	ND	13.8	(12 of 12)	6.47
Silver	1	1	11.2	11.2	1 / 12	1.03	NA	NR	1.1	0.21	6.3	0.65	5.85	(3 of 12)	2.29
Vanadium	NAV	57	218	6.82	12 / 12	53.18	91.47	49.1	94.1	1.3	202	35.5	99.1	(4 of 12)	46.9
Zinc	120	150	423	15.3	12 / 12	135.1	215.4	162	81.4	44.6	259	106	415	(7 of 12)	195

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-20
Summary of Wildlife Hazard Quotients for Sediment COPECs at Landfill 8 (FTMM-8)

	Sediment Concentrations		Surface Water Concentrations		NOAEL-Based Hazard Quotients (AUF = 1)			
					Mallard		Great Blue Heron	
	Maximum (mg/kg)	Average (mg/kg)	Maximum (mg/L)	Average (mg/L)	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration
PCBs								
Aroclor 1242	0.17	0.06	ND	ND	0.00	0.00	0.09	0.03
Aroclor 1260	0.011	0.0038	ND	ND	0.00	0.00	0.01	0.00
Inorganics								
Chromium	131	69.6	ND	ND	0.08	0.04	3.50	1.86
Cobalt	116	39.6	ND	ND	0.03	0.01	2.48	0.85
Mercury	0.853	0.365	0.0001	0.000063	0.01	0.00	0.02	0.01
Nickel	60.5	24.8	0.00825	0.00772	0.03	0.01	1.47	0.60

Chromium	NOAEL-Based (AUF = 0.16)	0.56	0.30
Chromium	LOAEL-Based (AUF = 1)	0.59	0.32
Chromium	LOAEL-Based (AUF = 0.16)	0.10	0.05
Cobalt	NOAEL-Based (AUF = 0.16)	0.40	0.14
Cobalt	LOAEL-Based (AUF = 1)	0.42	0.14
Cobalt	LOAEL-Based (AUF = 0.16)	0.07	0.02
Nickel	NOAEL-Based (AUF = 0.16)	0.24	0.10
Nickel	LOAEL-Based (AUF = 1)	0.53	0.22
Nickel	LOAEL-Based (AUF = 0.16)	0.08	0.03

Notes:
AUF - Area Use Factor
ND - Not Detected
NOAEL - No Observeable Adverse Effect Level
LOAEL - Lowest Observeable Adverse Effect Level

Table 4-21
Summary of Surface Water COPECs and Background Concentrations at Landfill 12 (FTMM-12)

COPEC	FW ESC (ug/L)	SW ESC (ug/L)	BEE Background Maximum Detected (ug/L)	BEE Background Minimum Detected (ug/L)	BEE Background Frequency of Detection	BEE Background Mean (ug/L)	BEE Background 95% UCL of Mean (ug/L)	SI Bkgd Maximum Surface Water (ug/L)	SI Bkgd Maximum Ground Water (ug/L)	Mo. Cty Bkgd Ground Water (ug/L)	Site COPEC Summary Maximum Detected (ug/L)	Site COPEC Summary Number Detected Above ESC	Site COPEC Summary Average Concentration (ug/L)
Possible COPECs													
Copper	6.5	3.1	ND	ND	0 / 11	NA	NA	10.2	65.6	730	NA	NA	NA

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-22
Summary of Sediment COPECs and Background Concentrations at Landfill 12 (FTMM-12)

COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	BEE Background Maximum Detected (mg/kg)	BEE Background Minimum Detected (mg/kg)	BEE Background Frequency of Detection	BEE Background Mean (mg/kg)	BEE Background 95% UCL of Mean (mg/kg)	SI Bkgd Maximum Sediment (mg/kg)	SI Bkgd Maximum Soil (mg/kg)	Mo. Cty Bkgd Soil (mg/kg)	Ambient Soil Levels Maximum Ambient (mg/kg)	Ambient Soil Levels 90th Percentile (mg/kg)	Site COPEC Summary Maximum Detected (mg/kg)	Site COPEC Summary No Detected Above ESC	Site COPEC Summary Average Concentration (mg/kg)
Pesticides															
DDD	0.008	0.002	0.0047	0.0022	4 / 12	0.00248	0.00291	0.015	0.0096	NR	NR	NR	**0.0091**	(9 of 13)	0.0046
DDE	0.005	0.0022	0.0034	0.0017	2 / 12	0.00184	0.00219	0.096	0.071	NR	NR	NR	**0.0071**	(8 of 13)	0.0029
DDT	0.008	0.001	ND	ND	0 / 12	NA	NA	0.11	0.11	NR	NR	NR	**0.013**	(4 of 13)	0.0025
PCBs															
Aroclor 1254	0.06	0.06	0.086	0.021	2 / 12	0.0264	0.0396	NR	NR	NR	NR	NR	**0.23**	(1 of 13)	0.022
SVOCs															
Acenaphthene	0.016	0.016	0.47	0.11	3 / 12	0.141	0.204	NR	0.1	ND	NR	NR	**0.64**	(1 of 13)	0.076
Anthracene	0.22	0.085	0.3	0.011	9 / 12	0.0931	0.15	0.061	0.1	ND	NR	NR	**0.6**	(3 of 13)	0.083
Benzo(a)anthracene	0.32	0.261	1.2	0.018	9 / 12	0.342	0.564	1.3	0.65	ND	1.82	0.43	0.83	(6 of 13)	0.265
Benzo(a)pyrene	0.37	0.43	1.2	0.025	10 / 12	0.333	0.901	1.2	0.6	ND	1.8	0.42	0.68	(3 of 13)	0.231
Benzo(g,h,i)perylene	0.17	0.17	0.89	0.38	4 / 12	0.466	0.577	0.67	0.64	ND	NR	NR	0.36	(2 of 13)	0.323
Benzo(k)fluroanthene	0.24	0.24	0.74	0.13	5 / 12	0.248	0.368	0.58	0.43	ND	4.1	0.66	0.31	(2 of 13)	0.273
Chrysene	0.34	0.384	1.9	0.064	6 / 12	0.526	0.89	0.37	0.65	3	1.78	0.47	0.83	(6 of 13)	0.465
Fluoranthene	0.75	0.6	4.9	0.064	7 / 12	1.42	2.454	1.5	0.46	ND	NR	NR	2.2	(6 of 13)	0.702
Fluorene	0.19	0.019	0.82	0.13	3 / 12	0.203	0.326	NR	0.074	ND	NR	NR	0.32	(1 of 13)	0.061
Indeno(1,2,3-c,d)pyrene	0.2	0.2	0.98	0.095	5 / 12	0.275	0.45	0.7	0.46	ND	0.57	0.23	0.36	(2 of 13)	0.342
Phenanthrene	0.56	0.24	8.3	0.15	6 / 12	1.359	2.655	0.39	0.39	ND	NR	NR	1.9	(5 of 13)	0.534
Pyrene	0.49	0.665	3.3	0.12	6 / 12	0.987	1.652	2	1.5	ND	NR	NR	1.5	(5 of 13)	0.815
Inorganics															
Arsenic	6	8.2	61.6	0.68	12 / 12	14.38	28.33	14.5	31.6	4.56	83.1	13.6	18.6	(1 of 13)	3.37
Barium	NAV	48	196	4.41	12 / 12	74.56	108.5	87.6	32.3	NR	154	65.8	54	(1 of 13)	9.83
Cadmium	0.6	1.2	17.2	0.38	12 / 12	4.252	8.021	NR	ND	0.116	2.7	0.32	14	(2 of 13)	1.69
Chromium	26	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	101	(1 of 13)	28.1
Cobalt	50	10	16.8	1.05	12 / 12	7.253	9.891	119	4.5	NR	32	3.2	13.7	(1 of 13)	2.62
Copper	16	34	165	1.88	9 / 12	24.01	84.56	48.4	8	6.05	93	33.3	77.3	(2 of 13)	16.7
Lead	31	47	945	5.61	12 / 12	106	439.5	142	19.5	25.9	344	144	171	(1 of 13)	24.2
Nickel	16	21	56.2	2.55	12 / 12	22.57	37.42	131	8.4	3.2	16.9	12.3	29.2	(1 of 13)	5.72
Selenium	NAV	1	19	0.95	12 / 12	6.645	9.337	1.7	1.9	0.11	ND	ND	5.99	(10 of 13)	1.83
Silver	1	1	11.2	11.2	1 / 12	1.03	NA	NR	1.1	0.21	6.3	0.65	3.54	(1 of 13)	0.49
Vanadium	NAV	57	218	6.82	12 / 12	53.18	91.47	49.1	94.1	1.3	202	35.5	61.1	(1 of 13)	16.7
Zinc	120	150	423	15.3	12 / 12	135.1	215.4	162	81.4	44.6	259	106	218	(1 of 13)	58.8

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-23

Summary of Wildlife Hazard Quotients for Sediment COPECs at Landfills 12 and 14 (FTMM-12 and FTMM-14)

	Sediment Concentrations		Surface Water Concentrations		NOAEL-Based Hazard Quotients (AUF = 1)			
					Mallard		Great Blue Heron	
	Maximum (mg/kg)	Average (mg/kg)	Maximum (mg/L)	Average (mg/L)	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration
PCBs								
Aroclor 1254	0.23	0.022	ND	ND	0.00	0.00	0.12	0.01
Pesticides								
DDD	0.0091	0.0046	ND	ND	0.00	0.00	0.01	0.00
DDE	0.0071	0.0029	ND	ND	0.00	0.00	0.01	0.00
DDT	0.013	0.0025	ND	ND	0.00	0.00	0.01	0.00
SVOCs								
Acenaphthene	0.64	0.076	ND	ND	0.00	0.00	0.01	0.00
Anthracene	0.60	0.083	0.00013	0.000073	0.00	0.00	0.01	0.00

Notes:

AUF - Area Use Factor

ND - Not Detected

NOAEL - No Observeable Adverse Effect Level

Table 4-24
Summary of Surface Water COPECs and Background Concentrations at Landfill 14 (FTMM-14)

			BEE Background					SI Bkgd	SI Bkgd	Mo. Cty	Site COPEC Summary		
COPEC	FW ESC (ug/L)	SW ESC (ug/L)	Maximum Detected (ug/L)	Minimum Detected (ug/L)	Frequency of Detection	Mean (ug/L)	95% UCL of Mean (ug/L)	Maximum Surface Water (ug/L)	Maximum Ground Water (ug/L)	Bkgd Ground Water (ug/L)	Maximum Detected (ug/L)	Number Detected Above ESC	Average Concentration (ug/L)
Possible COPECs													
Copper	6.5	3.1	ND	ND	0 / 11	NA	NA	10.2	65.6	730	NA	NA	NA

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-25
Summary of Sediment COPECs and Background Concentrations at Landfill 14 (FTMM-14)

COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	BEE Background Maximum Detected (mg/kg)	BEE Background Minimum Detected (mg/kg)	BEE Background Frequency of Detection	BEE Background Mean (mg/kg)	BEE Background 95% UCL of Mean (mg/kg)	SI Bkgd Maximum Sediment (mg/kg)	SI Bkgd Maximum Soil (mg/kg)	Mo. Cty Bkgd Soil (mg/kg)	Ambient Soil Levels Maximum Ambient (mg/kg)	Ambient Soil Levels 90th Percentile (mg/kg)	Site COPEC Summary Maximum Detected (mg/kg)	Site COPEC Summary No Detected Above ESC	Site COPEC Summary Average Concentration (mg/kg)
Pesticides															
DDD	0.008	0.002	0.0047	0.0022	4 / 12	0.00248	0.00291	0.015	0.0096	NR	NR	NR	**0.0091**	(9 of 13)	0.0046
DDE	0.005	0.0022	0.0034	0.0017	2 / 12	0.00184	0.00219	0.096	0.071	NR	NR	NR	**0.0071**	(8 of 13)	0.0029
DDT	0.008	0.001	ND	ND	0 / 12	NA	NA	0.11	0.11	NR	NR	NR	**0.013**	(4 of 13)	0.0025
PCBs															
Aroclor 1254	0.06	0.06	0.086	0.021	2 / 12	0.0264	0.0396	NR	NR	NR	NR	NR	**0.23**	(1 of 13)	0.022
SVOCs															
Acenaphthene	0.016	0.016	0.47	0.11	3 / 12	0.141	0.204	NR	0.1	ND	NR	NR	**0.64**	(1 of 13)	0.076
Anthracene	0.22	0.085	0.3	0.011	9 / 12	0.0931	0.15	0.061	0.1	ND	NR	NR	**0.6**	(3 of 13)	0.083
Benzo(a)anthracene	0.32	0.261	1.2	0.018	9 / 12	0.342	0.564	1.3	0.65	ND	1.82	0.43	0.83	(6 of 13)	0.265
Benzo(a)pyrene	0.37	0.43	1.2	0.025	10 / 12	0.333	0.901	1.2	0.6	ND	1.8	0.42	0.68	(3 of 13)	0.231
Benzo(g,h,i)perylene	0.17	0.17	0.89	0.38	4 / 12	0.466	0.577	0.67	0.64	ND	NR	NR	0.36	(2 of 13)	0.323
Benzo(k)fluroanthene	0.24	0.24	0.74	0.13	5 / 12	0.248	0.368	0.58	0.43	ND	4.1	0.66	0.31	(2 of 13)	0.273
Chrysene	0.34	0.384	1.9	0.064	6 / 12	0.526	0.89	0.37	0.65	3	1.78	0.47	0.83	(6 of 13)	0.465
Fluoranthene	0.75	0.6	4.9	0.064	7 / 12	1.42	2.454	1.5	0.46	ND	NR	NR	2.2	(6 of 13)	0.702
Fluorene	0.19	0.019	0.82	0.13	3 / 12	0.203	0.326	NR	0.074	ND	NR	NR	0.32	(1 of 13)	0.061
Indeno(1,2,3-c,d)pyrene	0.2	0.2	0.98	0.095	5 / 12	0.275	0.45	0.7	0.46	ND	0.57	0.23	0.36	(2 of 13)	0.342
Phenanthrene	0.56	0.24	8.3	0.15	6 / 12	1.359	2.655	0.39	0.39	ND	NR	NR	1.9	(5 of 13)	0.534
Pyrene	0.49	0.665	3.3	0.12	6 / 12	0.987	1.652	2	1.5	ND	NR	NR	1.5	(5 of 13)	0.815
Inorganics															
Arsenic	6	8.2	61.6	0.68	12 / 12	14.38	28.33	14.5	31.6	4.56	83.1	13.6	18.6	(1 of 13)	3.37
Barium	NAV	48	196	4.41	12 / 12	74.56	108.5	87.6	32.3	NR	154	65.8	54	(1 of 13)	9.83
Cadmium	0.6	1.2	17.2	0.38	12 / 12	4.252	8.021	NR	ND	0.116	2.7	0.32	14	(2 of 13)	1.69
Chromium	26	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	101	(1 of 13)	28.1
Cobalt	50	10	16.8	1.05	12 / 12	7.253	9.891	119	4.5	NR	32	3.2	13.7	(1 of 13)	2.62
Copper	16	34	165	1.88	9 / 12	24.01	84.56	48.4	8	6.05	93	33.3	77.3	(2 of 13)	16.7
Lead	31	47	945	5.61	12 / 12	106	439.5	142	19.5	25.9	344	144	171	(1 of 13)	24.2
Nickel	16	21	56.2	2.55	12 / 12	22.57	37.42	131	8.4	3.2	16.9	12.3	29.2	(1 of 13)	5.72
Selenium	NAV	1	19	0.95	12 / 12	6.645	9.337	1.7	1.9	0.11	ND	ND	5.99	(10 of 13)	1.83
Silver	1	1	11.2	11.2	1 / 12	1.03	NA	NR	1.1	0.21	6.3	0.65	3.54	(1 of 13)	0.49
Vanadium	NAV	57	218	6.82	12 / 12	53.18	91.47	49.1	94.1	1.3	202	35.5	61.1	(1 of 13)	16.7
Zinc	120	150	423	15.3	12 / 12	135.1	215.4	162	81.4	44.6	259	106	218	(1 of 13)	58.8

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-26
Summary of Sediment COPECs and Background Concentrations Site 15 (FTMM-15)

			BEE Background					SI Bkgd	SI Bkgd	Mo. Cty	Ambient Soil Levels		Site COPEC Summary		
COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	Maximum Detected (mg/kg)	Minimum Detected (mg/kg)	Frequency of Detection	Mean (mg/kg)	95% UCL of Mean (mg/kg)	Maximum Sediment (mg/kg)	Maximum Soil (mg/kg)	Bkgd Soil (mg/kg)	Maximum Ambient (mg/kg)	90th Percentile (mg/kg)	Maximum Detected (mg/kg)	No Detected Above ESC	Average Concentration (mg/kg)
Pesticides															
DDT	0.008	0.001	ND	ND	0 / 12	NA	NA	0.11	0.11	NR	NR	NR	0.0041	(1 of 4)	0.0011
Inorganics															
Arsenic	6	8.2	61.6	0.68	12 / 12	14.38	28.33	14.5	31.6	4.56	83.1	13.6	14.9	(3 of 4)	11.3
Cadmium	0.6	1.2	17.2	0.38	12 / 12	4.252	8.021	NR	ND	0.116	2.7	0.32	2.97	(4 of 4)	2.28
Chromium	26	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	95.5	(1 of 4)	73.6
Lead	31	47	945	5.61	12 / 12	106	439.5	142	19.5	25.9	344	144	108	(2 of 4)	56.9
Mercury	0.2	0.15	0.424	0.02	11 / 12	0.0909	0.247	1.7	ND	NR	6.1	0.21	0.293	(3 of 4)	0.2
Selenium	NAV	1	19	0.95	12 / 12	6.645	9.337	1.7	1.9	0.11	ND	ND	6.98	(4 of 4)	5.21
Silver	1	1	11.2	11.2	1 / 12	1.03	NA	NR	1.1	0.21	6.3	0.65	1.44	(3 of 4)	1.19
Vanadium	NAV	57	218	6.82	12 / 12	53.18	91.47	49.1	94.1	1.3	202	35.5	83.2	(1 of 4)	50.0
Zinc	120	150	423	15.3	12 / 12	135.1	215.4	162	81.4	44.6	259	106	262	(2 of 4)	165

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-27
Summary of Surface Water COPECs and Background Concentrations at Site FTMM-16

			BEE Background					SI Bkgd	SI Bkgd	Mo. Cty	Site COPEC Summary		
COPEC	FW ESC (ug/L)	SW ESC (ug/L)	Maximum Detected (ug/L)	Minimum Detected (ug/L)	Frequency of Detection	Mean (ug/L)	95% UCL of Mean (ug/L)	Maximum Surface Water (ug/L)	Maximum Ground Water (ug/L)	Bkgd Ground Water (ug/L)	Maximum Detected (ug/L)	Number Detected Above ESC	Average Concentration (ug/L)
Possible COPECs													
Copper	6.5	3.1	ND	ND	0 / 11	NA	NA	10.2	65.6	730	NA	NA	NA

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-28
Summary of Sediment COPECs and Background Concentrations at Site FTMM-16

COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	BEE Background Maximum Detected (mg/kg)	BEE Background Minimum Detected (mg/kg)	BEE Background Frequency of Detection	BEE Background Mean (mg/kg)	BEE Background 95% UCL of Mean (mg/kg)	SI Bkgd Maximum Sediment (mg/kg)	SI Bkgd Maximum Soil (mg/kg)	Mo. Cty Bkgd Soil (mg/kg)	Ambient Soil Levels Maximum Ambient (mg/kg)	Ambient Soil Levels 90th Percentile (mg/kg)	Site COPEC Summary Maximum Detected (mg/kg)	Site COPEC Summary No Detected Above ESC	Site COPEC Summary Average Concentration (mg/kg)
SVOCs															
Hexachlorobutadiene	0.0265	0.0013	ND	ND	0 / 12	NA	NA	NR	NR	NR	NR	NR	**0.008**	(1 of 5)	0.0020
Inorganics															
Arsenic	6	8.2	61.6	0.68	12 / 12	14.38	28.33	14.5	31.6	4.56	83.1	13.6	24.5	(4 of 5)	16.9
Cadmium	0.6	1.2	17.2	0.38	12 / 12	4.252	8.021	NR	ND	0.116	2.7	0.32	12.3	(4 of 5)	8.86
Chromium	26	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	**144**	(4 of 5)	108
Copper	16	34	165	1.88	9 / 12	24.01	84.56	48.4	8	6.05	93	33.3	124	(4 of 5)	82.1
Lead	31	47	945	5.61	12 / 12	106	439.5	142	19.5	25.9	344	144	212	(4 of 5)	133
Mercury	0.2	0.15	0.424	0.02	11 / 12	0.0909	0.247	1.7	ND	NR	6.1	0.21	**0.502**	(3 of 5)	0.317
Nickel	16	21	56.2	2.55	12 / 12	22.57	37.42	131	8.4	3.2	16.9	12.3	35.2	(3 of 5)	22.4
Selenium	NAV	1	19	0.95	12 / 12	6.645	9.337	1.7	1.9	0.11	ND	ND	11	(4 of 5)	7.65
Silver	1	1	11.2	11.2	1 / 12	1.03	NA	NR	1.1	0.21	6.3	0.65	6.44	(4 of 5)	4.35
Vanadium	NAV	57	218	6.82	12 / 12	53.18	91.47	49.1	94.1	1.3	202	35.5	106	(3 of 5)	66.7
Zinc	120	150	423	15.3	12 / 12	135.1	215.4	162	81.4	44.6	259	106	**500**	(4 of 5)	324

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-29
Summary of Wildlife Hazard Quotients for Sediment COPECs at Site FTMM-16

	Sediment Concentrations		Surface Water Concentrations		NOAEL-Based Hazard Quotients (AUF = 1)			
					Mallard		Great Blue Heron	
	Maximum (mg/kg)	Average (mg/kg)	Maximum (mg/L)	Average (mg/L)	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration
SVOCs								
Hexachlorobutadiene	0.008	0.002	ND	ND	0.00	0.00	0.00	0.00
Inorganics								
Chromium	144	108	ND	ND	0.09	0.07	3.84	2.88
Mercury	0.502	0.317	ND	ND	0.00	0.00	0.01	0.01
Zinc	500	324	0.0471	0.0408	0.01	0.01	0.79	0.51

Chromium	NOAEL-Based (AUF = 0.07)	0.27	0.20
Chromium	LOAEL-Based (AUF = 1)	0.65	0.49
Chromium	LOAEL-Based (AUF = 0.07)	0.05	0.03

Notes:

AUF - Area Use Factor

ND - Not Detected

NOAEL - No Observeable Adverse Effect Level

LOAEL - Lowest Observeable Adverse Effect Level

Table 4-30
Summary of Surface Water COPECs and Background Concentrations at Site FTMM-18

COPEC	FW ESC (ug/L)	SW ESC (ug/L)	BEE Background Maximum Detected (ug/L)	BEE Background Minimum Detected (ug/L)	BEE Background Frequency of Detection	BEE Background Mean (ug/L)	BEE Background 95% UCL of Mean (ug/L)	SI Bkgd Maximum Surface Water (ug/L)	SI Bkgd Maximum Ground Water (ug/L)	Mo. Cty Bkgd Ground Water (ug/L)	Site COPEC Summary Maximum Detected (ug/L)	Site COPEC Summary Number Detected Above ESC	Site COPEC Summary Average Concentration (ug/L)
Possible COPECs													
Copper	6.5	3.1	ND	ND	0 / 11	NA	NA	10.2	65.6	730	NA	NA	NA

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-31
Summary of Sediment COPECs and Background Concentrations at Site FTMM-18

COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	BEE Background Maximum Detected (mg/kg)	BEE Background Minimum Detected (mg/kg)	BEE Background Frequency of Detection	BEE Background Mean (mg/kg)	BEE Background 95% UCL of Mean (mg/kg)	SI Bkgd Maximum Sediment (mg/kg)	SI Bkgd Maximum Soil (mg/kg)	Mo. Cty Bkgd Soil (mg/kg)	Ambient Soil Levels Maximum Ambient (mg/kg)	Ambient Soil Levels 90th Percentile (mg/kg)	Site COPEC Summary Maximum Detected (mg/kg)	Site COPEC Summary No Detected Above ESC	Site COPEC Summary Average Concentration (mg/kg)
Inorganics															
Arsenic	6	8.2	61.6	0.68	12 / 12	14.38	28.33	14.5	31.6	4.56	83.1	13.6	22.8	(2 of 5)	9.748
Cadmium	0.6	1.2	17.2	0.38	12 / 12	4.252	8.021	NR	ND	0.116	2.7	0.32	5.65	(4 of 5)	3.462
Chromium	26	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	**132**	(3 of 5)	86.02
Cobalt	50	10	16.8	1.05	12 / 12	7.253	9.891	119	4.5	NR	32	3.2	**56**	(2 of 5)	16.36
Copper	16	34	165	1.88	9 / 12	24.01	84.56	48.4	8	6.05	93	33.3	82.9	(1 of 5)	25.8
Lead	31	47	945	5.61	12 / 12	106	439.5	142	19.5	25.9	344	144	166	(2 of 5)	56.93
Mercury	0.2	0.15	0.424	0.02	11 / 12	0.0909	0.247	1.7	ND	NR	6.1	0.21	**0.669**	(3 of 5)	0.389
Nickel	16	21	56.2	2.55	12 / 12	22.57	37.42	131	8.4	3.2	16.9	12.3	45.1	(2 of 5)	18.7
Selenium	NAV	1	19	0.95	12 / 12	6.645	9.337	1.7	1.9	0.11	ND	ND	12.3	(5 of 5)	7.116
Silver	1	1	11.2	11.2	1 / 12	1.03	NA	NR	1.1	0.21	6.3	0.65	27.9	(2 of 5)	10.9
Vanadium	NAV	57	218	6.82	12 / 12	53.18	91.47	49.1	94.1	1.3	202	35.5	63	(1 of 5)	41.54
Zinc	120	150	423	15.3	12 / 12	135.1	215.4	162	81.4	44.6	259	106	358	(3 of 5)	175.3

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-32
Summary of Wildlife Hazard Quotients for Sediment COPECs at Site FTMM-18

	Sediment Concentrations		Surface Water Concentrations		NOAEL-Based Hazard Quotients (AUF = 1)			
					Mallard		Great Blue Heron	
	Maximum (mg/kg)	Average (mg/kg)	Maximum (mg/L)	Average (mg/L)	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration
Inorganics								
Chromium	132	86	ND	ND	0.08	0.05	3.52	2.30
Cobalt	56	16.4	ND	ND	0.01	0.00	1.20	0.35
Mercury	0.669	0.389	0.0001	0.000073	0.01	0.00	0.02	0.01
Chromium	NOAEL-Based (AUF = 0.37)						1.30	0.85
Chromium	LOAEL-Based (AUF = 1)						0.60	0.39
Chromium	LOAEL-Based (AUF = 0.37)						0.22	0.14
Cobalt	NOAEL-Based (AUF = 0.37)						0.44	0.13
Cobalt	LOAEL-Based (AUF = 1)						0.50	0.15
Cobalt	LOAEL-Based (AUF = 0.37)						0.18	0.05

Notes:

AUF - Area Use Factor

ND - Not Detected

NOAEL - No Observeable Adverse Effect Level

LOAEL - Lowest Observeable Adverse Effect Level

Table 4-33
Summary of Surface Water COPECs and Background Concentrations at Site FTMM-20

COPEC	FW ESC (ug/L)	SW ESC (ug/L)	BEE Background Maximum Detected (ug/L)	BEE Background Minimum Detected (ug/L)	BEE Background Frequency of Detection	BEE Background Mean (ug/L)	BEE Background 95% UCL of Mean (ug/L)	SI Bkgd Maximum Surface Water (ug/L)	SI Bkgd Maximum Ground Water (ug/L)	Mo. Cty Bkgd Ground Water (ug/L)	Site COPEC Summary Maximum Detected (ug/L)	Site COPEC Summary Number Detected Above ESC	Site COPEC Summary Average Concentration (ug/L)
Possible COPECs													
Copper	6.5	3.1	ND	ND	0 / 11	NA	NA	10.2	65.6	730	NA	NA	NA

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-34
Summary of Sediment COPECs and Background Concentrations at Site FTMM-20

COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	BEE Background Maximum Detected (mg/kg)	BEE Background Minimum Detected (mg/kg)	BEE Background Frequency of Detection	BEE Background Mean (mg/kg)	BEE Background 95% UCL of Mean (mg/kg)	SI Bkgd Maximum Sediment (mg/kg)	SI Bkgd Maximum Soil (mg/kg)	Mo. Cty Bkgd Soil (mg/kg)	Ambient Soil Levels Maximum Ambient (mg/kg)	Ambient Soil Levels 90th Percentile (mg/kg)	Site COPEC Summary Maximum Detected (mg/kg)	Site COPEC Summary No Detected Above ESC	Site COPEC Summary Average Concentration (mg/kg)
Inorganics															
Arsenic	6	8.2	61.6	0.68	12 / 12	14.38	28.33	14.5	31.6	4.56	83.1	13.6	23.8	(2 of 2)	16.6
Cadmium	0.6	1.2	17.2	0.38	12 / 12	4.252	8.021	NR	ND	0.116	2.7	0.32	2.87	(2 of 2)	2.09
Chromium	26	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	99.4	(1 of 2)	83.5
Copper	16	34	165	1.88	9 / 12	24.01	84.56	48.4	8	6.05	93	33.3	71.2	(1 of 2)	41.6
Lead	31	47	945	5.61	12 / 12	106	439.5	142	19.5	25.9	344	144	59.4	(1 of 2)	46.4
Mercury	0.2	0.15	0.424	0.02	11 / 12	0.0909	0.247	1.7	ND	NR	6.1	0.21	0.322	(1 of 2)	0.215
Nickel	16	21	56.2	2.55	12 / 12	22.57	37.42	131	8.4	3.2	16.9	12.3	21.6	(1 of 2)	15.7
Selenium	NAV	1	19	0.95	12 / 12	6.645	9.337	1.7	1.9	0.11	ND	ND	6.86	(2 of 2)	5.45
Silver	1	1	11.2	11.2	1 / 12	1.03	NA	NR	1.1	0.21	6.3	0.65	8.07	(2 of 2)	4.71
Vanadium	NAV	57	218	6.82	12 / 12	53.18	91.47	49.1	94.1	1.3	202	35.5	60.9	(1 of 2)	48.3
Zinc	120	150	423	15.3	12 / 12	135.1	215.4	162	81.4	44.6	259	106	184	(1 of 2)	132

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-35
Summary of Surface Water COPECs and Background Concentrations at Building 1122, Site FTMM-59, Parcel 43

COPEC	FW ESC (ug/L)	SW ESC (ug/L)	BEE Background Maximum Detected (ug/L)	BEE Background Minimum Detected (ug/L)	BEE Background Frequency of Detection	BEE Background Mean (ug/L)	BEE Background 95% UCL of Mean (ug/L)	SI Bkgd Maximum Surface Water (ug/L)	SI Bkgd Maximum Ground Water (ug/L)	Mo. Cty Bkgd Ground Water (ug/L)	Site COPEC Summary Maximum Detected (ug/L)	Site COPEC Summary Number Detected Above ESC	Site COPEC Summary Average Concentration (ug/L)
SVOCs													
Anthracene	0.035	NAV	0.12	0.052	3 / 11	0.0635	0.0798	NR	NR	NR	0.12	(2 of 2)	0.12
Benzo(a)anthracene	0.025	NAV	0.23	0.23	2 / 11	0.049	NA	NR	NR	NR	**0.24**	(2 of 2)	0.24
Benzo(a)pyrene	0.014	NAV	ND	ND	0 / 11	NA	NA	NR	NR	NR	**0.31**	(1 of 2)	0.16
Inorganics													
Lead	5.4	24	18.8	5.79	10 / 11	8.93	11.56	65.9	22.7	<100	11.5	(2 of 2)	9.4
Possible COPECs													
Cadmium	0.14	8.8	0.8	0.8	1 / 11	0.3	NA	ND	9.5	6	NA	NA	NA

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-36
Summary of Sediment COPECs and Background Concentrations at Building 1122, Site FTMM-59, Parcel 43

COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	BEE Background Maximum Detected (mg/kg)	BEE Background Minimum Detected (mg/kg)	BEE Background Frequency of Detection	BEE Background Mean (mg/kg)	BEE Background 95% UCL of Mean (mg/kg)	SI Bkgd Maximum Sediment (mg/kg)	SI Bkgd Maximum Soil (mg/kg)	Mo. Cty Bkgd Soil (mg/kg)	Ambient Soil Levels Maximum Ambient (mg/kg)	Ambient Soil Levels 90th Percentile (mg/kg)	Site COPEC Summary Maximum Detected (mg/kg)	Site COPEC Summary No Detected Above ESC	Site COPEC Summary Average Concentration (mg/kg)
SVOCs															
Benzo(a)anthracene	0.32	0.261	1.2	0.018	9 / 12	0.342	0.564	1.3	0.65	ND	1.82	0.43	0.61	(2 of 3)	0.44
Benzo(a)pyrene	0.37	0.43	1.2	0.025	10 / 12	0.333	0.901	1.2	0.6	ND	1.8	0.42	0.61	(2 of 3)	0.44
Benzo(k)fluroanthene	0.24	0.24	0.74	0.13	5 / 12	0.248	0.368	0.58	0.43	ND	4.1	0.66	0.39	(2 of 3)	0.30
Chrysene	0.34	0.384	1.9	0.064	6 / 12	0.526	0.89	0.37	0.65	3	1.78	0.47	0.88	(2 of 3)	0.66
Fluoranthene	0.75	0.6	4.9	0.064	7 / 12	1.42	2.454	1.5	0.46	ND	NR	NR	1.4	(2 of 3)	1.03
Phenanthrene	0.56	0.24	8.3	0.15	6 / 12	1.359	2.655	0.39	0.39	ND	NR	NR	0.7	(1 of 3)	0.48
Pyrene	0.49	0.665	3.3	0.12	6 / 12	0.987	1.652	2	1.5	ND	NR	NR	1.6	(2 of 3)	1.15
Inorganics															
Arsenic	6	8.2	61.6	0.68	12 / 12	14.38	28.33	14.5	31.6	4.56	83.1	13.6	10.2	(3 of 3)	8.6
Cadmium	0.6	1.2	17.2	0.38	12 / 12	4.252	8.021	NR	ND	0.116	2.7	0.32	1.86	(2 of 3)	1.3
Chromium	26	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	**161**	(3 of 3)	157
Copper	16	34	165	1.88	9 / 12	24.01	84.56	48.4	8	6.05	93	33.3	53.6	(3 of 3)	40.7
Lead	31	47	945	5.61	12 / 12	106	439.5	142	19.5	25.9	344	144	116	(3 of 3)	78.5
Mercury	0.2	0.15	0.424	0.02	11 / 12	0.0909	0.247	1.7	ND	NR	6.1	0.21	**0.47**	(3 of 3)	0.33
Nickel	16	21	56.2	2.55	12 / 12	22.57	37.42	131	8.4	3.2	16.9	12.3	36.4	(3 of 3)	29.5
Zinc	120	150	423	15.3	12 / 12	135.1	215.4	162	81.4	44.6	259	106	286	(2 of 3)	215
Possible COPECs															
Anthracene	0.22	0.085	0.3	0.011	9 / 12	0.0931	0.15	0.061	0.1	ND	NR	NR	NA	NA	NA

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-37
Summary of Wildlife Hazard Quotients for Sediment COPECs at Building 1122, Site FTMM-59, Parcel 43

	Sediment Concentrations		Surface Water Concentrations		NOAEL-Based Hazard Quotients (AUF = 1)			
					Mallard		Great Blue Heron	
	Maximum (mg/kg)	Average (mg/kg)	Maximum (mg/L)	Average (mg/L)	Based on Maximum Surface Water and Sediment Concentration	Based on Average Surface Water and Sediment Concentration	Based on Maximum Surface Water and Sediment Concentration	Based on Average Surface Water and Sediment Concentration
SVOCs								
Benzo(a)anthracene	0.61	0.44	0.24	0.24	0.00	0.00	0.08	0.06
Benzo(a)pyrene	0.61	0.44	0.31	0.16	0.00	0.00	0.09	0.06
Inorganics								
Chromium	161	157	ND	ND	0.10	0.10	4.30	4.19
Mercury	0.47	0.33	ND	ND	0.00	0.00	0.01	0.01

Chromium	NOAEL-Based (AUF = 0.05)	0.21	0.21
Chromium	LOAEL-Based (AUF = 1)	0.73	0.71
Chromium	LOAEL-Based (AUF = 0.05)	0.04	0.04

Notes:

AUF - Area Use Factor

ND - Not Detected

NOAEL - No Observeable Adverse Effect Level

LOAEL - Lowest Observeable Adverse Effect Level

Table 4-38
Summary of Surface Water COPECs and Background Concentrations at Building 1150, Parcel 39

COPEC	FW ESC (ug/L)	SW ESC (ug/L)	BEE Background Maximum Detected (ug/L)	BEE Background Minimum Detected (ug/L)	BEE Background Frequency of Detection	BEE Background Mean (ug/L)	BEE Background 95% UCL of Mean (ug/L)	SI Bkgd Maximum Surface Water (ug/L)	SI Bkgd Maximum Ground Water (ug/L)	Mo. Cty Bkgd Ground Water (ug/L)	Site COPEC Summary Maximum Detected (ug/L)	Site COPEC Summary Number Detected Above ESC	Site COPEC Summary Average Concentration (ug/L)
SVOCs													
Anthracene	0.035	NAV	0.12	0.052	3 / 11	0.0635	0.0798	NR	NR	NR	0.11	(1 of 1)	0.11
Benzo(a)anthracene	0.025	NAV	0.23	0.23	2 / 11	0.049	NA	NR	NR	NR	0.22	(1 of 1)	0.22
Inorganics													
Lead	5.4	24	18.8	5.79	10 / 11	8.93	11.56	65.9	22.7	<100	10.1	(1 of 1)	10.1
Possible COPECs													
Cadmium	0.14	8.8	0.8	0.8	1 / 11	0.3	NA	ND	9.5	6	NA	NA	NA

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-39
Summary of Sediment COPECs and Background Concentrations at Building 1150, Parcel 39

COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	BEE Background Maximum Detected (mg/kg)	BEE Background Minimum Detected (mg/kg)	BEE Background Frequency of Detection	BEE Background Mean (mg/kg)	BEE Background 95% UCL of Mean (mg/kg)	SI Bkgd Maximum Sediment (mg/kg)	SI Bkgd Maximum Soil (mg/kg)	Mo. Cty Bkgd Soil (mg/kg)	Ambient Soil Levels Maximum Ambient (mg/kg)	Ambient Soil Levels 90th Percentile (mg/kg)	Site COPEC Summary Maximum Detected (mg/kg)	Site COPEC Summary No Detected Above ESC	Site COPEC Summary Average Concentration (mg/kg)
PCBs															
Aroclor 1254	0.06	0.06	0.086	0.021	2 / 12	0.0264	0.0396	NR	NR	NR	NR	NR	0.064	(1 of 4)	0.027
SVOCs															
Benzo(a)anthracene	0.32	0.261	1.2	0.018	9 / 12	0.342	0.564	1.3	0.65	ND	1.82	0.43	0.54	(1 of 6)	0.23
Chrysene	0.34	0.384	1.9	0.064	6 / 12	0.526	0.89	0.37	0.65	3	1.78	0.47	0.71	(3 of 6)	0.29
Fluoranthene	0.75	0.6	4.9	0.064	7 / 12	1.42	2.454	1.5	0.46	ND	NR	NR	0.99	(2 of 6)	0.53
Phenanthrene	0.56	0.24	8.3	0.15	6 / 12	1.359	2.655	0.39	0.39	ND	NR	NR	0.67	(1 of 6)	0.21
Pyrene	0.49	0.665	3.3	0.12	6 / 12	0.987	1.652	2	1.5	ND	NR	NR	2	(3 of 6)	0.72
Inorganics															
Arsenic	6	8.2	61.6	0.68	12 / 12	14.38	28.33	14.5	31.6	4.56	83.1	13.6	8.89	(2 of 6)	4.49
Cadmium	0.6	1.2	17.2	0.38	12 / 12	4.252	8.021	NR	ND	0.116	2.7	0.32	2.09	(6 of 6)	1.52
Chromium	26	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	**131**	(6 of 6)	68.2
Copper	16	34	165	1.88	9 / 12	24.01	84.56	48.4	8	6.05	93	33.3	41	(2 of 6)	11.9
Lead	31	47	945	5.61	12 / 12	106	439.5	142	19.5	25.9	344	144	61.7	(1 of 6)	26.0
Mercury	0.2	0.15	0.424	0.02	11 / 12	0.0909	0.247	1.7	ND	NR	6.1	0.21	**0.67**	(1 of 6)	0.17
Nickel	16	21	56.2	2.55	12 / 12	22.57	37.42	131	8.4	3.2	16.9	12.3	32.4	(1 of 6)	14.4
Zinc	120	150	423	15.3	12 / 12	135.1	215.4	162	81.4	44.6	259	106	210	(1 of 6)	103

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-40
Summary of Wildlife Hazard Quotients for Sediment COPECs at Building 1150, Parcel 39

	Sediment Concentrations		Surface Water Concentrations		NOAEL-Based Hazard Quotients (AUF = 1)			
					Mallard		Great Blue Heron	
	Maximum (mg/kg)	Average (mg/kg)	Maximum (mg/L)	Average (mg/L)	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration
Inorganics								
Chromium	131	68.2	ND	ND	0.08	0.04	3.50	1.82
Mercury	0.67	0.17	ND	ND	0.01	0.00	0.02	0.00

Chromium	NOAEL-Based (AUF = 0.01)	0.03	0.02
Chromium	LOAEL-Based (AUF = 1)	0.59	0.31
Chromium	LOAEL-Based (AUF = 0.01)	0.01	0.00

Notes:

AUF - Area Use Factor

ND - Not Detected

NOAEL - No Observeable Adverse Effect Level

LOAEL - Lowest Observeable Adverse Effect Level

Table 4-41
Summary of Surface Water COPECs and Background Concentrations at Buildings 283 (FTMM-61), 288, 291, 293, 295, Parcel 49

			BEE Background					SI Bkgd	SI Bkgd	Mo. Cty	Site COPEC Summary		
COPEC	FW ESC (ug/L)	SW ESC (ug/L)	Maximum Detected (ug/L)	Minimum Detected (ug/L)	Frequency of Detection	Mean (ug/L)	95% UCL of Mean (ug/L)	Maximum Surface Water (ug/L)	Maximum Ground Water (ug/L)	Bkgd Ground Water (ug/L)	Maximum Detected (ug/L)	Number Detected Above ESC	Average Concentration (ug/L)
Possible COPECs													
Copper	6.5	3.1	ND	ND	0 / 11	NA	NA	10.2	65.6	730	NA	NA	NA

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-42
Summary of Sediment COPECs and Background Concentrations at Buildings 283 (FTMM-61), 288, 291, 293, 295, Parcel 49

COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	BEE Background Maximum Detected (mg/kg)	BEE Background Minimum Detected (mg/kg)	BEE Background Frequency of Detection	BEE Background Mean (mg/kg)	BEE Background 95% UCL of Mean (mg/kg)	SI Bkgd Maximum Sediment (mg/kg)	SI Bkgd Maximum Soil (mg/kg)	Mo. Cty Bkgd Soil (mg/kg)	Ambient Soil Levels Maximum Ambient (mg/kg)	Ambient Soil Levels 90th Percentile (mg/kg)	Site COPEC Summary Maximum Detected (mg/kg)	Site COPEC Summary No Detected Above ESC	Site COPEC Summary Average Concentration (mg/kg)
Inorganics															
Arsenic	6	8.2	61.6	0.68	12 / 12	14.38	28.33	14.5	31.6	4.56	83.1	13.6	29.7	(4 of 4)	10.5
Barium	NAV	48	196	4.41	12 / 12	74.56	108.5	87.6	32.3	NR	154	65.8	96.4	(4 of 4)	81.1
Cadmium	0.6	1.2	17.2	0.38	12 / 12	4.252	8.021	NR	ND	0.116	2.7	0.32	5.5	(3 of 4)	3.29
Chromium	**26**	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	**353**	(4 of 4)	230
Cobalt	**50**	10	16.8	1.05	12 / 12	7.253	9.891	119	4.5	NR	32	3.2	**29.3**	(2 of 4)	13.9
Copper	16	34	165	1.88	9 / 12	24.01	84.56	48.4	8	6.05	93	33.3	111	(3 of 4)	72.2
Lead	31	47	945	5.61	12 / 12	106	439.5	142	19.5	25.9	344	144	148	(1 of 4)	58.9
Mercury	**0.2**	0.15	0.424	0.02	11 / 12	0.0909	0.247	1.7	ND	NR	6.1	0.21	**0.53**	(3 of 4)	0.33
Nickel	**16**	21	56.2	2.55	12 / 12	22.57	37.42	131	8.4	3.2	16.9	12.3	**68.5**	(2 of 4)	34.2
Silver	1	1	11.2	11.2	1 / 12	1.03	NA	NR	1.1	0.21	6.3	0.65	1.4	(1 of 4)	NA
Vanadium	NAV	57	218	6.82	12 / 12	53.18	91.47	49.1	94.1	1.3	202	35.5	125	(4 of 4)	101
Zinc	**120**	150	423	15.3	12 / 12	135.1	215.4	162	81.4	44.6	259	106	**2090**	(3 of 4)	917
Possible COPECs															
2-Methylnaphthalene	0.07	0.07	1.3	1.3	1 / 12	0.12	NA	NR	NR	NR	NR	NR	NA	NA	NA
Pyrene	0.49	0.665	3.3	0.12	6 / 12	0.987	1.652	2	1.5	ND	NR	NR	NA	NA	NA

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-43

Summary of Wildlife Hazard Quotients for Sediment COPECs at Buildings 283 (FTMM-61), 288, 291, 293, 295, Parcel 49

	Sediment Concentrations		Surface Water Concentrations		NOAEL-Based Hazard Quotients (AUF = 1)			
					Mallard		Great Blue Heron	
	Maximum (mg/kg)	Average (mg/kg)	Maximum (mg/L)	Average (mg/L)	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration
Inorganics								
Chromium	353	230	ND	ND	0.22	0.14	9.43	6.14
Cobalt	29.3	13.9	ND	ND	0.01	0.00	0.63	0.30
Mercury	0.53	0.33	ND	ND	0.00	0.00	0.02	0.01
Nickel	68.5	34.2	0.0076	0.00485	0.03	0.02	1.66	0.83
Zinc	2090	917	0.0464	0.04455	0.04	0.02	3.28	1.44
Chromium	NOAEL-Based (AUF = 0.19)						1.79	1.17
Chromium	LOAEL-Based (AUF = 1)						1.60	1.04
Chromium	LOAEL-Based (AUF = 0.19)						0.30	0.20
Nickel	NOAEL-Based (AUF = 0.19)						0.32	0.16
Nickel	LOAEL-Based (AUF = 1)						0.60	0.30
Nickel	LOAEL-Based (AUF = 0.19)						0.11	0.06
Zinc	NOAEL-Based (AUF = 0.19)						0.62	0.27
Zinc	LOAEL-Based (AUF = 1)						1.41	0.62
Zinc	LOAEL-Based (AUF = 0.19)						0.27	0.12

Notes:

AUF - Area Use Factor

ND - Not Detected

NOAEL - No Observeable Adverse Effect Level

LOAEL - Lowest Observeable Adverse Effect Level

Table 4-44
Summary of Surface Water COPECs and Background Concentrations at Building 1075, Parcel 61

COPEC	FW ESC (ug/L)	SW ESC (ug/L)	BEE Background Maximum Detected (ug/L)	BEE Background Minimum Detected (ug/L)	BEE Background Frequency of Detection	BEE Background Mean (ug/L)	BEE Background 95% UCL of Mean (ug/L)	SI Bkgd Maximum Surface Water (ug/L)	SI Bkgd Maximum Ground Water (ug/L)	Mo. Cty Bkgd Ground Water (ug/L)	Site COPEC Summary Maximum Detected (ug/L)	Site COPEC Summary Number Detected Above ESC	Site COPEC Summary Average Concentration (ug/L)
Possible COPECs													
Copper	6.5	3.1	ND	ND	0 / 11	NA	NA	10.2	65.6	730	NA	NA	NA

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-45
Summary of Sediment COPECs and Background Concentrations at Building 1075, Parcel 61

COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	BEE Background Maximum Detected (mg/kg)	BEE Background Minimum Detected (mg/kg)	BEE Background Frequency of Detection	BEE Background Mean (mg/kg)	BEE Background 95% UCL of Mean (mg/kg)	SI Bkgd Maximum Sediment (mg/kg)	SI Bkgd Maximum Soil (mg/kg)	Mo. Cty Bkgd Soil (mg/kg)	Ambient Soil Levels Maximum Ambient (mg/kg)	Ambient Soil Levels 90th Percentile (mg/kg)	Site COPEC Summary Maximum Detected (mg/kg)	Site COPEC Summary No Detected Above ESC	Site COPEC Summary Average Concentration (mg/kg)
SVOCs															
Acenaphthene	0.016	0.016	0.47	0.11	3 / 12	0.141	0.204	NR	0.1	ND	NR	NR	**1.6**	(1 of 2)	0.83
Anthracene	0.22	0.085	0.3	0.011	9 / 12	0.0931	0.15	0.061	0.1	ND	NR	NR	0.29	(2 of 2)	0.23
Benzo(a)anthracene	0.32	0.261	1.2	0.018	9 / 12	0.342	0.564	1.3	0.65	ND	1.82	0.43	0.74	(2 of 2)	0.62
Benzo(a)pyrene	0.37	0.43	1.2	0.025	10 / 12	0.333	0.901	1.2	0.6	ND	1.8	0.42	0.65	(2 of 2)	0.54
Benzo(k)fluroanthene	0.24	0.24	0.74	0.13	5 / 12	0.248	0.368	0.58	0.43	ND	4.1	0.66	0.38	(1 of 2)	0.22
Chrysene	0.34	0.384	1.9	0.064	6 / 12	0.526	0.89	0.37	0.65	3	1.78	0.47	0.92	(2 of 2)	0.82
Fluoranthene	0.75	0.6	4.9	0.064	7 / 12	1.42	2.454	1.5	0.46	ND	NR	NR	1.7	(2 of 2)	1.5
Fluorene	0.19	0.019	0.82	0.13	3 / 12	0.203	0.326	NR	0.074	ND	NR	NR	0.14	(1 of 2)	0.10
Phenanthrene	0.56	0.24	8.3	0.15	6 / 12	1.359	2.655	0.39	0.39	ND	NR	NR	1.2	(2 of 2)	0.94
Pyrene	0.49	0.665	3.3	0.12	6 / 12	0.987	1.652	2	1.5	ND	NR	NR	2.2	(2 of 2)	1.9
Inorganics															
Arsenic	6	8.2	61.6	0.68	12 / 12	14.38	28.33	14.5	31.6	4.56	83.1	13.6	13.3	(1 of 2)	7.5
Chromium	26	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	86	(1 of 2)	63

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-46
Summary of Wildlife Hazard Quotients for Sediment COPECs at Building 1075, Parcel 61

	Sediment Concentrations		Surface Water Concentrations		NOAEL-Based Hazard Quotients (AUF = 1)			
					Mallard		Great Blue Heron	
	Maximum (mg/kg)	Average (mg/kg)	Maximum (mg/L)	Average (mg/L)	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration
Semivolatile Organics								
Acenaphthene	1.60	0.83	ND	ND	0.00	0.00	0.02	0.01

Notes:

AUF - Area Use Factor

ND - Not Detected

NOAEL - No Observeable Adverse Effect Level

Table 4-47
Summary of Surface Water COPECs and Background Concentrations at Building 900, Parcel 69

COPEC	FW ESC (ug/L)	SW ESC (ug/L)	BEE Background Maximum Detected (ug/L)	BEE Background Minimum Detected (ug/L)	BEE Background Frequency of Detection	BEE Background Mean (ug/L)	BEE Background 95% UCL of Mean (ug/L)	SI Bkgd Maximum Surface Water (ug/L)	SI Bkgd Maximum Ground Water (ug/L)	Mo. Cty Bkgd Ground Water (ug/L)	Site COPEC Summary Maximum Detected (ug/L)	Site COPEC Summary Number Detected Above ESC	Site COPEC Summary Average Concentration (ug/L)
Possible COPECs													
Copper	6.5	3.1	ND	ND	0 / 11	NA	NA	10.2	65.6	730	NA	NA	NA

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-48
Summary of Sediment COPECs and Background Concentrations at Building 900, Parcel 69

COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	BEE Background Maximum Detected (mg/kg)	BEE Background Minimum Detected (mg/kg)	BEE Background Frequency of Detection	BEE Background Mean (mg/kg)	BEE Background 95% UCL of Mean (mg/kg)	SI Bkgd Maximum Sediment (mg/kg)	SI Bkgd Maximum Soil (mg/kg)	Mo. Cty Bkgd Soil (mg/kg)	Ambient Soil Levels Maximum Ambient (mg/kg)	Ambient Soil Levels 90th Percentile (mg/kg)	Site COPEC Summary Maximum Detected (mg/kg)	Site COPEC Summary No Detected Above ESC	Site COPEC Summary Average Concentration (mg/kg)
SVOCs															
Acenaphthene	0.016	0.016	0.47	0.11	3 / 12	0.141	0.204	NR	0.1	ND	NR	NR	**1.2**	(2 of 2)	0.85
Fluoranthene	0.75	0.6	4.9	0.064	7 / 12	1.42	2.454	1.5	0.46	ND	NR	NR	2.8	(2 of 2)	1.8
Pyrene	0.49	0.665	3.3	0.12	6 / 12	0.987	1.652	2	1.5	ND	NR	NR	3.1	(2 of 2)	2.1
Inorganics															
Arsenic	6	8.2	61.6	0.68	12 / 12	14.38	28.33	14.5	31.6	4.56	83.1	13.6	36.2	(1 of 2)	19.4
Barium	NAV	48	196	4.41	12 / 12	74.56	108.5	87.6	32.3	NR	154	65.8	89.6	(1 of 2)	52.2
Cadmium	0.6	1.2	17.2	0.38	12 / 12	4.252	8.021	NR	ND	0.116	2.7	0.32	14.1	(1 of 2)	7.1
Chromium	26	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	**345**	(1 of 2)	210
Cobalt	50	10	16.8	1.05	12 / 12	7.253	9.891	119	4.5	NR	32	3.2	**20.3**	(1 of 2)	11.2
Copper	16	34	165	1.88	9 / 12	24.01	84.56	48.4	8	6.05	93	33.3	**203**	(2 of 2)	117
Lead	31	47	945	5.61	12 / 12	106	439.5	142	19.5	25.9	344	144	410	(1 of 2)	223
Manganese	630	260	551	4.36	12 / 12	105.6	218.2	70.2	90.7	59	1030	206	339	(1 of 2)	197
Mercury	0.2	0.15	0.424	0.02	11 / 12	0.0909	0.247	1.7	ND	NR	6.1	0.21	**0.83**	(1 of 2)	0.45
Nickel	16	21	56.2	2.55	12 / 12	22.57	37.42	131	8.4	3.2	16.9	12.3	53.1	(1 of 2)	31.2
Silver	1	1	11.2	11.2	1 / 12	1.03	NA	NR	1.1	0.21	6.3	0.65	9.9	(1 of 2)	5.1
Vanadium	NAV	57	218	6.82	12 / 12	53.18	91.47	49.1	94.1	1.3	202	35.5	185	(1 of 2)	115
Zinc	120	150	423	15.3	12 / 12	135.1	215.4	162	81.4	44.6	259	106	**515**	(2 of 2)	321

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-49
Summary of Wildlife Hazard Quotients for Sediment COPECs at Building 900, Parcel 69

	Sediment Concentrations		Surface Water Concentrations		NOAEL-Based Hazard Quotients (AUF = 1)			
					Mallard		Great Blue Heron	
	Maximum (mg/kg)	Average (mg/kg)	Maximum (mg/L)	Average (mg/L)	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration
SVOCs								
Acenaphthene	1.2	0.06	ND	ND	0.01	0.00	0.01	0.00
Inorganics								
Chromium	345	210	ND	ND	0.22	0.13	9.21	5.61
Cobalt	20.3	11.2	ND	ND	0.00	0.00	0.43	0.24
Copper	203	117	ND	ND	1.45	0.84	2.74	1.58
Mercury	0.83	0.45	ND	ND	0.01	0.00	0.02	0.01
Zinc	515	321	0.0535	0.0535	0.01	0.01	0.81	0.50
Chromium	NOAEL-Based (AUF = 0.19)						1.75	1.07
Chromium	LOAEL-Based (AUF = 1)						1.57	0.95
Chromium	LOAEL-Based (AUF = 0.19)						0.30	0.18
Copper	NOAEL-Based (AUF = 0.19)						0.52	0.30
Copper	LOAEL-Based (AUF = 1)						0.92	0.53
Copper	LOAEL-Based (AUF = 0.19)						0.17	0.10
Copper	NOAEL-Based (AUF = 0.0014)				0.00	0.00		
Copper	LOAEL-Based (AUF = 1)				0.49	0.28		
Copper	LOAEL-Based (AUF = 0.0014)				0.00	0.00		

Notes:
AUF - Area Use Factor
ND - Not Detected
NOAEL - No Observeable Adverse Effect Level
LOAEL - Lowest Observeable Adverse Effect Level

Table 4-50
Summary of Surface Water COPECs and Background Concentrations at Landfill CW-3A (FTMM-25)

			BEE Background					SI Bkgd	SI Bkgd	Mo. Cty	Site COPEC Summary		
COPEC	FW ESC (ug/L)	SW ESC (ug/L)	Maximum Detected (ug/L)	Minimum Detected (ug/L)	Frequency of Detection	Mean (ug/L)	95% UCL of Mean (ug/L)	Maximum Surface Water (ug/L)	Maximum Ground Water (ug/L)	Bkgd Ground Water (ug/L)	Maximum Detected (ug/L)	Number Detected Above ESC	Average Concentration (ug/L)
SVOCs													
Anthracene	0.035	NAV	0.12	0.052	3 / 11	0.0635	0.0798	NR	NR	NR	0.11	(2 of 2)	0.11
Benzo(a)anthracene	0.025	NAV	0.23	0.23	2 / 11	0.049	NA	NR	NR	NR	**0.31**	(1 of 2)	0.16
Inorganics													
Cadmium	0.14-0.17	8.8	0.8	0.8	1 / 11	0.3	NA	NR	9.5	6	0.79	(1 of 2)	0.52
Zinc	88-108	81	79.9	38.1	11 / 11	48.45	54.55	215	233	60	99.8	(1 of 2)	77.6
Possible COPECs													
Silver	0.12	1.9	ND	ND	0 / 11	NA	NA	NR	ND	<10	NA	NA	NA

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-51
Summary of Sediment COPECs and Background Concentrations at Landfill CW-3A (FTMM-25)

COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	BEE Background Maximum Detected (mg/kg)	BEE Background Minimum Detected (mg/kg)	BEE Background Frequency of Detection	BEE Background Mean (mg/kg)	BEE Background 95% UCL of Mean (mg/kg)	SI Bkgd Maximum Sediment (mg/kg)	SI Bkgd Maximum Soil (mg/kg)	Mo. Cty Bkgd Soil (mg/kg)	Ambient Soil Levels Maximum Ambient (mg/kg)	Ambient Soil Levels 90th Percentile (mg/kg)	Site COPEC Summary Maximum Detected (mg/kg)	Site COPEC Summary No Detected Above ESC	Site COPEC Summary Average Concentration (mg/kg)
Pesticides															
DDD	0.008	0.002	0.0047	0.0022	4 / 12	0.00248	0.00291	0.015	0.0096	NR	NR	NR	**0.013**	(1 of 6)	0.004
SVOCs															
Acenaphthene	0.016	0.016	0.47	0.11	3 / 12	0.141	0.204	NR	0.1	ND	NR	NR	**0.78**	(1 of 6)	0.144
Anthracene	0.22	0.085	0.3	0.011	9 / 12	0.0931	0.15	0.061	0.1	ND	NR	NR	**4.1**	(1 of 6)	0.69
Benzo(a)anthracene	0.32	0.261	1.2	0.018	9 / 12	0.342	0.564	1.3	0.65	ND	1.82	0.43	**7.0**	(1 of 6)	1.19
Benzo(a)pyrene	0.37	0.43	1.2	0.025	10 / 12	0.333	0.901	1.2	0.6	ND	1.8	0.42	**4.6**	(1 of 6)	0.78
Benzo(g,h,i)perylene	0.17	0.17	0.89	0.38	4 / 12	0.466	0.577	0.67	0.64	ND	NR	NR	**2**	(1 of 6)	0.353
Benzo(k)fluroanthene	0.24	0.24	0.74	0.13	5 / 12	0.248	0.368	0.58	0.43	ND	4.1	0.66	**2.3**	(1 of 6)	0.406
Chrysene	0.34	0.384	1.9	0.064	6 / 12	0.526	0.89	0.37	0.65	3	1.78	0.47	**5.6**	(1 of 6)	0.956
Fluoranthene	0.75	0.6	4.9	0.064	7 / 12	1.42	2.454	1.5	0.46	ND	NR	NR	**17**	(1 of 6)	2.84
Fluorene	0.19	0.019	0.82	0.13	3 / 12	0.203	0.326	NR	0.074	ND	NR	NR	**1.4**	(1 of 6)	0.252
Indeno(1,2,3-c,d)pyrene	0.2	0.2	0.98	0.095	5 / 12	0.275	0.45	0.7	0.46	ND	0.57	0.23	**2**	(1 of 6)	0.35
Phenanthrene	0.56	0.24	8.3	0.15	6 / 12	1.359	2.655	0.39	0.39	ND	NR	NR	**15**	(1 of 6)	2.51
Pyrene	0.49	0.665	3.3	0.12	6 / 12	0.987	1.652	2	1.5	ND	NR	NR	**13**	(1 of 6)	2.23
Inorganics															
Arsenic	6	8.2	61.6	0.68	12 / 12	14.38	28.33	14.5	31.6	4.56	83.1	13.6	6.59	(1 of 6)	1.99
Cadmium	0.6	1.2	17.2	0.38	12 / 12	4.252	8.021	NR	ND	0.116	2.7	0.32	3.38	(3 of 6)	1.19
Chromium	26	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	**145**	(5 of 6)	82.6
Copper	16	34	165	1.88	9 / 12	24.01	84.56	48.4	8	6.05	93	33.3	31.6	(2 of 6)	13.3
Lead	31	47	945	5.61	12 / 12	106	439.5	142	19.5	25.9	344	144	31.2	(1 of 6)	14.4

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-52

Summary of Wildlife Hazard Quotients for Surface Water and Sediment COPECs at Landfill CW-3A (FTMM-25)

	Sediment Concentrations		Surface Water Concentrations		NOAEL-Based Hazard Quotients (AUF = 1)			
					Mallard		Great Blue Heron	
	Maximum (mg/kg)	Average (mg/kg)	Maximum (mg/L)	Average (mg/L)	Based on Maximum Surface Water and Sediment Concentration	Based on Average Surface Water and Sediment Concentration	Based on Maximum Surface Water and Sediment Concentration	Based on Average Surface Water and Sediment Concentration
Pesticides								
DDD	0.013	0.004	ND	ND	0.00	0.00	0.01	0.00
SVOCs								
Acenaphthene	0.78	0.144	ND	ND	0.00	0.00	0.01	0.00
Anthracene	4.1	0.69	0.00011	0.00011	0.00	0.00	0.05	0.01
Benzo(a)anthracene	7	1.19	ND	ND	0.01	0.00	0.92	0.16
Benzo(a)pyrene	4.6	0.78	0.00031	0.00016	0.00	0.00	0.66	0.11
Benzo(g,h,i)perylene	2	0.353	ND	ND	0.00	0.00	0.27	0.05
Benzo(k)fluoranthene	2.3	0.406	ND	ND	0.00	0.00	0.33	0.06
Chrysene	5.6	0.956	ND	ND	0.01	0.00	0.70	0.12
Fluoranthene	17	2.84	ND	ND	0.00	0.00	0.20	0.03
Fluorene	1.4	0.252	ND	ND	0.00	0.00	0.02	0.00
Indeno(1,2,3-c,d)pyrene	2	0.35	ND	ND	0.00	0.00	0.29	0.05
Phenanthrene	15	2.51	ND	ND	0.00	0.00	0.18	0.03
Pyrene	13	2.23	ND	ND	0.00	0.00	1.76	0.30
Inorganics								
Chromium	145	82.6	0.00443	0.00328	0.09	0.05	3.10	1.77
Chromium	NOAEL-Based (AUF = 0.04)						0.12	0.07
Chromium	LOAEL-Based (AUF = 1)						0.53	0.30
Chromium	LOAEL-Based (AUF = 0.04)						0.02	0.01
Pyrene	NOAEL-Based (AUF = 0.04)						0.07	0.01
Pyrene	LOAEL-Based (AUF = 1)						0.18	0.03
Pyrene	LOAEL-Based (AUF = 0.04)						0.01	0.00

Notes:

AUF - Area Use Factor

ND - Not Detected

NOAEL - No Observeable Adverse Effect Level

LOAEL - Lowest Observeable Adverse Effect Level

Table 4-53
Summary of Surface Water COPECs and Background Concentrations at Site CW-6 (FTMM-28)

COPEC	FW ESC (ug/L)	SW ESC (ug/L)	BEE Background Maximum Detected (ug/L)	BEE Background Minimum Detected (ug/L)	BEE Background Frequency of Detection	BEE Background Mean (ug/L)	BEE Background 95% UCL of Mean (ug/L)	SI Bkgd Maximum Surface Water (ug/L)	SI Bkgd Maximum Ground Water (ug/L)	Mo. Cty Bkgd Ground Water (ug/L)	Site COPEC Summary Maximum Detected (ug/L)	Site COPEC Summary Number Detected Above ESC	Site COPEC Summary Average Concentration (ug/L)
PCBs													
Aroclor-1242	0.014	0.03	0.3	0.3	1 / 11	0.0307	NA	NR	NR	NR	0.3	(2 of 2)	0.215
Inorganics													
Cadmium	0.14-0.17	8.8	0.8	0.8	1 / 11	0.3	NA	NR	9.5	6	0.8	(1 of 2)	0.53
Lead	5.4	24	18.8	5.79	10 / 11	8.93	11.56	65.9	22.7	<100	8.79	(2 of 2)	7.56
Possible COPECs													
DDE	4.51E-09	NAV	ND	ND	0 / 11	NA	NA	NR	NR	NR	NA	NA	NA
Silver	0.12	1.9	ND	ND	0 / 11	NA	NA	NR	ND	<10	NA	NA	NA

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-54
Summary of Sediment COPECs and Background Concentrations at Site CW-6 (FTMM-28)

COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	BEE Background Maximum Detected (mg/kg)	BEE Background Minimum Detected (mg/kg)	BEE Background Frequency of Detection	BEE Background Mean (mg/kg)	BEE Background 95% UCL of Mean (mg/kg)	SI Bkgd Maximum Sediment (mg/kg)	SI Bkgd Maximum Soil (mg/kg)	Mo. Cty Bkgd Soil (mg/kg)	Ambient Soil Levels Maximum Ambient (mg/kg)	Ambient Soil Levels 90th Percentile (mg/kg)	Site COPEC Summary Maximum Detected (mg/kg)	Site COPEC Summary No Detected Above ESC	Site COPEC Summary Average Concentration (mg/kg)
Pesticides															
DDE	0.005	0.0022	0.0034	0.0017	2 / 12	0.00184	0.00219	0.096	0.071	NR	NR	NR	**0.006**	(1 of 6)	0.0013
PCBs															
Aroclor 1260	0.005	0.005	ND	ND	0 / 12	NA	NA	NR	NR	NR	NR	NR	**0.1**	(1 of 6)	0.0212
SVOCs															
Acenaphthene	0.016	0.016	0.47	0.11	3 / 12	0.141	0.204	NR	0.1	ND	NR	NR	0.47	(1 of 6)	0.0928
Acenaphthylene	0.044	0.044	1.6	0.089	2 / 12	0.215	0.958	NR	0.041	ND	NR	NR	1.6	(1 of 6)	0.28
Anthracene	0.22	0.085	0.3	0.011	9 / 12	0.0931	0.15	0.061	0.1	ND	NR	NR	0.3	(1 of 6)	0.055
Benzo(a)anthracene	0.32	0.261	1.2	0.018	9 / 12	0.342	0.564	1.3	0.65	ND	1.82	0.43	1	(1 of 6)	0.196
Benzo(a)pyrene	0.37	0.43	1.2	0.025	10 / 12	0.333	0.901	1.2	0.6	ND	1.8	0.42	1.2	(1 of 6)	0.292
Benzo(g,h,i)perylene	0.17	0.17	0.89	0.38	4 / 12	0.466	0.577	0.67	0.64	ND	NR	NR	0.89	(1 of 6)	0.169
Benzo(k)fluroanthene	0.24	0.24	0.74	0.13	5 / 12	0.248	0.368	0.58	0.43	ND	4.1	0.66	0.74	(1 of 6)	0.148
Chrysene	0.34	0.384	1.9	0.064	6 / 12	0.526	0.89	0.37	0.65	3	1.78	0.47	1.9	(1 of 6)	0.34
2,4-Dinitrophenol	0.00621	NAV	ND	ND	0 / 12	NA	NA	NR	NR	NR	NR	NR	1.7	(2 of 6)	1.28
Fluoranthene	0.75	0.6	4.9	0.064	7 / 12	1.42	2.454	1.5	0.46	ND	NR	NR	4.9	(1 of 6)	0.92
Fluorene	0.19	0.019	0.82	0.13	3 / 12	0.203	0.326	NR	0.074	ND	NR	NR	0.82	(1 of 6)	0.156
Indeno(1,2,3-c,d)pyrene	0.2	0.2	0.98	0.095	5 / 12	0.275	0.45	0.7	0.46	ND	0.57	0.23	0.98	(1 of 6)	0.18
2-Methylnaphthalene	0.07	0.07	1.3	1.3	1 / 12	0.12	NA	NR	NR	NR	NR	NR	1.3	(1 of 6)	0.23
Naphthalene	0.16	0.16	4.4	4.4	1 / 12	0.383	NA	NR	NR	NR	NR	NR	4.4	(1 of 6)	0.751
Phenanthrene	0.56	0.24	8.3	0.15	6 / 12	1.359	2.655	0.39	0.39	ND	NR	NR	8.3	(1 of 6)	1.4
Pyrene	0.49	0.665	3.3	0.12	6 / 12	0.987	1.652	2	1.5	ND	NR	NR	3.3	(1 of 6)	0.63
Inorganics															
Arsenic	6	8.2	61.6	0.68	12 / 12	14.38	28.33	14.5	31.6	4.56	83.1	13.6	13.1	(2 of 6)	5.45
Cadmium	0.6	1.2	17.2	0.38	12 / 12	4.252	8.021	NR	ND	0.116	2.7	0.32	5.56	(5 of 6)	2.00
Chromium	26	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	150	(6 of 6)	71.8
Copper	16	34	165	1.88	9 / 12	24.01	84.56	48.4	8	6.05	93	33.3	56.2	(4 of 6)	26.2
Lead	31	47	945	5.61	12 / 12	106	439.5	142	19.5	25.9	344	144	218	(4 of 6)	105
Mercury	0.2	0.15	0.424	0.02	11 / 12	0.0909	0.247	1.7	ND	NR	6.1	0.21	6.6	(3 of 6)	1.60
Nickel	16	21	56.2	2.55	12 / 12	22.57	37.42	131	8.4	3.2	16.9	12.3	56.2	(3 of 6)	22.3
Silver	1	1	11.2	11.2	1 / 12	1.03	NA	NR	1.1	0.21	6.3	0.65	12.1	(4 of 6)	3.72
Zinc	120	150	423	15.3	12 / 12	135.1	215.4	162	81.4	44.6	259	106	168	(1 of 6)	87.2

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-55

Summary of Wildlife Hazard Quotients for Soils and Wetland Sediment COPECs at Site CW-6 (FTMM-28)

	Sediment Concentrations		Surface Water Concentrations		NOAEL-Based Hazard Quotients (AUF = 1) American Robin	
	Maximum (mg/kg)	Average (mg/kg)	Maximum (mg/L)	Average (mg/L)	Based on Maximum Sediment Concentration	Based on Average Sediment Concentration
Pesticides						
DDD	0.02	0.00476	ND	ND	0.14	0.03
DDE	0.006	0.0013	ND	ND	0.04	0.01
DDT	0.23	0.0465	ND	ND	1.66	0.34
Dieldrin	0.0092	0.00133	ND	ND	0.28	0.04
PCBs						
Aroclor 1242	ND	ND	0.0003	0.000215	0.00	0.00
Aroclor 1260	0.1	0.02	ND	ND	0.55	0.11
SVOCs						
2,4-Dinitrophenol	1.7	0.43	ND	ND	0.60	0.15
Inorganics						
Chromium	150	54.3	ND	ND	3.38	1.22
Mercury	6.6	2.58	ND	ND	3.74	1.46
Silver	12.1	2.9	ND	ND	1.86	0.45

Chromium	NOAEL-Based (AUF = 0.52)	1.76	0.64
Chromium	LOAEL-Based (AUF = 1)	0.57	0.21
Chromium	LOAEL-Based (AUF = 0.52)	0.30	0.11
Silver	NOAEL-Based (AUF = 0.52)	0.97	0.23
Silver	LOAEL-Based (AUF = 1)	0.32	0.08
Silver	LOAEL-Based (AUF = 0.52)	0.16	0.04
Mercury	NOAEL-Based (AUF = 0.52)	1.95	0.76
Mercury	LOAEL-Based (AUF = 1)	0.64	0.25
Mercury	LOAEL-Based (AUF = 0.52)	0.33	0.13
DDT	NOAEL-Based (AUF = 0.52)	0.86	0.17
DDT	LOAEL-Based (AUF = 1)	0.28	0.06
DDT	LOAEL-Based (AUF = 0.52)	0.15	0.03

Notes:

AUF - Area Use Factor

ND - Not Detected

NOAEL - No Observeable Adverse Effect Level

LOAEL - Lowest Observeable Adverse Effect Level

Table 4-56
Summary of Surface Water COPECs and Background Concentrations at Building 2700, Parcel 15

COPEC	FW ESC (ug/L)	SW ESC (ug/L)	BEE Background Maximum Detected (ug/L)	BEE Background Minimum Detected (ug/L)	BEE Background Frequency of Detection	BEE Background Mean (ug/L)	BEE Background 95% UCL of Mean (ug/L)	SI Bkgd Maximum Surface Water (ug/L)	SI Bkgd Maximum Ground Water (ug/L)	Mo. Cty Bkgd Ground Water (ug/L)	Site COPEC Summary Maximum Detected (ug/L)	Site COPEC Summary Number Detected Above ESC	Site COPEC Summary Average Concentration (ug/L)
Inorganics													
Lead	5.4	24	18.8	5.79	10 / 11	8.93	11.56	65.9	22.7	<100	8.27	(1 of 2)	6.3
Possible COPECs													
Cadmium	0.14	8.8	0.8	0.8	1 / 11	0.3	NA	ND	9.5	6	NA	NA	NA

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-57
Summary of Sediment COPECs and Background Concentrations at Building 2700, Parcel 15

COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	BEE Background Maximum Detected (mg/kg)	BEE Background Minimum Detected (mg/kg)	BEE Background Frequency of Detection	BEE Background Mean (mg/kg)	BEE Background 95% UCL of Mean (mg/kg)	SI Bkgd Maximum Sediment (mg/kg)	SI Bkgd Maximum Soil (mg/kg)	Mo. Cty Bkgd Soil (mg/kg)	Ambient Soil Levels Maximum Ambient (mg/kg)	Ambient Soil Levels 90th Percentile (mg/kg)	Site COPEC Summary Maximum Detected (mg/kg)	Site COPEC Summary No Detected Above ESC	Site COPEC Summary Average Concentration (mg/kg)
Inorganics															
Chromium	26	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	37	(3 of 3)	32.5

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-58
Summary of Surface Water COPECs and Background Concentrations at Buildings 2507 and 2704, Parcel 27

			BEE Background								Site COPEC Summary		
COPEC	FW ESC (ug/L)	SW ESC (ug/L)	Maximum Detected (ug/L)	Minimum Detected (ug/L)	Frequency of Detection	Mean (ug/L)	95% UCL of Mean (ug/L)	SI Bkgd Maximum Surface Water (ug/L)	SI Bkgd Maximum Ground Water (ug/L)	Mo. Cty Bkgd Ground Water (ug/L)	Maximum Detected (ug/L)	Number Detected Above ESC	Average Concentration (ug/L)
Inorganics													
Cadmium	0.14-0.17	8.8	0.8	0.8	1 / 11	0.3	NA	NR	9.5	6	0.69	(2 of 2)	0.61
Chromium	19-23	50	2.55	2.55	1 / 11	0.732	NA	ND	191	<50	**28.5**	(1 of 2)	14.5
Lead	5.4	24	18.8	5.79	10 / 11	8.93	11.56	65.9	22.7	<100	8.18	(2 of 2)	7.00

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-59
Summary of Sediment COPECs and Background Concentrations at Buildings 2507 and 2704, Parcel 27

			BEE Background					SI Bkgd	SI Bkgd	Mo. Cty	Ambient Soil Levels		Site COPEC Summary		
COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	Maximum Detected (mg/kg)	Minimum Detected (mg/kg)	Frequency of Detection	Mean (mg/kg)	95% UCL of Mean (mg/kg)	Maximum Sediment (mg/kg)	Maximum Soil (mg/kg)	Bkgd Soil (mg/kg)	Maximum Ambient (mg/kg)	90th Percentile (mg/kg)	Maximum Detected (mg/kg)	No Detected Above ESC	Average Concentration (mg/kg)
Inorganics															
Arsenic	6	8.2	61.6	0.68	12 / 12	14.38	28.33	14.5	31.6	4.56	83.1	13.6	6.11	(1 of 2)	4.7
Cadmium	0.6	1.2	17.2	0.38	12 / 12	4.252	8.021	NR	ND	0.116	2.7	0.32	1.76	(2 of 2)	1.24
Chromium	26	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	49.8	(2 of 2)	49.7
Copper	16	34	165	1.88	9 / 12	24.01	84.56	48.4	8	6.05	93	33.3	**187**	(1 of 2)	101
Lead	31	47	945	5.61	12 / 12	106	439.5	142	19.5	25.9	344	144	84.9	(1 of 2)	53.4
Zinc	120	150	423	15.3	12 / 12	135.1	215.4	162	81.4	44.6	259	106	264	(1 of 2)	172

Note: Bold and Highlighted COPEC and maximum detected COPEC site concentration indicates that maximum detected site concentration is greater than maximum detected background concentration measured during BEE investigation

FW = Freshwater

SW = Saltwater

ESC = Ecological Screening Criteria

BEE = Baseline Ecological Evaluation data

95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.

SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)

Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)

Ambient Soil Levels from BEM Systems, Inc. (1998)

COPEC = Constituent of Potential Ecological Concern

NA = Not applicable

ND = Not detected

NR = Not reported

NAV = Not available

Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-60

Summary of Wildlife Hazard Quotients for Surface Water and Sediment COPECs at Buildings 2507 and 2704, Parcel 27

	Sediment Concentrations		Surface Water Concentrations		NOAEL-Based Hazard Quotients (AUF = 1)			
					Mallard		Great Blue Heron	
	Maximum (mg/kg)	Average (mg/kg)	Maximum (mg/L)	Average (mg/L)	Based on Maximum Surface Water and Sediment Concentration	Based on Average Surface Water and Sediment Concentration	Based on Maximum Surface Water and Sediment Concentration	Based on Average Surface Water and Sediment Concentration
Inorganics								
Chromium	49.8	49.7	0.0285	0.0145	0.03	0.03	1.33	1.33
Copper	187	101	ND	ND	1.34	0.72	2.53	1.37
Chromium	NOAEL-Based (AUF = 0.017)						0.02	0.02
Chromium	LOAEL-Based (AUF = 1)						0.23	0.23
Chromium	LOAEL-Based (AUF = 0.017)						0.00	0.00
Copper	NOAEL-Based (AUF = 0.00013)				0.00	0.00		
Copper	LOAEL-Based (AUF = 1)				0.45	0.24		
Copper	LOAEL-Based (AUF = 0.00013)				0.00	0.00		
Copper	NOAEL-Based (AUF = 0.017)						0.04	0.02
Copper	LOAEL-Based (AUF = 1)						0.85	0.46
Copper	LOAEL-Based (AUF = 0.017)						0.01	0.01

Notes:

AUF - Area Use Factor

ND - Not Detected

NOAEL - No Observeable Adverse Effect Level

LOAEL - Lowest Observeable Adverse Effect Level

Table 4-61
Summary of Surface Water COPECs and Background Concentrations at Building 2525, Parcel 28

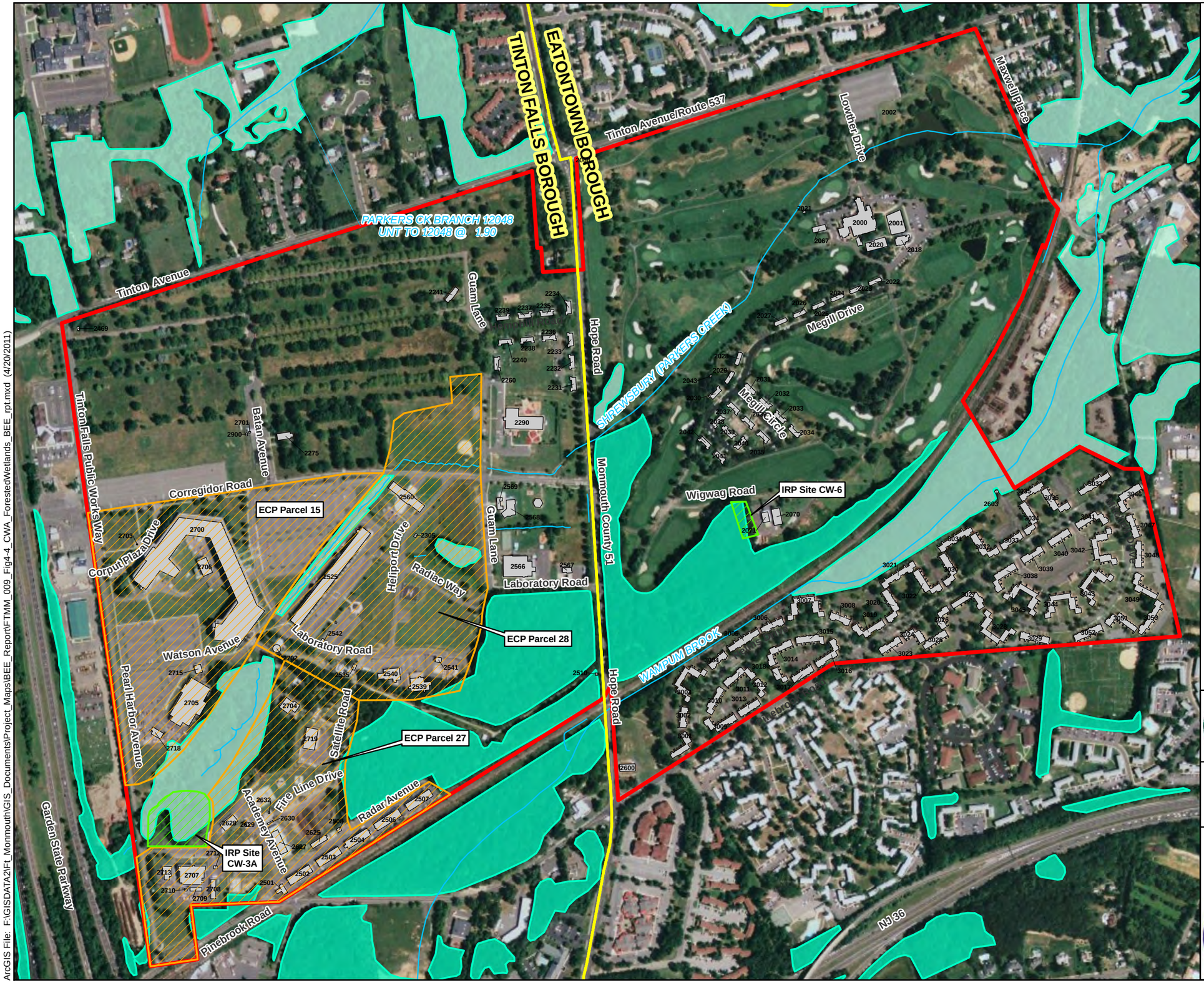
COPEC	FW ESC (ug/L)	SW ESC (ug/L)	BEE Background Maximum Detected (ug/L)	BEE Background Minimum Detected (ug/L)	BEE Background Frequency of Detection	BEE Background Mean (ug/L)	BEE Background 95% UCL of Mean (ug/L)	SI Bkgd Maximum Surface Water (ug/L)	SI Bkgd Maximum Ground Water (ug/L)	Mo. Cty Bkgd Ground Water (ug/L)	Site COPEC Summary Maximum Detected (ug/L)	Site COPEC Summary Number Detected Above ESC	Site COPEC Summary Average Concentration (ug/L)
Inorganics													
Lead	5.4	24	18.8	5.79	10 / 11	8.93	11.56	65.9	22.7	<100	7.14	(2 of 2)	6.44
Possible COPECs													
Cadmium	0.14	8.8	0.8	0.8	1 / 11	0.3	NA	ND	9.5	6	NA	NA	NA

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.

Table 4-62
Summary of Sediment COPECs and Background Concentrations at Building 2525, Parcel 28

COPEC	FW ESC (mg/kg)	SW ESC (mg/kg)	BEE Background Maximum Detected (mg/kg)	BEE Background Minimum Detected (mg/kg)	BEE Background Frequency of Detection	BEE Background Mean (mg/kg)	BEE Background 95% UCL of Mean (mg/kg)	SI Bkgd Maximum Sediment (mg/kg)	SI Bkgd Maximum Soil (mg/kg)	Mo. Cty Bkgd Soil (mg/kg)	Ambient Soil Levels Maximum Ambient (mg/kg)	Ambient Soil Levels 90th Percentile (mg/kg)	Site COPEC Summary Maximum Detected (mg/kg)	Site COPEC Summary No Detected Above ESC	Site COPEC Summary Average Concentration (mg/kg)
Inorganics															
Chromium	26	81	125	9.24	12 / 12	68.52	86.5	88.1	269	0.104	171	34.7	43	(2 of 2)	39.9

FW = Freshwater
SW = Saltwater
ESC = Ecological Screening Criteria
BEE = Baseline Ecological Evaluation data
95% UCL = 95% Upper Confidence Limit of Mean from ProUCL Ver. 4.00.05.
SI Bkgd= Background Data as presented in the Site Investigation Report (Weston, 1995)
Mo. Cty Bkgd = Monmouth County Background Concentration as reported in Weston (1995)
Ambient Soil Levels from BEM Systems, Inc. (1998)
COPEC = Constituent of Potential Ecological Concern
NA = Not applicable
ND = Not detected
NR = Not reported
NAV = Not available
Average Concentrations from ProUCL Ver. 4.00.05 - 1/2 detection limit or Kaplan-Meir Method used when non-detects present.



LEGEND

- Water Feature
- Building
- IRP Site
- ECP Parcel
- Installation Boundary
- Municipal Boundary

Forested Wetland

- Suitable (1)
- Priority Species (2)

Notes:
1) Aerial photography (0.5-meter resolution) was obtained from ESRI ArcOnline USA Imagery Map Services.
2) Forested wetlands data was obtained from New Jersey Department of Environmental Protection (NJDEP), Division of Fish, Wildlife, and Endangered Nongame Species Program (ENSP), Lanscape Project GIS Data, Version 2.1, November 2007.

N

Scale:

0 290 580 1,160 Feet

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

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FIGURE 4-4

FORT MONMOUTH BASELINE ECOLOGICAL EVALUATION REPORT

CHARLES WOOD AREA - FORESTED WETLANDS

FORT MONMOUTH
NEW JERSEY

ArcGIS File: F:\GISDATA2\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_009_Fig4-4_CWA_ForestedWetlands_BEE_rpt.mxd (4/20/2011)

ArcGIS File: F:\GISDATA2\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_008_Fig4-3_MP_BaldEagleForaging_BEE_rpt.mxd (4/20/2011)

LEGEND

- Water Feature
- Building
- IRP Site
- ECP Parcel
- Installation Boundary
- Municipal Boundary
- Bald Eagle Foraging Area

Notes:
1) Aerial photography (0.5-meter resolution) was obtained from ESRI ArcOnline USA Imagery Map Services.
2) Bald Eagle foraging data was obtained from New Jersey Department of Environmental Protection (NJDEP), Division of Fish, Wildlife, and Endangered Nongame Species Program (ENSP), Lanscape Project GIS Data, Version 2.1, November 2007.

N

Scale:

0 450 900 1,800 Feet

Base Realignment and Closure 2005

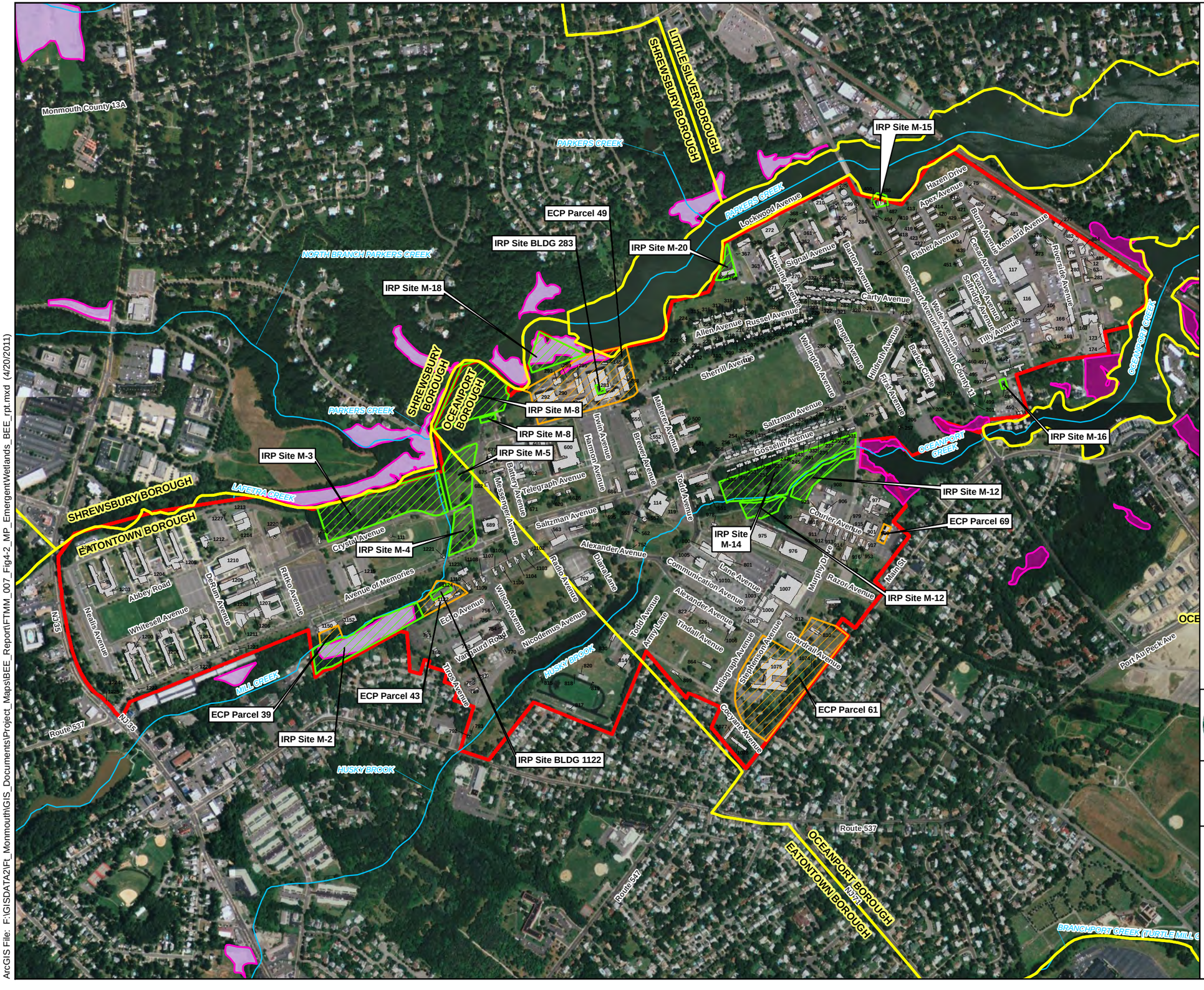
U.S. Army Corps of Engineers

Shaw® Shaw Environmental, Inc.

FIGURE 4-3
FORT MONMOUTH BASELINE ECOLOGICAL EVALUATION REPORT
MAIN POST - BALD EAGLE FORAGING AREAS

FORT MONMOUTH
NEW JERSEY

ArcGIS File: F:\GISDATA2\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_007_Fig4-2_MP_EmergentWetlands_BEE_rpt.mxd (4/20/2011)



LEGEND

- Water Feature
- Building
- IRP Site
- ECP Parcel
- Installation Boundary
- Municipal Boundary

Emergent Wetland

- Suitable Habitat (1)
- State Endangered (4)

Notes:
1) Aerial photography (0.5-meter resolution) was obtained from ESRI ArcOnline USA Imagery Map Services.
2) Emergent wetlands data was obtained from New Jersey Department of Environmental Protection (NJDEP), Division of Fish, Wildlife, and Endangered Nongame Species Program (ENSP), Lanscape Project GIS Data, Version 2.1, November 2007.

N

Scale:

0 450 900 1,800 Feet

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

Shaw® Shaw Environmental, Inc.

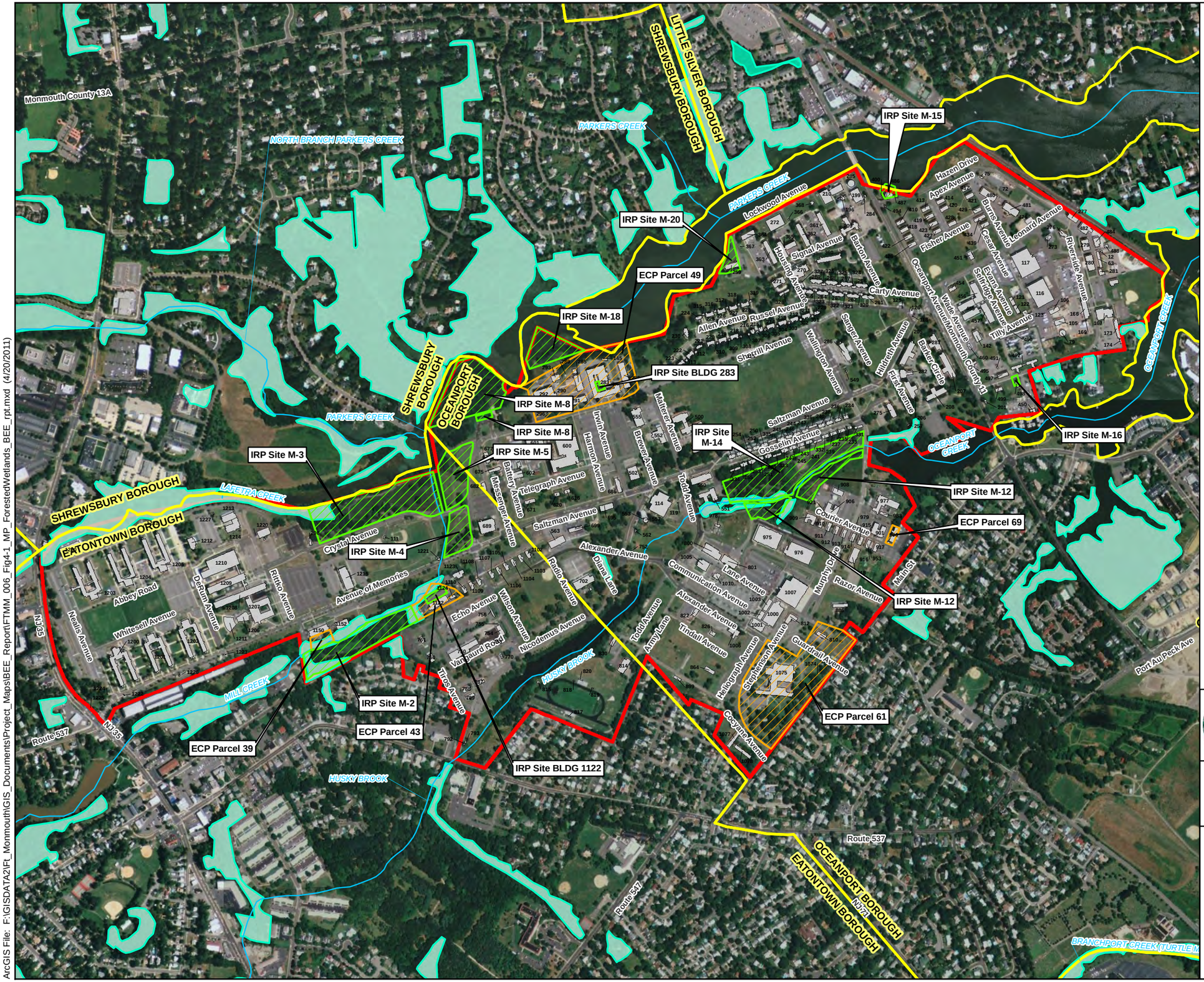
FIGURE 4-2

FORT MONMOUTH BASELINE ECOLOGICAL EVALUATION REPORT

MAIN POST - EMERGENT WETLANDS

FORT MONMOUTH
NEW JERSEY

ArcGIS File: F:\GISDATA2\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_006_Fig4-1_MP_ForestedWetlands_BEE_rpt.mxd (4/20/2011)



LEGEND

- Water Feature
- Building
- IRP Site
- ECP Parcel
- Installation Boundary
- Municipal Boundary

Forested Wetland

- Suitable (1)
- Priority Species (2)

Notes:
1) Aerial photography (0.5-meter resolution) was obtained from ESRI ArcOnline USA Imagery Map Services.
2) Forested wetlands data was obtained from New Jersey Department of Environmental Protection (NJDEP), Division of Fish, Wildlife, and Endangered Nongame Species Program (ENSP), Lanscape Project GIS Data, Version 2.1, November 2007.

N

Scale:

0 450 900 1,800 Feet

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

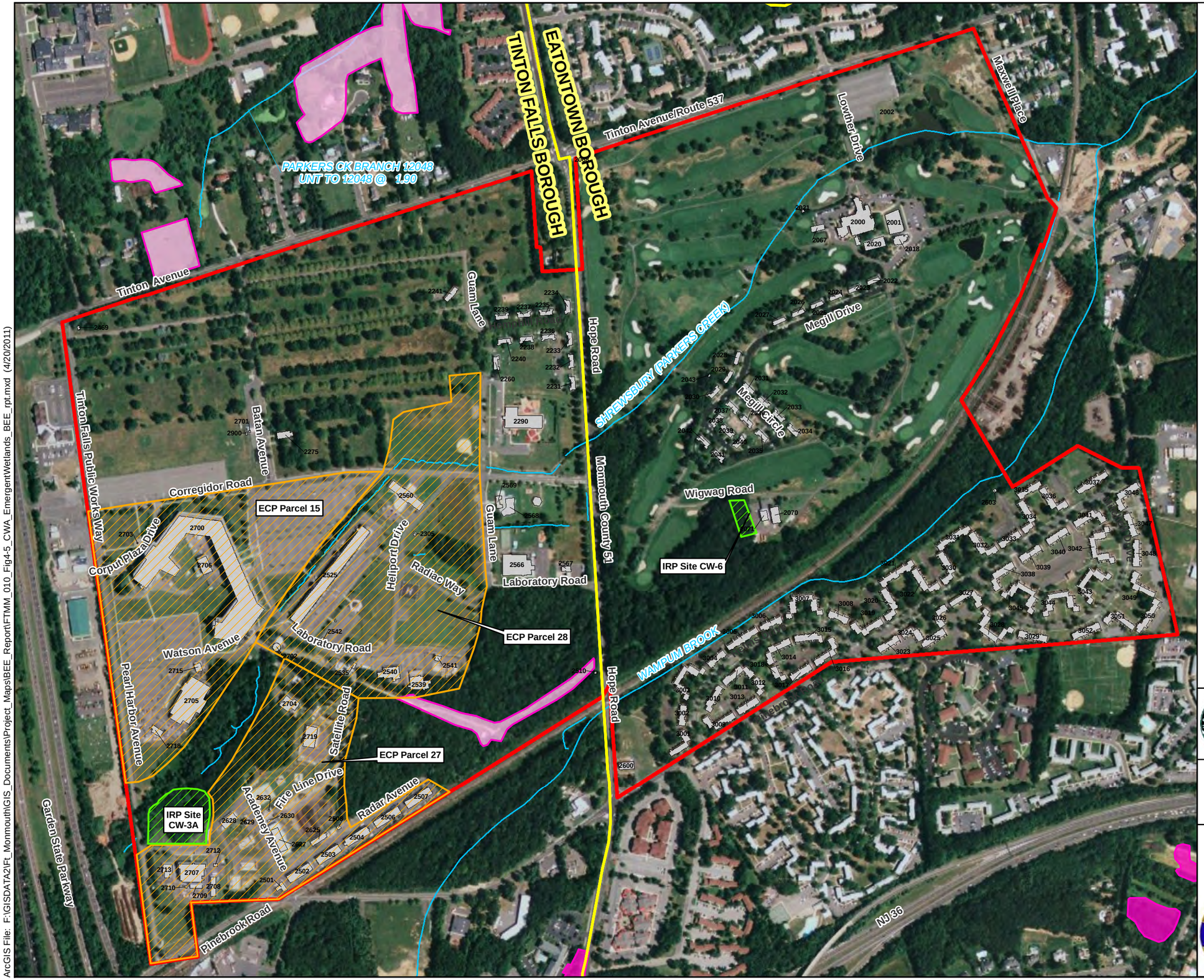
Shaw® Shaw Environmental, Inc.

FIGURE 4-1

FORT MONMOUTH BASELINE ECOLOGICAL EVALUATION REPORT

MAIN POST - FORESTED WETLANDS

FORT MONMOUTH
NEW JERSEY



ArcGIS File: F:\GISDATA2\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_010_Fig4-5_CWA_EmergentWetlands_BEE_rpt.mxd (4/20/2011)

LEGEND

- Water Feature
- Building
- IRP Site
- ECP Parcel
- Installation Boundary
- Municipal Boundary

Emergent Wetland

- Suitable Habitat (1)
- Priority Species (2)

Notes:
1) Aerial photography (0.5-meter resolution) was obtained from ESRI ArcOnline USA Imagery Map Services.
2) Emergent wetlands data was obtained from New Jersey Department of Environmental Protection (NJDEP), Division of Fish, Wildlife, and Endangered Nongame Species Program (ENSP), Lanscape Project GIS Data, Version 2.1, November 2007.

N

Scale:

0 290 580 1,160 Feet

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

Shaw Environmental, Inc.

FIGURE 4-5

FORT MONMOUTH BASELINE ECOLOGICAL EVALUATION REPORT

CHARLES WOOD AREA - EMERGENT WETLANDS

FORT MONMOUTH
NEW JERSEY

5.0 SUMMARY AND CONCLUSIONS

Within the FTMM MP and CWA are 27 active/open IRP Sites. Fourteen of the 27 IRP Sites were considered to require additional evaluation through the BEE process. In addition to these IRP Sites, it was determined that a BEE should also be conducted related to one other IRP site (FTMM-20), which had been listed as Response Complete in the 2007 Installation Action Plan for FTMM (Fort Monmouth, 2007). Additionally, eight parcels identified through the FTMM ECP SI were deemed to require additional evaluation through the BEE process to fully evaluate the environmental condition of the property; NJDEP concurred with the determination that a BEE is required for these eight ECP sites in correspondence dated October 28, 2008. The BEE and supporting sampling and analyses were performed based on the Scope of Work dated June 3, 2008, and information obtained through consultation with FTMM, U.S. Army Environmental Command, USACE, and NJDEP personnel and in accordance with the final BEE WP (Shaw, 2010). A draft final WP, dated July 2009, was submitted to the NJDEP for review. NJDEP comments (dated September 1, 2009) were addressed and a conference call was held on November 13, 2009, to finalize the WP. The final WP was submitted to the NJDEP for review and approval prior to implementation of the work and an approval letter was obtained from the NJDEP on April 28, 2010 (**Appendix I**).

The objective of the BEE at FTMM is to assess whether the presence of constituents of concern in sediments, surface water, soil, and groundwater on the MP and CWA has the potential for adverse effects to biological receptors. This assessment is determined by examining information on each of the sites and the sample results from sediment, surface water, soil, and groundwater at the sites for the co-occurrence of 1) COPECs, 2) environmentally sensitive natural resources, and 3) a chemical migration pathway to these sensitive natural resources. This objective was accomplished based on the results of a data and literature review, a qualitative site visit, field sampling, data analysis and ecological hazard characterization (including conservative wildlife exposure models), and an evaluation of the general background characteristics of surface water and sediment in the FTMM area.

The occurrence of COPECs is determined through a comparison of existing site data with ecological screening levels. The occurrence of environmentally sensitive natural resources and potential chemical migration pathways is determined from existing literature for the site, a qualitative site visit, and other available information such as the NJDEP Natural Heritage database, NJDEP tidal and freshwater wetland maps, the USGS topographic maps, and the USDA Soil Conservation Service soil survey maps.

In order to evaluate the nature of contaminants detected at the FTMM sites and to identify the COPECs, several steps were followed. The first step was a review of the analytical data collected from the environmental media with regards to the sites and selection of the data appropriate for use in the BEE. The second step was the identification of the most appropriate and applicable criteria or benchmarks for comparison to data. The third step was the identification of the COPECs at the sites and an evaluation of these COPECs in terms of potential ecological impact.

Site data addressed in this BEE is comprised of data previously collected for RIs (e.g., near surface soil data for former landfills), ECP SIs, and routine environmental monitoring (e.g., groundwater data) and data collected specifically to fill data gaps for the BEE.

Exposure of ecological receptors to contaminants in soil predominantly occurs within the surface soils. Ecological receptors are not frequently exposed to subsurface soils; therefore, surface soils at 2 feet bgs or below are not evaluated in this BEE. Soil data evaluated in this BEE were from various RI reports (**Appendix A**), the ECP SI report (**Appendix B**), and the BEE investigation samples (**Appendix D**). Though ecological receptors are not exposed directly to contaminants in groundwater, pathways may exist by which groundwater may flow to potential exposure points (e.g., discharge of groundwater into surface water bodies). Where applicable, the most recent 2-year period of readily available groundwater data from routine environmental monitoring were evaluated in this BEE to best represent current conditions (**Appendix C**; **Appendix B**). Though groundwater may discharge to surface water bodies, groundwater contaminant concentrations are not meant to represent potential surface water concentrations. Ecological receptors may be exposed directly to contaminants in surface water and sediment of the various creeks and ponds that drain the sites. As with soils, ecological receptors are not frequently exposed to contaminants in subsurface sediments. The top 6 inches of sediment is usually

considered to be the biotic zone, and only data from the top 6 inches of sediments is evaluated in this BEE. Though sediment data from the ECP SI (**Appendix B**) was evaluated in this BEE, the majority of the surface water and sediment data were from the extensive sampling conducted during the BEE investigation (**Appendix D**). Sampling and analyses were performed in accordance with the final BEE WP (Shaw, 2010), which was approved by the NJDEP on April 28, 2010 (**Appendix I**).

COPECs are defined for the purposes of this BEE as those constituents that were detected at concentrations exceeding the appropriate screening benchmarks in any of the samples from a given medium from a site. These ESC are intentionally conservative values and exceedances of these concentrations are not meant to imply ecological risks. A qualitative determination of the potential for adverse effects from site constituents was made based on the COPECs, the presence of environmentally sensitive areas, and the potential migration pathways of site constituents, as well as site history, natural geology, and other potential sources.

The character of the land use surrounding the FTMM properties typifies mixed use, small town development in New Jersey. Commercial services and shopping centers populate main roads interspersed with residential structures, apartments and office buildings. Business and light industrial parks are found along highways, streams and railroad tracks. Surrounding properties include NPL, SHWS, LUST, and VCP sites. These, as well as general small urban development activities lend to an increase in general anthropogenic inputs in the area.

Elevated concentrations of many metals, in relation to the conservatively low ESC, are naturally found within the urban coastal plain region in which FTMM is located. In particular, glauconitic soils which are prevalent at FTMM and have been reported in the creek sediments are naturally high in arsenic, beryllium, chromium, nickel and vanadium as well as other metals.

COPECs identified in soils generally represent limited potential for direct ecological exposure being either from subsurface (e.g., landfill near surface samples) or not within ecological habitats (e.g., near buildings, roads, and parking areas). COPECs identified in groundwater are not representative of direct ecological exposures. COPECs in both soil and groundwater, however, may migrate to nearby surface water or sediment where ecological exposures may occur.

Many organic COPECs identified in soil or groundwater were not identified as COPECs in surface water or sediment, suggesting limited organic contaminant migration to sensitive ecological receptors. Most of these were detected infrequently in soil or groundwater or at low concentrations in relation to the ESC.

Many organic COPECs identified in surface water or sediment were not identified as COPECs in soil or groundwater, suggesting the sources are unrelated to the sites under investigation, or were at low concentrations in relation to the ESC, which are intentionally conservative values. PAHs, in particular, though identified as COPECs, were found in sediments and surface water at concentrations similar to background sample concentrations or at locations indicative of other sources (e.g., at the upstream extent of the site and downstream of active roads or parking areas).

In surface water, lead was most often identified as a COPEC; however, it was found at similar concentrations at most of the sites and in the background samples. Most of the sediment metals identified as COPECs were at concentrations similar to background. Some metals (chromium, copper, lead, mercury, silver, and zinc) were detected at a few locations exceeding background concentrations measured during the BEE investigation, but many of these are similar to those reported for ambient soil in the region (BEM Systems, Inc., 1998) or, in particular, glauconitic soils (Dooley, 2001). Though there may be a potential for some ecological risk due to elevated metals in these limited areas, it is likely that these metals are related to natural geology or other anthropogenic sources.

Figure 5-1 depicts the concentration distribution of chromium in sediment throughout the MP, based on samples evaluated in this BEE. Samples where chromium was not detected are shown as clear symbols. Those samples where chromium is detected at concentrations below both the freshwater sediment and saltwater sediment ESC are shown in gray. Those samples where chromium concentrations are between the freshwater sediment and saltwater sediment ESC are shown in green. Those samples where chromium concentrations are above both the freshwater sediment and saltwater sediment ESC but within the range of most background (represented by the lower 75th percent of all

background concentrations from both the MP and CWA areas) are shown in yellow, and those samples where chromium concentrations are above both the freshwater sediment and saltwater sediment ESC and above all background concentrations measured as part of the 2010 BEE are shown in red. Similar figures are presented for copper (**Figure 5-2**), lead (**Figure 5-3**), mercury (**Figure 5-4**), silver (**Figure 5-5**), and zinc (**Figure 5-6**) for the MP and for chromium (**Figure 5-7**), copper (**Figure 5-8**), mercury (**Figure 5-9**), and silver (**Figure 5-10**) for the CWA.

The potential wildlife risks associated with COPECs present at concentrations above background was assessed through conservative food chain models as well as conservative TRVs. **Table 5-1** indicates the sites and COPECs where maximum COPEC concentrations were greater than the background concentrations measured during the BEE investigation; wildlife exposure models were evaluated for these sites and COPECs. The potential wildlife risk for three representative target species (the Great Blue Heron which would be exposed to contaminants in surface water, sediment, aquatic invertebrates, and forage fish; the Mallard Duck which would be exposed to contaminants in surface water, sediment, and aquatic vegetation; and the American Robin which would be exposed to contaminants in surface water, soils and wetland sediments, and terrestrial invertebrates such as earthworms) was assessed through HQs. These HQs compare the conservatively modeled ADD of COPECs to the conservative TRVs. Since the HQs in a screening level assessment are conservative, HQs less than one (indicating ADDs less than TRVs), it can be assumed that there is no risk; since the HQs are conservative measures, HQs greater than one do not necessarily indicate that a risk is present. **Table 5-2** summarizes the conservative HQs for each site that were greater than one, and **Table 5-3** summarizes those HQs based on realistic foraging areas and average detected concentrations (though based on biased sampling).

The conservative wildlife food chain model screening level HQs were less than or only marginally greater than one for most sites. With the exception of chromium, conservative HQs for other COPECs in sediment (barium, copper, nickel, cobalt, zinc and pyrene) were greater than one at only one or two sites; these HQs are based on the overly conservative assumption that the target species forage only at the contaminated site at the point of maximum concentration. When more realistic foraging areas were used, resulting HQs were almost all less than one. Although the conservative chromium HQs, assuming foraging only at the point of maximum concentration, are greater than one at several sites, most sediment concentrations are similar to background (**Figure 5-1** and **Figure 5-7**). With the exception of one chromium concentration in Oceanport Creek (345 mg/kg) and one chromium concentration in Parkers Creek (353 mg/kg), the maximum concentrations in MP sediment (176 mg/kg) and CWA (187 mg/kg) were not much greater than the maximum background concentration (125 mg/kg) and all concentrations were well within the range expected for glauconitic soils (Dooley, 2001). Additionally, HQs for chromium were mostly less than one, or marginally greater than one, when more realistic foraging areas and concentration assumptions are used.

Screening level food chain models are intended to be overly conservative estimators of exposure and risk to wildlife; they use conservative TRV values, assume bioavailability of contaminants in environmental media, and assume preferential feeding at sites that may not provide adequate habitat needs. Based on the conservative nature of the models as well as the BEE investigation sampling design which targeted worst-case conditions, it is unlikely that site conditions provide any significant risk to wildlife from food chain exposure.

Although metals may be present at concentrations greater than the background concentrations measured in limited areas during the 2010 BEE, many of these concentrations may be related to natural or general anthropogenic sources and the differences in site concentrations from the measured background concentrations can be a function of the greater number of site samples collected compared to background samples. Regardless, **Figure 5-1 through Figure 5-10** show that the area of metal concentrations greater than the measured background concentrations is limited in extent, with no definitive spatial distribution that would suggest the source of metals are related to site activities addressed in the BEE. Based on wildlife exposure models for these sites, the HQs do not indicate an ecological concern. It is concluded that constituents at FTMM are unlikely to have a deleterious effect on sensitive ecological receptors or habitats, and additional ecological assessments at FTMM are not warranted or recommended.

Table 5-1
Summary of Sites with COPECs Above Background in Sediment or Surface Water

Site	COPECs																														
	Aroclor-1232	Aroclor-1242	Aroclor-1254	Aroclor-1260	DDD	DDE	DDT	Dieldrin	Acenaphthene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	2,4-Dinitrophenol	Flouranthene	Fluorene	Hexachlorobutadiene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	Barium	Chromium	Cobalt	Copper	Mercury	Nickel	Silver	Zinc
Main Post																															
Landfill 2 (FTMM-2)		●		●												●	●							●							
Landfill 3 (FTMM-3)					●		●																				●				
Landfill 4 (FTMM-4)	●	●		●	●		●																								
Landfill 5 (FTMM-5)					●	●	●																								
Landfill 8 (FTMM-8)		●		●																					●	●		●	●		
Landfill 12 (FTMM-12)			●		●	●	●		●	●																					
Landfill 14 (FTMM-14)			●		●	●	●		●	●																					
Site FTMM-16																				●					●			●			●
Site FTMM-18																									●	●		●			
Site FTMM-20																															
Building 1122, Site FTMM-59, Parcel 43											●	●													●			●			
Building 1150, Parcel 39																									●			●			
Buildings 283 (FTMM-61), 288, 291, 293, 295, Parcel 49																									●	●		●	●		●
Building 1075, Parcel 61									●																						
Building 900, Parcel 69									●																●	●	●	●			●
Charles Wood Area																															
Landfill CW-3A (FTMM-25)					●				●	●	●	●	●	●	●			●	●		●	●	●		●						
Site CW-6 (FTMM-28)		●		●	●	●	●	●									●								●			●		●	
Building 2700, Parcel 15																															
Building 2704, Parcel 27																									●		●				
Building 2525, Parcel 28																															

Note:

● indicates that maximum detected COPEC concentration at site was above background concentrations measured during BEE investigation; Wildlife exposure was evaluated for these COPECs.

Table 5-2

Summary of Screening Level Hazard Quotients for COPECs Above Background in Sediment or Surface Water

Site	COPECs											
	Barium	Cobalt	Copper	Chromium	Nickel	Zinc	Pyrene	Copper	Chromium	Mercury	Silver	DDT
	Great Blue Heron HQs							Mallard Duck HQs	American Robin HQs			
Main Post												
Landfill 2 (FTMM-2)	2.8											
Landfill 3 (FTMM-3)			5.0					2.6				
Landfill 4 (FTMM-4)												
Landfill 5 (FTMM-5)												
Landfill 8 (FTMM-8)		2.5		3.5	1.5							
Landfill 12 (FTMM-12)												
Landfill 14 (FTMM-14)												
Site FTMM-16				3.8								
Site FTMM-18		1.2		3.5								
Site FTMM-20												
Building 1122, Site FTMM-59, Parcel 43				4.3								
Building 1150, Parcel 39				3.5								
Buildings 283 (FTMM-61), 288, 291, 293, 295, Parcel 49				9.4	1.7	3.2						
Building 1075, Parcel 61												
Building 900, Parcel 69			2.7	9.2				1.5				
Charles Wood Area												
Landfill CW-3A (FTMM-25)				3.1			1.8					
Site CW-6 (FTMM-28)									3.4	3.7	1.9	1.7
Building 2700, Parcel 15												
Building 2704, Parcel 27			2.5	1.3				1.3				
Building 2525, Parcel 28												

Note:

Screening Level HQs are based on NOAELs, maximum detected concentrations, and Area Use Factors of 1 (i.e., Species forages only at point of maximum concentration).

Blanks indicate that HQs are less than one.

Table 5-3

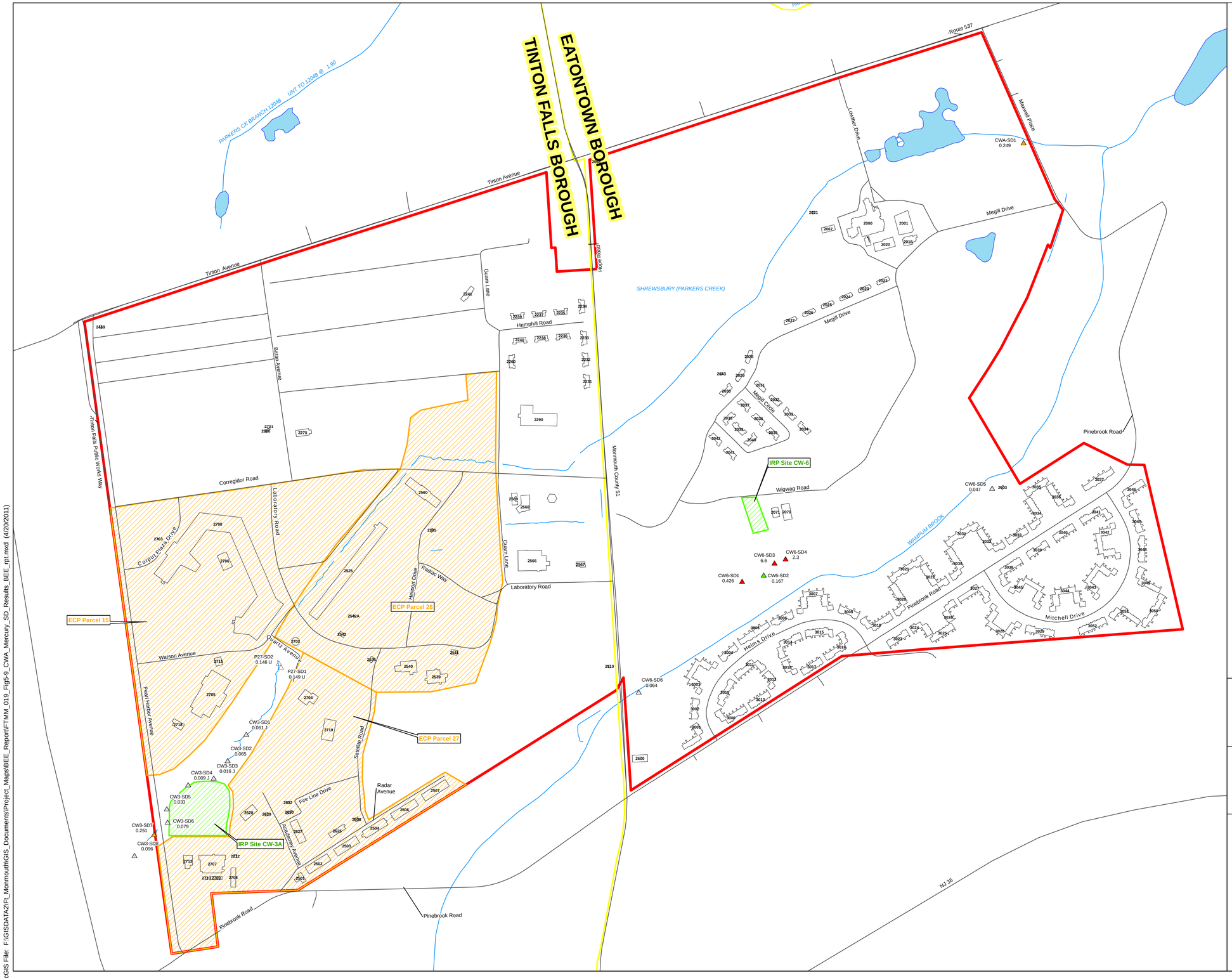
Summary of Average-Concentrations Based Screening Level Hazard Quotients for COPECs Above Background in Sediment or Surface Water

Site	COPECs											
	Barium	Cobalt	Copper	Chromium	Nickel	Zinc	Pyrene	Copper	Chromium	Mercury	Silver	DDT
	Great Blue Heron HQs							Mallard Duck HQs	American Robin HQs			
Main Post												
Landfill 2 (FTMM-2)	<0.1											
Landfill 3 (FTMM-3)			<0.1					<0.1				
Landfill 4 (FTMM-4)												
Landfill 5 (FTMM-5)												
Landfill 8 (FTMM-8)		0.1		0.3	0.1							
Landfill 12 (FTMM-12)												
Landfill 14 (FTMM-14)												
Site FTMM-16				0.2								
Site FTMM-18		0.13		0.9								
Site FTMM-20												
Building 1122, Site FTMM-59, Parcel 43				0.2								
Building 1150, Parcel 39				<0.1								
Buildings 283 (FTMM-61), 288, 291, 293, 295, Parcel 49				1.2	0.2	0.3						
Building 1075, Parcel 61												
Building 900, Parcel 69			0.3	1.1				<0.1				
Charles Wood Area												
Landfill CW-3A (FTMM-25)				<0.1			<0.1					
Site CW-6 (FTMM-28)									0.6	0.8	0.2	0.2
Building 2700, Parcel 15												
Building 2704, Parcel 27			<0.1	<0.1				<0.1				
Building 2525, Parcel 28												

Note:

Screening Level HQs are based on NOAELs, average detected concentrations, and Site-Specific Area Use Factors .

Blanks indicate that HQs are less than one when using NOAELs, maximum detected concentrations and Area Use Factos of 1 (see Table 5-1).



LEGEND

Mercury in Sediment (mg/kg)

- Non-Detect
- 0 - 0.15 (Below ESCs)
- 0.15 - 0.20 (Between Freshwater and Saltwater Sediment ESCs)
- 0.20 - 0.212 (Above ESCs and Below 1/2 Maximum Background)
- 0.212 - 0.424 (Above ESCs and Above 1/2 Maximum Background)
- > 0.424 (Above Background)
- Road Centerline
- Water Feature
- Building
- Water Body
- IRP Site
- ECP Parcel
- Installation Boundary
- Municipal Boundary

Notes:
1) Results include samples collected in 2007 for the Environmental Condition of Property (ECP) Site Investigation (SI) and the 2010 Baseline Ecological Evaluation (BEE).
2) ESC = Ecological Screening Value

N

Scale:

0 300 600 1,200 Feet

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

Shaw® Shaw Environmental, Inc.

FIGURE 5-9

FORT MONMOUTH BASELINE ECOLOGICAL EVALUATION REPORT

MERCURY RESULTS IN SEDIMENT

CHARLES WOOD AREA
FORT MONMOUTH
NEW JERSEY

ArcGIS File: F:\GISDATA2\FL_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_019_Fig5-9_CWA_Mercury_SD_Results_BEE_rpt.mxd (4/20/2011)

TINTON FALLS BOROUGH

EATONTOWN BOROUGH

PARKERS CK BRANCH 12046 UNT TO 12046 @ 1.90

Tinton Avenue

Route 537

Hope Road

Guam Lane

Hemphill Road

Ralston Avenue

Tinton Falls Public Works Way

Corregidor Road

Laboratory Road

Corpus Christi Drive

Harbor Drive

Radiac Way

Quartz Avenue

Watson Avenue

Pearl Harbor Avenue

Satellite Road

Fire Line Drive

Radar Avenue

Pinebrook Road

Monmouth County 51

SHREWSBURY (PARKERS CREEK)

Lowther Drive

Maxwell Place

Megill Drive

Megill Circle

Wigwag Road

WAMPUM BROOK

Pinebrook Road

Helms Drive

Mitchell Drive

NJ 36

ECP Parcel 15

ECP Parcel 28

ECP Parcel 27

IRP Site CW-6

IRP Site CW-3A

P28SD-2 11.5 B

P28SD-1 5.92 B

15SD-2 10.7 B

15SD-3 13 B

15SD-1 8.23 B

P27-SD2 15.1 B

P27-SD1 187 B

CW3-SD1 11.1

CW3-SD2 7.65

CW3-SD3 31.6

CW3-SD4 23.3

CW3-SD5 1719 J

CW3-SD6 4.75

CW3-SD7 7.02

CW3-SD8 7.09

CWA-SD1 15.6

CW6-SD1 26.2

CW6-SD2 39.5

CW6-SD3 28.2

CW6-SD4 56.2

CW6-SD5 4.63

CW6-SD6 2.49

LEGEND

Copper in Sediment (mg/kg)

- Non-Detect
- 0 - 16 (Below ESCs)
- 16 - 34 (Between Freshwater and Saltwater Sediment ESCs)
- 34 - 41 (Above ESCs and Within Lower 75% of Background)
- 41 - 165 (Above ESCs and Within Top 25% of Background)
- > 165 (Above Background)
- Road Centerline
- Water Feature
- Building
- Water Body
- IRP Site
- ECP Parcel
- Installation Boundary
- Municipal Boundary

Notes:
1) Results include samples collected in 2007 for the Environmental Condition of Property (ECP) Site Investigation (SI) and the 2010 Baseline Ecological Evaulation (BEE).
2) ESC = Ecological Screening Value

N

Scale:

0 300 600 1,200 Feet

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

Shaw® Shaw Environmental, Inc.

FIGURE 5-8

FORT MONMOUTH
BASELINE ECOLOGICAL
EVALUATION REPORT

COPPER RESULTS IN SEDIMENT

CHARLES WOOD AREA
FORT MONMOUTH
NEW JERSEY

ArcGIS File: F:\GISDATA2\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_018_Fig5-8_CWA_Copper_SD_Results_BEE_rpt.mxd (4/20/2011)

TINTON FALLS BOROUGH

EATONTOWN BOROUGH

PARKERS CK BRANCH 12046

UNT TO 12046 @ 1.90

SHREWSBURY (PARKERS CREEK)

WAMPUM BROOK

Tinton Avenue

Route 537

Hope Road

Guam Lane

Hemphill Road

Baldy Avenue

Corregidor Road

Laboratory Road

Corpus Hara Drive

Heliport Drive

Radiac Way

Quartz Avenue

Watson Avenue

Pearl Harbor Avenue

Satellite Road

Fire Line Drive

Radar Avenue

Accelerometry Avenue

Monmouth County 51

Lowther Drive

Maxwell Place

Megill Drive

Megill Circle

Wigwag Road

Pinebrook Road

Helms Drive

Mitchell Drive

NJ 36

Tinton Falls Public Works Way

ECP Parcel 15

ECP Parcel 26

ECP Parcel 27

IRP Site CW-3A

IRP Site CW-6

CW3-SD1 145

CW3-SD2 129

CW3-SD3 29.3

CW3-SD4 18.1

CW3-SD5 53.3

CW3-SD6 121

CW3-SD7 60.7

CW3-SD8 97.3

P27-SD1 49.8 B

P27-SD2 49.6 B

P28SD-1 43

P28SD-2 36.8

15SD-1 29.4

15SD-2 31.1

15SD-3 37

CW6-SD1 35.3

CW6-SD2 64.2

CW6-SD3 55.4

CW6-SD4 150

CW6-SD5 50.2

CW6-SD6 75.8

CWA-SD1 32.8

LEGEND

Chromium in Sediment (mg/kg)

- Non-Detect
- 0 - 26 (Below ESCs)
- 26 - 81 (Between Freshwater and Saltwater Sediment ESCs)
- 81 - 106.65 (Above ESCs and Within Lower 75% of Background)
- 106.65 - 125 (Above ESCs and Within Top 25% of Background)
- > 125 (Above Background)
- Road Centerline
- Water Feature
- Building
- Water Body
- IRP Site
- ECP Parcel
- Installation Boundary
- Municipal Boundary

Notes:
1) Results include samples collected in 2007 for the Environmental Condition of Property (ECP) Site Investigation (SI) and the 2010 Baseline Ecological Evaluation (BEE).
2) ESC = Ecological Screening Value

N

Scale:

0 300 600 1,200 Feet

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

Shaw® Shaw Environmental, Inc.

FIGURE 5-7

FORT MONMOUTH BASELINE ECOLOGICAL EVALUATION REPORT

CHROMIUM RESULTS IN SEDIMENT

CHARLES WOOD AREA
FORT MONMOUTH
NEW JERSEY

ArcGIS File: F:\GISDATA2\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_017_Fig5-7_CWA_Chrom_SD_Results_BEE_rpt.mxd (4/20/2011)

LEGEND

Zinc in Sediment (mg/kg)

- Non-Detect
- 0 - 81 (Below ESCs)
- 81 - 86 (Between Freshwater and Saltwater Sediment ESCs)
- 86 - 162.5 (Above ESCs and Within Lower 75% of Background)
- 162.5 - 423 (Above ESCs and Within Top 25% of Background)
- > 423 (Above Background)
- Road Centerline
- Water Feature
- Building
- Water Body
- IRP Site
- ECP Parcel
- Installation Boundary
- Municipal Boundary

Notes:
1) Results include samples collected in 2007 for the Environmental Condition of Property (ECP) Site Investigation (SI) and the 2010 Baseline Ecological Evaluation (BEE).
2) ESC = Ecological Screening Value

N

Scale:
0 450 900 1,800
Feet

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

Shaw® Shaw Environmental, Inc.

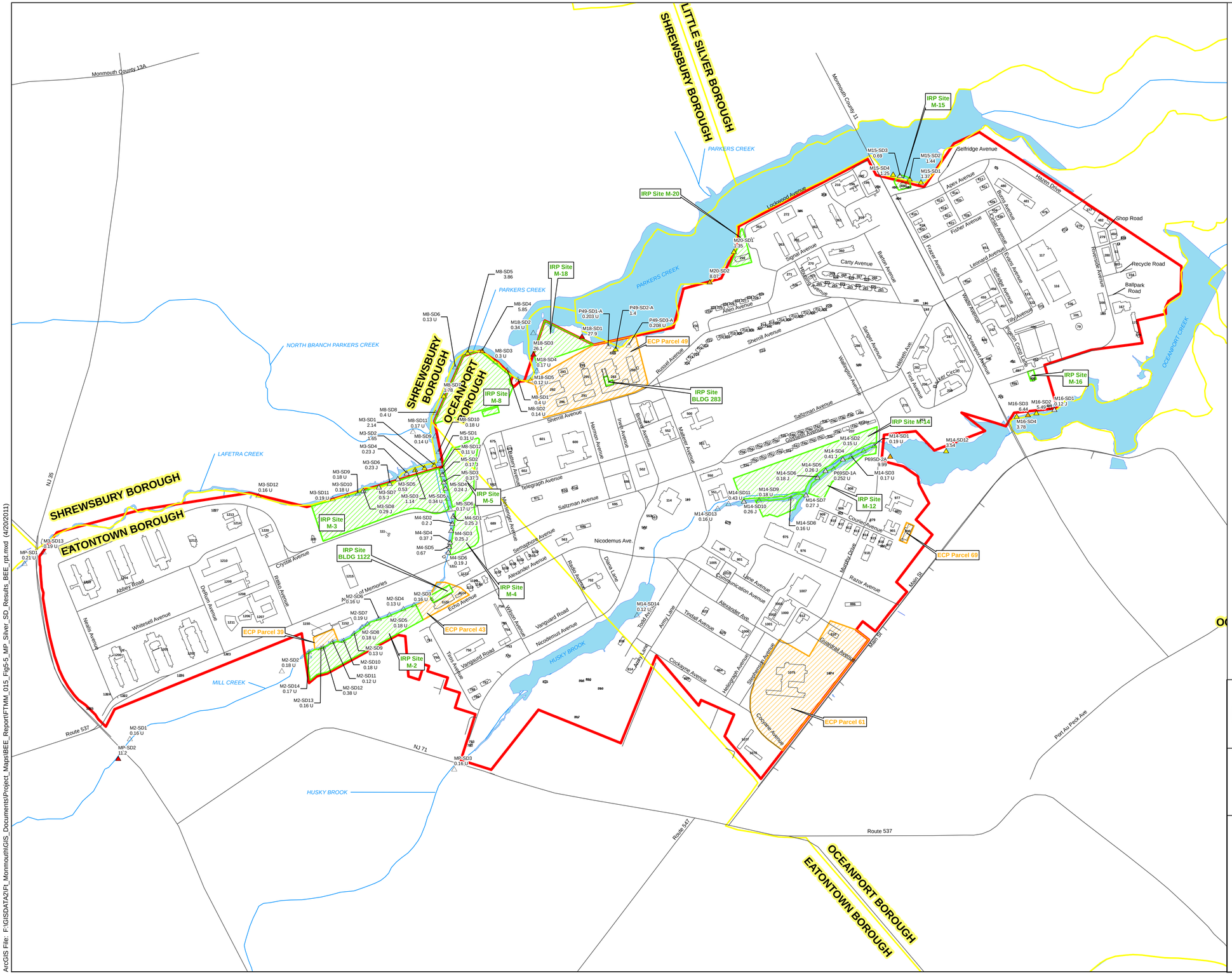
FIGURE 5-6

FORT MONMOUTH BASELINE ECOLOGICAL EVALUATION REPORT

ZINC RESULTS IN SEDIMENT

MAIN POST
FORT MONMOUTH
NEW JERSEY

ArcGIS File: F:\GIS\DATA2\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_016_Fig5-6_MP_Zinc_SD_Results_BEE_rpt.mxd (4/20/2011)



LEGEND

Silver in Sediment (mg/kg)

- Non-Detect
- 0 - 1 (Below ESCs)
- 1 - 5.6 (Above ESCs and Within Range of Most Background)
- 2.6 - 11.2 (Above ESCs and Above 1/2 Maximum Background)
- > 11.2 (Above Background)
- Road Centerline
- Water Feature
- Building
- Water Body
- IRP Site
- ECP Parcel
- Installation Boundary
- Municipal Boundary

Notes:
1) Results include samples collected in 2007 for the Environmental Condition of Property (ECP) Site Investigation (SI) and the 2010 Baseline Ecological Evaluation (BEE).
2) ESC = Ecological Screening Value

N

Scale:

0 450 900 1,800 Feet

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

Shaw® Shaw Environmental, Inc.

FIGURE 5-5

FORT MONMOUTH BASELINE ECOLOGICAL EVALUATION REPORT

SILVER RESULTS IN SEDIMENT

MAIN POST
FORT MONMOUTH
NEW JERSEY

ArcGIS File: F:\GISDATA2\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_015_Fig5-5_MP_Silver_SD_Results_BEE_rpt.mxd (4/20/2011)

LEGEND

Mercury in Sediment (mg/kg)

- Non-Detect
- 0 - 0.15 (Below ESCs)
- 0.15 - 0.20 (Between Freshwater and Saltwater Sediment ESCs)
- 0.20 - 0.212 (Above ESCs and Below 1/2 Maximum Background)
- 0.212 - 0.424 (Above ESCs and Above 1/2 Maximum Background)
- > 0.424 (Above Background)
- Road Centerline
- Water Feature
- Building
- Water Body
- IRP Site
- ECP Parcel
- Installation Boundary
- Municipal Boundary

Notes:
1) Results include samples collected in 2007 for the Environmental Condition of Property (ECP) Site Investigation (SI) and the 2010 Baseline Ecological Evaluation (BEE).
2) ESC = Ecological Screening Value

N

Scale:

0 450 900 1,800 Feet

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

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FIGURE 5-4

FORT MONMOUTH BASELINE ECOLOGICAL EVALUATION REPORT

MERCURY RESULTS IN SEDIMENT

MAIN POST
FORT MONMOUTH
NEW JERSEY

ArcGIS File: F:\GISDATA2\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_014_Fig5-4_MP_Mercury_SD_Results_BEE_rpt.mxd (4/20/2011)

LEGEND

Lead in Sediment (mg/kg)

- Non-Detect
- 0 - 31 (Below ESCs)
- 31 - 47 (Between Freshwater and Saltwater Sediment ESCs)
- 47 - 63.9 (Above ESCs and Within Lower 75% of Background)
- 63.9 - 945 (Above ESCs and Within Top 25% of Background)
- > 945 (Above Background)
- Road Centerline
- Water Feature
- Building
- Water Body
- IRP Site
- ECP Parcel
- Installation Boundary
- Municipal Boundary

Notes:
1) Results include samples collected in 2007 for the Environmental Condition of Property (ECP) Site Investigation (SI) and the 2010 Baseline Ecological Evaluation (BEE).
2) ESC = Ecological Screening Value

N

Scale:
0 450 900 1,800
Feet

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

Shaw® Shaw Environmental, Inc.

FIGURE 5-3

FORT MONMOUTH BASELINE ECOLOGICAL EVALUATION REPORT

LEAD RESULTS IN SEDIMENT

MAIN POST
FORT MONMOUTH
NEW JERSEY

ArcGIS File: F:\GIS\DATA2\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_013_Fig5-3_MP_Lead_SD_Results_BEE_rpt.mxd (4/20/2011)

LEGEND

Copper in Sediment (mg/kg)

- Non-Detect
- 0 - 16 (Below ESCs)
- 16 - 34 (Between Freshwater and Saltwater Sediment ESCs)
- 34 - 41 (Above ESCs and Within Lower 75% of Background)
- 41 - 165 (Above ESCs and Within Top 25% of Background)
- > 165 (Above Background)
- Road Centerline
- Water Feature
- Building
- Water Body
- IRP Site
- ECP Parcel
- Installation Boundary
- Municipal Boundary

Notes:
1) Results include samples collected in 2007 for the Environmental Condition of Property (ECP) Site Investigation (SI) and the 2010 Baseline Ecological Evaluation (BEE).
2) ESC = Ecological Screening Value

N

Scale:
0 450 900 1,800 Feet

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

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FIGURE 5-2

FORT MONMOUTH BASELINE ECOLOGICAL EVALUATION REPORT

COPPER RESULTS IN SEDIMENT

MAIN POST
FORT MONMOUTH
NEW JERSEY

ArcGIS File: F:\GISDATA2\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_012_Fig5-2_MP_Copper_SD_Results_BEE_rpt.mxd (4/20/2011)

LEGEND

Chromium in Sediment (mg/kg)

- Non-Detect
- 0 - 26 (Below ESCs)
- 26 - 81 (Between Freshwater and Saltwater Sediment ESCs)
- 81 - 106.65 (Above ESCs and Within Lower 75% of Background)
- 106.65 - 125 (Above ESCs and Within Top 25% of Background)
- > 125 (Above Background)
- Road Centerline
- Water Feature
- Building
- Water Body
- IRP Site
- ECP Parcel
- Installation Boundary
- Municipal Boundary

Notes:
1) Results include samples collected in 2007 for the Environmental Condition of Property (ECP) Site Investigation (SI) and the 2010 Baseline Ecological Evaluation (BEE).
2) ESC = Ecological Screening Value

N

Scale:
0 450 900 1,800
Feet

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

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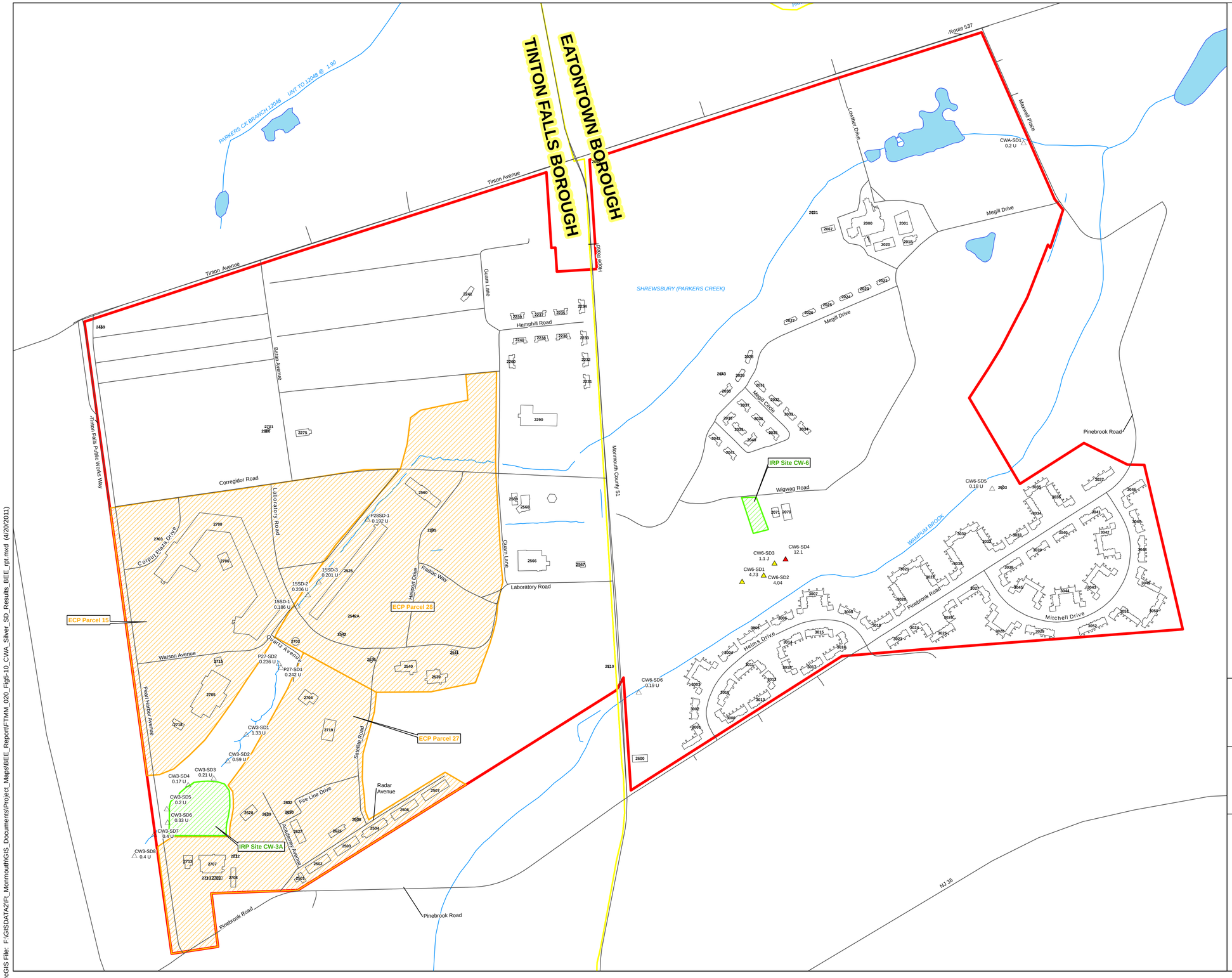
FIGURE 5-1

FORT MONMOUTH BASELINE ECOLOGICAL EVALUATION REPORT

CHROMIUM RESULTS IN SEDIMENT

MAIN POST
FORT MONMOUTH
NEW JERSEY

ArcGIS File: F:\GISDATA2\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_011_Fig5-1_MP_Chrom_SD_Results_BEE_rpt.mxd (4/20/2011)



LEGEND

Silver in Sediment (mg/kg)

- Non-Detect
- 0 - 1 (Below ESCs)
- 1 - 5.6 (Above ESCs and Within Range of Most Background)
- 2.6 - 11.2 (Above ESCs and Above 1/2 Maximum Background)
- > 11.2 (Above Background)
- Road Centerline
- Water Feature
- Building
- Water Body
- IRP Site
- ECP Parcel
- Installation Boundary
- Municipal Boundary

Notes:
1) Results include samples collected in 2007 for the Environmental Condition of Property (ECP) Site Investigation (SI) and the 2010 Baseline Ecological Evaluation (BEE).
2) ESC = Ecological Screening Value

N

Scale:

0 300 600 1,200 Feet

Base Realignment and Closure 2005

U.S. Army Corps of Engineers

Shaw® Shaw Environmental, Inc.

FIGURE 5-10

FORT MONMOUTH BASELINE ECOLOGICAL EVALUATION REPORT

SILVER RESULTS IN SEDIMENT

CHARLES WOOD AREA
FORT MONMOUTH
NEW JERSEY

ArcGIS File: F:\GISDATA2\Ft_Monmouth\GIS_Documents\Project_Maps\BEE_Report\FTMM_020_Fig5-10_CWA_Silver_SD_Results_BEE_rpt.mxd (4/20/2011)

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United States Army
Fort Monmouth, New Jersey

BACKGROUND METALS EVALUATION

U.S. Army Garrison Fort Monmouth, Main Post
Fort Monmouth, New Jersey

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1.0 INTRODUCTION

A natural attenuation program with long-term monitoring (LTM) to remediate ground water concentrations exceeding the New Jersey Department of Environmental Protection's (NJDEP's) Ground Water Quality Standards (GWQS) for Class II-A Aquifers at Fort Monmouth, New Jersey is being conducted in accordance with the Remedial Action Work Plans (RAWPs) prepared specifically for individual Sites.

During the performance of LTM, various metals have been detected at concentrations exceeding the NJDEP GWQS. It has been suspected that most of these exceedances are likely due to naturally-occurring background conditions and represent a combination of a natural, dissolved component, along with input from sample turbidity. The lack of a specific source area for the detected contaminants provides confidence that metals detected in ground water are not from contaminants discharged at the site.

The objectives of this evaluation are to (1) document the presence of naturally-occurring metals; (2) identify various conditions which are likely to have resulted in the exceedances identified in the ground water LTM program; and (3) develop a meaningful strategy for determining which sites, and which individual metals, represent site contamination for which the Fort remains responsible.

Specifically, this evaluation encompassed the following:

- Determine factors potentially contributing to exceedances;
- Reference published data sources which documents metals naturally occurring in soils;
- Identify which sites have metal concentrations exceeding the NJDEP GWQS;
- Evaluate site-specific conditions which may impact results; and
- Identify and discuss recommendations for the future sampling and analysis of metals on the Fort, and establish ground water Classification Exception Areas (CEAs).

This evaluation was conducted in general accordance with the NJDEP's *Technical Requirements for Site Remediation* (*TRSR*), N.J.A.C. (New Jersey Administrative Code) 7:26E et seq.

2.0 SITE LOCATION AND DESCRIPTION

Fort Monmouth is located in the central-eastern portion of Monmouth County, New Jersey, approximately 45 miles south of New York City and 70 miles northeast of Philadelphia (Figures 1 and 2). This report covers 23 sections of the base, identified as the following sites: Buildings 80 and 166 (FTMM–56), 108 (FTMM–57), 283 (FTMM–61), 287, 290 (FTMM–55), 296 (FTMM–54), 699 (FTMM–53), 750, 812 (FTMM-64), 886 (FTMM–66), 2567 (FTMM–58), M-2 (FTMM-02), M-3 (FTMM-03), M-4 (FTMM–04), M-5 (FTMM–05), M-8 (FTMM-08), M-12 (FTMM-12), M-14 (FTMM–14), M-18 (FTMM–18), CW-1 (FTMM–22), CW-3A (FTMM–25), and CW-6. These individual sites can be separated into four general usage areas as listed below. This document is not meant to provide detailed historical accounts for the individual sites, as these are provided in site-specific remedial progress documents.

- Historical Landfills – M-2, M-3, M-4, M-5, M-8, M-12, M-14, MP-18, and CW-3A;
- Various Office, Research, Storage, and General Use Buildings – Buildings CW-1, and CW-6 (former pesticide storage facility);
- Underground Storage Tank Sites – Buildings 80 and 166, 108, 283, 287, 290, 296, 750 (motor pool), and 886; and
- Gasoline Service Stations – Buildings 699 and 2567.

Individual sites are shown on the Contaminated Site Location Maps for Main Post and Charles Wood Areas provided as Figures 3 and 4, respectively.

3.0 METALS DETECTED AT CONCENTRATIONS EXCEEDING GWQS

Roy F. Weston, Inc. (Weston) prepared a *Site Investigation Report* (SIR) in December of 1995 entitled *Final Site Investigation, Main Post and Charles Wood Areas, Fort Monmouth, New Jersey*. As part of the SIR for the Fort Monmouth military installation, Weston conducted soil sampling, monitoring well installation activities, ground water sampling, and geophysical surveying. In addition to soil and ground water sampling at different sites throughout the Main Post and Charles Wood Areas of Fort Monmouth, Weston established background concentrations for soil and ground water for the Fort Monmouth installation. These background concentrations have been referenced in various technical submittals and used by the DPW for comparing sampling results for native constituents of soil and ground water.

In the ground water results tables included in the 1995 Weston SIR, Weston identified aluminum (Al), arsenic (As), iron (Fe), manganese (Mn), sodium (Na) and lead (Pb) at concentrations greater than the NJDEP GWQS. Lead was the only constituent which was considered a COC; the remaining metal exceedances were considered background concentrations.

On-going LTM conducted at Fort Monmouth indicated several other metals were detected in ground water at concentrations greater than the GWQS across individual sites on the Fort. Those metals include antimony (Sb), beryllium (Be), cadmium (Cd), chromium (Cr), nickel (Ni), selenium (Se), and thallium (Tl). [Although commonly detected in ground water, barium (Ba) and copper (Cu) rarely exceed the GWQS.]

4.0 FACTORS AFFECTING RESULTS

Numerous factors were identified which could have contributed to the elevated concentrations of metals in ground water samples. These factors are discussed in the sections below.

4.1 Naturally-Occurring Constituents

Metals are naturally-occurring in the environment in rocks, soil, and ground water. Natural background levels are concentrations present in the environment of the region of the site and have not been influenced by anthropogenic activities.

Metals such as antimony, arsenic, barium, beryllium, cadmium, chromium, copper, lead, nickel, selenium, and thallium have all been documented as being naturally-occurring constituents in soil and ground water in the Fort Monmouth area (refer to Section 5.0).

4.2 Sampling Techniques

Prior to 2010, metals at Fort Monmouth were sampled via standard-purge, which evacuates three to five monitoring well volumes prior to sampling. This sampling method potentially increases turbidity in the water column through agitation, and generally results in the introduction of fine particulates (turbidity) into the samples. Resulting analytical concentrations tend to increase as turbidity increases due to sorption of metals on particulates in the water. Metals are also contained within the mineral composition of soils.

Low-flow purging (also known slow-purge) is a method utilized to collect ground water samples from monitoring wells that are more representative of ambient ground water conditions in the aquifer. Essentially, the rate at which water is evacuated from the well is reduced, minimizing the drawdown inside of the well, thereby minimizing disturbance of sediment on the bottom of the well, and within the well gravel pack and surrounding formation. At certain sites, the slow-purge technique effectively reduces turbidity in the resulting samples.

Fort Monmouth sampling personnel have reported highly turbid samples being collected regardless of the sampling technique used. This is most likely as a result of the high percentage of fines present in the formations containing silt and clays.

Regardless of sampling technique, any metals introduced into the sample via turbidity become represented in the analytical results due to the nitric acid preservation required by the laboratory analytical method.

4.3 Well Construction

Similar to the effects of sampling techniques, the quality of individual monitoring well construction can influence analytical results. For example, well screening and filter pack conditions affect the amount of sediment introduced into the ground water sample. The age of the well, number of times sampled, construction materials/techniques, and formation characteristics can affect the amount of fine particulates that are ultimately introduced into the samples.

4.4 Laboratory Errors

During the 2009 ground water sampling events, it was discovered that the Fort Monmouth Environmental Testing Laboratory (FMETL) experienced difficulties in quantifying certain metal results. Specifically, selenium and thallium were not reported due to data quality objectives that were not met in low-range detection of these elements.

As reported by Fort Monmouth DPW, prior to the first quarter 2009, thallium was not identified as a COC in ground water. However, in 2009, thallium was detected in nearly all monitoring wells throughout Fort Monmouth at similar concentrations. Thallium concentrations exceeding the GWQS are thought to be falsely positive due to laboratory instrumentation issues. The results for thallium were not identified in the laboratory non-conformance report since blank samples associated with these results reported thallium concentrations less than the GWQS.

4.5 Factors Affecting Solubility

The pH of soil and ground water may have contributed to increased solubility of metals. Lower pHs (more acidic) could potentially increase the solubility of metals in ground water. As an example, samples collected for metals analysis are preserved with nitric acid to lower the pH to ensure that all of the metals are dissolved and, therefore, reflected in the laboratory analysis.

Temperature, aeration, mineral levels, redox parameters and biological conditions of the soil and ground water are amongst the many variable factors which can affect the solubility of soils in ground water. All of these factors can be dependent upon many other variables (such as pH) and thus it is difficult to quantify how individual site factors can influence metals results at Fort Monmouth.

5.0 PUBLISHED DOCUMENTS

Brinkerhoff reviewed various published documents regarding metals naturally-occurring in the environment. Fort Monmouth conducted their own study under the direction of the NJDEP regarding glauconitic soils to investigate a possible connection to the elevated metal detections in ground water on the installation. This report, including several other sources, are discussed below. Metals in New Jersey soils and ground water, particularly areas with glauconite-rich soils, are prevalent.

5.1 U.S. Army Garrison Fort Monmouth, March 2011, Base-Wide Glauconitic Soil Sampling Report – Fort Monmouth – Main Post Area

The U.S. Army Fort Monmouth, Directorate of Public Works wanted to assess if naturally-occurring glauconitic soils were attributing to the elevated metals detections observed in ground water collected from wells throughout the installation since no documented or confirmed source was identified. This report is included in Appendix A.

Six soil samples were collected from three locations (near Buildings 108, and 296 and historic landfill M-2). Soil results indicate the following metals were detected, however, were below the NJDEP Residential Direct Contact Soil Remediation Standards: aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc.

Six ground water samples were collected from three monitoring wells at a shallow and deep interval via slow-purge sampling technique. Of the six samples, three samples had arsenic concentrations exceed the GWQS and four had lead concentrations exceed the GWQS.

The study found that no direct correlation could be established between the metals concentrations detected in soil and ground water at the sites. However, the highest detections of arsenic and lead concentrations in ground water were detected adjacent to a glauconite-rich soil layer. The Fort Monmouth DPW concluded that arsenic and other trace metals were due to naturally-occurring conditions and not due to a site- specific source based on the lack of a clear distribution gradient and correlation between soil results and ground water results. Additionally, the DPW concluded that sample turbidity was a contributing factor in ground water concentrations in excess of the GWQS, and recommended the inclusion of filtered samples to evaluate the input from sample turbidity.

5.2 Published References

Brinkerhoff reviewed several other reference documents to confirm the natural presence of metals in soils and ground water in New Jersey. Documents reviewed and brief summaries are included below:

- Dooley, 2001, *Baseline Concentrations of Arsenic, Beryllium and Associated Elements in Glauconite and Glauconitic Soils in the New Jersey Coastal Plain*

This study describes how glauconite - a green, iron-rich, mineral occurs in significant concentrations in sedimentary formations of marine origin. These deposits form glauconitic soils from chemical weathering which underlie the New Jersey Coastal Plain physiographic providence.

These soils have been found to contain high concentrations of arsenic and beryllium. Additionally, high median concentrations of antimony, boron, and chromium were observed in glauconite-containing soils.

- Paul F. Sanders, Ph.D., May 2003, *Ambient Levels of Metals in New Jersey Soils*

Three studies conducted between 1996 and 2001 for a research project study by the Environmental Assessment and Risk Analysis Element at the NJDEP determined the ambient levels of extractable metals in New Jersey soils. This project was initiated to assist in the development of soil cleanup criteria, which could not be more stringent than background concentrations.

Aluminum, calcium, iron, magnesium, manganese, potassium, and sodium were abundant with concentrations measured at several hundred to several thousand milligrams per kilogram (mg/kg). Arsenic, barium, chromium, mercury, vanadium, and zinc were common with concentrations ranging between 10 to 100 mg/kg. Beryllium, cobalt, copper, nickel and lead were less common, and antimony, cadmium, selenium, silver, and thallium were detected at trace concentrations.

This study demonstrates that most metals are found in New Jersey soils at detectable concentrations. The metals arsenic and beryllium are the only two metals with soil criterion set by ambient levels in soil, indicating they are commonly encountered.

- Michael Serfes for the New Jersey Geological Survey, 2004, *Arsenic in New Jersey Ground Water*

This article introduces arsenic as a common constituent to New Jersey ground water. Arsenic becomes mobilized in ground water under chemically alkaline and reducing conditions. Certain natural minerals stored in bedrock can weather and be introduced into ground water.

Arsenical pesticides are not very mobile in soils and are not a major source in ground water because they are not very water-soluble and bind tightly to soil particles. However, arsenic naturally found in soils could become water-soluble depending on pH and other factors.

- Princeton Geosciences, Inc., 2007, *Trace Metals Characterization in Glauconitic Coastal Plain Soil and Associated Ground water*

A project by Princeton Geosciences identified arsenic concentrations in soil as great as 100 mg/kg for a site located in the New Jersey Coastal Plain. Samples were collected within a glauconite-containing soil matrix, leading to high concentrations of arsenic. Ground water samples contained trace metals such as aluminum, beryllium, chromium, iron, lead, and manganese. Princeton Geosciences concluded that the elevated concentrations of trace metals were attributed to turbidity in the samples. Further research and statistical evaluation led Princeton Geosciences to conclude that metals were naturally-occurring.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The metals most often reported as exceedances of the applicable GWQS have the following aspects in common:

- They are common in soils, as documented through site-specific analysis and published sources; and
- have very low GWQS, ranging from 1 µg/L for beryllium, upwards to 6 µg/L for antimony.

More than any other factor, turbidity in ground water samples has the capability to result in analytical results exceeding the published GWQS. Due to the interference from sample turbidity, exceedances of the GWQS by dissolved-phase metals is not certain. As the GWQS were developed based on dissolved-phase contaminants, direct comparison to the GWQS frequently results in "false positives" when evaluating site data.

In consideration of the impending closure of Fort Monmouth, the following general recommendations are provided:

- Based on data from the current reporting period (through 3rd Quarter 2010), establish interim ground water Classification Exception Areas (CEAs) for each applicable site. Each CEA should clearly indicate that elevated results are suspected due to sample turbidity.
- The sampling strategy described in Section 7.0 herein should be implemented to reduce the input from sample turbidity, and thus better represent the actual concentrations of dissolved-phase metals. Upon completion of each sampling event, the data should be compared to the GWQS. Metals concentrations laboratory-determined to be in compliance with the GWQS should be removed from further consideration.
- Data generated should be evaluated during the performance of the 2012 CEA Biennial Certification, with metals concentrations laboratory-determined to be in compliance with the GWQS removed from each CEA as needed. Dissolved-phase metals remaining in excess of the GWQS should be evaluated on a site-specific basis to determine whether sources of contamination exist, or the dissolved-phase component is from a natural background condition.

7.0 SAMPLING STRATEGY DEVELOPMENT

In order to reduce the input from sample turbidity, and thus better-represent the actual concentrations of dissolved-phase metals, the following strategy was developed:

- Removal of extreme outliers from the data set using a 90th Percentile Analysis;
- Comparison of 90th percentile values to the applicable GWQS, with parameters exceeding the GWQS retained for further field investigation;
- Selection of monitoring wells at each site for further field investigation, biased towards those with previous elevated results; and
- Development of sample collection methodology, using a combination of slow purge well evacuation, and the use of raw and filtered sample pairs to reduce sample turbidity and enable the comparison between the raw (traditional) and filtered samples to evaluate the contribution from sample turbidity.

Site-specific results of the comparisons and recommended sampling protocol are provided in the Site Specific Evaluations included in Exhibit B of this report. Each Site Specific Evaluation includes a statistical summary of the 90th Percentile Analysis, 90th Percentile Data Summary Table (Table 1), discussion of the recommended sampling protocol, and Concentration Ranking and Recommended Well Sampling Table (Table 2).

7.1 90^{th} Percentile Analysis

Procedure

The 90^{th} Percentile Analysis is a statistical approach which removes data outliers from a data group in order to present a more representative data set. Fort Monmouth personnel assembled the data sets for each applicable site and provided the calculations to Brinkerhoff. Only detections were used in calculations. By only including the detections and not the multitude of samples that were non-detect, this approach provided a more conservative outcome.

Utilizing an Excel spreadsheet, the 90^{th} percentile and mean were calculated for each metal. Concentrations exceeding the 90^{th} percentile were determined to be extreme outliers and were excluded from the data set. An adjusted mean was then calculated.

Metals values were compared to the GWQS at the 90^{th} percentile, then to the mean and finally to the adjusted mean. This data set included various timeframes of sampling events, various numbers of monitoring wells at each site, and various metals. Timeframes were chosen by a Fort Monmouth representative based on a manageable and representative data set starting in the first quarter 2005 through to the third quarter 2010. If data were not available back to the first quarter 2005, the earliest available date was

used. Some sites did not have enough metals data to conduct statistical analysis and were not utilized in this study. These sites included Buildings 707, 745, 1104 and 1122.

Data Evaluation

The data evaluation performed for each site consists of the identification of the following:

- Metals for which the 90th percentile values meet the GWQS;
- Metals for which mean values meet the GWQS; and
- Metals for which the adjusted mean values meet the GWQS.

For the purposes of this analysis, metals with 90th percentile values meeting the GWQS were excluded from further evaluation. Although metals with mean values, or adjusted mean values meeting the GWQS are identified, this comparison is not considered sufficient to exclude these parameters from further investigation.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS for these metals.

Site-specific results of the comparisons are discussed in the Site Specific Evaluations included in Exhibit B of this report.

7.2 Concentration Ranking and Well Selection Protocol

For future sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data (generally from 4th Quarter 2008 through 3rd Quarter 2010), the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. (Each well was counted only once for each parameter of concern.)

The above procedure resulted in a small group of monitoring wells for each applicable site to be sampled using the prescribed protocol.

7.3 Sample Collection Methodology

The proposed sample collection methodology consists of a combination of slow purge well evacuation, and the use of raw and filtered sample pairs to reduce sample turbidity. This approach also enables a comparison between the raw (traditional) and filtered samples to evaluate the contribution from sample turbidity.

Specifically, for future sampling events, raw and filtered water sample pairs should be collected from select wells, to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory for the metals for which the 90th Percentile values do not meet the GWQS. (Refer to the Site Specific Evaluations in Exhibit B for the individual site evaluation and monitoring well selection.)

Slow-purge methodology should be followed for all sampling events which include metals analyses.

7.4 Sample Collection Frequency

Sample collection should generally be performed on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts, and increased likelihood of infiltration to ground water (generally Spring and Fall).

Although precipitation in New Jersey is generally well distributed throughout the year, winter is considered less desirable due to the potential for snow along with a frozen ground surface. Likewise, summer is less desirable due to increased evaporation, increased absorption capacity due to dry soil conditions, and increase use by vegetation.

The semiannual collection protocol is intended to generate sufficient dissolved-phase data to draw meaningful conclusions prior to the 2012 CEA Biennial Certification.

8.0 REFERENCES

Dooley, 2001, *Baseline Concentrations of Arsenic, Beryllium and Associated Elements in Glauconite and Glauconitic Soils in the New Jersey Coastal Plain*

NJDEP, 2009, *Technical Requirements for Site Remediation* (*TRSR*), NJAC (New Jersey Administrative Code) 7:26E et seq.

Princeton Geosciences, Inc., 2007, *Trace Metals Characterization in Glauconitic Coastal Plain Soil and Associated Groundwater*

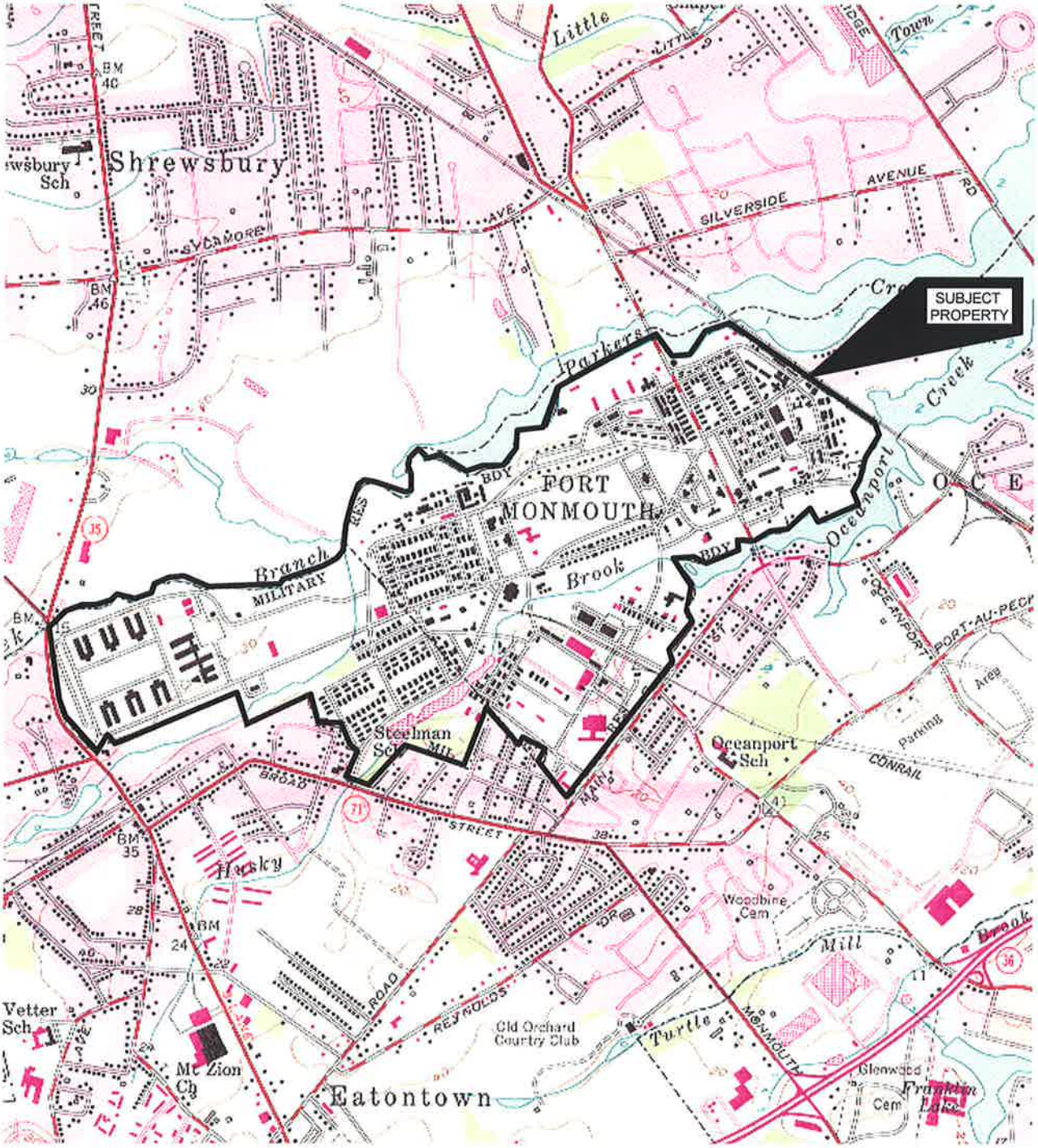
Paul F. Sanders, Ph.D., May 2003, *Ambient Levels of Metals in New Jersey Soils*

Michael Serfes for the New Jersey Geological Survey, 2004, *Arsenic in New Jersey Ground Water*

US Army Garrison Fort Monmouth, March 2011, *Base-Wide Glauconitic Soil Sampling Report – Fort Monmouth – Main Post Area*

Roy F. Weston, Inc., December 1995, *Final Site Investigation, Main Post and Charles Wood Areas, Fort Monmouth, New Jersey*

Figures



LONG BRANCH, N. J.
40073-C8-TF-024

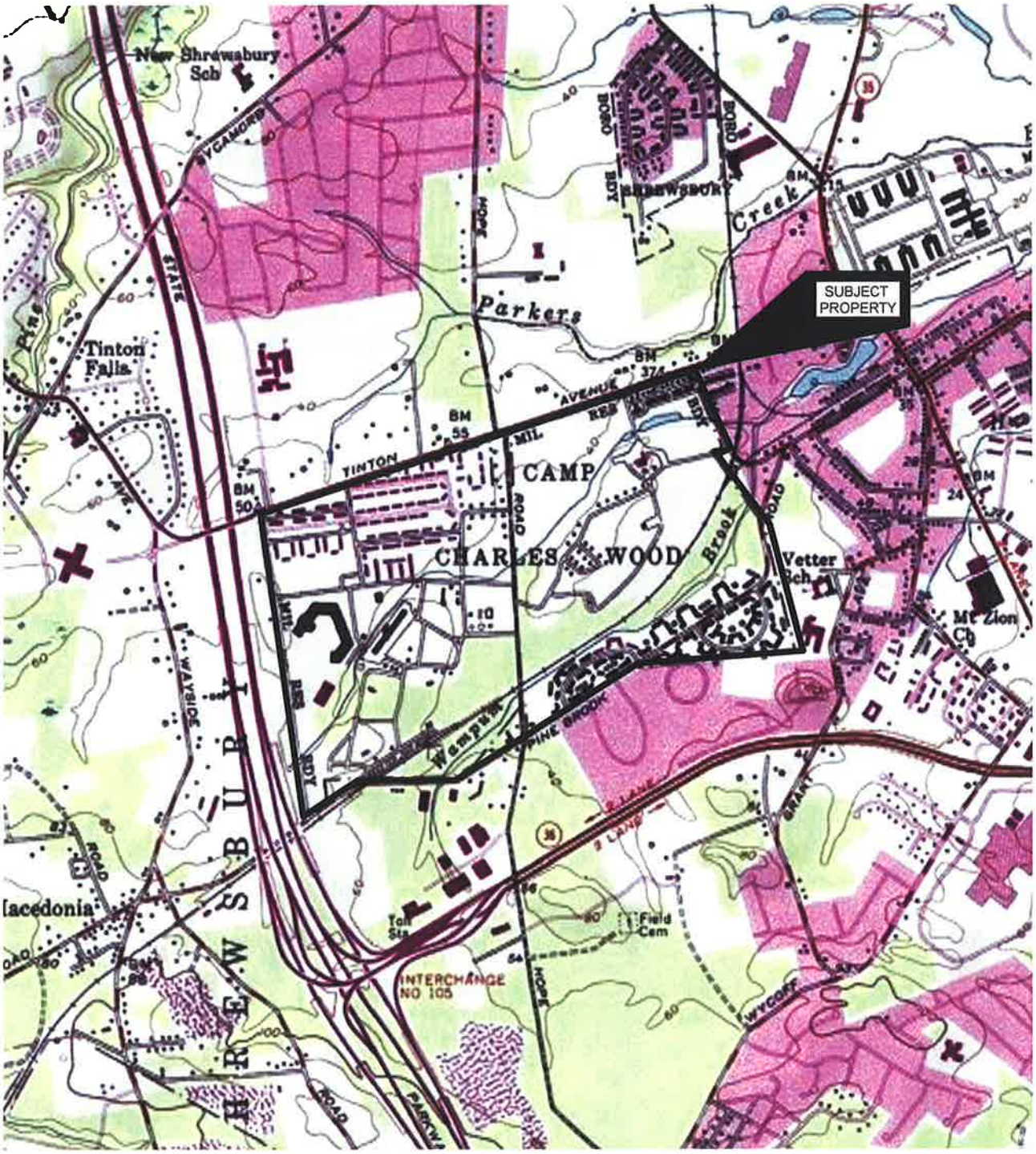
1954
PHOTOREVISED 1981
DMA 6164 I SE-SERIES V822

QUADRANGLE LOCATION

BRINKERHOFF
ENVIRONMENTAL SERVICES, INC.

FIGURE 1 - SITE LOCATION MAP
U.S.G.S. TOPOGRAPHIC LONG BRANCH, NJ QUAD
US ARMY FORT MONMOUTH
MAIN POST
FORT MONMOUTH, NEW JERSEY

DATE: 5/4/11	JOB NO.: 09BR116	SCALE: 1′ = 2000′



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SCALE: 1"=2000′

LONG BRANCH, N. J.
40073-C8-TF-024

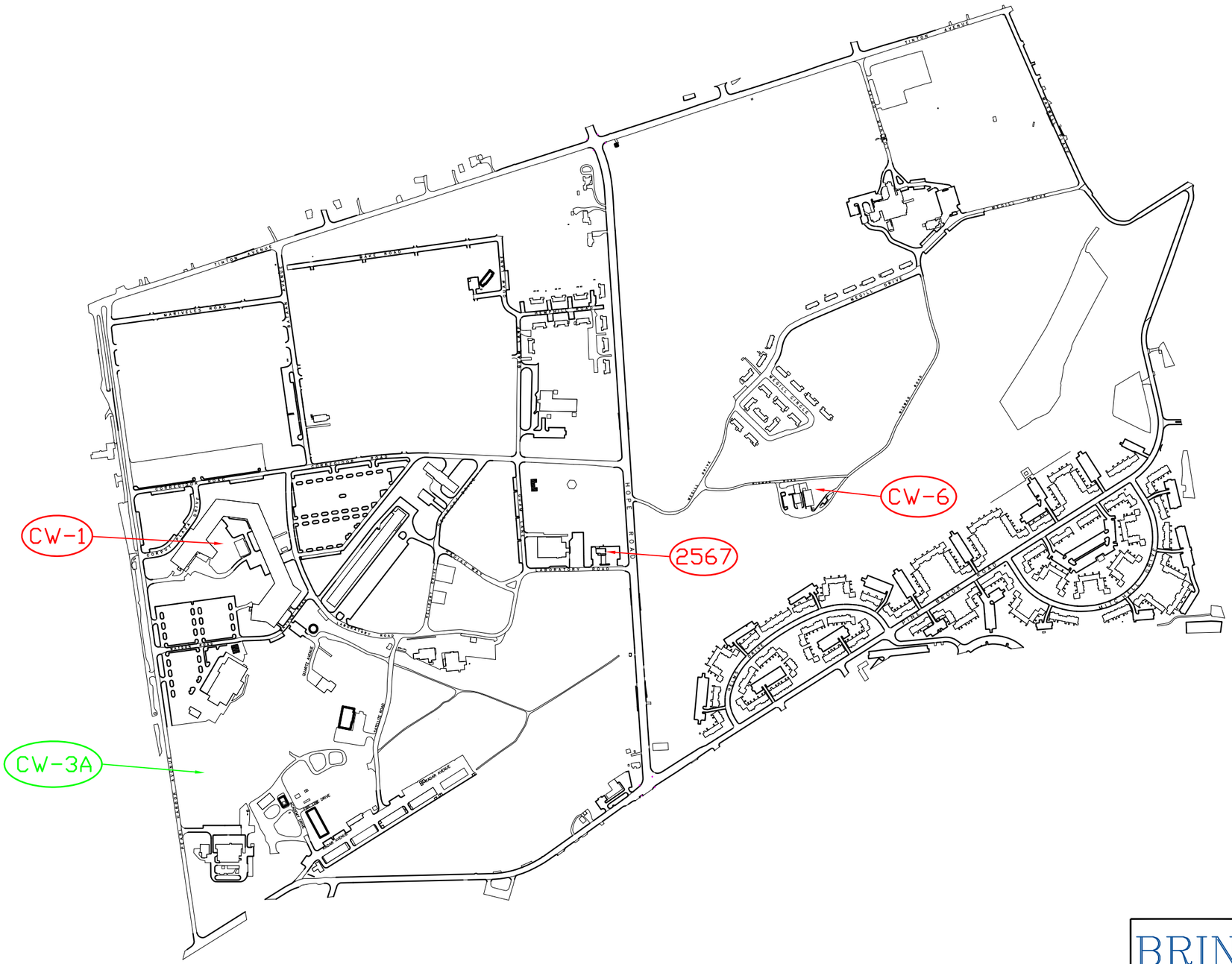
1954
PHOTOREVISED 1981
DMA 6164 I SE-SERIES V822

QUADRANGLE LOCATION

BRINKERHOFF
ENVIRONMENTAL SERVICES, INC.

FIGURE 2 - SITE LOCATION MAP
U.S.G.S. TOPOGRAPHIC LONG BRANCH, NJ QUAD
US ARMY FORT MONMOUTH
CHARLES WOOD AREA
FORT MONMOUTH, NEW JERSEY

DATE: 5/4/11	JOB NO.: 09BR116	SCALE: 1" = 2000′



LEGEND

(2567) - BUILDING NUMBER/CONTAMINATED AREA LOCATION

(CW-3A) - HISTORIC LANDFILL LOCATION

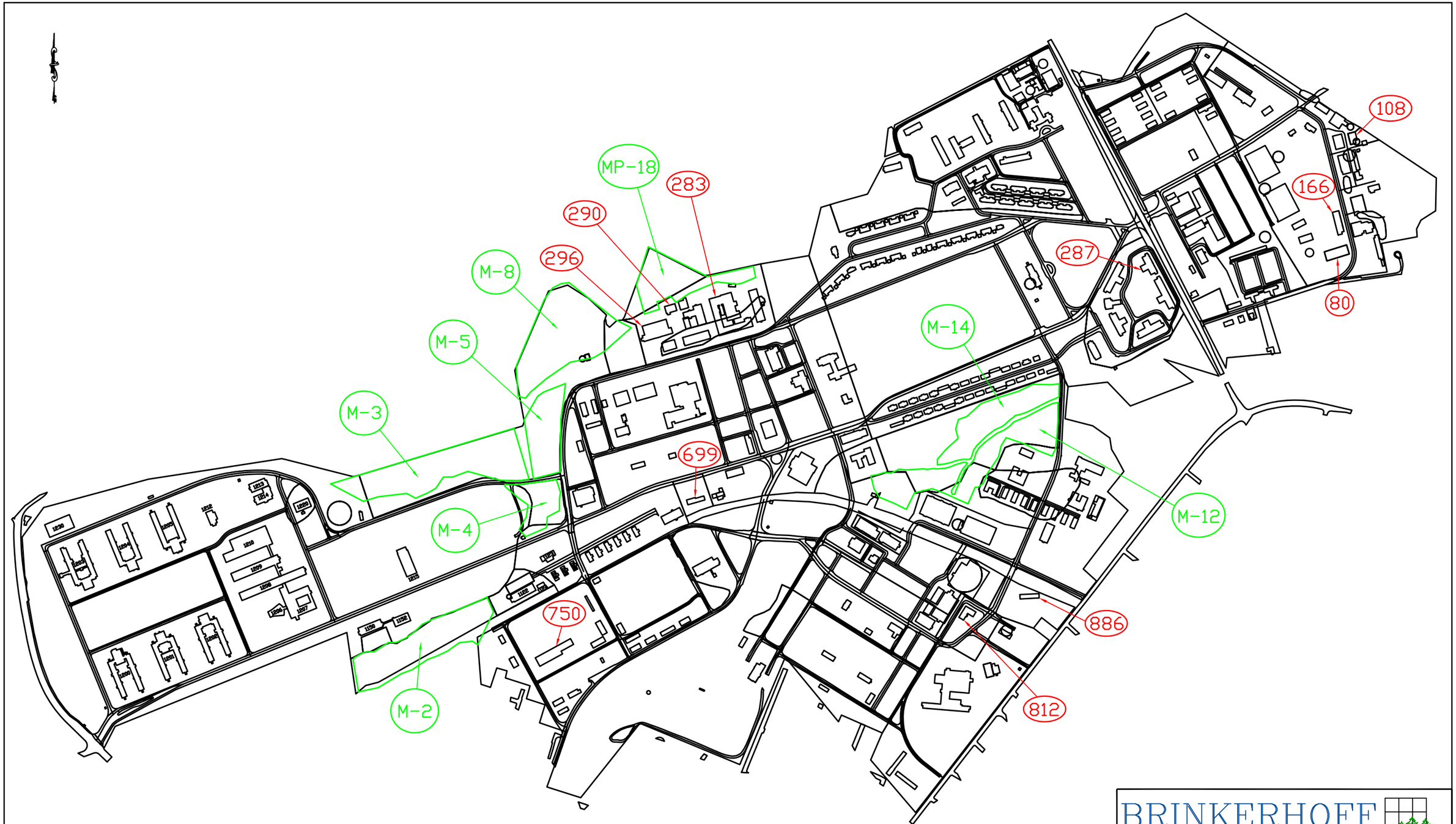
0′ 350′ 700′

SCALE: 1"=700′

BRINKERHOFF ENVIRONMENTAL SERVICES, INC.

FIGURE 4
CONTAMINATED SITE LOCATION MAP
US ARMY FORT MONMOUTH
CHARLES WOOD AREA
FORT MONMOUTH, NEW JERSEY

DATE: 5/4/11	JOB NO.: 09BR116	SCALE: 1" = 700′



LEGEND

(886) - BUILDING NUMBER/CONTAMINATED AREA LOCATION

(M-2) - HISTORIC LANDFILL LOCATION

0′ 350′ 700′

SCALE: 1"=700′

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FIGURE 3
CONTAMINATED SITE LOCATION MAP
US ARMY FORT MONMOUTH
MAIN POST
FORT MONMOUTH, NEW JERSEY

DATE: 5/4/11	JOB NO.: 09BR116	SCALE: 1" = 700′

Exhibit A
Base-Wide Glauconitic Soil Sampling Report

DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY GARRISON FORT MONMOUTH
FORT MONMOUTH, NEW JERSEY 07703-5000

REPLY TO
ATTENTION OF

Directorate of Public Works

March 9, 2011

Larry Quinn, Site Manager
New Jersey Department of Environmental Protection
Bureau of Investigation, Design and Construction
401 East State Street, P.O Box 413
Trenton, New Jersey 08625-0413

Subject: Base-Wide Glauconitic Soil Sampling Report
Fort Monmouth – Main Post Area
Fort Monmouth, New Jersey 07703

Dear Mr. Quinn:

On October 13, 2010, the U.S. Army Fort Monmouth, Directorate of Public Works (DPW) submitted a *Base-Wide Glauconitic Soil Sampling Plan* to determine if selected Target Analyte List (TAL) metals detected in groundwater at concentrations exceeding the New Jersey Department of Environmental Protection (NJDEP) Ground Water Quality Standards (GWQS) are naturally occurring in soils containing high amounts of glauconite. On October 29, 2010, the NJDEP provided written approval of the *Base-Wide Glauconitic Soil Sampling Plan* **(Attachment 1).**

Background

TAL metals which have been detected in samples collected from onsite groundwater monitoring wells at concentrations exceeding the GWQS include, but are not limited to: arsenic, antimony, beryllium, cadmium, lead, and zinc. There is no documented or confirmed source identified for the detections of these metals in groundwater. Several sites at Fort Monmouth are solid waste landfills containing various materials but most sites are associated with petroleum hydrocarbons resulting from leaking underground storage tanks (USTs).

Dooley (2001) analyzed the composition of naturally-occurring glauconitic soils at seven locations within the New Jersey Coastal Plain physiographic province. This study revealed that glauconitic soils contained arsenic at concentrations ranging from 7 to 31 milligrams per kilogram (mg/kg). There is evidence for a relationship between the type of geologic unit and concentrations of arsenic in the soil found in the New Jersey Coastal Plain (Rutgers, 2002). The geologic creation of arsenic-bearing glauconite is the result of depositions of algae that take up, metabolize, and retain arsenic in surface waters. When the algae dies and settles to the bottom, the arsenic in the dead algae becomes part of the deposit. When this process occurs over thousands of years, arsenic accumulates in estuaries, which are now geologically mapped as glauconite or "greensands". Glauconite is a dull-green, iron-silicate mica mineral found in shallow marine sediments.

Layers of glauconite have been identified in the New Jersey Coastal Plain, southern New Castle County, Delaware, and in the deeper units in southern Delaware. The soils that form over these glauconite-containing units, called greensands, are highly productive agriculturally and have

been determined to contain naturally-occurring arsenic and beryllium as reported by Dooley (2001).

The United States Geological Survey (USGS) reported arsenic concentrations ranging from 4.8 to 23 mg/kg in sediments collected from the Lower Susquehanna River. Similar concentrations of arsenic were found in another USGS study in which the average arsenic soil concentrations were reported as 8.3 mg/kg for New Castle County, Delaware, 4.6 mg/kg for Kent County, Delaware, and 4.9 mg/kg for Sussex County, New Jersey (USGS, 1984).

These studies indicate that the presence of arsenic and other TAL metals (e.g., beryllium, lead) detected in soil and sediment samples are attributed to natural (lithogenic) sources rather than from anthropogenic activities. In an effort to confirm and document that select TAL metals detected in groundwater on the Main Post are naturally associated with glauconitic soils, the DPW conducted a soil sampling investigation. This investigative study was necessary because the DPW believes the presence of naturally-occurring TAL metals in onsite glauconitic soils are adversely affecting groundwater quality conditions as defined by the NJDEP GWQS.

The DPW conducted an exhaustive review of all logs for monitoring wells installed at the Main Post to identify locations where the word 'glauconitic' or variations thereof (e.g. glauconite, green sands) were recorded. Glauconitic sands, silts, and/or clays were positively identified at sites 108, 296, and the M-2 Landfill. A brief summary of each site as described in the U.S. Army's *Environmental Condition of Property Report* (2007) is provided as follows:

- **Site 108** is near Riverside Avenue in the eastern section of the Main Post. The DPW removed five USTs in this area in November 1993. The site was reported to the NJDEP as a discharge to the environment and Incident No. 93-04-12-1939-29 was assigned.

- **Site 296** a former fuel distribution facility on Sherrill Avenue which was abandoned and then rediscovered during a renovation project at Building 296. The facility dates back to the 1940s. The UST system was comprised of ten 1,000-gallon USTs which stored various types of fuel products. These products were distributed from remote pumping islands located >450 feet from the UST field and within 50 feet of Parkers Creek.

- **M-2 Landfill**. The 6.5-acre landfill operated from 1964 until 1968. Materials disposed at the landfill reportedly included: construction debris, scrap metal, asbestos containing materials, vegetative waste, unwashed containers which previously held hazardous materials/wastes, outdated photographic chemicals, small quantities of outdated drugs, sludge from the STP, soot and boiler scale, incinerator ash, oil spill debris, oil filters, batteries, fluorescent tubes, and electronic components.

At each of the above locations, arsenic and lead were detected in groundwater at concentrations exceeding the GWQS of 3 and 5 micrograms per liter (µg/L), respectively. It is important to note that glauconitic-rich soils are more prevalent on the Main Post than the well logs would indicate because the well logs were not properly completed by trained personnel, e.g., soil scientist, geologist, etc. The majority of the well logs were prepared by the well drillers who have little to no training properly classifying soils using an accepted classification scheme (i.e. Unified Soil Classification System, Burmister, etc.).

According to Jablonski (1968), the Cretaceous-age Red Bank and Tinton Sands outcrop at the Main Post. The Red Bank sand conformably overlies the Navesink Formation. The upper member of the Red Bank Sand (Shrewsbury) is a yellowish-gray to reddish-brown, clayey, medium to coarse-grained sand that contains abundant rock fragments, muscovite, and glauconite. The lower member (Sandy Hook) is a dark gray to black, medium to fine-grained sand with abundant clay, muscovite and glauconite.

The Tinton Sand conformably overlies the Red Bank sand and ranges from a clayey medium to very coarse-grained feldspathic quartz and glauconitic coarse sand. The color varies from a yellowish-orange or light brown to light olive to grayish-olive. Glauconite may comprise 60 to 80% of the sand fraction in the upper portion of the Tinton Sand (Minard, 1969).

Soil and Groundwater Investigation

The soil investigation included the collection of soil samples at locations depicted on **Figure 1**. Each soil boring was advanced proximate, but not less than five feet, to the selected groundwater monitoring well where glauconite was observed during well installation activities. Geologic logs, including construction details, for the selected groundwater monitoring wells (108MW04, 296MW04, M2MW13, M2MW18, and M2MW24) are provided in **Attachment 2.**

At each soil boring, a direct-push rig (Geoprobe®) was used to advance a borehole to the depth of the proximate groundwater monitoring well. Continuous soil cores were collected by advancing dedicated acetate sleeves from the ground surface to the depth of the proximate groundwater monitoring well. Discrete soil samples from the saturated zone (water table to the bottom of the well screen as determined from the proximate monitoring well) were collected for laboratory analysis. Additional discrete soil samples were collected from the saturated zone for laboratory analysis based on lithology differing from that containing greenish glauconitic sands and silts. Prior to sample collection, any twigs, roots, and miscellaneous debris (e.g. glass, bricks, etc.) were removed from the soil sample using a decontaminated stainless steel spoon. Soil boring logs and maps showing locations of the soil borings are provided in **Attachment 3.**

All method(s)/procedure(s) for collecting grab soil samples were consistent with the methodology for obtaining Non-Volatile Organic Compound Sample Collection for Soils as per NJDEP's August 2005 *Field Sampling Procedures Manual* (Section 6.2.8). Decontamination of field sampling equipment was conducted in accordance with the DPW's *Standard Operating Procedures* (SOP) and NJDEP's August 2005 *Field Sampling Procedures Manual* (FSPM).

Subsequent to the collection of soil samples, groundwater samples were collected from the proximate monitoring well via the low-flow purging and sampling method. Applicable protocols regarding sampling, handling, storage, preservation, reporting, decontamination of field equipment, and other procedures adhered to the DPW's latest SOP for low-flow groundwater sampling (**Attachment 4**), which complies with the NJDEP FSPM.

All soil and groundwater samples were analyzed at DPW's NJDEP certified laboratory (NJDEP Certification Number 13461) for Target Analyte List (TAL) metals and Accutest Laboratories (NJDEP Certification Number 12129) for Organic Carbon (OC) using United States Environmental Protection Agency approved test methods. Soil samples were analyzed for OC not as part of the glauconitic study. Rather the OC data was used to support the fate and transport modeling effort being conducted by Brinkerhoff Environmental Services, Inc. on the Main Post.

Summary of Soil Results

A total of six soil samples were collected at three locations, namely at locations proximate to groundwater monitoring wells M2MW13, 108MW04, and 296MW06 (**Table 1**). Soil samples were not collected as proposed at M2MW18 and M2MW24 due to refusal at each location.

A review of analytical results indicates that the following metals were detected in the soil samples: aluminum (Al), antimony (Sb), arsenic (As), barium (Ba), beryllium (Be), cadmium (Cd), calcium, chromium (Cr), cobalt, copper, iron, lead, magnesium, manganese (Mn), mercury, nickel (Ni), potassium, silver (Ag), vanadium (V), and zinc (Zn). Selenium, sodium, and thallium were not detected in all soil samples.

Arsenic concentrations were detected at all locations and sample depths. Concentrations of arsenic in samples collected from Sites M-2 and 296 were consistent. Concentrations of arsenic at M-2 and 296 in the shallow (non-glauconitic layer) soil samples were 7 and 5 milligrams/kilogram (mg/kg), respectively. Similarly, concentrations of arsenic at M-2 and 296 in the deeper (glauconite-rich layer) soil samples were 7 and 6 mg/kg, respectively. At Site 108, the concentration of arsenic in the soil sample collected 7.0-8.0 feet below ground surface (bgs) was five times greater than the arsenic concentration in the shallower sample (**Table 1**). Concentrations of TAL metals in the shallow soil samples were within an order of magnitude of concentrations of TAL metals detected in the deeper soil samples (**Table 1**). All TAL metal concentrations were compliant with the NJDEP Soil Remediation Standards (SRS) as promulgated by the NJDEP in June 2008 (New Jersey Administrative Code 7:26D). The laboratory analytical reports are included in **Attachment 5**.

Table 1. Concentrations of Selected TAL Metals and OC in Soil

Sample Depth (feet bgs)	Ag	Al	As	Ba	Be	Cd	Cr	Mn	Ni	Pb	Sb	V	Zn	OC
	mg/kg (dry weight)													
Site M-2														
8.0–12.0	6	9550	7	70	2	2	106	27	15	9	2	45	63	87700
16.0–20.0*	14	11500	7	17	2	4	134	13	10	10	1	25	67	762
Site 108														
6.5–7.0	1	2540	3	5	0.3	0.6	18	9	2	16	ND	11	13	558
7.0–8.0*	2	8110	15	16	0.8	2	65	23	4	16	1	36	29	365
Site 296														
3.5–4.0	1	3560	5	4	0.5	1	73	3	2	11	3	65	13	500
12.0–12.5*	2	4860	6	27	0.8	2	69	17	5	12	2	39	27	1010
NJDEP SRS	390	78000	19	16000	16	78	—	11000	1600	400	31	78	23000	—

* – Glauconitic-rich layer; ND: not detected.

Summary of Groundwater Results

Six groundwater samples were collected from three monitoring wells, namely M2MW13, 108MW04, and 296MW06. Aqueous samples were collected at two different depths as noted in **Table 2**.

A comparison of TAL metal concentrations in the shallow and deep sampling depths show variations but are within an order of magnitude. Arsenic concentrations were detected at all three locations and sample depths. Concentrations of arsenic detected in groundwater samples ranged from 2.21 to 8.77 µg/L. The GWQS for arsenic is 3 µg/L. Arsenic concentrations exceeded the GWQS in three of the six groundwater samples. Concentrations of arsenic were nearly consistent

at both sampling depth intervals at M2MW13 (**Table 2**). The concentration of arsenic reported in the water sample collected from 296MW06 at 3.7 feet bgs (4.38 µg/L) was greater than the arsenic concentration detected in the deeper sample (2.69 µg/L at 12.25 feet bgs). Conversely, the arsenic concentration detected at 6.75 feet bgs at 108MW04 (4.94 µg/L) was less than the arsenic concentration detected in the water sample collected from 7.5 feet bgs (8.77 µg/L). The laboratory analytical reports are included in **Attachment 6**.

Table 2. Concentrations of Selected TAL Metals in Groundwater

Sample Intake (feet bgs)	Ag	Al	As	Ba	Be	Cd	Cr	Mn	Ni	Pb	Sb	V	Zn	OC
						µg/L								
Site M-2 – MW13														
10	3.95	ND	2.21	82.8	ND	1.07	0.87	155	3.07	4.84	5.58	1.80	31.2	—
18	4.24	ND	2.57	70.7	ND	1.13	0.62	149	ND	4.09	ND	1.42	15.3	—
Site 108 – MW04														
6.75	ND	1160	**4.94**	28.8	ND	1.09	7.82	14.6	4.04	**8.76**	ND	5.13	49.6	—
7.5	ND	3630	**8.77**	39.4	ND	1.35	23.0	39.5	7.64	**26.0**	5.48	13.0	118	—
Site 296 – MW06														
3.7	9.71	ND	**4.38**	250	ND	2.65	ND	2220	1.43	**7.96**	ND	1.80	ND	—
12.25	7.56	ND	2.69	202	ND	2.12	ND	1940	ND	**7.83**	ND	2.11	ND	—
NJDEP GWQS	40	200	3	6000	1	4	70	50	100	5	6	—	2000	—

ND: not detected. Concentrations in **bold** type exceed the GWQS.

It appears a correlation exists between the concentrations of arsenic and lead in groundwater, i.e., the concentrations of arsenic and lead are directly proportional to each other. To determine if the concentrations of arsenic and lead are related to each other, a geochemical association was conducted. To illustrate this, the concentration of arsenic in each groundwater sample was plotted against the corresponding concentration of lead to generate an "Arsenic-Lead" scatter plot (**Figure 1**).

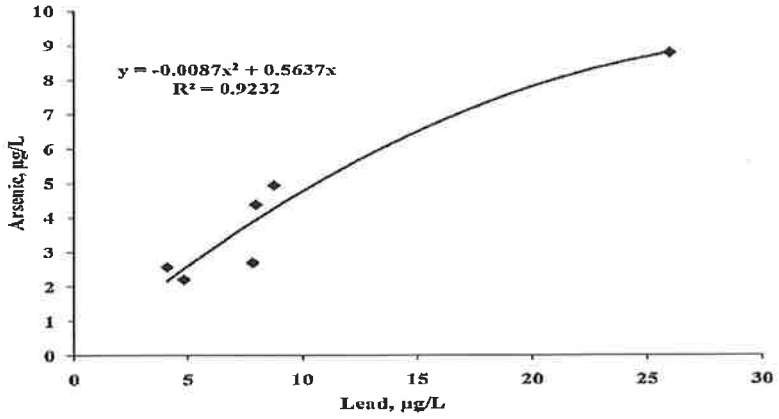


Figure 1. Scatter plot of arsenic and lead concentrations detected in groundwater.
As this figure shows, the concentration of arsenic increases with increases in the lead concentration. A second-order trendline was fitted to the data. The goodness of fit result of R^2 = 0.9232 demonstrates a strong relationship between arsenic and lead given the limited data set.

Thus, it appears that arsenic and lead co-exist as naturally occurring TAL metals, i.e. both metals are non-site related COCs.

Comparison of Arsenic and Lead in Soil and Groundwater

A comparison of TAL metals concentrations in soil and groundwater was completed and no relationship or correlation could be established. In other words, arsenic and lead concentrations in soil are not proportional or inversely proportional to the concentrations of TAL metals identified in groundwater.

Similar to DPW's investigation, Princeton Geoscience, Inc. (PGI) performed a soil and groundwater remedial investigation at a site in the New Jersey Coastal Plain (http://www.princetongeoscience.com/geonew.html). PGI identified natural arsenic concentrations in soil at concentrations up to 100 mg/kg. The elevated metals concentrations in collected groundwater samples resulted mainly from turbidity introduced into the monitoring wells during purging. Low-flow purging and monitoring well redevelopment did not eliminate turbidity in the groundwater samples.

After employing a different approach/technique, PGI compared groundwater concentrations of the trace metals to trace metal concentrations in soil NJDEP acknowledged were of naturally-occurring and identified a correlation for each of the trace metals in question. PGI states that "no remediation has been required to address this issue and Princeton Geoscience has indicated an intention not to include metals as groundwater contaminants in the Classification Exception Area information to be submitted for this site."

Summary

- Arsenic was detected in groundwater at concentrations exceeding the GWQS of 3 µg/L in three of six samples (50%).
- Lead was detected in groundwater at concentrations exceeding the GWQS of 5 µg/L in four of six samples (67%).
- The greatest concentrations of arsenic and lead in groundwater were detected adjacent to the glauconite-rich soil layer at monitoring well 108MW04 (7.5 feet bgs).
- Similarly, the greatest concentrations of arsenic (15 mg/kg) and lead (16 mg/kg) in soil were detected in a sample collected from the glauconitic-rich soil layer proximate to monitoring well 108MW04 (15 mg/kg at 7.0-8.0 feet bgs). Lead was also detected at the same concentration in the shallower soil sample depth (6.5-7.0 feet bgs).
- The greatest concentrations of arsenic in soil were identified at Site 108 where underground storage tanks used to store petroleum products were removed. Arsenic is not associated with refined petroleum products.
- A comparison of TAL metals concentrations in soil and groundwater was completed and no relationship or correlation could be established.

Conclusions

- Given that arsenic was detected at concentrations exceeding the GWQS, this confirms DPW's conclusion in Versar's *Remedial Investigation Report* (2004) that "... arsenic is likely attributable to the native soil characteristics or a non-point source distributed throughout the subsurface soils at Site 108."
- Based on a general knowledge of site historical operations and geology of the Fort Monmouth area, the presence of arsenic and lead co-exist as naturally-occurring TAL metals that are unrelated to anthropogenic activities at the three sites that were investigated.

- It appears arsenic and lead co-exist as naturally occurring TAL metals, i.e. neither metal has been detected and confirmed or documented from a source at any site.
- It appears that the source of arsenic in groundwater is due to natural conditions rather than man-made/anthropogenic sources. Vowinkel et al. (2001) reported that arsenic concentrations greater than 50 µg/L are typically are associated with known contaminated sites. The greatest concentration of arsenic identified in this study is 8.77 µg/L.

Recommendations

- To determine if suspended particles (turbidity) is proportional to detectable concentrations of metals in aqueous samples, filtered and unfiltered samples should be collected and analyzed for TAL metals by a NJ certified laboratory. Filtered samples should provide more consistent analytical results and be more representative of the water quality moving within a water-bearing zone.
- Samples of the glauconite should be collected and chemically analyzed by a certified laboratory for TAL metals to determine if arsenic and other TAL metals are present in its chemical makeup (source material).

References

Dooley, J.H., 2001, *Baseline Concentrations of Arsenic, Beryllium, and Associated Elements in Glauconite and Glauconite Soils in the New Jersey Coastal Plain*, New Jersey Geological Survey, Trenton, 238 pp.

Jablonski, L.A., 1968, *Groundwater Resources of Monmouth County, New Jersey. U.S. Geological Survey Special Report 23*. Washington, DC.

Minard, J.P., 1969, *Geology of Sandy Hook Quadrangle in Monmouth County, New Jersey*. U.S. Government Printing Office, Washington, DC.

NJDEP, 2005, *Field Sampling Procedures Manual*, Trenton, NJ

Rutgers University, 2002, *Greensand and Greensand Soils of New Jersey – A Review*, Department of Ecology, Evolution and Natural Resources.

U.S. Army Base Realignment and Closure, 2007, *Environmental Condition of Property Report*, Fort Monmouth.

U.S. Geological Survey, 1984, *Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States*, Professional Paper No. 1270.

Versar, Inc., 2004, *Remedial Investigation Report*.

Vowinkel, E.F., Grosz, A.E., Barringer, J.L., Szabo, Z., Stackelberg, P.E., Hopple, J.A., Grossman, J.N., Murphy, E.A., Serfes, M. and Spayd, S., 2001, *Distribution of Arsenic in the Environment in New Jersey*, U.S. Geological Survey Open-File Report 01-142, 4 p.

If you have any questions or require additional information, please contact John H. Montgomery, Senior Hydrogeologist, at 732-532-7979 or email: john.h.montgomery@us.army.mil.

Sincerely,

Joseph M. Fallon

Joseph M. Fallon, CHMM
Chief, Environmental Division

c: file
Attachments

Attachment 1

Base-Wide Glauconitic Soil Sampling Plan Approval Letter from NJDEP

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
SITE REMEDIATION, PUBLICLY FUNDED REMEDIATION ELEMENT
P.O. BOX 413
TRENTON, NEW JERSEY 08625-0413

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

October 29, 2010

Mr. Joseph Fallon, CHMM
Directorate of Public Works
ATTN: IMNE-MON-PWE
167 Riverside Ave.
Fort Monmouth, NJ 07703

RE: Base-Wide Glauconitic Soil Sampling Plan
Fort Monmouth, NJ

Dear Mr. Fallon:

The NJDEP Site Remediation Program (SRP) has received and reviewed the revised Base-Wide Glauconitic Soil Sampling Plan dated October 13, 2010. The stated intent of the Base-Wide Glauconitic Soil Sampling Plan is to "confirm and document that select TAL metals detected in groundwater on the Main Post are naturally associated with glauconitic soils".

As you know, SRP reviewed prior versions of the sampling plan and provided comments, primarily about the compositing of soil samples. We have also discussed the sampling plan with Chuck Appleby and John Montgomery of your staff. SRP believes that the proposed soil and ground water sampling procedures and methodologies are now technically correct. As such, we are willing to take the results of the proposed sampling into consideration. However, that is not an assurance that we will concur with the conclusions that Fort Monmouth draws from the investigation, or that the results of the proposed glauconitic soil sampling will be a significant factor in any remedial decisions.

You or your staff may contact me at 609-633-0766 with any questions on the enclosed comments, or any other site remediation matters at Fort Monmouth.

Sincerely,

Larry Quinn

Larry Quinn, P.E., Site Manager
Bureau of Investigation, Design and Construction

Attachment 2

Well Logs for 108-MW04, 296-MW04, M2-MW13, M2-MW18, and M2-MW24

Exhibit B
Site Specific Evaluations

SITE SPECIFIC EVALUATION
BUILDINGS 80 AND 166 (FTMM-56)

Sites 80 and 166 were grouped together because their close proximity to each other and minimal number of wells. Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
Buildings 80 and 166

80-166	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
Feb '05 - Aug '10	n=42	n=96	n=157	n=53	n=104	n=80	n=116	n=37	n=108	n=68	n=3
90th Percentile	12.3	28.7	124.1	2.2	5.1	9.4	9.0	9.1	10.9	27.3	3.4
Mean	8.1	12.4	69.5	1.1	3.9	4.7	5.9	5.8	5.9	13.7	2.4
Adjusted Mean	7.05	9.06	48.0	0.76	1.4	2.0	4.7	4.0	4.3	9.2	1.6
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for barium, chromium, copper, nickel, and selenium are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Mean Values, or Adjusted Mean Values, Meet GWQS:

The mean value for cadmium is below its GWQS.

The adjusted mean values for beryllium, lead, and thallium are below their respective GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells 80MW01, 80MW02, and 80MW05 are recommended for sampling with laboratory analysis for antimony, arsenic, beryllium, cadmium, and lead, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to August 2010 at Site 80_166

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)			6	3	6000	1	4	70	1300	5	100	40	2
80MW04	02/10/05	50082.06			26.8								
80MW03	02/10/05	50082.05			29.7								
MW03Duplicate	02/10/05	50082.02			28.8								
80MW02	02/10/05	50082.04			43	0.748					5.39		
80MW05*	02/10/05	50082.07		27.9	759	10.1		66.5		11.3	21.3		
80MW01	02/10/05	50082.03											
166MW01	02/10/05	50082.08			13.5								
80MW05	05/09/05	50248.07		11.3	32.5	0.58		52.6	7.14	9.93			
80MW03	05/09/05	50248.05			48.9			16.1					
80MW02	05/09/05	50248.04			44.4	1.26		5.28		6.4	6.2		
80MW04*	05/09/05	50248.06			184	***3.64***	3.8			***19.4***	14.5		
80MW01	05/09/05	50248.03											
MW01Duplicate	05/09/05	50248.02											
166MW01	05/09/05	50248.08			17.1				11.3				
80MW04	08/23/05	50418.07			202								
80MW03	08/23/05	50418.06			36.5								
80MW05	08/23/05	50418.08		***6.87***	47.3		2.7	10.3					
80MW02	08/23/05	50418.05			40.8	***1.07***					5.35		
80MW01	08/23/05	50418.03											
MW01Duplicate	08/23/05	50418.02											
166MW01*	08/23/05	50418.04			33.7		3.76		10.5				
80MW01	11/28/05	50617.04		12.2	57.1								
80MW03	11/28/05	50617.06			24.6			5.04	6.58				
80MW05	11/28/05	50617.08		8.67	54.8			20.7					
MW05Duplicate	11/28/05	50617.02		8.32	58.3			14.4					
80MW02	11/28/05	50617.05			67.9	1.87					7.24		
80MW04	11/28/05	50617.07			78.3						11.5		
166MW01	11/28/05	50617.03			16.8								
80MW05	02/23/06	60089.08			44								
80MW01	02/23/06	60089.04		8.73	75.5				5.15				
80MW03	02/23/06	60089.06			25.8			12.1	7.61				
80MW02	02/23/06	60089.05			49.6	1.42					7.21		
80MW04	02/23/06	60089.07			38.6				5.82		5.81		
166MW01	02/23/06	60089.03			12.5		2.31		6.96				
MW01Duplicate	02/23/06	60089.02			16.2		2.75		8.99				
80MW01	04/27/06	60183.04	4.09		32.1		0.535		1.72				
80MW03	04/27/06	60183.06	4.19		21.3			1.15	3.65				

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to August 2010 at Site 80_166

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
80MW02	04/27/06	60183.05			48.7	0.885	0.461		0.92		5.74		
80MW04	04/27/06	60183.07	3.69		27.1			2.49	8.24		4.63		
80MW05	04/27/06	60183.08	4.38	4.34	50.6			5.71	4.28		1.04		
MW01Duplicate	04/27/06	60183.02	5.09		9.18		2.01		4.75				
166MW01	04/27/06	60183.03	4.5		11		2.44	0.942	5.82				
MW02Duplicate	09/08/06	60391.02			74.3	2.05	0.736		1.91			7.32	
80MW02	09/08/06	60391.05		1.94	73.5	1.97	0.732		2.45		8.42	4.3	
80MW04	09/08/06	60391.07		3.06	60.5		0.31	2.1	7.5		8.14		
80MW05*	09/08/06	60391.08		8.34	176	0.276		42.5	14	1.5	4.28		
80MW03	09/08/06	60391.06		2.03	40.5		0.323	1.38	8.17		1.51		
80MW01	09/08/06	60391.04		5.36	36.7		0.778		2.65		1.14		
166MW01	09/08/06	60391.03		5.67	12.8	0.168	2.4	0.949	7.37		2.53		
MW01Duplicate	12/29/06	60551.02		16.3	54.8		4.66					6.2	
80MW01	12/29/06	60551.04		15.9	55.7		4.57					4.01	
80MW03	12/29/06	60551.06		2.26	14.8				6.56			3.98	
80MW04	12/29/06	60551.07			26.1		0.382		3.92		6.39		
80MW02	12/29/06	60551.05			62.5	1.31	0.593	1.17	1.53		6.37	5.65	
80MW05	12/29/06	60551.08		19	124	0.365	7.25	6.68			2.72	8.4	
166MW01	12/29/06	60551.03			14.1		1.45		3.7			5.01	
80MW03	03/14/07	70094.05			38.2		0.216	0.602	6.98			9.55	
80MW02	03/14/07	70094.04			66.1	0.606	1.25	1.77	6.17		8.62	8.25	
80MW04	03/14/07	70094.06			29.2			0.828	7.8		7.33	7.69	
80MW05	03/14/07	70094.07	1.03	9.09	59.2		1.17	2.83	6.17		2.03	8.12	
MW01Duplicate	03/14/07	70094.02		24.9	77.6		4.26	0.875	3.95	3.03	0.66	10.2	
80MW01	03/14/07	70094.03		22.5	68.9		3.66	0.741	2.06	1.33	0.504	11.7	
166MW01	03/14/07	70094.08			14.8		1.64		9.16		0.437	13.1	
80MW01	05/23/07	70189.04		25	107		3.93	2.2	7.59	7.64		5.88	
80MW02	05/23/07	70189.05		3.4	71.9	1.34	1.13	2.02	3.7	1.29	9.17	6.68	
80MW05*	05/23/07	70189.08		18	197	1.29	6.39	25.9		21	7.86	14.8	
80MW04	05/23/07	70189.07		6.45	39.4		1.12	0.985	3.57	0.737	11.9	6.87	
MW01Duplicate	05/23/07	70189.02		24.1	107		4.02	3.05	7.42	7.63	1.77	12.7	
80MW03	05/23/07	70189.06		5.68	35.3		0.498	0.768	5.05		0.704	8	
166MW01	05/23/07	70189.03		5.62	26.1		2.01	0.847	6.62		1.14	13.4	
MW01Duplicate	09/14/07	70341.02		16.2	125		0.558	0.327	2.4				
80MW01	09/14/07	70341.03		15.8	121		0.968	0.249	3.05				
80MW02	09/14/07	70341.04			90.3	1.62	1.14		1.58		9.47	4.83	
80MW04	09/14/07	70341.06		6.71	43.8			1.52	2.32		6.64		
80MW05	09/14/07	70341.07			196		0.457	3.22	4.25		4.83		

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to August 2010 at Site 80_166

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
80MW03	09/14/07	70341.05			30.4		0.429	1.08	5.91		0.71		
166MW01	09/14/07	70341.08			16.7		0.764	0.571			1.3		
80MW01	12/12/07	70529.04		9.01	73.7		0.385		0.709				
80MW03	12/12/07	70529.06			22.5		0.232	0.604	5.65			5.01	
80MW05	12/12/07	70529.08		4.81	266		0.405	5.56	3.89		4.11		
80MW02	12/12/07	70529.05			123	2.14	1.22		1.26		10.1	3.93	
80MW04	12/12/07	70529.07			50.7		0.605	0.223	4.14		10	4.31	
166MW01	12/12/07	70529.03			21.3		0.738		3.99				
MW01Duplicate	12/12/07	70529.02			26.5		0.86		4.95				
80MW01	03/31/08	80102.04		8.34	52.9	0.117	1.46	0.229	1.7	1.53		4.64	
80MW04	03/31/08	80102.07			23.6	0.176	0.36	0.791	6.41		7.64	8.87	
80MW05	03/31/08	80102.08		23.3	45.2		8.05	3.62		2.37	2.75	5.56	
80MW02	03/31/08	80102.05			120	2.3	1.48	1.62			13	11.6	
80MW03	03/31/08	80102.06	0.937	4.07	17.8	0.109	0.356	0.717	6.53		0.91	8.32	
MW01Duplicate	03/31/08	80102.02		4.94	15.5	0.102	1.39	0.307	5.21		0.69	8.13	
166MW01	03/31/08	80102.03			14	0.128	1.29	0.203	4.05		0.419	10.3	
80MW03	06/12/08	80198.06		4.36	23.9		0.246	2.89	5.47	1.72		8.77	
MW01Dulpicate	06/12/08	80198.02		14.6	61.1		0.796	0.54		2.62		3.67	
80MW01	06/12/08	80198.04		11.8	60.4		0.907	0.432		1.71		5.23	
80MW04	06/12/08	80198.07			32.5			0.951	3.99		9.68	7.09	
80MW02	06/12/08	80198.05			55.1	0.586		2.5	4.39		5.33	5.88	
80MW05*	06/12/08	80198.08		19.7	207		7.44	3.91		8.2	3.52		
166MW01	06/12/08	80198.03		3.38	10.9		1.14	0.318	8.09				
80MW01	08/15/08	80300.04		26.9	75.8		2.12					3.28	
80MW05*	08/15/08	80300.08		12.5	237		9.86	4.58			4.12		
80MW04	08/15/08	80300.07		5.46	50.4	0.247	1.46	0.633			24.3	3.93	
80MW02	08/15/08	80300.05		2.42	109	1.9	1.28	1.43			11.6	5.92	
80MW03	08/15/08	80300.06		3.65	26.7	0.18	0.387	1.41	1.48		1.34	4.05	
166MW01	08/15/08	80300.03		3.44	25.3		1.28	0.448	1.49		1.91	5.41	
MW01Duplicate	08/15/08	80300.02		2.65	25.1	0.124	1.11				1.85	5.24	
80MW05	12/30/08	80483.05		8.74	64.5		4.85	1.63	4.28				
80MW04	12/30/08	80483.04			36.8	0.148	0.528	0.709	3.86		6.79		
80MW03	12/30/08	80483.03		4.21	18.3		0.263	2.77	7.36		0.728	4.78	
80MW01	12/31/08	80484.04	3.57		80.5				6.12				
80MW02	12/31/08	80484.05		4.98	123	2.51	1.26		1.85		10.1		
MW01Duplicate	12/31/08	80484.02		5.79	14.9		1.7		4.92				
166MW01	12/31/08	80484.03			15.6		1.79		6.7		0.644		
80MW04	02/09/09	90040.07			33.6		0.654	1.34	3.78		9.96	9.61	

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to August 2010 at Site 80_166

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
80MW05	02/09/09	90040.08			68.7		8.98	1.86	6.88		2.8	13	
80MW02	02/09/09	90040.05			111	1.91	1.59		1.17		13.7	12.7	
80MW03	02/09/09	90040.06			27.8		0.384	1.86	3.72		1.98	13.3	1.91
80MW01	02/09/09	90040.04			66				3.71		1.32		3.81
166MW01	02/09/09	90040.03			19.2		1.8		5.51		3.06	15.9	
MW01Duplicate	02/09/09	90040.02			18.1		1.68	0.502	5.57		2.72	16.8	1.38
80MW02	06/26/09	90266.08	4.73	25.5	81.7	1.78	1.2	0.452	2.01	2.92	9.88	12.4	
80MW05*	06/26/09	90266.07	1.98	53.9	729	9.47	193	89.6	2.38	28.4	80.1		
MW01Duplicate*	06/26/09	90266.02	2.85	46.7	54.8		1.84	4.21	19.5	3.37	3.09	12.9	
80MW03*	06/26/09	90266.04	4.15	32.3	83		0.383	1.84	17.9	3.3	3.02	8.86	
80MW01*	06/26/09	90266.03	5.49	43.9	53		1.34	4.1	20.8	2.63	2.98	11.1	
80MW04	06/26/09	90266.05		22	48.8	0.105	0.333		4.16		10.2	13.3	
166MW01	06/26/09	90266.06	2.45	30.3	23.6		0.626		8.24		2.38	10.4	
80MW02	08/20/09	90350.05		21.4	87.5	1.88	1		2.33	2.82	9.75	49.6	
80MW05*	08/20/09	90350.08	6.91	29.5	48.1	0.143	5.16	4.77	14.9		5.13	43.7	
80MW01*	08/20/09	90350.04	9.15	63.7	125	0.057	8.53	2.52	8.86	7.53	3.39	17.8	
MW01Duplicate*	08/20/09	90350.02	9.89	61.3	126	0.06	7.79	2.32	7.94	8.83	2.74	33.4	
80MW03*	08/20/09	90350.06	10.5	34.3	110	0.098		1.85	16.7	7.01	2.34	95.3	
80MW04*	08/20/09	90350.07		17.6	65.7	0.119			4.49		15.4	40.7	
166MW01*	08/20/09	90350.03	5.85	33.9	52.5		2.97	3.21	38.1	7.25	2.56	75.1	
80MW01	11/10/09	90442.04		11.2	115								
80MW04	11/10/09	90442.07		2.18	56.9				1.23		7.78	23.9	
80MW03	11/10/09	90442.06		6.53	53.2				6.41		5.58	25.6	
80MW05	11/10/09	90442..08		22.62	101	0.111	13	2.78		9.32	4.37		
80MW02	11/10/09	90442.05		2.33	103	2.19	0.665				10.1		
MW03Duplicate	11/10/09	90442.02		3.29	50.6				3.96		1.34	31.1	
166MW01	11/10/09	90442.03		2.76	22.5						1.27	23	
LF1(1)	03/23/10	10103.04	7.57	1.73	81.3	1.14	0.515		1.06		9.05		
LF3(1)	03/23/10	10102.06	10.5	0.94	33.3				3.07		6.1		
LF3(1)	03/23/10	10102.04	11.6	4.58	24.1		1.62	2.59	5.79	2.96	2.24		
LF3(1) Duplicate	03/23/10	10102.02	10.8	1.72	39.8				7		1.47		
LF1(1)	03/23/10	10102.05	8.19	6.55	442		2.35			4.57	1.05		
LF3(1)	03/23/10	10102.03	10.9	1.01	39.2				7.07		0.554		
LF3(1) Duplicate	03/24/10	10103.02	11.9	1.47	20.6		0.87		4.88		1.84		
LF3(1)	03/24/10	10103.03	10.1	1.31	20.5		0.524		5.09		1.43		
LF2(1)*	06/23/10	10282.05	13.8	9.71	416	0.051	1.71		6.43	3			
LF2(1)	06/23/10	10282.08	9	0.98	76.8	1.23	0.696		4.18		8.68		
LF4(1)	06/23/10	10282.04	8.3	12.66	24.4		1.88	1.47	6.72	2.7	3.28		

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to August 2010 at Site 80_166

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
LF4(1)	06/23/10	10282.06	9.18	3.78	26.3	0.054			6.21		13.8		
LF4(1) Duplicate	06/23/10	10282.02	10.6	0.83	28.4				8.89		1.63		
LF4(1)	06/23/10	10282.03	8.63	1.03	29.8				9.15		1.6		
LF4(1)	06/23/10	10282.07	10.1	2.71	40.8	0.069	0.943		6.03		2.4		
LF5(1)	08/31/10	10374.04	12.6	12.84	39.7	0.066	1.03	9.21	5.08	5.15	4.45		
LF5(1) Duplicate	08/31/10	10374.02	10.8	2.37	28.3				8.12		2.23		
LF5(1)	08/31/10	10374.03	12.3	1.85	26.9				7.44		2.04		
LF5(1)	08/31/10	10374.05	8.29	5.14	28	0.088			2.27	2.84	16.4		
LF3(1)	08/31/10	10374.07	9.03	1.26	95.4	2.42	0.6		1.77		10.3		
LF3(1)*	08/31/10	10374.06	19.7	22.48	193		2		2.4	6.43	1.01		
LF5(1)*	08/31/10	10374.08	20	3.94	40.2				2.65	3.4	1.46		
		Mean	8.1	12.4	69.5	1.1	3.9	4.7	5.9	5.8	5.9	13.7	2.4
		90th Percentile	12.3	28.7	124.1	2.2	5.1	9.4	9.0	9.1	10.9	27.3	3.4
		Adjusted Mean	7.05	9.06	48.0	0.76	1.4	2.0	4.7	4.0	4.3	9.2	1.6

Notes:

Adjusted mean does not include metal concentrations that exceed the 90th Percentile

1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)
2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile
3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers
4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile
5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors

M: Metal detected in method blank

* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
Building 80-166
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Arsenic	Beryllium	Cadmium	Lead	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*3*	*1*	*4*	*5*	*40*	*2*
80MW01	19.7	63.7		8.53	8.83	*	*
80MW02			2.51			*	*
80MW03							
80MW04							
80MW05	12.6	53.9	9.47	193	28.4	*	*
166MW01							

Notes:

Results reported in µg/L.

Within the reporting period, the two highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Metals were analyzed during the entire reporting period, 4th Quarter 2008 through 3rd Quarter 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
BUILDING 108 (FTMM-57)

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
Building 108

108	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
Jan 05 - Aug 10	n=41	n=86	n=112	n=41	N=49	n=90	n=103	n=79	n=68	n=55	n=0
90th Percentile	11.4	32.0	55.1	0.4	1.6	24.0	29.7	16.1	5.6	80.0	NR
Mean	6.8	13.8	34.2	0.3	0.8	9.8	13.1	7.7	2.5	23.8	NR
Adjusted Mean	5.8	8.9	30.0	0.2	0.6	5.7	9.4	6.1	2.1	14.6	NR
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for barium, beryllium, cadmium, chromium, copper, and nickel are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Mean Values, or Adjusted Mean Values, Meet GWQS:

The mean value for selenium is below its GWQS.

The adjusted mean value for antimony is below its GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells 108MW01, 108MW02, 108MW03, and 108MW04 are recommended for sampling with laboratory analysis for antimony, arsenic, and lead, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to August 2010 at Site 108

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium
NJDEP Ground Water Quality Standard (µg/L)			6	3	6000	1	4	70	1300	5	100	40
MW01 Duplicate	01/31/05	50054.02			41.7			22	6.43	15.7		
108MW01	01/31/05	50054.03			41.5			21.2	6.03	13.7		
108MW02	01/31/05	50054.04		*7.15*	37.8			15.7	10.1	7.91		
108MW04*	01/31/05	50054.06		*13.9*	50.7	[redacted]		118	26.6	40.5	9.93	
108MW03	05/02/05	50233.05			11.4							
108MW01	05/02/05	50233.03			21.5							
MW01 Duplicate	05/02/05	50233.02			20.1							
108MW02	05/02/05	50233.04			44.7			21.4	13	9		
108MW03	08/12/05	50400.05		*18.9*	36.1		2.39					
108MW02	08/12/05	50400.04		*5.9*	49.7				39.1			
108MW01	08/12/05	50400.03			44			9	6.28			
MW01 Duplicate	08/12/05	50400.02		*5.88*	51.6			17.4	9.04	14.7		
108MW04	08/12/05	50400.06			25.9			13.8				
108MW01	11/14/05	50593.03			44.1				6.21	5.43		
MW01 Duplicate	11/14/05	50593.02			43.9				37.1	5.19		
108MW04	11/14/05	50593.06		*9.26*	31.6			60.8	12.6	12.1		
108MW03	11/14/05	50593.05		*9.22*	18.8			6.72	11	6.16		
108MW02*	11/14/05	50593.04		*12.4*	54.8		2.15	23.7	9.76	6.44	5.66	
108MW03	01/20/06	60039.05		*7.03*	14.3							
108MW01	01/20/06	60039.03			21.2							
108MW02	01/20/06	60039.04			39.5			8.12	16.7			
108MW04	01/20/06	60039.06			10.7			7.06	20.9			
MW03 Duplicate	01/20/06	60039.02		*8.17*	17.1			5.51	7.31			
108MW01	04/18/06	60163.03	*6.52*		32	0.172		3.46	2.15			
108MW02*	04/18/06	60163.04		*27*	83.2	0.641	1.41	43.5	36.4	16.1	4.11	
MW02 Duplicate*	04/18/06	60163.02	4.32	*18.3*	69.3	0.453	1.14	33.3	24.1	10.1	3.39	
108MW03*	04/18/06	60163.05	3.08	*4.12*	66.5	0.187	1.74	4.9	38.5	4.38	2.53	
108MW04	04/18/06	60163.06	2.99		19.9	0.324	0.37	13.2	14.5	1.98	1.02	
108MW04	07/19/06	60325.06	5.95	*5.69*	27.3			4.86	33.5	4.37		
108MW03	07/19/06	60325.05	4.25	*15.8*	25.1			3.29	30.8			
108MW01	07/19/06	60325.03	4.91	*7.68*	53.3			12.2	9.59	9.55		
108MW02	07/19/06	60325.04	4.34	*13.2*	53.8	0.11		26.4	11.2	16.1	2.3	
MW01 Duplicate*	07/19/06	60325.02	5.68	*12.1*	58.6	0.122		27.2	12.4	12.8	1.33	
108MW04	10/27/06	60468.06		2.99	19.8	0.312	0.54	6.57	20.9	5.78		7.7
108MW01	10/27/06	60468.03		*5.12*	40	0.324		5.56	0.92	2.32		10.1
108MW03	10/27/06	60468.05		*4.23*	16.6	0.28	0.73	4.93	11.3	3.41		3.57
108MW02	10/27/06	60468.04		*5.96*	50.1	0.318	0.64	4.55	6.97	1.27		7.25
108MW03	01/09/07	70013.05			13.6	0.145	1.01	4.51	15.7	1.85		3.37
108MW01	01/09/07	70013.03		*3.49*	25.1	0.104	0.35	3.79	2.66	1.57		9.58
MW01 Duplicate	01/09/07	70013.02		2.69	25.1		0.41	2.35	3.2	1.7		11.2
108MW04	01/09/07	70013.06			11.6		0.39	1.33	5.79	1.64		5.4
108MW02	01/09/07	70013.04		*3.26*	26.5	0.154	0.7	6.05	9.81	3.07	1.4	6.75

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to August 2010 at Site 108

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium
NJDEP Ground Water Quality Standard (ug/L)			6	3	6000	1	4	70	1300	5	100	40
108MW02	04/25/07	70148.04		***3.49***	35.3	0.321	0.78	0.765	10.4	3.16	2.75	11.4
MW02 Duplicate	04/25/07	70148.02			41.3	0.359	0.87	1.47	13.3	5.26	2.69	10.3
108MW03	04/25/07	70148.05			16.1	0.243	1.36	2.07	3.45		2.51	8.61
108MW04	04/25/07	70148.06			17.4	0.325	0.93	2.85	18.1	14.3	2.25	7.44
108MW01	04/25/07	70148.03		***4.55***	23.4	0.288	0.65	1.11		0.8	1.62	14.1
108MW01	08/03/07	70293.03	0.955	***10.1***	41.8			0.917	3.49			9.86
108MW03	08/03/07	70293.05		***10.6***	24.7		0.23	0.758	11.3			5.3
108MW02	08/03/07	70293.04		***6.33***	42.3		0.48	1.12	9.9	2.05	1.84	7.23
108MW04	08/03/07	70293.06		***6.59***	36.5				30.4		0.665	9.78
MW01 Duplicate	08/03/07	70293.02		***7.67***	40.8			0.259	2.77		0.336	10.3
108MW04	12/03/07	70502.06		***4.17***	9.99			1.81	29.8	6.49		3.9
108MW01	12/03/07	70502.03			22.3			1.29	1.58	0.96		
MW01 Duplicate	12/03/07	70502.02			21.7		0.32	1.19	1.93	1.47		5.03
108MW02	12/03/07	70502.04			26.4			1.15	6.92	3.07		
108MW03	12/03/07	70502.05		***3.13***	13.9		0.39	0.877	18.7	2.69		3.68
108MW02	03/06/08	80070.04	M	***5.52***	38.5		0.41	1.14	19.5	6.73	7.11	
MW01 Duplicate	03/06/08	80070.02	M		29		0.24	1.13	9.91	4.25	6.71	
108MW03	03/06/08	80070.05	0.804 M	***5.86***	31.8		1.33	1.96	29.5	1.19	6.37	
108MW01	03/06/08	80070.03	M	***4.32***	29.6		0.23	1.47	9.84	4.85	6.12	
108MW04	03/06/08	80070.06	M	***4.54***	7.68			1.2	18.3		5.78	
108MW01	04/30/08	80144.03	3.13 M	***3.82***	29.7	0.237 M	0.41	5.39	2.82	5.43	2.74 M	10.2 M
108MW03	04/30/08	80144.05	M	2.47	14.7	0.111 M	0.61	1.32	19.4	5.26	2.55 M	3.92 M
108MW02	04/30/08	80144.04	M		39.5	0.133 M	0.33	0.969	7.75	2.54	2.54 M	6.63 M
MW01 Duplicate	04/30/08	80144.02	1.57 M		3.13	0.282 M	0.35	1.42	4.49	10.9	1.97 M	8.67 M
108MW04	04/30/08	80144.06	M	***9.53***	8.87	0.147 M		0.613	5.25		1.58 M	3.12 M
108MW02	08/06/08	80282.04		***13.8***	53		1.57	1.9	3.5	5.59	2.55	4.6 M
MW01 Duplicate	08/06/08	80282.02		***5.03***	47.6		0.45	0.96	2.35	4.41	0.993	11.2 M
108MW01	08/06/08	80282.03	1.69	***4.5***	46.8		0.37	0.962	1.49	2.45	0.931	11.5 M
108MW04	08/06/08	80282.06		***4.92***	9.76		0.32	1.91	7.9		0.824	3.68 M
108MW03	08/06/08	80282.05		***6.6***	16		0.63	2.52	5.32	1.39	0.631	4 M
108MW03*	10/15/08	80370.05		***13.8***	35.7	0.411 M	1.97	26.8	60.3	12.5	5.43	3.38 M
108MW02	10/15/08	80370.04	1.65	***19.6***	74.3	0.236 M	0.46	14.3	18.1	7.42	2.51	M
108MW01*	10/15/08	80370.03		***7.7***	62.5	0.41 M	0.64	15.8	13.3	30.8	2.12	5.63 M
108MW04	10/15/08	80370.06		***3.23***	18	0.281 M	0.35	9.47	25.3	5.38	1.32	6.99 M
MW01 Duplicate*	10/15/08	80370.02		***6.93***	56.1	0.379 M	0.58	6.62	9.61	20.9	1.18	4.33 M
108MW02*	02/17/09	90057.04	***18.2*** M	***81.2*** M	40.1		M	3.28	9.93	12.6 M		***85.1*** M
108MW04	02/17/09	90057.06	***7.85*** M	***52.9*** M	14.6		M	1.57	18.5	9.74 M		***71.8*** M
108MW01	02/17/09	90057.03	***11.4*** M	***11.7*** M	41.8		M	1.07	7.85	16.1 M		***113*** M
108MW03*	02/17/09	90057.05	***19.5*** M	***124*** M	36.5		0.57 M	0.583	9.81	4.98 M		***107*** M
MW04 Duplicate*	02/17/09	90057.02	***14*** M	***72.9*** M	13.8		0.7 M	2.76	11.7	1.71 M	1.96	***43.4*** M
MW04 Duplicate*	06/30/09	90270.02	***7.37*** M	***22.6***	36.9	0.669	0.38	72.5	59.4	22.7	5.58 M	10.4 M
108MW04*	06/30/09	90270.06	1.35 M	***19.2***	33.1	0.418	0.63	30.4	81.8	25.1	5.16 M	17 M

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to August 2010 at Site 108

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium
NJDEP Ground Water Quality Standard (µg/L)			6	3	6000	1	4	70	1300	5	100	40
108MW02	06/30/09	90270.04	4.62 M	***25.1***	55.1			6.1	11.7	6.2	4.56 M	35.5 M
108MW01	06/30/09	90270.03	***6.94*** M	***28.2***	34.5				5.68	2.9	2.78 M	***40.8*** M
108MW03*	06/30/09	90270.05	***8.73*** M	***35.7***	105		0.54		8.49	1.61	2.48 M	***46.4*** M
108MW02*	08/28/09	90362.04	5.71	***58.2***	94.1	0.337	2.25	5.34	2.72	16	4.69 M	***116***
108MW01	08/28/09	90362.03	***7.06***	***32.1***	43.7	0.06			6.23	10.4	1.01 M	***77.9***
108MW03	08/28/09	90362.05		***37.7***	41.3				2.22	2.43	0.617 M	***73.1***
MW04 Duplicate*	08/28/09	90362.02	***7.4***	***36.1***	44.8			5.85	11.9	4.04	0.572 M	***81.4***
108MW04	08/28/09	90362.06	***7.58***	***31.9***	40.8			6.02	19.1	5.26	0.42 M	***89.2***
108MW01	11/06/09	90439.03	***6.34***	***10.3***	44.7	0.108		5.77	7.58	26	2.32 M	13.6 M
108MW03	11/06/09	90439.05		***6.54***	27.6						1.95 M	M
108MW02	11/06/09	90439.04		***6.42***	67.8				3.25	2.82	1.66 M	9.21 M
MW04 Duplicate	11/06/09	90439.02		***8.69***	11.2			8.51	8.03	2.98	1.58 M	9.61 M
108MW04	11/06/09	90439.06		***9.73***	10.8			3.41	11.7	3.55	1.37 M	8.1 M
LF3(1)	02/19/10	10062.04	***6.48***	***9.18***	50.2	0.11	0.51	16.2	9.64	7.6	2.89	
LF3(1)	02/19/10	10062.05	***8.66***	2.31	32.7				4.27		1.12	
LF3(1)	02/19/10	10062.06		***7.23***	5.72			3.35	7.5		0.89	
LF3(1) Duplicate	02/19/10	10062.02		***6.5***	6.03			3.92	7.22		0.796	
LF3(1)	02/19/10	10062.03		2.33	14.3			2.88	3.11		0.779	
LF4(1) Duplicate	05/07/10	10178.02	***6.41***	***5.19***	17.4	0.07		10.7	10.6 M	4.7	2.46 M	
LF4(1)	05/07/10	10178.03		***5.02***	14.8			7.14	8.56 M	3.72	1.65 M	
LF4(1)	05/07/10	10178.04	***6.32***	2.64	47.3			2.61	4.26 M		1.58 M	
LF4(1)	05/07/10	10178.05	***7.64***	***4.13***	33.4				2.55 M		1.27 M	
LF4(1) Duplicate	05/10/10	10180.02	***10.7***	2.91	23.9			1.75	1.85 M		1.27 M	
LF4(1)	05/10/10	10180.03	***12.1***	2.61	23.7			1.8	1.95 M		1.02 M	
LF5(1)	08/19/10	10352.02	***9.33***	***6.68***	62.1		1.33		7.72	5	4.45	M
LF5(1)	08/19/10	10352.04	***7.97***	***9.1***	27.4				4.7		1.23	M
LF5(1)	08/19/10	10352.03	***8.82***	***3.16***	46.2				3.95	6.91	1.21	M
LF5(1)	08/19/10	10352.01	***7.91***	1.79	29				5.26		1.05	M
		Mean	6.8	13.8	34.2	0.3	0.8	9.8	13.1	7.7	2.5	23.8
		90th Percentile	11.4	32.0	55.1	0.4	1.6	24.0	29.7	16.1	5.6	80.0
		Adjusted Mean	5.8	8.9	30.0	0.2	0.6	5.7	9.4	6.1	2.1	14.6

Notes: Adjusted mean does not include metal concentrations that exceed the 90th Percentile
1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)
2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile
3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers
4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile
5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors
M: Metal detected in method blank
* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
Building 108
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Arsenic	Lead	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*3*	*5*	*40*	*2*
108MW01			30.8	*	*
108MW02	18.2	81.2		*	*
108MW03	19.5	124		*	*
108MW04			25.1	*	*

Notes:

Results reported in µg/L.

Within the reporting period, the two highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Metals were analyzed during the entire reporting period, 4th Quarter 2008 through 3rd Quarter 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
BUILDING 283 (FTMM-61)

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
Building 283

283	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
Jan 05 - Sept 10	n=32	n=98	n=152	n=101	n=68	n=120	n=82	n=76	n=122	n=73	n=7
90th Percentile	10.84	32.23	172.60	1.37	2.07	30.62	11.86	14.49	15.46	20.04	1.87
Mean	5.54	13.68	85.11	0.58	0.82	18.60	4.87	7.28	7.30	11.27	1.55
Adjusted Mean	4.32	9.98	64.56	0.45	0.58	5.36	3.51	5.88	5.90	6.65	1.47
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for barium, cadmium, chromium, copper, nickel, selenium, and thallium are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Mean Values, or Adjusted Mean Values, Meet GWQS:

The mean value for antimony and beryllium are below their respective GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells 283MW01, 283MW02, 283MW03, 283MW04, and 283MW05 are recommended for sampling with laboratory analysis for antimony, arsenic, beryllium, and lead, along with selenium and thallium as required.

NOTE: Above sampling does not include additional wells recommended for installation.

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to September 2010 at Site 283

SiteWELL_ID	Date_Collected	Lab_ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)			6	3	6000	1	4	70	1300	5	100	40	2
283MW06	1/20/2005	50041.09			52.2								
283MW02	1/20/2005	50041.05		6.91	32					17.7			
283MW05	1/20/2005	50041.08		7.36	73.7			74.4		5.63			
MW04 Duplicate*	1/20/2005	50041.03		28.6	258	1.4		160	7.9	14	9.87		
283MW03	1/20/2005	50041.06			137						7.55		
283MW01*	1/20/2005	50041.04			170	1.39					20.7		
283MW04*	1/20/2005	50041.07		53.5	493	2.71		302	14.5	26	18.2		
283MW02	4/20/2005	50210.05		13.5	34.8			21.3		18.4			
MW02-Duplicate	4/20/2005	50210.03		13.9	34.9			16.4		19.5			
283MW06	4/20/2005	50210.09			54.2			11.8					
283MW03	4/20/2005	50210.06			79.4						7.49		
283MW04	4/20/2005	50210.07		16.4	162	0.934		93	5.02	5.78	6.13		
283MW05	4/20/2005	50210.08		10.7	83.8	0.515		78.9			5.52		
283MW01	4/20/2005	50210.04			141	1.23					17.1		
MW02-Duplicate	8/9/2005	50388.03		19.5	41.1			17.1	5.06	17.1			
283MW02	8/9/2005	50388.05		15.3	40.3			15.2		17.1			
283MW03	8/9/2005	50388.06		6.53	180						8.16		
283MW01*	8/9/2005	50388.04			234	2.17			8.93		23.2		
283MW06*	8/9/2005	50388.09		39.6	98.1	1.15	4.42	176	19.7	6.32	19.7		
283MW05*	8/9/2005	50388.08		23.2	126	0.637		86	12.7		16.5		
283MW04*	8/9/2005	50388.07		40.9	290	1.49	3.29	150	19.5	9	15		
283MW06	11/2/2005	50573.09			58.8								
283MW05	11/2/2005	50573.08			17.1								
283MW04	11/2/2005	50573.07			14.1								
283MW02	11/2/2005	50573.05		6.82	34.5			9.73		12.1			
MW02-Duplicate	11/2/2005	50573.03		6.04	37.7			11.8		12.3			
283MW03	11/2/2005	50573.06			83.3						7.15		
283MW01	11/2/2005	50573.04			143	1.11					13.9		
283MW06	1/13/2006	60030.09			52.5								
283MW02	1/13/2006	60030.05		5.97	34.3					9.2			
MW02-Duplicate	1/13/2006	60030.03		5.34	35.5			6.58		9.76			
283MW04	1/13/2006	60030.07			27.5			13.4					
283MW05	1/13/2006	60030.08			29.9			10.6					
283MW03	1/13/2006	60030.06			107						7.47		
283MW01*	1/13/2006	60030.04			205	1.96			6.81		24.4		

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to September 2010 at Site 283

SiteWELL_ID	Date_Collected	Lab_ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
283MW06*	4/18/2006	60161.09		26	109	0.918		145	13.2	1.74	9.59		
283MW03	4/18/2006	60161.06	2.3	2.67	164	0.13		1.62			7.78		
MW02-Duplicate	4/18/2006	60161.03		12.6	39.2	0.237	0.377	30.8	3.86	7.49	4.56	4.39	
283MW05	4/18/2006	60161.08		7.29	74.9	0.279		29.9	4.58		4.06		
283MW02	4/18/2006	60161.05		13.2	38.6	0.228		27.9	3.94	7.72	3.53	4.76	
283MW01*	4/18/2006	60161.04	3.13		181	1.59	0.93	1.46	3.33		22.2	3.78	
283MW04	4/18/2006	60161.07		5.87	94.3	0.493		42.8	7.77		2.94		
283MW05	7/25/2006	60335.08	2.46		19.6			1.21	1.67				
283MW03	7/25/2006	60335.06	4.73	2.49	150				1.14		6.74		
283MW02	7/25/2006	60335.05		16.2	36.6	0.202	0.863	27.7	7.94	10.4	5.48	5.91	
283MW06*	7/25/2006	60335.09		14.7	121	0.551	0.393	87.9	13.1		4.95		
MW02-Duplicate	7/25/2006	60335.03		13.1	30.2	0.144	0.574	13.2	4.47	7.84	3	4.47	
283MW01*	7/25/2006	60335.04	3.83		173	1.66	0.647	1.99	6.83		17.9		
283MW04	7/25/2006	60335.07			17.8			1.91	2.32		1.08		
283MW04	10/30/2006	60470.07			11.3	0.212	0.469	1.96				3.47	
283MW05	10/30/2006	60470.08			18.2	0.235	0.346	1.96				4.85	
283MW06	10/30/2006	60470.09			37.7	0.21	0.319	1.77				5.98	
283MW03	10/30/2006	60470.06		2.71	91.8	0.189	1.48				6.72	4.13	
283MW01	10/30/2006	60470.04			144	1.71	0.412	0.956	1.39		14.5		
283MW02	10/30/2006	60470.05		14.4	31.4	0.302	0.931	6.99	0.663	5.12	1.59	7.04	
MW02-Duplicate	10/30/2006	60470.03		13.9	30.4	0.377	0.532	5.26		5.57	1.05	7.92	
283MW06	2/1/2007	70042.09		3.91	41	0.155	0.575	2.38	2.38			3.7	
283MW02	2/1/2007	70042.05		26.9	35.7	0.133	1.54	1.87		8.78		7.82	
283MW03*	2/1/2007	70042.06		6.82	280	0.267	3.87				7.93		
283MW05	2/1/2007	70042.08		4.06	75.1	0.277	0.827	2.94	3.45		2.84		
283MW01	2/1/2007	70042.04			114	1.1		0.94	2.58		13.1		
MW02 Duplicate	2/1/2007	70042.03		29.5	37.2	0.133	2.18	2.16	0.813	9.79	1.45	6.05	
283MW04	2/1/2007	70042.07			21.1	0.203	0.958	2.32	1.51		1.27	5.3	
283MW06	5/3/2007	70161.09			22.3			1.21	1.46			4.85	
283MW03	5/3/2007	70161.06		5.2	139		1.52	1.32			7.47	3.03	
283MW01	5/3/2007	70161.04			106	0.897	0.206	0.609	2.77		12.7	5.59	
283MW05	5/3/2007	70161.08			47.1	0.159	0.41	9.88	4.29	0.93	1.61	4.74	
MW02 Duplicate	5/3/2007	70161.03		11.8	44		0.712	1.63	2.26	11.3	1.41	9.44	
283MW02	5/3/2007	70161.05		12.4	45.7		0.562	1.91	2.07	11.8	1.21	8.04	
283MW04	5/3/2007	70161.07			11.5		0.372	0.886	2.49		0.576	3.53	
283MW03	7/27/2007	70283.06		3.98	166		2.06				7.43		

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to September 2010 at Site 283

SiteWELL_ID	Date_Collected	Lab_ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
283MW01	7/27/2007	70283.04			117	1.15		1.02	3.39		12.4	4.07	
283MW05	7/27/2007	70283.08		4.19	45	0.149	0.608	4.68	4.04	1.37	1.98	3.77	
283MW02	7/27/2007	70283.05	3.13	9.41	29.8		0.373	8.61	4.23	5.54	1.7	5.84	
MW02 Duplicate	7/27/2007	70283.03		9.31	29.9		0.392	6.16	4.03	6.68	1.31	4.1	
283MW04	7/27/2007	70283.07			10.7		0.433	1.6	0.905		0.717		
283MW06	7/27/2007	70283.09			21.7			0.387	0.908		0.323		
283MW03	11/20/2007	70477.06			163	0.198				1.06	7.71		
283MW05	11/20/2007	70477.08	1.22	3.18	94.8	0.291	0.375	1.49	3.82	0.9	4.75	5.77	
283MW04	11/20/2007	70477.07	1.8	3.01	54.8	0.283	0.243	5.85	4.25	1.85	3.14	5.49	
283MW01*	11/20/2007	70477.04	3.08		138	1.52	0.927	1.16	2.84	1.72	15.5	4.86	
283MW06	11/20/2007	70477.09			42.5	0.183	0.203	1.16		0.79	1.53	5.73	
283MW02	11/20/2007	70477.05	1.37	4.8	40.2	0.176		1.87		4.13	1.26	7.61	
MW02 Duplicate	11/20/2007	70477.03		6.2	39.6	0.131		2.32		4.05	0.734	8.27	
283MW05	3/6/2008	80069.08			54.7	0.146	0.294	8.56	4.09		6.42		
283MW02	3/6/2008	80069.05		7.67	41.3			4.89	2.04	7.86	5.16	9.64	
283MW04	3/6/2008	80069.07			21.4	0.107		6.84	3.47		4.98		
283MW06	3/6/2008	80069.09			49.6	0.101	0.249	6.07	1.99		4.9	3.65	
283MW01	3/6/2008	80069.04			133	1.14	0.624	0.949	5.77		21.4		
MW01 Duplicate	3/6/2008	80069.03			134	1.16	0.581	1.1	4.08		20	4.2	
283MW03	3/6/2008	80096.06		5.62	227		0.226		1.38		12.3		
283MW05	5/2/2008	80150.08		2.76	41.8	0.224		1.09			3.16	4.24	
283MW02	5/2/2008	80150.05		23.2	38.7	0.205	0.304	2.98		8.05	2.18	9.33	
283MW04	5/2/2008	80150.07			11.8	0.214		2.03			2.15	6.65	
MW01 Duplicate	5/2/2008	80150.03			110	1.15	0.287	0.802	2.01		15.1	6.32	
283MW01	5/2/2008	80150.04			112	1.23		0.532	1.53		14.9	5.65	
283MW03	5/2/2008	80150.06		5.45	168	0.238	2.87			1.43	10.6		
283MW06	5/2/2008	80150.09		4.45	46.3	0.222	0.392	2.57	0.733		1.83	5.86	
283MW05	8/6/2008	80280.08			84	0.204	0.544	3.25	4.96		4.34	3.67	
283MW04	8/6/2008	80280.07			37.1	0.124	0.497	3.66	7.02		2.38	5.98	
283MW01	8/6/2008	80280.04			118	1.28	0.476	1.26	2.14		13.4	8.88	
MW01 Duplicate	8/6/2008	80280.03			117	1.27	0.357	1.23	2.39		12.9	3.9	
283MW03*	8/6/2008	80280.06		4.06	231		2.47				11		
283MW02	8/6/2008	80280.05		8.48	48.9		0.644	2.57		4.73	1.95	9.83	
283MW06	8/6/2008	80280.09			48		0.441	2.36	1.2		0.874	4.39	
283MW03	10/23/2008	80385.06			205	0.208					9.78		1.75
283MW02	10/23/2008	80385.05		13.3	29.7	0.203	0.28	1.8		7.34	2.45	8.33	1.48

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to September 2010 at Site 283

SiteWELL_ID	Date_Collected	Lab_ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
MW01 Duplicate	10/23/2008	80385.02		3.95	113	1.21	0.838	1.08	2.16	2.48	13	6.52	1.6
283MW01	10/23/2008	80385.04			111	1.2	0.866	1.05	1.98		12.9	6.58	
283MW05	10/23/2008	80385.08		6.81	20	0.266	0.326	0.72		2.13	1.34	4.95	1.4
283MW04	10/23/2008	80385.07			6.56	0.202	0.252	0.655		2.37	1.17	7.28	2.05
283MW06	10/23/2008	80385.09			24.8	0.24	0.232	0.659		1.8	0.96	7.72	1.55
283MW06	3/12/2009	90104.09			64.4	0.124	0.29	2.83	3.21	3.42			
283MW04	3/12/2009	90104.07			13.9		0.21	2.02	3.33			5.11	
283MW03	3/12/2009	90104.06	12.1	64	320	0.136		1.11		7.1	7.29	43.3	
MW01 Duplicate*	3/12/2009	90104.03	10.3	10.3	88.3	0.832		1.28	2.32		12.1	50.9	
283MW01	3/12/2009	90104.04		2.98	87.8	0.787		1.43	2.48	1.53	11.2	47.8	
283MW02*	3/12/2009	90104.05	1.29	39.1	37.3			14		10.4	1.64	30.3	
283MW05	3/12/2009	90104.08			49.5	0.151		1.61	2.11		0.985	20.1	
283MW01	5/19/2009	90203.04	1.2	1.2	72.6	0.713	0.606	0.663	2.49	2.62	9.8	5.02	
MW01 Duplicate	5/19/2009	90203.03	2.03	11.9	70.3	0.677	0.404	0.394	2.15		9.33		
283MW02	5/19/2009	90203.05		14.4	29.8		0.472	2.91		6.03	2.05	7.34	
283MW05	5/19/2009	90203.08	1.66	6.54	46.2	1.32	0.554	1.5	3.64		2.03	8.75	
283MW03	5/19/2009	90203.06	1.44	20.5	136		0.453			2.12	10.3	6.11	
283MW04	5/19/2009	90203.07	2.57		15.1	0.118	0.727	3.77	3.62	2.66	0.797	2.57	
283MW06	5/19/2009	90203.09	3.29	5.09	30.2		0.579	1.46	1.7		0.676	6.29	
283MW06	8/19/2009	90348.08		13.8	133	0.792	0.53	12.1	24	6.67	9.01	19.8	
283MW04	8/19/2009	90348.07		10.9	27.7	0.209		6.84	10.6		2.89		
MW06 Duplicate	8/19/2009	90348.03	4.87	11.2	91.9	0.541		11.7	16.8	3.76	2.64	18	
283MW03	8/19/2009	90348.06	4.97	20.9	407	0.279	1.23		1.09		12	8.19	
283MW01	8/19/2009	90348.04		5.48	90.2	1.01		1.58	2.78		11.6	19.3	
283MW02*	8/19/2009	90348.05	10.3	38.2	29.4			17.8	6.55	6.52	1.94	126	
283MW05*	9/17/2009	90387.01		41.6	172	1.48	2.19	272	13.2	14.7	15.4		
283MW02	11/5/2009	90437.05			49			13.5	2.11	5.53	7.75	50.7	
283MW06	11/5/2009	90437.09		30.76	106	0.461		19.2	5.7	5.25	5.3	21.4	
MW04 Duplicate	11/5/2009	90437.03		69.48	36.4	0.26		11.6	9.65		3.33		
283MW05	11/5/2009	90437.08		18.95	44.4	0.12		4.53			2.8		
283MW04	11/5/2009	90437.07		41.87	24	0.2		9.6	5		2		
283MW01	11/5/2009	90437.04		1.27	95.2	1					12.1	18	
283MW03	11/5/2009	90437.06		4.75	227	0.16					10.2		1.03
283MW02	1/26/2010	10035.05		8.38	26.3			6.12		6.95	5.12		
283MW04	1/26/2010	10035.07	5.43	38.13	22.2	0.116		4.96	6.41		4.17		
283MW06	1/26/2010	10035.09		14.32	57.4	0.198		7.7			3.76		

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to September 2010 at Site 283

SiteWELL_ID	Date_Collected	Lab_ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
MW04 Duplicate	1/26/2010	10035.03		26.55	21.5	0.093		8.28	1.32		3.46		
283MW05	1/26/2010	10035.08		4.24	17.6			1.24			2.58		
283MW01	1/26/2010	10035.04	5.09		97.8	0.901					15.5		
283MW03	1/26/2010	10035.06		3.69	307	0.12					11.1		
LF1(1)	5/17/2010	10194.08		1.15	18.5	0.053							
LF1(1)	5/17/2010	10194.07		1.44	3.76								
LF1(1)	5/17/2010	10194.06		2.22	19.1			4.11					
LF3(1)	5/17/2010	10194.04		3.59	92.8	0.054					7.5		
LF3(1) Duplicate	5/17/2010	10194.03		3.95	81.2	0.073					6.89		
LF3(1)	5/17/2010	10194.05		1.34	79.5	0.844			1.54		10.1		
LF3(1) Duplicate	5/20/2010	10204.03	10.2	23.28	23.5			1.44		10.2	2.37		
LF3(1)	5/20/2010	10204.04	6.27	22.61	23.4	0.043		1.44		11.5	2.07		
LF3(1)	9/29/2010	10416.01	14.3	3.69		0.074							
LF3(1)	9/29/2010	10416.02	8.19			0.551							
LF3(1)	9/30/2010	10419.03	10.9	0.67				8.67					
LF3(1)	9/30/2010	10419.04	9.65	1.2				8					
LF3(1)	9/30/2010	10419.06						3.38					
LF3(1)	9/30/2010	10419.07	19.1	12.98				2.84		4.13			
LF3(1)	9/30/2010	10419.05	5.14					2.68					
		Mean	5.54	13.68	85.11	0.58	0.82	18.60	4.87	7.28	7.30	11.27	1.55
		90th Percentile	10.84	32.23	172.60	1.37	2.07	30.62	11.86	14.49	15.46	20.04	1.87
		Adjusted Mean	4.32	9.98	64.56	0.45	0.58	5.36	3.51	5.88	5.90	6.65	1.47

Notes:

Adjusted mean does not include metal concentrations that exceed the 90th Percentile

1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)
2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile
3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers
4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile
5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors

M: Metal detected in method blank

* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
Building 283
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Arsenic	Beryllium	Lead	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*3*	*1*	*5*	*40*	*2*
283MW01			1.32		*	*
283MW02	19.1			11.5	*	*
283MW03	14.3	64			*	*
283MW04		69.48			*	*
283MW05			1.48	14.7	*	*
283MW06						

Notes:

Results reported in µg/L.

Within the reporting period, the two highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Metals were analyzed during the following quarters: 4th Quarter 2008 through 3rd Quarter 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
BUILDING 287

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
Building 287

287	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
Feb 05 - Sept 10	n=4	n=5	n=5	n=0	n=0	n=0	n=5	n=2	n=4	n=1	n=0
90th Percentile	13.6	8.6	58.8	NR	NR	NR	4.9	NR	1.6	1.8	NR
Mean	10.2	5.7	41.9	NR	NR	NR	3.5	NR	1.2	1.8	NR
Adjusted Mean	9.0	5.0	34.0	NR	NR	NR	3.1	NR	1.1	1.8	NR
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for barium, copper, nickel, and selenium are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring well 287MW01 is recommended for sampling with laboratory analysis for antimony and arsenic, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to September 2010 at Site 287

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)			6	3	6000	1	4	70	1300	5	100	40	2
287MW01	02/18/05	50094.03											
287MW01	06/10/05	50300.03											
287MW01	09/29/05	50495.03											
287MW01	12/05/05	50630.03											
287MW01	02/17/06	60082.03											
287MW01	06/30/06	60297.04											
MW01 Duplicate	06/30/06	60297.03											
287MW01	09/29/06	60427.03											
287MW01	12/28/06	60550.01											
287MW01	03/14/07	70097.03											
287MW01	03/30/07	70119.01											
287MW01	05/31/07	70197.03											
287MW01	09/17/07	70348.01											
287MW01	12/20/07	70549.04											
MW01 Duplicate	12/20/07	70549.03											
287MW01	03/31/08	80103.04											
MW01 Duplicate	03/31/08	80103.03											
287MW01	06/27/08	80215.03											
287MW01	09/25/08	80344.04											
MW01 Duplicate	09/25/08	80344.03											
MW01 Duplicate	12/29/08	80479.04								2.45			
287MW01	12/29/08	80479.03								2.14			
287MW01	03/27/09	90130.03											
287MW01	06/11/09	90231.04											
MW01 Duplicate	06/11/09	90231.03											
MW01 Duplicate	06/18/09	90244.03											
287MW01	06/18/09	90244.02											
287MW01	09/28/09	90401.03											
MW01 Duplicate	09/28/09	90401.02											
287MW01	11/17/09	90449.04											
MW01 Duplicate	11/17/09	90449.03											
LF1(1) Duplicate	03/22/10	10099.03	***8.89***	***8.79***	31.3				1.1		1.64		
LF1(1)	03/22/10	10099.04	5.6	***8.19***	31.3				4.34		1.48		
LF2(1) Duplicate	06/22/10	10280.03	***14***	1.58	36.9				3.86				
LF2(1)	06/22/10	10280.04	***12.5***	1.99	36.4				5.19		0.847		
LF3(1) Duplicate	09/14/10	10390.02											
LF3(1)	09/14/10	10390.03		***8.04***	73.4				3.04		1.03	1.83	

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to September 2010 at Site 287

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)			6	3	6000	1	4	70	1300	5	100	40	2
		Mean	10.2	5.7	41.9				3.5		1.2	1.8	
		90th Percentile	13.6	8.6	58.8				4.9		1.6	1.8	
		Adjusted Mean	9.0	5.0	34.0				3.1		1.1	1.8	

Notes:

Adjusted mean does not include metal concentrations that exceed the 90th Percentile

1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)
2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile
3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers
4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile
5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors

M: Metal detected in method blank

* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
Building 287
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Arsenic	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*3*	*40*	*2*
287MW01	14	8.79	*	*

Notes:

Results reported in µg/L.

Within the reporting period, the highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Metals were analyzed during the entire reporting period, 4th Quarter 2008 through 3rd Quarter 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
BUILDING 296 (FTMM-54)

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
Building 296

296	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
June 09 - Sept 10	n=56	n=100	n=174	n=47	n=128	n=103	n=90	n=56	n=154	n=58	n=4
90th Percentile	23.7	53.0	90.0	0.85	8.27	8.72	22.0	19.9	19.3	54.1	2.2
Mean	9.06	16.7	45.1	0.55	4.68	11.8	69.4	28.0	13.1	17.3	1.7
Adjusted Mean	6.31	10.53	25.4	0.19	1.59	2.34	5.1	6.97	5.6	10.2	1.5
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for barium, beryllium, chromium, copper, and nickel are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Mean Values, or Adjusted Mean Values, Meet GWQS:

The mean values for selenium and thallium are below their respective GWQS.

The adjusted mean value for cadmium is below its GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells 296MW02, 296MW03, 296MW04, 296MW06, and 296MW08 are recommended for sampling with laboratory analysis for antimony, arsenic, cadmium, and lead, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from June 2009 to September 2010 at Site 296

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP GWQS (µg/L)			6	3	6000	1	4	70	1300	5	100	40	2
296MW07	02/02/05	50061.09			7.52								
296MW06	02/02/05	50061.08			5.18								
296MW04	02/02/05	50061.07			42.3					***5.47***			
296MW03	02/02/05	50061.06			11.6		2.89						
MW06 Duplicate	02/02/05	50061.03											
296MW02*	02/02/05	50061.05				***2.74***	***6.72***	13.6		***17.3***	46		
296MW08	02/02/05	50061.10		10.7	33.4					***14.9***	16.2		
296MW01	02/02/05	50061.04			49.6						13		
296MW06	05/03/05	50234.08							22				
296MW04	05/03/05	50234.07			22.6								
296MW03	05/03/05	50234.06			8.5		2						
296MW07	05/03/05	50234.09		9	9.7			7.3					
296MW01	05/03/05	50234.04			47.3						8		
296MW02*	05/03/05	50234.05		7		***2.3***	***37.3***	11.9		***52***	29		
296MW08	05/03/05	50234.10		21	49					***25***	16		
MW08 Duplicate	05/03/05	50234.03		20	40.4		2.9			***24***	13		
296MW07	08/11/05	50398.09			6.75								
MW06 Duplicate	08/11/05	50398.03			5.09				10.8				
296MW06	08/11/05	50398.08			8.45			8.77	14.9				
296MW02	08/11/05	50398.05					2.58	6.49	9.73				
296MW01	08/11/05	50398.04			52						9.62		
296MW04	08/11/05	50398.07			93.4						7.24		
296MW03	08/11/05	50398.06			11.4		3.71				6.02		
296MW08*	08/11/05	50398.10		58.2	37.6		***18.5***			***11.5***	5.68		
296MW03	11/10/05	50587.06											
MW06 Duplicate	11/10/05	50587.03							11.8				
296MW07	11/10/05	50587.09			9.74		3.15	5.34					
296MW06	11/10/05	50587.08						10.9	16				
296MW04	11/10/05	50587.07			121						6.84	20.1	
296MW02	11/10/05	50587.05			16.3		2.45	38.2	15.9	***5.98***	6.77		
296MW01	11/10/05	50587.04			57.5						5.77		
296MW08	11/10/05	50587.10		11.3	57.3	0.592	***7.41***		10	***16.6***	10.8		
296MW08	01/19/06	60035.10			9.77		2.3			***7.76***			
296MW04	01/19/06	60035.07			20.8					***5.28***			
296MW03	01/19/06	60035.06											
296MW06	01/19/06	60035.08			6.87			8.51					
MW06 Duplicate	01/19/06	60035.03			6.71			7.1					
296MW01	01/19/06	60035.04			37.1						7.61		
296MW07	01/19/06	60035.09			17.4		2.37				5.28		
296MW02	01/19/06	60035.05			61.3		***7.95***				16.2		

Table 1. Summary of Select Metal Concentrations in Groundwater from June 2009 to September 2010 at Site 296

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
296MW04	04/19/06	60168.07	***9.4***		28.5				0.689				
296MW06	04/19/06	60168.08	4.76		5.13			1.5	13.1				
296MW03	04/19/06	60168.06	2.33		12.5	0.285	2.59	1.61			3.95		
296MW08	04/19/06	60168.10	2.17	13.1	21.5	0.118	0.502	1.3	5.77		2.43		
296MW07	04/19/06	60168.09	4.88		11.5	0.133	0.596	2.7			2.05		
296MW01	04/19/06	60168.04	2.81		69.7	0.235	0.873		0.786		17		
296MW02*	04/19/06	60168.05	4.86	5.04	106	0.787	***22.5***	6.05	14.7	***18.1***	15.4		
MW08 Duplicate	04/19/06	60168.03	***6.69***	9.76	21		0.607		5.88		1.6		
296MW01	08/11/06	60355.04	4.95		62.6		0.776				20.8		
296MW02	08/11/06	60355.05	3.56	6.28	4.87		0.487	4.8	3.29		2.09		
296MW04	08/11/06	60355.07	***7.64***		66.7		1.81	6.53	8.07	1.96	2.04		
296MW08	08/11/06	60355.10	2.9	45.6	27.6			1.59	4.2		1.32		
MW06 Duplicate	08/11/06	60355.03	4.45	4.17	4.12	0.12		17.4	11.7		1.31		
296MW03	08/11/06	60355.06	2.61		4.44		0.523	1.41			1.27		
296MW06	08/11/06	60355.08	3.89	3.3		0.145		20	14.7		1.22		
296MW07	08/11/06	60355.09	2.55	2.35	10.4		0.332	1.21			1.13		
MW06 Duplicate	12/13/06	60529.03			5.47		0.866	3.26	5.09			3.4	
296MW06	12/13/06	60529.06					0.56	2.4	3.7			4.51	
296MW04	12/13/06	60529.05		3.86	64.9		***4.86***				7.94	10.2	
296MW03	12/13/06	60529.04					2.17	1.33			2.5		
296MW02	12/15/06	60534.05		2.45	6		1.31		5.47		2.5		
296MW08	12/15/06	60534.07		36.8	46.1		***10.8***				14.8	4.16	
296MW01	12/15/06	60534.04			51.7		0.714		1.06		13.2	6.14	
MW07 Duplicate	12/15/06	60534.03		3.15	6.44		1				1.41	3.33	
296MW07	12/15/06	60534.06		2.25	7.65		1.68		0.663		1.38		
296MW04	03/05/07	70081.07	2.6		8.09		0.521	0.793	4.24			7.27	
296MW06	03/05/07	70081.08	0.912		7.71		0.789	0.765	4.23			6.06	
MW06 Duplicate	03/05/07	70081.03	1.91		8.51		0.809	10.7	6.39		6.85	5.18	
296MW01	03/05/07	70081.04			30.1		0.37	0.509	4.17		6.65	8.47	
296MW02*	03/05/07	70081.05			172		***28***	4.1	30.7		55.5	22.2	
296MW08	03/05/07	70081.10		3.09	11.1		3.92	4.48	5.13	***8.51***	2.65	4.02	
296MW07	03/05/07	70081.09		3.08	11.4		2.57	1.17	5.34		2.11	4.62	
296MW03	03/05/07	70081.06	0.755		5.97		1.6	0.948	2.26		1.82	4.9	
296MW01	06/07/07	70206.04		2.81	51.6		0.67	0.633	0.671		8.91	5.33	
296MW02	06/07/07	70206.05			9.66		3.2	1.87	5.48	1.91	7.07	3.86	
296MW08	06/07/07	70206.10		20.4	17		***8.16***	1.01		***10.9***	3.11		
296MW03	06/07/07	70206.06			11.4	0.172	2.61	1.06			3	3.51	
296MW06	06/07/07	70206.08		4.36	6.1		0.579	1.91	33.3	1.92	2.51		
MW06 Duplicate	06/07/07	70206.03		3.33	6.34		0.558	2.81	34.4	2.14	2.49	3.83	
296MW07	06/07/07	70206.09			9.86		1.21	2.12			1.66	5	
296MW04	06/07/07	70206.07		4.6	25.1		0.461	0.685	0.8		1.05	3.73	

Table 1. Summary of Select Metal Concentrations in Groundwater from June 2009 to September 2010 at Site 296

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
296MW01	09/07/07	70327.04			44.8	0.119	0.962	1.53	0.543		7.68	5.8	
MW01 Duplicate	09/07/07	70327.03		3.68	44.5	0.114	1.23	2.38	1.01	1.29	7.45	5.92	
296MW08*	09/07/07	70327.08		75.3	29.8		***11.7***			***14.6***	7.13		
296MW02*	09/07/07	70327.05		12.3	356	***1.79***	***12.1***	15.4		***16.1***	***233***		
296MW03	09/07/07	70327.06			6.02	0.155	1.85	1.31			2.88		
296MW06	09/07/07	70327.07			6.09		0.545	1.31	3.57	1.47	0.898	4.14	
MW07 Duplicate	09/17/07	70346.03			12.1		0.886	2.97	2.26		2.34		
296MW04	09/17/07	70346.04			53.4		0.291	1.26	1.06		2.15		
296MW07	09/17/07	70346.05		2.93	14.6		0.9	3.35	1.91		1.88		
296MW01	11/14/07	70466.04			43.9	0.136	0.464				6.94	5.63	
296MW02	11/14/07	70466.05			80.2	0.687	1.21	6.37	1.87		50.4		
296MW03	11/14/07	70466.06			11.7	0.439	2.13	1.91	0.98		4.77		
296MW08	11/14/07	70466.10		8.36	19.9	0.11	1.51	0.735	4.59		3.62		
MW03 Duplicate	11/14/07	70466.03			6.53	0.192	1.9	1.09			3.39		
296MW04	11/14/07	70466.07			63.6		0.497		1.14		1.47		
296MW07	11/14/07	70466.09			8.56	0.104	0.677	2.16	0.615		1.19		
296MW06	11/14/07	70466.08			4.14		0.229	3.31	3.33		1.18		
MW03 Duplicate	03/04/08	80065.03			4.29	0.108	1.5	1.56	2		6.87		
296MW03	03/04/08	80065.06			3.53		1.22	1.76	1.31		5.61		
296MW06	03/04/08	80065.08			8.19			0.587	2.35		5.33		
296MW07	03/04/08	80065.09			7.29		0.819	1.35	1.75		5.22		
296MW02*	03/04/08	80065.05		5.75	106	0.716	***13.1***	5.21		***21.7***	44		1.69
296MW04	03/04/08	80065.07			11.2		0.59	0.609	1.19	1.1	4.03		
296MW08	03/04/08	80065.10		18.7	56.3	0.109	1.01		2.08		19.6		
296MW01	03/04/08	80065.04			40.2		0.374		1.39		12.8		
296MW01	05/14/08	80161.04	1.67 M		39.9	0.135	0.294	1.27			8.53 M	4.38 M	
296MW02	05/14/08	80161.05	1.89 M	4.59	7.46		1.58	0.986	10.5	1.96	4.82 M	4.8 M	
296MW03	05/14/08	80161.06	M			0.214	1.86	0.98			4 M	4.83 M	
296MW08	05/14/08	80161.10	M	48.8	40.6	0.193	***10.1***			***11.8***	11.2 M	M	
296MW07	05/14/08	80161.09	M	4.24	7.83	0.132	1	1.24			1.88 M	M	
MW06 Duplicate	05/14/08	80161.03	1.85 M		3.18		0.239	1.42	7.33		1.56 M	M	
296MW04	05/14/08	80161.07	1.29 M		27		0.579	0.758	1.4	4.2	1.49 M	M	
296MW06	05/14/08	80161.08	M		3.09		0.265	1.04	7.03		1.48 M	3.13 M	
MW01 Duplicate	08/13/08	80295.03	M		39.2		0.54	0.571			8.96	4.67 M	
296MW01	08/13/08	80295.04	M		39		0.743	0.47			8.64	5.41 M	
296MW08*	08/13/08	80295.10	M	135	23.7		***14.2***			***11.9***	7.24	M	
296MW03	08/13/08	80295.06	M		10.4	0.167	3.91	1.46			5.59	M	
296MW02	08/13/08	80295.05	M	3.15	7.59		0.654	1.63	12.3		3.16	3.58 M	
296MW04	08/13/08	80295.07	M	2.57	112		0.94				2.01	10.6 M	
296MW06	08/13/08	80295.08	M	2.51	4.73		0.395	4.35	3.06		1.56	M	
296MW07	08/13/08	80295.09	M	5.22	22.3		1.05	0.973			0.989	M	

Table 1. Summary of Select Metal Concentrations in Groundwater from June 2009 to September 2010 at Site 296

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
296MW06	10/24/08	80386.08	M		49.6				0.959			M	
296MW08	10/24/08	80386.10	3.06 M	42.3	30.9				2.35		8.24	M	
296MW03	10/24/08	80386.06	M	3.55	5.71		1.71	1.85			2.81	M	
296MW02	10/24/08	80386.05	M	5.21	6.75		0.49	2.45	22.4		2.54	M	
MW01 Duplicate	10/24/08	80386.03	M		40.8		0.527	0.734			10.4	M	
296MW01	10/24/08	80386.04	M	2.66	40.6		0.479				10.3	M	
296MW04	10/24/08	80386.07	M		180		0.725		1.71		1.69	M	
296MW07	10/24/08	80386.09	M	3.82	41.6		0.773				0.874	M	
296MW06*	03/25/09	90122.05	***38.1*** M	67.6	102					***7.43*** M		68.9	
MW03 Duplicate	03/25/09	90122.03	***9.54*** M	19	3.42		1.41	1.57		***7.33*** M	2.01	51.5	
296MW03	03/25/09	90122.04	***9.1*** M	21.9	3.55		1.39	2.3		***5.51*** M	1.31	46.8	
296MW04*	03/26/09	90124.06	***19.4*** M	67	26.5			1.38 M	2.23	***7.39*** M		117 M	M
296MW07	03/26/09	90124.07	***21.2*** M	33.1	57.7		0.962	0.848 M		***8.39*** M		39.9 M	M
296MW02	03/26/09	90124.05	***7.54*** M	26.7	8.58		1.17	4.49 M	30.7	***7.34*** M	3.6	42.7 M	M
296MW08*	03/26/09	90124.08	***25*** M	54.3	56.2			M		***13.2*** M	17.2	45.1 M	M
MW01 Duplicate	03/26/09	90124.03	***14.6*** M	52.9	40.5		0.54	0.519 M		***7.06*** M	12.7	74.6 M	M
296MW01*	03/26/09	90124.04	***22.7*** M	56	42.2		0.206	0.342 M		***5.9*** M	12.1	92.7 M	M
MW01 Duplicate	06/02/09	90217.03	2.29	7.64	39.4	0.126			0.998		9.82		1.45 M
296MW02	06/02/09	90217.05	2.43	5.01	14.3		0.729	2.46	15.5		5.14		M
296MW08*	06/02/09	90217.10	2.53	57.1	64.5	0.178	1.03		0.921	4.25	22.6	4.46	M
296MW06	06/02/09	90217.08	2.94	6.66	4.97			2.24	17.6	1.81	2.44		M
296MW03	06/02/09	90217.06	3.05		2.09		0.689	1.98		2.56	2.1		M
296MW01	06/02/09	90217.04	1.89	11	38.8	0.101			1.34	***9.32***	10.1		1.36 M
296MW04	06/02/09	90217.07	4.06	20.3	33.3					3.92	1.91	4.8	M
296MW07*	06/02/09	90217.09	2.3	15.1	114	0.103	2.02	0.365	4.55	1.56	1.14		2.41 M
296MW03	09/17/09	90384.06	***6.05*** M	8.49	6.91	0.122	3.53	1.45	M		5.51	22.1	
296MW08	09/17/09	90384.10	M	81.1	63.5	0.083	3.88	2.63	M	***10***	16.7		
296MW01	09/17/09	90384.04	M	12.4	40.9				M		13.1	19.9	
296MW02*	09/17/09	90384.05	M	7.47	39.7	0.107	2.86	12.2	128 M	***36.1***	10.3		
296MW06*	09/17/09	90384.08	***11.0*** M	35.2	102		1.41	1.13	4.17 M	***6.43***	1.68	60.3	
MW07 Duplicate	09/17/09	90384.03	M	16.3	17.3		0.808	2.56	M		1.41		
296MW07	09/17/09	90384.09	M	11.1	14.4		0.524	2.33	M		0.925	13.4	
296MW04	09/17/09	90384.07	***7.82*** M	28	62.8				M		0.642	63.2	
296MW02	11/23/09	90456.05		2.6	15.9			1.86	62.3	2.73	6.45	11.8	
296MW03	11/23/09	90456.06		0.71	6.64		1.63				4.52		
MW07 Duplicate	11/23/09	90456.03		3.28	36.7						3.5		
296MW07	11/23/09	90456.09		2.91	37.4		0.556				3.12		
296MW08	11/23/09	90456.10		23.8	53	0.051				***6.1***	15.3		
296MW01	11/23/09	90456.04	5.41	0.74	32.9						10.9	8.29	
296MW04	11/23/09	90456.07		1.76	71.2						1.78		
296MW06	11/23/09	90456.08		1.34	10			3.21			1.21		

Table 1. Summary of Select Metal Concentrations in Groundwater from June 2009 to September 2010 at Site 296

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
296MW02*	02/02/10	10045.05		75.08	1270	***9.99***	***184***	***840***	***5440***	***1060***	***514*** M		
296MW03	02/02/10	10045.06		0.72	4.73		1.18	1.93	1.4		4.17 M		
296MW08*	02/02/10	10045.10		22.53	107	0.11	2.57			***8.58***	38.4 M		
296MW04	02/02/10	10045.07		1.48	21.1			2.1		2.4	3.05 M		
296MW07	02/02/10	10045.09		2.61	24.8			3.2			3.01 M		
MW07 Duplicate	02/02/10	10045.03		2.69	29			3.58			2.72 M		
296MW06	02/02/10	10045.08			7.39				1.22		2.66 M		
296MW01	02/02/10	10045.04		1.3	38.2						11.8 M		
LF3(1)	05/20/10	10205.01		1.31	61.4	0.075 M	0.692				18.3		
LF3(1)	05/20/10	10205.02		3.01	7.47	M			1.52		0.61		
LF3(1)	05/21/10	10208.08	***10.7***	22.9	0.73	0.044 M	2.04			4.5			
LF3(1)*	05/21/10	10208.06	***10.0***	8.84	133	0.297 M	***4.02***				46.7		
LF3(1)*	05/21/10	10208.07	***11.8***	0.83	210	0.067 M	***8.51***		47.1	4.51	23		
LF3(1) Duplicate	05/21/10	10208.03			2.33	M	0.874				1.46		
LF3(1)	05/21/10	10208.04			2.1	M					0.974		
LF3(1)	05/21/10	10208.05		13.59	5.8	0.048 M		5.79	1.17		0.716		
LF4(1)	09/10/10	10385.01	***13.6***	0.93	53.9	0.077	0.908				18.6	M	
LF4(1)*	09/13/10	10386.08	***26.6***	7.05	102	0.946	***46.2*** M		3.84	M	56.7 M	1.93 M	
LF4(1)*	09/13/10	10386.07	***17.0***	2.92	122		1.78 M		11.6	4.83 M	20.8 M	2.13 M	
LF4(1)	09/13/10	10386.05	***9.95***	19.4	73.2	0.181	3.1 M		4.02	3.38 M	20.6 M	1.57 M	
LF4(1)*	09/13/10	10386.06	***40.1***	13.46	379		2.63 M	6.61	4.92	***7.24*** M	14 M	4.72 M	
LF4(1)	09/13/10	10386.04		2.29	7.79		M		1.11	M	1.78 M	1.57 M	
LF4(1)	09/13/10	10386.09	***24.6***	2.38	82.1		1.19 M		6.8	M	1.59 M	1.98 M	
LF4(1) Duplicate	09/13/10	10386.03	***37.5***	2.68	7.6		M		1.44	M	1.23 M	1.37 M	
		Mean	9.06	16.7	45.1	0.55	4.68	11.8	69.4	28.0	13.1	17.3	1.7
		90th Percentile	23.7	53.0	90.0	0.85	8.27	8.72	22.0	19.9	19.3	54.1	2.2
		Adjusted Mean	6.31	10.53	25.4	0.19	1.59	2.34	5.1	6.97	5.6	10.2	1.5

Notes: Adjusted mean does not include metal concentrations that exceed the 90th Percentile

1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)
2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile
3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers
4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile
5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors

M: Metal detected in method blank

* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
Building 296
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Arsenic	Cadmium	Lead	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*3*	*4*	*5*	*40*	*2*
296MW01						
296MW02		75.08	184	1060	*	*
296MW03			46.2		*	*
296MW04	40.1				*	*
296MW05						
296MW06	38.1				*	*
296MW07						
296MW08		81.1		13.2	*	*

Notes:

Results reported in µg/L.

Within the reporting period, the two highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Metals were analyzed during the entire reporting period, 4th Quarter 2008 through 3rd Quarter 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
BUILDING 699 (FTMM-53)

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
Building 699

699	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
March 10 - Sept 10	n=31	n=32	n=17	n=37	n=31	n=20	n=12	n=11	n=44	n=5	n=0
90th Percentile	14.0	9.6	154.6	2.8	7.1	35.0	12.5	29.3	48.6	2.7	NR
Mean	9.2	3.9	84.5	1.4	3.2	14.2	6.7	12.0	72.9	2.2	NR
Adjusted Mean	8.5	2.2	56.8	0.9	1.9	7.0	5.3	10.1	15.8	2.1	NR
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for barium, chromium, copper, nickel, and selenium are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Mean Values, or Adjusted Mean Values, Meet GWQS:

The mean value for cadmium is below its GWQS.

The adjusted mean values for arsenic and beryllium are below their respective GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells 699MW01, 699MW02, 699MW04, 699MW05, 699MW06, 699MW08, 699MW15, 699RW03, 699RW05, 699RW11, and 616MW01 are recommended for sampling with laboratory analysis for antimony, arsenic, beryllium, cadmium, and lead, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from March 2010 to September 2010 at Site 699

Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)				6	3	6000	1	4	70	1300	5	100	40	2
MW08	LF1 (1)	03/24/10	10105.06	***9.45***			0.885	3.16				42.9		
MW05	LF1 (1)	03/24/10	10105.04	5.38	1.76				1.87			4.49		
MW05	LF(1)	03/24/10	10105.03	***9.89***	0.84	59.5			1.77	9.08		4.17		
MW12	LF1 (1)	03/24/10	10105.05	5.04			***1.03***	1.68				37.5		
MW01	699MW01	03/25/10	10108.06	5.65	***4.49***		0.428	2.13				9.24		
MW15	699MW15	03/25/10	10108.04		***4.64***				32.9		***31.1***	8.68		
MW15	Duplicate	03/25/10	10108.03		***4.25***		0.26		53.8		***19.7***	6.39		
MW02	699MW02	03/26/10	10109.04		***4.64***			1.19				5.82		
MW02	MW02	03/26/10	10109.03	***7.2***	0.67			0.938				5.25		
MW04	LF (1)	03/26/10	10109.05	***7.88***	1.11		***1.46***	***7.09***				46.7		
MW16	LF1 (1)	03/26/10	10109.07				0.654					27.5		
MW06*	699MW06	03/26/10	10109.06	***7.69***	***10.16***		0.819	1.84	***104***		***8.68***	18.7		
MW09	LF1 (1)	03/26/10	10109.08		0.65		***1.02***		2.48			10.7		
RW03	699RW03	03/31/10	10116.01	5.94		11.4	0.063	0.548	5.28	12		4.35		
RW11*	699RW11	03/31/10	10116.02				***2.46***	***17.7***			2.85	***365***		
MW02	699 MW02	06/15/10	10265.05	***7.15***	1.92		0.158	0.572			3.05	9.75		
MW12	699MW12	06/15/10	10265.07	***6.01***			***1.88***	1.75	1.3			49.4		
MW15	699MW15	06/15/10	10265.06		2.06		0.469	0.649	1.46		3.5	2.14		
MW06	699MW06	06/16/10	10268.08		2.2		0.066		7.27			4.11		
MW08	699MW08	06/16/10	10268.04	***10.5***			***2.46***	2.77				30.4		
MW08	Duplicate	06/16/10	10268.03	***12.3***	1.5		***2.51***	2.88			2.74	30.2		
MW04	699MW04	06/16/10	10268.07	***9.37***	1.18		***1.33***	1.39				14		
MW01	699MW01	06/16/10	10268.06	***7.44***	***3.07***		***1.65***					12.4		
MW09	699MW09	06/16/10	10268.09		0.77		***1.31***	0.793				11.9		
MW05	699MW05	06/16/10	10268.05	***6.14***				0.579				1.37		
RW11*	699RW11	06/17/10	10271.06	***14***	2.34		***3.96***	***14.4***	22.8		***24.2***	***663***		
RW05	699RW05	06/17/10	10271.07	***7.85***	2.02		0.069		7.97			3.45		
MW16	Duplicate	06/17/10	10271.03		1.76		0.524		1.03			20.7		
MW16	LF2 (1)	06/17/10	10271.04		1.74		0.544		1.21			20.1		
RW03*	699RW03	06/17/10	10271.05	***7.49***	***19.42***	36.9	***10.5***	***13.5***	17.2		***29.3***	***1430***		
MW15	LF3(1)	09/16/10	10396.03	***8.17***	2.27	63.6	0.088		4.15	12.6		4.07		
MW08*	LF3(1)	09/16/10	10396.05	***14.6***	1.19	405	***3.31***	3.01				34.8		
MW05*	LF3(1)	09/16/10	10396.04	***10***	1.44	181	***3.59***	1.98		1.38		19.1		
MW02	LF3(1)	09/16/10	10396.01	***15.4***	2.77	15.1	0.157	1.44		2.11		12.2		
MW12	LF3(1)	09/17/10	10398.04	***6.33***		137	***1.98***	1.67				44.3		
MW12	LF3(1)	09/17/10	10398.03			128	***1.86***	1.07		2.89		42.7	1.8	
MW06	LF3(1)	09/17/10	10398.07	***13.2***	2.04	19.9		0.552	8.12	6.86		4.6	2.62	
MW16	LF3(1)	09/17/10	10398.09			19.7	0.682	0.981		2.31		25.6		
MW09	LF3(1)	09/17/10	10398.08	***6.6***		90.5	***1.35***	1.22	1.95			12.1		

Table 1. Summary of Select Metal Concentrations in Groundwater from March 2010 to September 2010 at Site 699

Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)				6	3	6000	1	4	70	1300	5	100	40	2
MW04	LF3(1)	09/17/10	10398.06	***12.8***	***4.18***	15.1	0.078	1.4				1.95	1.77	
MW01*	LF3(1)	09/17/10	10398.05	***6.88***	***11.79***	41.9	0.1	0.835		1.28		1.49	2.7	
RW11*	699RW11	09/27/10	10413.02	***17.6***	1.61	66.7	0.585	***4.39***		2.66		83.9		
RW03	699RW03	09/27/10	10413.01	***8.4***	1.74	111	0.86	3.71	2.21	12	2.82	16.4	2.07	
RW05*	699RW05	09/30/10	10420.01	***12.8***	***23.95***	35	0.214		5.08	15.6	4.12	3.37		
			Mean	9.2	3.9	84.5	1.4	3.2	14.2	6.7	12.0	72.9	2.2	
			90th percentile	14.0	9.6	154.6	2.8	7.1	35.0	12.5	29.3	48.6	2.7	
			Adjusted Mean	8.5	2.2	56.8	0.9	1.9	7.0	5.3	10.1	15.8	2.1	

Notes: Adjusted mean does not include metal concentrations that exceed the 90th Percentile

1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)
2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile
3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers
4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile
5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors

M: Metal detected in method blank

* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
Building 699
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Arsenic	Beryllium	Cadmium	Lead	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*3*	*1*	*4*	*5*	*40*	*2*
699MW01		11.79				*	*
699MW02	15.4					*	*
699MW04				7.09		*	*
699MW05			3.59			*	*
699MW06	13.2	10.16				*	*
699MW08	14.6		3.31			*	*
699MW09							
699MW12							
699MW15					31.1	*	*
699MW16							
699RW03		19.42	10.5	13.5	29.3	*	*
699RW05		23.95			64.1	*	*
699RW11	17.6		3.96	17.7	24.2	*	*
616MW01				5.51		*	*

Notes:

Results reported in µg/L.

Within the reporting period, the four highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Metals were analyzed during the following quarters: 1st, 2nd, & 3rd Quarters 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
BUILDING 750

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
Building 750

750	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
Jan 05 - Aug 10	n=29	n=62	n=111	n=58	n=41	n=77	n=67	n=18	n=77	n=86	n=2
90th Percentile	10.64	21.05	156.00	0.89	5.43	40.62	21.14	49.26	19.70	28.58	5.28
Mean	6.72	9.47	85.59	0.82	1.90	26.80	18.84	24.85	8.35	16.98	3.62
Adjusted Mean	5.61	5.73	58.65	0.46	1.07	9.90	6.00	9.76	4.36	9.85	1.54
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for barium, beryllium, chromium, copper, nickel, and selenium are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Mean Values, or Adjusted Mean Values, Meet GWQS:

The mean value for cadmium is below its GWQS.

The adjusted mean values for antimony and thallium are below their respective GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells 750MW02, 750MW03, and 750MW04 are recommended for sampling with laboratory analysis for antimony, arsenic, cadmium, and lead, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to August 2010 at Site 750

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
** NJDEP Ground Water Quality Standards (µg/L)			6	3	6000	1	4	70	1300	5	100	40	2
750MW01	01/13/05	50023.04			108	0.65							
MW01 Duplicate	01/13/05	50023.03			106	0.665							
750MW03	01/13/05	50023.06			12.6			21.4					
750MW04	01/13/05	50023.07			13			13.1					
750MW02*	01/13/05	50023.05		*21.8*	441	*4.83*	*5.43*	*551*	106	*59.2*	36.6		
750MW01	04/15/05	50203.04			102	0.585							
750MW04	04/15/05	50203.07		*16.1*	83.6			*91.4*	20.1	*33.4*	7.2		
750MW03	04/15/05	50203.06		*14.6*	53.8	0.868		*126*	13.6	*22.7*	7.06		
750MW02	04/15/05	50203.05		*5.37*	75.3	0.697		*77.6*	15		6.3		
750MW01*	07/07/05	50339.04			236	*1.5*							
750MW02	07/07/05	50339.05			49				16				
750MW03	07/07/05	50339.06		*12*	13			28.4					
MW04 Duplicate	07/07/05	50339.03			28.6			19.2	7				
750MW04	07/07/05	50339.07			27.1			18.4	6				
750MW04	11/01/05	50571.07			24.9				7.31				
750MW03	11/01/05	50571.06			28.7								
750MW02	11/01/05	50571.05			86.4				12.3				
MW01 Duplicate*	11/01/05	50571.03			183	0.974					5.21		
750MW01*	11/01/05	50571.04			183	1					5.18		
750MW01	01/17/06	60032.04			111	0.785							
750MW04	01/17/06	60032.07			38.8								
MW04 Duplicate	01/17/06	60032.03			39.7								
750MW03	01/17/06	60032.06			19.7			31.8					
750MW02	01/17/06	60032.05		*12.6*	647	*3.04*	*5.97*	8.59		*45*	21.4		
750MW03	04/14/06	60155.06		*5.73*	10.5			44.1					
750MW04	04/14/06	60155.07	3.03		27.3			24.9	124	*14.4*			
750MW02	04/14/06	60155.05	2.63		13.4	0.356	0.378	31.3	36.5	*7.09*	5.21		
750MW01	04/14/06	60155.04	5.09		128	0.695		0.993			3.8		
MW01 Duplicate	04/14/06	60155.03	4.22		129	0.679					2.95		
750MW03	07/17/06	60320.06	2.86	*6*	14.4			19.4	3.71				
MW03 Duplicate	07/17/06	60320.03	4.78		14.2			19.2	3.78				
750MW04	07/17/06	60320.07	5.75	2.06	28.1			13.7	7.53				
750MW01	07/17/06	60320.04	*6.74*	2.26	138	0.511			2.8		3.11		
750MW02*	07/17/06	60320.05	*8.26*	*7.25*	197		0.779	3.46	30.8		23		
MW04 Duplicate	10/30/06	60471.03			24.3	0.201		5.3	3.12			9.44	
750MW02*	10/30/06	60471.05		*21.3*	275	0.346	*9.55*	12.6	11.2		57	10.9	*5.7*
750MW01	10/30/06	60471.04			111	0.743	0.623				2.07	5.13	
750MW04	10/30/06	60471.07			23	0.241	0.515	4.98	3.06		1.38	13.2	
750MW03	10/30/06	60471.06		2.41	17.5	0.247	0.457	14.6			1.21	11.9	

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to August 2010 at Site 750

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
** NJDEP Ground Water Quality Standards (µg/L)			6	3	6000	1	4	70	1300	5	100	40	2
750MW01	02/28/07	70077.04			59.1	0.311						4.13	
MW01 Duplicate	02/28/07	70077.03			59.2	0.366			0.685			4.76	
750MW03	02/28/07	70077.06			13.1			14.9	2.36			8.76	
750MW02*	02/28/07	70077.05			264	0.859	2.94	1.7	22.7	1.74	40.6	8.91	
750MW04	02/28/07	70077.07			25.9			11.1	6.1		4.96	9.95	
750MW04	05/24/07	70191.07		*5.74*	24			9.86	3.02			11.5	
750MW02*	05/24/07	70191.05		*3.82*	207	0.752	2.3	1.05	17.9	2.05	32.7	7.41	
750MW01	05/24/07	70191.04			80.5	0.342	0.442	0.611	0.718		2.11	6.44	
MW01 Duplicate	05/24/07	70191.03		*3.42*	81.7	0.318	0.484	0.972	1.14		2.1	6.42	
750MW03	05/24/07	70191.06		*8.51*	16.9		0.412	27.9	12.3		0.743	7.78	
750MW04	07/26/07	70282.07			24.6			17.7	6.43			10.7	
750MW03	07/26/07	70282.06			122	0.467	1.42	0.942	7.6	0.712	20.3	5.6	
750MW01	07/26/07	70282.04			114	0.796	0.414	0.204			2.17	3.71	
MW01 Duplicate	07/26/07	70282.03	0.776		114	0.77	0.353	0.55			2.06		
750MW02	07/26/07	70282.05			13		1.17	1.68	3.9	1.01	0.726		
750MW04	01/02/08	80001.07			24.6		0.337	4.23	9.01		6.55	4.16	
750MW02	01/02/08	80001.05			77.7	0.228	0.68		9.31		11.7		
750MW01	01/02/08	80001.04			113	0.732	0.309		0.686		1.63	4.4	
750MW03	01/02/08	80001.06			18.6		0.403	3.22	3.08		1.22	4.55	
750MW01	04/30/08	80143.04			152	0.664	0.301	0.355			4.98		
MW01 Duplicate	04/30/08	80143.03		2.97	151	0.675	0.212	0.367			4.43		
750MW04	04/30/08	80143.07			22			9.59	4.64		2.17	10.5	
750MW03	04/30/08	80143.06		*4.26*	11.4			38.5	2.6		2.04	7.32	
750MW02	04/30/08	80143.05			82.3	0.228	0.671	1.88	60.1		11.4	4.45	
750MW03	08/12/08	80292.06		*6.54*	6.21			32.6	0.978			4.43	
750MW04	08/12/08	80292.07		*5.23*	17.7			19.9	1.45			6.55	
750MW02	08/12/08	80292.05			54.8		0.678	0.569	1.44		6.09		
MW01 Duplicate	08/12/08	80292.03		2.5	135	0.513	0.489	0.407			3.05		
750MW01	08/12/08	80292.04			138	0.505	0.373	0.41			2.97		
MW01 Duplicate	10/31/08	80396.03		*6.19*	125	0.768	0.288	15.1	3.52		4.08	4.79	
750MW03	10/31/08	80396.06		*3.71*	8.88		0.333	20	1.53		2.12	7.82	
750MW02*	10/31/08	80396.05	*10.5*	*18.2*	845	*12.9*	*13.6*	*367*	522	*232*	*110*		
750MW04	10/31/08	80396.07			28.8		0.418	3.93	2.43		0.864	7.04	
750MW03*	03/31/09	90135.06	*21.1*	*73*	16.7			9.83	19.7	*6.68*		*99.3*	
750MW04*	03/31/09	90135.07	*16.8*	*79.3*	31.9			2.73	6.32			*89.6*	
750MW02	03/31/09	90135.05	1.82	*8.63*	39.8			5.31	6.42	2.03	3.16	26.8	
750MW01	03/31/09	90135.04	*7.19*	*15.6*	94.5	0.342		1.18			2.25	28.9	
MW01 Duplicate	03/31/09	90135.03	*6.6*	*17.3*	96	0.368		2.21			1.9	27.3	
750MW02	05/22/09	90210.05	2.82	*8.11*	74.9	0.2	0.314	2.04	12.1	3.67	7.62		1.54

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to August 2010 at Site 750

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
** NJDEP Ground Water Quality Standards (µg/L)			6	3	6000	1	4	70	1300	5	100	40	2
MW01 Duplicate	05/22/09	90210.03		***5.89***	65.6	0.327			0.839		2.42		
750MW03	05/22/09	90210.06	1.43	***18.8***	15.5			38.2	5.49		2.05	6.1	
750MW01	05/22/09	90210.04		***6.97***	63.1	0.318				1.75	2.02		
750MW04	05/22/09	90210.07		***22.4***	28.3			9.17	6.02	1.93	0.897	8.84	
750MW04*	08/28/09	90361.07	***6.94***	***28***	20.9			10.2	1.39			***63.7***	
750MW02	08/28/09	90361.05		***11.4***	74	0.192	***9.21***	14.7	6.86		7.83	16.2	
MW01 Duplicate	08/28/09	90361.03		***11.1***	77.7	0.251	2.36				3.2	24.1	
750MW01	08/28/09	90361.04		***11***	84.2	0.289	3.3				2.5	17.2	
750MW03*	08/28/09	90361.06	***7.72***	***25.7***	19.5			5.16	1.29		2.06	***74.4***	
750MW03	09/24/09	90397.06											
750MW02	09/24/09	90397.05											
750MW01	09/24/09	90397.04											
MW01 Duplicate	09/24/09	90397.03											
750MW04	09/24/09	90397.07											
MW05 Duplicate	11/03/09	90434.12											
750MW08	11/03/09	90434.11											
750MW07	11/03/09	90434.1											
750MW06	11/03/09	90434.09											
750MW05	11/03/09	90434.08											
750MW01	11/03/09	90434.04		1.66	97.1	0.497		4.97			5.59		
MW01 Duplicate	11/03/09	90434.03		2.22	97.2	0.408		3.1			4.94		
750MW02	11/03/09	90434.05		***3.84***	67.8	0.62	2.22	***80.1***	17.3	***5.5***	10.9		
750MW04	11/03/09	90434.07		1.31	21			6.38	1.22		1.46	21.1	
750MW03	11/03/09	90434.06	5.68	1.99	11.4			8.55	2.03		1.2	14	
750MW08	11/17/09	90447.07											
750MW07	11/17/09	90447.06											
750MW06	11/17/09	90447.05											
750MW05	11/17/09	90447.04											
MW05 Duplicate	11/17/09	90447.03											
MW01 Duplicate	01/27/10	10038.03		1.37	91.5	0.472					4.59		
750MW01	01/27/10	10038.04		1.79	86.4	0.449					3.61		
750MW03	01/27/10	10038.06		1.09	23.5			2.56			2.5		
750MW02	01/27/10	10038.05		***5.12***	128	0.402	2.65	6.54	15.8	***6.51***	14		
750MW04	01/27/10	10038.07	***7.21***		31.9						1.93		
LF1(1) Duplicate	05/04/10	10175.03		0.85	76.9	0.079					3.13		
LF1(1)	05/04/10	10175.04			72.5	0.049					2.3		
LF1(1)	05/04/10	10175.05	5.72	***3.15***	8.25			43.8	1.49		1.41		
750MW05	05/06/10	10176.06	***11.2***	2.43	62.1						4.55		
750MW06	05/06/10	10176.07	***9.05***	1.39	38.2						2.8		

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to August 2010 at Site 750

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
** NJDEP Ground Water Quality Standards (µg/L)			6	3	6000	1	4	70	1300	5	100	40	2
750MW07	05/06/10	10176.08		0.72	109	0.442					19.3		
LF1(1) Duplicate	05/06/10	10176.03		1.06	157	0.324	1.62	1.29	3.99		16		
LF1(1)	05/06/10	10176.04		1.24	156	0.31	1.82	1.19	3.33		15.5		
LF1(1)	05/06/10	10176.05	***6.26***	2.13	15.2			2.72	1.33		0.911		
LF2(1)	08/18/10	10350.05	***9.15***	2.16	17.3			5.81	2.47				
LF2(1)	08/18/10	10350.06		1.61	107	0.143	0.641				4.16		
LF2(1)	08/18/10	10350.07		0.95	96.5	0.211	1.12		5.31		10.3		
LF2(1) Duplicate	08/18/10	10350.03	***7.33***	2.67	16.1			3.81	1.95		0.637		
LF2(1)	08/18/10	10350.04	***6.25***	2.4	17.1			3.62	1.87		0.526		
		AVG	6.72	9.47	85.59	0.82	1.90	26.80	18.84	24.85	8.35	16.98	3.62
		90th Percentile	10.64	21.05	156.00	0.89	5.43	40.62	21.14	49.26	19.70	28.58	5.28
		Adjusted Mean	5.61	5.73	58.65	0.46	1.07	9.90	6.00	9.76	4.36	9.85	1.54

Notes:

Adjusted mean does not include metal concentrations that exceed the 90th Percentile

1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)

2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile

3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers

4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile

5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors

M: Metal detected in method blank

* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
Building 750
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Arsenic	Cadmium	Lead	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*3*	*4*	*5*	*40*	*2*
750MW01						
750MW02			13.6	232	*	*
750MW03	21.1	73		6.68	*	*
750MW04	16.8	79.3			*	*
750MW05						
750MW06						
750MW07						
750MW08						

Notes:

Results reported in µg/L.

Within the reporting period, the two highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Metals were analyzed during the entire reporting period, 4th Quarter 2008 through 3rd Quarter 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
BUILDING 812 (FTMM-64)

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
Building 812

812	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
May 10 - Aug 10	n=18	n=14	n=20	n=9	n=7	n=0	n=13	n=3	n=18	n=0	n=0
90th Percentile	11.88	4.85	185.30	1.57	29.82	NR	10.51	4.06	34.20	NR	NR
Mean	8.97	1.88	83.62	0.91	10.76	NR	4.61	3.37	14.24	NR	NR
Adjusted Mean	8.51	1.23	59.08	0.83	3.56	NR	2.99	2.95	9.92	NR	NR
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for barium, copper, lead, and nickel are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Mean Values, or Adjusted Mean Values, Meet GWQS:

The mean values for arsenic and beryllium are below their respective GWQS.

The adjusted mean value for cadmium is below its GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells 812MW01, 812MW04, 812MW05, 812MW08, and, 812MW14 are recommended for sampling with laboratory analysis for antimony, arsenic, beryllium, and cadmium, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from May 2010 to August 2010 at Site 812

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	1300	5	100	40	2
812	MW07	LF1(1)	05/11/10	10186.07	5.97	1.61	154	0.483				38.4		
812	MW06	LF1(1) Duplicate	05/11/10	10186.03	***7.91***		96.5	0.462				17.8		
812	MW06	LF1(1)	05/11/10	10186.04			97	0.481				17.6		
812*	MW08	LF1(1)	05/11/10	10186.05	***12.3***	1.1	90.6	***1.34***	***54***	3.22	2.48	15.5		
812	MW14	LF1(1)	05/11/10	10186.06			27.5		***13.7***			1.32		
812	MW02	LF1(1)	05/13/10	10191.05	***9.56***	1.41	17							
812	MW05	LF1(1)	05/13/10	10191.06	***6.29***		287	***1.1***		8.54		31.9		
812	MW01	LF1(1)	05/13/10	10191.04	***11.7***	1.24	7.68			1.09		1.15		
812	MW04	LF1(1)	05/13/10	10191.07	***8.73***	***3.34***	23.2			16.1		1.06		
812	MW01	LF1(1) Duplicate	05/13/10	10191.03	***6.21***	0.78	6.78					0.855		
812	MW02	LF2(1)	07/28/10	10323.05	***9.96***	1.36	19.1			1.71				
812	MW06	LF2(1)	07/28/10	10323.07	*7*		102	0.5		2		17		
812	MW08	LF2(1)	07/28/10	10323.06	***8.69***	0.63	108	***1.59***	3.09	3.89	3.41	16.1		
812	MW01	LF2(1)	07/28/10	10323.04	***11***	0.91	8.6			3		1		
812	MW01	LF2(1) Duplicate	07/28/10	10323.03	***8.04***	***6.04***	6.84					0.712		
812*	MW07	LF2(1)	08/03/10	10326.05	***7.94***	1.12	174	0.702	1.09	1.58	4.22	59.1		
812	MW05	LF2(1)	08/03/10	10326.06	***8.09***		322	***1.56***		4.5		32.4		
812*	MW04	LF2(1)	08/03/10	10326.07	***13***	***5.49***	34.7		1.1	11		2.46		
812	MW14	LF2(1) Duplicate	08/03/10	10326.03	***9.31***	0.65	45.7		1.15	1.76		1		
812	MW14	LF2(1)	08/03/10	10326.04	***9.83***	0.65	44.2		1.22	1.55		0.928		
				Mean	8.97	1.88	83.62	0.91	10.76	4.61	3.37	14.24		
				90th Percentile	11.88	4.85	185.30	1.57	29.82	10.51	4.06	34.20		
				Adjusted Mean	8.51	1.23	59.08	0.83	3.56	2.99	2.95	9.92		

Notes: Adjusted mean does not include metal concentrations that exceed the 90th Percentile

1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)
2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile
3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers
4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile
5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors

M: Metal detected in method blank

* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
Building 812
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Arsenic	Beryllium	Cadmium	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*3*	*1*	*4*	*40*	*2*
812MW01		6.04			*	*
812MW02						
812MW04	13	5.49			*	*
812MW05			1.56		*	*
812MW06						
812MW07						
812MW08	12.3		1.59	54	*	*
812MW14				13.7	*	*

Notes:

Results reported in µg/L.

Within the reporting period, the two highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Metals were analyzed during the following quarters: 2nd & 3rd Quarters 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
BUILDING 886 (FTMM-66)

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
Building 886

886	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
Feb 10 - Aug 10	n=26	n=37	n=46	n=30	n=28	n=29	n=33	n=18	n=40	n=0	n=0
90th Percentile	11.40	7.59	123.00	0.24	2.78	14.72	18.34	6.25	25.74	NR	NR
Mean	8.53	3.96	38.21	0.13	1.53	6.81	9.52	4.50	7.55	NR	NR
Adjusted Mean	8.01	3.27	26.24	0.11	1.16	5.00	7.37	4.02	4.86	NR	NR
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for barium, beryllium, cadmium, chromium, copper, and nickel are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Mean Values, or Adjusted Mean Values, Meet GWQS:

The mean value for lead is below its GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells 886MW02, 886MW03, 886RW01, 886RW02, and 886RW06 are recommended for sampling with laboratory analysis for antimony, arsenic, and lead, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2010 to August 2010 at Site 886

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100
886*	MW02	MW02 LF1(1)	2/22/2010	10063.03		2.73	141		*5.33*	1.68			34.3
886*	MW02	MW02 LF1(1)	2/22/2010	10063.04	*6.62*	2.8	130	0.0446	*5.53*	1.55			31.7
886	RW03	RW03 LF1(1)	2/22/2010	10063.06	*9.54*		128						3.04
886	RW06	RW06 LF1(1)	2/22/2010	10063.07		1.35	28.1			4.47	3.2		2.6
886	MW03	MW03 LF1(1)	2/22/2010	10063.05	*9.92*	1.77	47.2		1.72		9.33		1.81
886	MW05	MW05 LF1(1)	2/24/2010	10066.04			5.69	0.044		1.46			2.25
886	MW01	MW01 LF1(1)	2/24/2010	10066.05		*4*	15.7						1.9
886	MW05	MW05 LF1(1)	2/24/2010	10066.03			6.95			1.61			1.85
886	MW04	MW04 LF1(1)	2/24/2010	10066.06			4.38	0.091		5.52	4.38		1.66
886	RW05	RW05 LF1(1)	2/24/2010	10066.07	*6.21*		4.66	0.058		5.22	11.7		1.59
886	RW04	RW04 LF1(1)	3/2/2010	10068.06		*5.02*	28.5	0.104	1.36	5.99	6.12	3.7	6.01
886	RW01	RW01 LF1(1)	3/2/2010	10068.08		*4.39*	24.8		0.789	1.4	3.6		3.95
886	RW02	RW02 LF1(1)	03/02/10	10068.07		*4.46*	41	0.065		3.97	6.66		10.5
886	RW07	RW07 LF1(1)	03/02/10	10068.05		1.28	7.79		1.09	1.65	11.2		1.52
886	RW08	RW08 LF1(1)	03/02/10	10068.03		1.1	8.65		0.759		9.99		0.793
886	RW08	RW08 LF1(1)	03/02/10	10068.04		1.06	8.95		0.861		10.6		0.717
886	MW01	MW01 LF2(1)	05/24/10	10210.07	5.01	*9.1*	8.79	0.051	0.511		1.27	3.68	
886	MW05	MW05 LF2(1)	05/24/10	10210.06		2.78	3.83	0.053				2.82	
886	MW02	MW02 LF2(1)	05/24/10	10210.04	*10.6*	2.82	118	0.141	0.973			2.95	25.3
886	MW02	MW02 LF2(1)	05/24/10	10210.03	*12.1*	*3.01*	114	0.139	0.903		1.26		23.4
886	MW03	MW03 LF2(1)	05/24/10	10210.05	*9.76*	*5.86*	20.3	0.122	0.531	1.08	28.1	*5.09*	2.46
886	MW04	MW04 LF2(1)	05/24/10	10210.08	5.56	0.75	15	0.195					1.81
886	RW03	RW03 LF2(1)	05/25/10	10217.04	5.92	1.65	18.4						
886	RW03	RW03 LF2(1)	05/25/10	10217.03		1.61	17.6						
886	RW01	RW01 LF2(1)	05/25/10	10217.11	*8.67*	*10.75*	41.7	0.08	1.05	1.33		2.5	
886*	RW04	RW04 LF2(1)	05/25/10	10217.09		*6.6*	27.6	0.307	1.08	22.2	5.61	*5.56*	8.32
886	RW08	RW08 LF2(1)	05/25/10	10217.06	*8.41*	*3.59*	10.4	0.08	0.984	5.85	12	3.75	2.49
886	RW06	RW06 LF2(1)	05/25/10	10217.05		*4.14*	20.7	0.124		9.82	6.45	4.78	2.02
886	RW02	RW02 LF2(1)	05/25/10	10217.1	*8.76*	*9.68*	42.1	0.238	2.42	4.52	16.1	*5.42*	12.4
886	RW05	RW05 LF2(1)	05/25/10	10217.08		*5.28*	18.4	0.174	1.08	13.7	18.9	4.79	1.31
886	RW07	RW07 LF2(1)	05/25/10	10217.07	5.32	*3.16*	6.28	0.045	1.09	2.78	14.1		0.556
886	MW05	LF3(1)	08/04/10	10328.05		*3.57*	4.14				2.27		
886*	MW02	LF3(1) Duplicate	08/04/10	10328.03	*12.6*	*3.51*	144	0.092	1.21		1.27		31.2
886*	MW02	LF3(1)	08/04/10	10328.04	*10.5*	*3.01*	139	0.0887	1.28				29.7
886*	MW03	LF3(1)	08/05/10	10328.06	*10.7*	*9.07*	22.1	0.135	1.12	10.2	23	*7.09*	6.52
886*	RW08	LF3(1)	08/05/10	10328.08	*7.6*	*3.72*	22.8	0.261	1.39	18.8	30.4	*5.89*	5.43
886	MW04	LF3(1)	08/05/10	10328.11	5.1	1.2	34.8	0.229			1.31		5.28
886*	RW06	LF3(1)	08/05/10	10328.07		*5.3*	31.1	0.259		26.5	16.1	*9.54*	4.63
886	MW01	LF3(1)	08/05/10	10328.1	*9.32*	2.81	40.2				1.98		4.37
886	RW03	LF3(1)	08/05/10	10328.09	*6.76*	1.17	28			2.9	3.38		0.973

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2010 to August 2010 at Site 886

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100
886	RW04	LF3(1)	08/09/10	10336.06			23.1	0.117	0.864	9.06	4.99	2.93	4.61
886	RW07	LF3(1)	08/09/10	10336.05	***7.46***		7.66	0.113	0.503	8.57	11.3	2.62	4.6
886	RW05	LF3(1)	08/09/10	10336.04	***6.83***	***6.5***	19.4	0.12	2.68	8.45	13.7		2.94
886	RW05	LF3(1) Duplicate	08/09/10	10336.03	***9.38***	***6***	21.6	0.124	3	9.68	15.4	2.91	2.87
886	RW02	LF3(1)	08/10/10	10336.07	***12.8***		45.7	0.085	2	5.72	5.82	4.96	11
886	RW01	LF3(1)	08/10/10	10336.08	***10.2***		59.8		0.812	1.87	2.68		1.61
				AVG	8.53	3.96	38.21	0.13	1.53	6.81	9.52	4.50	7.55
				90th Percentile	11.40	7.59	123.00	0.24	2.78	14.72	18.34	6.25	25.74
				Adjusted Mean	8.01	3.27	26.24	0.11	1.16	5.00	7.37	4.02	4.86

Notes: Adjusted mean does not include metal concentrations that exceed the 90th Percentile
1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)
2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile
3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers
4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile
5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors
M: Metal detected in method blank
* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
Building 886
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Arsenic	Lead	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*3*	*5*	*40*	*2*
886MW01					
886MW02	12.6			*	*
886MW03			7.09	*	*
886MW04					
886MW05					
886RW01		10.75		*	*
886RW02	12.8	9.68		*	*
886RW03					
886RW04					
886RW05					
886RW06			9.54	*	*
886RW07					
886RW08					

Notes:

Results reported in µg/L.

Within the reporting period, the two highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Metals were analyzed during the following quarters: 1st, 2nd, & 3rd Quarters 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
BUILDING 2567 (FTMM-58)

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
Building 2567

2567	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
March 10 - Sept 10	n=17	n=20	n=27	n=19	n=3	n=6	n=17	n=3	n=18	n=4	n=0
90th Percentile	14.5	2.6	975.0	0.5	1.5	9.4	12.7	10.9	11.5	1.9	NR
Mean	9.7	1.8	347.6	0.2	1.1	5.7	4.7	8.4	7.1	1.7	NR
Adjusted Mean	8.7	1.3	251.5	0.2	1.0	4.5	3.4	6.6	6.3	1.7	NR
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for arsenic, barium, beryllium, cadmium, chromium, copper, nickel, and selenium are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells 2567MW01, 2567MW02, 2567MW03, and 2567MW05 are recommended for sampling with laboratory analysis for antimony and lead, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from March 2010 to September 2010 at Site 2567

SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium
NJDEP Ground Water Quality Standards (µg/L)			6	3	6000	1	4	70	1300	5	100	40
MW02 LF1(1) Duplicate	3/4/2010	10069.03	6.13	0.91	407							
MW02 LF1(1)	3/4/2010	10069.04		1.01	377							
MW06 LF1(1)	3/4/2010	10069.06		0.89	67.1	0.558		3.18	1.35		9.8	
MW07 LF1(1)	3/4/2010	10069.07		0.64	223	0.218			4.06		15.6	
MW04 LF1(1)	3/4/2010	10069.05	5.51	2.37	74.3	0.378	0.581	1.78	1.39		11.4	
MW01 LF1(1)	3/4/2010	10069.08	6.88	1.14	845						1.02	
MW03 LF1(1)	3/5/2010	10073.05			195							
MW05 LF1(1) Duplicate	3/5/2010	10073.03		0.71	106	0.201	1.36		5.22		11.7	
MW05 LF1(1)	3/5/2010	10073.04			105	0.237	1.48		5.22		11.1	
MW02 LF2(1)	6/8/2010	10248.04	9.73	0.7	340	0.136						
MW02 LF2(1) Duplicate	6/8/2010	10248.03	9.89	1	339	0.149						
MW06 LF2(1)	6/8/2010	10248.06			64.5	0.499			1.21		8.18	
MW05 LF2(1)*	6/8/2010	10248.08		1.3	49.5	0.444		11.4	16.6	11.9	6.93	
MW07 LF2(1)	6/8/2010	10248.07	5.5	2.71	71.5	0.188			2.15		5.22	
MW04 LF2(1)	6/8/2010	10248.05	6.42	1.8	136	0.319					10.9	
MW03 LF2(1)	6/9/2010	10251.05	9.45		382	0.041						
MW01 LF2(1)	6/9/2010	10251.04	10.7		1120	0.059						
MW01 LF2(1) Duplicate	6/9/2010	10251.03	12.6	0.69	1110	0.065						
LF3(1)	9/15/2010	10392.07	7.47	8.2	172	0.043			2.39		9.89	1.43
LF3(1)	9/15/2010	10392.06		1.37	64.5	0.112		3.47	3.37		4.92	
LF3(1)	9/15/2010	10392.05	8.64	2.22	175	0.199			2.15		3.69	
LF3(1)*	9/15/2010	10392.08	16.5		1120				2.46		3.11	
LF3(1) Duplicate	9/15/2010	10392.03	11.1	1.06	443				2.32		1.63	1.8
LF3(1)	9/15/2010	10392.04	13.2	1.46	434				3.02		1.07	1.96
LF3(1)	9/16/2010	10395.05	18.7		885				1.54			
LF3(1)	9/16/2010	10395.04		2.57	41.5	0.357		7.39	13.1	7.02	6.07	1.74
LF3(1) Duplicate	9/16/2010	10395.03	7.31	2.41	38.1	0.332		6.77	12.5	6.19	5.34	
		Mean	9.7	1.8	347.6	0.2	1.1	5.7	4.7	8.4	7.1	1.7
		90th Percentile	14.5	2.6	975.0	0.5	1.5	9.4	12.7	10.9	11.5	1.9
		Adjusted Mean	8.7	1.3	251.5	0.2	1.0	4.5	3.4	6.6	6.3	1.7

Notes: Adjusted mean does not include metal concentrations that exceed the 90th Percentile

1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)

2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile

3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers

4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile

5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors

M: Metal detected in method blank

* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
Building 2567
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Lead	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*5*	*40*	*2*
2567MW01	18.7		*	*
2567MW02		6.79	*	*
2567MW03	16.5		*	*
2567MW04				
2567MW05		59.9	*	*
2567MW06				
2567MW07				

Notes:

Results reported in µg/L.

Within the reporting period, the two highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Lead was analyzed during the following quarters: 4th Quarter 2008 through 3rd Quarter 2010.

Antimony was analyzed during the following quarters: 1st quarter through 3rd Quarter 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
M-2 Landfill (FTMM-02)

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
M-2 Landfill

M-2	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
March 09 - Sept 10	n=62	n=58	n=65	n=1	n=20	n=8	n=14	n=29	n=16	n=19	n=2
90th Percentile	22.6	74.1	275.4	0.0	1.65	0.81	3.47	10.94	3.40	112.2	1.70
Mean	14.0	24.1	111.5	0.0	0.96	0.54	1.81	5.49	1.40	86.5	1.18
Adjusted Mean	12.39	17.85	86.34	0.05	0.82	0.43	1.45	4.60	0.85	82.96	0.53
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for barium, beryllium, cadmium, chromium, copper, nickel, and thallium are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Mean Values, or Adjusted Mean Values, Meet GWQS:

The adjusted mean value for lead is below its GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells M2MW03, M2MW06, M2MW07, M2MW09, M2MW11, M2MW21, M2MW23, and M2MW24 are recommended for sampling with laboratory analysis for antimony, arsenic, and lead, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from March 2009 to September 2010 at Site M-2

Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)				6	3	6000	1	4	70	1300	5	100	40	2
MW07	LF1(1)	03/28/09	90131.07	*18.5* M	84.3	85.7			M		5.47 M		85.6 M	M
MW11	LF1(1) Duplicate	03/28/09	90131.03	*15.8* M	66.1	28.1		0.344	M	0.9	14.4 M		84.9 M	M
MW06*	LF3(1)	03/28/09	90131.06	*23.5* M	74.1	95.4			M		3.11 M		117 M	M
MW11	LF1(1)	03/28/09	90131.05	*27* M	56.7	28.1			M	0.92	2.24 M		111 M	M
MW09*	LF3(1)	03/28/09	90131.04	*13.5* M	90.1	42.2			0.442 M	1.05	2.01 M		117 M	M
MW08	LF1(1)	03/30/09	90133.09	*21.9* M	62.7	121			M		7.38 M		96.3 M	M
MW21*	LF1(1)	03/30/09	90133.11	*30* M	81.5	324			M		13.1 M		78.2 M	M
MW13	LF1(1)	03/30/09	90133.04	*19.4* M	74.1	153			M		5.49 M		108 M	M
MW10	LF1(1)	03/30/09	90133.05	*19.8* M	70.4	56.8			M		4.78 M		102 M	M
MW12	LF1(1)	03/30/09	90133.06	*22* M	66	30.1			M	1.14	2.44 M		101 M	M
MW23	LF1(1) Duplicate	03/30/09	90133.03	*22.1* M	74	235			0.598 M		6.39 M		96.7 M	M
MW04	LF1(1)	03/30/09	90133.1	*18* M	56.9	74.7			0.538 M		6.55 M		85.6 M	M
MW03*	LF1(1)	03/30/09	90133.07	*28* M	101	96.1			0.395 M		4.59 M		102 M	M
MW23*	LF1(1)	03/30/09	90133.08	*26.3* M	93.9	227			0.365 M		10.7 M		84.2 M	M
MW24*	LF1(1)	03/30/09	90133.12	*26.8* M	71.9	279			0.346 M		11.9 M		76 M	M
MW05	LF1(1)	03/31/09	90137.04	*12.8* M	52	93.9			M		2.68 M		58.8	
MW22	LF1(1)	03/31/09	90137.06	*8.77* M	38.4	68.4			M		4.63 M		46.9	
MW02*	LF1(1) Duplicate	03/31/09	90137.03	*15.3* M	65.7	297			1.29 M		M		51.9	
MW02*	LF1(1)	03/31/09	90137.05	*20.3* M	65.3	285			0.353 M		7.16 M		41.2	
MW24	M2 MW24	06/19/09	90249.11											
MW09	MW09 LF4(1)	03/08/10	10075.07	5.73	1.04	56.9				M				
MW07	MW07 LF2(1)	03/08/10	10075.05	*6.06*		82.9				M				
MW10	MW10 LF2(1)	03/08/10	10075.08			27.1				M				
MW08	MW08 LF2(1)	03/08/10	10075.06			99.8				M				
MW05	MW05 LF2(1)	03/08/10	10075.04		1.44	149		0.677		M				
MW05	MW05 LF2(1)	03/08/10	10075.03		1.26	147		0.665		M		0.515		0.53
MW03	MW03 LF2(1)	03/09/10	10077.08	*6.21*	0.75	270		0.6		M				
MW06	MW06 LF4(1)	03/09/10	10077.06		0.66	205		0.614		M				
MW13	MW13 LF2(1)	03/09/10	10077.05		2.53	138				M				
MW12	MW12 LF2(1)	03/09/10	10077.04		0.69	30				M				
MW12	MW12 LF2(1)	03/09/10	10077.03			29.4				M				
MW02	MW02 LF2(1)	03/09/10	10077.07	5.19	1.05	266				M		5.64		
MW04	MW04 LF2(1)	03/10/10	10082.03			30.6							M	
MW04	MW04 LF2(1)	03/10/10	10082.04			51.8						0.786	M	
MW11	MW11 LF2(1)	03/10/10	10082.08	*7.22*		20.5						0.701	M	
MW22	MW22 LF2(1)	03/10/10	10082.09			58.4						0.634	M	
MW24	MW24 LF2(1)	03/10/10	10082.07										M	
MW23	MW23 LF2(1)	03/10/10	10082.06										M	
MW21	MW21 LF2(1)	03/10/10	10082.05										M	
MW07	MW07 LF3(1)	06/10/10	10259.07	*10.1*	0.9	131	M			M				
MW10	MW10 LF3(1)	06/10/10	10259.03	*12.7*	0.66	28	M			M				1.83
MW10	MW10 LF3(1)	06/10/10	10259.04	*7.21*	0.94	22.8	M			M				
MW08	MW08 LF3(1)	06/10/10	10259.06	*9.29*		67.4	M			M				
MW09	MW09 LF5(1)	06/10/10	10259.05	*6.82*		30.5	M			M		0.597		
MW06	MW06 LF5(1)	06/11/10	10261.06	*10.2*	1.01	125	M			M				

Table 1. Summary of Select Metal Concentrations in Groundwater from March 2009 to September 2010 at Site M-2

Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
MW03	MW03 LF3(1)	06/11/10	10261.07	***13***	0.71	74.7	M			M				
MW12	MW12 LF3(1)	06/11/10	10261.04	***6.79***	1.5	27.2	M			M				
MW12	MW12 LF3(1)	06/11/10	10261.03	***7.79***	0.7	26.6	M			M				
MW13	MW13 LF3(1)	06/11/10	10261.05	***8.58***	1.96	108	M			M				
MW21	MW21 LF3(1)	06/11/10	10261.08	***10.03***	1.3		M			M				
MW23	MW23 LF3(1)	06/11/10	10261.09	***10.4***	1.78		M			M				
MW05	MW05 LF3(1)	06/14/10	10264.04	***7.58***	1.94	115	M	0.991		M	2.74			
MW04	MW04 LF3(1)	06/14/10	10264.08	***8.09***	1.27	81	M			M				
MW11	MW11 LF3(1)	06/14/10	10264.09	***9.12***	0.93	26.1	M			M				
MW02	MW02 LF3(1)	06/14/10	10264.06	***9.56***	1.37	289	0.049 M	1.62		M	3.96	1.55		
MW22	MW22 LF3(1)	06/14/10	10264.05	***11.3***	0.94	71.2	M	0.802		M		1.55		
MW05	MW05 LF3(1)	06/14/10	10264.03	***10.4***	1.59	113	M	0.897		M		0.711		
MW24	MW24 LF3(1)	06/14/10	10264.07	***11.5***	0.83		M			M	2.85			
MW05	LF4(1) Duplicate	09/22/10	10404.03	***10.9***	1.26	86		0.822		1.56	3.19 M			
MW08	LF4(1)	09/22/10	10404.06	***13.1***		55.3		0.863		1.49	M			
MW05	LF4(1)	09/22/10	10404.04	***12***	1.35	88.2		0.981		1.58	M	0.953		
MW07	LF4(1)	09/22/10	10404.05	***12.6***		67.4		0.569		1.51	2.66 M	0.407		
MW09	LF6(1)	09/22/10	10404.07	***12.2***	6.82						M			
MW12	LF4(1)	09/23/10	10409.05	***11.1***	M	32.8								
MW10	LF4(1)	09/23/10	10409.04	***15.6***	0.87 M	29.1		0.503						
MW10	LF4(1) Duplicate	09/23/10	10409.03	***17.9***	M	29.9								
MW03*	LF4(1)	09/23/10	10409.08	***20.4***	2.91 M	137		0.529		4.02		5		
MW04	LF4(1)	09/23/10	10409.09	***11***	0.77 M	116		0.938		1.82		0.555		
MW13	LF4(1)	09/23/10	10409.06	***13.8***	1.57 M	111		1.04		1.45	3.84	0.452		
MW06	LF6(1)	09/23/10	10409.07	***10.3***	0.67 M									
MW22	LF4(1)	09/24/10	10410.09	***10.8***	M	77		1.32		1.54	2.56			
MW11	LF4(1)	09/24/10	10410.08	***15.4***	0.97 M	32.9								
MW21*	LF4(1)	09/24/10	10410.05	***22.6***	1.21 M	467		1.95		3.91	8.96	1.79		
MW24*	LF4(1)	09/24/10	10410.07	***16.7***	0.92 M	297		2.44		2.44	6.24	0.629		
MW02	LF4(1) Duplicate	09/24/10	10410.03	***11***	0.78 M									
MW23	LF4(1)	09/24/10	10410.06	***13.2***	1.18 M						3.75			
MW02	LF4(1)	09/24/10	10410.04	***14.4***	0.72 M						3.32			
			Mean	14.0	24.1	111.5	0.0	0.96	0.54	1.81	5.49	1.40	86.5	1.18
			90th Percentile	22.6	74.1	275.4	0.0	1.65	0.81	3.47	10.94	3.40	112.2	1.70
			Adjusted Mean	12.39	17.85	86.34	0.05	0.82	0.43	1.45	4.60	0.85	82.96	0.53

Adjusted mean does not include metal concentrations that exceed the 90th Percentile

Notes:
1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)
2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile
3) Concentrations highlighted in red exceed exceed the 90th Percentile and are deemed to be extreme outliers
4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile
5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors
M: Metal detected in method blank
* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
M-2 Landfill
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Arsenic	Lead	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*3*	*5*	*40*	*2*
M2MW02					
M2MW03	28	101		*	*
M2MW04					
M2MW05					
M2MW06	117			*	*
M2MW07		84.3		*	*
M2MW08					
M2MW09		90.1		*	*
M2MW10					
M2MW11	27		14.4	*	*
M2MW12					
M2MW13					
M2MW21	30		13.1	*	*
M2MW22					
M2MW23		93.9	10.7	*	*
M2MW24			11.9	*	*

Notes:
Results reported in µg/L.
Within the reporting period, the four highest concentrations are listed for each parameter.
Shaded rows indicate monitoring wells recommended for metals analysis.
Metals were analyzed during the following quarters: 1st Quarter 2009; 1st, 2nd, & 3rd Quarters 2010.
*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
M-3 Landfill (FTMM-03)

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
M-3 Landfill

M-3	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se	Tl
June 09 - Sept 10	n=21	n=16	n=32	n=13	n=21	n=3	n=23	n=16	n=30	n=0	n=1
90th Percentile	17.80	2.27	347.50	0.18	7.75	4.74	10.75	6.21	79.77	NR	0.79
Mean	13.09	1.41	203.01	0.13	3.38	3.15	5.46	4.31	20.36	NR	0.79
Adjusted Mean	12.40	1.13	160.94	0.12	2.47	2.11	3.41	3.89	13.45	NR	NA
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for arsenic, barium, beryllium, chromium, copper, nickel, and thallium are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Mean Values, or Adjusted Mean Values, Meet GWQS:

The mean values for cadmium and lead are below their respective GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells M3MW04, M3MW05, M3MW08, and M3MW09 are recommended for sampling with laboratory analysis for antimony, cadmium, and lead, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from June 2009 to September 2010 at Site M-3

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	2
M3	MW04	LF1(1)	03/11/10	10086.04			65.2	0.181	0.781				22.1	
M3	MW04	LF1(1) Duplicate	03/11/10	10086.03			64.8	0.197					21.6	
M3	MW06	LF1(1)	03/11/10	10086.06			11.8			2.71			2.44	
M3	MW08	LF1(1)	03/11/10	10086.05			185		0.588				1.55	
M3	MW11	LF1(1)	03/16/10	10091.04			169				6.73		79.5	
M3	MW11	LF1(1) Duplicate	03/16/10	10091.03			141				8.25		64.1	
M3	MW09	LF1(1)	03/16/10	10091.07			281		1.54		11	2.56	4.66	
M3*	MW05	LF1(1)	03/16/10	10091.06	5.8	2.37	64			5.25	2.07	2.59	3.86	
M3	MW10	LF1(1)	03/16/10	10091.05			242						1.35	
M3	MW07	LF1(1)	03/16/10	10091.08	10.5		116						1.24	
M3	MW08	LF2(1)	06/18/10	10273.05	13.8		210	0.042	1.51		2.69	4.43		
M3	MW04	LF2(1) Duplicate	06/18/10	10273.03	10.6	0.96	243	0.159	7.75			3.68	83.3	
M3	MW04	LF2(1)	06/18/10	10273.04	10	1.53	224	0.171	7.07				77.8	
M3	MW07	LF2(1)	06/18/10	10273.07	15.8		145		0.616		2.38	3.34	2.26	
M3	MW06	LF2(1)	06/18/10	10273.06			11.9			1.5	1		2.22	
M3	MW10	LF2(1)	06/24/10	10285.05	13.7		527	0.125	3.56		4.49	6.17		
M3	MW11	LF2(1) Duplicate	06/24/10	10285.03	11.3	0.72	184	0.119	2.78		4.31	3.08	4.61	0.79
M3	MW11	LF2(1)	06/24/10	10285.04	9.9		189	0.143	2.32		4.58	3.41	4.1	
M3	MW09	LF2(1)	06/24/10	10285.07	9.34		280	0.134	4.28		9.77	4.08	0.889	
M3	MW05	LF2 (1)	06/24/10	10285.06	9.81		237	0.119	2.69		4.42	4.53	0.503	
M3	MW02	MW02 Duplicate	08/20/10	10355.03		1.31	36.9				21.7		26.4	
M3	MW02	M3MW02	08/20/10	10355.04		0.78	37.8	0.054			24.7		25.7	
M3	MW07A	M3MW07A	08/20/10	10355.05	12.9	1.82	96.3		0.595		1.89		1.26	
M3*	MW04	LF3(1) Duplicate	09/07/10	10377.03	12.7	1.09	302	0.1	12			3.37	82.3	
M3*	MW04	LF3(1)	09/07/10	10377.04	18.8	0.68	301	0.116	12		1.16		82.2	
M3	MW06	LF3(1)	09/07/10	10377.06	10.9	2.17	10.6		0.575		1.88	3.66	4.58	
M3*	MW08	LF3(1)	09/07/10	10377.05	16.9	4.31	485		3.68		2.64	8.37	3.08	
M3	MW11	LF3(1)	09/07/10	10377.07	16.4	0.87	201		0.752		1.3		2.23	
M3	MW07	LF3(1)	09/07/10	10377.11	17.8	0.72	150				1.19		1.52	
M3	MW09	LF3(1)	09/07/10	10377.1	10.6	0.67	307		1.9		3.25	3.29	1.42	
M3*	MW05	LF3 (1)	09/07/10	10377.09	20.4	1.44	352		1.89		2.1	6.21	1.1	
M3	MW10	LF3(1)	09/07/10	10377.08	16.9	1.04	626		2.01		2.18	6.2	0.952	

Table 1. Summary of Select Metal Concentrations in Groundwater from June 2009 to September 2010 at Site M-3

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	2
				Mean	13.09	1.41	203.01	0.13	3.38	3.15	5.46	4.31	20.36	0.79
				90th Percentile	17.80	2.27	347.50	0.18	7.75	4.74	10.75	6.21	79.77	0.79
				Adjusted Mean	12.40	1.13	160.94	0.12	2.47	2.11	3.41	3.89	13.45	

Notes: Adjusted mean does not include metal concentrations that exceed the 90th Percentile

1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)
2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile
3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers
4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile
5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors

M: Metal detected in method blank

* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
M-3 Landfill
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Cadmium	Lead	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*4*	*5*	*40*	*2*
M3MW03					
M3MW04	18.8	12		*	*
M3MW05	20.4		6.21	*	*
M3MW06					
M3MW07					
M3MW07A					
M3MW08			8.37	*	*
M3MW09		4.28		*	*
M3MW10					
M3MW11					

Notes:

Results reported in µg/L.

Within the reporting period, the two highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Metals were analyzed during the following quarters: 1st Quarter 2009; 1st, 2nd, & 3rd Quarters 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
M-4 Landfill (FTMM-04)

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
M-4 Landfill

M-4	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
Jan 05 - Aug 10	n=43	n=40	n=120	n=53	n=47	n=19	n=12	n=19	n=53	n=39	n=2
90th Percentile	14.40	28.47	272.00	0.68	8.43	3.16	2.27	15.02	8.84	38.28	1.98
Mean	8.15	15.16	124.00	0.42	3.10	2.19	1.67	7.29	4.33	16.73	1.81
Adjusted Mean	6.10	6.89	66.31	0.32	2.05	0.92	1.46	4.63	3.41	9.95	1.59
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for barium, beryllium, chromium, copper, nickel, selenium, and thallium are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Mean Values, or Adjusted Mean Values, Meet GWQS:

The mean value for cadmium is below its GWQS.

The adjusted mean value for lead is below its GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells M4MW08, M4MW09, and M4MW10 are recommended for sampling with laboratory analysis for antimony, arsenic, cadmium, and lead, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to August 2010 at Site M-4

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
M4	MW08	M4MW08	01/05/05	50005.06			56.4								
M4	MW09	M4MW09	01/05/05	50005.05			47.9								
M4	MW10	M4MW10	01/05/05	50005.04			147								
M4	MW07	M4MW07	01/05/05	50005.03			38.2						5.38		
M4	MW10	M4MW10	04/05/05	50185.06			49.5								
M4	MW09	M4MW09	04/05/05	50185.05			53.8								
M4	MW08	M4MW08	04/05/05	50185.04			58.6								
M4	MW07	M4MW07	04/05/05	50185.03			14.3								
M4	MW08	MW08 Duplicate	04/05/05	50185.02			81.9								
M4	MW10	M4MW10	07/07/05	50338.06			87.1		2.5						
M4	MW09	M4MW09	07/07/05	50338.05			40.8								
M4	MW08	M4MW08	07/07/05	50338.04			55.7								
M4	MW09	MW09 Duplicate	07/07/05	50338.02			41.7								
M4	MW07	M4MW07*	07/07/05	50338.03			106	0.7					13		
M4	MW10	M4MW10	10/18/05	50534.06			47.8								
M4	MW09	M4MW09	10/18/05	50534.05			39.1								
M4	MW08	M4MW08	10/18/05	50534.04			51.3								
M4	MW07	M4MW07	10/18/05	50534.03			25.3								
M4	MW08	MW08 Duplicate	10/18/05	50534.02			57.1								
M4	MW10	M4MW10	01/05/06	60011.06			73								
M4	MW09	M4MW09	01/05/06	60011.05			50.6								
M4	MW08	M4MW08	01/05/06	60011.04			63.4								
M4	MW07	M4MW07	01/05/06	60011.03			23.9								
M4	MW09	MW09 Duplicate	01/05/06	60011.02			52.8								
M4	MW10	M4MW10	04/05/06	60139.06			448	0.523	0.983						
M4	MW09	M4MW09	04/05/06	60139.05	2.55		56.4								
M4	MW08	MW08 Duplicate	04/05/06	60139.02	5.16		72.8		0.329						
M4	MW08	M4MW08	04/05/06	60139.04	5.85		116		0.331						
M4	MW07	M4MW07	04/05/06	60139.03			24.3	0.214	0.665				4.05		
M4	MW10	M4MW10	07/07/06	60302.06	3.99		244	0.469			2.02				
M4	MW09	M4MW09	07/07/06	60302.05	3.92	2.67	40.3				1.14				
M4	MW08	MW08 Duplicate	07/07/06	60302.02	5.68		66.5				1.51				
M4	MW08	M4MW08	07/07/06	60302.04	6.76		62.6				1.44				
M4	MW07	M4MW07	07/07/06	60302.03	3.54	2.87	81.6	0.501	1.6		1.12		10.5		
M4	MW10	MW10 Duplicate	10/11/06	60444.02			92.5	0.122	3.13					3.97	
M4	MW10	M4MW10	10/11/06	60444.06		2.55	150	0.261	4.01					3.17	
M4	MW08	M4MW08	10/11/06	60444.04		2.79	59.2		2.06					8.48	
M4	MW09	M4MW09	10/11/06	60444.05			56.9		1.56					6.8	
M4	MW07	M4MW07	10/11/06	60444.03			57.5	0.353	1.02		1.5		8.76	5.13	

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to August 2010 at Site M-4

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
M4	MW10	M4MW10	01/04/07	70003.06		4.51	453	0.571	6.56						
M4	MW08	MW08 Duplicate	01/04/07	70003.02	9.38	5.44	121		8.72					7.88	
M4	MW09	M4MW09	01/04/07	70003.05			55.6		1.09					5.66	
M4	MW07	M4MW07	01/04/07	70003.03			20	0.16					2.49		
M4	MW08	M4MW08	01/04/07	70003.04	7.76	4.89	106		8.24				1.13	8.85	
M4	MW08	MW08 Duplicate	04/03/07	70122.02	1.73	5.75	419	0.519	7.98	0.381		4.5		9.2	
M4	MW08	M4MW08*	04/03/07	70122.04		6.42	726	0.979	15.9	0.55	1.61	10.2	3.16	8.21	
M4	MW07	M4MW07	04/03/07	70122.03			10.4	0.146	0.346	0.335			1.89	4.71	
M4	MW10	M4MW10	04/03/07	70122.06		4.5	300	0.549	5.74			5.35	1.41	7.74	
M4	MW09	M4MW09	04/03/07	70122.05			49.3	0.25	1.03				1.24	10.6	1.59
M4	MW07	M4MW07	07/10/07	70249.03			45.7	0.183	0.664				4.69	4.73	
M4	MW08	M4MW08*	07/10/07	70249.04		6.42	689	0.666	10.8			7.06	1.29	13.2	
M4	MW09	M4MW09	07/10/07	70249.05			37.3		0.74				1.22	11	
M4	MW10	M4MW10	07/10/07	70249.06		5.14	186	0.345	5.6			2.23	0.923	12.5	
M4	MW08	MW08 Duplicate*	07/10/07	70249.02		9.9	1120	1	14.8	1.39	1.84	28.7	0.459	8.98	
M4	MW09	M4MW09	10/03/07	70369.05	2.69		40.9	0.14							
M4	MW10	M4MW10	10/03/07	70369.06			113	0.239							
M4	MW08	M4MW08	10/03/07	70369.04	10.3		92.7								
M4	MW08	MW08 Duplicate	10/03/07	70369.02	10.9		93.2								
M4	MW07	M4MW07	10/03/07	70369.03	3.96		87.4	0.673	0.903	0.407			10.1		
M4	MW08	M4MW08*	01/08/08	80010.04	48.8		81.1	0.171	0.508						
M4	MW09	M4MW09	01/08/08	80010.05			62.4	0.196	0.343						
M4	MW10	M4MW10*	01/08/08	80010.06			1330	2.65	5.74	0.529					
M4	MW07	M4MW07	01/08/08	80010.03			19.5	0.326	0.471				3.91		
M4	MW07	MW07 Duplicate	01/08/08	80010.02			20.9	0.329	0.678				3.76	5.43	
M4	MW08	M4MW08	04/03/08	80110.04	20.7		65.6		0.917						
M4	MW09	M4MW09	04/03/08	80110.05			50.7								
M4	MW07	M4MW07	04/03/08	80110.03			12.4	0.134					1.8		
M4	MW07	MW07 Duplicate	04/03/08	80110.02			11.4	0.122					1.79		
M4	MW10	M4MW10	04/03/08	80110.06		5.11	346	0.472	5.9			4.53	0.309		
M4	MW10	M4MW10	07/10/08	80228.06			129	0.398	2.9			2.13			
M4	MW09	M4MW09	07/10/08	80228.05			37.2		0.27					7.62	
M4	MW08	M4MW08	07/10/08	80228.04	1.73		150		1.78					7.43	
M4	MW07	M4MW07	07/10/08	80228.03			79.9	0.604	1.3	0.521			9.15	8.64	
M4	MW10	M4MW10	10/10/08	80361.06	2.52		88.7	0.342							
M4	MW08	MW08 Duplicate*	10/10/08	80361.02	10.2		207	0.591	0.204	5.56	3.16				
M4	MW08	M4MW08	10/10/08	80361.04	4.1		98	0.272		1.54					
M4	MW09	M4MW09	10/10/08	80361.05			65.9	0.188		0.561					
M4	MW07	M4MW07	10/10/08	80361.03			68.5	0.597	0.278	2.56			7.35	3.68	

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to August 2010 at Site M-4

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
M4	MW10	M4MW10*	01/06/09	40009.04			364	0.676							
M4	MW09	MW09 Duplicate*	03/12/09	90105.02	12	92	67.3					6.81		73.3	
M4	MW09	M4MW09*	03/12/09	90105.05	15	96	63.5			0.9		5		87	
M4	MW10	M4MW10*	03/12/09	90105.06	15.4	61.5	410	0.433		0.833		11.6		52.7	
M4	MW08	M4MW08*	03/12/09	90105.04	18.7	109	90.7			0.32		3.62		84.5	
M4	MW07	M4MW07	03/12/09	90105.03	5.24	9.05	15.7			0.495		4.46	1.28	32.1	
M4	MW10	M4MW10	05/20/09	90207.06	2	17.6	190	0.32				1.78		4.61	
M4	MW08	M4MW08	05/20/09	90207.04	2.28	20.2	77.8					2.58		3.55	
M4	MW07	MW07 Duplicate	05/20/09	90207.02	1.3	5.37	29.1	0.154		1.26		2.39	4.29	4.35	
M4	MW07	M4MW07	05/20/09	90207.03	2.88	7.36	27.2	0.15		1.79		2.5	3.96		
M4	MW09	M4MW09	05/20/09	90207.05	3.71	18.9	44.4					2.02	0.993	4.73	2.02
M4	MW07	M4MW07	07/20/09	90303.03	5.21	5.28	48.4	0.377	0.906				7.86	21.1	
M4	MW07	MW07 Duplicate	07/20/09	90303.02		14.8	50.9	0.35	0.519				7.5	28.8	
M4	MW09	M4MW09	07/20/09	90303.05		20.8	63						2.75	26.2	
M4	MW08	M4MW08	07/20/09	90303.04		24.8	79.6		0.914				1.32	13.3	
M4	MW10	M4MW10	07/21/09	90303.06		17.7	112	0.096	1.22				1.27		
M4	MW10	M4MW10	11/04/09	90436.06			109								
M4	MW08	M4MW08*	11/04/09	90436.04		4.36	883	0.151	9.23	20.5		31.1			
M4	MW07	MW07 Duplicate	11/04/09	90436.02			54.1	0.285					8.44		
M4	MW07	M4MW07	11/04/09	90436.03		0.68	54.8	0.29					8.44	8.37	
M4	MW09	M4MW09	11/04/09	90436.05			44						0.524	17.7	
M4	MW07	MW07 Duplicate	01/06/10	10005.02	7.58		24.1	0.108					5.45		
M4	MW07	M4MW07	01/06/10	10005.03			23.4	0.117					5.17		
M4	MW10	M4MW10	01/06/10	10005.06		1.4	114						4.32		
M4	MW08	M4MW08	01/06/10	10005.04	4.94	1.09	42.3						3.05		
M4	MW09	M4MW09	01/06/10	10005.05			60.2						1.21		
M4	MW07	LF3(1)	04/06/10	10124.04	11.6		32								
M4	MW10	LF3(1)	04/06/10	10124.06	7.3	0.83	41.8				1.34		3.54		
M4	MW08	LF3(1)	04/06/10	10124.05		1.11	12.4				1.07		2.19		
M4	MW09	LF3(1)	04/06/10	10124.03	11.6	3.61	18.8				2.3		1.71		
M4	MW09	LF3(1) Duplicate	04/06/10	10124.02	8.16		34.2						0.672		
M4	MW08	LF4(1)	07/21/10	10316.04	6.51	1.23	34.7		1.56						
M4	MW09	LF4(1)	07/21/10	10316.03	7.78		44.2								
M4	MW09	LF4(1) Duplicate	07/21/10	10316.02	9.64	0.98	44.1								
M4	MW07	LF4(1)*	07/21/10	10316.06	10.3		199	1.28	1.51				19.2		
M4	MW10	LF4(1)	07/21/10	10316.05	9.23	1.12	53.6		1.26				0.959		
M4	MW06	M4MW06	08/06/10	10333.01			23.2	0.198		1.19			7.51		
M4	MW06	M4MW06	08/20/10	10356.01		0.83	22.3	0.17					8.67		

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to August 2010 at Site M-4

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
				Mean	8.15	15.16	124.00	0.42	3.10	2.19	1.67	7.29	4.33	16.73	1.81
				90th Percentile	14.40	28.47	272.00	0.68	8.43	3.16	2.27	15.02	8.84	38.28	1.98
				Adjusted Mean	6.10	6.89	66.31	0.32	2.05	0.92	1.46	4.63	3.41	9.95	1.59

Notes: Adjusted mean does not include metal concentrations that exceed the 90th Percentile

1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)
2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile
3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers
4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile
5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors

M: Metal detected in method blank

* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
M-4 Landfill
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Arsenic	Cadmium	Lead	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*3*	*4*	*5*	*40*	*2*
M4MW06						
M4MW07						
M4MW08	18.7	109	9.23	31.1	*	*
M4MW09		96		6.81	*	*
M4MW10	15.4			11.6	*	*

Notes:

Results reported in µg/L.

Within the reporting period, the two highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Metals were analyzed during the entire reporting period, 4th Quarter 2008 through 3rd Quarter 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
M-5 Landfill (FTMM-05)

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
M-5 Landfill

M-5	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
March 10 - Sept 10	n=22	n=23	n=33	n=6	n=18	n=9	n=21	n=8	n=15	n=0	n=1
90th Percentile	23.23	5.72	188.60	0.19	1.48	3.20	4.17	4.51	4.67	NR	1.30
Mean	10.72	2.85	72.89	0.13	0.92	1.88	2.72	3.54	2.59	NR	1.30
Adjusted Mean	8.12	2.36	47.26	0.11	0.83	1.71	2.52	3.38	1.96	NR	NA
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for barium, beryllium, cadmium, chromium, copper, lead, nickel, and thallium are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Mean Values, or Adjusted Mean Values, Meet GWQS:

The mean value for arsenic is below its GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells M5MW12, M5MW13, M5MW14, M5MW16, M5MW19, and M5MW20 are recommended for sampling with laboratory analysis for antimony and arsenic, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from March 2010 to September 2010 at Site M-5

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	2
M5	MW16	MW16 LF1(1)	03/30/10	10113.03	***6.25***	1.26	66.7	0.079	0.667				2.27	
M5	MW20	MW20 LF1(1)	03/30/10	10113.04	***14.1***		13.7			3.22			2.12	
M5	MW11	MW11 LF1(1)	03/30/10	10113.01			8.74			1.7	2.42		1.47	
M5	MW23	MW23 LF1(1)	03/30/10	10113.02	***7.41***	2.46	15.1			1.97			0.514	
M5	MW10	MW10 LF1(1)	03/31/10	10115.04	5.45		24.6							
M5	MW19	MW19 LF1(1)	03/31/10	10115.01	***6.48***	1.98	45.2		0.724					
M5	MW18	MW18 LF1(1)	03/31/10	10115.02		***3.77***	131		1.23					
M5	MW14	MW14 LF1(1)	03/31/10	10115.06	***10.4***		26.9							
M5	MW13	MW13 LF1(1)	03/31/10	10115.05	***6.28***		114		0.514					
M5	MW12	MW12 LF1(1)	03/31/10	10115.03	***7.31***		64.3							
M5	MW23	MW23 LF2(1)	06/29/10	10294.02		***3.76***	19.1		0.764		4.45			
M5	MW20	MW20 LF2(1)	06/29/10	10294.03	5.07	0.78	28.7	0.108	0.719	1.46	3.83		8.27	1.3
M5	MW18	MW18 LF2(1)	06/29/10	10294.01		***3.26***	112		1.07		4.85	2.99	0.446	
M5	MW19	MW19 LF2(1)	06/30/10	10298.06		2.01	48.5		0.754		2.75			
M5	MW10	MW10 LF2(1)	06/30/10	10298.08			24			1.17	3.14			
M5	MW16	MW16 LF2(1)	06/30/10	10298.05		***4.51***	128	0.124	0.785		3.15		5.05	
M5	MW11	MW11 LF2(1)	06/30/10	10298.03	***6.9***	0.95	9.96		0.672		3.86	2.77	2.05	
M5	MW11	MW11 LF2(1)	06/30/10	10298.04		1.04	9.71		0.555		3.72		1.83	
M5	MW14	MW14 LF2(1)	06/30/10	10298.1	***6.04***	1.24	25.6				2.22			
M5	MW13	MW13 LF2(2)	06/30/10	10298.09	***6.32***		91.7				3.12			
M5	MW12	MW12 LF2(1)	06/30/10	10298.07	5.26	1.03	21.5		0.692	1.79	4.17			
M5	MW23	LF3(1)	09/26/10	10411.09	***11.5***	2.85	37.4		0.766		1.47	3.1		
M5	MW20	LF3(1)	09/26/10	10411.10	***6.68***	0.65	13.7	0.068		3.19	1.73	2.52	4.09	
M5	MW11	LF3(1)	09/26/10	10411.11	***9.99***	1.07	10.9		1.71	1.27	2.17	4.45	2.97	
M5	MW18	LF3(1)	09/26/10	10411.08	***9.81***	1.38	259		0.661				1.1	
M5	MW10	LF3(1)	09/26/10	10411.05	***7.59***		36.2			1.15			0.42	
M5	MW14	LF3(1)	09/26/10	10411.07	***15.4***		30.7				1.02			
M5*	MW12	LF3(1)	09/26/10	10411.03	***24.1***	***5.98***	203		1.44		2.57	4.66		
M5*	MW12	LF3(1)	09/26/10	10411.04	***27.5***	***6.08***	214		1.57		2.5	4.43		
M5*	MW13	LF3(2)	09/26/10	10411.06	***30.1***	***6.4***	359		1.25		1.94	3.4		
M5	MW19	LF3(1)	09/27/10	10412.05		***4***	29.7							
M5	MW16	LF3(1)	09/27/10	10412.04		***4.68***	91.2	0.171			1.09		3.12	
M5	MW16	LF3(1)	09/27/10	10412.03		***4.52***	91.7	0.213			1.05		3.07	

Table 1. Summary of Select Metal Concentrations in Groundwater from March 2010 to September 2010 at Site M-5

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	2
				Mean	10.72	2.85	72.89	0.13	0.92	1.88	2.72	3.54	2.59	1.30
				90th Percentile	23.23	5.72	188.60	0.19	1.48	3.20	4.17	4.51	4.67	1.30
				Adjusted Mean	8.12	2.36	47.26	0.11	0.83	1.71	2.52	3.38	1.96	1.30

Notes: Adjusted mean does not include metal concentrations that exceed the 90th Percentile

1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)
2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile
3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers
4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile
5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors

M: Metal detected in method blank

* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
M-5 Landfill
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Arsenic	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*3*	*40*	*2*
M5MW10				
M5MW11				
M5MW12	27.5	6.08	*	*
M5MW13	30.1	6.4	*	*
M5MW14	15.4		*	*
M5MW16		4.68	*	*
M5MW19		4	*	*
M5MW20	14.1		*	*
M5MW23				

Notes:

Results reported in µg/L.

Within the reporting period, the four highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Metals were analyzed during the following quarters: 1st Quarter 2009; 1st, 2nd, & 3rd Quarters 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
M-8 Landfill (FTMM-08)

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
M-8 Landfill

M-8	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
March 10 - Sept 10	n=39	n=29	n=43	n=13	n=25	n=9	n=29	n=12	n=36	n=0	n=0
90th Percentile	28.62	8.55	383.00	0.11	1.70	8.12	9.66	3.87	9.88	NR	NR
Mean	15.89	2.86	160.68	0.08	1.21	4.17	5.28	3.34	4.78	NR	NR
Adjusted Mean	13.81	2.09	117.82	0.08	0.94	3.25	4.11	3.22	3.22	NR	NR
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for barium, beryllium, cadmium, chromium, copper, lead, and nickel are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Mean Values, or Adjusted Mean Values, Meet GWQS:

The mean value for arsenic is below its GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells M8MW15, M8MW16, M8MW18, M8MW19, M8MW20, M8MW22, and 697MW01 are recommended for sampling with laboratory analysis for antimony and arsenic, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from March 2010 to September 2010 at Site M-8

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100
M8	MW22	MW22 LF1(1)	03/17/10	10094.08		***8.49***				1.08			
M8	MW13	MW13 LF1(1)	03/17/10	10094.04	***10.2***	0.73	52.3		0.991		6.21		6.94
M8	MW21	MW21 LF1(1)	03/17/10	10094.07			10.1			1.74	6.73		4.66
M8	MW19	MW19 LF1(1)	03/17/10	10094.06	***11.5***	1.71	48.8						1.31
M8	MW17	MW17 LF2(1)	03/17/10	10094.05	5.88		135						0.909
M8	MW20	MW20 LF1(1)	03/17/10	10094.09	***7.8***		110						0.624
M8*	MW15	MW15 LF1(1)	03/18/10	10095.05	5.54	***8.79***	144						30.1
M8	MW14	MW14 LF1(1) Duplicate	03/18/10	10095.03	***10.8***		575						2.1
M8	MW14	MW14 LF1(1)	03/18/10	10095.04	5.6	0.85	547		0.609				1.74
M8	MW23	MW23 LF3(1)	03/19/10	10097.07	***10.1***	0.67	7.51		1.22		12		5.26
M8	MW12	MW12 LF1(1)	03/19/10	10097.09		1.59	15.3	0.049		11.6			2.14
M8*	MW16	MW16 LF2(1)	03/19/10	10097.05	***9.81***		87.1		***5.98***				15.9
M8	MW18	MW18 LF1(1)	03/19/10	10097.04	***10.8***	0.88	277		0.728				1.88
M8	MW24	MW24 LF4(1)	03/19/10	10097.06	***14.4***	0.64	393						1.63
M8	MW17	MW17 LF3(1)	06/25/10	10287.05	***12.5***		138	0.072	0.521		1		
M8	MW13	MW13 LF2(1) Duplicate	06/25/10	10287.03	***11.9***		84.3	0.101	1.36		6.9		6.28
M8	MW13	MW13 LF2(1)	06/25/10	10287.04	***11***		78.2	0.094	1.24		6.71		6.02
M8	MW19	MW19 LF2(1)	06/28/10	10291.04	***9.6***		96.1	0.117	0.826		2.55		
M8	MW19	MW19 LF2(1) Duplicate	06/28/10	10291.03	***10.2***		98.3	0.118	0.932		2.14		
M8	MW16	MW16 LF3(1)	06/28/10	10291.11					0.516				
M8	MW20	MW20 LF2(1)	06/28/10	10291.07	***14.2***		148	0.073		7.25			
M8	MW22	MW22 LF2(1)	06/28/10	10291.06		***10.63***	1.31			3.99			
M8	MW21	MW21 LF2(1)	06/28/10	10291.05	***11***		36.2	0.067	1.55		5.27		7.83
M8	MW14	MW14 LF2(1)	06/28/10	10291.08	***12.7***		167	0.105	1.59		1.26	3.98	2.58
M8	MW18	MW18 LF2(1)	06/28/10	10291.1	***11.3***		278	0.105	1.77				2.3
M8	MW15	MW15 LF2(1)	06/28/10	10291.09	***14.8***	1.47	227	0.094	1.5		3.83	3	12.5
M8	MW23	MW23 LF4(1)	06/29/10	10293.05	***9.13***	***3.9***	33.5				6.11	3.06	10.6
M8	MW12	MW12 LF2(1)	06/29/10	10293.07		1	12.5			2.14	4.64		1.1
M8	MW24	MW24 LF5(1) Duplicate	06/29/10	10293.03	***9.04***	0.9	179	0.05	0.73		6.23	3.89	0.853
M8	MW24	MW24 LF5(1)	06/29/10	10293.04	***9.82***	0.7	182				5.7	3.31	0.846
M8	MW17	LF4(1)	09/28/10	10414.05	***25.2***	2.73	287						
M8*	MW19	LF3(1)	09/28/10	10414.07	***30.3***	***4.21***	511	0.057	1.29	3.68	2.69	3.34	
M8	MW21	LF3(1)	09/28/10	10414.08	***28.2***	0.99	72.4		1.81		9.08		9.15
M8	MW13	LF3(1)	09/28/10	10414.04	***15.6***	1.9	58.5		0.761		17.6	3.52	6.92

Table 1. Summary of Select Metal Concentrations in Groundwater from March 2010 to September 2010 at Site M-8

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100
M8	MW15	LF3(1)	09/28/10	10414.10	***22.4***	2.52	221		0.542		2.87	3.6	6.24
M8	MW13	LF3(1) Duplicate	09/28/10	10414.03	***15.2***		56.8		0.596		16.8	2.67	6.19
M8	MW14	LF3(1)	09/28/10	10414.09	***21***	2.2	196		1.09		3.66	3.68	3.37
M8	MW20	LF3(1)	09/28/10	10414.06	***34.1***	1.46	238			4.89	1.96		0.506
M8	MW23	LF5(1)	09/29/10	10415.08	***18.7***	0.77	37.9				1.61		3.82
M8	MW16	LF4(1)	09/29/10	10415.06	***39***	0.66	309		0.816	1.2	5.08		2.35
M8	MW22	LF3(1) Duplicate	09/29/10	10415.03	***26.9***	***7.79***	4.33				3.3		2.13
M8	MW12	LF3(1)	09/29/10	10415.10	***7.26***	2.11	2.93				1.32		1.9
M8	MW22	LF3(1)	09/29/10	10415.04	***26.8***	***9.23***	3.78				4.09		1.68
M8	MW24	LF6(1)	09/29/10	10415.07	***26.6***	0.84	343		0.651		2.59	2.92	1.1
M8*	MW18	LF3(1)	09/29/10	10415.05	***32.7***	2.61	406		0.618		3.22	3.07	0.565
				Mean	15.89	2.86	160.68	0.08	1.21	4.17	5.28	3.34	4.78
				90th Percentile	28.62	8.55	383.00	0.11	1.70	8.12	9.66	3.87	9.88
				Adjusted Mean	13.81	2.09	117.82	0.08	0.94	3.25	4.11	3.22	3.22

Notes: Adjusted mean does not include metal concentrations that exceed the 90th Percentile
1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)
2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile
3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers
4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile
5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors
M: Metal detected in method blank
* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
M-8 Landfill
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Arsenic	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*3*	*40*	*2*
M8MW12				
M8MW13				
M8MW14				
M8MW15		8.79	*	*
M8MW16	39		*	*
M8MW17				
M8MW18	32.7		*	*
M8MW19	30.3	4.21	*	*
M8MW20	34.1		*	*
M8MW21				
M8MW22		10.63	*	*
M8MW23				
M8MW24				
697MW01		5.35	*	*

Notes:

Results reported in µg/L.

Within the reporting period, the four highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Metals were analyzed during the following quarters: 1st Quarter 2009; 1st, 2nd, & 3rd Quarters 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
M-12 Landfill (FTMM-12)

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
M-12 Landfill

M-12	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
Feb 05 - Sept 10	n=69	n=125	n=285	n=100	n=125	n=85	n=104	n=55	n=130	n=81	n=6
90th Percentile	16.18	81.08	169.00	1.23	3.82	2.28	9.65	11.44	20.36	65.90	2.05
Mean	8.34	31.80	75.47	0.61	2.25	1.46	7.59	5.38	8.09	19.44	1.58
Adjusted Mean	7.17	24.06	52.68	0.50	1.30	1.09	3.01	4.38	5.94	12.28	1.46
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for barium, cadmium, chromium, copper, and nickel are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Mean Values, or Adjusted Mean Values, Meet GWQS:

The mean values for beryllium, selenium, and thallium are below their respective GWQS.

The adjusted mean value for lead is below its GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells M12MW16, M12MW19, M12MW20, M12MW21, M12MW22, M12MW23, M12MW24, and M12MW25 are recommended for sampling with laboratory analysis for antimony, arsenic, beryllium, and lead, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to September 2010 at Site M-12

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
M12	MW26	M12MW26	02/03/05	50070.07			23.8								
M12	MW22	M12MW22	02/03/05	50070.04		*67*	48.3					*11.2*			
M12	MW21	M12MW21	02/03/05	50070.03			134								
M12	MW22	MW22 Duplicate	02/03/05	50070.02		*65.4*	47.3					*9.59*			
M12	MW24	M12MW24	02/03/05	50070.06			83.8	*1.31*					18.4		
M12	MW25	M12MW25	02/09/05	50080.08			37.8								
M12	MW20	M12MW20	02/09/05	50080.07		*40*	40								
M12	MW19	M12MW19	02/09/05	50080.06			95.1								
M12	MW18	M12MW18	02/09/05	50080.05			11.4								
M12	MW17	M12MW17	02/09/05	50080.04			28.1								
M12	MW25	MW25 Duplicate	02/09/05	50080.02			33.1			9.13	5.75	*5.87*			
M12	MW16	M12MW16	02/09/05	50080.03			32.3			8.65	5.31	*5.5*			
M12	MW26	M12MW26	05/04/05	50237.1			41.1								
M12	MW25	M12MW25	05/04/05	50237.09			28.7								
M12	MW24	M12MW24	05/04/05	50237.08			34.1								
M12	MW22	M12MW22	05/04/05	50237.06		*56*	48								
M12	MW21	M12MW21	05/04/05	50237.05			222								
M12	MW20	M12MW20	05/04/05	50237.04			37.1								
M12	MW19	M12MW19	05/04/05	50237.03			12								
M12	MW25	MW25 Duplicate	05/04/05	50237.02			31.3								
M12	MW18	M12MW18	05/05/05	50239.05			84.61								
M12	MW17	M12MW17	05/05/05	50239.04			75.1								
M12	MW16	M12MW16	05/05/05	50239.03		*18.6*	35.4								
M12	MW16	MW16 Duplicate	05/05/05	50239.02		*20.8*	38.4								
M12	MW26	M12MW26	09/02/05	50442.1			25.6								
M12	MW25	M12MW25	09/02/05	50442.09			81.9								
M12	MW22	M12MW22	09/02/05	50442.06		*76.5*	43.3		*9.11*			*5.49*			
M12	MW21	M12MW21	09/02/05	50442.05			43.9								
M12	MW20	M12MW20	09/02/05	50442.04			80.2		3.36						
M12	MW19	M12MW19	09/02/05	50442.03			11								
M12	MW26	MW26 Duplicate	09/02/05	50442.02			28.7								
M12	MW24	M12MW24	09/02/05	50442.08			46.6	0.628					6.52		
M12	MW18	M12MW18	09/07/05	50445.05			71.3								
M12	MW17	M12MW17	09/07/05	50445.04			154		2.74						
M12	MW16	M12MW16	09/07/05	50445.03		*39.3*	64.4		2.2						
M12	MW16	MW16 Duplicate	09/07/05	50445.02		*37.5*	64.5								
M12	MW22	M12MW22	11/14/05	50594.05		*97.5*	65.1					*7.64*			
M12	MW21	M12MW21	11/14/05	50594.04			62.5								
M12	MW20	M12MW20	11/14/05	50594.03			44.7				14.6				
M12	MW20	MW20 Duplicate	11/14/05	50594.02			37				12.6				
M12	MW24	M12MW24	11/14/05	50594.07			70.9	*1.02*			5.24		14.2		
M12	MW23	M12MW23	11/14/05	50594.06		*7.6*	75.1						10.4		
M12	MW26	M12MW26	11/15/05	50595.08			34.1								

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to September 2010 at Site M-12

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
M12	MW25	M12MW25	11/15/05	50595.07			49.7								
M12	MW18	M12MW18	11/15/05	50595.05			93								
M12	MW17	M12MW17	11/15/05	50595.04			121								
M12	MW16	M12MW16	11/15/05	50595.03		*75.6*	61.1								
M12	MW18	MW18 Duplicate	11/15/05	50595.02			94.9								
M12	MW19	M12MW19	11/15/05	50595.06			18.3				9.78		14.6		
M12	MW26	M12MW26	01/26/06	60058.1			17.7				9.33				
M12	MW25	M12MW25	01/26/06	60058.09			22.2								
M12	MW23	M12MW23	01/26/06	60058.07			40.2								
M12	MW22	M12MW22	01/26/06	60058.06		*37.7*	47.3		3.28			*6.62*			
M12	MW21	M12MW21	01/26/06	60058.05			45.1								
M12	MW20	M12MW20	01/26/06	60058.04			82.4								
M12	MW19	M12MW19	01/26/06	60058.03			7.94								
M12	MW19	MW19 Duplicate	01/26/06	60058.02			8.27								
M12	MW24	M12MW24	01/26/06	60058.08			58.7	*1.02*					14.9		
M12	MW18	M12MW18	01/27/06	60060.05			130	0.545							
M12	MW17	M12MW17	01/27/06	60060.04			37.8								
M12	MW16	M12MW16	01/27/06	60060.03		*45.1*	42.1								
M12	MW16	MW16 Duplicate	01/27/06	60060.02		*46.7*	43.4								
M12	MW17	M12MW17	04/20/06	60169.04	2.03		87.2	0.106			1.67				
M12	MW20	M12MW20	04/20/06	60169.07			89.5	0.146			18.5				
M12	MW21	M12MW21	04/20/06	60169.08			336	0.165							
M12	MW22	M12MW22	04/20/06	60169.09		*68.5*	56.8				1.36				
M12	MW19	M12MW19	04/20/06	60169.06			8.13								
M12	MW16	M12MW16	04/20/06	60169.03		*25.2*	51.5	0.153		2.3					
M12	MW16	MW16 Duplicate	04/20/06	60169.02	2.34	*25.8*	51.4	0.118		1.95					
M12	MW25	M12MW25	04/20/06	60169.12			30.7			1.43	4.73				
M12	MW26	M12MW26	04/20/06	60169.13			48.7	0.132		0.854					
M12	MW24	M12MW24	04/20/06	60169.11			38.5	0.647		4.77	2.83		8.06		
M12	MW18	M12MW18	04/20/06	60169.05			115	0.449	0.375		1.25		3.85		
M12	MW23	M12MW23	04/20/06	60169.1			126	0.615	2.24	1.52	2.75		26.2		
M12	MW20	MW20 Duplicate	07/27/06	60341.02	2.02		64.9				12.8				
M12	MW22	M12MW22	07/27/06	60341.05		*86.1*	61.1				2.11				
M12	MW21	M12MW21	07/27/06	60341.04			43.5				3.02				
M12	MW20	M12MW20	07/27/06	60341.03			49.9				6.81				
M12	MW26	M12MW26	07/27/06	60341.08	2.68	1.94	30.7		1.11	1.46	1.45				
M12	MW23	M12MW23	07/27/06	60341.06	2.01	2.99	110	0.77	2.57		4.23		22.7		
M12	MW24	M12MW24	07/27/06	60341.07	3.13		44.3				2.95		2.82		
M12	MW19	M12MW19	07/28/06	60342.06	4.27	2.79	10.2		0.383		1.07				
M12	MW17	M12MW17	07/28/06	60342.04	*9.26*		134				2.51				
M12	MW25	M12MW25	07/28/06	60342.07	5.81	*3.8*	28.6			0.843	2.61				
M12	MW18	M12MW18	07/28/06	60342.05	5.01		104	0.18	0.877		2.53		3.62		
M12	MW16	M12MW16	07/28/06	60342.03	*7.79*	*36.7*	67.4			1.91	3.08		2.36		

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to September 2010 at Site M-12

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
M12	MW16	MW16 Duplicate	07/28/06	60342.02	4.84	***41.4***	66.2			2.26	1.7		1.5		
M12	MW19	M12MW19	11/03/06	60480.06			6.96							9.32	
M12	MW20	M12MW20	11/03/06	60480.07			58		2.08		15			7.38	
M12*	MW17	M12MW17	11/03/06	60480.04			314		***4.98***					5.43	
M12	MW25	M12MW25	11/03/06	60480.12			23.6							10.5	
M12	MW24	M12MW24	11/03/06	60480.11			60.6	0.713	0.427		1.51		9.88	7.16	
M12	MW21	M12MW21	11/03/06	60480.08			52.8		1.1				8		
M12	MW23	M12MW23	11/03/06	60480.1			67.4		0.971	1.2	0.794		7.01	5.42	
M12	MW18	M12MW18	11/03/06	60480.05			161	0.4	0.4				4	5	
M12	MW26	M12MW26	11/03/06	60480.13		***5.01***	15.3		2.25				3.56	4.53	
M12	MW16	M12MW16	11/03/06	60480.03		***68***	76.1	0.157	***4.06***	1.73			2.98	3.65	
M12	MW22	MW22 Duplicate	11/03/06	60480.02		***73.4***	46.6		***18***				1.9		
M12	MW22	M12MW22	11/03/06	60480.09		***72.8***	45.9		***17.8***				1.69		
M12	MW19	M12MW19	02/12/07	70055.06			7.84	0.116	0.342					5.08	
M12	MW20	M12MW20	02/12/07	70055.07			44.8	0.119	1.3		7.94	1.64		6.78	
M12	MW25	M12MW25	02/12/07	70055.12		***4.49***	31.6		0.369		2.05			6.62	
M12	MW26	M12MW26	02/12/07	70055.13			33.8		0.78					6.26	
M12	MW25	MW25 Duplicate	02/12/07	70055.02		***3.03***	31		0.316		1.39			5.74	
M12	MW17	M12MW17	02/12/07	70055.04		2.54	83.1		2.06					3.56	
M12	MW24	M12MW24	02/12/07	70055.11			47.6	0.72	0.742		0.916		9.42	3.05	
M12	MW18	M12MW18	02/12/07	70055.05			228	0.662	0.521		1.45		5.49	3.76	
M12	MW16	M12MW16	02/12/07	70055.03		***52.2***	77.9	0.203	3.76	1.45			3.22	3.37	
M12	MW23	M12MW23	02/12/07	70055.1			79.4	0.883	1.45	1.13	4.05		25.1	4.56	
M12*	MW21	M12MW21	02/12/07	70055.08		***11.4***	580	0.279	***17.8***				1.63		
M12*	MW22	M12MW22	02/12/07	70055.09		***94***	46.3		***15.3***				1.36		
M12	MW20	M12MW20	05/09/07	70168.07		***3.77***	162	0.132	3.41		1.39	4.41		3.88	
M12*	MW22	M12MW22	05/09/07	70168.09		***47.9***	46.2		***10***			***11.8***			
M12	MW19	M12MW19	05/09/07	70168.06			7.92							7.42	
M12	MW21	M12MW21	05/09/07	70168.08		***4.2***	348	0.166	2.94	2.22		1.79		5.49	
M12	MW25	M12MW25	05/09/07	70168.12			24.1			0.694	2.78			8.73	
M12	MW17	M12MW17	05/09/07	70168.04			89.6		2	0.548	4.59	2.27		5.88	
M12	MW18	M12MW18	05/09/07	70168.05			310	0.734	0.909		3.46		8.73	3.62	
M12	MW24	M12MW24	05/09/07	70168.11			34.3	0.211	0.255	0.539	1.3		3.16	5.08	
M12	MW23	M12MW23	05/09/07	70168.1			79.5	0.46	1.73	1.52	2.65	***15.3***	19.5	7.12	
M12	MW16	M12MW16	05/09/07	70168.03		***42.3***	66.4		3.86	1.81		4.14	1.77		
M12	MW16	MW16 Duplicate	05/09/07	70168.02		***38.5***	63		3.68	1.75		3.58	1.68	3.91	
M12	MW26	M12MW26	05/09/07	70168.13		***5.38***	58.1	0.388	1.72	0.469	3.86		1.3	2.87	
M12	MW21	M12MW21	08/07/07	70299.08		***5.52***	47		0.866						
M12	MW19	M12MW19	08/07/07	70299.06		***3.47***	9.73							6.95	
M12	MW17	M12MW17	08/07/07	70299.04		***3.77***	62.4		1.28					4.59	
M12*	MW22	M12MW22	08/07/07	70299.09		***63.8***	39.6		***11.4***	0.935		***12.7***			
M12	MW26	M12MW26	08/07/07	70299.13		***5.34***	34.6		0.632	0.397				3.47	
M12	MW20	M12MW20	08/07/07	70299.07		***4.34***	45.7		0.785	0.248	2.83			3.96	

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to September 2010 at Site M-12

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
M12	MW25	M12MW25	08/07/07	70299.12		***8.41***	28.5			0.22	1.24			7.4	
M12	MW18	M12MW18	08/07/07	70299.05			215	0.561	0.92		2.16		6.36		
M12	MW23	M12MW23	08/07/07	70299.1		2.98	85.9	***1.23***	2.23	1.35	1.05		24.4		
M12	MW24	M12MW24	08/07/07	70299.11		***5.53***	31.6				1.03		2.14	3.72	
M12	MW16	M12MW16	08/07/07	70299.03		***24.5***	68.3		2.01	1.06		0.863	1.31		
M12	MW16	MW16 Duplicate	08/07/07	70299.02		***29.5***	69.1		2.06	1.25			0.973		
M12	MW25	M12MW25	11/30/07	70499.12			36.8			0.703	1.14				
M12	MW20	M12MW20	11/30/07	70499.07			21.9			0.631	7.17				
M12	MW21	M12MW21	11/30/07	70499.08			69.2			0.459					
M12	MW17	M12MW17	11/30/07	70499.04			16.7			0.4					
M12	MW22	M12MW22	11/30/07	70499.09		***40.4***	48.6			0.396	1.5				
M12	MW19	M12MW19	11/30/07	70499.06			6.51		0.319	0.338					
M12	MW23	M12MW23	11/30/07	70499.1			42.1	0.324	0.86	1.01	2.31		9.24	4.33	
M12	MW24	M12MW24	11/30/07	70499.11			44.4	0.652	0.507		1.74		9.1		
M12	MW16	M12MW16	11/30/07	70499.03		***68.7***	210	0.559		1.42	0.561		8.79		
M12	MW16	MW16 Duplicate	11/30/07	70499.02		***77.5***	212	0.566		1.67	0.77		8.67		
M12	MW18	M12MW18	11/30/07	70499.05	0.718		340	0.984	0.81	0.4	3.38		8.61		
M12*	MW26	M12MW26	11/30/07	70499.13		2.84	39.1	0.177	0.488	6.48	12.7		1.34		
M12	MW16	M12MW16	03/07/08	80074.03		***45.1***	110	0.182		1.88	4.66		7.2		
M12	MW16	MW16 Duplicate	03/07/08	80074.02		***40.8***	113	0.173		1.85	4.29		6.92		
M12	MW25	M12MW25	03/07/08	80074.12			29.1			1.26	8.7		6.82		
M12	MW19	M12MW19	03/07/08	80074.06			9.88		0.301	0.215	2.91		5.28		
M12	MW26	M12MW26	03/07/08	80074.13		***6.37***	78.7	0.379	0.822	1.21	15.9		5.17		
M12	MW17	M12MW17	03/07/08	80074.04			33.2			0.24	4.31		3.54		
M12	MW20	M12MW20	03/07/08	80074.07		***3.11***	41.9			0.494	7.78		3.52		
M12	MW21	M12MW21	03/07/08	80074.08			61.3				3.54		3.22		
M12	MW22	M12MW22	03/07/08	80074.09		***25.5***	42.5			0.362	4.39		2.08		
M12	MW18	M12MW18	03/07/08	80074.05			424	***1.11***	1.18	0.417	7.92		15.2		
M12	MW24	M12MW24	03/07/08	80074.11			49.7	0.553	0.454		6.2		12.7		
M12	MW23	M12MW23	03/07/08	80074.1		2.8	44.9		0.741	1.71	6.07		10.7		
M12*	MW22	M12MW22	05/15/08	80165.09		***93.4***	50.3		***8.2***			***8.49***			
M12	MW17	MW17 Duplicate	05/15/08	80165.02			72.2		1.36	0.679					
M12	MW17	M12MW17	05/15/08	80165.04			73		1.37	0.486					
M12	MW23	M12MW23	05/15/08	80165.1			46.8		0.634	1.97	3.92		7.95	3.94	
M12	MW24	M12MW24	05/15/08	80165.11			33.5	0.203	0.689	0.473	1.35		5.51	6.05	
M12*	MW19	M12MW19	05/15/08	80165.06			27.4		0.374	1.06	10.9		23.8	7.82	
M12	MW25	M12MW25	05/15/08	80165.12			25.7			0.873	7.35		2.2	7.22	
M12	MW18	M12MW18	05/15/08	80165.05			313	0.87	0.946		3.09		10.3	5.85	
M12	MW26	M12MW26	05/15/08	80165.13		***4.06***	41.9	0.295	1.65	1.74	5.97	2.16	1.65		
M12	MW16	M12MW16	05/15/08	80165.03		***23.3***	53		2.84	2.02		2.66	0.934		
M12	MW21	M12MW21	05/15/08	80165.08			57.1		0.727				0.755	4.31	
M12	MW20	M12MW20	05/15/08	80165.07			44		0.979		0.953		0.538	5.85	
M12	MW17	M12MW17	08/07/08	80286.04			114		2.1			1.83			

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to September 2010 at Site M-12

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
M12	MW25	M12MW25	08/07/08	80286.12		***3.01***	66.8		0.578					8.74	
M12	MW18	M12MW18	08/07/08	80286.05			314	0.823	1.26		1.63		9.39	5.05	
M12	MW16	M12MW16	08/07/08	80286.03		***22***	118	0.131	3.11	0.901		2.97	3.59		
M12	MW16	MW16 Duplicate	08/07/08	80286.02		***21.6***	118	0.155	2.91	0.746		1.86	3.43		
M12*	MW23	M12MW23	08/07/08	80286.1			31.8	***1.84***	1.71	1.6	5.99		29.9	5.07	
M12	MW24	M12MW24	08/07/08	80286.11			30.1		0.359				2.29	6.31	
M12	MW20	M12MW20	08/07/08	80286.07			44.6		0.895	0.359	22.1		1.96	4.86	
M12	MW19	M12MW19	08/07/08	80286.06	2.89		12.3						1.72	8.01	
M12*	MW22	M12MW22	08/07/08	80286.09		***68.8***	60.8		***10.3***	0.84		***11.6***	1.38		
M12	MW21	M12MW21	08/07/08	80286.08		2.78	43.7						1.04	6.04	
M12	MW26	M12MW26	08/07/08	80286.13		***3.44***	46.1		0.454				0.65	6.88	
M12	MW22	M12MW22	10/27/08	80390.09	4.48	***55.8***	45.9								
M12	MW25	M12MW25	10/27/08	80390.12			256		0.404						***2.15***
M12	MW21	M12MW21	10/27/08	80390.08			55		0.321						
M12	MW20	M12MW20	10/27/08	80390.07			31		0.391						
M12	MW17	M12MW17	10/27/08	80390.04			42.6		0.294						1.69
M12	MW26	M12MW26	10/27/08	80390.13			41.4	0.117	1.24	2.32					
M12	MW18	M12MW18	10/27/08	80390.05			316	0.94	1.05				8.75		
M12*	MW23	M12MW23	10/27/08	80390.1		2.6	40.8	***1.87***	2.27	2.4	3.82	1.5	30.8		
M12*	MW24	M12MW24	10/27/08	80390.11			60	***1.44***	1.41		0.821		25.6		
M12	MW16	M12MW16	10/27/08	80390.03	1.39	***43.5***	286	***1.03***		0.732			11.6		
M12*	MW16	MW16 Duplicate	10/27/08	80390.02		***58.7***	282	***1.37***		1.92			10.2		
M12	MW19	M12MW19	10/27/08	80390.06			11.8		0.88	0.544	3.57		0.775		
M12*	MW22	M12MW22	03/13/09	90109.09	***11***	***113***	50.9					***12***			
M12*	MW20	M12MW20	03/13/09	90109.07	***18***	***87.4***	34.1					***6.82***		***86.4***	
M12	MW26	M12MW26	03/13/09	90109.13	***15.1***	***76.2***	38.5				1.15	***5.56***		***78.7***	
M12*	MW17	M12MW17	03/13/09	90109.04	***15.6***	***83***	112					***6.17***		***72.7***	
M12*	MW21	M12MW21	03/13/09	90109.08	***11.8***	***109***	71.6					2.4		***106***	
M12*	MW16	M12MW16	03/13/09	90109.03	***12.8***	***84.2***	102	0.109		1.82		***10.2***		29.6	
M12*	MW19	M12MW19	03/13/09	90109.06	***16.5***	***91.1***	9.24	***1.15***	0.836	1.07	404	***18***		***79.5***	
M12*	MW25	M12MW25	03/13/09	90109.12	***21***	***111***	31.4			0.438	0.746	2.77		***91.5***	
M12*	MW24	M12MW24	03/13/09	90109.11	***18.6***	***72.8***	43.6	0.765				4.67	7.94	***92.4***	
M12	MW18	M12MW18	03/13/09	90109.05	***15.5***	***32.3***	280	0.809	0.745		0.846	***5.67***	6.77	***63.7***	
M12	MW23	M12MW23	03/13/09	90109.1	***7.04***	***56.8***	36.5	0.931	1.14	1.17	3.7	4.83	20.1	***65.9***	
M12	MW17	MW17 Duplicate	03/13/09	90109.02	***10.9***	***80.6***	117			1.01		4.44	1.55	***70.8***	
M12	MW20	M12MW20	06/08/09	90221.07	1.48	***27***	30.9				1.32	1.47			
M12	MW17	M12MW17	06/08/09	90221.04	3.95	***27.7***	122				1.29	2.55			
M12	MW21	M12MW21	06/08/09	90221.08	***6.2***	***26.1***	65.1					3.45		8.14	
M12	MW22	M12MW22	06/08/09	90221.09	4.28	***110***	50.8			0.92				3.39	
M12	MW18	MW18 Duplicate	06/08/09	90221.02	2.53	***14.7***	238	0.767	0.7		2.41		8.85		
M12	MW18	M12MW18	06/08/09	90221.05	2.89	***14.3***	232	0.746	0.633		2.34		8.67		
M12	MW24	M12MW24	06/08/09	90221.11	2.37	***16.7***	27.1	0.193			0.928		4.86		
M12	MW19	M12MW19	06/08/09	90221.06	4.52	***28.3***	8.72	0.124	0.219	0.539	9.91	1.57	3.41		

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to September 2010 at Site M-12

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
M12	MW26	M12MW26	06/08/09	90221.13	3.69	***11.5***	19.7	0.114		1.12	3.84		2.27		
M12	MW23	M12MW23	06/08/09	90221.1	3.14	***17.9***	46.7	0.574	0.782	0.472	2.63	2.4	16.7		
M12	MW25	M12MW25	06/08/09	90221.12	2.79	***29.2***	38.2				1.04	1.33	1.38	5.85	
M12	MW16	M12MW16	06/25/09	90263.01	2.31	***57.5***	97.8	0.246	0.441	1.84	0.979		2.55	13.4	
M12	MW22	M12MW22	09/08/09	90370.09		***64.8***	50.3		***4.34***			***5.02***			
M12	MW25	M12MW25	09/08/09	90370.12		***29.2***	58.3							***48.8***	
M12	MW21	M12MW21	09/08/09	90370.08		***26.8***	56.7							***44.9***	
M12	MW20	M12MW20	09/08/09	90370.07		***25***	28.6							39.2	
M12	MW17	M12MW17	09/08/09	90370.04		***21.6***	80.7		1.54					36.7	
M12	MW19	M12MW19	09/08/09	90370.06		***25.4***	7.92				1.07			36.6	
M12	MW26	M12MW26	09/08/09	90370.13		***20.4***	31.8							36.2	
M12	MW18	MW18 Duplicate	09/08/09	90370.02		***6.83***	239	0.792	0.627		2.92		7.25	18	
M12	MW18	M12MW18	09/08/09	90370.05		***9.26***	239	0.767	0.739		2.53		7.06	27	
M12	MW16	M12MW16	09/08/09	90370.03		***55***	205	0.651	2.08				6.95	20.8	
M12	MW24	M12MW24	09/08/09	90370.11		***17.3***	39.9	0.432					5.57	35.3	
M12*	MW23	M12MW23	09/08/09	90370.1		***15***	31.6	***1.67***	1.95		4.32		25.7	30.2	
M12	MW22	M12MW22	11/18/09	90451.09		***96.1***	52					***6.04***			
M12	MW17	M12MW17	11/18/09	90451.04		0.77	39.3								
M12	MW18	M12MW18	11/18/09	90451.05		1.11	256	0.801					9.12	9.05	
M12	MW18	MW18 Duplicate	11/18/09	90451.02			258	0.819					9.03		
M12	MW19	M12MW19	11/18/09	90451.06		0.99	16.9						3.05		
M12	MW24	M12MW24	11/18/09	90451.11		0.82	53.3	***1.24***					19.2	13.6	
M12	MW23	M12MW23	11/18/09	90451.1		1.05	57	0.568	1.13				18	10.9	
M12	MW16	M12MW16	11/18/09	90451.03		***39.1***	213	0.628					10.6		
M12	MW26	M12MW26	11/18/09	90451.13		2.27	27.1						1.01		
M12	MW25	M12MW25	11/18/09	90451.12	5.87	0.7	78						0.821	11.5	
M12	MW21	M12MW21	11/18/09	90451.08	***7.79***	1.74	64.3						0.644		
M12	MW20	M12MW20	11/18/09	90451.07		0.8	30.4						0.632		
M12	MW18	M12MW18	02/04/10	10049.05			146	0.446			2.16		6.3		
M12	MW18	MW18 Duplicate	02/04/10	10049.02		0.88	140	0.437			1.16		6.26		
M12	MW16	M12MW16	02/04/10	10049.03		***25.3***	84.9	0.106				2.58	4.14		
M12	MW26	M12MW26	02/04/10	10049.09		1.85	23.1	0.163	0.856	1.74			2.99		
M12	MW24	M12MW24	02/04/10	10049.08			37.6	0.677	0.817		1.59		12.4		
M12	MW23	M12MW23	02/04/10	10049.07			27.7	0.271		2.59	2.22		10.8		
M12	MW20	M12MW20	02/04/10	10049.06		1.17	22				1.75		1.25		
M12	MW17	M12MW17	02/04/10	10049.04		0.66	33.2						0.996		
M12	MW25	M12MW25	02/05/10	10052.06	5.23	1.69	22.5				1.08				
M12	MW22	M12MW22	02/05/10	10052.05		***47.2***	24.2		0.565						
M12	MW19	M12MW19	02/05/10	10052.03		0.69	3.43								
M12	MW19	MW19 Duplicate	02/05/10	10052.02			2.8								
M12	MW21	M12MW21	02/05/10	10052.04		1.1	50.5						1.02		
M12	MW19	LF3(1)	06/02/10	10226.05	4.91		5.81								0.72
M12	MW17	LF3(1) Duplicate	06/02/10	10226.02	5.34		4.64								

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to September 2010 at Site M-12

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
M12	MW17	LF3(1)	06/02/10	10226.03	***7.94***		4.53								1.76
M12	MW20	LF3(1)	06/02/10	10226.06			25.6								
M12	MW18	LF3(1)	06/02/10	10226.04			137	0.554					5.44		1.94
M12	MW26	LF3(1)	06/03/10	10234.03	5.87		27.1								
M12	MW25	LF3(1)	06/03/10	10234.06	***6.44***		15.3								
M12	MW26	LF3(1) Duplicate	06/03/10	10234.02	***6.7***		24.9								
M12	MW21	LF3(1)	06/03/10	10234.04	***8.59***		50.6								
M12	MW24	LF3(1)	06/03/10	10234.05	***6.25***		56.7	***1.35***	1				18.7		1.21
M12	MW23	LF3(1)	06/04/10	10235.05	***6.75***	0.74	70.3	***1.23***	1.86		3.41	2.78	32.4		
M12	MW16	LF3(1)	06/04/10	10235.04	***7.81***	***19.92***	69.3	0.169	1.41				1.98		
M12	MW22	LF3(1)	06/04/10	10235.03	***9.83***	***136***	48.8	0.138	2.43			***7***	0.65		
M12	MW22	LF3(1) Duplicate	06/04/10	10235.02	***11.8***	***122***	51.6	0.143	2.72			4.83	0.579		
M12	MW15	M12MW15	08/20/10	10357.02	***10.2***	0.68	305	0.815	2.42		4.93	3.19			
M12	MW14	M12MW14	08/20/10	10357.01		0.68	83.6	0.8	0.68		3.46		28.9		
M12	MW20	MW20 LF4(1)	09/08/10	10379.06	***13.3***		26.1					4.09			
M12	MW19	MW19 LF4(1)	09/08/10	10379.05	***13.7***	0.97	6.08								
M12	MW17	MW17 LF4(1)	09/08/10	10379.04	***16.1***	0.67	4.35								
M12	MW18	MW18 LF4(1)	09/08/10	10379.03	5.49	1.2	169	0.655	0.749		2.26		5.66		
M12	MW18	MW18 LF4(1)	09/08/10	10319.02	***8.99***	0.99	169	0.651					5.52		
M12	MW25	MW25 LF4(1)	09/09/10	10382.06	***15.5***	0.89	14.3								
M12	MW22	MW22 LF4(1)	09/09/10	10382.07	***17.7***	***47.82***	43.6		3.65			***7.19***			
M12	MW21	MW21 LF4(1)	09/09/10	10382.03	***18.9***	1.3	57		0.799						
M12	MW21	MW21 LF4(1)	09/09/10	10382.02	***20.2***	1.17	60.9		0.776						
M12	MW26	MW26 LF4(1)	09/09/10	10382.04	***14.3***	1.92	38.3	0.105	0.808	3.05	1.7	2.8			
M12	MW16	MW16 LF4(1)	09/09/10	10382.08	***12.8***	***47.03***	135	0.231	2.46	1.78		***5.31***	3.75		
M12*	MW24	MW24 LF4(1)	09/09/10	10382.05	***13.9***	1.24	61.3	***1.78***	1.05		4.06		24.7		
M12*	MW23	MW23 LF4(1)	09/10/10	10384.01	***12.8***	***3.67***	46.5	***2.05***	2	2.04	2.49	***5.49***	36.3		
				Mean	8.34	31.80	75.47	0.61	2.25	1.46	7.59	5.38	8.09	19.44	1.58
				90th Percentile	16.18	81.08	169.00	1.23	3.82	2.28	9.65	11.44	20.36	65.90	2.05
				Adjusted Mean	7.17	24.06	52.68	0.50	1.30	1.09	3.01	4.38	5.94	12.28	1.46

Notes: Adjusted mean does not include metal concentrations that exceed the 90th Percentile
1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)
2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile
3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers
4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile
5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors
M: Metal detected in method blank
* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
M-12 Landfill
Concentration Rankings and Recommended Monitoring Well Sampling

Well ID	Antimony	Arsenic	Beryllium	Lead	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*3*	*1*	*5*	*40*	*2*
M12MW16			1.37	10.2	*	*
M12MW17						
M12MW18						
M12MW19		91.1	1.15	18	*	*
M12MW20	18			6.82	*	*
M12MW21	20.2	109			*	*
M12MW22		136		12	*	*
M12MW23			2.05		*	*
M12MW24	18.6		1.78		*	*
M12MW25	21	111			*	*
M12MW26						

Notes:

Results reported in µg/L.

Within the reporting period, the four highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Metals were analyzed during the entire reporting period, 4th Quarter 2008 through 3rd Quarter 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
M-14 Landfill (FTMM-14)

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
M-14 Landfill

M-14	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
Feb 05 - Aug 10	n=39	n=98	n=164	n=43	n=83	n=62	n=74	n=30	n=94	n=72	n=4
90th Percentile	**16.90**	**39.33**	123.80	0.31	3.02	3.38	15.23	**7.04**	17.93	**51.03**	**4.57**
Mean	**8.88**	**13.47**	58.18	0.20	3.26	1.73	7.85	3.88	9.78	22.09	**2.98**
Adjusted Mean	**7.46**	**8.89**	39.46	0.13	0.99	1.02	4.00	3.22	5.12	16.25	**2.49**
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for barium, beryllium, cadmium, chromium, copper, and nickel are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Mean Values, or Adjusted Mean Values, Meet GWQS:

The mean values for lead and selenium are below their respective GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells M14MW19, M14MW22, M14MW23, and M14MW24 are recommended for sampling with laboratory analysis for antimony, arsenic, and lead, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to August 2010 at Site M-14

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
M14	MW22	M14MW22	02/14/05	50087.07		*5.65*	25.1								
M14	MW21	M14MW21	02/14/05	50087.06			58.9								
M14	MW20	M14MW20	02/14/05	50087.05			13.5								
M14	MW19	M14MW19	02/14/05	50087.04			18.7								
M14	MW24	MW24 Duplicate	02/14/05	50087.03		*12.3*	26.3							24.1	
M14	MW24	M14MW24	02/14/05	50087.09		*10.5*	27.6							23	
M14	MW23	M14MW23	02/14/05	50087.08		*7.01*	124						9.34		
M14	MW23	M14MW23	05/12/05	50256.08			95.4								
M14	MW22	M14MW22	05/12/05	50256.07			46.1								
M14	MW21	M14MW21	05/12/05	50256.06			27.5								
M14	MW20	M14MW20	05/12/05	50256.05			9.29				6.05				
M14	MW19	M14MW19	05/12/05	50256.04			23.5								
M14	MW19	MW19 Duplicate	05/12/05	50256.03			20.3							24.1	
M14	MW24	M14MW24	05/12/05	50256.09			27.8							22.8	
M14	MW23	M14MW23	08/18/05	50409.08		*8.01*	35.1								
M14	MW22	M14MW22	08/18/05	50409.07			62.4								
M14	MW21	M14MW21	08/18/05	50409.06			25.9								
M14	MW20	M14MW20	08/18/05	50409.05			21.2								
M14	MW19	M14MW19	08/18/05	50409.04			13.2		2						
M14	MW20	MW20Duplicate	08/18/05	50409.03			19.3								
M14	MW24	M14MW24	08/18/05	50409.09		*6.04*	31.4							22	
M14	MW21	M14MW21	11/25/05	50616.06			50.3								
M14	MW20	M14MW20	11/25/05	50616.05			13.5								
M14	MW19	M14MW19	11/25/05	50616.04			22								
M14	MW21	MW21 Duplicate	11/25/05	50616.03			47.2								
M14	MW24	M14MW24	11/25/05	50616.09			27.7						9.52	28	
M14	MW23	M14MW23	11/25/05	50616.08		*9.03*	82		2.04				35.9		
M14	MW22	M14MW22	11/25/05	50616.07		*14.5*	77.5				8.48		11.4		
M14	MW21	M14MW21	01/27/06	60063.06			70.9								
M14	MW20	M14MW20	01/27/06	60063.05			9.62								
M14	MW19	M14MW19	01/27/06	60063.04			44								
M14	MW22	M14MW22	01/27/06	60063.07			24.4						7.13		
M14*	MW24	MW24 Duplicate	01/27/06	60063.03		*16.7*	30.3	0.523	*4.31*				18.9	22.9	
M14	MW24	M14MW24	01/27/06	60063.09		*14.1*	29.2						18.2	21.9	
M14	MW23	M14MW23	01/27/06	60063.08			117				27		12.9		
M14	MW21	MW21 Duplicate	04/25/06	60172.03	5.05		44.7		0.364		0.821				
M14	MW19	M14MW19	04/25/06	60172.04	4.59		15.1	0.134		3.81	2.46				
M14	MW20	M14MW20	04/25/06	60172.05			11.8		0.423		4.02		7.79		
M14*	MW22	M14MW22	04/25/06	60172.07			63.1	0.261	1.16	9.52	20	3.52	14	3.38	

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to August 2010 at Site M-14

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
M14	MW24	M14MW24	04/25/06	60172.09		***18.5***	26.5	0.127	0.817		0.864	1.26	13.6		
M14	MW23	M14MW23	04/25/06	60172.08		2.37	60	0.183	2.08	1.3	7.64	1.72	10.3		
M14	MW21	M14MW21	04/25/06	60172.06			42.1		0.545				1.51	3.32	
M14	MW21	M14MW21	09/05/06	60384.06			106	0.106			0.996				
M14	MW23	M14MW23	09/05/06	60384.08		***4.84***	90.6	0.148			4.87		3.36		
M14*	MW22	M14MW22	09/05/06	60384.07	3.4	***8.36***	104	0.268	0.465	1.09	34.3		22.2		
M14	MW20	M14MW20	09/05/06	60384.05		***7.04***	29.3	0.242			6.65		12.6		
M14*	MW24	M14MW24	09/05/06	60384.09		***39.4***	33.7	0.2	***4.64***		6.93		12.3		
M14	MW19	M14MW19	09/05/06	60384.04			46.6	0.174		1.85	6.03	2.23	1.46		
M14	MW21	MW21 Duplicate	09/05/06	60384.03			106	0.133			1.03		1.1		
M14	MW21	M14MW21	11/07/06	60483.06			28.8		0.302					6.67	
M14	MW19	M14MW19	11/07/06	60483.04			43.6		2.05					5.32	
M14	MW20	M14MW20	11/07/06	60483.05		***3.32***	25.2		0.779	0.934	2.26		4.31	8.47	
M14	MW24	MW24 Duplicate	11/07/06	60483.03		***6.96***	35.6	0.124	0.949		3.15		3.56	20.8	
M14	MW24	M14MW24	11/07/06	60483.09		***7.41***	35.9		0.812		2.03		3.49	23.1	
M14	MW22	M14MW22	11/07/06	60483.07		***3.47***	82.9		3.07	1.15			3.21	10.2	
M14	MW23	M14MW23	11/07/06	60483.08		***4.56***	108		0.613		3.44		13.3	7.88	
M14	MW21	M14MW21	02/23/07	70068.06			28		0.449					6.37	
M14	MW19	M14MW19	02/23/07	70068.04			32.7		3.19					5.78	
M14	MW24	M14MW24	02/23/07	70068.09		***7.11***	30.2	0.119	1.35		0.672		7.45	22.6	
M14	MW24	MW24 Duplicate	02/23/07	70068.03		***8.55***	30.5	0.111	1.26		1.4		7.42	23.3	
M14*	MW22	M14MW22	02/23/07	70068.07		***5.76***	194		***6.58***	1.4			6.13	11	
M14	MW20	M14MW20	02/23/07	70068.05		***5.7***	17.5		0.825	0.851	4.48		2.63	5.06	
M14	MW23	M14MW23	02/23/07	70068.08		***9.7***	122		2.5	0.99	13.9		13.9	6.3	
M14	MW19	M14MW19	05/11/07	70172.04			11.6		1.72			1.14			
M14	MW21	M14MW21	05/11/07	70172.06			31			0.263				6.36	
M14	MW20	M14MW20	05/11/07	70172.05			16.5	0.12	0.367	1.19	6.43		5.06	7.52	
M14	MW23	M14MW23	05/11/07	70712.08		***4.51***	163	0.117	0.786	0.879	4.64		4.44	9.21	
M14	MW24	M14MW24	05/11/07	70172.09		***10.7***	25.9	0.165	0.304	0.304			3.41	22.5	
M14	MW24	MW24 Duplicate	05/11/07	70172.03		***10.6***	25.5		0.268	0.559	0.881		3.03	20.9	
M14	MW22	M14MW22	05/11/07	70172.07		***7.22***	46	0.102	2.56	1.38		2.7	2.88	6.09	
M14	MW20	M14MW20	08/23/07	70314.05		***7.66***	21.9		0.738	2.36	5.18		8.44	6.36	
M14	MW24	M14MW24	08/23/07	70314.09		***8.54***	23.9	0.148	1.38	1.98	3.55		5.79	20.7	
M14	MW24	MW24 Duplicate	08/23/07	70314.03		***9.97***	23.3	0.129	1.17	1.86	2.33		5.53	22.9	
M14	MW22	M14MW22	08/23/07	70314.07		***9.89***	73.1		2.82	1.97	2.48	5	5.04	6.01	
M14	MW23	M14MW23	08/23/07	70314.08		***4.87***	216		1.13	1.32	6.43	2.01	4.84	7.81	
M14	MW19	M14MW19	08/23/07	70314.04		***3.71***	75.8	0.125	1.29	5.39	3.29	3.99	2.28		
M14	MW21	M14MW21	08/23/07	70314.06		2.82	123			0.462	0.526		0.853	11.8	
M14	MW21	M14MW21	12/31/07	70574.06			14		0.375						

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to August 2010 at Site M-14

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
M14	MW19	M14MW19	12/31/07	70574.04			187		0.867	0.73	1.62				
M14	MW24	MW24 Duplicate	12/31/07	70574.03	2.2	***39.3***	33.6		0.957	0.553	0.925		9.88		
M14	MW24	M14MW24	12/31/07	70574.09		***40.4***	34.1		1	0.655	0.746		9.25		
M14	MW23	M14MW23	12/31/07	70574.08			80.7		0.91	0.224	23.2		5.03		
M14	MW20	M14MW20	12/31/07	70574.05			12.9		0.454	0.653	4.24		0.923		
M14	MW22	M14MW22	12/31/07	70574.07			76.9		0.922	0.751	1.69		0.729		
M14	MW22	M14MW22	03/18/08	80089.07			33.7				1.53				
M14	MW21	M14MW21	03/18/08	80089.06			39.7		0.227		0.908				
M14	MW19	M14MW19	03/18/08	80089.04			32.5				7.19				
M14*	MW23	M14MW23	03/18/08	80089.08		***7.63***	203		0.777	0.329	60.6	1.19	7.11		
M14*	MW24	M14MW24	03/18/08	80089.09	3.91	***44.5***	27.8		0.455	0.213	1.29		28.4		***2.45***
M14*	MW24	MW24 Duplicate	03/18/08	80089.03	5.93	***43.1***	28.9		0.613	0.561	2.11		25.6		1.73
M14	MW20	M14MW20	03/18/08	80089.05		2.74	18.8		0.902	0.315	4.99		1.92		
M14*	MW20	M14MW20	05/19/08	80167.05		***4.5***		***1.2***	0.586					6.8	***4.94***
M14	MW21	MW21 Duplicate	05/19/08	80167.03			32.8		0.381	1.04				5.44	
M14	MW21	M14MW21	05/19/08	80167.06		2.88	34.8		0.307	0.692				4.88	
M14	MW23	M14MW23	05/19/08	80167.08		***4.2***	249		1.7	1.38	3.59	2.09	8.35		
M14	MW24	M14MW24	05/19/08	80167.09		***8.43***	25	0.165		0.424			6.2	15.5	
M14*	MW19	M14MW19	05/19/08	80167.04			25.3	0.253	1.08	17.8	4.4	***10.2***	1.71		
M14	MW22	M14MW22	05/19/08	80167.07		***3.33***	41.7		0.665	0.814			1.11		
M14	MW21	M14MW21	08/14/08	80299.06		***3.87***	27		0.523	1.16				3.57	
M14	MW23	M14MW23	08/14/08	80299.08		***14.2***	59.2		0.971	0.861				5.75	
M14	MW19	MW19 Duplicate	08/14/08	80299.03			17.5		1.42	0.511					
M14	MW24	M14MW24	08/14/08	80299.09		***4.64***	32.7	0.136		0.508			1.72	16.4	
M14	MW20	M14MW20	08/14/08	80299.05		***6.1***	92.1	0.145	2.13	4.07			1.68		
M14	MW22	M14MW22	08/14/08	80299.07		***4.02***	143		2.5	0.561			0.643		
M14	MW19	M14MW19	08/14/08	80299.04		2.97	16.8		1.51	0.372			0.506		
M14	MW21	M14MW21	10/30/08	80395.06			97.9								
M14	MW20	M14MW20	10/30/08	80395.05		***3.27***	19.8								
M14	MW24	M14MW24	10/30/08	80395.09			35.6		1.63				6.15		***4.02***
M14*	MW23	M14MW23	10/30/08	80395.08		***4.85***	360	***1.09***	***15.3***		15.8		50.7		
M14	MW22	M14MW22	10/30/08	80395.07	2.93		346						11.3		
M14	MW19	M14MW19	10/30/08	80395.04			61.1	0.112		2.08	6.21	2.73	1		
M14	MW19	MW19 Duplicate	10/30/08	80395.03			61.2			1.49	4.79	2.01	0.729		
M14	MW19	M14MW19	03/31/09	90139.04	***12***	***32.4***	47.7			1.32		***6.67***		33.6	
M14*	MW21	M14MW21	03/31/09	90139.06	***9.71***	***47.3***	71.9			1.25				***72.6***	
M14*	MW20	M14MW20	03/31/09	90139.05	***9.38***	***54.2***	25.4			1.22	2.9	***5.46***		***51.2***	
M14*	MW22	M14MW22	03/31/09	90139.07	***21.8***	***52.1***	184			1.05		***9.96***		***42.5***	
M14*	MW20	MW20 Duplicate	03/31/09	90139.03	***8.68***	***47.5***	42.3			0.873	2.18			***60.2***	

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to August 2010 at Site M-14

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
M14*	MW24	M14MW24	03/31/09	90139.09	***23.1***	***95.6***	23.7		1.05	0.629	11.8		7.79	***62.7***	
M14*	MW23	M14MW23	03/31/09	90139.08	***17.7***	***74***	73.2	0.332	1.9	0.696	20.8		7.03	***73.3***	
M14	MW21	M14MW21	06/17/09	90242.06		***21.7***	29.3		0.332					6.51	
M14	MW24	M14MW24	06/17/09	90242.09	4.81	***21.3***	28.4	0.103	0.891			***5.41***	3.94	4.42	
M14	MW19	MW19 Duplicate	06/17/09	90242.03	1.67	***16.3***	58.1		0.227	2.36	7.5	***6.79***	3.62	7.08	
M14	MW19	M14MW19	06/17/09	90242.04	3.05	***14.6***	52.4			2.23	7.03	3.97	3.55		
M14	MW23	M14MW23	06/17/09	90242.08		***29.5***	42.9	0.182	0.502		6.94	1.3	1.86	9.39	
M14	MW20	M14MW20	06/17/09	90242.05	1.88	***24.6***	15.9		0.621	0.476	11.8	1.79	1.64	8.42	
M14	MW22	M14MW22	06/17/09	90242.07	4.92	***28.1***	213		0.743		1.39		0.518	9.71	
M14	MW22	M14MW22	09/10/09	90375.06		***22.7***	156		1.21					33.2	
M14	MW21	M14MW21	09/10/09	90375.05		***17.8***	29							31.1	
M14	MW20	M14MW20	09/10/09	90375.04		***22.7***	18.9							24.1	
M14	MW19	M14MW19	09/10/09	90375.03		***11.2***	45		0.573					12.7	
M14	MW19	MW19 Duplicate	09/10/09	90375.02		***9.69***	55.7		1.08			4.72		10.2	
M14	MW24	M14MW24	09/10/09	90375.08	***6.59***	***30.9***	20.9						1.25	***58***	
M14	MW23	M14MW23	09/10/09	90375.07		***23***	61.6						0.582	28.6	
M14	MW20	M14MW20	11/20/09	90452.05		1.92	96.9					2.93	8.11		
M14	MW22	M14MW22	11/20/09	90452.07		0.97	393		0.521			2.41	6.02		
M14*	MW23	M14MW23	11/20/09	90452.08		2.6	208		***5.82***				40.1	12.9	
M14	MW19	M14MW19	11/20/09	90452.04		1.03	72.2			1.81			2.62		
M14	MW24	M14MW24	11/20/09	90452.09	4.9	***3.41***	25.9						2.61	10.7	
M14	MW19	MW19 Duplicate	11/20/09	90452.03		0.68	90.7			1.09		3.11	2.42		
M14	MW21	M14MW21	11/20/09	90452.06		0.75	51.9						0.745		
M14	MW22	LF3(1)	03/31/10	10114.09	***14.3***		29.4							***47.6***	1.74
M14	MW20	LF3(1)	03/31/10	10114.08	***6.67***		8.84							38.1	
M14	MW24	LF3(1)	03/31/10	10114.04	***6.94***		30.9							***49.5***	
M14	MW23	LF3(1)	03/31/10	10114.06	***9.93***	2.85	40.8	0.056		7.66	10.5	4.22	6.97	37	
M14	MW21	LF3(1)	03/31/10	10114.05	***12.2***	1.04	14.4		0.622		3.29		17.3	***86.7***	
M14	MW24	LF3(1) Duplicate	03/31/10	10114.03	***13.9***	0.9	13.9		0.713		2.96		16.2	***85.8***	
M14	MW19	LF3(1)	03/31/10	10114.07	4.94	0.89	12.1	0.047		3.64	1.09	3.65	1.61	17.8	
M14	MW19	LF4(1) Duplicate	06/04/10	10237.03	***8.64***		8.56	0.086	0.527						
M14	MW19	LF4(1)	06/04/10	10237.04			9.41	0.108							
M14	MW22	LF4(1)	06/07/10	10240.08			16.6	0.052							
M14	MW20	LF4(1) Duplicate	06/07/10	10240.03	***7.12***		10.3	0.058							
M14	MW20	LF4(1)	06/07/10	10240.04	4.97		10.2	0.065							
M14	MW21	LF4(1)	06/07/10	10240.05	***6.5***		26.7	0.065							
M14	MW24	LF4(1)	06/07/10	10240.07	***13.2***	***4.74***	21.8	0.135	0.624				2.05		
M14	MW23	LF4(1)	06/07/10	10240.06	***8.43***	***5.01***	22.4	0.069					0.699		
M14	MW21	M14MW21	08/26/10	10363.06			29.3				2.14				

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to August 2010 at Site M-14

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
M14*	MW23	M14MW23	08/26/10	10363.07	***16.7***	***3.49***	165		***9.73***		6.66	3.02	44.2		
M14	MW19	M14MW19	08/26/10	10363.04		1.83	13.1		0.663		1.6		0.828		
M14	MW19	MW19 Duplicate	08/26/10	10363.03	4.91	1.49	14.7				1.81		0.799		
M14	MW20	M14MW20	08/26/10	10363.05		1.75	11.3				2.51		0.471		
M14	MW18	M14MW18	08/27/10	10366.01		***10.25***	10.1			1.05	3.94		3.8		
M14*	MW22	M14MW22	08/27/10	10365.05	***22.5***	1.71	219	0.324	***145***		115	***9.32***	***205***		
M14	MW24	M14MW24	08/27/10	10365.04	***13.5***	1.58	19.6				3.02		2.14		
M14	MW24	MW24 Duplicate	08/27/10	10365.03	***12.8***	1.63	20.5				2.98		1.28		
				Mean	8.88	13.47	58.18	0.20	3.26	1.73	7.85	3.88	9.78	22.09	2.98
				90th Percentile	16.90	39.33	123.80	0.31	3.02	3.38	15.23	7.04	17.93	51.03	4.57
				Adjusted Mean	7.46	8.89	39.46	0.13	0.99	1.02	4.00	3.22	5.12	16.25	2.49

Notes: Adjusted mean does not include metal concentrations that exceed the 90th Percentile

1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)
2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile
3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers
4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile
5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors

M: Metal detected in method blank

* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
M-14 Landfill
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Arsenic	Lead	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*3*	*5*	*40*	*2*
M14MW19			6.79	*	*
M14MW20					
M14MW21					
M14MW22	22.5		9.96	*	*
M14MW23		74		*	*
M14MW24	23.1	95.6		*	*

Notes:

Results reported in µg/L.

Within the reporting period, the two highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Metals were analyzed during the entire reporting period, 4th Quarter 2008 through 3rd Quarter 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
MP-18 Landfill (FTMM-18)

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
MP-18 Landfill

MP-18	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
Feb 05 - Aug 10	n=16	n=35	n=49	n=8	n=27	n=20	n=13	n=20	n=24	n=24	n=11
90th Percentile	29.95	48.36	356.8	0.5513	5.772	3.939	8.186	11.14	10.714	48.96	9.89
Mean	14.36	19.42	216.50	0.30	5.09	2.40	4.68	8.94	4.55	27.70	7.57
Adjusted Mean	11.78	8.86	170.29	0.18	2.38	1.66	2.38	4.49	3.03	23.14	4.67
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for barium, beryllium, chromium, copper, and nickel are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Mean Values, or Adjusted Mean Values, Meet GWQS:

The mean value for selenium is below its GWQS.

The adjusted mean values for cadmium and lead are below their respective GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells MP18MW24 and MP18MW25 are recommended for sampling with laboratory analysis for antimony, arsenic, and lead, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to August 2010 at Site M-18

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
MP18	MW24	MP18MW24	2/2/2005	50062.01			209							***56.1***	
MP18	MW25	MP18MW25	2/2/2005	50062.02			135					***6.1***		27.1	
MP18	MW25	MP18MW25	5/3/2005	50235.02		***9.06***	30.2								
MP18	MW24	MP18MW24	5/3/2005	50235.01			132							39	
MP18	MW25	MP18MW25	8/12/2005	50401.05			287								
MP18	MW24	MW24 Duplicate	8/12/2005	50401.03			260		***5.76***					***49.5***	
MP18	MW24	MP18MW24	8/12/2005	50401.04			272		***5.79***					***47.7***	
MP18	MW24	MP18MW24	11/10/2005	50588.01		***6.67***	133					***11.1***	9.58	28.9	
MP18	MW25	MP18MW25	11/10/2005	50588.02		***15.9***	108		3.27				6.3	21.8	
MP18	MW25	MP18MW25	1/19/2006	60036.02		***6.16***	38.4								
MP18	MW24	MP18MW24	1/19/2006	60036.01		***8.74***	52								
MP18	MW25	MP18MW25	4/19/2006	60167.02	2.55	***7.42***	95.3				0.917		5.03		***3.31***
MP18	MW24	MP18MW24	4/19/2006	60167.01	2.32		163		0.544	1.66	0.659	1.45	3.77		***4.94***
MP18	MW25	MP18MW25	8/11/2006	60357.02	2.49		249				0.999				
MP18	MW24	MP18MW24	8/11/2006	60357.01	2.93		225			1.87					***4.1***
MP18	MW25	MP18MW25	12/13/2006	60530.02		***12.3***	125		***5.69***	1.6			1.74	23.4	***9.89***
MP18	MW24	MP18MW24	12/13/2006	60530.01		***9.4***	152		1.28	0.94			1.02	29.3	
MP18	MW25	MP18MW25	3/5/2007	70083.02		***10.4***	34		1.85	1.55			6.41	12.8	***3.66***
MP18	MW24	MP18MW24	3/5/2007	70083.01		***6.24***	87.5		0.741				3.22	19.4	
MP18	MW25	MP18MW25	6/7/2007	70207.02		***12.8***	105		***4.26***	1.14		4.2		20.6	
MP18	MW24	MP18MW24	6/7/2007	70207.01		***15.2***	216	0.201	3.37	0.922		3.36		***45.5***	
MP18*	MW25	MP18MW25	9/7/2007	70328.02		***101***	1380	***1.21***	***65.7***	13.9		***86.5***	13.6		
MP18	MW24	MP18MW24	9/7/2007	70328.01		***15***	250	0.231	***4.34***	1.31		4.8	0.779	***47.1***	
MP18	MW24	MP18MW24	11/14/2007	70462.01			274		0.494	2.38	2.22		2.15		***2.31***
MP18	MW25	MP18MW25	11/14/2007	70462.02		***3.25***	188				2.18		1.42		
MP18*	MW25	MP18MW25	3/4/2008	80067.02		***4.61***	43.9		0.262		9.21		20.8		***3.31***
MP18	MW24	MP18MW24	3/4/2008	80067.01			108		0.519	1.2	1.93	2.48	11.2		***5.8***
MP18	MW24	MP18MW24	5/14/2008	80162.01		***6.41***	115	0.195		0.942		3.01	5.25	24.2	
MP18	MW25	MP18MW25	5/14/2008	80162.02		***7***	39.3	0.1	2.4	2.2		3	3		
MP18	MW25	MP18MW25	8/13/2008	80296.02		***13.5***	295	0.12	***8.83***			***6.89***		7.79	
MP18	MW24	MP18MW24	8/13/2008	80296.01		***13.2***	243	0.269	***5.04***	1.61		3.11		17.9	
MP18*	MW25	MP18MW25	10/24/2008	80387.02	***11.7***		376			4.29	3.43				***2.21***
MP18	MW24	MP18MW24	10/24/2008	80387.01			310		0.568	2			3.6		***7.19***
MP18*	MW24	MP18MW24	3/25/2009	90121.01	***28.2***	***140***	279			3.9	25.5	***5.87***		36.7	***36.5***
MP18*	MW25	MP18MW25	3/25/2009	90121.02	***22.7***	***112***	147			0.923	2.37	***11.5***		***73.4***	
MP18	MW25	MP18MW25	6/2/2009	90219.02	***6.19***	***15.4***	133							6.19	
MP18	MW24	MP18MW24	6/2/2009	90219.01	***8***		225	0.113		1.85		3.07			
MP18	MW24	MP18MW24	9/17/2009	90385.01		***42.9***	289		3.17						

Table 1. Summary of Select Metal Concentrations in Groundwater from February 2005 to August 2010 at Site M-18

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
MP18	MW25	MP18MW25	9/17/2009	90385.02		***52***	352		2.05				0.824	24.6	
MP18	MW25	MP18MW25	11/23/2009	90458.02		2.98	170								
MP18	MW24	MP18MW24	11/23/2009	90458.01		1.33	460								
MP18	MW25	MP18MW25	2/2/2010	10046.02	***6.43***	***8.11***	44						2.2		
MP18	MW24	MP18MW24	2/2/2010	10046.01		1.86	182						1.88		
MP18	MW25	LF3(1) Duplicate	5/14/2010	10193.03	***14.7***	1.28	109		0.953			3.08			
MP18	MW25	LF3(1)	5/14/2010	10193.04	***16.3***	2.15	118		1.2			3.31			
MP18	MW24	LF3(1)	5/14/2010	10193.05	***15.9***	1.25	158		0.942			3.58	0.898		
MP18	MW24	LF4(1)	9/14/2010	10389.05	***24.5***	1.64	312		3.99	1.89	3.45	***8.89***	2.19	1.91	
MP18*	MW25	LF4(1)	9/14/2010	10389.04	***33.1***	***7.58***	459		2.09		4.09		1.33	1.61	
MP18*	MW25	LF4(1) Duplicate	9/14/2010	10389.03	***31.7***	***4.82***	441		2.32		3.9	3.56	1.03	2.34	
				Mean	14.36	19.42	216.50	0.30	5.09	2.40	4.68	8.94	4.55	27.70	7.57
				90th Percentile	29.95	48.36	356.8	0.5513	5.772	3.939	8.186	11.1	10.714	48.96	9.89
				Adjusted Mean	11.78	8.86	170.29	0.18	2.38	1.66	2.38	4.49	3.03	23.14	4.67

Notes: Adjusted mean does not include metal concentrations that exceed the 90th Percentile

1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)
2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile
3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers
4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile
5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors

M: Metal detected in method blank

* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
MP-18 Landfill
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Arsenic	Lead	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*3*	*5*	*40*	*2*
MP18MW24	28.2	140	8.89	*	*
MP18MW25	33.1	112	11.5	*	*

Notes:

Results reported in µg/L.

Within the reporting period, the two highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Metals were analyzed during the entire reporting period, 4th Quarter 2008 through 3rd Quarter 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
Building CW-1 (FTMM-22)

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
Building CW-1

CW-1	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
April 10 - Sept 10	n=18	n=22	n=43	n=33	n=16	n=13	n=19	n=9	n=41	n=0	n=2
90th Percentile	12.90	10.16	191.40	0.43	1.89	3.16	5.06	5.30	18.60	NR	1.07
Mean	8.99	5.33	81.42	0.23	1.49	2.08	3.36	3.84	7.09	NR	1.01
Adjusted Mean	8.72	2.35	60.06	0.16	1.33	1.66	1.86	3.65	5.12	NR	0.93
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for barium, beryllium, cadmium, chromium, copper, nickel, and thallium are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Mean Values, or Adjusted Mean Values, Meet GWQS:

The mean value for lead is below its GWQS.

The adjusted mean value for arsenic is below its GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells CW1MW29, CW1MW36, CW1MW37, CW1MW38, CW1MW39, and CW1MW40 are recommended for sampling with laboratory analysis for antimony, arsenic, and lead, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from April 2010 to September 2010 at Site CW-1

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	2
CW1	MW26	LF1(1) Duplicate	4/19/2010	10150.03			67.9	0.987					4.41	
CW1	MW26	LF1(1)	4/19/2010	10150.04		0.72	60.4	0.892					3.59	
CW1	MW27	LF1(1)	4/19/2010	10150.05			68.4	0.236					3.57	
CW1	MW29	LF1(1)	4/19/2010	10150.06		1.02	13.9	0.043	3.29	1.33			1.48	
CW1	MW30	LF1(1)	4/19/2010	10150.07			10			1.13			0.919	
CW1	MW31	LF1(1)	4/20/2010	10154.04			106	0.23		1.01			3.91	
CW1	MW31	LF1(1) Duplicate	4/20/2010	10154.03			117	0.245					3.75	
CW1	MW33	LF1(1)	4/20/2010	10154.06			22.9	0.219		1.33			2.04	
CW1	MW32	LF1(1)	4/20/2010	10154.05			185	0.252	0.65				11.2	
CW1	MW34	LF1(1)	4/20/2010	10154.07			17.1	0.111					1.92	
CW1*	MW38	LF1(1)	4/22/2010	10160.08	***10.3***	2.67	242		1.9			***5.33***	6.18	
CW1*	MW39	LF1(1)	4/22/2010	10160.07	***12.4***	***25.92***	54.9	0.219	1.75			3.67	32.2	
CW1*	MW36	LF1(1)	4/22/2010	10160.04	***12.9***		265	0.102	1.52		16.8		12	
CW1	MW35	LF1(1)	4/22/2010	10160.05			58.4	0.201		5.56	2.12		12	
CW1*	MW36	LF1(1) Duplicate	4/22/2010	10160.03	***13.6***	0.78	256	0.121	1.85		15.4	2.66	11.5	
CW1	MW282	LF1(1)	4/22/2010	10160.06			4.89						0.463	
CW1	MW291	LF1(1)	4/23/2010	10162.05			15.9							
CW1	MW281	CW1MW281	4/23/2010	10162.06	***7.07***	1.06	94.3		1.77			4.88	5.38	
CW1	MW40	LF1(1)	4/23/2010	10162.04	***7***	***9.69***	57.8	0.138	0.932				19.5	
CW1	MW40	LF1(1) Duplicate	4/23/2010	10162.03	***8.99***	***9.61***	55.4	0.095	1.18				19.4	
CW1	MW37	LF1(1)	4/23/2010	10162.08	***10.7***		57.6		0.565				13.8	
CW1	MW28	LF1(1)	4/23/2010	10162.07			31.2	0.173		1.09			0.915	
CW1	MW26	LF2(1) Duplicate	8/10/2010	10338.03	5.09		18.2	0.216		2.67	1.43		1.33	
CW1	MW26	LF2(1)	8/10/2010	10338.04			17.7	0.223		2.4	1.51		0.804	
CW1	MW282	LF2(1)	8/11/2010	10338.07			142	0.139			1.66		8.53	0.93
CW1*	MW31	LF1(1)	8/11/2010	10338.08	***7.66***		263	0.783			1.96		6.51	
CW1	MW29	LF2(1)	8/11/2010	10338.09	***10.3***	0.81	35.6	0.06	1.55	1.81	2.3		1.83	
CW1	MW27	LF2(1)	8/11/2010	10338.05			20.1	0.179		3.23	1.94		1.39	
CW1	MW30	LF2(1)	8/11/2010	10338.06			11	0.09			1.69		0.636	1.09
CW1	MW35	LF2(1)	8/17/2010	10346.05		0.68	59.8	0.283		1.4			5.76	
CW1	MW36	LF2(1)	8/17/2010	10346.07	5.87	0.86	104	0.108			2.47		4.34	
CW1	MW33	LF2(1) Duplicate	8/17/2010	10346.03		0.89	47.4	0.442		2.86			4.19	
CW1	MW291	LF2(1)	8/17/2010	10346.08		0.68	135	0.12			1.22		3.67	
CW1	MW33	LF2(1)	8/17/2010	10346.04		1.27	45.3	0.401		1.22			3.4	
CW1	MW34	CW1MW34	8/17/2010	10346.06		0.09	23	0.05					2.13	
CW1	MW37	LF2(1)	8/17/2010	10346.09	***6.58***	1.13	45.6						11.5	
CW1	MW38	LF2(1)	8/24/2010	10362.04	***9.16***	***5.06***	176		1.48		1.9	***5.29***	4.91	
CW1	MW38	LF2(1) Duplicate	8/24/2010	10362.03	***8.65***	***5.06***	193		1.87		2.09	3.58	4.88	

Table 1. Summary of Select Metal Concentrations in Groundwater from April 2010 to September 2010 at Site CW-1

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	2
CW1	MW281	CW1MW281	8/25/2010	10362.07	5.7	1.54	115		1.13		1.79	2.45		
CW1*	MW39	LF2(1)	8/25/2010	10362.05	***12.9***	***36.4***	42.2	0.118	1.3		2.31	3.83	30.4	
CW1	MW40	LF2(1)	8/25/2010	10362.06	***6.94***	***10.21***	41.9	0.045	1.11		2.09	2.86	18.6	
CW1	MW28	LF2(1)	8/25/2010	10362.08		1	18.1	0.095			1.02		1.2	
CW1	MW32	LF2(1)	8/27/2010	10367.01			85.2	0.07			2.18		4.74	
				Mean	8.99	5.33	81.42	0.23	1.49	2.08	3.36	3.84	7.09	1.01
				90th Percentile	12.90	10.16	191.40	0.43	1.89	3.16	5.06	5.30	18.60	1.07
				Adjusted Mean	8.72	2.35	60.06	0.16	1.33	1.66	1.86	3.65	5.12	0.93

Notes: Adjusted mean does not include metal concentrations that exceed the 90th Percentile

1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)
2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile
3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers
4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile
5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors

M: Metal detected in method blank

* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
Building CW-1
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Arsenic	Lead	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*3*	*5*	*40*	*2*
CW1MW26					
CW1MW27					
CW1MW28					
CW1MW281					
CW1MW29	10.3			*	*
CW1MW30					
CW1MW31					
CW1MW32					
CW1MW34					
CW1MW35					
CW1MW36	13.6			*	*
CW1MW37	10.7			*	*
CW1MW38		5.06	5.33	*	*
CW1MW39	12.9	36.4		*	*
CW1MW40		10.21		*	*

Notes:

Results reported in µg/L.

Within the reporting period, the four highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Metals were analyzed during the following quarters: 2nd & 3rd Quarters 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
Landfill CW-3A (FTMM-25)

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
Landfill CW-3A

CW-3A	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
Jan 05 - July 10	n=47	n=58	n=104	n=30	n=62	n=64	n=36	n=39	n=69	n=37	n=4
90th Percentile	17.75	71.14	557.20	0.30	5.52	10.24	36.15	9.57	9.70	84.88	3.68
Mean	7.67	27.33	200.80	0.25	2.21	5.28	15.58	5.45	5.61	29.01	2.20
Adjusted Mean	6.31	16.69	146.51	0.18	1.69	1.91	8.56	4.68	3.90	20.02	1.50
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for barium, beryllium, chromium, copper, and nickel are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Mean Values, or Adjusted Mean Values, Meet GWQS:

The mean values for cadmium and selenium are below their respective GWQS.

The adjusted mean values for lead and thallium are below their respective GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells CW3AMW02, CW3AMW03, and CW3AMW04 are recommended for sampling with laboratory analysis for antimony, arsenic, cadmium, and lead, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to July 2010 at Site CW-3A

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
CW3A	MW03	CW3AMW03	1/11/2005	50013.05			124				10.3				
CW3A	MW02	CW3AMW02	1/11/2005	50013.04			588					*5.66*			
CW3A	MW01	CW3AMW01	1/11/2005	50013.03											
CW3A	MW01	MW01 Duplicate	1/11/2005	50013.02											
CW3A	MW04	CW3AMW04	1/11/2005	50013.06			149			12.7		*5.17*	5.94		
CW3A	MW04	CW3AMW04	4/7/2005	50191.06			101								
CW3A	MW03	CW3AMW03	4/7/2005	50191.05			129								
CW3A	MW02	CW3AMW02	4/7/2005	50191.04			226								
CW3A	MW01	CW3AMW01	4/7/2005	50191.03			14.9				6.39				
CW3A	MW02	MW02 Duplicate	4/7/2005	50191.02			218								
CW3A	MW04	CW3AMW04	7/12/2005	50343.06			166		*4.8*						
CW3A	MW03	CW3AMW03	7/12/2005	50343.05			114								
CW3A*	MW02	CW3AMW02	7/12/2005	50343.04		*231*	562		*5.81*						
CW3A	MW01	CW3AMW01	7/12/2005	50343.03											
CW3A	MW02	CW3AMW02	10/19/2005	50541.04											
CW3A	MW01	CW3AMW01	10/19/2005	50541.03			522		3.28						
CW3A	MW04	CW3AMW04	10/19/2005	50541.06			111		2.68				5.76		
CW3A*	MW03	MW03 Duplicate	10/19/2005	50541.02			133				37.2	*5.56*	16.1		
CW3A	MW03	CW3AMW03	10/19/2005	50541.05			128				31		15.4		
CW3A	MW04	CW3AMW04	1/4/2006	60003.06			143					*5.09*			
CW3A	MW02	CW3AMW02	1/4/2006	60003.04			440					*9.44*			
CW3A	MW01	CW3AMW01	1/4/2006	60003.03			8.94								
CW3A	MW03	CW3AMW03	1/4/2006	60003.05			131				16.6		7.67		
CW3A	MW02	CW3AMW02	4/6/2006	60140.04	2.41		493		0.974						
CW3A	MW03	CW3AMW03	4/6/2006	60140.05	2.85	*3.6*	117		0.425	1.41	9.24		7.67		
CW3A	MW04	CW3AMW04	4/6/2006	60140.06	2.05		134		0.85				3.43		
CW3A	MW03	MW03 Duplicate	4/6/2006	60140.02	*6.4*	*4.62*	129	0.168	0.758	2.33	26		2.45		
CW3A	MW01	CW3AMW01	4/6/2006	60140.03			5.96	0.108		6.56			1.73		
CW3A	MW02	CW3AMW02	7/7/2006	60301.04	2.6		538				1.89				
CW3A	MW03	CW3AMW03	7/7/2006	60301.05	3.82		120				2.95				
CW3A	MW03	MW03 Duplicate	7/7/2006	60301.02	5.07		123				4.25				
CW3A	MW04	CW3AMW04	7/7/2006	60301.06		2.07	159				2				
CW3A	MW01	CW3AMW01	7/7/2006	60301.03	4.48					3.55	1.66				
CW3A	MW01	CW3AMW01	10/12/2006	60449.03						1.07				4.12	
CW3A	MW04	CW3AMW04	10/12/2006	60449.06		2.43	125		0.792	1.04				10.2	
CW3A	MW03	CW3AMW03	10/12/2006	60449.05		2.11	112		1.09	0.95	2.63		7.23	8.68	
CW3A	MW03	MW03 Duplicate	10/12/2006	60449.02	2.61	*3.77*				0.913	3.3		6.77	11.4	
CW3A*	MW02	CW3AMW02	10/12/2006	60449.04			528		*5.58*	3.54			1.18	10.5	*4.32*

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to July 2010 at Site CW-3A

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
CW3A	MW01	CW3AMW01	1/5/2007	70004.03											
CW3A	MW03	CW3AMW03	1/5/2007	70004.05	2.85	***3.6***	117		0.425	1.41	9.24		7.67		
CW3A	MW03	MW03 Duplicate	1/5/2007	70004.02	3.67	***10.1***	162	0.145	3.04	2.12	9.5		3.21	7.81	
CW3A	MW02	CW3AMW02	1/5/2007	70004.04	3.58	***7.78***	158	0.116	2.21	1.53	3.18		2.84	9.1	
CW3A	MW04	CW3AMW04	1/5/2007	70004.06		***6.78***	132		***7.24***	1.32			1.84	8.46	
CW3A	MW04	CW3AMW04	4/20/2007	70144.06		***8.7***	188	0.296	***4.65***	1.13		4.02	6.41	9.34	
CW3A	MW01	CW3AMW01	4/20/2007	70144.03			8.41	0.233	0.5	9.64	0.953		5.83	7.59	***2.19***
CW3A	MW03	MW03 Duplicate	4/20/2007	70144.02	4.78	***6.99***	141	0.244	1.48	0.503		2.03	4.89	15.4	
CW3A	MW03	CW3AMW03	4/20/2007	70144.05	5.3	***5.54***	140	0.28	1.29	0.249		1.05	4.89	14.2	
CW3A	MW02	CW3AMW02	4/20/2007	70144.04		***5.33***	232	0.243	3.17	0.409		3.7	1.84	10.7	1.67
CW3A	MW03	CW3AMW03	7/19/2007	70271.05			96.2	0.138	1.77	0.918	3.17		7.81	12	
CW3A	MW04	CW3AMW04	7/19/2007	70271.06		***9.29***	146		***4.94***	0.749		2.26	1.7	15.6	
CW3A	MW02	CW3AMW02	7/19/2007	70271.04		***32.5***	512		***6.64***	0.662		***5.62***	1.58	19.3	
CW3A	MW02	MW02 Duplicate	7/19/2007	70271.02		***35.3***	513		***6.67***	0.698		***5.54***	1.41	19	
CW3A	MW01	CW3AMW01	7/19/2007	70271.03			11.8		1.01	0.256	0.508		1.34	14.4	
CW3A	MW02	CW3AMW02	10/4/2007	70371.04	1.68	***69.3***	583			1.6	0.909				
CW3A*	MW03	MW03 Duplicate	10/4/2007	70371.02	***10.2***		105	0.372		9.52	48.7	3.68	8.96		
CW3A	MW03	CW3AMW03	10/4/2007	70371.05	2.62		96.6	0.195		3.13	17.4		7.62		
CW3A	MW04	CW3AMW04	10/4/2007	70371.06	4.38		114			1.08			0.863		
CW3A	MW01	CW3AMW01	10/4/2007	70371.03	2.34		20	0.101	0.892	1.05		***16.7***	0.847		
CW3A	MW04	CW3AMW04	1/9/2008	80011.06			126	0.226	1.1	1.09			6.92		
CW3A	MW03	CW3AMW03	1/9/2008	80011.05		***3.9***	144	0.17	0.239	0.344	2.76		6.33		
CW3A	MW01	CW3AMW01	1/9/2008	80011.03			1.36	0.177	0.202	3.91			4.71		
CW3A*	MW01	MW01 Duplicate	1/9/2008	80011.02			1.24			69.7	12.4		33.4		
CW3A	MW02	CW3AMW02	1/9/2008	80011.04			760	0.152	0.99				2.8		
CW3A	MW01	CW3AMW01	4/8/2008	80116.03											
CW3A	MW01	MW01 Duplicate	4/8/2008	80116.02											
CW3A*	MW02	CW3AMW02	4/8/2008	80116.04		***9.13***	612		***6.29***	0.601		4.81			
CW3A	MW04	CW3AMW04	4/8/2008	80116.06		***3.74***	130		***4.26***	0.71		2.93	2.3		
CW3A	MW03	CW3AMW03	4/8/2008	80116.05			114		1.23	0.857		0.76	0.385		
CW3A	MW01	CW3AMW01	7/23/2008	80249.03			31.3	0.108	1.14	1.02				9.63	
CW3A	MW01	MW01 Duplicate	7/23/2008	80249.02			24.5		0.495	0.985				10.5	
CW3A	MW03	CW3AMW03	7/23/2008	80249.05			80.8	0.1	0.313	1.05			2.66	8.14	
CW3A	MW04	CW3AMW04	7/23/2008	80249.06			131	0.138	1.42	1.75			1.38	6.89	
CW3A*	MW02	CW3AMW02	7/23/2008	80249.04		***113***	664	0.135	***4.32***	0.852		4.99	1.18	3.2	
CW3A	MW02	CW3AMW02	10/15/2008	80366.04	3.83	***32.6***	861	0.129		0.531					
CW3A*	MW03	CW3AMW03	10/15/2008	80366.05	***18.7***		180	***2.04***	0.697	***92***	113	***11***	45.3		
CW3A	MW04	CW3AMW04	10/15/2008	80366.06			131	0.299	0.594	1.09			3.67		

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to July 2010 at Site CW-3A

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
CW3A	MW01	MW01 Duplicate	10/15/2008	80366.02		2.42	26.4	0.248	0.713	5.25		4.03	1.1		
CW3A	MW01	CW3AMW01	10/15/2008	80366.03			26.2	0.217	0.676	4.09		1.62	0.718		
CW3A*	MW03	CW3AMW03	2/17/2009	90055.05	***17.8***	***92.6***	88.4			3.91	10	***8.35***		***80.6***	
CW3A*	MW04	MW04 Duplicate	2/17/2009	90055.02	***19.2***	***75.4***	186			0.874		***9.82***		35.8	
CW3A*	MW04	CW3AMW04	2/17/2009	90055.06	***19.7***	***73.9***	136			0.825		***8.07***		***53***	
CW3A	MW01	CW3AMW01	2/17/2009	90055.03	***7.12***	***35.7***	2.61		0.221	0.814		***8.83***		***46.9***	
CW3A*	MW02	CW3AMW02	2/17/2009	90055.04	***18.7***	***121***	598			0.395		***11***		***44.6***	
CW3A*	MW02	CW3AMW02	4/22/2009	90164.04	1.22	***62.5***	630		***5.87***	1.71	4.14			***40.2***	
CW3A	MW01	MW01 Duplicate	4/22/2009	90164.02	***8.08***	***40.6***	14.4			0.479		2.13		***91.3***	
CW3A	MW04	CW3AMW04	4/22/2009	90164.06	***9.27***	***67.3***	124		2.51	1.7			3.22	***92.7***	
CW3A	MW03	CW3AMW03	4/22/2009	90164.05	***17.7***	***61.4***	127		0.243	1.37			2.59	***132***	
CW3A	MW01	CW3AMW01	4/22/2009	90164.03	***13.4***	***49.3***	13.6			1.29			0.676	***96.6***	
CW3A	MW03	CW3AMW03	7/22/2009	90306.05		***14.7***	87.7	0.087	0.574	3.09	6.55		7.48	19.8	
CW3A	MW01	CW3AMW01	7/22/2009	90306.03		***28.3***	83.5		0.955				6.82	***47.6***	
CW3A	MW04	CW3AMW04	7/22/2009	90306.06	***6.72***	***31***	146		2.07				3.99	6.72	
CW3A	MW02	CW3AMW02	7/22/2009	90306.04	***8.06***	***51.3***	489		2.04		1.35		2.22		
CW3A*	MW03	MW03 Duplicate	7/22/2009	90306.02	***15***	***21.3***	97.1	0.193	1.95	14.1	88.3	***9.51***	10.6		
CW3A	MW04	CW3AMW04	10/7/2009	90407.06	4.85	2.3	148		1.43				9.47		
CW3A	MW01	CW3AMW01	10/7/2009	90407.03			56				2.84		4.48	39.3	
CW3A*	MW03	CW3AMW03	10/7/2009	90407.05		***4.82***	97.3	0.182	2.04	13.7	21.9	***8.99***	12.8		
CW3A*	MW03	MW03 Duplicate	10/7/2009	90407.02	***6.79***	***5.1***	92.3	0.209	1.79	16.4	35.1	***8.57***	11.9		
CW3A	MW02	CW3AMW02	10/7/2009	90407.04		***66.3***	623		2.54			3.41	0.886		
CW3A	MW02	CW3AMW02	1/5/2010	10004.04		2.57	723								
CW3A	MW03	MW03 Duplicate	1/5/2010	10004.02	5.59	2.82	103			10.5	10.3	4.86	7.53		
CW3A	MW03	CW3AMW03	1/5/2010	10004.05	5.85	1.87	101			5.21	3.36		6		0.63
CW3A	MW01	CW3AMW01	1/5/2010	10004.03	4.94	2	3.42			1.38			1.93		
CW3A	MW04	CW3AMW04	1/5/2010	10004.06			126						1.82		
CW3A	MW01	LF3(1)	4/7/2010	10129.04		0.9	8.67								
CW3A	MW03	LF3(1)	4/7/2010	10129.05	***8.7***	1.78	82.1						6.6		
CW3A	MW04	LF3(1)	4/7/2010	10129.03		***3.9***	112		1.18			2.82	3.4		
CW3A	MW04	LF3(1) Duplicate	4/7/2010	10129.02	***7.25***	***4.01***	120		1.38			3.14	3.18		
CW3A	MW02	LF3(1)	4/7/2010	10129.06	5.38	***4.6***	324					3.41	0.887		
CW3A	MW02	LF4(1)	7/26/2010	10320.06	***12.6***	***3.02***	484		3.64			3.33			
CW3A	MW03	LF4(1)	7/26/2010	10320.05			109		0.924				9.03		
CW3A	MW01	LF4(1)	7/26/2010	10320.04	***9.51***	1.77	146		1.05	2.36		2.58	2.91		
CW3A	MW04	LF4(1)	7/26/2010	10320.03	***13.8***	***4.17***	152		3.9			***5.46***	0.606		
CW3A	MW04	LF4(1) Duplicate	7/26/2010	10320.02	***9.47***	***4.04***	135		3.24			2.53	0.539		

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to July 2010 at Site CW-3A

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
				Mean	7.67	27.33	200.80	0.25	2.21	5.28	15.58	5.45	5.61	29.01	2.20
				90th Percentile	17.75	71.14	557.20	0.30	5.52	10.24	36.15	9.57	9.70	84.88	3.68
				Adjusted Mean	6.31	16.69	146.51	0.18	1.69	1.91	8.56	4.68	3.90	20.02	1.50

Notes: Adjusted mean does not include metal concentrations that exceed the 90th Percentile

1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)
2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile
3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers
4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile
5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors

M: Metal detected in method blank

* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
Landfill CW-3A
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Arsenic	Cadmium	Lead	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*3*	*4*	*5*	*40*	*2*
CW3AMW01						
CW3AMW02	18.7	121	5.87	11	*	*
CW3AMW03	18.7	92.6		11	*	*
CW3AMW04	19.7				*	*

Notes:

Results reported in µg/L.

Within the reporting period, the two highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Metals were analyzed during the entire reporting period, 4th Quarter 2008 through 3rd Quarter 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.

SITE SPECIFIC EVALUATION
Building CW-6

Site data and 90th Percentile calculations are provided on Table 1 (attached), and summarized as follows:

90th Percentile Analysis Summary
Building CW-6

CW-6	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Ni	Se*	Tl*
Jan 05 - July 10	n=25	n=58	n=103	n=56	n=59	n=83	n=57	n=38	n=79	n=41	n=2
90th Percentile	16.86	48.34	59.52	1.33	1.63	7.33	52.04	7.19	19.56	32.20	2.27
Mean	7.77	17.50	25.45	0.47	1.22	3.60	23.28	3.92	7.53	15.40	2.18
Adjusted Mean	4.96	11.17	20.88	0.34	0.74	2.88	15.69	3.42	5.60	8.61	2.07
NJDEP GWQS (ug/L)	**6**	**3**	**6000**	**1**	**4**	**70**	**1300**	**5**	**100**	**40**	**2**

Results reported in µg/L or parts per billion. Shaded cells indicate values that exceed the GWQS. "n" = population size in the statistical analysis. As a conservative measure, non-detectable results were not included in the statistical analysis, and thus the population size may be biased low when compared to the total number of data points. * Due to possible laboratory inaccuracies, the 90th Percentile Analysis was not used in developing sampling recommendations for these parameters.

90th Percentile Values Meet GWQS:

The 90th percentile values for barium, cadmium, chromium, copper, nickel, and selenium are below their respective GWQS.

Note that due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Mean Values, or Adjusted Mean Values, Meet GWQS:

The mean values for beryllium and lead are below their respective GWQS.

The adjusted mean value antimony is below its GWQS.

Recommendations:

In consideration of the above, the following sampling protocol is recommended for this site:

1. Selenium and Thallium - Due to possible laboratory inaccuracies affecting selenium and/or thallium results, the 90th Percentile Analysis was not used to determine compliance with the GWQS.

Evaluation of the 4th Quarter 2010 and 1st Quarter 2011 sampling should be performed to determine compliance with the GWQS. If exceedances of the GWQS are identified, the sampling protocol specified under item 3 below should be followed.

2. With the exception of selenium and thallium (addressed above), no further sampling/analysis is recommended for metals with 90th percentile values below their respective GWQS.

3. For remaining metals, the collection of ground water samples using the following sampling protocol is recommended.

Collection of samples on a semiannual basis, targeting the times of the year typically exhibiting elevated precipitation amounts (generally 2nd and 4th quarters).

For future sampling events, raw and filtered water sample pairs should be collected from select wells (identified below), to evaluate the input from sample turbidity. Samples should be analyzed by a NJ certified laboratory. Slow-purge methodology should be followed for all sampling events which include metals analyses. Refer to the Concentration Ranking and Monitoring Well Selection Protocol described below.

Concentration Ranking and Monitoring Well Selection Protocol

For the specified sampling events, the monitoring wells recommended for sampling were selected with a bias towards those wells demonstrating the highest concentrations as follows.

For the available data from 4th Quarter 2008 through 3rd Quarter 2010, the highest observed concentrations for the site monitoring wells were ranked for each metal of concern. For larger sites, such as landfills, the highest four concentrations were listed; for smaller sites, the highest two concentrations were deemed adequate. Concentration Rankings and Recommended Well Sampling are summarized in Table 2 (attached).

Based on the specified protocol, monitoring wells CW6MW01, CW6MW02, and CW6MW03 are recommended for sampling with laboratory analysis for antimony, arsenic, beryllium, and lead, along with selenium and thallium as required.

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to July 2010 at Site CW-6

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
CW6*	MW02	MW2 Duplicate	1/1/2005	50017.02	***32.9***	***47.2***			***12.1***		7.32				
CW6*	MW02	CW6MW2	1/1/2005	50017.04	***34.3***	***51***			***12.3***		8.5				
CW6	MW03	CW6MW03	1/1/2005	50017.05			10.5								
CW6	MW01	CW6MW01	1/1/2005	50017.03			17.3				7.2				
CW6	MW34	CW6MW34	1/11/2005	50017.06			35.2								
CW6	MW34	CW6MW34	4/13/2005	50199.06			32.7								
CW6	MW03	CW6MW03	4/13/2005	50199.05			8.46								
CW6	MW01	CW6MW01	4/13/2005	50199.03			12.9								
CW6	MW01	MW01 Duplicate	4/13/2005	50199.02			14.5								
CW6	MW34	CW6MW34	7/14/2005	50346.06			14.7								
CW6	MW03	CW6MW03	7/14/2005	50346.05			14.2								
CW6	MW01	CW6MW01	7/14/2005	50346.03			16.6				19.8				
CW6	MW01	MW01 Duplicate	7/14/2005	50346.02			17.1				24.7		5.98		
CW6	MW34	CW6MW34	10/28/2005	50561.06			47.2								
CW6	MW03	CW6MW03	10/28/2005	50561.05			11.4								
CW6	MW01	CW6MW01	10/28/2005	50561.03			11.6				22.8				
CW6	MW01	MW01 Duplicate	10/28/2005	50561.02			11.5				22.1				
CW6	MW34	CW6MW34	1/10/2006	60019.06			42.3								
CW6	MW03	CW6MW03	1/10/2006	60019.05			11.6								
CW6	MW01	CW6MW01	1/10/2006	60019.03			15.7				9.53		5.67		
CW6	MW01	MW01 Duplicate	1/10/2006	60019.02			16.9				6.29		5.59		
CW6	MW03	CW6MW03	4/6/2006	60141.05			11.3		0.531	1.71	1.57				
CW6	MW01	CW6MW01	4/6/2006	60141.03		***3.23***	18.5	0.145		5.6	36.1	1.53	8.2		
CW6	MW01	MW01 Duplicate	4/6/2006	60141.02			17.1	0.113		5.7	33.9		8.15		
CW6	MW34	CW6MW34	4/6/2006	60141.06			60.6	0.444	0.821	1.47			6.15		
CW6	MW03	CW6MW03	7/6/2006	60300.05	***6.13***	***3.83***	14.3			1.39	5.42				
CW6*	MW01	MW01 Duplicate	7/6/2006	60300.02	***9.79***	***9.43***	13.5	0.106		11.3	103	***8.12***	9.77		
CW6*	MW01	CW6MW01	7/6/2006	60300.03	***6.43***	***7.91***	13.6			11	105	***7.4***	9.34	3.1	
CW6	MW34	CW6MW34	7/6/2006	60300.06		2.47	40.1	0.155	0.559	2.18	1.41		2.49		
CW6	MW03	CW6MW03	10/24/2006	60464.05			11.4			1.44				7.95	
CW6	MW01	CW6MW01	10/24/2006	60464.03		2.27	10.2	0.144		7.34	43.1	3.25	4.91	6.45	
CW6	MW01	MW01 Duplicate	10/24/2006	60464.02		***3.44***	10.1	0.175		7.3	42.6	3.72	4.82	6.14	
CW6	MW34	CW6MW34	10/24/2006	6046405		2.21	59.6	0.438	1.22	2.92			4.52	6.59	
CW6	MW03	CW6MW03	1/9/2007	70012.05			9.47		1.04	2.19	3.53			5.14	
CW6	MW01	MW01 Duplicate	1/9/2007	70012.02		***3.57***	16.8	0.135		4.37	17		5.62	3.3	
CW6*	MW34	CW6MW34	1/9/2007	70012.06	2.5		60.3	0.462	1.78	2.12			5.54	7.64	
CW6	MW01	CW6MW01	1/9/2007	70012.03		2.37	16.4	0.144		5.03	18.5		5.44	4.71	
CW6	MW01	CW6MW01	4/26/2007	70151.03			22.6	0.33	0.684	6.52	9.25	1.34	9.17	7.6	
CW6	MW01	MW01 Duplicate	4/26/2007	70151.02			24.1	0.313	0.698	3.39	8.64	1.13	7.27	9.39	***2.07***
CW6	MW34	CW6MW34	4/26/2007	70151.06			23.2	0.438	0.9	2.44			3.61	8.11	***2.29***

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to July 2010 at Site CW-6

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
CW6	MW03	CW6MW03	4/26/2007	70151.05			16.8	0.296	1.19	0.678		0.768	1.98	7.99	
CW6*	MW01	CW6MW01	7/26/2007	70281.03	3.52	***5.45***	15	0.134	0.421	9.01	54.2	***6.58***	7.97		
CW6	MW01	MW01 Duplicate	7/26/2007	70281.02	2.44	***5.37***	15.9	0.125	0.348	6.49	50.6	***5.19***	7.72		
CW6	MW34	CW6MW34	7/26/2007	70281.06	0.719		15.5	0.2	0.684	3.11	0.92		2.35		
CW6	MW03	CW6MW03	7/26/2007	70281.05			13		1.14	1.56	3.84		0.671	5.25	
CW6	MW01	CW6MW01	11/23/2007	70484.03	1.61	***5.67***	15.8	0.128	0.369	2.72	22.8	***7.95***	3.98	4.35	
CW6	MW01	MW01 Duplicate	11/23/2007	70484.02	1.81	***4.21***	16.8	0.132	0.233	3.1	22.5	***7.07***	3.6	3.59	
CW6	MW02	CW6MW02	11/23/2007	70484.04		***5.95***	58.7	***1.26***		1.07		0.706	22.9		
CW6	MW34	CW6MW34	11/23/2007	70484.06			23	0.348	0.511	2.36		0.824	2.03	3.73	
CW6	MW03	CW6MW03	11/23/2007	70484.05	1.32		17.3	0.123	1.46	1.26	3.15	4.66	0.878	5.02	
CW6	MW34	CW6MW34	1/9/2008	80012.06			35.1	0.462	0.583	1.56			8.56		
CW6	MW01	CW6MW01	1/9/2008	80012.03		***3.75***	12.4	0.221	0.259	5.07	23.9		4.14	4.97	
CW6	MW03	CW6MW03	1/9/2008	80012.05			10.4	0.185	0.683	0.86	0.504		3.61		
CW6*	MW02	CW6MW02	1/9/2008	20012.03		***12.4***	59.2	***1.5***	0.72	1.26			25.5		
CW6*	MW02	MW02 Duplicate	1/9/2008	80012.02		***12.6***	58.9	***1.54***	0.716	1.29			24.8		
CW6	MW03	CW6MW03	4/8/2008	80119.05			9.51		0.785	1.4					
CW6	MW34	CW6MW34	4/8/2008	80119.06			52	0.257	0.78	1.27			4.87		
CW6	MW01	CW6MW01	4/8/2008	80119.03			11.9	0.134		6.6	23	2.19	4.71		
CW6	MW01	MW01 Duplicate	4/8/2008	80119.02		***3.67***	11.8	0.133		5.15	22.4	2.37	4.6		
CW6*	MW02	CW6MW02	4/8/2008	80119.04		***16.1***	58.3	***1.28***	1.65	1.96			21.1		
CW6	MW01	MW01 Duplicate	7/23/2008	80369.03		***10.2***	10.5	0.206	0.617	10.5	43.8	***7.1***	4.74	5.78	
CW6*	MW01	CW6MW01	7/23/2008	80254.03		***11***	10.4	0.234	0.699	9.17	42.1	***9.26***	4.48	7.02	
CW6*	MW02	CW6MW02	7/23/2008	80254.04		***16.4***	66.6	0.893	2.57	5.76		3.47	18.7	5.5	
CW6	MW34	CW6MW34	7/23/2008	8025405			22.6	0.354	0.73	3.87			1.82	4.84	
CW6	MW03	CW6MW03	7/23/2008	80254.05			23	0.228	0.924	5.21		4.51	1.7	9.99	
CW6	MW03	CW6MW03	10/15/2008	80369.05			14.7	0.248		2.15				4.41	
CW6*	MW01	CW6MW01	10/15/2008	80254.02	1.2	***10.2***	9.78	0.35	0.545	10.1	99.9	***6.68***	5.67	6.9	
CW6*	MW01	MW01 Duplicate	10/15/2008	80369.02			7.37	0.302	0.28	7.55	84.1	3.15	5.18	4.88	
CW6	MW34	CW6MW34	10/15/2008	80369.06			23.9	0.531	0.25	2.61			2.78	3.77	
CW6*	MW02	CW6MW02	10/15/2008	80369.04		***19.2***	63.9	***1.37***	0.243	2.46			17.5	3.18	
CW6*	MW03	CW6MW03	3/6/2009	90092.05	***9.93***	***64.4***	31.6		1.13	0.57	1.48	3.62		***95.9***	
CW6*	MW03	MW03 Duplicate	3/6/2009	90092.02	***17.9***	***63.8***	30.1		1.63	0.508	0.701			***79.3***	
CW6*	MW01	CW6MW01	3/6/2009	90092.03	***15.3***	***64.9***	25.3		0.38	3.42	10.4	1.85	5.38	***89.4***	
CW6*	MW34	CW6MW34	3/6/2009	90092.06	3.29	***37.7***	61	0.297		1.62			4.53	***48***	
CW6	MW02	CW6MW02	3/6/2009	90092.04		***40.3***	57.2	***1.45***		0.811		***5.21***	19.4	24.4	
CW6	MW03	MW03 Duplicate	5/20/2009	90206.02	2.72	***18.1***	14.9		0.499	4.67	47.5	3.62	7.39		
CW6	MW03	CW6MW03	5/20/2009	90206.05		***18.7***	13.8		0.297	4.6	46.6	2.82	7.12		
CW6	MW34	CW6MW34	5/20/2009	90206.06	4.71	***9.28***	31.1	0.151	0.285	3.62	1.42	1.86	4.09	5.15	
CW6*	MW02	CW6MW02	5/20/2009	90206.04		***25.3***	62.5	***1.85***	0.643	0.547		2.31	28.3		
CW6	MW01	CW6MW01	5/20/2009	90206.03		***15***	8.31		0.427	1.06			1.09		

Table 1. Summary of Select Metal Concentrations in Groundwater from January 2005 to July 2010 at Site CW-6

Site ID	Well ID	SiteWELL ID	Date Collected	Lab ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Thallium
NJDEP Ground Water Quality Standards (µg/L)					6	3	6000	1	4	70	1300	5	100	40	2
CW6*	MW01	CW6MW01	8/27/2009	90360.03		***20.3***	10.1			9.12	80.2	2.7	8.37	24.2	
CW6	MW34	CW6MW34	8/27/2009	90360.06		***7.56***	30.1	0.206	0.981	3.17			3.23	20.4	
CW6	MW02	CW6MW02	8/27/2009	90360.04		***26.1***	60.6	0.87	1.13	4.93			15.9	7.37	
CW6	MW03	CW6MW03	8/27/2009	90360.05		***17.3***	21.1		0.675	3.39	3.89	4.99	1.85	27.6	
CW6	MW03	MW03 Duplicate	8/27/2009	90360.02		***19.2***	20.9		0.652	1.45	1.76	3.43	1.6	32.2	
CW6	MW01	CW6MW01	10/28/2009	90431.03		***4.26***	17.4			4.34	22.1	3.29	6.9		
CW6	MW34	CW6MW34	10/28/2009	90431.06		***9.04***	27.5	0.198		1.91			3.95		
CW6	MW03	CW6MW03	10/28/2009	90431.05		1.39	5.88		0.938	2.64	3.42		3.2	10.1	
CW6*	MW02	CW6MW02	10/28/2009	90431.04		***120***	54.8	***1.28***	0.559	2.06			20.2		
CW6	MW03	MW03 Duplicate	10/28/2009	90431.02		***8.23***	6.5		0.899	3.09	3.82		1.89		
CW6	MW01	CW6MW01	1/19/2010	10021.03		***4.54***	12.7			6.54	11.1		7.3		
CW6	MW34	CW6MW34	1/19/2010	10021.06			25.8	0.128		1.47			4.67		
CW6*	MW02	CW6MW02	1/19/2010	10021.04	4.96	***70.07***	67.5	***1.52***		2.08			27.5		
CW6	MW03	CW6MW03	1/19/2010	10021.05	5.28		17.3			2.01			2.13		
CW6	MW03	MW03 Duplicate	1/19/2010	10021.02	***7.33***		18.4		0.915	2.5		3.2	2.06		
CW6	MW01	CW6MW01	4/9/2010	10134.03		***3.63***	16.4			1.96	12.8		6.99		
CW6	MW01	LF3(1) Duplicate	4/9/2010	10134.02	5.9	***4.08***	17.3			1.86	13.5		6.82		
CW6	MW03	LF3(1)	4/9/2010	10134.04		1.33	27.1	0.083		2.6			2.48		
CW6	MW02	LF3(1)	4/9/2010	10134.06	3.36	2.19	13.3		0.777			3.36	2.41		
CW6	MW34	LF3(1)	4/9/2010	10134.05		***20.72***	71.9	0.456		3.12		3.55	18.2		
CW6	MW01	CW6MW01	7/22/2010	10318.06	***8.88***	***12.1***	26.3		1.18	1.78	4.59		6.72		
CW6*	MW02	CW6MW02	7/22/2010	10318.05		***20.16***	66.6	0.846	2.46	5.05	2.17	4.09	26.5		
CW6	MW34	CW6MW34	7/22/2010	10318.07			31.1	0.171	1.13	2.82			2.91		
CW6	MW03	CW6MW03	7/22/2010	10318.04		1.86	11.4		1.25	2.38	1.62		1.35		
CW6	MW03	MW03 Duplicate	7/22/2010	10318.03		2.29	12.3		1.22	2.23	2.65		1.27		
				Mean	7.77	17.50	25.45	0.47	1.22	3.60	23.28	3.92	7.53	15.40	2.18
				90th Percentile	16.86	48.34	59.52	1.33	1.63	7.33	52.04	7.19	19.56	32.20	2.27
				Adjusted Mean	4.96	11.17	20.88	0.34	0.74	2.88	15.69	3.42	5.60	8.61	2.07

Notes: Adjusted mean does not include metal concentrations that exceed the 90th Percentile

1) Concentrations bolded and italicized exceed applicable Ground Water Quality Standard (GWQS)
2) Concentrations bolded and italicized in red exceed applicable GWQS and the 90th Percentile
3) Concentrations highlighted in red cells exceed exceed the 90th Percentile and are deemed to be extreme outliers
4) Samples highlighted in yellow contain two or more metal concentrations that exceed the 90th Percentile
5) Blank cells indicate metals were not detected, not analyzed, or not reported due to instrument errors

M: Metal detected in method blank

* Sample contains two or more metals at concentrations exceeding the 90th Percentile

Table 2
Building CW-6
Concentration Rankings and Recommended Monitoring Well Sampling
4th Quarter 2008 - 3rd Quarter 2010

Well ID	Antimony	Arsenic	Beryllium	Lead	Selenium	Thallium
	NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
	6	*3*	*1*	*5*	*40*	*2*
CW6MW01	15.3	64.9		7.1	*	*
CW6MW02		120	1.85	5.21	*	*
CW6MW03	17.9				*	*
CW6MW34						

Notes:

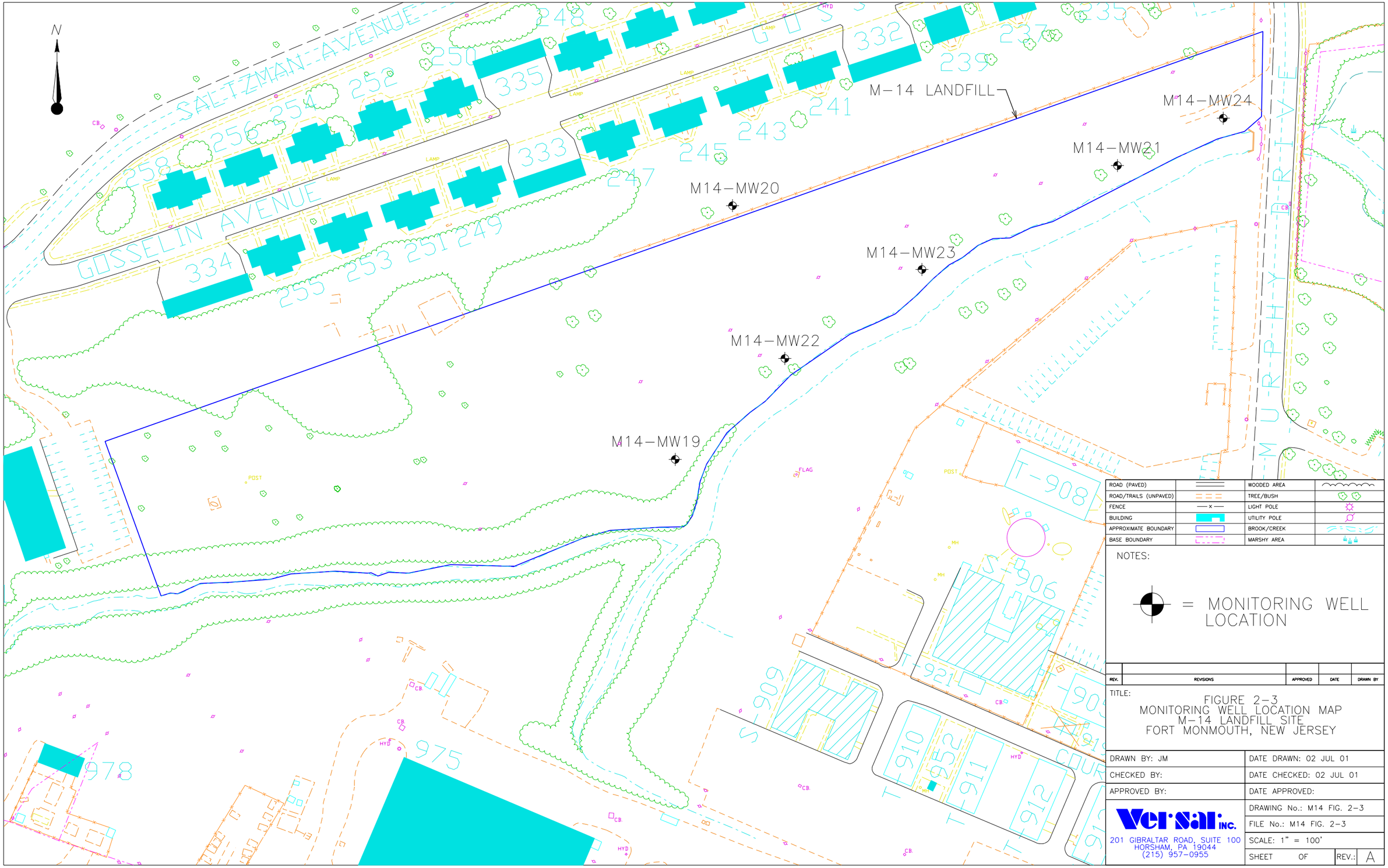
Results reported in µg/L.

Within the reporting period, the two highest concentrations are listed for each parameter.

Shaded rows indicate monitoring wells recommended for metals analysis.

Metals were analyzed during the entire reporting period, 4th Quarter 2008 through 3rd Quarter 2010.

*Based on results from the 4th Quarter 2010 and 1st Quarter 2011 sampling events, analysis of Selenium and Thallium may be required.



ROAD (PAVED)		WOODED AREA	
ROAD/TRAILS (UNPAVED)		TREE/BUSH	
FENCE	—x—	LIGHT POLE	
BUILDING		UTILITY POLE	
APPROXIMATE BOUNDARY		BROOK/CREEK	
BASE BOUNDARY		MARSHY AREA	

NOTES:

⊕ = MONITORING WELL LOCATION

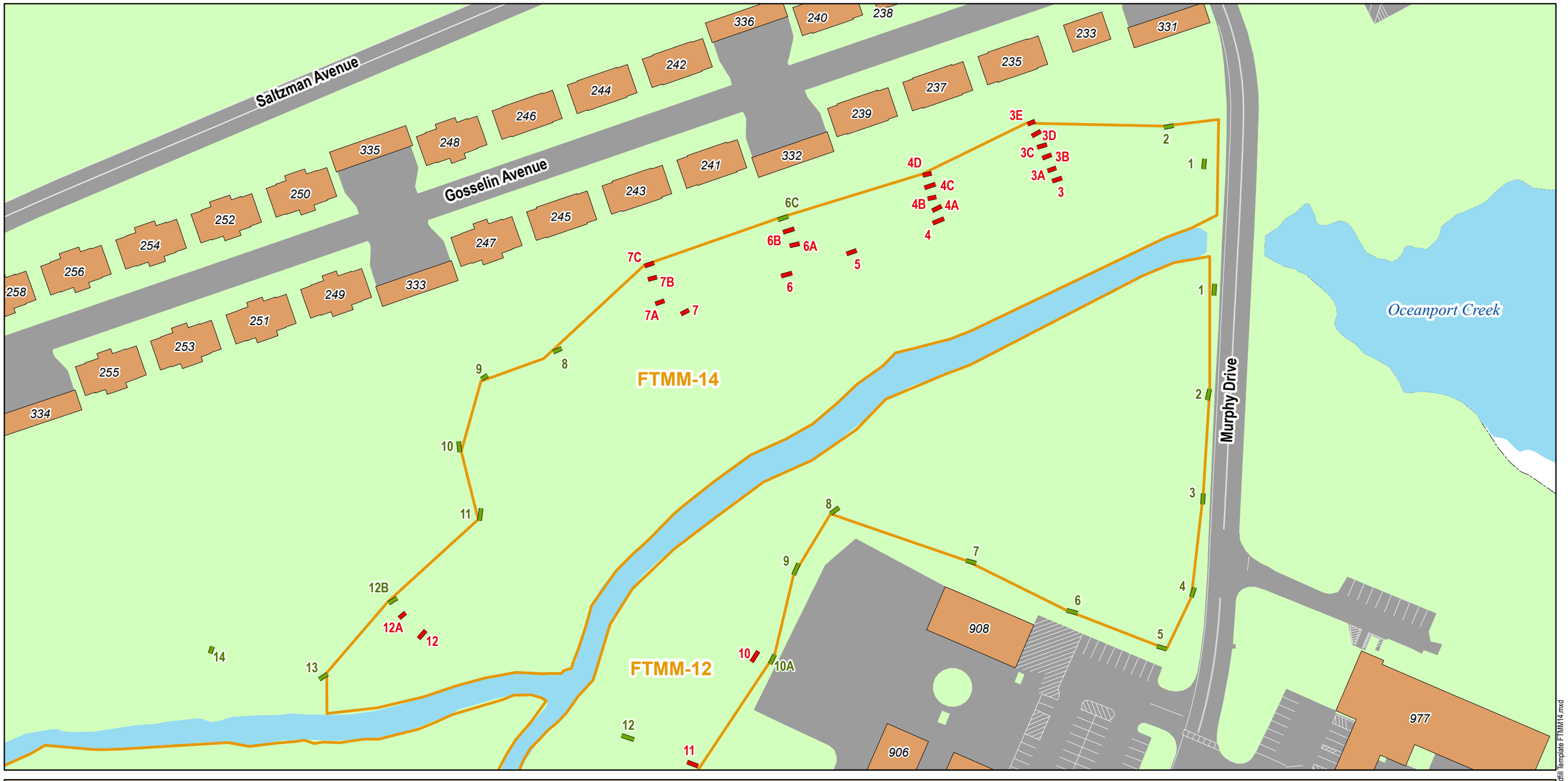
REV.	REVISIONS	APPROVED	DATE	DRAWN BY

TITLE:

FIGURE 2-3
MONITORING WELL LOCATION MAP
M-14 LANDFILL SITE
FORT MONMOUTH, NEW JERSEY

DRAWN BY: JM	DATE DRAWN: 02 JUL 01
CHECKED BY:	DATE CHECKED: 02 JUL 01
APPROVED BY:	DATE APPROVED:
	DRAWING No.: M14 FIG. 2-3
	FILE No.: M14 FIG. 2-3
	SCALE: 1" = 100'
	SHEET OF REV.: A

Versar INC.
201 GIBRALTAR ROAD, SUITE 100
HORSHAM, PA 19044
(215) 957-0955



FTMM-14 Landfill
Main Post
Fort Monmouth, New Jersey
FOUO

100 Feet

N W E S

Map Created by:
Fort Monmouth Installation GIO, Environmental Division
Fort Monmouth, New Jersey
Date: June 24, 2010
All drawings must be field verified.
New Jersey State Plane Feet, NAD83

Legend

Landfill Auger
- Debris Not Present
- Debris Present

Landfill Trench
- Debris Not Present
- Debris Present

- Existing Structure
- Landfill
- Roadway & Parking
- Water Body
- Post Boundary

June 24, 2010 U:\GIS\GIS Maps\UT\Landfill Review April 2010\Landfill Template FTMM14.mxd

Saltzman Avenue

Gosselin Avenue

Murphy Drive

Husky Brook

242 244 246 248 335 233 235 237 239 332 241 243 245 247 333 249 251 253 252 250

M14-MW24
M14-MW21
M14-MW20
M14-MW25
M14-MW23
M14-MW22
M14-MW19
M14-MW18

908
907

Monitoring Well

Structures

Existing Building

Demolished Buidling

Main Post Boundary

Solid Waste Landfill Area

Fort Monmouth - Main Post

Source: Fort Monmouth Installation GIO Environmental Division; New Jersey Geographic Information Network Orthophotography 2007.

0 0.004 0.008 0.016 Miles

Monitoring Well Location Map

Fort Monmouth - Main Post - M-14 Landfill Site
Fort Monmouth, New Jersey

FIGURE 4-3

DATE:	01/10/2011
PROJECT:	103G1058223
DRAWN BY:	A. MISKIMAN
REVISED:	

TETRA TECH
1000 The American Road
Morris Plains, NJ 07950
(973) 630-8045

S:\Technical_Data\FORTMONMOUTH\data\Tetra Tech\GIS Projects\M-14\Figure 4-3 - Monitoring Well Location Map.mxd

M-14 LANDFILL

M14-MW24
1.92

M14-MW21
2.69

M14-MW20
2.69

M14-MW23
1.88

M14-MW22
2.1

M14-MW19
2.8

239
241
243
245
247
33

LAMP
LAMP

2.5
2
1.5
1
2.5
2
1.5
1

FLAG
POST
MH
T-908

N

NOTES:

- BUILDING
- ROAD/CURB
- BROOK/CREEK
- CULVERT
- MONITORING WELL
- 6.29 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- -4 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- CONTOUR INTERVAL IS 0.5 FEET

REV.	REVISIONS	APPROVED	DATE	DRAWN BY

TITLE:
FIGURE 4-3a
GROUNDWATER COUNTOUR MAP (MAY 00)
M-14 LANDFILL SITE
FORT MONMOUTH, NEW JERSEY

DRAWN BY: TJK/MOB	DATE DRAWN: 5 DEC 01
CHECKED BY:	DATE CHECKED:
APPROVED BY:	DATE APPROVED:
	DRAWING No.: FIGURE 4-3a
	FILE No.: CW3A FIGURE 4-3a
	SCALE: 1" = 60'
	SHEET 1 OF 1 REV.: A

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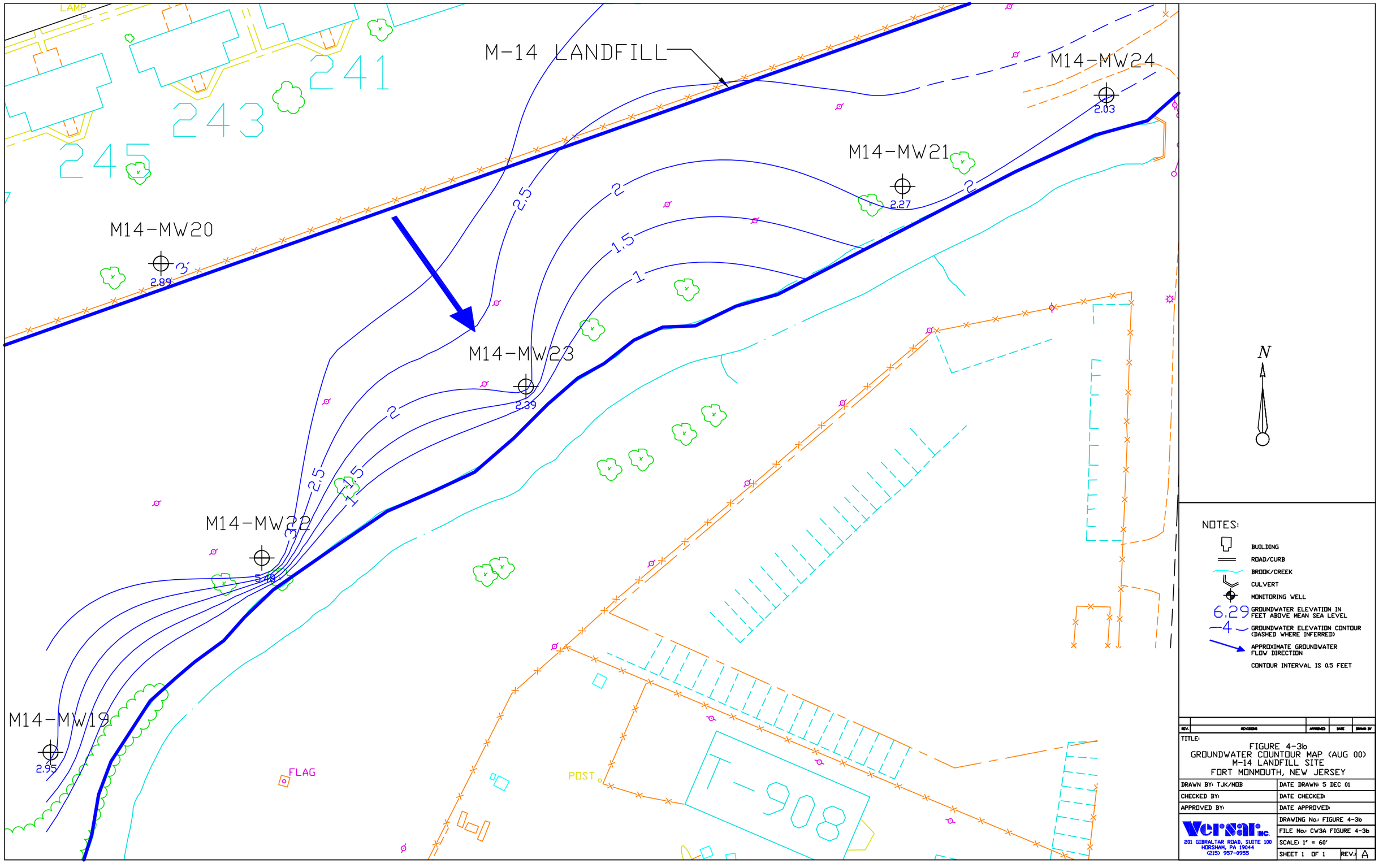
(215) 957-0955



NOTES:

- BUILDING
- ROAD/CURB
- BROOK/CREEK
- CULVERT
- MONITORING WELL
- 6.29 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- −4 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER FLOW DIRECTION

CONTOUR INTERVAL IS 0.5 FEET

REV.	REVISIONS	APPROVED	DATE	DRAWN BY

TITLE:

FIGURE 4-3b
GROUNDWATER COUNTOUR MAP (AUG 00)
M-14 LANDFILL SITE
FORT MONMOUTH, NEW JERSEY

DRAWN BY: TJK/MDB	DATE DRAWN: 5 DEC 01
CHECKED BY:	DATE CHECKED:
APPROVED BY:	DATE APPROVED:
	DRAWING No.: FIGURE 4-3b
	FILE No.: CW3A FIGURE 4-3b
	SCALE: 1" = 60'
	SHEET 1 OF 1 REV.: A

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M-14 LANDFILL

M14-MW20
2.61

M14-MW21
2.23

M14-MW22
2.29

M14-MW23
1.68

M14-MW24
1.96

M14-MW19
2.69

239
241
243
245
247
33

LAMP
LAMP

2.5
2
1.5
1
2
1.5
2
1

FLAG
POST
MH
T-908

N

NOTES:

- BUILDING
- ROAD/CURB
- BROOK/CREEK
- CULVERT
- MONITORING WELL
- 6.29 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- -4- GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER FLOW DIRECTION

CONTOUR INTERVAL IS 0.5 FEET

REV.	REVISIONS	APPROVED	DATE	DRAWN BY

TITLE:
FIGURE 4-3c
GROUNDWATER COUNTOUR MAP (Sep 00)
M-14 LANDFILL SITE
FORT MONMOUTH, NEW JERSEY

DRAWN BY: TJK/MDB	DATE DRAWN: 5 DEC 01
CHECKED BY:	DATE CHECKED:
APPROVED BY:	DATE APPROVED:
	DRAWING No.: FIGURE 4-3c
	FILE No.:M-14 FIGURE 4-3c
	SCALE: 1" = 60'
	SHEET 1 OF 1 REV.: A

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HORSHAM, PA 19044
(215) 957-0955

M-14 LANDFILL

M14-MW20
2.79

M14-MW21
2.27

M14-MW22
2.13

M14-MW23
1.71

M14-MW24
2.33

M14-MW19
2.88

LAMP
LAMP
239
241
243
245
247
33
2
1.5
1
2.5
FLAG
POST
T-908
MH

N

NOTES:

- BUILDING
- ROAD/CURB
- BROOK/CREEK
- CULVERT
- MONITORING WELL
- 6.29 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 4 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER FLOW DIRECTION

CONTOUR INTERVAL IS 0.5 FEET

REV.	REVISIONS	APPROVED	DATE	DRAWN BY

TITLE:
FIGURE 4-3d
GROUNDWATER COUNTOUR MAP (Oct 00)
M-14 LANDFILL SITE
FORT MONMOUTH, NEW JERSEY

DRAWN BY: TJK/MOB	DATE DRAWN: 5 DEC 01
CHECKED BY:	DATE CHECKED:
APPROVED BY:	DATE APPROVED:
	DRAWING No.: FIGURE 4-3d
	FILE No.:M-14 FIGURE 4-3d
	SCALE: 1" = 60'
	SHEET 1 OF 1 REV.: A

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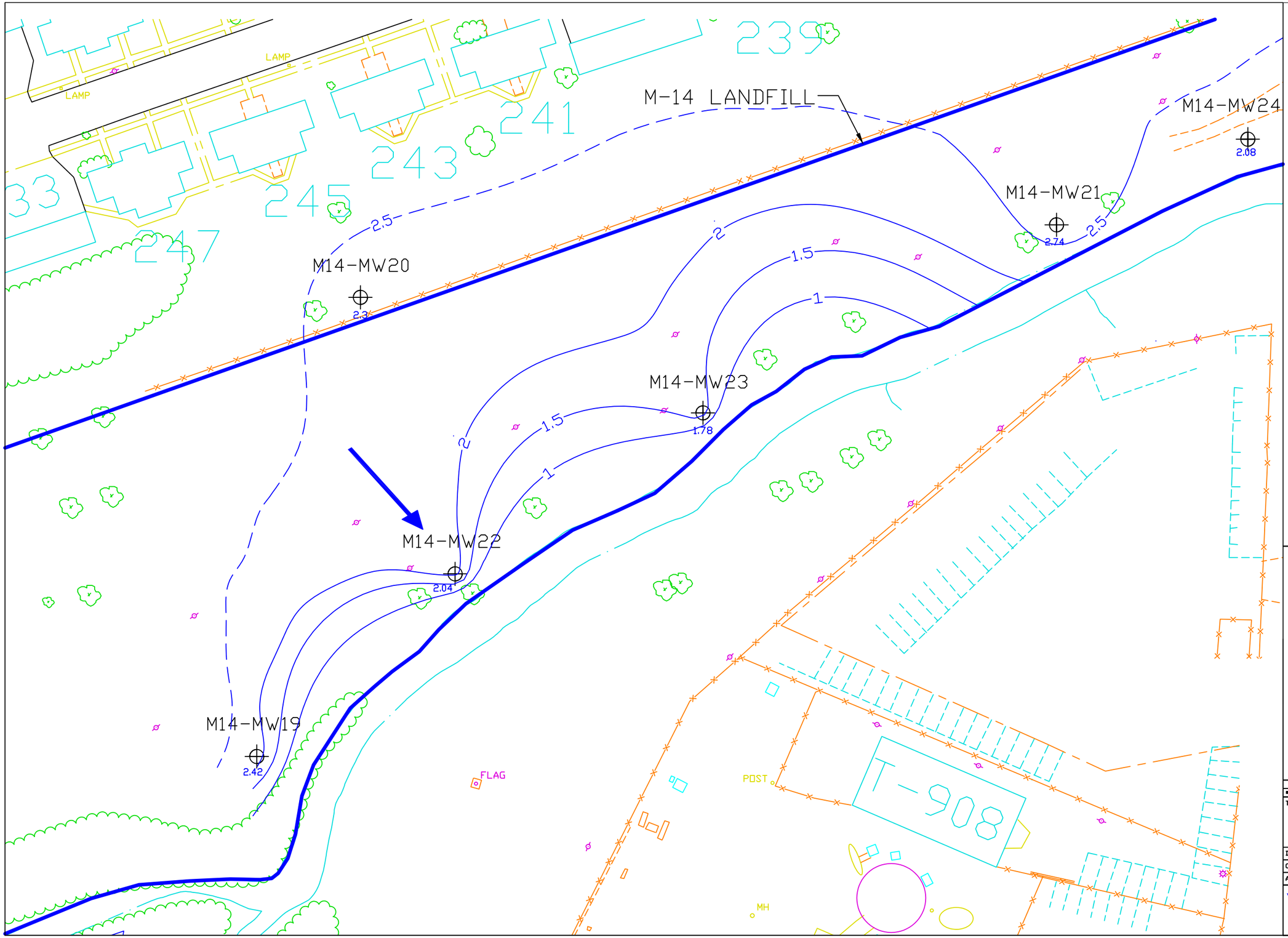

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NOTES:

- BUILDING
- ROAD/CURB
- BROOK/CREEK
- CULVERT
- MONITORING WELL
- 6.29 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 4 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER FLOW DIRECTION

CONTOUR INTERVAL IS 0.5 FEET

NO.	REVISIONS	APPROVED	DATE	DRAWN BY

TITLE:

FIGURE 4-3e
GROUNDWATER COUNTOUR MAP (Nov 00)
M-14 LANDFILL SITE
FORT MONMOUTH, NEW JERSEY

DRAWN BY: TJK/MOB	DATE DRAWN: 5 DEC 01
CHECKED BY:	DATE CHECKED:
APPROVED BY:	DATE APPROVED:
	DRAWING No.: FIGURE 4-3e
	FILE No.:M-14 FIGURE 4-3e
	SCALE: 1" = 60'
	SHEET 1 OF 1 REV.: A

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M-14 LANDFILL

M14-MW24
1.85

M14-MW21
2.47

M14-MW20
2.46

M14-MW23
1.53

M14-MW22
1.95

M14-MW19
2.56

239
241
243
245
247
33
LAMP
LAMP
FLAG
POST
MH
T-908
2
1.5
1
2
1.5
1

N

NOTES:

- BUILDING
- ROAD/CURB
- BROOK/CREEK
- CULVERT
- MONITORING WELL
- 6.29 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 4 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER FLOW DIRECTION

REV.	REVISIONS	APPROVED	DATE	DRAWN BY

TITLE:
FIGURE 4-3f
GROUNDWATER COUNTOUR MAP (Jan 01)
M-14 LANDFILL SITE
FORT MONMOUTH, NEW JERSEY

DRAWN BY: TJK/MOB	DATE DRAWN: 5 DEC 01
CHECKED BY:	DATE CHECKED:
APPROVED BY:	DATE APPROVED:
	DRAWING No.: FIGURE 4-3f
	FILE No.:M-14 FIGURE 4-3f
	SCALE: 1" = 60'
	SHEET 1 OF 1 REV.: A

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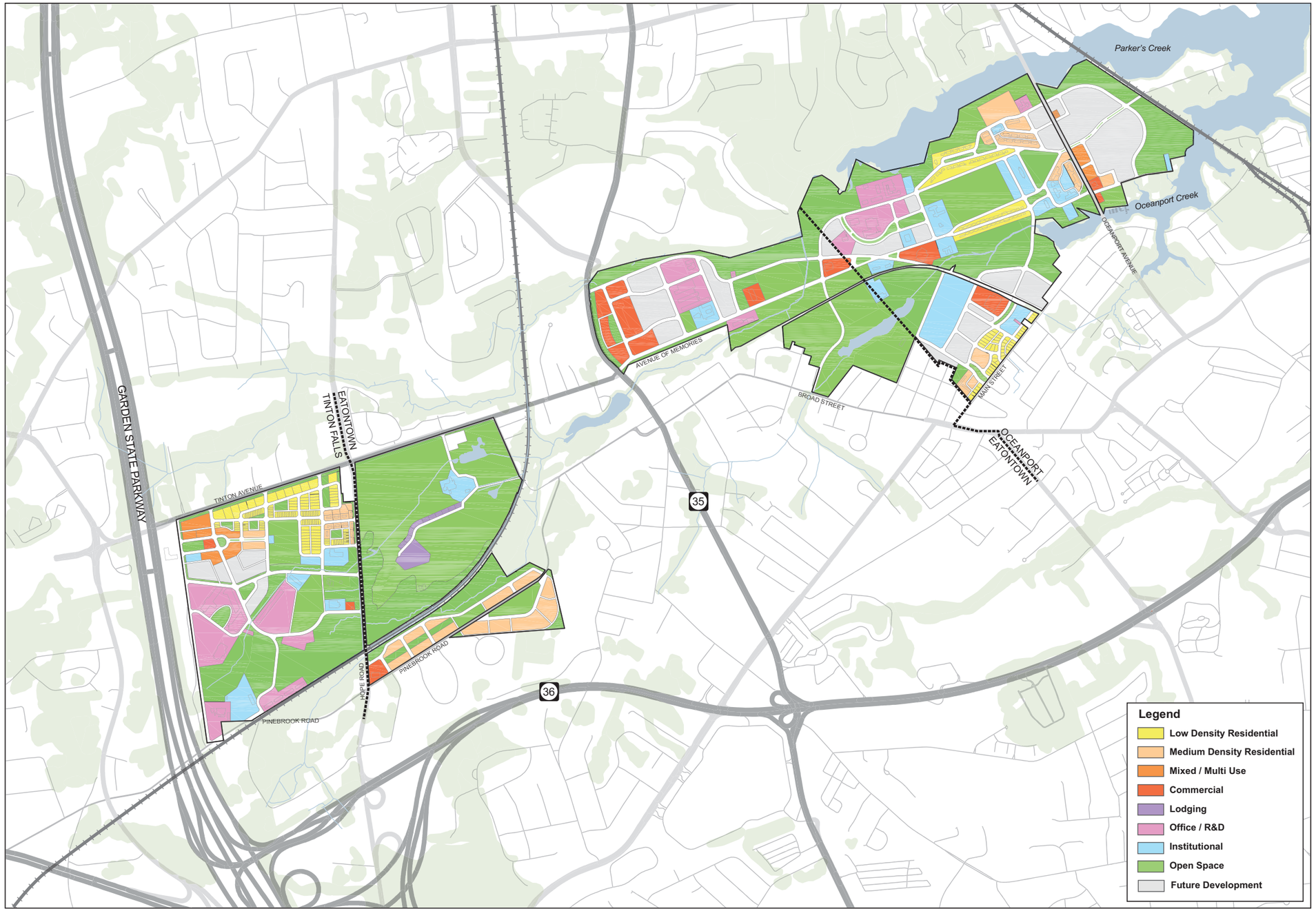
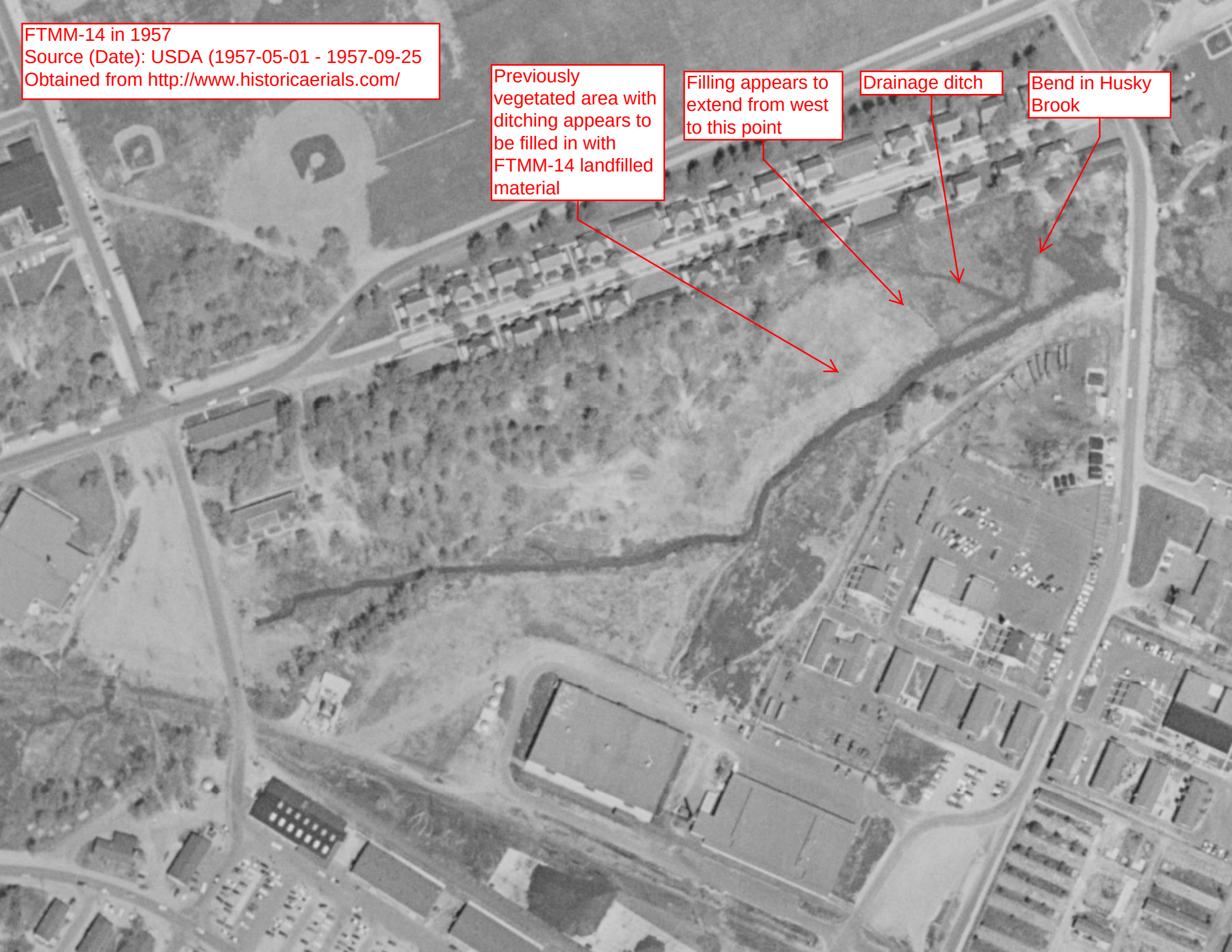


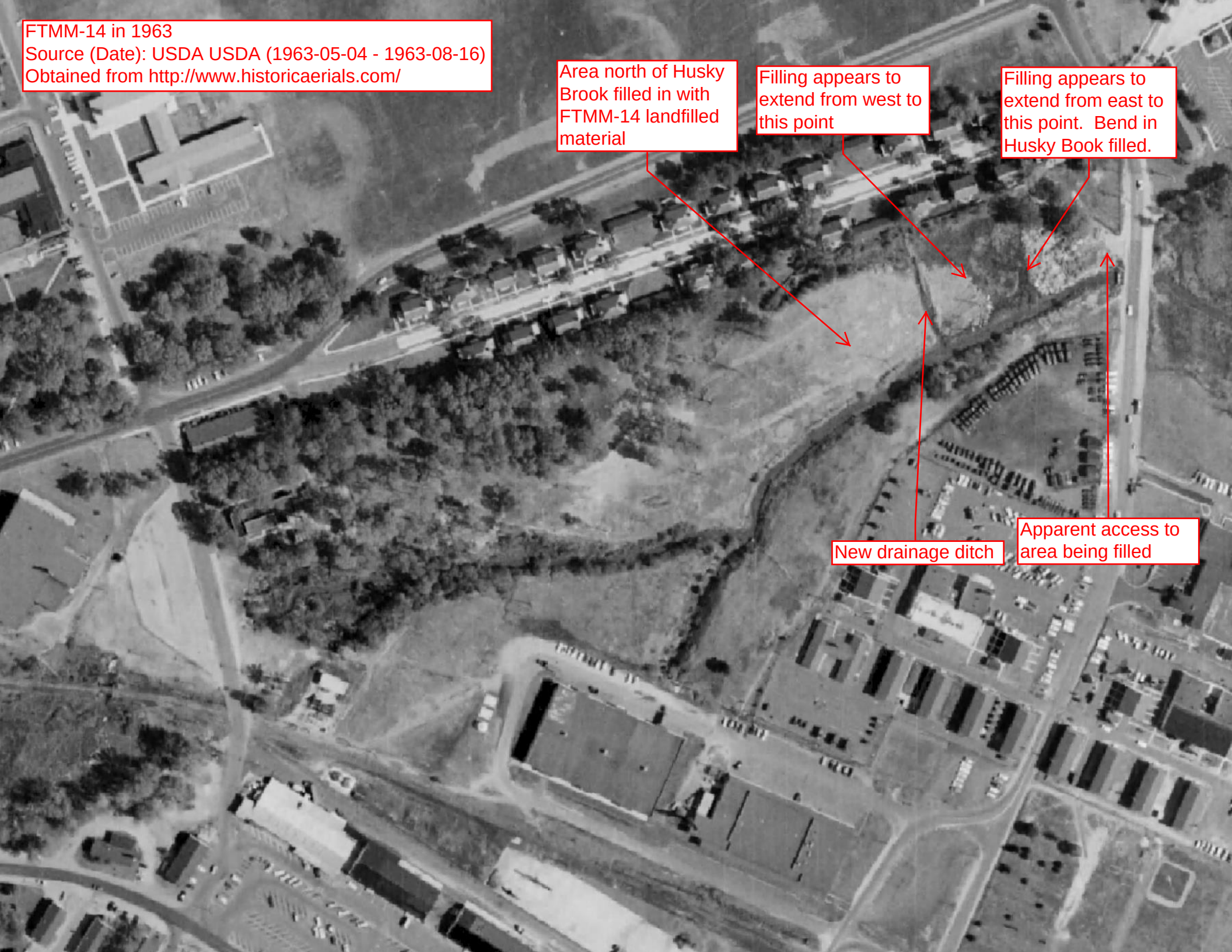
FORT MONMOUTH CONCEPT DIAGRAM : LAND USE PLAN IN 2018 (10 YEAR PLAN)

FMERPA

0 500 1,000 2,000
Feet

FTMM-14 in 1947
Source (Date): USDA (1947-07-03 - 1947-10-20)
Obtained from http://www.historicaerials.com/
Vegetated area with ditching for drainage northwest of Husky Brook. No landfill on FTMM-14.
Drainage ditch
Bend in Husky Brook


FTMM-14 in 1957
Source (Date): USDA (1957-05-01 - 1957-09-25
Obtained from http://www.historicaerials.com/
Previously vegetated area with ditching appears to be filled in with FTMM-14 landfilled material
Filling appears to extend from west to this point
Drainage ditch
Bend in Husky Brook


FTMM-14 in 1963
Source (Date): USDA USDA (1963-05-04 - 1963-08-16)
Obtained from http://www.historicaerials.com/
Area north of Husky Brook filled in with FTMM-14 landfilled material
Filling appears to extend from west to this point
Filling appears to extend from east to this point. Bend in Husky Book filled.
New drainage ditch
Apparent access to area being filled

FTMM-14 in 1969
Source (Date): USGS (1969-11-26 - 1969-12-13)
Obtained from http://www.historicaerials.com/
Area north of Husky Book filled in with FTMM-14 landfilled material
Elevated elongate pile
Filling from west and east appears to have filled in the previous gap.
Now entire area is part of FTMM-14 landfill.
Drainage ditch still present
Eastern portion appears to have an elevated edge

FTMM-14 in 1970
Source (Date): USDA
Obtained from http://www.historicaerials.com/
Area north of Husky Brook filled in with FTMM-14 landfilled material
vegetation beginning to appear on top of landfill
Entire area is part of FTMM-14 landfill.
Previous drainage ditch filled in

FINAL

Remedial Investigation Report for Near-Surface Soils

M-14 Landfill Site

U. S. Army Installation Fort Monmouth
Fort Monmouth, New Jersey

Directorate of Public Works

March 17, 2004

Versar INC.
201 Gibraltar Road, Suite 100
Horsham, Pennsylvania 19044

Contract No. DACA51-00-D-0004
Delivery Order No. 4

United States Army
Fort Monmouth, New Jersey

Remedial Investigation Report for Near Surface Soils

M-14 Landfill Site

Fort Monmouth, New Jersey

March 17, 2004

PREPARED BY:

201 GIBRALTAR ROAD, SUITE 100
HORSHAM, PA 19044

March 17, 2004

VERSAR PROJECT NO. 104936.4936.104

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APPENDICES

Appendix A DPW Proposal Letter to NJDEP defining RIR for Near Surface Soils at the M-14 Landfill Site, dated July 7, 1998
Appendix B NJDEP Approval Letter to DPW for RIR for Near Surface Soils at the M-14 Landfill Site, dated August 10, 1998
Appendix C Roy F. Weston, Inc. Site Investigation Report, December 1995; Section 4.2.9 – Landfill 14 (M-14)
Appendix D Soil Boring Samples Laboratory Data Sheets
Appendix E Soil Boring Logs
Appendix F Compliance Average Area Names

EXECUTIVE SUMMARY

To demonstrate compliance equivalence of the existing soil cover over the M-14 Landfill Site with respect to the Solid Waste Disposal Act of 1965, DPW characterized the near-surface soils using 119 borings installed at strategic locations over the site. DPW performed soil borings and obtained soil samples between December 1998 and January 1999. All soil samples were analyzed for Target Compound List (TCL) Organics + 30 parameters and Target Analyte List (TAL) metals. The data that exceeded the laboratory method detection limit (MDL) and/or the New Jersey Department of Environmental Protection (NJDEP) Residential Direct Contact Soil Cleanup Criteria (RDCSCC) are summarized in table form in this RIR. Where applicable and appropriate, the data were evaluated utilizing the "compliance averaging" approach to determine compliance with NJDEP RDCSCC.

Concentrations of SVOCs, pesticides and metals were detected exceeding the NJDEP RDCSCC. In all cases, further analysis of the analytical results did not define a "source area" or level of contamination that necessitated the identification and evaluation of potential remedial actions. In most cases, either the calculated compliance average was below the respective RDCSCC or the exceedence was considered marginal. However, to address the exceedences of analytes that did not meet cleanup criteria in the near surface soils, the DPW will incorporate a document equivalent to a Declaration of Environmental Restriction (DER) into the Fort Monmouth Master Plan for soils at the site. The Army is requesting a ***No Further Action*** determination for these parameters. The DER equivalent may be developed for the entire M-14 Landfill Site or be restricted to specific areas of the site and specific analytes, as identified in this document.

Given the inactive and undisturbed status of the landfill, the continued performance of long-term surface water and groundwater monitoring proximate to the M-14 Landfill Site, the minimal potential for environmental and/or human health impacts, the lack of groundwater uses at or downgradient of the site, and the distribution, occurrence and relatively low concentrations of contaminants of concern (COCs), ***No Further Action*** is recommended for the near-surface soils at the M-14 Landfill Site.

1.0 INTRODUCTION

Versar, Inc. (Versar) has been contracted by the United States (U.S.) Army Fort Monmouth, Directorate of Public Works (DPW), Fort Monmouth, New Jersey to prepare a Remedial Investigation Report (RIR) for the M-14 Landfill Site. The M-14 Landfill Site is located on the north bank of Husky Brook, west of Murphy Drive on the Main Post of Fort Monmouth. This RIR presents a compilation of the results of remedial investigation conducted at the M-14 Landfill Site for near-surface soils, and has been prepared in partial fulfillment of Contract No. DACA 51-00-D-004, Delivery Order No. 0004.

1.1 Objectives

The objective of this RIR is to define shallow soil conditions at the M-14 Landfill Site as proposed in DPW's letter, dated July 7, 1998 and approved by the NJDEP in correspondence dated August 10, 1998 (**Appendix A** and **Appendix B**). The remedial investigation was conducted in accordance with NJDE) Technical Requirements for Site Remediation (July 1999), NJAC 7:26E, et seq.

The remedial investigation and subsequent preparation of the RIR encompassed the following:

- Characterization of shallow subsurface soils through soil sampling and laboratory analysis.
- Comparison of the soil sample analytical results with the NJDEP RDCSC.
- Evaluation of each of the analytes found to exceed the RDCSCC using the compliance averaging approach and discussion of site-specific conditions.

1.2 Report Organization

This report is organized to minimize repetition. The findings of the Roy F. Weston, Inc. (Weston) report entitled, *Site Investigation, Fort Monmouth, New Jersey, Main Post and Charles Wood Areas, Site Investigation Report* (December 1995), were used as the basis for this remedial investigation program. **Section 2.0** provides background information and a general description of the M-14 Landfill Site located at Fort Monmouth. **Section 3.0** describes and summarizes the soil sampling activities conducted at the M-14 Landfill Site. **Section 4.0** presents the soil sample analytical results and compliance analysis**.** The sample collection information, sample results and analyses presented in this RIR were incorporated into a proprietary relational database designed to manage sample data and eliminate errors in cross-referencing information between data tables in this section. Recommendations are presented in **Section 5.0**. References used to prepare this report are listed in **Section 6.0**.

2.0 SITE BACKGROUND AND ENVIRONMENTAL SETTING

The following sections describe the site background and environmental setting of the area surrounding Fort Monmouth and the M-14 Landfill Site. Included is a description of the site location, history, current conditions and environmental setting.

2.1 Site Location and Description

Fort Monmouth is located in the central-eastern portion of New Jersey in Monmouth County, approximately 45 miles south of New York City and 70 miles northeast of Philadelphia (**Figure 2-1**). In addition to the Main Post, the installation includes two subposts, the Charles Wood Area and the Evans Area. The Main Post encompasses approximately 630 acres and is generally bounded by State Highway 35, Parkers Creek, Lafetra Creek, the New Jersey Transit Railroad and a residential area to the south. The post was established in 1918 during World War I (WWI) as an Army Signal Corps training center. The Main Post currently provides administrative, training, and housing support functions, as well as providing many of the community facilities for Fort Monmouth. The primary mission of Fort Monmouth is to provide command, administrative, and logistical support for Headquarters, U.S. Army Communications and Electronics Command (CECOM). CECOM is a major subordinate command of the U.S. Army Materiel Command (AMC) and is the host tenant at Fort Monmouth.

The M-14 Landfill was a former historic fill site located on the north bank of Husky Brook, west of Murphy Drive. The historic fill reportedly contained domestic and industrial wastes. The approximate size of the M-14 Landfill Site area is 300,000 feet^2 (6.9 acres). Based on historical research, the period of operation of the fill site was approximately 1965 to 1966.

2.2 Site Background

The U.S. Army Corps of Engineers (USACE), Baltimore District, initially contracted Roy F. Weston, Inc. (Weston) to perform a field investigation at Fort Monmouth, New Jersey. This investigation was conducted at two separate areas of Fort Monmouth, the Main Post and the Charles Wood areas. Suspected hazardous waste sites were initially identified at Fort Monmouth in a report prepared by the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA, 1980). The USATHAMA report identified 37 sites with known or suspected waste materials on the Main Post and the two subposts (Charles Wood and Evans Area). A background investigation was conducted by Weston of the 37 sites and eight additional sites that were identified by Fort Monmouth and the NJDEP. Weston's findings were described in a report titled, *Investigation of Suspected Hazardous Waste Sites at Fort Monmouth, New Jersey* (1993). In this background report, additional investigations (including sampling and other field work) were recommended at 22 of the sites on the Main Post and Charles Wood areas, including the M-14 Landfill Site. NJDEP approved the recommendations on April 20, 1995. Additional investigations

were also recommended at the Evans Area, and such investigations are being completed under the Base Realignment and Closure (BRAC) program.

The 1995 Weston SI report presents the results of field investigation activities that were performed at 13 sites at the Main Post Area and eight sites at the Charles Wood Area. The results of the investigation of the M-14 Landfill Site are included in the Weston SI report. Initial field investigation activities were performed between November 1994 and March 1995. The field investigation activities included a surface geophysical survey, surface water sampling, groundwater monitoring well installation and sampling and tidal monitoring. The Weston SI report was used as the basis for the supplemental remedial investigations described in the following sections of this report.

Lithologic data collected from the soil borings indicated that the overburden material consisted of a thin soil cover, approximately 0.4 feet, overlaying fill material consisting of concrete rubble, charcoal, wood and glass fragments intermixed with greenish-gray silty coarse to fine sand with little clay and gravel.

2.3 Environmental Setting

The following is a description of the geological/hydrogeological setting of the area surrounding the M-14 Landfill Site. Included is a description of the regional geology of the area surrounding Fort Monmouth, as well as descriptions of the local geology and hydrogeology of the Main Post Area.

2.3.1 Regional and Local Geology

Monmouth County lies within the New Jersey Section of the Atlantic Coastal Plain physiographic province. The M-14 Landfill Site is located in what is referred to as the Outer Coastal Plain subprovince, or the Outer Lowlands. The geologic map of New Jersey is provided as **Figure 2-2**.

In general, New Jersey Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, sand and gravel. These formations typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile and were deposited on Precambrian and lower Paleozoic rocks (Zapecza, 1989). These sediments, predominantly derived from deltaic, shallow marine and continental shelf environments, date from Cretaceous through the Quaternary Periods. The mineralogy ranges from quartz to glauconite.

The formations record several major transgressive/regressive cycles and contain units, which are generally thicker to the southeast and reflect a deeper water environment. More than 20 regional geologic units are present within the sediments of the Coastal Plain. Regressive, upward coarsening deposits are usually aquifers (e.g., Englishtown and Kirkwood Formations and the Cohansey Sand), while the transgressive deposits act as confining units (e.g., the Merchantville, Marshalltown and Navesink Formations). The individual thickness for these units varies greatly (e.g., from several feet to several

hundred feet). The Coastal Plain deposits thicken to the southeast from the Fall Line (e.g., a boundary zone between older, resistant rocks and younger, softer plain sediments) to greater than 6,500 feet in Cape May County (Brown and Zapecza, 1990).

Based on the regional geologic map (Jablonski, 1968), the Cretaceous age Red Bank and Tinton Sands outcrop at the Main Post area. The Red Bank Sand conformably overlies the Navesink Formation and dips to the southeast at 35 feet per mile. The upper member (Shrewsbury) of the Red Bank Sand is a yellowish-gray to reddish brown clayey, medium-to-coarse-grained sand that contains abundant rock fragments, minor mica and glauconite (Jablonski). The lower member (Sandy Hook) is a dark gray to black, medium-to-fine grained sand with abundant clay, mica and glauconite.

The Tinton Sand conformably overlies the Red Bank Sand and ranges from a clayey medium to very coarse-grained feldspathic-quartz and glauconite-sand to a glauconitic-coarse sand. The color varies from dark yellowish orange or light brown to moderate brown and from light olive to grayish olive. Glauconite may constitute 60 to 80 percent of the sand fraction in the upper part of the unit. The upper part of the Tinton is often highly oxidized and iron oxide encrusted (Minard, 1969). Groundwater occurs beneath the site at a depth of approximately 2 to 12 feet bgs.

The Kirkwood Formation (part of the Kirkwood-Cohansey system) crops out southeast of the Main Post and dips to the southeast at a slope of 20 feet per mile (Jablonski, 1968). The Kirkwood Formation consists of alternating layers of sand and clay. The upper unit is a light gray to yellowish-brown, fine-grained quartz sand with quartz nodules and small pebbles. The lower unit is a brown silt in Monmouth County (Jablonski, 1968).

As presented in the *Site Investigation Report - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey*, prepared by Weston, Inc, December 1995 (Weston SI), several natural and anthropogenic factors contribute to the wide range in concentrations of metals in soils, which further impact the concentration of metals in groundwater. Soils derived from the glauconitic sands contain abundant aluminum, calcium, potassium, iron, magnesium and manganese (among others), which are likely to be present at elevated concentrations in the groundwater, particularly when sediments are entrained in the collected groundwater samples.

As presented in the Weston SI Report (relevant portions presented in **Appendix C**), the lithologic logs from monitoring well installations indicate that the lithology at the M-14 Landfill Site consists of a thin soil cover (0.4 feet) underlain by fill material. The components of the fill materials observed in the borings consist of concrete rubble, charcoal, wood and glass fragments intermixed with greenish-gray silty coarse to fine sand with little clay and gravel. Groundwater saturation was observed at approximately 4-6 feet below ground surface (bgs) across the site. Water-level elevation data collected during the Weston SI indicates that local groundwater flow is consistently to the south toward Husky Brook.

2.3.2 Hydrogeology

Fort Monmouth lies in the Atlantic and Eastern Gulf Coastal Plain groundwater region (Meisler et al., 1988). This groundwater region is underlain by undeformed, unconsolidated to semi-consolidated sedimentary deposits. The chemistry of the water near the surface is variable with low dissolved solids and high iron concentrations. The water chemistry in areas underlain by glauconitic sediments (such as Red Bank, Tinton and Hornerstown Sands) is dominated by calcium, magnesium, manganese, aluminum and iron. The sediments in the area of Fort Monmouth were deposited in fluvial-deltaic to near shore environments.

The water table aquifer in the Main Post Area is identified as part of the "Navesink-Hornerstown Confining Units," or minor aquifers. The minor aquifers include the Navesink formation, Red Bank Sand, Tinton Sand, Hornerstown Sand, Vincentown Formation, Manasquan Formation, Shark River Formation, Piney Point Formation and the basal clay of the Kirkwood Formation. These geologic formations comprise a "Composite Confining Bed" for the Wenonah Mount Laurel Aquifer (Zapecza, 1984).

Wells installed in the Red Bank and Tinton Sands produce 2 to 25 gallons per minute (gpm) (Jablonski, 1968). Groundwater is typically encountered at the Main Post and in the surrounding areas at shallow depths below ground surface (2 to 9 feet bgs). Water in the surficial aquifer generally flows east toward the Atlantic Ocean.

Based on a review of the NJDEP GWQS (NJAC 7:9-6), January 7, 1993, Versar has determined that the site is underlain by a Class III-A aquifer. A formal presentation of this finding was made to the NJDEP on April 17, 2001. The primary designated use for Class III-A groundwater is the release or transmittal of groundwater to adjacent classification areas and surface water, as relevant. Secondary designated uses in Class III-A include any reasonable use.

Shallow groundwater may be locally influenced within the Main Post Area by the following factors:

- Tidal influence (based on proximity to the Atlantic Ocean, rivers, and tributaries)
- Topography
- Nature of the fill material within the Main Post area
- Presence of clay and silt lenses in the natural overburden deposits
- Local groundwater recharge areas (i.e., streams, lakes)
- Roadways, utility conduits, and stormwater culverts

Due to the fluvial nature of the overburden deposits (e.g., sand and clay lenses), shallow groundwater flow direction is best determined on a case-by-case basis.

2.3.3 Soils

According to the U.S. Department of Agriculture (USDA), Soil Conservation Service, Monmouth County Soil Survey, the majority of the Main Post is covered by urban land (**Figure 2-3**). The soil survey described urban land as areas where concrete, asphalt, buildings, shopping centers, airports or other impervious surfaces cover 80 percent or more of the surface. In addition, the survey indicated that the natural subsurface soils have largely been replaced with artificial or foreign fill materials (developed land with disturbed soils). The following soil series and classification units are mapped in the Main Post Area:

- DoB Downer sandy loam (with 2 to 5 percent slopes);
- FrB Freehold sandy loam (with 2 to 5 percent slopes);
- FUB Freehold sandy loam/urban land complex (with 0 to 10 percent slopes);
- HV Humaquepts, frequently flooded;
- KvA Kresson loam (with 0 to 5 percent slopes);
- UA Udorthents, smoothed; and
- UD Udorthents – urban land complex (with 0 to 3 percent slopes).

The Downer series soils are well-drained soils that are found on uplands and terraces. The soils are formed in acid, silty coastal plain sediments. The Freehold soils are also well drained and are formed in acid, loamy, coastal plain sediments that, by volume, are one to 10 percent glauconite and are found on uplands. The Humaquepts soils are somewhat poorly- to very poorly-drained soils that are formed in stratified, sandy, or loamy sediments of fluvial origins. The Humaquepts soils are located on the floodplain and are subject to flooding several times each year. The Kresson loam is a nearly level to gently sloping soil and is somewhat poorly drained. The soil is found on low divides and in depressions. The Udorthents soils have been altered by excavation or filling activities. In filled areas, these soils consist of loamy material that is more than 20 inches thick. The filled areas include floodplain, tidal marshes and areas with moderately well drained to very poorly drained soils. Some Udorthent soils contain concrete, asphalt, metal and glass. The soils in the vicinity of the M-12 Landfill Site are classified as UA – Udorthents, smoothed, which may also include old sand and gravel pits that have been smoothed or filled in (Weston, 1995).

2.3.4 Topography and Surface Drainage

Over the last 80 years, the natural topography of Fort Monmouth has been altered by excavation and filling activities conducted by the military. The land surface at the Main Post is relatively flat and ranges in elevation from approximately 4 feet above mean sea level (amsl) in the east at Oceanport Creek to 32 feet amsl at the western end of the post, near Highway 35. The eastern half of the post is generally 10 feet amsl in elevation.

Surface water runoff from the western part of the Main Post flows into the Lafetra Creek to the north or into Mill Creek to the south. The USGS topographic map (**Figure 2-1**) shows the Lafetra Creek as Parkers Creek Branch and Mill Creek as Wampum. Both Mill Creek and Lafetra Creek originate off-post. Mill Creek flows along the southern boundary of the Main Post, turning north just past the Auto Craft Shop. Lafetra Creek forms the northern boundary of the Main Post and joins Mill Creek to form Parkers Creek. Husky Brook flows eastward in the southern part of the Main Post from Husky Brook Lake and into Oceanport Creek. Parkers Creek flows eastward along the northern boundary and joins Oceanport Creek east of the post. Most of Husky Brook, Parkers Creek, Lafetra Creek and Mill Creek are tidally influenced.

The U.S. Fish and Wildlife Service (FWS) National Wetland Inventory Long Branch quadrangle maps indicate the presence of wetlands at the Main Post. Parkers Creek and Oceanport Creek are classified as estuarine intertidal aquatic beds. The area of Parkers Creek and the part of Oceanport Creek/Husky Brook are classified as estuarine intertidal emergent wetlands. Lafetra Creek and Mill Creek are classified as riverine lower perennial open water/unknown bottom.

The M-14 Landfill Site is located on the north side and adjacent to Husky Brook, which flows eastward into Oceanport Creek. The USGS topographic map (**Figure 2-1**) shows that the land surface of the site is relatively flat at an elevation of less than 20 feet amsl. Surface water runoff from the M-14 Landfill Site is likely to flow southward into Husky Brook.

3.0 SITE ACTIVITIES

The DPW conducted this remedial investigation in accordance that the NJDEP Technical Requirements for Site Remediation (N.J.A.C. 26:E) to characterize near surface soils and assess potential risks to human health or the environment. The remedial investigation activities consisted of the collection of near-surface soil samples at the M-14 Landfill Site. Remedial investigation activities were performed from December 1998 and continued through January 1999. These activities were managed by the Fort Monmouth DPW and performed by TECOM-Vinnell Services (TVS). The details of remedial investigation activities that occurred at the M-14 Landfill Site are described below.

The DPW characterized the near-surface soils at the M-14 Landfill Site by completing 119 borings (B01-B119) at the site. Samples were collected using a 2-inch Geoprobe® Macrocore sampler. Sampling activities were performed in accordance with the *Fort Monmouth Standard Sampling Operating Procedure* (December 1997). A total of 238 soil samples were collected from the 119 borings and were analyzed for the presence of VOCs, SVOCs, pesticides, PCBs and TAL metals. The soil boring locations were located in and around the M-14 Landfill Site as identified in the Weston SI (1995). The locations of the borings were established in a grid-like pattern within the previously designated boundaries of the M-14 Landfill Site.

Each of the soil samples, except those prepared for VOC analysis, were collected between approximately 0 and 12 inches bgs. VOC samples were taken at approximately 24 inches bgs since surface soils would not be expected to retain volatile constituents over time.

Laboratory analyses of the samples collected at the M-14 Landfill Site were conducted at the Fort Monmouth Environmental Testing Laboratory (FMETL), a New Jersey certified laboratory (Certification No. 13461). The locations of these 119 borings are shown in **Figure 3-1**. A summary of the soil sample collection information and analyses performed is provided in **Table 3-1**. Soil sample laboratory data sheets are provided in **Appendix D**. Soil boring logs are presented in **Appendix E**. Soil analytical results are discussed in **Section 4.0**.

4.0 SOIL SAMPLING RESULTS AND COMPLIANCE ANALYSIS

A summary of the laboratory analytical results for near-surface soils at the M-14 Landfill Site is discussed below. The results were compared with the Cleanup Standards for Contaminated Sites (N.J.A.C. 7:26D), which was revised with Soil Cleanup Criteria dated May 12, 1999. The soil analytical results are presented by analyte (VOCs, SVOCs, Pesticides and PCBs and TAL Metals) and compare the analytical data with the NJDEP RDCSCC. Exceedences of the RDCSCC were subjected to further evaluation involving compliance averaging and site-specific considerations. All of the soil sample results in this report are expressed in milligrams per kilogram (mg/kg), equivalent to parts per million (ppm).

4.1 Soil Analytical Results

The analytical results from the 238 soil samples collected from 119 borings at the M-14 Landfill Site are discussed below, and are included in **Table 4-1**. The soil analytical data is provided in **Appendix D**. The data presented in **Table 4-1** are compared to the RDCSCC. Soil samples from the 119 borings at the M-14 Landfill Site were analyzed for VOCs, SVOCs, pesticides and PCBs and metals. The results that exceeded the respective RDCSCC are shaded in **Table 4-1**.

4.1.1 VOCs

The VOC samples were collected from the M-14 Landfill Site soils at a depth of 24 inches bgs. **Table 4-1** presents the results of laboratory analysis of these analyses. There were no exceedences of the NJDEP RDCSCC for any VOCs at any of the 119 soil borings.

4.1.2 SVOCs

SVOC analyses were conducted on soil samples collected from the 119 soil borings at the M-14 Landfill Site (see **Figure 4-1**). Each of these soil samples was collected at approximately the same depth range, 6-12 inches bgs.

Soil cleanup criteria for SVOCs were exceeded in eight of the 119 soil boring locations. The borings that presented exceedences of SVOCs are listed in **Table 4-2**. Seven SVOCs were detected in site soils at concentrations above the RDCSCC. The seven SVOCs that exceeded the RDCSCC are, with number of exceedences in parentheses, Benzo(a)anthracene (6), Benzo(a)pyrene (8), Benzo(b)fluoranthene (6), Benzo(k)fluoranthene (6), Chrysene (2), Dibenz(a,h)anthracene (2), and Indeno(1,2,3-cd)pyrene (4). **Table 4-3** presents a summary of the results, identifying the maximum, minimum and average exceedences for each of these parameters. A discussion of these exceedences is presented below.

- Benzo(a)anthracene was detected in six of the site soil samples above the RDCSCC of 0.9 mg/kg. The exceedence concentrations ranged from a minimum of 1.0 mg/kg (B25) to a maximum of 27 mg/kg (B60). The average exceedence concentration for Benzo(a)anthracene is 7.77 mg/kg.

- Benzo(a)pyrene was detected in eight site soil samples above the RDCSCC of 0.66 mg/kg. The exceedence concentrations ranged from a minimum of 0.83 mg/kg (B02) to a maximum of 26 mg/kg (B60). The average exceedence concentration for Benzo(a)pyrene is 5.69 mg/kg.

- Benzo(b)fluoranthene was detected in six of the site soil samples above the RDCSCC of 0.9 mg/kg. The exceedence concentrations ranged from a minimum of 1.2 mg/kg (B08, B25) to a maximum of 23 mg/kg (B60). The average exceedence concentration for Benzo(b)fluoranthene exceedences is 6.77 mg/kg.

- Benzo(k)fluoranthene was detected in six of the site soil samples above the RDCSCC of 0.9 mg/kg. The exceedence concentrations ranged from a minimum of 1.3 mg/kg (B25) to a maximum of 25 mg/kg (B60). The average exceedence concentration for Benzo(k)fluoranthene is 6.45 mg/kg.

- Chrysene was detected in two site soil samples above the RDCSCC of 9.0 mg/kg. The exceedence concentrations ranged from a minimum of 11 mg/kg (B76) to a maximum of 29 mg/kg (B60). The average exceedence concentration for Chrysene is 20.0 mg/kg.

- Dibenz(a,h)anthracene was detected in two of the site soil samples above the RDCSCC of 0.66 mg/kg. The exceedence concentrations ranged from a minimum of 1.1 mg/kg (B60) to a maximum of 1.2 mg/kg (B76). The average of the Dibenz(a,h)anthracene exceedences is 1.15 mg/kg.

- Indeno(1,2,3-cd)pyrene was detected in four of the site soil samples above the RDCSCC of 0.9 mg/kg. The exceedence concentrations ranged from a minimum of 0.95 mg/kg (B112) to a maximum of 13 mg/kg (B60). The average exceedence concentration for Indeno(1,2,3-cd)pyrene is 4.81 mg/kg.

4.1.3 Pesticides and PCBs

Pesticide and PCB analyses were conducted on soil samples collected from the 119 borings at the M-14 Landfill Site (see **Figure 4-2**). Each of these soil samples was collected at approximately the same depth range, 6-12 inches bgs. Each of the 119 borings was analyzed for 19 pesticides and seven PCB compounds.

Soil cleanup criteria for pesticides were exceeded in four of the 119 soil boring locations. The borings that presented exceedences of pesticides are listed in **Table 4-2**. One pesticide was detected in site soils at concentrations above the RDCSCC. The one

pesticide that exceeded the RDCSCC is, with number of exceedences in parentheses, 4,4'-DDT (4). **Table 4-3** presents a summary of the results, identifying the maximum, minimum and average exceedences for each of these parameters. A discussion of these exceedences is presented below.

- 4,4'-DDT was detected in four of the site soil samples above the RDCSCC of 2.0 mg/kg. The exceedence concentrations ranged from a minimum of 2.59 mg/kg (B66) to a maximum of 4.142 mg/kg (B115). The average exceedence concentration for 4,4'-DDT is 3.44 mg/kg.

4.1.4 Metals

The soil samples from the 119 borings (see **Figure 4-3**) were analyzed for 24 TAL metals. The samples were collected from depths of 6-12 inches. A total of two metals were detected at concentrations above their respective RDCSCC at 35 of 119 boring locations. The borings that contained exceedences of metals are listed in **Table 4-2**. The two metals that exceeded the RDCSCC in the borings are, with the number of exceedences in parentheses, Arsenic (31) and Beryllium (23). **Table 4-3** presents a summary of the results, presenting the maximum, minimum and average exceedences for each of these parameters. A discussion of these exceedences is presented below.

- Arsenic was detected in 31 of the site soil samples above the RDCSCC of 20 mg/kg. The exceedence concentrations ranged from a minimum of 20.7 mg/kg (B81) to a maximum of 168 mg/kg (B28). The average exceedence concentration for Arsenic is 31.27 mg/kg.

- Beryllium was detected in 23 of the site soil samples above the RDCSCC of 2.0 mg/kg. The exceedence concentrations ranged from a minimum of 2.03 mg/kg (B97) to a maximum of 3.24 mg/kg (B64). The average exceedence concentration for Beryllium is 2.49 mg/kg.

4.2 Compliance Analysis Method

The first step in determining compliance with the NJDEP Technical Requirements for Site Remediation (7:26E) at the M-14 Landfill Site was to complete the soil sampling analysis. The analytical results from the 238 soil samples collected from 119 borings at the M-14 Landfill Site are discussed above and are included in **Table 4-1**. The method used to determine regulatory compliance is portrayed as a decision tree in **Figure 4-4** and described below.

Figures 4-1, **4-2** and **4-3** present the analytical results for SVOCs, pesticides and PCBs and metals, respectively, by soil boring, for those analytes that exceeded the RDCSCC at one or more locations. There were no exceedences of the RDCSCC for VOCs; therefore, no figures were generated for VOCs. The results for each analyte presented are uniquely colored at each boring location, and results that exceed the respective RDCSCC have

been "boxed" in "red." These results are discussed in greater detail in **Section 4.2**. The borings that contained exceedences of the RDCSCC are shown in **Table 4-2**.

For many of the analytical results that exceeded the RDCSCC, the "compliance averaging" approach was then used to determine compliance with NJDEP technical requirements. Compliance averaging uses the average contaminant concentration in an area of concern rather than the contaminant concentration of individual samples for comparison to applicable soil cleanup criteria. The NJDEP policy for compliance averaging is presented in an article entitled, *Compliance Averaging*, from the NJDEP Spring 1995 (Volume 7, No. 2 – Article 08) issue of *Site Remediation News*.

There are several analyte-specific conditions that determine whether compliance averaging can be applied to an exceedence of NJDEP soil cleanup criteria, including maximum analytical results ("ceilings") for individual samples based on the particular NJDEP criterion, as well as specific requirements for arsenic, thallium, beryllium, Benzo(a)pyrene and Dibenz(a,h)anthracene. The compliance analysis method used for the M-14 Landfill Site for each detected analyte that exceeded the respective RDCSCC is summarized in the last column in **Table 4-4**.

Compliance averaging was performed for analytes that met the requirements as summarized in **Figure 4-4**. Compliance average areas were identified within the M-14 Landfill Site based on analyte category (such as VOCs, SVOCs, etc.). The boundaries for these areas of concern were based on areas within that M-14 Landfill Site that presented exceedences of the RDCSCC. Soil borings outside of the areas of concern (referred to as "clean areas" in NJDEP, 1995) presented contaminant concentrations below the RDCSCC and were not included in calculating compliance averages. The boundaries of the compliance average areas are shown in **Figures 4-1** (SVOCs), **4-2** (pesticides and PCBs) and **4-3** (metals). The compliance average area names are shown in **Appendix F**. The compliance average area names are defined according to the analyte category, such as "AREA SVOC-1." When calculating average results, the following rules applied:

1) One-half the MDL was used for non-detect (ND) results.
2) If a sample was diluted, ND results were not used in computing the average.
3) For estimated results (results with "J" qualifiers), the estimated result was used for computing the averages.
4) Compliance averages were calculated as the mean of the results incorporating the ND and estimated results described above.

The compliance averages areas are presented in **Appendix F** and summarized in **Table 4-5**. Compliance averages that were below the NJDEP criteria for a particular analyte justify a recommendation for No Further Action. No Further Action was also justified if a compliance average meets the following conditions for *de minimus* exceedence:

1) Compliance averages met the same analyte-specific conditions that are used for determining whether compliance averaging can be applied,
2) Contaminant concentrations were found within a limited area (for the M-14 Landfill Site, a 15-foot radius, or one-half the grid-spacing, was used for the *de minimus* area determination),
3) Evaluation of contaminant mass, persistence, and location indicated limited potential for significant human health or environmental impacts, and
4) There can only be one *de minimus* exemption per area of concern.

Finally, if an analyte did not meet the *de minimus* conditions, or did not meet the analyte-specific conditions required to perform compliance averaging, additional site-specific parameters were considered as conditions for a No Further Action proposal. If further analysis of the analytical results did not define a "source area" or level of contamination that necessitated the identification and evaluation of potential remedial actions, then the exceedence was considered marginal, or an isolated location and no further action is warranted for the near surface soils. However, to further address the exceedences in the near surface soils, the DPW will incorporate a document equivalent to a DER into the Fort Monmouth Master Plan for soils at the M-14 Landfill Site presenting the exceedence.

4.3 Compliance Analysis

The Compliance analysis method used to evaluate exceedences of the RDCSCC is presented in **Table 4-4,** and the discussion below is presented for VOCs, SVOCs, pesticides and PCBs and metals and compares the analytical data with the RDCSCC. **Table 4-5** summarizes the compliance averaging results. A summary of the compliance analysis for analytes that exceeded the RDCSCC is provided in **Table 4-6**.

4.3.1 VOCs

There were no exceedences of the NJDEP RDCSCC for soils for any VOCs at any of the 119 soil borings. This finding supports a No Further Action determination relative to VOCs in near-surface soils at the M-14 Landfill Site.

4.3.2 SVOCs

Seven SVOCs were detected in site soils at concentrations above their respective RDCSCC: Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene and Indeno(1,2,3-cd)pyrene. For the purposes of compliance analysis, the sample locations with exceedences of the RDCSCC for SVOCs have been grouped into two areas, AREA SVOC-1 and AREA SVOC-2. The borings contained within these compliance average areas are labeled in **Figure 4-1** and listed in **Appendix F**. The compliance analysis method for these compounds is presented in **Table 4-4**.

Benzo(a)anthracene (AREA SVOC-1 and AREA SVOC-2)

Benzo(a)anthracene was detected in six of the site soil samples above the RDCSCC of 0.9 mg/kg at concentrations ranging from 1.0 mg/kg to 27 mg/kg (average exceedence concentration of 7.77 mg/kg). Because the maximum concentration of Benzo(a)anthracene was greater than the 10X ceiling limit of 9 mg/kg in AREA SVOC-1, compliance averaging was not appropriate for Benzo(a)anthracene for this area of the M-14 Landfill Site.

Compliance averaging conducted for Benzo(a)anthracene in AREA SVOC-2 yielded the compliance average concentration of 0.659mg/kg. Therefore, the compliance average for Benzo(a)anthracene in AREA SVOC-2 is below the RDCSCC of 0.9 mg/kg and is not of concern.

Due to the limited presence of Benzo(a)anthracene in the area of the site identified as AREA SVOC-1 at concentrations that are both above the RDCSCC and inappropriate for compliance averaging, the DPW will incorporate a document equivalent to a DER into the Fort Monmouth Master Plan. The DER equivalent will apply to soils presenting exceedences of Benzo(a)anthracene at the M-14 Landfill Site (AREA SVOC-1) and will be protective of human health and the environment. The DER equivalent and compliance averaging approach support a No Further Action determination for Benzo(a)anthracene in near-surface soils at the M-14 Landfill Site.

Benzo(a)pyrene (AREA SVOC-1 and AREA SVOC-2)

Benzo(a)pyrene was detected in eight site soil samples above the RDCSCC of 0.66 mg/kg at concentrations ranging from 0.83 mg/kg to 26 mg/kg (average exceedence concentration of 5.69 mg/kg). Compliance averaging was not undertaken for Benzo(a)pyrene because, as described in the Spring 1995 *Site Remediation News* (Volume 7, Number 2), NJDEP's guidance regarding the use of multiplication factors (initially applied to RDCSCCs to limit the maximum allowable concentration for individual samples) had changed. NJDEP's current guidance is to apply the multiplication factors to health based criteria, not RDCSCC. The health-based criteria for Benzo(a)pyrene in soil is 0.09 mg/kg. Applying the 10X factor to 0.09 mg/kg means that no individual sample may exceed 0.9 mg/kg for the purposes of compliance averaging. Therefore, compliance averaging was not appropriate for the M-14 Landfill Site with respect to Benzo(a)pyrene.

Due to the limited presence of Benzo(a)pyrene in the areas of the M-14 Landfill Site identified as AREA SVOC-1 and AREA SVOC-2 at concentrations that are both above the RDCSCC and inappropriate for compliance averaging, the DPW will incorporate a document equivalent to a DER into the Fort Monmouth Master Plan. The DER equivalent will apply to soils presenting exceedences of Benzo(a)pyrene at the M-14 Landfill Site (AREA SVOC-1 and AREA SVOC-2) and will be protective of human health and the environment. The DER equivalent supports a No Further Action determination for Benzo(a)pyrene in near-surface soils at the M-14 Landfill Site.

Benzo(b)fluoranthene (AREA SVOC-1 and AREA SVOC-2)

Benzo(b)fluoranthene was detected in six of the site soil samples above the RDCSCC of 0.9 mg/kg at concentrations ranging from 1.2 mg/kg to 23 mg/kg (average exceedence concentration of 6.77 mg/kg). Because the maximum concentration of Benzo(b)fluoranthene was greater than the 10X ceiling limit of 9 mg/kg in AREA SVOC-1, compliance averaging was not appropriate for Benzo(b)fluoranthene for this area of the M-14 Landfill Site.

Compliance averaging was conducted for Benzo(b)fluoranthene in AREA SVOC-2 and found to be 0.598mg/kg. Therefore, the compliance average for Benzo(b)fluoranthene in AREA SVOC-2 is below the RDCSCC of 0.9 mg/kg and is not of concern.

Due to the limited presence of Benzo(b)fluoranthene in the area of the site identified as AREA SVOC-1 at concentrations that are both above the RDCSCC and inappropriate for compliance averaging, the DPW will incorporate a document equivalent to a DER into the Fort Monmouth Master Plan. The DER equivalent will apply to soils presenting exceedences of Benzo(b)fluoranthene at the M-14 Landfill Site (AREA SVOC-1) and will be protective of human health and the environment. The DER equivalent and compliance averaging approach support a No Further Action determination for Benzo(b)fluoranthene in near-surface soils at the M-14 Landfill Site.

Benzo(k)fluoranthene (AREA SVOC-1 and AREA SVOC-2)

Benzo(k)fluoranthene was detected in six of the site soil samples above the RDCSCC of 0.9 mg/kg at concentrations ranging from 1.3 mg/kg to 25 mg/kg (average exceedence concentration of 6.45 mg/kg). Because the maximum concentration of Benzo(k)fluoranthene was greater than the 10X ceiling limit of 9 mg/kg in AREA SVOC-1, compliance averaging was not appropriate for Benzo(k)fluoranthene for this area of the M-14 Landfill Site.

Compliance averaging was conducted for Benzo(k)fluoranthene in AREA SVOC-2 and found to be 0.621 mg/kg. Therefore, the compliance average for Benzo(k)fluoranthene in AREA SVOC-2 is below the RDCSCC of 0.9 mg/kg and is not of concern.

Due to the limited presence of Benzo(k)fluoranthene in the area of the site identified as AREA SVOC-1 at concentrations that are both above the RDCSCC and inappropriate for compliance averaging, the DPW will incorporate a document equivalent to a DER into the Fort Monmouth Master Plan. The DER equivalent will apply to soils presenting exceedences of Benzo(k)fluoranthene at the M-14 Landfill Site (AREA SVOC-1) and will be protective of human health and the environment. The DER equivalent and compliance averaging approach support a No Further Action determination for Benzo(k)fluoranthene in near-surface soils at the M-14 Landfill Site.

Chrysene (AREA SVOC-1)

Chrysene was detected in two site soil samples above the RDCSCC of 9.0 mg/kg at concentrations of 11 mg/kg and 29 mg/kg (average exceedence concentration of 20.0 mg/kg).

Compliance averaging conducted for Chrysene in AREA SVOC-1 yielded the compliance average concentration of 4.005 mg/kg. Therefore, the compliance average for Chrysene in AREA SVOC-1 is below the RDCSCC of 9.0 mg/kg and is not of concern.

These findings support a No Further Action determination for Chrysene in near-surface soils at the M-14 Landfill Site.

Dibenz(a,h)anthracene (AREA SVOC-1)

Dibenz(a,h)anthracene was detected in two of the site soil samples above the RDCSCC of 0.66 mg/kg at concentrations ranging from 1.1 mg/kg to 1.2 mg/kg (average exceedence concentration of 1.15 mg/kg). Compliance averaging was not undertaken for Dibenz(a,h)anthracene because, as described in the Spring 1995 *Site Remediation News* (Volume 7, Number 2), NJDEP's guidance regarding the use of multiplication factors (initially applied to RDCSCCs to limit the maximum allowable concentration for individual samples) had changed. NJDEP's current guidance is to apply the multiplication factors to health based criteria, not RDCSCC. The health-based criteria for Dibenz(a,h)anthracene in soil is 0.09 mg/kg. Applying the 10X factor to 0.09 mg/kg means that no individual sample may exceed 0.9 mg/kg for the purposes of compliance averaging. Therefore, compliance averaging was not appropriate for AREA SVOC-1 at the M-14 Landfill Site with respect to Dibenz(a,h)anthracene.

Due to the limited presence of Dibenz(a,h)anthracene in the area of the M-14 Landfill Site identified as AREA SVOC-1 at concentrations that are both above the RDCSCC and inappropriate for compliance averaging, the DPW will incorporate a document equivalent to a DER into the Fort Monmouth Master Plan. The DER equivalent will apply to soils presenting exceedences of Dibenz(a,h)anthracene at the M-14 Landfill Site (AREA SVOC-1) and will be protective of human health and the environment. The DER equivalent supports a No Further Action determination for Dibenz(a,h)anthracene in near-surface soils at the M-14 Landfill Site.

Indeno(1,2,3-cd)pyrene (AREA SVOC-1)

Indeno(1,2,3-cd)pyrene was detected in four of the site soil samples above the RDCSCC of 0.9 mg/kg at concentrations ranging from 0.95 mg/kg to 13 mg/kg (average exceedence concentration of 4.81 mg/kg). Because the maximum concentration of Indeno(1,2,3-cd)pyrene was greater than the 10X ceiling limit of 9 mg/kg in AREA SVOC-1, compliance averaging was not appropriate for Indeno(1,2,3-cd)pyrene for this area of the M-14 Landfill Site.

Due to the limited presence of Indeno(1,2,3-cd)pyrene in the area of the M-14 Landfill Site identified as AREA SVOC-1 at concentrations that are both above the RDCSCC and inappropriate for compliance averaging, the DPW will incorporate a document equivalent to a DER into the Fort Monmouth Master Plan. The DER equivalent will apply to soils presenting exceedences of Indeno(1,2,3-cd)pyrene at the M-14 Landfill Site (AREA SVOC-1) and will be protective of human health and the environment. The DER equivalent supports a No Further Action determination for Indeno(1,2,3-cd)pyrene in near-surface soils at the M-14 Landfill Site.

4.3.3 Pesticides and PCBs

One pesticide was detected in site soils at concentrations above its respective RDCSCC: 4,4'-DDT. For the purposes of compliance analysis, the sample locations with exceedences of the RDCSCC for pesticides have been grouped into two areas, AREA PESTPCB-1 and AREA PESTPCB-2. The borings contained within these compliance average areas are labeled in **Figure 4-2** and listed in **Appendix F**. The compliance analysis method for these compounds is presented in **Table 4-4**.

4,4'-DDT (AREA PESTPCB-1 and AREA PESTPCB-2)

4,4'-DDT was detected in four site soil samples above the RDCSCC of 2.0 mg/kg at concentrations ranging from 2.59 mg/kg to 4.142 mg/kg (average exceedence concentration of 3.44 mg/kg).

Compliance averaging for 4,4'-DDT in AREA PESTPCB-1 yielded the compliance average concentration of 1.154 mg/kg. Therefore, the compliance average for 4,4'-DDT in AREA PESTPCB-1 is below the RDCSCC of 2.0 mg/kg and is not of concern.

Compliance averaging for 4,4'-DDT in AREA PESTPCB-2 yielded the compliance average concentration of 0.808 mg/kg. Therefore, the compliance average for 4,4'-DDT in AREA PESTPCB-2 is below the RDCSCC of 2.0 mg/kg and is not of concern.

These findings support a No Further Action determination for 4,4'-DDT in near-surface soils at the M-14 Landfill Site.

4.3.4 Metals

Two metals were detected at concentrations above their respective RDCSCC: Arsenic and Beryllium. For the purpose of compliance analysis, the sample locations with exceedences of the RDCSCC for metals have been grouped into one area, AREA METALS-1. The borings contained within these compliance average areas are labeled in **Figure 4-3** and listed in **Appendix F**. The compliance analysis method for these compounds is presented in **Table 4-4**.

Arsenic (AREA METALS-1)

Arsenic was detected in 31 of the site soil samples above the RDCSCC of 20 mg/kg at concentrations ranging from 20.7 mg/kg to 168 mg/kg (average exceedence concentration of 31.27 mg/kg). Compliance averaging was not undertaken for Arsenic because, as described in the Spring 1995 *Site Remediation News* (Volume 7, Number 2), the 20 mg/kg RDCSCC for Arsenic is already 50 times higher than the health based number for arsenic (0.4 mg/kg). Many of these samples also exceeded the site-specific maximum background concentration for Arsenic in soils (Weston, 1995) of 22.9 mg/kg.

Due to the distribution of Arsenic in the area of the M-14 Landfill Site identified as AREA METALS-1 at concentrations that are both above the RDCSCC and inappropriate for compliance averaging, the DPW will incorporate a document equivalent to a DER into the Fort Monmouth Master Plan. The DER equivalent will apply to soils presenting exceedences of Arsenic at the M-14 Landfill Site (AREA METALS-1) and will be protective of human health and the environment. The DER equivalent supports a No Further Action determination for Arsenic in near-surface soils at the M-14 Landfill Site.

Beryllium (AREA METALS-1)

Beryllium was detected above the RDCSCC of 2.0 mg/kg in 23 site soil samples at concentrations ranging from 2.03 mg/kg to 3.24 mg/kg (average exceedence concentration of 2.49 mg/kg). Compliance averaging was not undertaken for Beryllium because, as described in the Spring 1995 *Site Remediation News* (Volume 7, Number 2), compliance averaging is not appropriate for soil samples that present Beryllium concentrations that exceed 2.0 mg/kg.

Due to the limited presence of Beryllium in the area of the M-14 Landfill Site identified as AREA METALS-1 at concentrations that are both above the RDCSCC and inappropriate for compliance averaging, the DPW will incorporate a document equivalent to a DER into the Fort Monmouth Master Plan. The DER equivalent will apply to soils presenting exceedences of Beryllium at the M-14 Landfill Site (AREA METALS-1) and will be protective of human health and the environment. The DER equivalent supports a No Further Action determination for Beryllium in near-surface soils at the M-14 Landfill Site.

5.0 CONCLUSIONS AND RECOMMENDATIONS

To demonstrate compliance equivalence of the existing soil cover over the M-14 Landfill Site with respect to the Solid Waste Disposal Act of 1965, DPW characterized the near-surface soils using 119 borings from strategic locations over the site. DPW installed soil borings and obtained soil samples between December 1998 and January 1999. All soil samples were analyzed for TCL Organics + 30 parameters and TAL metals. The data that exceeded the laboratory MDL and/or the NJDEP RDCSCC are summarized in table form in this RIR. Where applicable and appropriate, the data were evaluated utilizing the "compliance averaging" approach to determine compliance with NJDEP RDCSCC. The conclusions and recommendations of the evaluation of analytical results from the near-surface soils site characterization are provided below.

As discussed in **Section 4.1**, concentrations of SVOCs, pesticides and metals were detected exceeding the NJDEP RDCSCC. **Table 4-6** provides a summary of the compliance analysis discussed in this RIR. In all cases, further analysis of the analytical results did not define a "source area" or level of contamination that necessitated the identification and evaluation of potential remedial actions. In most cases, either the calculated compliance average was below the respective RDCSCC or the exceedence was considered marginal (e.g., within 1 to 2 mg/kg of the RDCSCC). However, to address the exceedences of analytes that did not meet cleanup requirements in the near surface soils, the DPW will incorporate a document equivalent to a DER into the Fort Monmouth Master Plan for soils containing these exceedences. As discussed in **Section 2.3.2.**, the M-14 Landfill Site is located within a Class-III-A aquifer (aquitard) zone, which would minimize the possibility of any contamination migrating offsite. The Army is therefore requesting a ***No Further Action*** for these parameters. The DER equivalent may be developed for the entire M-14 Landfill Site or be restricted to the following areas and analytes (see **Figures 4-1, 4-2** and **4-3** for the boundaries of these areas):

- AREA SVOC-1: Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenz(a,h)anthracene and Ideno(1,2,3-cd)pyrene
- AREA SVOC-2: Benzo(a)pyrene
- AREA METALS-1: Arsenic and Beryllium

Given the inactive and undisturbed status of the landfill, the performance of long-term surface water and groundwater monitoring proximate to the M-14 Landfill Site, the negligible impacts reported to-date, the lack of groundwater use at or downgradient of the M-14 Landfill Site and the relatively low levels of COCs in the shallow surface soils across the site, No Further Action is recommended for the near-surface soils at the M-14 Landfill Site.

6.0 REFERENCES

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TABLES

Table 3-1
Soil Sample Collection Summary
M-14 Landfill
Fort Monmouth, New Jersey

Boring ID	Field Sample ID	Lab Sample ID	Depth	Date Collected	Matrix	Analytical Parameters	Analytical Methods
B01	B01 (6-12")	4156.02	6-12"	12/23/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B01	B01 (24")	4156.03	24"	12/23/1998	Soil	VOCs	Method 8260
B02	B02 (6-12")	4156.04	6-12"	12/23/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B02	B02 (24")	4156.05	24"	12/23/1998	Soil	VOCs	Method 8260
B03	B03 (6-12")	4156.06	6-12"	12/23/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B03	B03 (24")	4156.07	24"	12/23/1998	Soil	VOCs	Method 8260
B04	B04 (6-12")	4156.08	6-12"	12/23/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B04	B04 (24")	4156.09	24"	12/23/1998	Soil	VOCs	Method 8260
B05	B05 (6-12")	4156.10	6-12"	12/23/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B05	B05 (24")	4156.11	24"	12/23/1998	Soil	VOCs	Method 8260
B06	B06 (6-12")	4156.12	6-12"	12/23/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B06	B06 (24")	4156.13	24"	12/23/1998	Soil	VOCs	Method 8260
B07	B07 (6-12")	4159.02	6-12"	12/28/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B07	B07 (24")	4159.03	24"	12/28/1998	Soil	VOCs	Method 8260
B08	B08 (6-12")	4159.04	6-12"	12/28/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B08	B08 (24")	4159.05	24"	12/28/1998	Soil	VOCs	Method 8260
B09	B09 (6-12")	4159.06	6-12"	12/28/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B09	B09 (24")	4159.07	24"	12/28/1998	Soil	VOCs	Method 8260
B10	B10 (6-12")	4159.08	6-12"	12/28/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B10	B10 (24")	4159.09	24"	12/28/1998	Soil	VOCs	Method 8260
B11	B11 (6-12")	4159.10	6-12"	12/28/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B11	B11 (24")	4159.11	24"	12/28/1998	Soil	VOCs	Method 8260
B12	B12 (6-12")	4159.12	6-12"	12/28/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B12	B12 (24")	4159.13	24"	12/28/1998	Soil	VOCs	Method 8260
B13	B13 (6-12")	4159.14	6-12"	12/28/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B13	B13 (24")	4159.15	24"	12/28/1998	Soil	VOCs	Method 8260
B14	B14 (6-12")	4159.16	6-12"	12/28/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B14	B14 (24")	4159.17	24"	12/28/1998	Soil	VOCs	Method 8260
B15	B15 (6-12")	4159.18	6-12"	12/28/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B15	B15 (24")	4159.19	24"	12/28/1998	Soil	VOCs	Method 8260
B16	B16 (6-12")	4159.20	6-12"	12/28/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B16	B16 (24")	4159.21	24"	12/28/1998	Soil	VOCs	Method 8260
B17	B17 (6-12")	4159.22	6-12"	12/28/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B17	B17 (24")	4159.23	24"	12/28/1998	Soil	VOCs	Method 8260
B18	B18 (6-12")	4159.24	6-12"	12/28/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B18	B18 (24")	4159.25	24"	12/28/1998	Soil	VOCs	Method 8260
B19	B19 (6-12")	4159.26	6-12"	12/28/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B19	B19 (24")	4159.27	24"	12/28/1998	Soil	VOCs	Method 8260
B20	B20 (6-12")	4160.02	6-12"	12/29/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B20	B20 (24")	4160.03	24"	12/29/1998	Soil	VOCs	Method 8260

Notes:
RDCSCC = Residential Direct Contact Cleanup Criteria pre N.J.A.C. 7:26D.
VOCs = Volatile Organic Compounds; SVOCs = Semi-Volatile Organic Compounds.
Pest/PCBs = Pesticides/Polychlorinated-Biphenyls; TAL Metals = Target Analyte List Metals

Table 3-1
Soil Sample Collection Summary
M-14 Landfill
Fort Monmouth, New Jersey

Boring ID	Field Sample ID	Lab Sample ID	Depth	Date Collected	Matrix	Analytical Parameters	Analytical Methods
B21	B21 (6-12")	4160.04	6-12"	12/29/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B21	B21 (24")	4160.05	24"	12/29/1998	Soil	VOCs	Method 8260
B22	B22 (6-12")	4160.06	6-12"	12/29/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B22	B22 (24")	4160.07	24"	12/29/1998	Soil	VOCs	Method 8260
B23	B23 (6-12")	4160.08	6-12"	12/29/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B23	B23 (24")	4160.09	24"	12/29/1998	Soil	VOCs	Method 8260
B24	B24 (6-12")	4160.10	6-12"	12/29/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B24	B24 (24")	4160.11	24"	12/29/1998	Soil	VOCs	Method 8260
B25	B25 (6-12")	4160.12	6-12"	12/29/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B25	B25 (24")	4160.13	24"	12/29/1998	Soil	VOCs	Method 8260
B26	B26 (6-12")	4160.14	6-12"	12/29/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B26	B26 (24")	4160.15	24"	12/29/1998	Soil	VOCs	Method 8260
B27	B27 (6-12")	4160.16	6-12"	12/29/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B27	B27 (24")	4160.17	24"	12/29/1998	Soil	VOCs	Method 8260
B28	B28 (6-12")	4160.18	6-12"	12/29/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B28	B28 (24")	4160.19	24"	12/29/1998	Soil	VOCs	Method 8260
B29	B29 (6-12")	4160.20	6-12"	12/29/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B29	B29 (24")	4160.21	24"	12/29/1998	Soil	VOCs	Method 8260
B30	B30 (6-12")	4162.02	6-12"	12/30/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B30	B30 (24")	4162.03	24"	12/30/1998	Soil	VOCs	Method 8260
B31	B31 (6-12")	4162.04	6-12"	12/30/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B31	B31 (24")	4162.05	24"	12/30/1998	Soil	VOCs	Method 8260
B32	B32 (6-12")	4162.06	6-12"	12/30/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B32	B32 (24")	4162.07	24"	12/30/1998	Soil	VOCs	Method 8260
B33	B33 (6-12")	4162.08	6-12"	12/30/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B33	B33 (24")	4162.09	24"	12/30/1998	Soil	VOCs	Method 8260
B34	B34 (6-12")	4162.10	6-12"	12/30/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B34	B34 (24")	4162.11	24"	12/30/1998	Soil	VOCs	Method 8260
B35	B35 (6-12")	4162.12	6-12"	12/30/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B35	B35 (24")	4162.13	24"	12/30/1998	Soil	VOCs	Method 8260
B36	B36 (6-12")	4162.14	6-12"	12/30/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B36	B36 (24")	4162.15	24"	12/30/1998	Soil	VOCs	Method 8260
B37	B37 (6-12")	4162.16	6-12"	12/30/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B37	B37 (24")	4162.17	24"	12/30/1998	Soil	VOCs	Method 8260
B38	B38 (6-12")	4162.18	6-12"	12/30/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B38	B38 (24")	4162.19	24"	12/30/1998	Soil	VOCs	Method 8260
B39	B39 (6-12")	4162.20	6-12"	12/30/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B39	B39 (24")	4162.21	24"	12/30/1998	Soil	VOCs	Method 8260
B40	B40 (6-12")	4162.22	6-12"	12/30/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B40	B40 (24")	4162.23	24"	12/30/1998	Soil	VOCs	Method 8260

Notes:
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Pest/PCBs = Pesticides/Polychlorinated-Biphenyls; TAL Metals = Target Analyte List Metals

Table 3-1
Soil Sample Collection Summary
M-14 Landfill
Fort Monmouth, New Jersey

Boring ID	Field Sample ID	Lab Sample ID	Depth	Date Collected	Matrix	Analytical Parameters	Analytical Methods
B41	B41 (6-12")	4162.24	6-12"	12/30/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B41	B41 (24")	4162.25	24"	12/30/1998	Soil	VOCs	Method 8260
B42	B42 (6-12")	4162.26	6-12"	12/30/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B42	B42 (24")	4162.27	24"	12/30/1998	Soil	VOCs	Method 8260
B43	B43 (6-12")	4162.28	6-12"	12/30/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B43	B43 (24")	4162.29	24"	12/30/1998	Soil	VOCs	Method 8260
B44	B44 (6-12")	4162.30	6-12"	12/30/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B44	B44 (24")	4162.31	24"	12/30/1998	Soil	VOCs	Method 8260
B45	B45 (6-12")	4164.02	6-12"	12/31/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B45	B45 (24")	4164.03	24"	12/31/1998	Soil	VOCs	Method 8260
B46	B46 (6-12")	4164.04	6-12"	12/31/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B46	B46 (24")	4164.05	24"	12/31/1998	Soil	VOCs	Method 8260
B47	B47 (6-12")	4164.06	6-12"	12/31/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B47	B47 (24")	4164.07	24"	12/31/1998	Soil	VOCs	Method 8260
B48	B48 (6-12")	4164.08	6-12"	12/31/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B48	B48 (24")	4164.09	24"	12/31/1998	Soil	VOCs	Method 8260
B49	B49 (6-12")	4164.10	6-12"	12/31/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B49	B49 (24")	4164.11	24"	12/31/1998	Soil	VOCs	Method 8260
B50	B50 (6-12")	4164.12	6-12"	12/31/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B50	B50 (24")	4164.13	24"	12/31/1998	Soil	VOCs	Method 8260
B51	B51 (6-12")	4164.14	6-12"	12/31/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B51	B51 (24")	4164.15	24"	12/31/1998	Soil	VOCs	Method 8260
B52	B52 (6-12")	4164.16	6-12"	12/31/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B52	B52 (24")	4164.17	24"	12/31/1998	Soil	VOCs	Method 8260
B53	B53 (6-12")	4164.18	6-12"	12/31/1998	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B53	B53 (24")	4164.19	24"	12/31/1998	Soil	VOCs	Method 8260
B54	B54 (6-12")	4169.02	6-12"	1/5/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B54	B54 (24")	4169.03	24"	1/5/1999	Soil	VOCs	Method 8260
B55	B55 (6-12")	4169.04	6-12"	1/5/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B55	B55 (24")	4169.05	24"	1/5/1999	Soil	VOCs	Method 8260
B56	B56 (6-12")	4169.06	6-12"	1/5/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B56	B56 (24")	4169.07	24"	1/5/1999	Soil	VOCs	Method 8260
B57	B57 (6-12")	4169.08	6-12"	1/5/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B57	B57 (24")	4169.09	24"	1/5/1999	Soil	VOCs	Method 8260
B58	B58 (6-12")	4169.10	6-12"	1/5/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B58	B58 (24")	4169.11	24"	1/5/1999	Soil	VOCs	Method 8260
B59	B59 (6-12")	4169.12	6-12"	1/5/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B59	B59 (24")	4169.13	24"	1/5/1999	Soil	VOCs	Method 8260
B60	B60 (6-12")	4169.14	6-12"	1/5/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B60	B60 (24")	4169.15	24"	1/5/1999	Soil	VOCs	Method 8260

Notes:
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Pest/PCBs = Pesticides/Polychlorinated-Biphenyls; TAL Metals = Target Analyte List Metals

Table 3-1
Soil Sample Collection Summary
M-14 Landfill
Fort Monmouth, New Jersey

Boring ID	Field Sample ID	Lab Sample ID	Depth	Date Collected	Matrix	Analytical Parameters	Analytical Methods
B61	B61 (6-12")	4169.16	6-12"	1/5/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B61	B61 (24")	4169.17	24"	1/5/1999	Soil	VOCs	Method 8260
B62	B62 (6-12")	4169.18	6-12"	1/5/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B62	B62 (24")	4169.19	24"	1/5/1999	Soil	VOCs	Method 8260
B63	B63 (6-12")	4169.20	6-12"	1/5/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B63	B63 (24")	4169.21	24"	1/5/1999	Soil	VOCs	Method 8260
B64	B64 (6-12")	4169.22	6-12"	1/5/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B64	B64 (24")	4169.23	24"	1/5/1999	Soil	VOCs	Method 8260
B65	B65 (6-12")	4169.24	6-12"	1/5/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B65	B65 (24")	4169.25	24"	1/5/1999	Soil	VOCs	Method 8260
B66	B66 (6-12")	4169.26	6-12"	1/5/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B66	B66 (24")	4169.27	24"	1/5/1999	Soil	VOCs	Method 8260
B67	B67 (6-12")	4169.28	6-12"	1/5/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B67	B67 (24")	4169.29	24"	1/5/1999	Soil	VOCs	Method 8260
B68	B68 (6-12")	4169.30	6-12"	1/5/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B68	B68 (24")	4169.31	24"	1/5/1999	Soil	VOCs	Method 8260
B69	B69 (6-12")	4169.32	6-12"	1/5/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B69	B69 (24")	4169.33	24"	1/5/1999	Soil	VOCs	Method 8260
B70	B70 (6-12")	4169.34	6-12"	1/5/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B70	B70 (24")	4169.35	24"	1/5/1999	Soil	VOCs	Method 8260
B71	B71 (6-12")	4169.36	6-12"	1/5/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B71	B71 (24")	4169.37	24"	1/5/1999	Soil	VOCs	Method 8260
B72	B72 (6-12")	4173.02	6-12"	1/6/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B72	B72 (24")	4173.03	24"	1/6/1999	Soil	VOCs	Method 8260
B73	B73 (6-12")	4173.04	6-12"	1/6/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B73	B73 (24")	4173.05	24"	1/6/1999	Soil	VOCs	Method 8260
B74	B74 (6-12")	4173.06	6-12"	1/6/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B74	B74 (24")	4173.07	24"	1/6/1999	Soil	VOCs	Method 8260
B75	B75 (6-12")	4173.08	6-12"	1/6/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B75	B75 (24")	4173.09	24"	1/6/1999	Soil	VOCs	Method 8260
B76	B76 (6-12")	4173.10	6-12"	1/6/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B76	B76 (24")	4173.11	24"	1/6/1999	Soil	VOCs	Method 8260
B77	B77 (6-12")	4173.12	6-12"	1/6/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B77	B77 (24")	4173.13	24"	1/6/1999	Soil	VOCs	Method 8260
B78	B78 (6-12")	4173.14	6-12"	1/6/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B78	B78 (24")	4173.15	24"	1/6/1999	Soil	VOCs	Method 8260
B79	B79 (6-12")	4173.16	6-12"	1/6/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B79	B79 (24")	4173.17	24"	1/6/1999	Soil	VOCs	Method 8260
B80	B80 (6-12")	4173.18	6-12"	1/6/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B80	B80 (24")	4173.19	24"	1/6/1999	Soil	VOCs	Method 8260

Notes:
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Pest/PCBs = Pesticides/Polychlorinated-Biphenyls; TAL Metals = Target Analyte List Metals

Table 3-1
Soil Sample Collection Summary
M-14 Landfill
Fort Monmouth, New Jersey

Boring ID	Field Sample ID	Lab Sample ID	Depth	Date Collected	Matrix	Analytical Parameters	Analytical Methods
B81	B81 (6-12")	4173.20	6-12"	1/6/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B81	B81 (24")	4173.21	24"	1/6/1999	Soil	VOCs	Method 8260
B82	B82 (6-12")	4173.22	6-12"	1/6/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B82	B82 (24")	4173.23	24"	1/6/1999	Soil	VOCs	Method 8260
B83	B83 (6-12")	4173.24	6-12"	1/6/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B83	B83 (24")	4173.25	24"	1/6/1999	Soil	VOCs	Method 8260
B84	B84 (6-12")	4173.26	6-12"	1/6/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B84	B84 (24")	4173.27	24"	1/6/1999	Soil	VOCs	Method 8260
B85	B85 (6-12")	4173.28	6-12"	1/6/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B85	B85 (24")	4173.29	24"	1/6/1999	Soil	VOCs	Method 8260
B86	B86 (6-12")	4173.30	6-12"	1/6/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B86	B86 (24")	4173.31	24"	1/6/1999	Soil	VOCs	Method 8260
B87	B87 (6-12")	4177.02	6-12"	1/7/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B87	B87 (24")	4177.03	24"	1/7/1999	Soil	VOCs	Method 8260
B88	B88 (6-12")	4177.04	6-12"	1/7/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B88	B88 (24")	4177.05	24"	1/7/1999	Soil	VOCs	Method 8260
B89	B89 (6-12")	4177.06	6-12"	1/7/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B89	B89 (24")	4177.07	24"	1/7/1999	Soil	VOCs	Method 8260
B90	B90 (6-12")	4177.08	6-12"	1/7/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B90	B90 (24")	4177.09	24"	1/7/1999	Soil	VOCs	Method 8260
B91	B91 (6-12")	4177.10	6-12"	1/7/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B91	B91 (24")	4177.11	24"	1/7/1999	Soil	VOCs	Method 8260
B92	B92 (6-12")	4177.12	6-12"	1/7/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B92	B92 (24")	4177.13	24"	1/7/1999	Soil	VOCs	Method 8260
B93	B93 (6-12")	4177.14	6-12"	1/7/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B93	B93 (24")	4177.15	24"	1/7/1999	Soil	VOCs	Method 8260
B94	B94 (6-12")	4177.16	6-12"	1/7/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B94	B94 (24")	4177.17	24"	1/7/1999	Soil	VOCs	Method 8260
B95	B95 (6-12")	4177.18	6-12"	1/7/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B95	B95 (24")	4177.19	24"	1/7/1999	Soil	VOCs	Method 8260
B96	B96 (6-12")	4179.02	6-12"	1/11/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B96	B96 (24")	4179.03	24"	1/11/1999	Soil	VOCs	Method 8260
B97	B97 (6-12")	4179.04	6-12"	1/11/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B97	B97 (24")	4179.05	24"	1/11/1999	Soil	VOCs	Method 8260
B98	B98 (6-12")	4179.06	6-12"	1/11/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B98	B98 (24")	4179.07	24"	1/11/1999	Soil	VOCs	Method 8260
B99	B99 (6-12")	4179.08	6-12"	1/11/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B99	B99 (24")	4179.09	24"	1/11/1999	Soil	VOCs	Method 8260
B100	B100 (6-12")	4179.10	6-12"	1/11/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B100	B100 (24")	4179.11	24"	1/11/1999	Soil	VOCs	Method 8260

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Pest/PCBs = Pesticides/Polychlorinated-Biphenyls; TAL Metals = Target Analyte List Metals

Table 3-1
Soil Sample Collection Summary
M-14 Landfill
Fort Monmouth, New Jersey

Boring ID	Field Sample ID	Lab Sample ID	Depth	Date Collected	Matrix	Analytical Parameters	Analytical Methods
B101	B101 (6-12")	4179.12	6-12"	1/11/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B101	B101 (24")	4179.13	24"	1/11/1999	Soil	VOCs	Method 8260
B102	B102 (6-12")	4179.14	6-12"	1/11/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B102	B102 (24")	4179.15	24"	1/11/1999	Soil	VOCs	Method 8260
B103	B103 (6-12")	4179.16	6-12"	1/11/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B103	B103 (24")	4179.17	24"	1/11/1999	Soil	VOCs	Method 8260
B104	B104 (6-12")	4179.18	6-12"	1/11/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B104	B104 (24")	4179.19	24"	1/11/1999	Soil	VOCs	Method 8260
B105	B105 (6-12")	4179.20	6-12"	1/11/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B105	B105 (24")	4179.21	24"	1/11/1999	Soil	VOCs	Method 8260
B106	B106 (6-12")	4179.22	6-12"	1/11/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B106	B106 (24")	4179.23	24"	1/11/1999	Soil	VOCs	Method 8260
B107	B107 (6-12")	4184.02	6-12"	1/12/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B107	B107 (24")	4184.03	24"	1/12/1999	Soil	VOCs	Method 8260
B108	B108 (6-12")	4184.04	6-12"	1/12/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B108	B108 (24")	4184.05	24"	1/12/1999	Soil	VOCs	Method 8260
B109	B109 (6-12")	4184.06	6-12"	1/12/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B109	B109 (24")	4184.07	24"	1/12/1999	Soil	VOCs	Method 8260
B110	B110 (6-12")	4184.08	6-12"	1/12/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B110	B110 (24")	4184.09	24"	1/12/1999	Soil	VOCs	Method 8260
B111	B111 (6-12")	4184.10	6-12"	1/12/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B111	B111 (24")	4184.11	24"	1/12/1999	Soil	VOCs	Method 8260
B112	B112 (6-12")	4184.12	6-12"	1/12/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B112	B112 (24")	4184.13	24"	1/12/1999	Soil	VOCs	Method 8260
B113	B113 (6-12")	4189.02	6-12"	1/13/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B113	B113 (24")	4189.03	24"	1/13/1999	Soil	VOCs	Method 8260
B114	B114 (6-12")	4189.04	6-12"	1/13/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B114	B114 (24")	4189.05	24"	1/13/1999	Soil	VOCs	Method 8260
B115	B115 (6-12")	4189.06	6-12"	1/13/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B115	B115 (24")	4189.07	24"	1/13/1999	Soil	VOCs	Method 8260
B116	B116 (6-12")	4189.08	6-12"	1/13/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B116	B116 (24")	4189.09	24"	1/13/1999	Soil	VOCs	Method 8260
B117	B117 (6-12")	4189.10	6-12"	1/13/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B117	B117 (24")	4189.11	24"	1/13/1999	Soil	VOCs	Method 8260
B118	B118 (6-12")	4189.12	6-12"	1/13/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B118	B118 (24")	4189.13	24"	1/13/1999	Soil	VOCs	Method 8260
B119	B119 (6-12")	4189.14	6-12"	1/13/1999	Soil	SVOCs; Pesticides/PCBs; TAL Metals	Method 8270; Method 8080; Methods 3151, 6010B, and 7471A
B119	B119 (24")	4189.15	24"	1/13/1999	Soil	VOCs	Method 8260

Notes:
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Table 4-1
Soil Sampling Results
M-14 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria	4156.02	4156.03	4156.04	4156.05	4156.06	4156.07	4156.08	4156.09	4156.10	4156.11	4156.12	4156.13	4159.02	4159.03	4159.04	4159.05
Field Sample Location		B01 (6-12")	B01 (24")	B02 (6-12")	B02 (24")	B03 (6-12")	B03 (24")	B04 (6-12")	B04 (24")	B05 (6-12")	B05 (24")	B06 (6-12")	B06 (24")	B07 (6-12")	B07 (24")	B08 (6-12")	B08 (24")
Sample Date	(mg/kg)	12/23/98	12/23/98	12/23/98	12/23/98	12/23/98	12/23/98	12/23/98	12/23/98	12/23/98	12/23/98	12/23/98	12/23/98	12/28/98	12/28/98	12/28/98	12/28/98
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Benzene	3		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		0.72		ND		0.69		ND		0.42J		0.69		0.76		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		0.13J		ND		ND		ND		ND		1.10	
2-Methylnaphthalene	NLE	ND		0.11J		0.12J		ND		ND		ND		ND		1.10	
Acenaphthylene	NLE	ND		0.38J		0.89J		ND		ND		0.12J		ND		1.10	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		0.24J	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		0.11J	
Diethylphthalate	10000	ND		ND		ND		0.11J		ND		0.14J		ND		ND	
Fluorene	2300	ND		0.27J		ND		ND		ND		ND		ND		1.00J	
Phenanthrene	NLE	ND		1.90		0.68J		ND		ND		ND		ND		8.40	
Anthracene	10000	ND		0.30J		0.29J		ND		ND		ND		ND		1.00J	
Di-n-butylphthalate	5700	0.66J		0.37J		0.83J		1.4		0.40J		1.6		2.7		1.7	
Fluoranthene	2300	ND		1.60		0.79J		0.15J		0.13J		0.22J		0.12J		4.30	
Pyrene	1700	ND		2.20		1.30		0.15J		0.13J		0.30J		0.15J		6.60	
Benzo[a]anthracene	0.9	ND		0.88J		0.66J		ND		ND		0.17J		ND		2.40	
Chrysene	9	ND		1.20		0.99J		ND		ND		0.24J		0.13J		3.60	
bis(2-Ethylhexyl)phthalate	49	0.23J		0.11J		0.16J		0.13J		ND		0.17J		0.11J		0.13J	
Benzo[b]fluoranthene	0.9	ND		0.72J		0.62J		ND		ND		0.18J		ND		1.20	
Benzo[k]fluoranthene	0.9	ND		0.61J		0.73J		ND		ND		0.20J		ND		1.60	
Benzo[a]pyrene	0.66	ND		0.83J		1.0J		ND		ND		0.27J		ND		2.00	
Indeno[1,2,3-cd]pyrene	0.9	ND		0.27J		0.38J		ND		ND		0.13J		ND		0.63J	
Dibenz[a,h]anthracene	0.66	ND		0.11J		0.14J		ND		ND		ND		ND		0.27J	
Benzo[g,h,I]perylene	NLE	ND		0.34J		0.66J		ND		ND		0.21J		ND		0.99J	
Pesticides/PCBs (mg/kg)																	
4,4'-DDE	2	0.237		0.054		0.027		0.253		0.031		0.01		0.021		0.026	
Dieldrin	0.042	ND		0.001		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.017		0.054		0.022		0.031		0.051		0.013		0.028		0.048	
4,4'-DDT	2	0.113		0.106		0.109		0.273		0.028		0.017		0.069		0.046	
gamma-Chlordane	NLE	ND		0.002		0.003		0.002		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		0.001		0.001		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	10200		10600		7420		11500		11700		11900		11700		10800	
Antimony	14	1.03		1.17		0.633		0.395		0.798		0.569		0.57		0.482	
Arsenic	20	9.97		9.39		6.70		18.2		14.5		13.7		12.5		9.96	
Barium	700	34.9		52.3		30.1		30.5		71.9		87.6		83.3		65.4	
Beryllium	2	1.07		1.37		1.11		1.04		1.65		1.89		1.90		1.36	
Cadmium	39	0.632		1.22		0.47		0.625		0.711		0.873		0.778		0.74	
Calcium	NLE	518		1640		1590		697		1320		8190		5240		3890	
Chromium	NLE	94.2		95.0		99.2		89.3		169		179		211		140	
Cobalt	NLE	4.74		3.25		2.62		1.99		1.98		2.58		1.59		1.94	
Copper	600	3.53		15.5		14.2		5.58		7.72		7.43		6.79		14.0	
Iron	NLE	48200		30900		24100		30900		39800		38400		45100		31500	
Lead	400	11.0		45.8		39.3		16.9		21.1		11.7		10.0		40.3	
Magnesium	NLE	1200		3190		3150		3160		4950		5370		6280		3940	
Manganese	NLE	150		61.0		48.7		51.8		27.8		54.5		28.9		29.5	
Mercury	14	0.05		0.11		0.11		0.12		0.12		0.07		0.06		0.10	
Nickel	250	15.8		11.3		6.74		6.91		8.58		13.2		7.55		8.55	
Potassium	NLE	2180		6600		6620		6610		11100		16400		14700		8470	
Selenium	63	ND		0.762		1.28		ND		2.19		2.18		1.39		1.49	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	310		155		228		96.7		157		360		167		229	
Vanadium	370	138		56.0		47.3		58.9		82.1		77.1		82.8		66.3	
Zinc	1500	84.2		103		58.0		71.9		68.9		78.5		75.9		60.1	

NOTES:
ND = Not Detected
NLE = No Limit Established
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte, however the result is less than the method detection limit, but greater than zero.

Table 4-1
Soil Sampling Results
M-14 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4159.06	4159.07	4159.08	4159.09	4159.10	4159.11	4159.12	4159.13	4159.14	4159.15	4159.16	4159.17	4159.18	4159.19	4159.20	4159.21
Field Sample Location		B09 (6-12")	B09 (24")	B10 (6-12")	B10 (24")	B11 (6-12")	B11 (24")	B12 (6-12")	B12 (24")	B13 (6-12")	B13 (24")	B14 (6-12")	B14 (24")	B15 (6-12")	B15 (24")	B16 (6-12")	B16 (24")
Sample Date		12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Benzene	3		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		0.51J		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10000	0.12J		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		0.22J		ND		0.30J		0.30J		ND		ND		0.43J	
Anthracene	10000	ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	31		3.7		1.4		0.38J		0.47J		1.4		1.00J		2.3	
Fluoranthene	2300	ND		0.29J		ND		0.25J		0.13J		ND		0.17J		0.29J	
Pyrene	1700	ND		0.25J		ND		0.36J		0.22J		ND		0.18J		0.44J	
Benzo[a]anthracene	0.9	ND		0.13J		ND		0.15J		ND		ND		ND		0.17J	
Chrysene	9	ND		0.16J		ND		0.24J		ND		ND		ND		0.26J	
bis(2-Ethylhexyl)phthalate	49	0.12J		0.13J		0.15J		0.14J		ND		0.12J		ND		ND	
Benzo[b]fluoranthene	0.9	ND		0.12J		ND		ND		ND		ND		ND		0.15J	
Benzo[k]fluoranthene	0.9	ND		0.18J		ND		0.17J		ND		ND		ND		0.17J	
Benzo[a]pyrene	0.66	ND		0.11J		0.24J		0.14J		ND		ND		ND		0.15J	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
4,4'-DDE	2	0.012		0.024		0.013		0.06		0.009		0.008		0.025		0.039	
Dieldrin	0.042	ND		0.001		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.014		0.027		0.014		0.169		0.011		0.011		0.066		0.047	
4,4'-DDT	2	0.014		0.055		0.008		0.173		0.015		0.012		0.108		0.088	
gamma-Chlordane	NLE	ND		ND		ND		0.003		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		0.001		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	10200		10000		6820		8430		5870		9250		4610		5610	
Antimony	14	0.623		0.661		0.675		0.863		ND		0.619		0.612		0.643	
Arsenic	20	12.3		11.2		10.3		12.0		10.8		12.2		7.57		9.56	
Barium	700	85.1		78.3		58.4		77.3		66.3		68.6		48.9		64.1	
Beryllium	2	1.76		1.50		1.36		1.17		0.952		1.24		0.825		1.02	
Cadmium	39	0.983		0.534		0.809		0.394		0.381		0.519		0.332		0.548	
Calcium	NLE	4520		5320		3420		5300		4910		1070		3020		4580	
Chromium	NLE	190		165		107		129		99.6		142		63.2		95.5	
Cobalt	NLE	1.45		1.80		1.91		1.30		0.826		1.49		1.35		1.46	
Copper	600	8.04		6.37		6.89		6.83		6.28		8.62		10.9		6.87	
Iron	NLE	40500		36600		24600		29300		23800		35700		16800		25100	
Lead	400	7.23		12.1		17.5		23.6		10.7		20.1		25.6		17.1	
Magnesium	NLE	5670		4810		2930		3420		2800		3890		1450		2670	
Manganese	NLE	33.6		27.6		21.5		26.9		17.1		27.2		13.8		19.5	
Mercury	14	0.06		0.05		0.07		0.09		0.03		0.04		0.08		0.03	
Nickel	250	8.06		6.58		9.54		5.47		4.88		6.63		5.00		6.78	
Potassium	NLE	13300		11400		6680		7820		6240		9260		2920		7030	
Selenium	63	1.88		1.71		1.83		1.72		2.08		2.31		1.42		2.08	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	496		257		556		132		451		359		447		225	
Vanadium	370	76.4		71.2		44.7		58.7		38.1		66.2		28.8		30.7	
Zinc	1500	61.2		60.3		53.1		42.7		41.1		56.8		39.4		63.1	

NOTES:
ND = Not Detected
NLE = No Limit Established
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte, however the result is less than the method detection limit, but greater than zero.

Table 4-1
Soil Sampling Results
M-14 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4159.22	4159.23	4159.24	4159.25	4159.26	4159.27	4160.02	4160.03	4160.04	4160.05	4160.06	4160.07	4160.08	4160.09	4160.10	4160.11
Field Sample Location		B17 (6-12")	B17 (24")	B18 (6-12")	B18 (24")	B19 (6-12")	B19 (24")	B20 (6-12")	B20 (24")	B21 (6-12")	B21 (24")	B22 (6-12")	B22 (24")	B23 (6-12")	B23 (24")	B24 (6-12")	B24 (24")
Sample Date		12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/28/98	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Benzene	3		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		0.72		ND		ND		ND		ND		ND		ND		0.36J
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		0.23J		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		0.13J		0.37J		ND		0.30J		ND		0.14J		ND	
Anthracene	10000	ND		0.13J		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.89J		0.48J		0.25J		0.30J		0.37J		0.92J		1.2		0.98J	
Fluoranthene	2300	ND		0.16J		0.26J		ND		0.43J		ND		0.18J		ND	
Pyrene	1700	ND		0.18J		0.37J		ND		0.63J		ND		0.23J		ND	
Benzo[a]anthracene	0.9	ND		ND		0.14J		ND		0.44J		ND		ND		ND	
Chrysene	9	ND		0.13J		0.21J		ND		0.92J		ND		0.20J		ND	
bis(2-Ethylhexyl)phthalate	49	0.15J		0.14J		ND		ND		ND		ND		0.11J		ND	
Benzo[b]fluoranthene	0.9	ND		ND		ND		ND		0.38J		ND		ND		ND	
Benzo[k]fluoranthene	0.9	ND		0.11J		0.14J		ND		0.51J		ND		0.11J		ND	
Benzo[a]pyrene	0.66	ND		ND		0.12J		ND		0.56J		ND		0.11J		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		ND		0.28J		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		0.15J		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		ND		0.33J		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
4,4'-DDE	2	0.014		0.067		0.061		0.023		0.065		0.021		0.023		0.012	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.018		0.119		0.088		0.031		0.07		0.03		0.041		0.016	
4,4'-DDT	2	0.026		0.097		0.065		0.072		0.157		0.03		0.026		0.025	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	6090		11100		7600		10000		7330		7110		9400		10000	
Antimony	14	0.604		1.01		1.67		0.755		0.895		0.728		0.929		0.801	
Arsenic	20	6.30		8.28		5.82		12.9		8.97		11.8		13.4		9.39	
Barium	700	49.9		60.8		43.3		65.5		54.5		69.4		84.2		70.4	
Beryllium	2	1.02		1.32		1.10		2.04		1.15		1.20		1.50		1.43	
Cadmium	39	0.486		6.29		0.453		0.799		0.448		0.672		0.782		1.11	
Calcium	NLE	2840		2170		1600		8010		999		5680		4670		3400	
Chromium	NLE	100		87.9		100		215		110		123		152		135	
Cobalt	NLE	1.34		7.31		1.29		1.68		1.47		1.58		1.78		2.44	
Copper	600	4.88		78.0		6.07		4.00		9.58		5.49		6.31		8.92	
Iron	NLE	22900		29600		20500		45100		28400		27900		34500		30900	
Lead	400	8.62		30.2		17.9		4.90		19.3		12.6		22.8		16.4	
Magnesium	NLE	2620		3000		2310		5960		2660		3080		3950		3350	
Manganese	NLE	21.2		296		18.6		23.9		18.4		20.0		31.2		33.0	
Mercury	14	0.05		0.12		0.06		0.034		0.08		0.043		0.045		0.057	
Nickel	250	5.90		23.3		6.13		7.25		5.97		7.53		9.38		9.89	
Potassium	NLE	6140		5890		5250		15400		6430		7560		9830		8140	
Selenium	63	1.11		1.25		1.06		2.19		1.55		2.05		1.88		1.49	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	89.3		211		105		99.8		159		165		336		373	
Vanadium	370	43.0		68.8		49.4		65.4		48.4		50.8		66.3		63.4	
Zinc	1500	43.9		113		42.5		94.1		66.8		60.4		59.7		68.2	

NOTES:
ND = Not Detected
NLE = No Limit Established
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte, however the result is less than the method detection limit, but greater than zero.

Table 4-1
Soil Sampling Results
M-14 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4160.12	4160.13	4160.14	4160.15	4160.16	4160.17	4160.18	4160.19	4160.20	4160.21	4162.02	4162.03	4162.04	4162.05	4162.06	4162.07
Field Sample Location		B25 (6-12")	B25 (24")	B26 (6-12")	B26 (24")	B27 (6-12")	B27 (24")	B28 (6-12")	B28 (24")	B29 (6-12")	B29 (24")	B30 (6-12")	B30 (24")	B31 (6-12")	B31 (24")	B32 (6-12")	B32 (24")
Sample Date		12/29/98	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98	12/29/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Benzene	3		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		620		0.37J		0.66		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	0.12J		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	0.21J		ND		0.21J		0.13J		ND		ND		ND		ND	
Anthracene	10000	0.23J		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	1.1		1.5		0.89J		0.32J		0.76J		0.75J		0.24J		0.31J	
Fluoranthene	2300	0.63J		ND		0.27J		ND		ND		ND		ND		ND	
Pyrene	1700	0.84J		ND		0.32J		0.13J		ND		ND		ND		ND	
Benzo[a]anthracene	0.9	1.00J		ND		0.14J		ND		ND		ND		ND		ND	
Chrysene	9	1.80		ND		0.26J		ND		ND		ND		ND		ND	
bis(2-Ethylhexyl)phthalate	49	0.11J		ND		ND		ND		0.11J		ND		ND		ND	
Benzo[b]fluoranthene	0.9	1.20		ND		0.12J		ND		ND		ND		ND		ND	
Benzo[k]fluoranthene	0.9	1.30		ND		0.16J		ND		ND		ND		ND		ND	
Benzo[a]pyrene	0.66	0.91J		ND		0.14J		ND		ND		ND		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	0.55J		ND		ND		ND		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	0.21J		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	0.48J		ND		ND		ND		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
4,4'-DDE	2	0.013		0.02		0.029		0.015		0.006		0.045		0.053		0.062	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.012		0.044		0.055		0.024		0.007		0.084		0.099		0.117	
4,4'-DDT	2	0.034		0.079		0.033		0.026		0.027		0.053		0.117		0.171	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	6970		7970		5250		7640		7360		10400		9010		8600	
Antimony	14	1.24		0.854		0.763		0.827		0.984		1.27		1.03		1.14	
Arsenic	20	6.02		11.2		7.21		168		9.69		19.9		11.8		9.51	
Barium	700	42.1		77.4		65.4		73.2		55.0		70.7		82.8		58.1	
Beryllium	2	0.908		1.30		1.07		1.23		1.32		1.43		1.59		1.31	
Cadmium	39	0.474		0.518		0.739		0.742		0.461		0.789		0.761		0.528	
Calcium	NLE	507		3660		5300		6360		1050		6460		5550		2300	
Chromium	NLE	96.8		159		85.2		143		149		184		177		144	
Cobalt	NLE	1.51		1.08		3.05		1.47		1.33		1.36		1.23		1.50	
Copper	600	12.0		5.78		3.93		5.70		5.47		5.60		5.22		4.90	
Iron	NLE	23100		35100		19000		37900		31600		42100		38600		32700	
Lead	400	17.6		7.76		6.11		11.4		7.14		13.2		11.7		10.9	
Magnesium	NLE	2110		3990		2160		3620		3480		4280		4580		3480	
Manganese	NLE	19.6		18.5		40.9		24.6		19.0		26.1		23.8		22.3	
Mercury	14	0.077		ND		ND		ND		ND		0.07		0.02		0.03	
Nickel	250	5.36		4.58		10.2		6.76		5.94		6.20		7.44		5.95	
Potassium	NLE	5000		10600		5200		10200		8740		11200		11800		9250	
Selenium	63	1.35		2.14		1.13		2.18		2.31		2.39		2.24		1.45	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	121		138		135		304		112		93.2		146		118	
Vanadium	370	45.5		63.6		38.4		61.9		59.3		74.6		72.1		59.7	
Zinc	1500	46.3		55.2		56.5		46.0		49.2		59.2		52.9		49.7	

NOTES:
ND = Not Detected
NLE = No Limit Established
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte, however the result is less than the method detection limit, but greater than zero.

Table 4-1
Soil Sampling Results
M-14 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4162.08	4162.09	4162.10	4162.11	4162.12	4162.13	4162.14	4162.15	4162.16	4162.17	4162.18	4162.19	4162.20	4162.21	4162.22	4162.23
Field Sample Location		B33 (6-12")	B33 (24")	B34 (6-12")	B34 (24")	B35 (6-12")	B35 (24")	B36 (6-12")	B36 (24")	B37 (6-12")	B37 (24")	B38 (6-12")	B38 (24")	B39 (6-12")	B39 (24")	B40 (6-12")	B40 (24")
Sample Date		12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98
Volatiles (mg/kg)																	
Acetone	1000		ND		17.0		ND		ND		ND		ND		ND		ND
Benzene	3		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		ND		ND		ND		ND		ND		0.15J		ND	
Anthracene	10000	ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	1.5		0.80J		0.30J		0.33J		0.85J		0.90J		0.35J		0.82J	
Fluoranthene	2300	ND		ND		ND		ND		ND		0.12J		0.22J		ND	
Pyrene	1700	ND		ND		ND		ND		ND		0.13J		0.22J		ND	
Benzo[a]anthracene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Chrysene	9	ND		ND		ND		ND		ND		ND		0.17J		ND	
bis(2-Ethylhexyl)phthalate	49	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[b]fluoranthene	0.9	ND		ND		ND		ND		ND		ND		0.15J		ND	
Benzo[k]fluoranthene	0.9	ND		ND		ND		ND		ND		ND		0.14J		ND	
Benzo[a]pyrene	0.66	ND		ND		ND		ND		ND		ND		0.13J		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
4,4'-DDE	2	0.068		0.044		0.025		0.054		0.038		0.032		0.03		0.052	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.354		0.049		0.033		0.081		0.061		0.043		0.042		0.077	
4,4'-DDT	2	4.095		0.098		0.057		0.108		0.063		0.067		0.138		0.293	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	9570		6450		9220		4630		8380		4550		4090		8650	
Antimony	14	0.882		1.07		0.898		1.97		1.31		0.99		0.783		1.18	
Arsenic	20	15.5		10.0		12.4		8.87		14.5		11.6		9.61		12.6	
Barium	700	68.1		44.7		86.4		64.5		90.4		60.9		72.5		70.3	
Beryllium	2	1.51		1.25		1.51		1.28		1.56		0.872		0.831		1.33	
Cadmium	39	0.698		0.75		0.625		1.33		0.706		0.351		0.428		0.704	
Calcium	NLE	943		983		4120		1910		3490		914		4090		997	
Chromium	NLE	172		103		176		67.9		166		84.9		68.8		153	
Cobalt	NLE	1.52		1.52		1.62		15.0		1.36		1.29		1.46		1.37	
Copper	600	6.69		9.31		7.07		15.4		5.86		6.86		6.04		8.34	
Iron	NLE	38300		25600		38000		17900		37800		23000		18800		34300	
Lead	400	12.4		28.4		11.4		24.9		13.3		16.2		13.9		18.6	
Magnesium	NLE	4170		2130		4170		1360		3870		1800		1470		3380	
Manganese	NLE	26.7		26.5		23.9		171		21.9		15.2		17.9		23.8	
Mercury	14	0.11		0.07		0.05		0.04		0.04		0.05		0.07		0.06	
Nickel	250	6.88		8.18		6.05		10.9		5.21		4.80		4.99		6.05	
Potassium	NLE	10900		5520		11300		3430		10800		4960		4090		9200	
Selenium	63	2.16		1.52		2.21		1.75		2.40		1.98		1.86		2.19	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	71.0		35.2		53.0		65.9		67.7		66.4		86.7		100	
Vanadium	370	71.5		47.3		70.7		30.2		54.7		29.6		25.5		62.3	
Zinc	1500	63.5		78.8		60.6		92.5		64.7		38.0		45.0		59.6	

NOTES:
ND = Not Detected
NLE = No Limit Established
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte, however the result is less than the method detection limit, but greater than zero.

Table 4-1
Soil Sampling Results
M-14 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria	4162.24	4162.25	4162.26	4162.27	4162.28	4162.29	4162.30	4162.31	4164.02	4164.03	4164.04	4164.05	4164.06	4164.07	4164.08	4164.09
Field Sample Location		B41 (6-12")	B41 (24")	B42 (6-12")	B42 (24")	B43 (6-12")	B43 (24")	B44 (6-12")	B44 (24")	B45 (6-12")	B45 (24")	B46 (6-12")	B46 (24")	B47 (6-12")	B47 (24")	B48 (6-12")	B48 (24")
Sample Date	(mg/kg)	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/30/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Benzene	3		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		0.16J		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		0.14J		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		0.20J		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	0.14J		ND		0.64J		ND		0.14J		0.21J		ND		0.12J	
Anthracene	10000	ND		ND		0.14J		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.38J		0.44J		1.10J		1.6		1.00J		0.45J		0.39J		1.10J	
Fluoranthene	2300	0.14J		ND		0.42J		ND		0.19J		0.28J		0.12J		ND	
Pyrene	1700	0.19J		ND		0.52J		ND		0.22J		0.31J		0.15J		0.13J	
Benzo[a]anthracene	0.9	ND		ND		0.26J		ND		0.10J		0.15J		ND		ND	
Chrysene	9	0.13J		ND		0.35J		ND		0.14J		0.21J		ND		ND	
bis(2-Ethylhexyl)phthalate	49	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[b]fluoranthene	0.9	ND		ND		0.17J		ND		ND		0.13J		ND		ND	
Benzo[k]fluoranthene	0.9	ND		ND		0.23J		ND		ND		0.16J		ND		ND	
Benzo[a]pyrene	0.66	ND		ND		0.24J		ND		0.12J		0.16J		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		0.14J		ND		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
4,4'-DDE	2	0.032		ND		0.028		0.055		0.037		0.03		0.036		0.034	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.043		ND		0.04		0.068		0.038		0.056		0.039		0.165	
4,4'-DDT	2	0.114		0.039		0.1		0.123		0.134		0.175		0.077		0.044	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	7360		9370		11000		9190		7900		10300		9520		5870	
Antimony	14	0.722		0.954		0.76		1.23		1.40		1.19		0.932		1.86	
Arsenic	20	11.7		9.31		11.9		11.1		12.7		12.7		14.2		8.06	
Barium	700	70.2		56.8		120		77.4		57.3		77.4		83.1		71.4	
Beryllium	2	1.17		1.41		1.89		1.39		1.26		1.91		1.61		0.808	
Cadmium	39	0.551		0.632		0.953		0.704		0.747		1.47		0.701		0.587	
Calcium	NLE	1010		3680		7320		1370		1350		3880		7000		1210	
Chromium	NLE	133		179		235		145		140		198		197		20.3	
Cobalt	NLE	1.41		0.892		2.03		1.61		1.80		3.23		1.55		7.19	
Copper	600	6.08		5.34		6.75		5.48		7.01		6.50		4.95		44.1	
Iron	NLE	27800		38000		42400		32900		32100		40900		40400		12700	
Lead	400	20.1		7.66		8.59		22.8		16.0		19.6		7.92		19.4	
Magnesium	NLE	2680		4080		5070		3090		2980		4200		4210		263	
Manganese	NLE	19.3		23.3		42.6		28.2		44.3		43.2		25.4		69.7	
Mercury	14	0.07		0.04		0.03		0.06		0.06		0.049		0.044		0.048	
Nickel	250	5.61		5.07		8.93		6.82		8.41		27.7		6.53		22.8	
Potassium	NLE	7500		11700		14300		8680		8220		11900		12400		677	
Selenium	63	1.81		1.83		2.59		1.82		1.72		1.91		2.24		1.75	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	55.3		138		224		90.2		53.0		107		112		198	
Vanadium	370	46.2		64.0		81.3		61.9		57.8		67.0		61.2		27.1	
Zinc	1500	54.7		92.8		77.7		55.3		82.3		79.0		76.2		44.1	

NOTES:
ND = Not Detected
NLE = No Limit Established
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte, however the result is less than the method detection limit, but greater than zero.

Table 4-1
Soil Sampling Results
M-14 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4164.10	4164.11	4164.12	4164.13	4164.14	4164.15	4164.16	4164.17	4164.18	4164.19	4169.02	4169.03	4169.04	4169.05	4169.06	4169.07
Field Sample Location		B49 (6-12")	B49 (24")	B50 (6-12")	B50 (24")	B51 (6-12")	B51 (24")	B52 (6-12")	B52 (24")	B53 (6-12")	B53 (24")	B54 (6-12")	B54 (24")	B55 (6-12")	B55 (24")	B56 (6-12")	B56 (24")
Sample Date		12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Benzene	3		ND		ND		ND		0.30		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		0.56		ND		ND		0.75
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		ND		ND		ND		ND		0.13J		ND		ND	
Anthracene	10000	ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	1.2		2.2		1.00J		1.00J		0.72J		0.33J		1.9		1.10J	
Fluoranthene	2300	ND		ND		ND		ND		0.13J		0.22J		ND		ND	
Pyrene	1700	ND		ND		ND		ND		ND		0.24J		ND		ND	
Benzo[a]anthracene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Chrysene	9	ND		ND		ND		ND		ND		0.12J		ND		ND	
bis(2-Ethylhexyl)phthalate	49	ND		ND		ND		ND		ND		ND		0.14J		ND	
Benzo[b]fluoranthene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[k]fluoranthene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[a]pyrene	0.66	ND		ND		ND		ND		ND		0.13J		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
4,4'-DDE	2	0.01		0.028		ND		ND		0.038		0.023		ND		ND	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	ND		0.034		ND		ND		ND		0.02		ND		ND	
4,4'-DDT	2	0.031		0.042		ND		ND		0.046		ND		ND		ND	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	12000		8490		10300		11300		10400		13200		14700		22300	
Antimony	14	1.07		0.961		0.977		0.953		1.31		ND		0.733		ND	
Arsenic	20	16.8		18.4		14.3		26.1		18.2		25.2		12.9		52.4	
Barium	700	57.7		69.4		36.1		15.9		106		70.5		9.40		42.4	
Beryllium	2	0.91		1.41		1.05		0.808		0.935		2.12		1.28		0.993	
Cadmium	39	0.804		0.735		0.918		0.558		1.65		1.98		0.595		0.609	
Calcium	NLE	950		7200		887		600		865		5110		1330		463	
Chromium	NLE	110		173		102		86.4		138		215		172		135	
Cobalt	NLE	1.81		1.21		2.66		1.21		2.31		3.04		1.04		2.17	
Copper	600	27.0		6.42		16.4		7.28		141		11.3		10.2		8.67	
Iron	NLE	27500		38900		26400		28600		50100		48900		28600		33200	
Lead	400	32.1		10.6		39.0		6.43		263		19.3		7.49		6.08	
Magnesium	NLE	2460		3580		2300		2060		2540		7020		4840		3870	
Manganese	NLE	77.3		20.1		28.4		24.7		125		54.1		35.4		60.0	
Mercury	14	0.048		0.047		0.042		0.033		0.104		0.034		ND		ND	
Nickel	250	5.80		5.18		9.22		4.87		10.7		17.3		4.83		6.50	
Potassium	NLE	5390		11000		5580		3980		6200		16000		9210		6320	
Selenium	63	1.04		1.74		1.13		0.99		0.661		2.21		ND		1.04	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	100		52.4		51.0		59.7		83.0		188		211		165	
Vanadium	370	57.9		52.0		53.3		50.3		58.6		86.2		81.0		74.5	
Zinc	1500	102		75.9		56.2		34.3		337		93.8		97.9		41.2	

NOTES:
ND = Not Detected
NLE = No Limit Established
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte, however the result is less than the method detection limit, but greater than zero.

Table 4-1
Soil Sampling Results
M-14 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4169.08	4169.09	4169.10	4169.11	4169.12	4169.13	4169.14	4169.15	4169.16	4169.17	4169.18	4169.19	4169.20	4169.21	4169.22	4169.23
Field Sample Location		B57 (6-12")	B57 (24")	B58 (6-12")	B58 (24")	B59 (6-12")	B59 (24")	B60 (6-12")	B60 (24")	B61 (6-12")	B61 (24")	B62 (6-12")	B62 (24")	B63 (6-12")	B63 (24")	B64 (6-12")	B64 (24")
Sample Date		1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Benzene	3		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		3.60		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		0.48J		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		7.30		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		4.20		ND		ND		ND		ND	
Diethylphthalate	10000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		8.10		ND		ND		ND		ND	
Phenanthrene	NLE	ND		ND		ND		76		ND		ND		ND		ND	
Anthracene	10000	ND		ND		ND		17.0J		ND		ND		ND		ND	
Di-n-butylphthalate	5700	22		2		0.90J		0.23J		0.33J		0.34J		1.8		0.49J	
Fluoranthene	2300	ND		0.18J		ND		89		ND		ND		0.13J		ND	
Pyrene	1700	ND		0.19J		ND		60		ND		ND		0.12J		ND	
Benzo[a]anthracene	0.9	ND		ND		ND		27		ND		ND		ND		ND	
Chrysene	9	ND		ND		ND		29		ND		ND		ND		ND	
bis(2-Ethylhexyl)phthalate	49	ND		0.13J		ND		ND		ND		ND		0.13J		ND	
Benzo[b]fluoranthene	0.9	ND		ND		ND		23		ND		ND		ND		ND	
Benzo[k]fluoranthene	0.9	ND		ND		ND		25		ND		ND		ND		ND	
Benzo[a]pyrene	0.66	ND		ND		ND		26		ND		ND		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		13.0		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		1.10J		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		18.0J		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
4,4'-DDE	2	0.075		0.017		ND		ND		0.015		0.013		ND		ND	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.03		0.025		ND		ND		ND		0.018		ND		ND	
4,4'-DDT	2	0.155		ND		ND		ND		0.04		ND		ND		ND	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	13700		13500		16800		15300		18100		14200		18900		20800	
Antimony	14	1.34		ND		0.608		ND		ND		0.726		ND		ND	
Arsenic	20	19.8		14.1		18.7		25.7		27.4		16.9		19.3		32.6	
Barium	700	42.1		73.6		42.1		25.0		25.1		18.7		16.6		18.7	
Beryllium	2	1.32		2.37		1.03		1.81		2.37		0.91		2.92		3.24	
Cadmium	39	1.28		2.51		0.623		0.763		0.977		0.708		1.11		1.13	
Calcium	NLE	1330		4410		1020		1070		1080		2160		1030		529	
Chromium	NLE	172		198		114		211		277		98.7		325		367	
Cobalt	NLE	1.78		4.58		2.00		1.24		0.914		1.49		0.937		1.36	
Copper	600	45.5		11.6		17.0		13.8		21.0		10.2		9.68		14.2	
Iron	NLE	35100		43500		29300		50800		55600		32600		63400		75300	
Lead	400	58.7		26.2		30.6		8.44		32.4		6.73		9.96		48.0	
Magnesium	NLE	4980		6270		3790		6710		9020		3470		10700		12500	
Manganese	NLE	177		52.3		50.2		56.6		28.8		66.5		35.2		23.6	
Mercury	14	0.072		0.066		ND		ND		ND		ND		ND		ND	
Nickel	250	7.80		35.3		7.99		7.75		6.94		6.34		8.88		8.23	
Potassium	NLE	9370		14200		6650		13900		19500		5070		24700		28900	
Selenium	63	0.736		1.64		1.01		1.13		ND		ND		0.989		0.771	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	109		161		213		154		183		168		155		159	
Vanadium	370	80.6		83.0		63.7		91.2		119		57.1		141		144	
Zinc	1500	207		110		53.7		71.2		70.7		39.8		71.7		72.0	

NOTES:
ND = Not Detected
NLE = No Limit Established
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte, however the result is less than the method detection limit, but greater than zero.

Table 4-1
Soil Sampling Results
M-14 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4169.24	4169.25	4169.26	4169.27	4169.28	4169.29	4169.30	4169.31	4169.32	4169.33	4169.34	4169.35	4169.36	4169.37	4173.02	4173.03
Field Sample Location		B65 (6-12")	B65 (24")	B66 (6-12")	B66 (24")	B67 (6-12")	B67 (24")	B68 (6-12")	B68 (24")	B69 (6-12")	B69 (24")	B70 (6-12")	B70 (24")	B71 (6-12")	B71 (24")	B72 (6-12")	B72 (24")
Sample Date		1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/6/99	1/6/99
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Benzene	3		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		0.94		0.91		1.00		0.44J		0.96		0.95
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		0.19J		ND		ND		ND		ND		ND		ND	
Anthracene	10000	ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	1.2		1.1		1.10J		1.7		1.00J		2.7		0.25J		0.66J	
Fluoranthene	2300	ND		0.21J		ND		ND		ND		ND		ND		ND	
Pyrene	1700	ND		0.23J		ND		ND		ND		ND		ND		ND	
Benzo[a]anthracene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Chrysene	9	ND		0.15J		ND		ND		ND		ND		ND		ND	
bis(2-Ethylhexyl)phthalate	49	0.14J		0.12J		ND		ND		ND		ND		ND		ND	
Benzo[b]fluoranthene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[k]fluoranthene	0.9	ND		0.12J		ND		ND		ND		ND		ND		ND	
Benzo[a]pyrene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
4,4'-DDE	2	ND		0.693		0.015		ND		0.019		ND		0.131		0.018	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	ND		0.282		0.033		ND		0.028		ND		0.101		0.017	
4,4'-DDT	2	ND		2.59		ND		ND		ND		ND		0.095		0.025	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		0.057		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		0.04		ND	
Metals (mg/kg)																	
Aluminum	NLE	17300		17100		17900		20000		7700		14200		13500		13500	
Antimony	14	ND		ND		ND		1.47		1.04		0.494		2.09		ND	
Arsenic	20	18.2		28.1		30.2		23.0		17.4		14.3		15.5		29.7	
Barium	700	53.6		10.3		13.0		51.2		44.8		22.6		63.2		19.8	
Beryllium	2	1.40		2.84		2.49		2.52		1.03		0.795		1.33		1.98	
Cadmium	39	0.556		0.949		0.814		1.09		0.495		0.433		1.91		0.823	
Calcium	NLE	581		453		1200		919		848		519		796		2030	
Chromium	NLE	149		323		302		227		66.0		101		165		237	
Cobalt	NLE	1.87		0.482		1.13		4.37		10.5		1.36		1.40		1.43	
Copper	600	21.7		11.1		7.46		39.1		283		19.1		41.8		9.26	
Iron	NLE	38500		62000		60300		44300		19800		25900		35500		53700	
Lead	400	12.5		7.33		4.28		54.5		39.8		12.3		93.7		8.01	
Magnesium	NLE	4760		10300		9660		6630		1850		3250		4670		7460	
Manganese	NLE	67.0		19.3		24.3		37.1		91.4		49.4		32.5		16.2	
Mercury	14	0.027		ND		ND		ND		ND		ND		3.61		0.115	
Nickel	250	6.32		6.38		7.42		16.8		88.0		4.87		6.93		8.87	
Potassium	NLE	10100		24100		22000		15200		4270		5040		9960		18100	
Selenium	63	0.99		ND		ND		2.76		0.942		ND		0.716		0.927	
Silver	110	ND		ND		ND		ND		ND		ND		2.90		ND	
Sodium	NLE	211		115		475		212		216		92.8		164		291	
Vanadium	370	77.7		127		121		108		40.1		54.1		68.7		87.3	
Zinc	1500	48.2		65.2		59.1		65.6		93.6		48.1		106		62.0	

NOTES:
ND = Not Detected
NLE = No Limit Established
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte, however the result is less than the method detection limit, but greater than zero.

Table 4-1
Soil Sampling Results
M-14 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4173.04	4173.05	4173.06	4173.07	4173.08	4173.09	4173.10	4173.11	4173.12	4173.13	4173.14	4173.15	4173.16	4173.17	4173.18	4173.19
Field Sample Location		B73 (6-12")	B73 (24")	B74 (6-12")	B74 (24")	B75 (6-12")	B75 (24")	B76 (6-12")	B76 (24")	B77 (6-12")	B77 (24")	B78 (6-12")	B78 (24")	B79 (6-12")	B79 (24")	B80 (6-12")	B80 (24")
Sample Date		1/6/99	1/6/99	1/6/99	1/6/99	1/6/99	1/6/99	1/6/99	1/6/99	1/6/99	1/6/99	1/6/99	1/6/99	1/6/99	1/6/99	1/6/99	1/6/99
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Benzene	3		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		0.40J		0.55J		0.42J		0.42J		1.10		2.00		1.90		1.10
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		0.16J		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		0.13J		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		1.40		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		0.72J		ND		ND		ND		ND	
Diethylphthalate	10000	ND		ND		0.21J		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		1.50		ND		ND		ND		ND	
Phenanthrene	NLE	ND		ND		ND		16		ND		0.25J		ND		ND	
Anthracene	10000	ND		ND		ND		6.40		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.28J		1.3		1.2J		0.91J		0.34J		1.4		1.00J		1.2	
Fluoranthene	2300	ND		ND		0.18J		25		ND		0.28J		ND		ND	
Pyrene	1700	ND		ND		0.14J		18		ND		0.43J		ND		ND	
Benzo[a]anthracene	0.9	ND		ND		ND		11.0		ND		0.20J		ND		ND	
Chrysene	9	ND		ND		ND		11.0		ND		0.26J		ND		ND	
bis(2-Ethylhexyl)phthalate	49	ND		0.13J		ND		ND		ND		ND		ND		ND	
Benzo[b]fluoranthene	0.9	ND		ND		ND		11.0		ND		ND		ND		ND	
Benzo[k]fluoranthene	0.9	ND		ND		ND		6.60		ND		ND		ND		ND	
Benzo[a]pyrene	0.66	ND		ND		ND		10.0		ND		0.15J		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		4.10		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		1.20		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		4.60		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
4,4'-DDE	2	0.002		ND		0.001		ND		0.014		0.292		0.022		ND	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.001		0.017		ND		ND		0.003		1.132		0.007		ND	
4,4'-DDT	2	ND		ND		0.002		ND		0.03		0.349		0.062		ND	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	15100		12800		17900		16200		19300		16000		12000		12100	
Antimony	14	0.568		ND		ND		ND		1.18		0.822		0.426		0.471	
Arsenic	20	18.4		12.7		29.5		27.8		21.7		21.0		22.7		19.4	
Barium	700	22.7		41.0		37.6		27.2		28.5		45.4		10.4		10.1	
Beryllium	2	1.52		1.04		2.47		1.85		2.90		1.76		1.86		0.778	
Cadmium	39	0.572		0.478		1.20		1.00		1.49		1.18		0.759		0.444	
Calcium	NLE	546		636		965		1020		745		1230		1090		436	
Chromium	NLE	182		89.4		301		215		327		206		210		83.8	
Cobalt	NLE	1.14		3.78		1.11		1.25		2.26		1.62		0.564		0.953	
Copper	600	9.69		5.03		45.0		106		60.3		44.4		24.7		8.25	
Iron	NLE	38300		30400		63700		47900		69300		46200		39300		28300	
Lead	400	9.17		6.67		35.3		96.1		58.2		74.8		45.2		5.47	
Magnesium	NLE	5090		3070		8980		6230		10400		6060		5630		2510	
Manganese	NLE	21.9		62.7		37.0		99.1		40.1		67.1		25.6		35.5	
Mercury	14	0.036		0.028		0.075		0.066		0.176		0.055		0.031		ND	
Nickel	250	6.70		6.71		7.77		6.64		9.43		8.03		5.25		3.87	
Potassium	NLE	11600		7100		21100		14100		25600		14600		13300		4370	
Selenium	63	1.17		0.832		1.30		1.08		1.72		0.851		ND		ND	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	123		164		188		99.9		94.8		302		90.6		106	
Vanadium	370	79.1		56.0		123		94.5		121		90.9		83.5		47.1	
Zinc	1500	49.9		61.6		141		203		168		133		74.6		31.7	

NOTES:
ND = Not Detected
NLE = No Limit Established
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte, however the result is less than the method detection limit, but greater than zero.

Table 4-1
Soil Sampling Results
M-14 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4173.20	4173.21	4173.22	4173.23	4173.24	4173.25	4173.26	4173.27	4173.28	4173.29	4173.30	4173.31	4177.02	4177.03	4177.04	4177.05
Field Sample Location		B81 (6-12")	B81 (24")	B82 (6-12")	B82 (24")	B83 (6-12")	B83 (24")	B84 (6-12")	B84 (24")	B85 (6-12")	B85 (24")	B86 (6-12")	B86 (24")	B87 (6-12")	B87 (24")	B88 (6-12")	B88 (24")
Sample Date		1/6/99	1/6/99	1/6/99	1/6/99	1/6/99	1/6/99	1/6/99	1/6/99	1/6/99	1/6/99	1/6/99	1/6/99	1/7/99	1/7/99	1/7/99	1/7/99
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Benzene	3		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		1.70		1.80		1.10		1.80		2.00		2.10		0.72		0.83
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		0.15J		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10000	ND		0.13J		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		0.13J		ND	
Phenanthrene	NLE	0.17J		ND		ND		ND		ND		ND		1.50		ND	
Anthracene	10000	ND		ND		ND		ND		ND		ND		0.37J		ND	
Di-n-butylphthalate	5700	0.87J		2.2		0.30J		0.36J		1.9		1.3		0.83J		0.23J	
Fluoranthene	2300	0.43J		ND		ND		ND		0.14J		ND		1.70		ND	
Pyrene	1700	0.34J		ND		ND		ND		ND		ND		1.50		ND	
Benzo[a]anthracene	0.9	0.19J		ND		ND		ND		ND		ND		0.62J		ND	
Chrysene	9	0.22J		ND		ND		ND		ND		ND		0.88J		ND	
bis(2-Ethylhexyl)phthalate	49	ND		ND		ND		ND		ND		ND		0.14J		ND	
Benzo[b]fluoranthene	0.9	0.14J		ND		ND		ND		ND		ND		0.48J		ND	
Benzo[k]fluoranthene	0.9	0.20J		ND		ND		ND		ND		ND		0.52J		ND	
Benzo[a]pyrene	0.66	0.19J		ND		ND		ND		ND		ND		0.54J		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		ND		ND		ND		0.27J		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	0.14J		ND		ND		ND		ND		ND		0.26J		ND	
Pesticides/PCBs (mg/kg)																	
4,4'-DDE	2	0.004		0.004		0.125		0.046		0.015		0.004		0.005		0.002	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.001		0.001		0.013		0.05		0.002		0.001		0.004		0.002	
4,4'-DDT	2	0.006		0.007		0.224		0.047		0.021		0.007		0.009		ND	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	16600		15300		15300		8640		19700		16000		22100		17400	
Antimony	14	1.67		0.635		0.635		ND		0.495		0.512		1.55		0.789	
Arsenic	20	20.7		21.0		21.0		6.64		27.5		24.8		32.6		28.1	
Barium	700	102		27.8		27.8		17.0		37.9		38.6		153		54.1	
Beryllium	2	1.81		1.60		1.60		0.572		2.82		2.53		2.57		2.26	
Cadmium	39	1.65		1.05		1.05		0.719		1.79		1.15		1.52		2.49	
Calcium	NLE	3110		447		447		427		1190		786		1060		885	
Chromium	NLE	214		178		178		71.5		325		286		307		268	
Cobalt	NLE	2.23		1.01		1.01		1.32		2.09		0.935		4.48		2.38	
Copper	600	76.7		38.2		38.2		9.02		44.1		58.4		118		51.3	
Iron	NLE	44100		39900		39900		16500		76100		57700		63100		56000	
Lead	400	237		53.8		53.8		9.32		44.7		44.9		111		61.2	
Magnesium	NLE	6070		5100		5100		1710		10700		8550		8610		7600	
Manganese	NLE	210		33.7		33.7		27.2		44.1		41.4		145		107	
Mercury	14	0.089		0.04		0.04		0.039		0.041		0.04		0.212		0.106	
Nickel	250	8.56		5.48		5.48		6.16		9.33		6.01		10.5		7.33	
Potassium	NLE	13900		11700		11700		3620		26700		21300		20100		19300	
Selenium	63	ND		ND		ND		ND		1.97		3.33		2.13		0.91	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	850		83.2		83.2		67.6		159		111		169		242	
Vanadium	370	98.0		77.4		77.4		46.1		122		125		134		113	
Zinc	1500	362		101		101		49.6		144		82.4		158		147	

NOTES:
ND = Not Detected
NLE = No Limit Established
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte, however the result is less than the method detection limit, but greater than zero.

Table 4-1
Soil Sampling Results
M-14 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4177.06	4177.07	4177.08	4177.09	4177.10	4177.11	4177.12	4177.13	4177.14	4177.15	4177.16	4177.17	4177.18	4177.19	4179.02	4179.03
Field Sample Location		B89 (6-12")	B89 (24")	B90 (6-12")	B90 (24")	B91 (6-12")	B91 (24")	B92 (6-12")	B92 (24")	B93 (6-12")	B93 (24")	B94 (6-12")	B94 (24")	B95 (6-12")	B95 (24")	B96 (6-12")	B96 (24")
Sample Date		1/7/99	1/7/99	1/7/99	1/7/99	1/7/99	1/7/99	1/7/99	1/7/99	1/7/99	1/7/99	1/7/99	1/7/99	1/7/99	1/7/99	1/11/99	1/11/99
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Benzene	3		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		0.40J		0.68		0.51J		0.67		ND		0.70		0.73		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10000	ND		ND		ND		ND		ND		ND		ND		0.19J	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		ND		0.21J		ND		ND		ND		ND		ND	
Anthracene	10000	ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.31J		0.70J		0.92J		1.5		1.00J		0.20J		0.27J		0.54J	
Fluoranthene	2300	ND		ND		0.30J		ND		ND		ND		ND		ND	
Pyrene	1700	ND		ND		0.26J		ND		ND		ND		ND		ND	
Benzo[a]anthracene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Chrysene	9	ND		ND		0.18J		ND		ND		ND		ND		ND	
bis(2-Ethylhexyl)phthalate	49	ND		ND		ND		0.16J		0.14J		ND		ND		ND	
Benzo[b]fluoranthene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[k]fluoranthene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[a]pyrene	0.66	ND		ND		0.12J		ND		ND		ND		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
4,4'-DDE	2	0.234		0.058		0.003		0.058		0.001		0.007		0.488		0.206	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.027		0.01		ND		0.069		ND		0.003		0.049		0.019	
4,4'-DDT	2	0.351		0.07		ND		0.347		0.002		0.023		0.516		0.213	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	15800		5610		14700		14400		17400		12400		10700		13600	
Antimony	14	ND		0.526		0.654		ND		0.434		ND		ND		ND	
Arsenic	20	14.1		2.96		18.8		13.9		24.7		16.1		18.0		8.96	
Barium	700	23.7		12.4		26.4		81.9		24.1		16.4		13.8		16.6	
Beryllium	2	1.54		0.375		1.14		1.83		2.58		1.35		1.66		1.06	
Cadmium	39	0.846		0.541		0.661		1.09		1.70		0.892		1.36		0.743	
Calcium	NLE	246		221		691		4230		513		427		180		270	
Chromium	NLE	168		37.1		137		207		305		150		113		109	
Cobalt	NLE	2.18		1.14		1.45		1.47		0.971		0.93		1.06		1.59	
Copper	600	6.72		3.52		34.3		104		20.3		18.5		4.68		7.04	
Iron	NLE	41300		9870		26900		47800		63700		35400		53200		30400	
Lead	400	6.61		3.65		75.9		33.3		11.5		28.7		6.11		6.11	
Magnesium	NLE	4830		985		3580		5590		9110		4130		2970		3160	
Manganese	NLE	33.3		24.1		42.6		29.0		34.0		22.6		24.8		28.6	
Mercury	14	0.048		0.037		0.081		0.058		0.038		0.086		0.028		0.062	
Nickel	250	7.21		3.93		4.40		6.49		6.54		4.57		4.84		5.57	
Potassium	NLE	12400		2090		7510		15200		24000		10500		7970		7990	
Selenium	63	0.796		ND		ND		1.77		0.666		ND		2.12		ND	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	74.2		82.1		122		118		232		199		80.1		334	
Vanadium	370	99.5		22.8		69.5		82.9		121		66.8		102		63.6	
Zinc	1500	50.4		33.6		67.1		92.3		71.8		44.2		46.7		40.4	

NOTES:
ND = Not Detected
NLE = No Limit Established
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte, however the result is less than the method detection limit, but greater than zero.

Table 4-1
Soil Sampling Results
M-14 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4179.04	4179.05	4179.06	4179.07	4179.08	4179.09	4179.10	4179.11	4179.12	4179.13	4179.14	4179.15	4179.16	4179.17	4179.18	4179.19
Field Sample Location		B97 (6-12")	B97 (24")	B98 (6-12")	B98 (24")	B99 (6-12")	B99 (24")	B100 (6-12")	B100 (24")	B101 (6-12")	B101 (24")	B102 (6-12")	B102 (24")	B103 (6-12")	B103 (24")	B104 (6-12")	B104 (24")
Sample Date		1/11/99	1/11/99	1/11/99	1/11/99	1/11/99	1/11/99	1/11/99	1/11/99	1/11/99	1/11/99	1/11/99	1/11/99	1/11/99	1/11/99	1/11/99	1/11/99
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Benzene	3		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		ND		ND		ND		0.67J		ND		ND		ND	
Anthracene	10000	ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.30J		1.3		0.38J		1.4		0.37J		0.38J		1.3		0.88J	
Fluoranthene	2300	ND		ND		ND		ND		0.64J		ND		ND		ND	
Pyrene	1700	ND		ND		ND		ND		0.77J		ND		ND		ND	
Benzo[a]anthracene	0.9	ND		ND		ND		ND		0.33J		ND		ND		ND	
Chrysene	9	ND		ND		ND		ND		0.66J		ND		ND		ND	
bis(2-Ethylhexyl)phthalate	49	0.12J		0.16J		ND		0.13J		ND		ND		ND		0.11J	
Benzo[b]fluoranthene	0.9	ND		ND		ND		ND		0.24J		ND		ND		ND	
Benzo[k]fluoranthene	0.9	ND		ND		ND		ND		0.29J		ND		ND		ND	
Benzo[a]pyrene	0.66	ND		ND		ND		ND		0.27J		ND		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		ND		ND		0.18J		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		ND		ND		ND		0.19J		ND		ND		ND	
Pesticides/PCBs (mg/kg)																	
4,4'-DDE	2	0.034		0.075		0.084		0.002		0.066		0.029		0.02		0.024	
Dieldrin	0.042	ND		0.001		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.017		0.172		0.136		ND		0.061		0.003		0.002		0.051	
4,4'-DDT	2	0.028		0.309		2.93		0.003		0.283		0.029		0.018		0.005	
gamma-Chlordane	NLE	ND		ND		ND		ND		0.003		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		0.002		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	12400		15100		14900		3190		1420		4570		4140		1600	
Antimony	14	ND		0.611		ND		0.566		ND		ND		0.461		ND	
Arsenic	20	23.2		29.9		28.0		24.4		6.59		9.69		6.47		1.14	
Barium	700	17.6		41.5		16.9		6.78		16.0		13.6		16.8		4.92	
Beryllium	2	2.03		2.12		2.80		0.162		ND		0.257		0.295		ND	
Cadmium	39	1.26		1.66		1.92		0.415		0.504		0.569		0.418		0.183	
Calcium	NLE	765		1860		1060		432		135		148		143		73.7	
Chromium	NLE	231		237		317		41.3		18.9		40.4		32.4		9.66	
Cobalt	NLE	0.771		1.86		0.628		0.677		0.437		0.655		0.303		0.248	
Copper	600	11.7		32.9		20.6		10.9		10.6		5.24		3.56		2.61	
Iron	NLE	48600		51300		64100		7170		6930		10500		7410		2320	
Lead	400	10.8		47.3		12.2		4.86		24.6		4.79		2.21		1.21	
Magnesium	NLE	6380		6730		8860		346		163		350		214		51.0	
Manganese	NLE	20.8		100		21.9		11.3		5.13		11.0		5.04		1.55	
Mercury	14	0.039		0.102		0.05		0.031		0.164		0.04		0.039		0.055	
Nickel	250	5.70		11.0		7.42		1.46		1.23		2.31		1.54		1.44	
Potassium	NLE	16400		17800		23800		608		369		717		231		96.6	
Selenium	63	ND		1.23		0.725		ND		ND		ND		ND		ND	
Silver	110	ND		ND		ND		ND		1.03		ND		ND		ND	
Sodium	NLE	139		178		93.5		63.7		63.9		87.5		50.2		66.0	
Vanadium	370	100		104		126		14.2		9.61		31.3		30.3		9.70	
Zinc	1500	61.7		95.5		76.1		24.9		16.6		27.6		23.5		17.0	

NOTES:
ND = Not Detected
NLE = No Limit Established
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte, however the result is less than the method detection limit, but greater than zero.

Table 4-1
Soil Sampling Results
M-14 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria (mg/kg)	4179.20	4179.21	4179.22	4179.23	4184.02	4184.03	4184.04	4184.05	4184.06	4184.07	4184.08	4184.09	4184.10	4184.11	4184.12	4184.13
Field Sample Location		B105 (6-12")	B105 (24")	B106 (6-12")	B106 (24")	B107 (6-12")	B107 (24")	B108 (6-12")	B108 (24")	B109 (6-12")	B109 (24")	B110 (6-12")	B110 (24")	B111 (6-12")	B111 (24")	B112 (6-12")	B112 (24")
Sample Date		1/11/99	1/11/99	1/11/99	1/11/99	1/12/99	1/12/99	1/12/99	1/12/99	1/12/99	1/12/99	1/12/99	1/12/99	1/12/99	1/12/99	1/12/99	1/12/99
Volatiles (mg/kg)																	
Acetone	1000		ND		ND		ND		ND		ND		ND		ND		ND
Benzene	3		ND		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)																	
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND		0.11J	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		ND		ND		ND		ND		ND		ND		0.52J	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND		0.13J	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10000	ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND		0.31J	
Phenanthrene	NLE	ND		ND		1.20		ND		ND		ND		ND		6.10	
Anthracene	10000	ND		ND		0.30J		ND		ND		ND		ND		0.86J	
Di-n-butylphthalate	5700	1.3		0.37J		1.9		1.2		30		2		1.10J		1.2	
Fluoranthene	2300	0.14J		0.14J		1.60		ND		ND		ND		ND		7.90	
Pyrene	1700	0.13J		0.12J		1.30		ND		ND		ND		ND		6.40	
Benzo[a]anthracene	0.9	ND		ND		0.64J		ND		ND		ND		ND		2.80	
Chrysene	9	ND		ND		0.92J		ND		ND		ND		ND		3.90	
bis(2-Ethylhexyl)phthalate	49	0.16J		ND		0.15J		0.17J		0.20J		0.13J		0.14J		0.15J	
Benzo[b]fluoranthene	0.9	ND		ND		0.40J		ND		ND		ND		ND		2.00	
Benzo[k]fluoranthene	0.9	ND		ND		0.49J		ND		ND		ND		ND		2.10	
Benzo[a]pyrene	0.66	ND		ND		0.48J		ND		ND		ND		ND		2.30	
Indeno[1,2,3-cd]pyrene	0.9	ND		ND		0.28J		ND		ND		ND		ND		0.95J	
Dibenz[a,h]anthracene	0.66	ND		ND		ND		ND		ND		ND		ND		0.31J	
Benzo[g,h,I]perylene	NLE	ND		ND		0.26J		ND		ND		ND		ND		1.10	
Pesticides/PCBs (mg/kg)																	
4,4'-DDE	2	0.013		0.109		0.04		0.007		0.001		0.024		0.003		0.117	
Dieldrin	0.042	ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDD	3	0.006		0.031		0.025		0.001		ND		0.002		ND		0.149	
4,4'-DDT	2	0.029		0.355		0.144		0.006		ND		0.012		0.003		0.509	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)																	
Aluminum	NLE	1500		3380		12800		16600		17100		4320		3040		3070	
Antimony	14	ND		ND		0.663		ND		0.483		0.581		1.03		1.16	
Arsenic	20	14.9		17.0		16.2		11.8		11.7		1.90		1.12		1.92	
Barium	700	34.0		10.2		26.5		26.5		26.9		10.7		10.1		17.5	
Beryllium	2	0.217		0.217		1.38		1.85		1.29		0.255		0.197		0.319	
Cadmium	39	0.952		0.532		0.786		1.02		0.714		0.313		0.326		0.25	
Calcium	NLE	9270		808		749		116		134		201		199		299	
Chromium	NLE	13.8		25.8		161		188		142		32.7		19.3		19.8	
Cobalt	NLE	1.02		0.562		0.996		1.83		1.89		0.634		0.425		1.41	
Copper	600	10.3		12.5		52.1		36.6		30.1		23.6		20.1		21.3	
Iron	NLE	8270		10200		37900		51300		35400		6360		5400		8550	
Lead	400	17.9		7.06		28.8		6.91		7.09		2.60		2.41		40.7	
Magnesium	NLE	4600		232		4880		6450		4150		728		470		831	
Manganese	NLE	36.3		16.7		21.7		23.4		30.3		15.9		12.2		20.5	
Mercury	14	0.799		0.154		0.154		0.054		0.07		0.055		0.054		0.066	
Nickel	250	5.85		1.81		5.69		7.82		6.76		2.43		2.31		3.81	
Potassium	NLE	700		535		10500		15400		8550		1050		566		1910	
Selenium	63	1.09		ND		1.14		0.711		1.11		ND		ND		1.16	
Silver	110	ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	NLE	115		56.9		174		118		194		71.6		69.4		79.5	
Vanadium	370	8.80		14.3		65.7		98.4		84.4		23.0		14.0		12.6	
Zinc	1500	59.4		24.3		52.7		75.9		43.1		15.8		20.1		37.7	

NOTES:
ND = Not Detected
NLE = No Limit Established
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte, however the result is less than the method detection limit, but greater than zero.

Table 4-1
Soil Sampling Results
M-14 Landfill Site
Fort Monmouth, New Jersey

Lab Sample ID	NJDEP Cleanup Criteria	4189.02	4189.03	4189.04	4189.05	4189.06	4189.07	4189.08	4189.09	4189.10	4189.11	4189.12	4189.13	4189.14	4189.15
Field Sample Location		B113 (6-12")	B113 (24")	B114 (6-12")	B114 (24")	B115 (6-12")	B115 (24")	B116 (6-12")	B116 (24")	B117 (6-12")	B117 (24")	B118 (6-12")	B118 (24")	B119 (6-12")	B119 (24")
Sample Date	(mg/kg)	1/13/99	1/13/99	1/13/99	1/13/99	1/13/99	1/13/99	1/13/99	1/13/99	1/13/99	1/13/99	1/13/99	1/13/99	1/13/99	1/13/99
Volatiles (mg/kg)															
Acetone	1000		ND		ND		ND		ND		ND		ND		ND
Benzene	3		ND		ND		ND		ND		ND		ND		ND
Methylene Chloride	49		ND		ND		ND		ND		ND		ND		ND
Toluene	1000		ND		ND		ND		ND		ND		ND		ND
Semi-Volatiles (mg/kg)															
Naphthalene	230	ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	NLE	ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene	NLE	ND		0.17J		ND		ND		ND		ND		ND	
Acenaphthene	3400	ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran	NLE	ND		ND		ND		ND		ND		ND		ND	
Diethylphthalate	10000	ND		ND		ND		ND		ND		ND		ND	
Fluorene	2300	ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NLE	ND		0.86J		ND		ND		ND		ND		0.11J	
Anthracene	10000	ND		0.27J		ND		ND		ND		ND		ND	
Di-n-butylphthalate	5700	0.38J		0.47J		0.38J		1.20J		0.31J		1.4		3	
Fluoranthene	2300	ND		6.40		ND		ND		ND		ND		0.25J	
Pyrene	1700	ND		4.80		ND		ND		ND		0.11J		0.19J	
Benzo[a]anthracene	0.9	ND		2.40		ND		ND		ND		ND		ND	
Chrysene	9	ND		2.60		ND		ND		ND		ND		0.12J	
bis(2-Ethylhexyl)phthalate	49	ND		ND		ND		ND		0.12J		0.17J		ND	
Benzo[b]fluoranthene	0.9	ND		2.20		ND		ND		ND		ND		ND	
Benzo[k]fluoranthene	0.9	ND		2.10		ND		ND		ND		ND		ND	
Benzo[a]pyrene	0.66	ND		2.50		ND		ND		ND		ND		ND	
Indeno[1,2,3-cd]pyrene	0.9	ND		1.20J		ND		ND		ND		ND		ND	
Dibenz[a,h]anthracene	0.66	ND		0.34J		ND		ND		ND		ND		ND	
Benzo[g,h,I]perylene	NLE	ND		1.50		ND		ND		ND		ND		ND	
Pesticides/PCBs (mg/kg)															
4,4'-DDE	2	0.046		0.387		0.743		0.186		0.155		0.094		0.136	
Dieldrin	0.042	ND		ND		ND		ND		ND		0.013		ND	
4,4'-DDD	3	ND		0.072		0.695		ND		0.015		ND		0.022	
4,4'-DDT	2	0.036		0.466		4.142		0.152		0.165		0.08		0.113	
gamma-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	NLE	ND		ND		ND		ND		ND		ND		ND	
Metals (mg/kg)															
Aluminum	NLE	18000		16300		17000		17300		2720		12100		5260	
Antimony	14	ND		ND		0.588		ND		0.792		0.407		0.424	
Arsenic	20	23.3		25.6		19.3		23.4		1.36		11.8		5.03	
Barium	700	26.2		29.2		17.6		40.3		12.9		20.8		19.8	
Beryllium	2	2.54		2.16		2.30		2.39		0.19		1.15		0.47	
Cadmium	39	1.21		1.09		1.00		3.17		0.268		0.539		0.276	
Calcium	NLE	634		1200		758		1180		162		386		235	
Chromium	NLE	308		254		258		280		16.3		135		51.0	
Cobalt	NLE	0.573		1.07		0.298		0.959		0.443		0.938		0.692	
Copper	600	65.4		31.9		25.5		34.2		4.80		33.0		7.50	
Iron	NLE	64400		55300		55900		57600		4980		31000		13900	
Lead	400	32.5		36.5		16.1		45.2		8.16		30.5		11.9	
Magnesium	NLE	10100		8290		8380		9020		474		4270		1520	
Manganese	NLE	22.2		30.4		18.2		47.0		18.5		29.6		24.1	
Mercury	14	0.073		0.97		0.044		0.069		0.037		0.313		0.068	
Nickel	250	7.11		7.88		6.36		8.00		2.26		10.9		3.16	
Potassium	NLE	22800		18600		19600		20500		770		9350		3070	
Selenium	63	2.48		2.11		1.94		1.67		0.661		1.08		0.705	
Silver	110	ND		ND		ND	15 of 15	ND		ND		ND		ND	
Sodium	NLE	148		118		238		124		74.9		130		64.9	
Vanadium	370	120		82.4		94.6		118		9.79		57.2		24.1	
Zinc	1500	84.9		85.3		70.5		256		26.7		49.8		32.6	

NOTES:
ND = Not Detected
NLE = No Limit Established
J = Estimated Value: Mass spectrometer and retention time data indicate the presence of the analyte, however the result is less than the method detection limit, but greater than zero.

Table 4-2
Borings in Which Detections Exceeded Criteria
M-14 Landfill
Fort Monmouth, New Jersey

Boring ID	Analyte
SVOCs - 8 Borings	
B02	
	Benzo(a)pyrene
B03	
	Benzo(a)pyrene
B08	
	Benzo(a)anthracene
	Benzo(a)pyrene
	Benzo(b)fluoranthene
	Benzo(k)fluoranthene
B25	
	Benzo(a)anthracene
	Benzo(a)pyrene
	Benzo(b)fluoranthene
	Benzo(k)fluoranthene
B60	
	Benzo(a)anthracene
	Benzo(a)pyrene
	Benzo(b)fluoranthene
	Benzo(k)fluoranthene
	Chrysene
	Dibenz(a,h)anthracene
	Indeno(1,2,3-cd)pyrene
B76	
	Benzo(a)anthracene
	Benzo(a)pyrene
	Benzo(b)fluoranthene
	Benzo(k)fluoranthene
	Chrysene
	Dibenz(a,h)anthracene
	Indeno(1,2,3-cd)pyrene
B112	
	Benzo(a)anthracene
	Benzo(a)pyrene
	Benzo(b)fluoranthene
	Benzo(k)fluoranthene
	Indeno(1,2,3-cd)pyrene
B114	
	Benzo(a)anthracene
	Benzo(a)pyrene
	Benzo(b)fluoranthene
	Benzo(k)fluoranthene
	Indeno(1,2,3-cd)pyrene
Pest/PCBs - 4 Borings	
B33	

Notes:
RDCSCC = Residential Direct Contact Cleanup Criteria pre N.J.A.C. 7:26D.
VOCs = Volatile Organic Compounds; SVOCs = Semi-Volatile Organic Compounds.
Pest/PCBs = Pesticides/Polychlorinated-Biphenyls.

Table 4-2
Borings in Which Detections Exceeded Criteria
M-14 Landfill
Fort Monmouth, New Jersey

Boring ID	Analyte
	4,4'-DDT
B66	
	4,4'-DDT
B99	
	4,4'-DDT
B115	
	4,4'-DDT
Metals - 35 Borings	
B20	
	Beryllium
B28	
	Arsenic
B52	
	Arsenic
B54	
	Arsenic
	Beryllium
B56	
	Arsenic
B58	
	Beryllium
B60	
	Arsenic
B61	
	Arsenic
	Beryllium
B63	
	Beryllium
B64	
	Arsenic
	Beryllium
B66	
	Arsenic
	Beryllium
B67	
	Arsenic
	Beryllium
B68	
	Arsenic
	Beryllium
B72	
	Arsenic
B75	
	Arsenic
	Beryllium

Notes:
RDCSCC = Residential Direct Contact Cleanup Criteria pre N.J.A.C. 7:26D.
VOCs = Volatile Organic Compounds; SVOCs = Semi-Volatile Organic Compounds.
Pest/PCBs = Pesticides/Polychlorinated-Biphenyls.

Table 4-2
Borings in Which Detections Exceeded Criteria
M-14 Landfill
Fort Monmouth, New Jersey

Boring ID	Analyte
B76	
	Arsenic
B77	
	Arsenic
	Beryllium
B78	
	Arsenic
B79	
	Arsenic
B81	
	Arsenic
B82	
	Arsenic
B83	
	Arsenic
B85	
	Arsenic
	Beryllium
B86	
	Arsenic
	Beryllium
B87	
	Arsenic
	Beryllium
B88	
	Arsenic
	Beryllium
B93	
	Arsenic
	Beryllium
B97	
	Arsenic
	Beryllium
B98	
	Arsenic
	Beryllium
B99	
	Arsenic
	Beryllium
B100	
	Arsenic
B113	
	Arsenic
	Beryllium
B114	
	Arsenic

Notes:
RDCSCC = Residential Direct Contact Cleanup Criteria pre N.J.A.C. 7:26D.
VOCs = Volatile Organic Compounds; SVOCs = Semi-Volatile Organic Compounds.
Pest/PCBs = Pesticides/Polychlorinated-Biphenyls.

Table 4-2
Borings in Which Detections Exceeded Criteria
M-14 Landfill
Fort Monmouth, New Jersey

Boring ID	Analyte
	Beryllium
B115	
	Beryllium
B116	
	Arsenic
	Beryllium

Notes:
RDCSCC = Residential Direct Contact Cleanup Criteria pre N.J.A.C. 7:26D.
VOCs = Volatile Organic Compounds; SVOCs = Semi-Volatile Organic Compounds.
Pest/PCBs = Pesticides/Polychlorinated-Biphenyls.

Table 4-3
Laboratory Analysis Exceedance Summary
M-14 Landfill
Fort Monmouth, New Jersey

Analyte Name	RDCSC	Units	Number of Exceedances	Minimum Exceedance	Boring ID (Min)	Maximum Exceedance	Boring ID (Max)	Average Exceedance
SVOCs								
Benzo(a)anthracene	0.9	mg/kg	6	1	B25	27	B60	7.767
Benzo(a)pyrene	0.66	mg/kg	8	0.83	B02	26	B60	5.693
Benzo(b)fluoranthene	0.9	mg/kg	6	1.2	B08, B25	23	B60	6.767
Benzo(k)fluoranthene	0.9	mg/kg	6	1.3	B25	25	B60	6.450
Chrysene	9	mg/kg	2	11	B76	29	B60	20.000
Dibenz(a,h)anthracene	0.66	mg/kg	2	1.1	B60	1.2	B76	1.150
Indeno(1,2,3-cd)pyrene	0.9	mg/kg	4	0.95	B112	13	B60	4.813
Pest/PCBs								
4,4'-DDT	2	mg/kg	4	2.59	B66	4.142	B115	3.439
Metals								
Arsenic	20	mg/kg	31	20.7	B81	168	B28	31.268
Beryllium	2	mg/kg	23	2.03	B97	3.24	B64	2.495

Notes:
RDCSCC = Residential Direct Contact Cleanup Criteria pre N.J.A.C. 7:26D.
VOCs = Volatile Organic Compounds; SVOCs = Semi-Volatile Organic Compounds.
Pest/PCBs = Pesticides/Polychlorinated-Biphenyls.
Site Specific Maximum Concentrations were developed by Weston (1995) and may apply to arsenic and thallium in determining whether compliance averaging can be used per NJDEP (Spring 1995).

Table 4-4
Compliance Analysis Method Summary
M-14 Landfill
Fort Monmouth, New Jersey

Analyte Name	Compliance Average Area	RDCSCC	Units	Compliance Analysis Decision
SVOCs				
Benzo(a)anthracene	AREA SVOC-1	0.9	mg/kg	Compliance averaging not allowed due to exceedance of the ceiling limit of 10X (for criterion<10 ppm).
Benzo(a)anthracene	AREA SVOC-2	0.9	mg/kg	Compliance averaging used.
Benzo(a)pyrene	AREA SVOC-1	0.66	mg/kg	Compliance averaging not allowed due to exceedance of 0.9 ppm limit for Benzo(a)pyrene.
Benzo(a)pyrene	AREA SVOC-2	0.66	mg/kg	Compliance averaging not allowed due to exceedance of 0.9 ppm limit for Benzo(a)pyrene.
Benzo(b)fluoranthene	AREA SVOC-1	0.9	mg/kg	Compliance averaging not allowed due to exceedance of the ceiling limit of 10X (for criterion<10 ppm).
Benzo(b)fluoranthene	AREA SVOC-2	0.9	mg/kg	Compliance averaging used.
Benzo(k)fluoranthene	AREA SVOC-1	0.9	mg/kg	Compliance averaging not allowed due to exceedance of the ceiling limit of 10X (for criterion<10 ppm).
Benzo(k)fluoranthene	AREA SVOC-2	0.9	mg/kg	Compliance averaging used.
Chrysene	AREA SVOC-1	9	mg/kg	Compliance averaging used.
Dibenz(a,h)anthracene	AREA SVOC-1	0.66	mg/kg	Compliance averaging not allowed due to exceedance of 0.9 ppm limit for Dibenz(a,h)anthracene.
Indeno(1,2,3-cd)pyrene	AREA SVOC-1	0.9	mg/kg	Compliance averaging not allowed due to exceedance of the ceiling limit of 10X (for criterion<10 ppm).
Pest/PCBs				
4,4'-DDT	AREA PESTPCB-1	2	mg/kg	Compliance averaging used.

Notes:
RDCSCC = Residential Direct Contact Cleanup Criteria pre N.J.A.C. 7:26D.
VOCs = Volatile Organic Compounds; SVOCs = Semi-Volatile Organic Compounds.
Pest/PCBs = Pesticides/Polychlorinated-Biphenyls.
Site Specific Maximum Concentrations were developed by Weston (1995) and may apply to arsenic and thallium in determining whether compliance averaging can be used per NJDEP (Spring 1995).

Table 4-4
Compliance Analysis Method Summary
M-14 Landfill
Fort Monmouth, New Jersey

Analyte Name	Compliance Average Area	RDCSCC	Units	Compliance Analysis Decision
4,4'-DDT	AREA PESTPCB-2	2	mg/kg	Compliance averaging used.
Metals				
Arsenic	AREA METALS-1	20	mg/kg	Compliance averaging not allowed due to exceedance of RDCSCC and site-specific maximum (22.9 mg/kg, Weston-1995).
Beryllium	AREA METALS-1	2	mg/kg	Compliance averaging not allowed due to exceedance of 2 mg/kg limit for Beryllium.

Notes:
RDCSCC = Residential Direct Contact Cleanup Criteria pre N.J.A.C. 7:26D.
VOCs = Volatile Organic Compounds; SVOCs = Semi-Volatile Organic Compounds.
Pest/PCBs = Pesticides/Polychlorinated-Biphenyls.
Site Specific Maximum Concentrations were developed by Weston (1995) and may apply to arsenic and thallium in determining whether compliance averaging can be used per NJDEP (Spring 1995).

Table 4-5
Compliance Averaging Results
M-14 Landfill
Fort Monmouth, New Jersey

Analyte Name	Compliance Area	RDCSCC	Boring ID	Result	Units	Exceeds Criteria	MDL	Dilution Factor	Result Used for Average
SVOCs									
Benzo(a)anthracene									
	AREA SVOC-2								
Benzo(a)anthracene	AREA SVOC-2	0.9	B02	0.88J	mg/kg	no			0.88
Benzo(a)anthracene	AREA SVOC-2	0.9	B03	0.66J	mg/kg	no			0.66
Benzo(a)anthracene	AREA SVOC-2	0.9	B05	ND	mg/kg	no	1.2		0.6
Benzo(a)anthracene	AREA SVOC-2	0.9	B06	0.17J	mg/kg	no			0.17
Benzo(a)anthracene	AREA SVOC-2	0.9	B07	ND	mg/kg	no	1.1		0.55
Benzo(a)anthracene	AREA SVOC-2	0.9	B08	2.40	mg/kg	yes			2.4
Benzo(a)anthracene	AREA SVOC-2	0.9	B09	ND	mg/kg	no	1.2		0.6
Benzo(a)anthracene	AREA SVOC-2	0.9	B10	0.13J	mg/kg	no			0.13
Benzo(a)anthracene	AREA SVOC-2	0.9	B12	0.15J	mg/kg	no			0.15
Benzo(a)anthracene	AREA SVOC-2	0.9	B13	ND	mg/kg	no	1.1		0.55
Benzo(a)anthracene	AREA SVOC-2	0.9	B14	ND	mg/kg	no	1.1		0.55
Benzo(a)anthracene	AREA SVOC-2	0.9	B17	ND	mg/kg	no	1.1		0.55
Benzo(a)anthracene	AREA SVOC-2	0.9	B21	0.44J	mg/kg	no			0.44
Benzo(a)anthracene	AREA SVOC-2	0.9	B25	1.00J	mg/kg	yes			1
						Compliance Average Result:			**0.659**
Benzo(b)fluoranthene									
	AREA SVOC-2								
Benzo(b)fluoranthene	AREA SVOC-2	0.9	B02	0.72J	mg/kg	no			0.72
Benzo(b)fluoranthene	AREA SVOC-2	0.9	B03	0.62J	mg/kg	no			0.62
Benzo(b)fluoranthene	AREA SVOC-2	0.9	B05	ND	mg/kg	no	1.2		0.6
Benzo(b)fluoranthene	AREA SVOC-2	0.9	B06	0.18J	mg/kg	no			0.18
Benzo(b)fluoranthene	AREA SVOC-2	0.9	B07	ND	mg/kg	no	1.1		0.55
Benzo(b)fluoranthene	AREA SVOC-2	0.9	B08	1.20	mg/kg	yes			1.2
Benzo(b)fluoranthene	AREA SVOC-2	0.9	B09	ND	mg/kg	no	1.2		0.6
Benzo(b)fluoranthene	AREA SVOC-2	0.9	B10	0.12J	mg/kg	no			0.12
Benzo(b)fluoranthene	AREA SVOC-2	0.9	B12	ND	mg/kg	no	1.1		0.55
Benzo(b)fluoranthene	AREA SVOC-2	0.9	B13	ND	mg/kg	no	1.1		0.55
Benzo(b)fluoranthene	AREA SVOC-2	0.9	B14	ND	mg/kg	no	1.1		0.55
Benzo(b)fluoranthene	AREA SVOC-2	0.9	B17	ND	mg/kg	no	1.1		0.55
Benzo(b)fluoranthene	AREA SVOC-2	0.9	B21	0.38J	mg/kg	no			0.38
Benzo(b)fluoranthene	AREA SVOC-2	0.9	B25	1.20	mg/kg	yes			1.2
						Compliance Average Result:			**0.598**

Notes:
RDCSCC = Residential Direct Contact Cleanup Criteria pre N.J.A.C. 7:26D.
VOCs = Volatile Organic Compounds; SVOCs = Semi-Volatile Organic Compounds.
Pest/PCBs = Pesticides/Polychlorinated-Biphenyls; ND = Not Detected.
MDL = Method Detction Limit (shown only for "ND" Results); 0.5*MDL used for calculating average.
For samples with dilution factors greater than 1, "ND" results were not used (Dilution factors shown only for these cases).

Table 4-5
Compliance Averaging Results
M-14 Landfill
Fort Monmouth, New Jersey

Analyte Name	Compliance Area	RDCSCC	Boring ID	Result	Units	Exceeds Criteria	MDL	Dilution Factor	Result Used for Average
Benzo(k)fluoranthene									
	AREA SVOC-2								
Benzo(k)fluoranthene	AREA SVOC-2	0.9	B02	0.61J	mg/kg	no			0.61
Benzo(k)fluoranthene	AREA SVOC-2	0.9	B03	0.73J	mg/kg	no			0.73
Benzo(k)fluoranthene	AREA SVOC-2	0.9	B05	ND	mg/kg	no	1.2		0.6
Benzo(k)fluoranthene	AREA SVOC-2	0.9	B06	0.20J	mg/kg	no			0.2
Benzo(k)fluoranthene	AREA SVOC-2	0.9	B07	ND	mg/kg	no	1.1		0.55
Benzo(k)fluoranthene	AREA SVOC-2	0.9	B08	1.60	mg/kg	yes			1.6
Benzo(k)fluoranthene	AREA SVOC-2	0.9	B09	ND	mg/kg	no	1.2		0.6
Benzo(k)fluoranthene	AREA SVOC-2	0.9	B10	0.18J	mg/kg	no			0.18
Benzo(k)fluoranthene	AREA SVOC-2	0.9	B12	0.17J	mg/kg	no			0.17
Benzo(k)fluoranthene	AREA SVOC-2	0.9	B13	ND	mg/kg	no	1.1		0.55
Benzo(k)fluoranthene	AREA SVOC-2	0.9	B14	ND	mg/kg	no	1.1		0.55
Benzo(k)fluoranthene	AREA SVOC-2	0.9	B17	ND	mg/kg	no	1.1		0.55
Benzo(k)fluoranthene	AREA SVOC-2	0.9	B21	0.51J	mg/kg	no			0.51
Benzo(k)fluoranthene	AREA SVOC-2	0.9	B25	1.30	mg/kg	yes			1.3
						Compliance Average Result:			**0.621**
Chrysene									
	AREA SVOC-1								
Chrysene	AREA SVOC-1	9	B60	29.0D	mg/kg	yes			29
Chrysene	AREA SVOC-1	9	B65	ND	mg/kg	no	1.1		0.55
Chrysene	AREA SVOC-1	9	B70	ND	mg/kg	no	1.2		0.6
Chrysene	AREA SVOC-1	9	B76	11.0	mg/kg	yes			11
Chrysene	AREA SVOC-1	9	B81	0.22J	mg/kg	no			0.22
Chrysene	AREA SVOC-1	9	B87	0.88J	mg/kg	no			0.88
Chrysene	AREA SVOC-1	9	B93	ND	mg/kg	no	1.2		0.6
Chrysene	AREA SVOC-1	9	B99	ND	mg/kg	no	1.2		0.6
Chrysene	AREA SVOC-1	9	B100	ND	mg/kg	no	1.2		0.6
Chrysene	AREA SVOC-1	9	B106	ND	mg/kg	no	1.2		0.6
Chrysene	AREA SVOC-1	9	B107	0.92J	mg/kg	no			0.92
Chrysene	AREA SVOC-1	9	B112	3.90	mg/kg	no			3.9
Chrysene	AREA SVOC-1	9	B114	2.60	mg/kg	no			2.6
						Compliance Average Result:			**4.005**

Notes:
RDCSCC = Residential Direct Contact Cleanup Criteria pre N.J.A.C. 7:26D.
VOCs = Volatile Organic Compounds; SVOCs = Semi-Volatile Organic Compounds.
Pest/PCBs = Pesticides/Polychlorinated-Biphenyls; ND = Not Detected.
MDL = Method Detction Limit (shown only for "ND" Results); 0.5*MDL used for calculating average.
For samples with dilution factors greater than 1, "ND" results were not used (Dilution factors shown only for these cases).

Table 4-5
Compliance Averaging Results
M-14 Landfill
Fort Monmouth, New Jersey

Analyte Name	Compliance Area	RDCSCC	Boring ID	Result	Units	Exceeds Criteria	MDL	Dilution Factor	Result Used for Average
Pest/PCBs									
4,4'-DDT									
	AREA PESTPCB-1								
4,4'-DDT	AREA PESTPCB-1	2	B99	2.93	mg/kg	yes			2.93
4,4'-DDT	AREA PESTPCB-1	2	B100	0.003	mg/kg	no			0.003
4,4'-DDT	AREA PESTPCB-1	2	B106	0.355	mg/kg	no			0.355
4,4'-DDT	AREA PESTPCB-1	2	B107	0.144	mg/kg	no			0.144
4,4'-DDT	AREA PESTPCB-1	2	B113	0.036	mg/kg	no			0.036
4,4'-DDT	AREA PESTPCB-1	2	B114	0.466	mg/kg	no			0.466
4,4'-DDT	AREA PESTPCB-1	2	B115	4.142	mg/kg	yes			4.142
						Compliance Average Result:			**1.154**
	AREA PESTPCB-2								
4,4'-DDT	AREA PESTPCB-2	2	B33	4.095	mg/kg	yes			4.095
4,4'-DDT	AREA PESTPCB-2	2	B37	0.063	mg/kg	no			0.063
4,4'-DDT	AREA PESTPCB-2	2	B41	0.114	mg/kg	no			0.114
4,4'-DDT	AREA PESTPCB-2	2	B45	0.134	mg/kg	no			0.134
4,4'-DDT	AREA PESTPCB-2	2	B49	0.031	mg/kg	no			0.031
4,4'-DDT	AREA PESTPCB-2	2	B53	0.046	mg/kg	no			0.046
4,4'-DDT	AREA PESTPCB-2	2	B57	0.155	mg/kg	no			0.155
4,4'-DDT	AREA PESTPCB-2	2	B61	0.04	mg/kg	no			0.04
4,4'-DDT	AREA PESTPCB-2	2	B66	2.59	mg/kg	yes			2.59
						Compliance Average Result:			**0.808**

Notes:
RDCSCC = Residential Direct Contact Cleanup Criteria pre N.J.A.C. 7:26D.
VOCs = Volatile Organic Compounds; SVOCs = Semi-Volatile Organic Compounds.
Pest/PCBs = Pesticides/Polychlorinated-Biphenyls; ND = Not Detected.
MDL = Method Detction Limit (shown only for "ND" Results); 0.5*MDL used for calculating average.
For samples with dilution factors greater than 1, "ND" results were not used (Dilution factors shown only for these cases).

Table 4-6
Compliance Analysis Results Summary
M-14 Landfill
Fort Monmouth, New Jersey

Analyte Name	Compliance Average Area	RDCSCC	Units	Compliance Averaging Performed	Compliance Average Result	Compliance Analysis Result
SVOCs						
Benzo(a)anthracene	AREA SVOC-1	0.9	mg/kg	No		Given the scattered distribution of exceedances,site conditions, and limited public access to the site, No Further Action is warranted. The DPW will incorporate a document equivalent to a DER into the Fort Monmouth Master Plan.
Benzo(a)anthracene	AREA SVOC-2	0.9	mg/kg	Yes	0.659	Compliance average below RDCSCC. No Further Action is warranted.
Benzo(a)pyrene	AREA SVOC-1	0.66	mg/kg	No		Given the scattered distribution of exceedances,site conditions, and limited public access to the site, No Further Action is warranted. The DPW will incorporate a document equivalent to a DER into the Fort Monmouth Master Plan.
Benzo(a)pyrene	AREA SVOC-2	0.66	mg/kg	No		Given the scattered distribution of exceedances,site conditions, and limited public access to the site, No Further Action is warranted. The DPW will incorporate a document equivalent to a DER into the Fort Monmouth Master Plan.
Benzo(b)fluoranthene	AREA SVOC-1	0.9	mg/kg	No		Given the scattered distribution of exceedances,site conditions, and limited public access to the site, No Further Action is warranted. The DPW will incorporate a document equivalent to a DER into the Fort Monmouth Master Plan.
Benzo(b)fluoranthene	AREA SVOC-2	0.9	mg/kg	Yes	0.598	Compliance average below RDCSCC. No Further Action is warranted.
Benzo(k)fluoranthene	AREA SVOC-1	0.9	mg/kg	No		Given the scattered distribution of exceedances,site conditions, and limited public access to the site, No Further Action is warranted. The DPW will incorporate a document equivalent to a DER into the Fort Monmouth Master Plan.

Notes:
RDCSCC = Residential Direct Contact Cleanup Criteria pre N.J.A.C. 7:26D.
VOCs = Volatile Organic Compounds; SVOCs = Semi-Volatile Organic Compounds.
Pest/PCBs = Pesticides/Polychlorinated-Biphenyls.
DER = Declaration of Environmental Restriction.

Table 4-6
Compliance Analysis Results Summary
M-14 Landfill
Fort Monmouth, New Jersey

Analyte Name	Compliance Average Area	RDCSCC	Units	Compliance Averaging Performed	Compliance Average Result	Compliance Analysis Result
Benzo(k)fluoranthene	AREA SVOC-2	0.9	mg/kg	Yes	0.621	Compliance average below RDCSCC. No Further Action is warranted.
Chrysene	AREA SVOC-1	9	mg/kg	Yes	4.005	Compliance average below RDCSCC. No Further Action is warranted.
Dibenz(a,h)anthracene	AREA SVOC-1	0.66	mg/kg	No		Given the scattered distribution of exceedances,site conditions, and limited public access to the site, No Further Action is warranted. The DPW will incorporate a document equivalent to a DER into the Fort Monmouth Master Plan.
Indeno(1,2,3-cd)pyrene	AREA SVOC-1	0.9	mg/kg	No		Given the scattered distribution of exceedances,site conditions, and limited public access to the site, No Further Action is warranted. The DPW will incorporate a document equivalent to a DER into the Fort Monmouth Master Plan.

Notes:
RDCSCC = Residential Direct Contact Cleanup Criteria pre N.J.A.C. 7:26D.
VOCs = Volatile Organic Compounds; SVOCs = Semi-Volatile Organic Compounds.
Pest/PCBs = Pesticides/Polychlorinated-Biphenyls.
DER = Declaration of Environmental Restriction.

Table 4-6
Compliance Analysis Results Summary
M-14 Landfill
Fort Monmouth, New Jersey

Analyte Name	Compliance Average Area	RDCSCC	Units	Compliance Averaging Performed	Compliance Average Result	Compliance Analysis Result
Pest/PCBs						
4,4'-DDT	AREA PESTPCB-1	2	mg/kg	Yes	1.154	Compliance average below RDCSCC. No Further Action is warranted.
4,4'-DDT	AREA PESTPCB-2	2	mg/kg	Yes	0.808	Compliance average below RDCSCC. No Further Action is warranted.

Notes:
RDCSCC = Residential Direct Contact Cleanup Criteria pre N.J.A.C. 7:26D.
VOCs = Volatile Organic Compounds; SVOCs = Semi-Volatile Organic Compounds.
Pest/PCBs = Pesticides/Polychlorinated-Biphenyls.
DER = Declaration of Environmental Restriction.

Table 4-6
Compliance Analysis Results Summary
M-14 Landfill
Fort Monmouth, New Jersey

Analyte Name	Compliance Average Area	RDCSCC	Units	Compliance Averaging Performed	Compliance Average Result	Compliance Analysis Result
Metals						
Arsenic	AREA METALS-1	20	mg/kg	No		Given the scattered distribution of exceedances,site conditions, and limited public access to the site, No Further Action is warranted. The DPW will incorporate a document equivalent to a DER into the Fort Monmouth Master Plan.
Beryllium	AREA METALS-1	2	mg/kg	No		Given the scattered distribution of exceedances,site conditions, and limited public access to the site, No Further Action is warranted. The DPW will incorporate a document equivalent to a DER into the Fort Monmouth Master Plan.

Notes:
RDCSCC = Residential Direct Contact Cleanup Criteria pre N.J.A.C. 7:26D.
VOCs = Volatile Organic Compounds; SVOCs = Semi-Volatile Organic Compounds.
Pest/PCBs = Pesticides/Polychlorinated-Biphenyls.
DER = Declaration of Environmental Restriction.

FIGURES

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Geologic Map of New Jersey

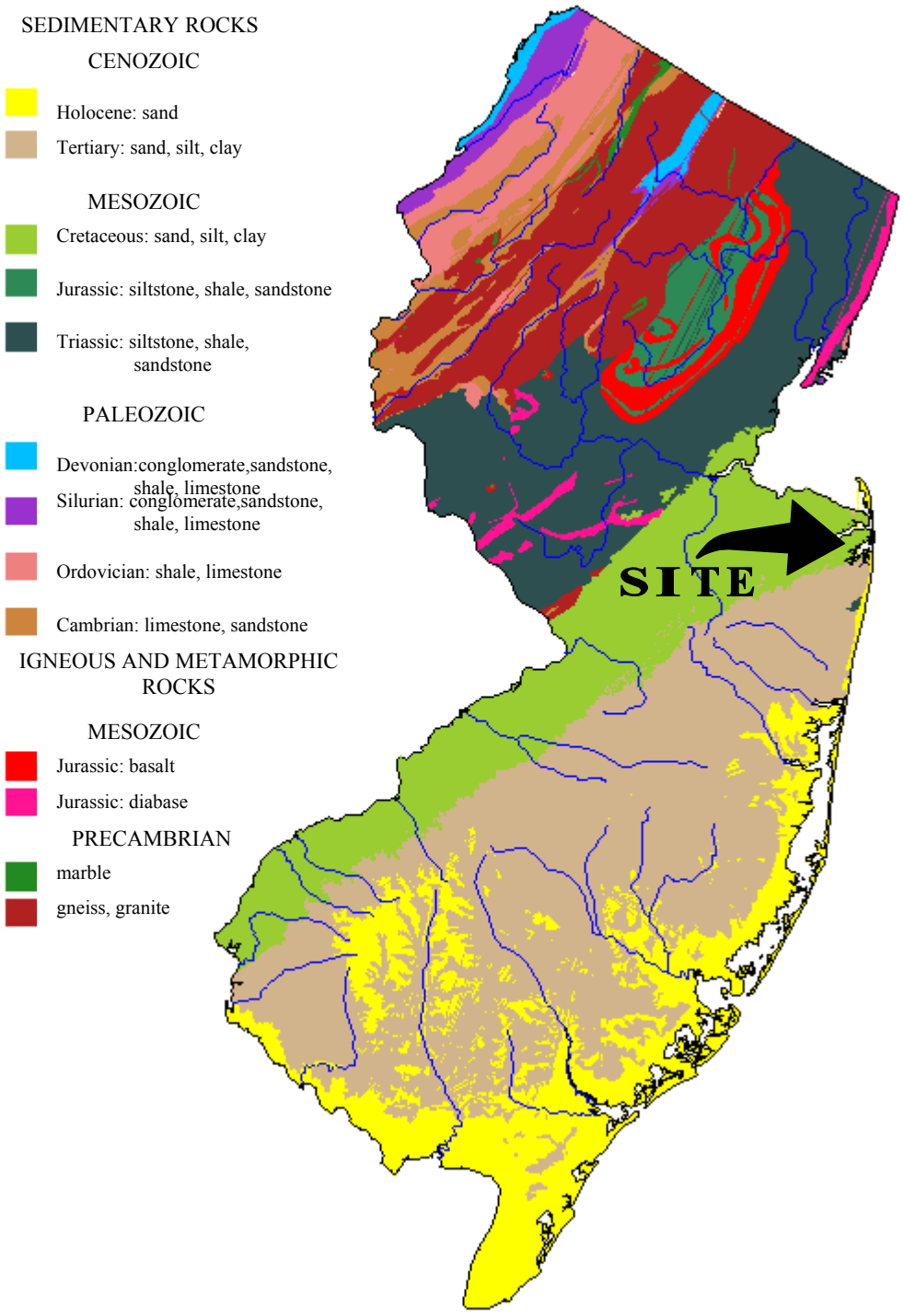
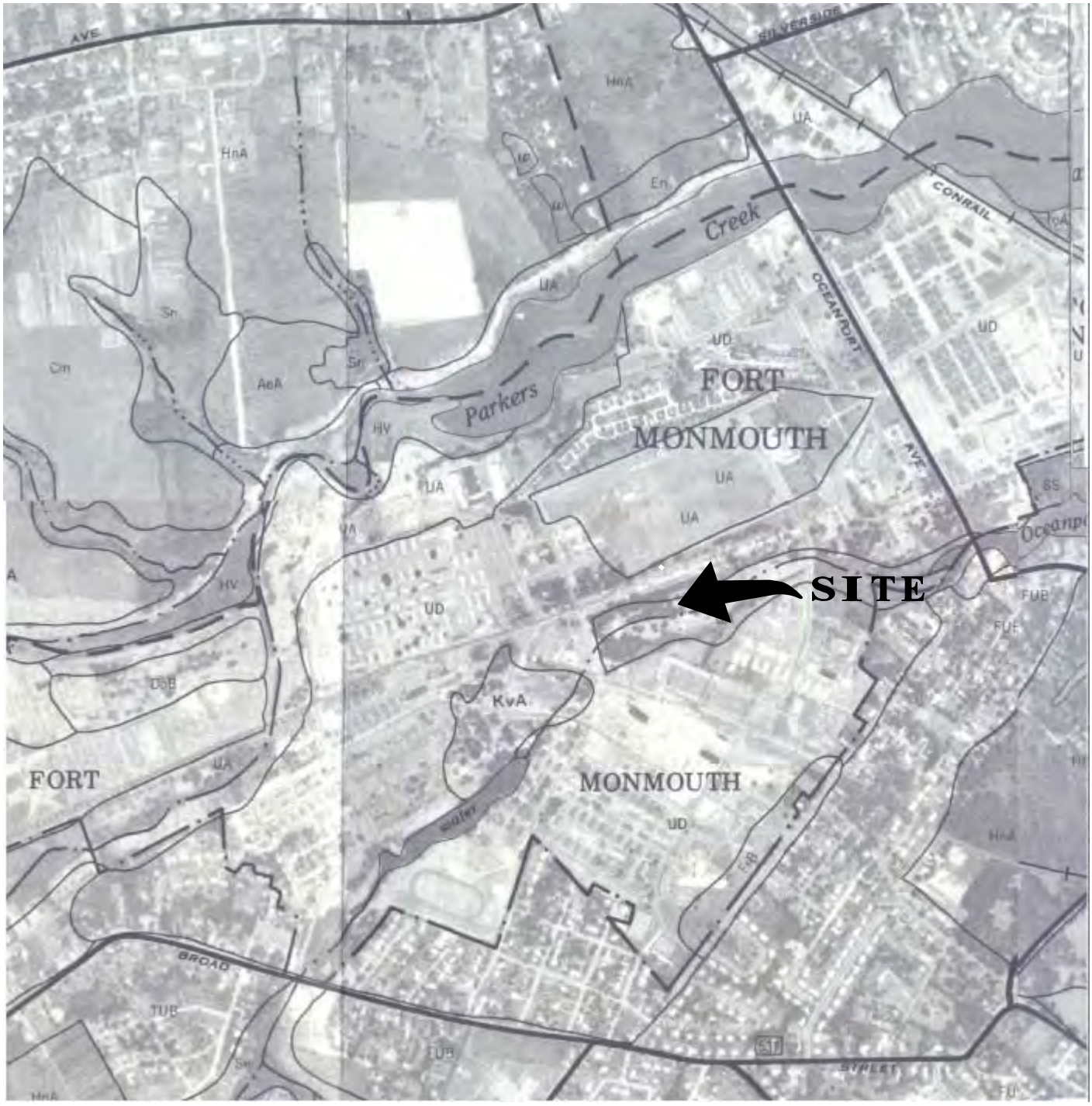


Figure 2-2
Geologic Map of New Jersey
M-14 Landfill Site
Fort Monmouth, New Jersey

Versar INC.
201 Gibraltar Road, Suite 100
Horsham, PA 19044
(215) 957-0955

Source: New Jersey Gelolgic Survey, 1994, *Geologic Map of New Jersey*.



US Department of Agriculture
Soil Conservation Service
Soil Survey of Monmouth County, NJ
April 1989

Figure 2-3
Soil Map of Monmouth County
M-14 Landfill Site
Fort Monmouth, New Jersey

Versar INC.
201 Gibraltar Road, Suite 100
Horsham, PA 19044
(215) 957-0955

M-14 LANDFILL BOUNDARY

B01 B02 B03 B04 B05 B06 B07 B08 B09 B10 B11 B12 B13 B14 B15 B16 B17 B18 B19 B20 B21 B22 B23 B24 B25 B26 B27 B28 B29 B30 B31 B32 B33 B34 B35 B36 B37 B38 B39 B40 B41 B42 B43 B44 B45 B46 B47 B48 B49 B50 B51 B52 B53 B54 B55 B56 B57 B58 B59 B60 B61 B62 B63 B64 B65 B66 B67 B68 B69 B70 B71 B72 B73 B74 B75 B76 B77 B78 B79 B80 B81 B82 B83 B84 B85 B86 B87 B88 B89 B90 B91 B92 B93 B94 B95 B96 B97 B98 B99 B100 B101 B102 B103 B104 B105 B106 B107 B108 B109 B110 B111 B112 B113 B114 B115 B116 B117 B118 B119

FLAG

T-908

N

LEGEND

B01 = SOIL BORING LOCATION

NOTES:

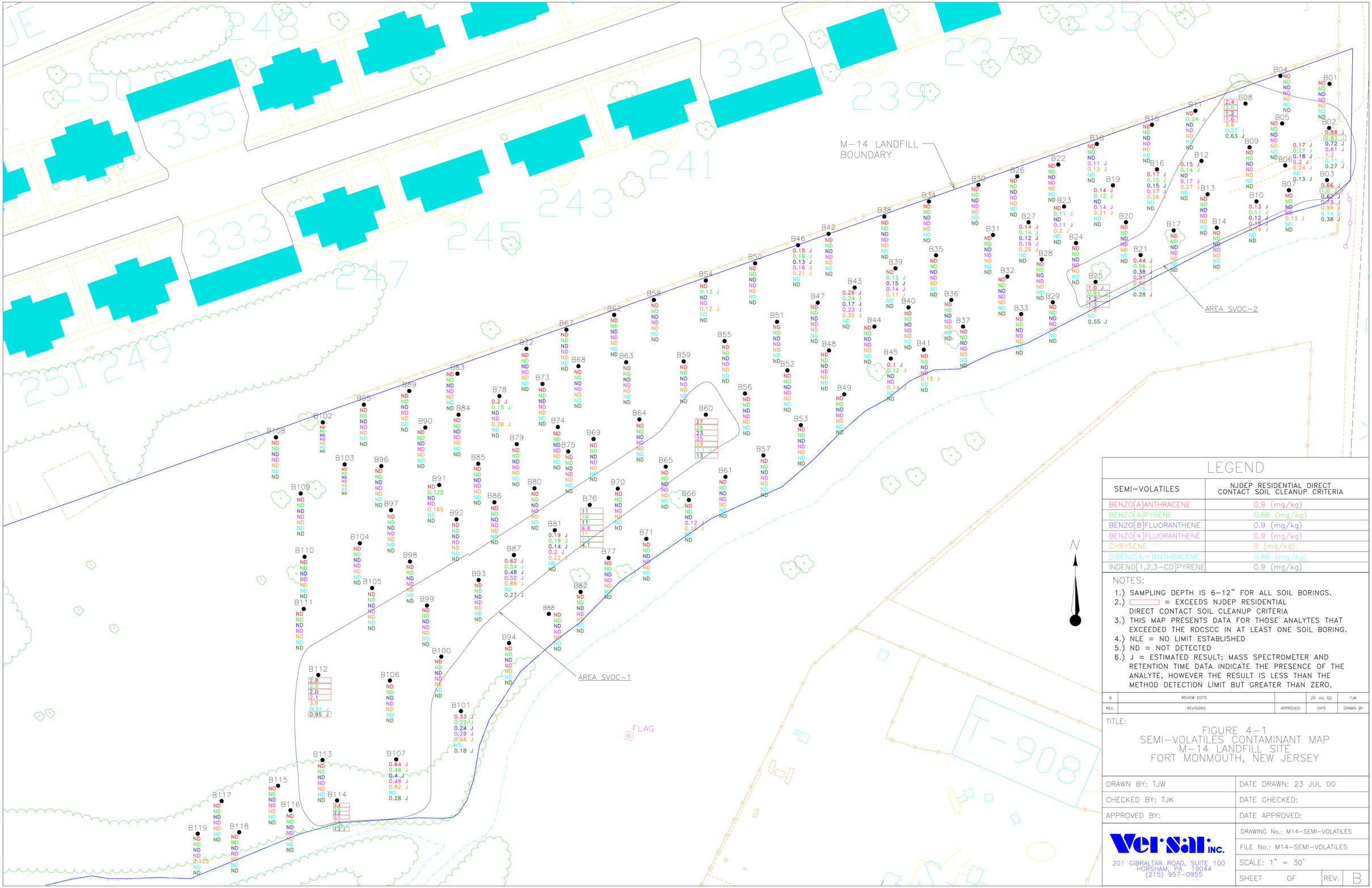
REV.	REVISIONS	APPROVED	DATE	DRAWN BY
B	REVIEW EDITS		20 JUL 02	TJW

TITLE:

FIGURE 3-1
SOIL BORING LOCATION MAP
M-14 LANDFILL SITE
FORT MONMOUTH, NEW JERSEY

DRAWN BY: TJW	DATE DRAWN: 23 JUL 00
CHECKED BY: TJK	DATE CHECKED:
APPROVED BY:	DATE APPROVED:
	DRAWING No.: M14-SOIL BORING
	FILE No.: M14-SOIL BORING
	SCALE: 1" = 30'
	SHEET OF REV. B

Versar INC.
201 GIBRALTAR ROAD, SUITE 100
HORSHAM, PA. 19044
(215) 957-0955



LEGEND

SEMI-VOLATILES	NJDEP RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA
BENZO[A]ANTHRACENE	0.9 (mg/kg)
BENZO[A]PYRENE	0.66 (mg/kg)
BENZO[B]FLUORANTHENE	0.9 (mg/kg)
BENZO[K]FLUORANTHENE	0.9 (mg/kg)
CHRYSENE	9 (mg/kg)
DIBENZ[A,H]ANTHRACENE	0.66 (mg/kg)
INDENO[1,2,3-CD]PYRENE	0.9 (mg/kg)

NOTES:

1.) SAMPLING DEPTH IS 6-12" FOR ALL SOIL BORINGS.
2.) [ ] = EXCEEDS NJDEP RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA
3.) THIS MAP PRESENTS DATA FOR THOSE ANALYTES THAT EXCEEDED THE RDCSCC IN AT LEAST ONE SOIL BORING.
4.) NLE = NO LIMIT ESTABLISHED
5.) ND = NOT DETECTED
6.) J = ESTIMATED RESULT; MASS SPECTROMETER AND RETENTION TIME DATA INDICATE THE PRESENCE OF THE ANALYTE, HOWEVER THE RESULT IS LESS THAN THE METHOD DETECTION LIMIT BUT GREATER THAN ZERO.

REV.	REVISIONS	APPROVED	DATE	DRAWN BY
B	REVIEW EDITS		20 JUL 02	TJW

TITLE:

FIGURE 4-1
SEMI-VOLATILES CONTAMINANT MAP
M-14 LANDFILL SITE
FORT MONMOUTH, NEW JERSEY

DRAWN BY: TJW	DATE DRAWN: 23 JUL 00
CHECKED BY: TJK	DATE CHECKED:
APPROVED BY:	DATE APPROVED:
	DRAWING No.: M14-SEMI-VOLATILES
	FILE No.: M14-SEMI-VOLATILES
	SCALE: 1" = 30'
	SHEET OF REV. B

VerSar INC.
201 GIBRALTAR ROAD, SUITE 100
HORSHAM, PA 19044
(215) 957-0955

M-14 LANDFILL BOUNDARY

AREA OF PESTPCB-1

AREA OF PESTPCB-2

FLAG

T-908

N

| B01 0.113 | B02 0.106 | B03 0.109 | B04 0.273 | B05 0.028 | B06 0.017 | B07 0.069 | B08 0.046 | B09 0.014 | B10 0.055 | B11 0.008 | B12 0.173 | B13 0.015 | B14 0.012 | B15 0.108 | B16 0.088 | B17 0.026 | B18 0.097 | B19 0.065 | B20 0.072 | B21 0.157 | B22 0.03 | B23 0.026 | B24 0.025 | B25 0.034 | B26 0.079 | B27 0.033 | B28 0.026 | B29 0.027 | B30 0.053 | B31 0.117 | B32 0.171 | B33 4.095 | B34 0.098 | B35 0.057 | B36 0.108 | B37 0.063 | B38 0.067 | B39 0.138 | B40 0.293 | B41 0.114 | B42 0.039 | B43 0.1 | B44 0.123 | B45 0.134 | B46 0.175 | B47 0.077 | B48 0.044 | B49 0.031 | B50 0.042 | B51 ND | B52 ND | B53 0.046 | B54 ND | B55 ND | B56 ND | B57 0.155 | B58 ND | B59 ND | B60 ND | B61 0.04 | B62 ND | B63 ND | B64 ND | B65 ND | B66 2.59 | B67 ND | B68 ND | B69 ND | B70 ND | B71 0.095 | B72 0.025 | B73 ND | B74 ND | B75 0.002 | B76 ND | B77 0.03 | B78 0.349 | B79 0.062 | B80 ND | B81 0.006 | B82 0.007 | B83 0.224 | B84 0.047 | B85 0.021 | B86 0.007 | B87 0.009 | B88 ND | B89 0.351 | B90 0.07 | B91 ND | B92 0.347 | B93 0.002 | B94 0.023 | B95 0.516 | B96 0.213 | B97 0.028 | B98 0.309 | B99 2.93 | B100 0.003 | B101 0.283 | B102 0.029 | B103 0.018 | B104 0.005 | B105 0.029 | B106 0.355 | B107 0.144 | B108 0.006 | B109 ND | B110 0.012 | B111 0.003 | B112 0.509 | B113 0.036 | B114 0.466 | B115 4.142 | B116 0.152 | B117 0.165 | B118 0.08 | B119 0.113 |
|---|---|---

M-14 LANDFILL BOUNDARY

AREA METALS – 1

FLAG

B01	9.97 1.07	B02	9.39 1.37
B03	6.7 1.11	B04	18.2 1.04
B05	14.5 1.65	B06	13.7 1.89
B07	12.5 1.9	B08	9.96 1.36
B09	12.3 1.76	B10	9.2 1.5
B11	10.3 1.36	B12	9.2 1.17
B13	10.8 0.952	B14	12.2 1.24
B15	7.57 0.825	B16	9.56 1.02
B17	6.4 1.02	B18	8.28 1.32
B19	5.82 1.1	B20	12.9 2.04
B21	8.97 1.15	B22	11.8 1.2
B23	13.4 1.5	B24	9.39 1.43
B25	6.02 0.906	B26	11.2 1.3
B27	7.21 1.07	B28	16.8 1.23
B29	9.69 1.32	B30	19.9 1.43
B31	11.8 1.59	B32	9.51 1.31
B33	15.5 1.51	B34	10 1.25
B35	12.4 1.51	B36	8.87 1.28
B37	14.5 1.56	B38	11.8 0.872
B39	9.61 0.831	B40	12.6 1.33
B41	11.7 1.17	B42	9.91 1.41
B43	11.9 1.89	B44	11.1 1.39
B45	12.7 1.26	B46	12.7 1.91
B47	14.2 1.61	B48	8.06 0.806
B49	16.8 0.91	B50	18.4 1.41
B51	14.3 1.05	B52	26.1 0.808
B53	18.2 0.935	B54	25.2 2.12
B55	12.9 1.28	B56	52.4 0.993
B57	19.8 1.32	B58	14.1 2.37
B59	18.7 1.03	B60	25.7 1.81
B61	27.4 2.37	B62	16.9 0.91
B63	19.3 2.92	B64	32.6 3.24
B65	18.2 1.4	B66	28.1 2.84
B67	30.2 2.49	B68	23 2.52
B69	17.4 1.03	B70	14.3 0.795
B71	15.5 1.33	B72	29.7 1.98
B73	18.4 1.52	B74	12.7 1.04
B75	29.5 2.47	B76	27.8 1.85
B77	21.7 2.9	B78	21 1.76
B79	22.7 1.86	B80	19.4 0.778
B81	20.7 1.81	B82	21 1.6
B83	21 1.6	B84	6.64 0.572
B85	27.5 2.82	B86	26.8 2.53
B87	32.8 2.57	B88	28.1 2.26
B89	14.1 1.54	B90	2.96 0.375
B91	18.8 1.14	B92	18.9 1.83
B93	24.7 2.58	B94	16.1 1.35
B95	18 1.66	B96	8.96 1.06
B97	23.2 2.03	B98	29.9 2.12
B99	28 2.8	B100	24.4 0.162
B101	0.59 ND	B102	9.69 0.257
B103	6.47 0.295	B104	1.14 ND
B105	14.9 0.217	B106	17.3 0.217
B107	16.2 1.38	B108	11.8 1.85
B109	11.7 1.29	B110	1.9 0.255
B111	1.12 0.197	B112	1.92 0.319
B113	23.3 2.54	B114	25.6 2.16
B115	19.3 2.3	B116	23.4 2.39
B117	1.36 0.19	B118	11.8 1.15
B119	5.03 0.47		

N

LEGEND

METALS	NJDEP RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA
ARSENIC	20 (mg/kg)
BERYLLIUM	2 (mg/kg)

NOTES:

1.) SAMPLING DEPTH IS 6–12" FOR ALL SOIL BORINGS.
2.) [ ] = EXCEEDS NJDEP RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA
3.) THIS MAP PRESENTS DATA FOR THOSE ANALYTES THAT EXCEEDED THE RDCSCC IN AT LEAST ONE SOIL BORING.
4.) NLE = NO LIMIT ESTABLISHED
5.) ND = NOT DETECTED

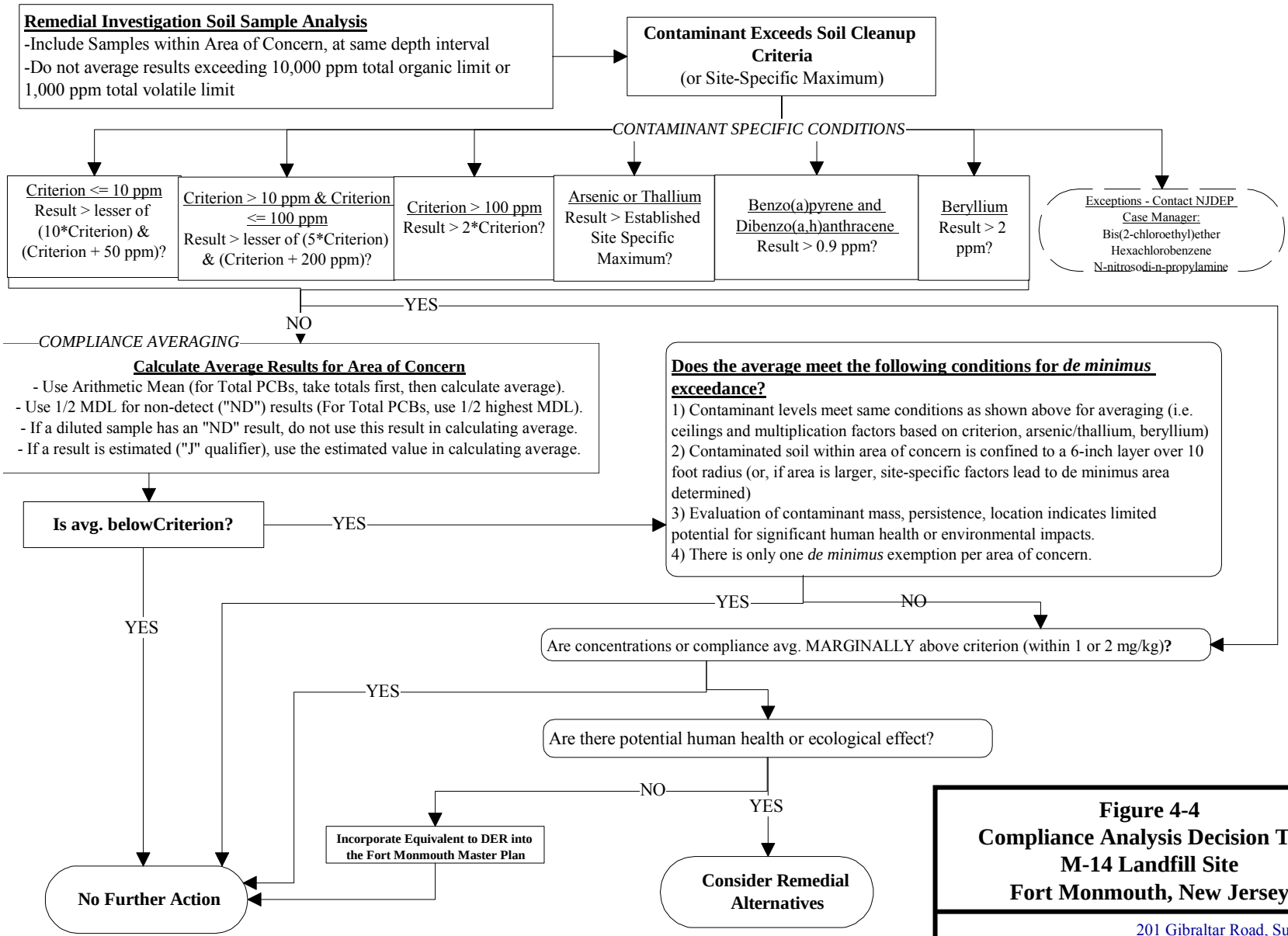
REV.	REVISIONS	APPROVED	DATE	DRAWN BY
B	REVIEW EDITS		20 JUL 02	TJW

TITLE:

FIGURE 4–3
METALS CONTAMINANT MAP
M–14 LANDFILL SITE
FORT MONMOUTH, NEW JERSEY

DRAWN BY: TJW	DATE DRAWN: 23 JUL 00
CHECKED BY: TJK	DATE CHECKED:
APPROVED BY:	DATE APPROVED:
	DRAWING No.: M14–METALS
	FILE No.: M14–METALS
	SCALE: 1" = 30'
	SHEET OF REV. B

Ver-Sal INC.
201 GIBRALTAR ROAD, SUITE 100
HORSHAM, PA 19044
(215) 957–0955



Source: NJDEP *Site Remediation News*, Spring 1995 (Vol 7, No 2) - Article 08

Figure 4-4
Compliance Analysis Decision Tree
M-14 Landfill Site
Fort Monmouth, New Jersey

Versar INC.
201 Gibraltar Road, Suite 100
Horsham, PA 19044
(215) 957-0955

APPENDICES

APPENDIX A

DPW Proposal Letter to NJDEP defining RIR for Near Surface Soils at the M-14 Landfill Site, dated July 7, 1998

DEPARTMENT OF THE ARMY
Headquarters, U.S. Army Garrison Fort Monmouth
Fort Monmouth, New Jersey 07703 - 5101

REPLY TO
ATTENTION OF
Directorate of Public Works

July 7, 1998

State of New Jersey
Department of Environmental Protection
Division of Responsible Party Site Remediation
Bureau of Federal Case Management
ATTN: Ian Curtis
CN 028
Trenton, NJ 08625-0028

SUBJECT: Remedial Investigation of Landfill Cover Material

Re: NJDEP Correspondence (Dated April 4, 1996),
Remedial Investigation Report,
Fort Monmouth (Main Post and Charles Wood), NJ

U.S. Army Fort Monmouth
Directorate of Public Works Correspondence (Dated February 24, 1997)
Response to NJDEP Comments, Remedial Investigation Report
Fort Monmouth (Main Post and Charles Wood), NJ

Dear Mr. Curtis:

Based upon our recent discussions regarding ongoing remedial activities at Fort Monmouth, I'm writing this letter to reiterate the Directorate of Public Works (DPW) position regarding the landfill cover material which currently exists at nine former sanitary landfill sites. Eight of the nine landfill sites are located on the Main Post and the remaining site is located in the Charles Wood area. The nine former landfill sites are as follows: M-2, M-3, M-4, M-5, M-8, M-12, M-14, M-18 and CW-3A.

In a letter dated April 4, 1996, under the General Comments Section, Item # 1 - Landfills, you state that all base landfills must comply with NJ Solid Waste Management Act N.J.A.C. 7:26-2A et seq. If Fort Monmouth is able to document that the appropriate solid waste closure procedures were followed, no additional action is required other than the NJDEP approved monitoring. However, if an approved closure was not performed at the landfill, it is recommended that a minimum soil cover of one foot be extended over all areas of documented disposal activities. Also, the approximate boundaries must be established and annotated in the Declaration of Environmental Restriction.

A meeting was held at Fort Monmouth on May 14, 1996 to further discuss various issues of concern as referenced in your April 4, 1996 letter. During the course of the meeting a discussion ensued regarding the existing cover material at each of the closed landfill sites. At said time I stated that the DPW would be unable to document that the nine former landfill sites had been closed in accordance with N.J.A.C. 7:26-2A et seq. It should be noted however that the regulatory statue cited only refers to sanitary landfills operated on or after January 1, 1982. The last sanitary landfill (Site M-8) remaining in operation at Fort Monmouth was closed in October of 1981. Data presented in Table # 1 lists each of the nine landfill sites, approximate acreage and their dates of operation. At the time of closure, each landfill was covered with sufficient soil to properly cap the waste debris which was placed at the site. Cover materials were derived from both onsite and offsite. At present, the thickness of the cover material varies from site to site, but generally is at least one foot in thickness. In accordance with the data presented in Table # 1, the referenced landfills have been closed for a period of between seventeen and forty-two years. During the course of that time, each site has naturally vegetated. The existing vegetation provides both habitat and a food source for a variety of animal species. In addition, the existing vegetation plays a major role in controlling soil erosion. This is particularly important for sites bordering surface water bodies. Each of the former landfill sites are located adjacent to surface water bodies.

At the May 14, 1996 meeting, the DPW proposed to collect surface soil samples from each of the nine landfill sites to document that the existing cover material did not contain contaminant levels above the Residential Direct Contact Soil Cleanup Criteria and/or established background levels. This proposal was offered as an alternative approach to recovering the landfill sites with additional fill materials. Our alternative approach would prevent the destruction of the existing vegetation which in turn would displace numerous animal species and also result in significant soil erosion problems. Based upon your comments at the time of the meeting, you viewed our proposal as a favorable option. In order to move forward with the proposal, you advised us to submit our alternative approach in writing for view and comment. In a letter dated February 24, 1997, this proposal was formally submitted to you. As part of our write up, we specified that soil samples would be collected in accordance with the requirements set forth in N.J.A.C. 7:26E et seq. and the NJDEP Field Sampling Procedures Manual. The DPW would collect a distinct soil sample at thirty foot intervals within the boundaries of the former landfills. The DPW anticipates collecting approximately 1,900 samples not to include trip, field and duplicate samples. Each sample will be analyzed for TCL + 30 parameters and TAL metals.

The DPW has already made a significant investment in terms of buying new equipment and hiring additional laboratory personnel to initiate this project. To date, the DPW has spent $ 775,000.00 to implement the landfill cover study. We anticipate spending an additional $ 475,000.00 in fiscal year 1999 to complete said project. The DPW commenced sampling of the landfill cover material in March of 1998. Our estimated completion date for this project in terms of field sampling activities is April 30, 1999. Currently, the DPW plans on submitting separate Remedial Investigation Reports for each of the nine landfill sites. Numerical data shall be included within each report which accurately measures the thickness of the existing landfill cover material at each sampling location.

The overall purpose of this letter was to restate our position regarding the landfill cover material and to receive written NJDEP endorsement for our alternative approach method. In summary, we feel our approach will identify any potential areas of concern while protecting existing natural resources. Should you have any questions or concerns, the undersigned can be contacted at the following telephone number: (732) 532-6223.

Joseph M. Fallon

Joseph M. Fallon, CHMM
Environmental Protection Specialist
Directorate of Public Works

TABLE # 1

LANDFILL SITE	ACREAGE	ESTIMATED SAMPLES	YEAR OPEN	YEAR CLOSED
M-2	6.5	314.6	1964	1968
M-3	5.9	285.6	1959	1964
M-4	1.4	67.8	1955	1956
M-5	3.2	154.9	1952	1959
M-8	7.2	348.5	1962	1981
M-12	2.1	101.6	1950	1966
M-14	6.9	334	1965	1966
M-18	4.1	198.4	1968	1969
CW-3A	2.6	125.8	1942	1957

APPENDIX B

NJDEP Approval Letter to DPW for RIR for Near Surface Soils at the M-14 Landfill Site, dated August 10, 1998

State of New Jersey
Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

AUG 10 1998

Mr. Joseph Fallon
Env. Protection Specialist
Directorate of Public Works
U.S. Army, Fort Monmouth
Fort Monmouth, NJ 07703

Re: Landfill Remedial Investigation Letter
Fort Monmouth Army Base
Fort Monmouth, Monmouth County

Dear Mr. Fallon:

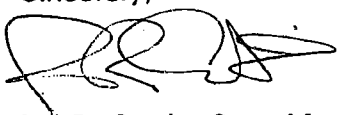
The NJDEP has received your letter of July 7, 1998 regarding the proposed investigation of the eight sanitary landfill sites located on the Main Post and one sanitary landfill located at the Charles Wood area. The NJDEP accepts the letter as submitted and proposed investigation.

Specifically, your letter proposes an investigation of the covers of the subject landfills which is expected to satisfy our concerns noted in our letter of April 4, 1996 and subsequent meeting of May 14, 1996. The information obtained from the investigation should satisfy any remaining questions regarding the landfills and their potential threat to human health and the environment.

In an effort to assure compliance with applicable regulations, I have discussed this case and associated issues with the Sukhdev Bhalla, Chief, Bureau of Landfill Engineering. According to Mr. Bhalla the proposed investigation satisfies New Jersey policy and procedure, as well as the Solid Waste Management Act. (N.J.A.C. 7:26-2A et seq.) requirements.

I look forward to the reviewing the subject report. If I can be of any further assistance, please do not hesitate to contact me at (609) 633-7232.

Sincerely,



Ian R. Curtis, Case Manager
Bureau of Federal Case Management
ICURTIS@DEP.STATE.NJ.US

FTMMTH53.DOC

APPENDIX C

Roy F. Weston, Inc. Site Investigation Report, December 1995
Section 4.2.9 – Landfill 14 (M-14)

4.2.9 Landfill 14 (M-14)

4.2.9 1 Site Location

Landfill 14 (M-14) is located on the north bank of Husky Brook in the area west of Murphy Drive (Figure 4.2-15). This area is north of the suspected location of Landfill 12. The approximate area of site M-14 is 300,000 ft^2 (6.9 acres).

4.2.9.2 Site History

Both a 1935 Fort Monmouth map and the 1940s aerial photograph show a marshy area in this location. According to the IA, Landfill 14 was used in 1965 and 1966 for the disposal of building rubble that was covered by dredgings from Husky Brook Lake. A figure in Cosulich shows a 1940s-era landfill in the western part of the area. This 1940s landfill may have contained general domestic and industrial wastes similar to that found in other Main Post landfills.

As part of an NJPDES permit, surface-water samples have been taken at two locations in Husky Brook since February 1986. The results are summarized in the recent report (WESTON, 1993). No compounds were detected in concentrations above the NJDEP surface-water criteria.

4.2.9.3 Sampling Effort

GPR and magnetometer surveys were conducted in the western half of this site to ascertain whether the landfill extends into this area. Three monitor wells (MW-19 through MW-21), shown in Figure 4.2-15, were installed and sampled twice for TCL +30 parameters, TAL metals, and cyanide. Tidal monitoring was conducted at the same time as the tidal monitoring at Landfill 12. Surface-water samples were taken at M14SW-1 and M14SW-2.

4.2.9.4 Geophysical Results

The magnetometer survey at site M-14 shows the majority of the site to have background total magnetic field readings of approximately 54,000 nT, as shown on the total magnetic field contour plot in Figure 4.2-21. However, anomalous readings exist at grid coordinates along the 100N traverse from 0E to 700E, 20N/100E, 40N/760E, 40N/810E, and 0 to 90S/300E to 700E. These anomalies, mostly represented by the blue contour interval or approximately 48,000 nT, can be attributed to cultural features such as a buried gas main, a fence, playground apparatus, and overhead power lines, respectively. The magnetic gradient component confirms the total field anomalies as shown in Figure 4.2-22. A smaller discrete anomaly exists at grid coordinate 40N from 420E to 470E, which is indicative of buried ferrous material.

The overhead power lines could be masking the magnetic response that any potential buried ferrous material may have, however, the GPR survey was conducted to identify any subsurface "disturbances" such as metallic fill material. Chaotic radar reflectors, indicative of fill material, coarse-grained soils, or disturbed soils, were found mainly along the treeline at grid coordinates 0 to 60S/150E to 250E, and 75S to 120S/400E to 475E. Chaotic radar reflectors, corresponding to a magnetic gradient anomaly, exist at 0 to 20N/450E to 575E, and are indicative of ferrous material. Hyperbolic radar signatures, identified as the gas main, were revealed along the 100N traverse at a depth of approximately 3 ft bgs.

While magnetometer and GPR anomalies exist throughout the site, a discrete landfill boundary was not identified at site M-14. This may be due in part to the composition of the fill material, as described in the lithologic logs, and the lack of metallic material.

4.2.9.5 Hydrogeologic Interpretation

Lithologic logs from site monitor wells indicate that the lithology consists of a thin soil cover (0.4 ft) underlain by fill material. The components of the filled materials observed in the borings consisted of concrete rubble, charcoal, wood, and glass fragments intermixed with a gray-green silty fine-coarse-grained sand with little clay and gravel.

Groundwater saturation was observed in the boreholes during activities between 4 and 6 ft bgs. The three monitor wells were screened across the water table, with total depths of 14, 15, and 16 ft bgs in MW-19, MW-20, and MW-21, respectively. Water-level elevation data, measured on 6 March 1995, indicate that local groundwater flow is south toward Husky Brook (Figure 4.2-20). Based on groundwater elevation measurements, monitor wells MW-19 and MW-21 are downgradient of the M-14 area.

4.2.9.6 Groundwater Sampling Results

Monitor wells at site M-14 were sampled for the analytical parameters listed in Table 3.8-1. The compounds detected in groundwater samples from the individual sampling rounds, with the corresponding sample identifications, are listed in Appendix D. Table 4.2-11 compares the average concentrations of the detected compounds from the February and March sampling rounds with the NJDEP GWQC, and then compares the results to the subsequent site-specific and Monmouth County maximum background concentration, where appropriate.

VOCs

VOCs were not detected in the site monitor wells from either sampling round.

SVOCs

SVOCs were not detected in the site monitor wells from either sampling round.

Pesticides/PCBs

Pesticides/PCBs were not detected in the site monitor wells in either sampling round.

Table 4.2-11
Fort Monmouth - Main Post
Summary of Average Concentrations of Detected Compounds in Groundwater - Site M-14

COMPOUND	METHOD DETECTION LIMIT (µg/L)	NJDEP GROUNDWATER QUALITY CRITERIA (µg/L)	MAXIMUM BACKGROUND CONCENTRATION (µg/L)	ANALYTICAL RESULTS (µg/L) SAMPLING DATE		
				MW19 2/20/95, 3/10/95 (avg.)	MW20 2/22/95, 3/13/95 (avg.)	MW21 2/22/95, 3/9/95 (avg.)
METALS TOTAL (µg/L)						
Aluminum	24.0	200	121000	**393**	**903.5**	**1380**
Arsenic	1.9	8*	89.3	ND	6.3	2.33
Barium	1.7	2000	699	214.5	48.7	35.2
Beryllium	0.9	20*	7[1]	ND	0.245	ND
Calcium	10.4	NLE	45400	38700	31850	32800
Cobalt	3.0	NLE	18.3	2.03	ND	ND
Chromium	2.9	100	191	4.925	9.625	12.65
Copper	1.9	1000	730[1]	8.15	8.3	2.35
Iron	6.4	300	431000	**41400**	**7960**	**5685**
Potassium	685	NLE	137000	4660	5316	7490
Magnesium	18.3	NLE	62700	5185	4270	4060
Manganese	1.8	50	480[1]	**550.5**	**199.5**	**64.45**
Sodium	30.5	50000	197000[1]	8815	22600	6700
Nickel	10.8	100	187	3.35	5.65	ND
Lead	1.6	10*	22.7	**18.75**	4.65	3.45
Vanadium	2.3	NLE	108	ND	6.25	8.75
Zinc	3.8	5000	233	89.5	14.5	13.5

Compounds exceding NJDEP groundwater quality criteria are noted by bold numbers.

NJDEP groundwater quality criteria consist of the higher number between the PQL or STANDARD

*PQL - Practical Quantitation Limit -was used as the NJDEP groundwater quality criteria

ND - Indicates that the compound was not detected at the noted quantification limits

NLE - No Level Established

[1] - Monmouth County maximum background concentration.

Metals

As indicated in Table 4.2-11, of the 17 metals detected in site groundwater, 4 (aluminum, iron, manganese, and lead) were found in concentrations exceeding the NJDEP GWQC. In addition, manganese was found in a concentration greater than both the site-specific and the Monmouth County maximum background level in MW-19 only. As discussed in Subsection 4.1, groundwater flowing through glauconitic formations contains abundant manganese. In addition, manganese is a common metal found in tidally influenced environments. Therefore, manganese is not identified as a compound of concern. Aluminum and lead were found in concentrations below those determined for site-specific and Monmouth County maximum background levels.

Although the concentration of iron exceeded the Monmouth County background level in MW-19, the concentration was well below the site-specific background level established at the Main Post.

The lower reaches of Husky Brook are tidal. The sodium content of surface water is saline (Subsection 4.2.9.7), suggesting that saltwater has encroached upon this section of Husky Brook. The relatively high sodium content of the monitor wells in the vicinity of Husky Brook is caused by the saltwater encroachment.

Cyanide

Cyanide was not detected in the site monitor wells from either sampling round.

4.2.9.7 Surface-Water Sampling Results

Two surface-water samples, M14SW-1 and M14SW-2 were collected at M-14 (Figure 4.2-15). Both samples were determined to be saltwater based on conductivity and salinity results, and total (unfiltered) and soluble (filtered) concentrations were compared to NJDEP saltwater criteria and background (Table 4.2-12).

Table 4.2-12
Fort Monmouth - Main Post
Summary of Detected Compounds in Surface Water
Total and Soluble - Site M-14

COMPOUND	METHOD DETECTION LIMIT	NJDEP SURFACE WATER CRITERIA* SALINE WATER	MAXIMUM BACKGROUND CONCENTRATION (TOTAL)	MAXIMUM BACKGROUND CONCENTRATION (SOLUBLE)	ANALYTICAL RESULTS SAMPLING DATE - 12/1/1994			
					M14 (Total)		M14 (Soluble)	
					SW-1	SW-2	SW-1	SW-2
VOC's (µg/L)								
1,2-Dichloroethene (total)	4.4	NLE	ND	ND	4 J	5 J	NA	NA
SVOCs (µg/L)								
bis-(2-Ethylhexyl)phthalate	9.7	5.92 (hc)	ND	ND	ND	2 J	NA	NA
METALS TOTAL (µg/L)								
Aluminum	26.7	NLE	748	ND	188	205	ND	26.7
Barium	2.1	NLE	44.7	39.4	30	33.1	27.2	31.2
Calcium	12	NLE	31600	30900	16200	20400	16300	20300
Cobalt	2.4	NLE	8.1	4.1	ND	ND	ND	ND
Copper	2.4	NLE	3.2	4	2.9	5.3	5.6	4.9
Iron	4.7	NLE	6210	405	1920	2070	839	999
Lead	1.6	NLE	10	ND	3.4	2.8	3.1	3.2
Magnesium	38.2	NLE	5440	5120	9770	21400	9540	21600
Manganese	2.0	100 (h)	113	98.6	65.6	68.4	63.6	66.1
Nickel	12.8	NLE	22.9	16.1	14.2	ND	ND	ND
Potassium	821	NLE	5060	4280	4840	8320	4240	8220
Sodium	15.4	NLE	26700	26200	70100	168000	69100	171000
Zinc	2.8	NLE	35.1	23.8	23.7	23.4	14.4	13.2

* - NJDEP Surface Water Quality Standards (1993).
h -Non carcinogen effect-based human health criteria as a 30 day average.
hc -Carcinogen effect-based human health criteria as 70 year average.
U - Indicates that the compound was not detected at the noted quantification limit.
J - Indicates that the concentration value was estimated due to detection at or near the quantification limit.
NLE - No Level Established
NA - Not Analyzed.
Compounds dectected above NJDEP Surface Water Criteria are noted by bold numbers.

VOCs

VOCs were analyzed for but were not detected above the laboratory quantitation limit in site surface-water samples.

SVOCs

SVOCs were analyzed for but were not detected above the laboratory quantitation limit in site surface-water samples.

Pesticides/PCBs

Pesticides/PCBs were analyzed for but were not detected in site surface-water samples.

Metals

As indicated in Table 4.2-12, no metals were found in concentrations exceeding the NJDEP surface-water criteria (saline).

4.2.9.8 Recommendations

The results of the geophysical surveys indicate that fill and some metallic debris exist throughout the site; however, a discrete landfill boundary was not identified at site M-14. This may be due in part to the composition of the fill material and the small amount of subsurface metallic material present at the site.

The groundwater and surface-water sampling results indicate that no compounds of concern were detected above NJDEP GWQC and surface-water criteria.

Tidal monitoring was conducted at site M-12 and site M-14 simultaneously. The results of the tidal monitoring are discussed in Subsection 6.1.6.

Although no compounds of concern were identified at site M-14, because of the site's history of being used as a landfill, DPW proposes that a long-term surface-water and groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells and surface-water samples would be collected from points yet to be determined. Contaminants identified in the first two rounds of sampling would be targeted for the monitoring program.

APPENDIX D

Soil Boring Samples Laboratory Analytical Data Sheets

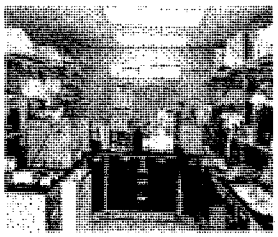
FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: IJN# 98-0211

M-14 LANDFILL

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
Trip Blank	4156.01	Methanol	23-Dec-98	12/23/98
M-14 1 6-12"	4156.02	Soil	23-Dec-98 09:08	12/23/98
M-14 1 24"	4156.03	Soil	23-Dec-98 09:08	12/23/98
M-14 2 6-12"	4156.04	Soil	23-Dec-98 09:30	12/23/98
M-14 2 24"	4156.05	Soil	23-Dec-98 09:30	12/23/98
M-14 3 6-12"	4156.06	Soil	23-Dec-98 10:00	12/23/98
M-14 3 24"	4156.07	Soil	23-Dec-98 10:00	12/23/98
M-14 4 6-12"	4156.08	Soil	23-Dec-98 10:38	12/23/98
M-14 4 24"	4156.09	Soil	23-Dec-98 10:38	12/23/98
M-14 5 6-12"	4156.10	Soil	23-Dec-98 11:00	12/23/98
M-14 5 24"	4156.11	Soil	23-Dec-98 11:00	12/23/98
M-14 6 6-12"	4156.12	Soil	23-Dec-98 11:25	12/23/98
M-14 6 24"	4156.13	Soil	23-Dec-98 11:25	12/23/98
Trip Blank	4159.01	Methanol	28-Dec-98	12/28/98
M-14 7 6-12"	4159.02	Soil	28-Dec-98 10:00	12/28/98
M-14 7 24"	4159.03	Soil	28-Dec-98 10:00	12/28/98
M-14 8 6-12"	4159.04	Soil	28-Dec-98 10:20	12/28/98
M-14 8 24"	4159.05	Soil	28-Dec-98 10:20	12/28/98
M-14 9 6-12"	4159.06	Soil	28-Dec-98 10:35	12/28/98
M-14 9 24"	4159.07	Soil	28-Dec-98 10:35	12/28/98
M-14 10 6-12"	4159.08	Soil	28-Dec-98 10:50	12/28/98
M-14 10 24"	4159.09	Soil	28-Dec-98 10:50	12/28/98
M-14 11 6-12"	4159.10	Soil	28-Dec-98 11:10	12/28/98
M-14 11 24"	4159.11	Soil	28-Dec-98 11:10	12/28/98
M-14 12 6-12"	4159.12	Soil	28-Dec-98 11:25	12/28/98
M-14 12 24"	4159.13	Soil	28-Dec-98 11:25	12/28/98
M-14 13 6-12"	4159.14	Soil	28-Dec-98 13:15	12/28/98
M-14 13 24"	4159.15	Soil	28-Dec-98 13:15	12/28/98
M-14 14 6-12"	4159.16	Soil	28-Dec-98 13:30	12/28/98
M-14 14 24"	4159.17	Soil	28-Dec-98 13:30	12/28/98

SAMPLE LOCATION AND IDENTIFICATION

M-14 15 6-12"	4159.18	Soil	28-Dec-98 13:48	12/28/98
M-14 15 24"	4159.19	Soil	28-Dec-98 13:48	12/28/98
M-14 16 6-12"	4159.20	Soil	28-Dec-98 14:08	12/28/98
M-14 16 24"	4159.21	Soil	28-Dec-98 14:08	12/28/98
M-14 17 6-12"	4159.22	Soil	28-Dec-98 14:22	12/28/98
M-14 17 24"	4159.23	Soil	28-Dec-98 14:22	12/28/98
M-14 18 6-12"	4159.24	Soil	28-Dec-98 14:42	12/28/98
M-14 18 24"	4159.25	Soil	28-Dec-98 14:42	12/28/98
M-14 19 6-12"	4159.26	Soil	28-Dec-98 15:00	12/28/98
M-14 19 24"	4159.27	Soil	28-Dec-98 15:00	12/28/98
Trip Blank	4160.01	Methanol	29-Dec-98	12/29/98
M-14 20 6-12"	4160.02	Soil	29-Dec-98 09:55	12/29/98
M-14 20 24"	4160.03	Soil	29-Dec-98 09:55	12/29/98
M-14 21 6-12"	4160.04	Soil	29-Dec-98 10:15	12/29/98
M-14 21 24"	4160.05	Soil	29-Dec-98 10:15	12/29/98
M-14 22 6-12"	4160.06	Soil	29-Dec-98 11:00	12/29/98
M-14 22 24"	4160.07	Soil	29-Dec-98 11:00	12/29/98
M-14 23 6-12"	4160.08	Soil	29-Dec-98 11:20	12/29/98
M-14 23 24"	4160.09	Soil	29-Dec-98 11:20	12/29/98
M-14 24 6-12"	4160.10	Soil	29-Dec-98 11:45	12/29/98
M-14 24 24"	4160.11	Soil	29-Dec-98 11:45	12/29/98
M-14 25 6-12"	4160.12	Soil	29-Dec-98 13:27	12/29/98
M-14 25 24"	4160.13	Soil	29-Dec-98 13:27	12/29/98
M-14 26 6-12"	4160.14	Soil	29-Dec-98 13:49	12/29/98
M-14 26 24"	4160.15	Soil	29-Dec-98 13:49	12/29/98
M-14 27 6-12"	4160.16	Soil	29-Dec-98 14:10	12/29/98
M-14 27 24"	4160.17	Soil	29-Dec-98 14:10	12/29/98
M-14 28 6-12"	4160.18	Soil	29-Dec-98 14:21	12/29/98
M-14 28 24"	4160.19	Soil	29-Dec-98 14:21	12/29/98
M-14 29 6-12"	4160.20	Soil	29-Dec-98 14:43	12/29/98
M-14 29 24"	4160.21	Soil	29-Dec-98 14:43	12/29/98
Field Dup. 6-12"	4160.22	Soil	29-Dec-98	12/29/98
Field Dup. 24"	4160.23	Soil	29-Dec-98	12/29/98
Trip Blank	4162.01	Methanol	30-Dec-98	12/30/98
M-14 30 6-12"	4162.02	Soil	30-Dec-98 09:25	12/30/98
M-14 30 24"	4162.03	Soil	30-Dec-98 09:25	12/30/98
M-14 31 6-12"	4162.04	Soil	30-Dec-98 09:45	12/30/98
M-14 31 24"	4162.05	Soil	30-Dec-98 09:45	12/30/98
M-14 32 6-12"	4162.06	Soil	30-Dec-98 10:00	12/30/98
M-14 32 24"	4162.07	Soil	30-Dec-98 10:00	12/30/98
M-14 33 6-12"	4162.08	Soil	30-Dec-98 10:15	12/30/98
M-14 33 24"	4162.09	Soil	30-Dec-98 10:15	12/30/98
M-14 34 6-12"	4162.10	Soil	30-Dec-98 10:33	12/30/98
M-14 34 24"	4162.11	Soil	30-Dec-98 10:33	12/30/98
M-14 35 6-12"	4162.12	Soil	30-Dec-98 10:50	12/30/98
M-14 35 24"	4162.13	Soil	30-Dec-98 10:50	12/30/98
M-14 36 6-12"	4162.14	Soil	30-Dec-98 11:03	12/30/98
M-14 36 24"	4162.15	Soil	30-Dec-98 11:03	12/30/98
M-14 37 6-12"	4162.16	Soil	30-Dec-98 11:20	12/30/98
M-14 37 24"	4162.17	Soil	30-Dec-98 11:20	12/30/98
M-14 38 6-12"	4162.18	Soil	30-Dec-98 11:38	12/30/98
M-14 38 24"	4162.19	Soil	30-Dec-98 11:38	12/30/98
M-14 39 6-12"	4162.20	Soil	30-Dec-98 13:20	12/30/98

SAMPLE LOCATION AND IDENTIFICATION

M-14 39 24"	4162.21	Soil	30-Dec-98 13:20	12/30/98
M-14 40 6-12"	4162.22	Soil	30-Dec-98 13:42	12/30/98
M-14 40 24"	4162.23	Soil	30-Dec-98 13:42	12/30/98
M-14 41 6-12"	4162.24	Soil	30-Dec-98 13:55	12/30/98
M-14 41 24"	4162.25	Soil	30-Dec-98 13:55	12/30/98
M-14 42 6-12"	4162.26	Soil	30-Dec-98 14:15	12/30/98
M-14 42 24"	4162.27	Soil	30-Dec-98 14:15	12/30/98
M-14 43 6-12"	4162.28	Soil	30-Dec-98 14:32	12/30/98
M-14 43 24"	4162.29	Soil	30-Dec-98 14:32	12/30/98
M-14 44 6-12"	4162.30	Soil	30-Dec-98 14:48	12/30/98
M-14 44 24"	4162.31	Soil	30-Dec-98 14:48	12/30/98
Trip Blank	4164.01	Methanol	31-Dec-98	12/31/98
M-14 45 6-12"	4164.02	Soil	31-Dec-98 09:38	12/31/98
M-14 45 24"	4164.03	Soil	31-Dec-98 09:38	12/31/98
M-14 46 6-12"	4164.04	Soil	31-Dec-98 09:54	12/31/98
M-14 46 24"	4164.05	Soil	31-Dec-98 09:54	12/31/98
M-14 47 6-12"	4164.06	Soil	31-Dec-98 10:20	12/31/98
M-14 47 24"	4164.07	Soil	31-Dec-98 10:20	12/31/98
M-14 48 6-12"	4164.08	Soil	31-Dec-98 10:40	12/31/98
M-14 48 24"	4164.09	Soil	31-Dec-98 10:40	12/31/98
M-14 49 6-12"	4164.10	Soil	31-Dec-98 11:00	12/31/98
M-14 49 24"	4164.11	Soil	31-Dec-98 11:00	12/31/98
M-14 50 6-12"	4164.12	Soil	31-Dec-98 11:20	12/31/98
M-14 50 24"	4164.13	Soil	31-Dec-98 11:20	12/31/98
M-14 51 6-12"	4164.14	Soil	31-Dec-98 13:15	12/31/98
M-14 51 24"	4164.15	Soil	31-Dec-98 13:15	12/31/98
M-14 52 6-12"	4164.16	Soil	31-Dec-98 13:30	12/31/98
M-14 52 24"	4164.17	Soil	31-Dec-98 13:30	12/31/98
M-14 53 6-12"	4164.18	Soil	31-Dec-98 13:49	12/31/98
M-14 53 24"	4164.19	Soil	31-Dec-98 13:49	12/31/98
Field Dup. 6-12"	4164.20	Soil	31-Dec-98	12/31/98
Field Dup. 24"	4164.21	Soil	31-Dec-98	12/31/98
Trip Blank	4169.01	Methanol	05-Jan-99	01/05/99
M-14 54 6-12"	4169.02	Soil	05-Jan-99 10:12	01/05/99
M-14 54 24"	4169.03	Soil	05-Jan-99 10:12	01/05/99
M-14 55 6-12"	4169.04	Soil	05-Jan-99 10:20	01/05/99
M-14 55 24"	4169.05	Soil	05-Jan-99 10:20	01/05/99
M-14 56 6-12"	4169.06	Soil	05-Jan-99 10:30	01/05/99
M-14 56 24"	4169.07	Soil	05-Jan-99 10:30	01/05/99
M-14 57 6-12"	4169.08	Soil	05-Jan-99 10:50	01/05/99
M-14 57 24"	4169.09	Soil	05-Jan-99 10:50	01/05/99
M-14 58 6-12"	4169.10	Soil	05-Jan-99 11:05	01/05/99
M-14 58 24"	4169.11	Soil	05-Jan-99 11:05	01/05/99
M-14 59 6-12"	4169.12	Soil	05-Jan-99 11:12	01/05/99
M-14 59 24"	4169.13	Soil	05-Jan-99 11:12	01/05/99
M-14 60 6-12"	4169.14	Soil	05-Jan-99 11:25	01/05/99
M-14 60 24"	4169.15	Soil	05-Jan-99 11:25	01/05/99
M-14 61 6-12"	4169.16	Soil	05-Jan-99 11:36	01/05/99
M-14 61 24"	4169.17	Soil	05-Jan-99 11:36	01/05/99
M-14 62 6-12"	4169.18	Soil	05-Jan-99 11:45	01/05/99
M-14 62 24"	4169.19	Soil	05-Jan-99 11:45	01/05/99
M-14 63 6-12"	4169.20	Soil	05-Jan-99 13:40	01/05/99
M-14 63 24"	4169.21	Soil	05-Jan-99 13:40	01/05/99

SAMPLE LOCATION AND IDENTIFICATION

M-14 64 6-12"	4169.22	Soil	05-Jan-99 13:44	01/05/99
M-14 64 24"	4169.23	Soil	05-Jan-99 13:44	01/05/99
M-14 65 6-12"	4169.24	Soil	05-Jan-99 14:00	01/05/99
M-14 65 24"	4169.25	Soil	05-Jan-99 14:00	01/05/99
M-14 66 6-12"	4169.26	Soil	05-Jan-99 14:00	01/05/99
M-14 66 24"	4169.27	Soil	05-Jan-99 14:00	01/05/99
M-14 67 6-12"	4169.28	Soil	05-Jan-99 14:25	01/05/99
M-14 67 24"	4169.29	Soil	05-Jan-99 14:25	01/05/99
M-14 68 6-12"	4169.30	Soil	05-Jan-99 14:44	01/05/99
M-14 68 24"	4169.31	Soil	05-Jan-99 14:44	01/05/99
M-14 69 6-12"	4169.32	Soil	05-Jan-99 14:38	01/05/99
M-14 69 24"	4169.33	Soil	05-Jan-99 14:38	01/05/99
M-14 70 6-12"	4169.34	Soil	05-Jan-99 14:45	01/05/99
M-14 70 24"	4169.35	Soil	05-Jan-99 14:45	01/05/99
M-14 71 6-12"	4169.36	Soil	05-Jan-99 15:20	01/05/99
M-14 71 24"	4169.37	Soil	05-Jan-99 15:20	01/05/99
Field Dup. 6-12"	4169.38	Soil	05-Jan-99	01/05/99
Field Dup. 24"	4169.39	Soil	05-Jan-99	01/05/99
Trip Blank	4173.01	Methanol	06-Jan-99	01/06/99
M-14 72 6-12"	4173.02	Soil	06-Jan-99 10:45	01/06/99
M-14 72 24"	4173.03	Soil	06-Jan-99 10:45	01/06/99
M-14 73 6-12"	4173.04	Soil	06-Jan-99 11:10	01/06/99
M-14 73 24"	4173.05	Soil	06-Jan-99 11:10	01/06/99
M-14 74 6-12"	4173.06	Soil	06-Jan-99 11:25	01/06/99
M-14 74 24"	4173.07	Soil	06-Jan-99 11:25	01/06/99
M-14 75 6-12"	4173.08	Soil	06-Jan-99 11:50	01/06/99
M-14 75 24"	4173.09	Soil	06-Jan-99 11:50	01/06/99
M-14 76 6-12"	4173.10	Soil	06-Jan-99 12:00	01/06/99
M-14 76 24"	4173.11	Soil	06-Jan-99 12:00	01/06/99
M-14 77 6-12"	4173.12	Soil	06-Jan-99 13:00	01/06/99
M-14 77 24"	4173.13	Soil	06-Jan-99 13:00	01/06/99
M-14 78 6-12"	4173.14	Soil	06-Jan-99 13:20	01/06/99
M-14 78 24"	4173.15	Soil	06-Jan-99 13:20	01/06/99
M-14 79 6-12"	4173.16	Soil	06-Jan-99 13:42	01/06/99
M-14 79 24"	4173.17	Soil	06-Jan-99 13:42	01/06/99
M-14 80 6-12"	4173.18	Soil	06-Jan-99 13:58	01/06/99
M-14 80 24"	4173.19	Soil	06-Jan-99 13:58	01/06/99
M-14 81 6-12"	4173.20	Soil	06-Jan-99 14:08	01/06/99
M-14 81 24"	4173.21	Soil	06-Jan-99 14:08	01/06/99
M-14 82 6-12"	4173.22	Soil	06-Jan-99 14:20	01/06/99
M-14 82 24"	4173.23	Soil	06-Jan-99 14:20	01/06/99
M-14 83 6-12"	4173.24	Soil	06-Jan-99 14:35	01/06/99
M-14 83 24"	4173.25	Soil	06-Jan-99 14:35	01/06/99
M-14 84 6-12"	4173.26	Soil	06-Jan-99 14:53	01/06/99
M-14 84 24"	4173.27	Soil	06-Jan-99 14:53	01/06/99
M-14 85 6-12"	4173.28	Soil	06-Jan-99 15:04	01/06/99
M-14 85 24"	4173.29	Soil	06-Jan-99 15:04	01/06/99
M-14 86 6-12"	4173.30	Soil	06-Jan-99 15:20	01/06/99
M-14 86 24"	4173.31	Soil	06-Jan-99 15:20	01/06/99
Trip Blank	4177.01	Methanol	07-Jan-99	01/07/99
M-14 87 6-12"	4177.02	Soil	07-Jan-99 09:20	01/07/99
M-14 87 24"	4177.03	Soil	07-Jan-99 09:20	01/07/99
M-14 88 6-12"	4177.04	Soil	07-Jan-99 09:45	01/07/99

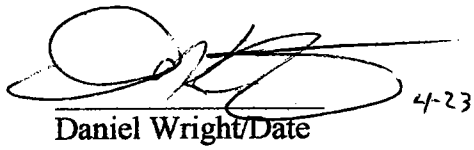
SAMPLE LOCATION AND IDENTIFICATION

M-14 88 24"	4177.05	Soil	07-Jan-99 09:45	01/07/99
M-14 89 6-12"	4177.06	Soil	07-Jan-99 10:09	01/07/99
M-14 89 24"	4177.07	Soil	07-Jan-99 10:09	01/07/99
M-14 90 6-12"	4177.08	Soil	07-Jan-99 10:33	01/07/99
M-14 90 24"	4177.09	Soil	07-Jan-99 10:33	01/07/99
M-14 91 6-12"	4177.10	Soil	07-Jan-99 10:53	01/07/99
M-14 91 24"	4177.11	Soil	07-Jan-99 10:53	01/07/99
M-14 92 6-12"	4177.12	Soil	07-Jan-99 11:14	01/07/99
M-14 92 24"	4177.13	Soil	07-Jan-99 11:14	01/07/99
M-14 93 6-12"	4177.14	Soil	07-Jan-99 13:22	01/07/99
M-14 93 24"	4177.15	Soil	07-Jan-99 13:22	01/07/99
M-14 94 6-12"	4177.16	Soil	07-Jan-99 13:45	01/07/99
M-14 94 24"	4177.17	Soil	07-Jan-99 13:45	01/07/99
M-14 95 6-12"	4177.18	Soil	07-Jan-99 14:07	01/07/99
M-14 95 24"	4177.19	Soil	07-Jan-99 14:07	01/07/99
Field Dup. 6-12"	4177.20	Soil	07-Jan-99	01/07/99
Field Dup. 24"	4177.21	Soil	07-Jan-99	01/07/99
Trip Blank	4179.01	Methanol	11-Jan-99	01/11/99
M-14 96 6-12"	4179.02	Soil	11-Jan-99 10:00	01/11/99
M-14 96 24"	4179.03	Soil	11-Jan-99 10:00	01/11/99
M-14 97 6-12"	4179.04	Soil	11-Jan-99 10:23	01/11/99
M-14 97 24"	4179.05	Soil	11-Jan-99 10:23	01/11/99
M-14 98 6-12"	4179.06	Soil	11-Jan-99 10:40	01/11/99
M-14 98 24"	4179.07	Soil	11-Jan-99 10:40	01/11/99
M-14 99 6-12"	4179.08	Soil	11-Jan-99 11:00	01/11/99
M-14 99 24"	4179.09	Soil	11-Jan-99 11:00	01/11/99
M-14 100 6-12"	4179.10	Soil	11-Jan-99 11:24	01/11/99
M-14 100 24"	4179.11	Soil	11-Jan-99 11:24	01/11/99
M-14 101 6-12"	4179.12	Soil	11-Jan-99 11:40	01/11/99
M-14 101 24"	4179.13	Soil	11-Jan-99 11:40	01/11/99
M-14 102 6-12"	4179.14	Soil	11-Jan-99 14:00	01/11/99
M-14 102 24"	4179.15	Soil	11-Jan-99 14:00	01/11/99
M-14 103 6-12"	4179.16	Soil	11-Jan-9914:17	01/11/99
M-14 103 24"	4179.17	Soil	11-Jan-99 14:17	01/11/99
M-14 104 6-12"	4179.18	Soil	11-Jan-99 14:40	01/11/99
M-14 104 24"	4179.19	Soil	11-Jan-99 14:40	01/11/99
M-14 105 6-12"	4179.20	Soil	11-Jan-99 15:00	01/11/99
M-14 105 24"	4179.21	Soil	11-Jan-99 15:00	01/11/99
M-14 106 6-12"	4179.22	Soil	11-Jan-99 15:15	01/11/99
M-14 106 24"	4179.23	Soil	11-Jan-99 15:15	01/11/99
Trip Blank	4184.01	Methanol	12-Jan-99	01/12/99
M-14 107 6-12"	4184.02	Soil	12-Jan-99 10:30	01/12/99
M-14 107 24"	4184.03	Soil	12-Jan-99 10:30	01/12/99
M-14 108 6-12"	4184.04	Soil	12-Jan-99 10:50	01/12/99
M-14 108 24"	4184.05	Soil	12-Jan-99 10:50	01/12/99
M-14 109 6-12"	4184.06	Soil	12-Jan-99 11:04	01/12/99
M-14 109 24"	4184.07	Soil	12-Jan-99 11:04	01/12/99
M-14 110 6-12"	4184.08	Soil	12-Jan-99 11:25	01/12/99
M-14 110 24"	4184.09	Soil	12-Jan-99 11:25	01/12/99
M-14 111 6-12"	4184.10	Soil	12-Jan-99 11:40	01/12/99
M-14 111 24"	4184.11	Soil	12-Jan-99 11:40	01/12/99
M-14 112 6-12"	4184.12	Soil	12-Jan-99 13:40	01/12/99
M-14 112 24"	4184.13	Soil	12-Jan-99 13:40	01/12/99

SAMPLE LOCATION AND IDENTIFICATION

Trip Blank	4189.01	Methanol	13-Jan-99	01/13/99
M-14 113 6-12"	4189.02	Soil	13-Jan-99 10:00	01/13/99
M-14 113 24"	4189.03	Soil	13-Jan-99 10:00	01/13/99
M-14 114 6-12"	4189.04	Soil	13-Jan-99 10:22	01/13/99
M-14 114 24"	4189.05	Soil	13-Jan-99 10:22	01/13/99
M-14 115 6-12"	4189.06	Soil	13-Jan-99 10:40	01/13/99
M-14 115 24"	4189.07	Soil	13-Jan-99 10:40	01/13/99
M-14 116 6-12"	4189.08	Soil	13-Jan-99 11:00	01/13/99
M-14 116 24"	4189.09	Soil	13-Jan-99 11:00	01/13/99
M-14 117 6-12"	4189.10	Soil	13-Jan-99 11:30	01/13/99
M-14 117 24"	4189.11	Soil	13-Jan-99 11:30	01/13/99
M-14 118 6-12"	4189.12	Soil	13-Jan-99 11:39	01/13/99
M-14 118 24"	4189.13	Soil	13-Jan-99 11:39	01/13/99
M-14 119 6-12"	4189.14	Soil	13-Jan-99 11:50	01/13/99
M-14 119 24"	4189.15	Soil	13-Jan-99 11:50	01/13/99
Field Dup. 6-12"	4189.16	Soil	13-Jan-99	01/13/99
Field Dup. 24"	4189.17	Soil	13-Jan-99	01/13/99

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS



4-23-99

Daniel Wright/Date
Laboratory Director

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CHAIN OF CUSTODY

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV | Project No: IJN 98-0211
Phone #: (732) 532-6223 | Location: M-14 LANDFILL
(X)DERA ( )OMA ( )Other:_____
Samplers Name / Company : MARK LAURA / TVS PWS-007

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	VOA+15	Metals	PESTBN	%SOLID	VOA ID NUMBER	OVA	Remarks / Preservation Method
4156. 1	TRIP BLANK	12-23-98	—	METH	1	X				V00511	—	4°C
2	M14-1 - 6-12"	"	0908	SOIL	2		X	X	X		0 PPM	
3	" - 24"	"	"	"		X			X	V00512	"	
4	M14-2 - 6-12"	"	0930	"			X	X	X		"	
5	" - 24"	"	"	"		X			X	V00513	"	
6	M14-3 - 6-12"	"	1000	"			X	X	X		"	
7	" - 24"	"	"	"		X			X	V00515	"	
8	M14-4 - 6-12"	"	1038	"			X	X	X		"	
9	" - 24"	"	"	"		X			X	V00516	"	
10	M14-5 - 6-12"	"	1100	"			X	X	X		"	
11	" - 24"	"	"	"		X			X	V00517	"	
12	M14-6 - 6-12"	"	1125	"			X	X	X		"	
13	" - 24"	"	"	"		X			X	V00518	"	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	12-23-98 1310	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
		[signature]			

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____Hrs.

Remarks:

000003

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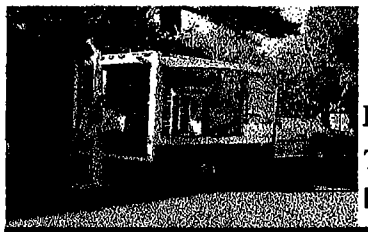
Custodydera.xls12/16/98



Fort Monmouth Environmental Testing Laboratory

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Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:_____
Project No: IJN 98-0211
Location: M14 - Landfill
Samplers Name / Company : MARK LAURA / TVS PWS-007

Lab Sample I.D.		Sample Location	Date	Time	Sample Type	# bottles	VOA+15	Metals	PEST BN	%SOLID	VOA ID NUMBER	OVA	Remarks / Preservation Method
4159.	1	TRIP BLANK	12-28-98	—	METH.	1	X				V00519	—	<4°C
	2	M14-7 - 6-12"		1000	SOIL	2		X	X	X		0PPM	
	3	" - 24"		"			X			X	V00520	"	
	4	M14-8 - 6-12"		1020				X	X	X		"	
	5	" - 24"		"			X			X	V00521	"	
	6	M14-9 - 6-12"		1035				X	X	X		"	
	7	" - 24"		"			X			X	V00522	"	
	8	M14-10 - 6-12"		1050				X	X	X		"	
	9	" - 24"		"			X			X	V00523	"	
	10	M14-11 - 6-12"		1110				X	X	X		"	
	11	" - 24"		"			X			X	V00524	"	
	12	M14-12 - 6-12"		1125				X	X	X		"	
	13	" - 24"		"			X			X	V00525	"	
	14	M14-13 - 6-12"		1315				X	X	X		"	

Comments:
Cal #2
HNU OK.
(W)

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Mark Laura	12-28-98 1505				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks:

000004

print legibly

Custodydera.xls12/16/98

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:_____

Project No: IJN 98-0211
Location: M14 - LANDFILL

Samplers Name / Company : MARK LAURA / TVS PWS-007

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: VOA+15	Metals	PEST PCB PAN	% SOLID	VOA ID NUMBER	OVA	Comments: Remarks / Preservation Method
4159. 15	M14-13 - 24"	12-28-98	1315	SOIL	2	X			X	V00526	PPM	<4°C
16	M14-14 - 6-12"		1330				X	X	X		"	
17	" - 24"		"			X			X	V00527	"	
18	M14-15 - 6-12"		1348				X	X	X		"	
19	" - 24"		"			X			X	V00528	"	
20	M14-16 - 6-12"		1408				X	X	X		"	
21	" - 24"		"			X			X	V00529	"	
22	M14-17 - 6-12"		1422				X	X	X		"	
23	" - 24"		"			X			X	V00530	"	
24	M14-18 - 6-12"		1442				X	X	X		"	
25	" - 24"		"			X			X	V00531	"	
26	M14-19 - 6-12"		1500				X	X	X		"	
27	" - 24"		"			X			X	V00532	"	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Matt Jm	12-28-98 1505				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks:

print legibly

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Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:

Project No: IJN 98-0211
Location: M14- LANDFILL

Samplers Name / Company : MARK LAURA / TVS PWS-007

Comments: Cal. #2 HNU c.u.(M)

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	VOA+15	Metals	PEST PCB AN	%SOLID	VOA ID NUMBER	OVA	Remarks / Preservation Method
41600. 1	TRIP BLANK	12-29-98	—	METH.	1	X				V00533		4°C
2	M14-20 - 6-12"		0955	SOIL	2		X	X	X		0 PPM	
3	" - 24"		"			X			X	V00534	"	
4	M14-21 - 6-12"		1015				X	X	X		"	
5	" - 24"		"			X			X	V00535	"	
1 6	M14-22 - 6-12"		1100				X	X	X		"	
7	" - 24"		"			X			X	V00536	"	
8	M14-23 - 6-12"		1120				X	X	X		"	
9	" - 24"		"			X			X	V00537	"	
10	M14-24 - 6-12"		1145				X	X	X		"	
11	" - 24"		"			X			X	V00538	"	
12	M14-25 - 6-12"		1327				X	X	X		"	
13	" - 24"		"			X			X	V00539	"	
14	M14-26 - 6-12"		1349				X	X	X		"	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	12-29-98 1500	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

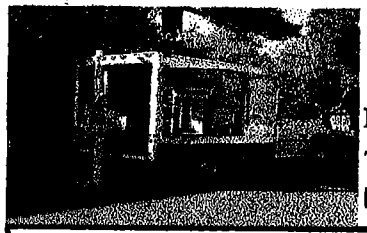
Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks: RAIN + WIND

90000

print legibly

Custodydera.xls12/16/98



Fort Monmouth Environmental Testing Laboratory

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NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:_____

Project No: IJN 98-0211
Location: M14- LANDFILL

Samplers Name / Company : MARK LAURA / TVS PWS-007

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: VOA+15	Metals	PEST PCB	%SOLID	VOA ID NUMBER	OVA	Comments: Remarks / Preservation Method
41600 15	M14 - 26 - 24"	12-29-98	1349	SOIL	2	X			X	V00540	0 PPM	see pg. 1
16	M14 - 27 - 6-12"		1410				X	X	X		"	4°C
17	" - 24"		"			X			X	V00541	"	
18	M14 - 28 - 6-12"		1421				X	X	X		"	
19	" - 24"		"			X			X	V00542	"	
20	M14 - 29 - 6-12"		1443				X	X	X		"	
21	" - 24"		"			X			X	V00543	"	
22	FIELD DUP. - 6-12"		—				X	X	X			
23	" - 24		—			X			X	V00562		

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[signature]	12-29-98 1500	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks: see pg. 1

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Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:_____

Project No: IJN 98-0211
Location: M-14 LANDFILL

Samplers Name / Company : MARK LAURA / TVS PWS-007

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	VOA+15	Metals	PEST PCB	%SOLID	VOA ID NUMBER	OVA	Remarks / Preservation Method
4162. 1	TRIP BLANK	12-30-98	—	METH.	1	X				V00544	—	4°C
2	M14-30 - 6-12"		0925	SOIL	2		X	X	X		0 PPM	
3	" - 24"		"			X			X	V00545	"	
4	M14-31 - 6-12"		0945				X	X	X		"	
5	" - 24"		"			X			X	V00546	"	
6	M14-32 - 6-12"		1000				X	X	X		"	
7	" - 24"		"			X			X	V00547	"	
8	M14-33 - 6-12"		1015				X	X	X		"	
9	" - 24"		"			X			X	V00548	"	
10	M14-34 - 6-12"		1033				X	X	X		"	
11	" - 24"		"			X			X	V00549	"	
12	M14-35 - 6-12"		1050				X	X	X		"	
13	" - 24"		"			X			X	V00550	"	
14	M14-36 - 6-12"		1103				X	X	X		"	

Comments:
Cal #2
HNU - O.K. (ML)

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	12-30-98 / 1500	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
		[signature]			

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks:

000008

print legibly

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NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:_____

Project No: IJN 98-0211
Location: M14- LANDFILL

Samplers Name / Company : MARK LAURA / TVS PWS-007

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: VOA+15	Metals	PEST PCB PAN	% SOLID	VOA ID NUMBER	OVA	Comments: Remarks / Preservation Method
4162. 15	M14-36 - 24"	12-30-98	1103	soil	2	X			X	V00551	0ppm	<4oc
16	M14-37 - 6-12"		1120				X	X	X		"	
17	" - 24"		"			X			X	V00552	"	
18	M14-38 - 6-12"		1135				X	X	X		"	
19	" - 24"		"			X			X	V00553	"	
20	M14-39 - 6-12"		1320				X	X	X		"	
21	" - 24"		"			X			X	V00554	"	
22	M14-40 - 6-12"		1342				X	X	X		"	
23	" - 24"		"			X			X	V00555	"	
24	M14-41 - 6-12"		1355				X	X	X		"	
25	" - 24"		"			X			X	V00557	"	
26	M14-42 - 6-12"		1415				X	X	X		"	
27	" - 24"		"			X			X	V00556	"	
28	M14-43 - 6-12"		1432				X	X	X		"	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Mark Laura	12-30-98 1500				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks:

6UDWU

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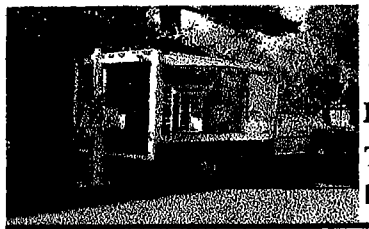

Fort Monmouth Environmental Testing Laboratory

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NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:_____

Project No: IJN 98-0211
Location: M14-LANDFILL

Samplers Name / Company : MARK LAURA / TVS PWS-007

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	VOA+15	Metals	PESTBN	%SOLID	VOA ID NUMBER	OVA	Remarks / Preservation Method
41629	M14-43 - 24"	12-30-98	1432	SOIL	2	X			X	V00558		4°C
30	M14-44 - 6-12"		1448				X	X	X			
31	" - 24"		"			X			X	V00559		

Comments:

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Mark Laura	12-30-98 1500	J. Appleby			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

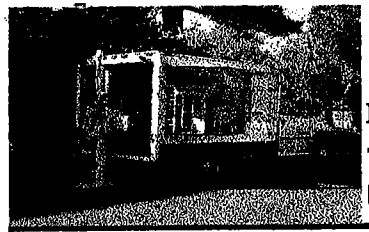
Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks:

000110

print legibly

Custodydera.xls12/29/98



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NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:_____

Project No: IJN 98-0211
Location: M14- LANDFILL

Samplers Name / Company : MARK LAURA / TVS PWS-007

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	VOA+15	Metals	PEST PCB	%SOLID	VOA ID NUMBER	OVA	Remarks / Preservation Method
41164. 1	TRIP BLANK	12-31-98		METH.	1	X				V00560	–	VOA @ <4°C
2	M14-45 - 6-12"		0938	SOIL	2		X	X	X		0 PPM	
3	" - 24"		"			X			X	V00561	"	
4	M14-46 -6-12"		0954				X	X	X		"	
5	" - 24"		"			X			X	V00563	"	
6	M14-47 -6-12"		1020				X	X	X		"	
7	" - 24"		"			X			X	V00564	"	
8	M14-48 -6-12"		1040				X	X	X		"	
9	" - 24"		"			X			X	V00565	"	
10	M14-49 -6-12"		1100				X	X	X		"	
11	" - 24"		"			X			X	V00566	"	
12	M14-50 -6-12"		1120				X	X	X		"	
13	" - 24"		"			X			X	V00567	"	
14	M14-51 -6-12"		1315				X	X	X		"	

Comments:
Cal. #2 HNU
O.M. @

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	12-31-98 1400	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
		[signature]			

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____Hrs.

Remarks: VERY COLD 25-30°F

COOL 1

print legibly

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Fort Monmouth Environmental Testing Laboratory

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NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV | Project No: IJN 98-0211
Phone #: (732) 532-6223 | Location: MW4 - LANDFILL
(X)DERA ( )OMA ( )Other:_____
Samplers Name / Company : MARK LAURA / TVS PWS-007

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: VOA+15	Metals	PEST PCB	% SOLID	VOA ID NUMBER	OVA	Comments: Remarks / Preservation Method
H1604, 15	MW4-51 - 24"	12-31-98	1315	SOIL	2	X			X	V00568	0 PPM	<4°C
16	MW-52 - 6-12"		1330				X	X	X		"	
17	" - 24"		"			X			X	V00569	"	
18	MW4-53 - 6-12"		1349				X	X	X		"	
19	" - 24"		"			X			X	V00570	"	
20	FIELD DUP 6-12"		—				X	X	X		"	
21	" 24		—			X			X	V00586	"	
							1				"	

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[signature]	12-31-98 1400	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
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Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks:

000012

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Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:_____

Project No: IJN 98-0211
Location: M14 - LANDFILL

Samplers Name / Company : MARK LAURA / TVS PWS-007

Comments: Cal. #2 Hall. Odc. (MW)

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: VOA+15	Metals	PEST PCB AN	% SOLID	VOA ID NUMBER	OVA	Remarks / Preservation Method
41109. 1	TRIP BLANK	1-5-99		METH.	1	X				V00571	-	<4°C
2	M14-54 6-12"		1012	SOIL	2		X	X	X			
3	" 24"		"			X			X	V00572		
4	M14-55 6-12"		1020				X	X	X			
5	" 24"		"			X			X	V00573		
6	M14-56 6-12"		1030				X	X	X			
7	" 24"		"			X			X	V00574		
8	M14-57 6-12"		1050				X	X	X			
9	" 24"		"			X			X	V00575		
10	M14-58 6-12"		1105				X	X	X			
11	" 24"		"			X			X	V00576		
12	M14-59 6-12"		1112				X	X	X			
13	" 24"		"			X			X	V00577		
14	M14-60 6-12"		1125				X	X	X			

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	1-5-99 1525	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks: GEOPROBE #1 + #2 ON SITE

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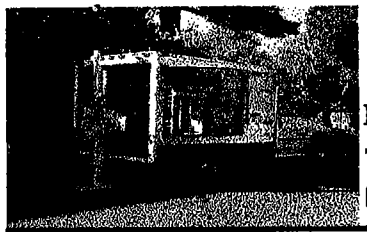

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Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:_____

Project No: IJN 98-0211
Location: M14- LANDFILL

Samplers Name / Company : MARK LAURA / TVS PWS-007

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: VOA+15	Metals	PEST PCB PAN	% SOLID	VOA ID NUMBER	OVA	Comments: Remarks / Preservation Method
4169. 15	M14-60 24"	1-5-99	1125	soil	2	X			X	V00578		cool
16	M14-61 6-12"		1136				X	X	X			
17	" 24"		"			X			X	V00579		
18	M14-62 6-12"		1145				X	X	X			
19	" 24"		"			X			X	V00580		
20	M14-63 6-12"		1340				X	X	X			
21	" 24"		"			X			X	V00581		
22	M14-64 6-12"		1344				X	X	X			
23	" 24"		"			X			X	V00582		
24	M14-65 6-12"		1400				X	X	X			
25	" 24"		"			X			X	V00583		
26	M14-66 6-12"		1400				X	X	X			
27	" 24"		"			X			X	V00584		
28	M14-67 6-12"		1425				X	X	X			

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Mark	1-5-99 1525				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks:

000014

print legibly

Custodydera.xls12/8/98

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:

Project No: IJN 98-0211
Location: M14- LANDFIL

Samplers Name / Company : MARK LAURA / TVS PWS-007

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	VOA+15	Metals	PEST PCB	%SOLID	VOA ID NUMBER	OVA	Remarks / Preservation Method
41169 29	M14- ~~6667~~ 6-24"	1-5-99	1425	soil	2	X			X	V00585		4°C
30	M14- ~~68~~ - 6-12"		1444				X	X	X			
31	" - 24"		"			X			X	V00587		
32	M14-69 - 6-12"		1438				X	X	X			
33	" - 24"		"			X			X	V00588		
34	M14-70 - 6-12"		1445				X	X	X			
35	" - 24"		"			X			X	V00589		
1 36	M14-71 - 6-12"		1520				X	X	X			
37	" - 24"		"			X			X	V00590		
38	FIELD DUP - 6-12"		X				X	X	X			
39	" - 24"		X			X			X	V00591		

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	1-5-99 1525	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
		[signature]			

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____Hrs.

Remarks:

print legibly

Custodydera.xls10/22/98

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:

Project No: IJN 98-0211
Location: MW4 - LANDFILL

Samplers Name / Company : MARK LAURA / TVS PWS-007

Lab Sample I.D.		Sample Location		Date	Time	Sample Type	# bottles	VOA+15	Metals	PEST PCB PAH	% SOLID	VOA ID NUMBER	OVA	Remarks / Preservation Method
4173	1	TRIP BLANK		1-6-98		METH	1	X				V00592		4°C
	2	MW4-72	6-12"		1045	SOIL	2		X	X	X		0PPM	
	3	"	24"		"			X			X	V00593	"	
	4	MW4-73	6-12"		1110				X	X	X		"	
	5	"	24"		"			X			X	V00594	"	
	6	MW4-74	6-12"		1125				X	X	X		"	
	7	"	24"		"			X			X	V00595	"	
	8	MW4-75	6-12"		1150				X	X	X		"	
	9	"	24"		"			X			X	V00596	"	
	10	MW4-76	6-12"		1200				X	X	X		"	
	11	"	24"		"			X			X	V00597	"	
	12	MW4-77	6-12"		1300				X	X	X		"	
	13	"	24"		"			X			X	V00598	"	
	14	MW4-78	6-12"		1320				X	X	X			

Comments:
Cal. #2
HNU calib (ppb)

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
	1-6-99 1530				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks:

print legibly

Custodydera.xls12/29/98

Fort Monmouth Environmental Testing Laboratory

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Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:_____

Project No: IJN 98-0211
Location: M14- LANDFILL

Samplers Name / Company : MARK LAURA / TVS PWS-007

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: VOA+15	Metals	PEST PCB AN	%SOLID	VOA ID NUMBER	OVA	Comments: Remarks / Preservation Method
4173. 15	M14-78 24"	1-6-99	1320	SOIL	2	X			X	V00599		see pg. 1
16	M14-79 6-12"		1342				X	X	X			
17	" 24"		"			X			X	V00600		
18	M14-80 6-12"		1358				X	X	X			
19	" 24"		"			X			X	V00601		
20	M14-81 6-12"		1408				X	X	X			
21	" 24"		"			X			X	V00602		
22	M14-82 6-12"		1420				X	X	X			
23	" 24"		"			X			X	V00603		
24	M14-83 6-12"		1435				X	X	X			
25	" 24"		"			X			X	V00604		
26	M14-84 6-12"		~~1450~~ 1453				X	X	X			
27	" 24"		"			X			X	V00605		
28	M14-85 6-12"		1504				X	X	X			

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	1-6-99 1530	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
		[signature]			

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks:

000427

print legibly

Custodydera.xls12/29/98

Fort Monmouth Environmental Testing Laboratory

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Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:_____

Project No: IJN 98-0211
Location: M14- LANDFILL

Samplers Name / Company : MARK LAURA / TVS PWS-007

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	VOA+15	Metals	PESTBN	%SOLID	VOA ID NUMBER	OVA	Remarks / Preservation Method
4173 · 29	M14-85 24"	1-6-99	1504	SOIL	2	X			X	V00606		4°C
30	M14-86 6-12"	↓	1520	↓	↓		X	X	X			↓
31	" 24"	↓	"	↓	↓	X			X	V00607		↓

Analysis Parameters

Comments: see pg. 1

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	1-6-99 1530	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
		[signature]			

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks:

0000018

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Custodydera.xls12/29/98

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:_____

Project No:
Location: M14 Landfill

Samplers Name/Company :COREY MCCORMACK / TVS PWS-007

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	VOA+15	Metals	PESTBN	%SOLID	VOA ID NUMBER	OVA	Comments: Methanol / <4°C Remarks / Preservation Method
4177 1	Trip	1/7/99	0900	Meth	1	✓				0608		
2	M14 B87 6"-12"		0920	Soil	2		✓	✓	✓			
3	" 24"		"		2	✓			✓	0609	0.0	
4	M14 B88 6-12"		0945		2		✓	✓	✓			
5	" 24"		"		2	✓			✓	0610	0.0	
6	M14 B89 6-12"		1009		2		✓	✓	✓			
7	" 24"		"		2	✓			✓	0611	0.0	
8	M14 B90 6-12"		1033		2		✓	✓	✓			
9	" 24"		ENTERED		2	✓			✓	0612	0.0	
10	M14 B91 6-12"		1053		2	✓	✓	✓	✓			
11	24"		"		2	✓			✓	0613	0.0	
12	M14 B92 6-12"		1114		2		✓	✓	✓			
13	" 24"		"		2	✓			✓	0614	0.0	

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Cory McCormack	1/7/99 1500				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks:

print legibly

CoreyCustodydera.xls11/16/98

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:_____

Project No:
Location: M14 Landfill

Samplers Name/Company :COREY MCCORMACK / TVS PWS-007

Comments: Methanol/4°C

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: VOA+15	Metals	PEST PCB AN	%SOLID	VOA ID NUMBER	OVA	Remarks / Preservation Method
4177. 14	M14B93 6-12"	1/7/99	1322	Soil	2		✓	✓	✓			
15	" 24"		"		2	✓			✓	0615	0.0	
16	M14B94 6-12"		1345		2		✓	✓	✓			
17	" 24"		"		2	✓			✓	0616	0.0	
18	M14B95 6-12"		1407		2		✓	✓	✓			
19	" 24"		"		2	✓			✓	0617	0.0	
20	Dupe 6-12"		—		2		✓	✓	✓			
21	" 24"		—		2	✓			✓	0618	0.0	
			"									

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Corey McCormack	1/7/99 1500				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____Hrs.

Remarks:

print legibly

CoreyCustodydera.xls11/16/98

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:_____

Project No: IJN 98-0211
Location: M14 - LANDFILL

Samplers Name / Company : MARK LAURA / TVS PWS-007

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	VOA+15	Metals	PEST PCB PAN	%SOLID	VOA ID NUMBER	OVA	Remarks / Preservation Method
4179. 1	TRIP BLANK	1-11-98	—	METH.	1	X				V00619		~4°C
2	M14-96 - 6-12"		1000	SOIL	2		X	X	X			
3	" - 24"		"			X			X	V00620		
4	M14-97 - 6-12"		1023				X	X	X			
5	" - 24"		"			X			X	V00621		
6	M14-98 - 6-12"		1040				X	X	X			
7	" - 24"		"			X			X	V00622		
8	M14-99 - 6-12"		1100				X	X	X			
9	" - 24"		"			X			X	V00623		
10	M14-100 - 6-12"		1124				X	X	X			
11	" - 24"		"			X			X	V00624		
12	M14 101 - 6-12"		1140				X	X	X			
13	" - 24"		"			X			X	V00625		
14	M14-102 - 6-12"		1400				X	X	X			

Comments: Cal. 7'2 HNU 0.1K (m)

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	1-11-98 1520	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____Hrs.

Remarks:

000121

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Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:_____

Project No: IJN 98-0211
Location: MM Landfill

Samplers Name / Company : MARK LAURA / TVS PWS-007

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	VOA+15	Metals	PESTPCBN	%SOLID	VOA ID NUMBER	OVA	Comments: Remarks / Preservation Method
4179-15	MM 102 24"	1-11-98	1400	Soil	2	X			X	V00626		4°C
16	MM 103 6-12"		1417				X	X	X			
17	" 24"		"			X			X	V00627		
18	MM 104 6-12"		1440				X	X	X			
19	" 24"		"			X			X	V00628		
20	MM 105 6-12"		1500				X	X	X			
21	" 24"		"			X			X	V00629		
22	MM-106 6-12"		1515									
23	" 24"		"							V00630		

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	1-11-98 1520				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____Hrs.

Remarks:

220002

print legibly

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Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:_____

Project No: IJN 98-0211
Location: M14 - LANDFILL

Samplers Name / Company : MARK LAURA / TVS PWS-007

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	VOA+15	Metals	PEST PCB AN	% SOLID	VOA ID NUMBER	OVA	Remarks / Preservation Method
4184 1	TRIP BLANK	1-12-99	—	METH.	1	X				V00641	—	<4°C
2	M14-107 6-12"		1030	SOIL	2		X	X	X		0 PPM	
3	" 24"		"			X			X	V00631	"	
4	M14-108 6-12"		1050				X	X	X		"	
5	" 24"		"			X			X	V00632	"	
6	M14-109 6-12"		1104				X	X	X		"	
7	" 24"		"			X			X	V00633	"	
8	M14-110 6-12"		1125				X	X	X		"	
9	" 24"		"			X			X	V00634	"	
10	M14-111 6-12"		1140				X	X	X		"	
11	" 24"		"			X			X	V00636	"	
12	M14-112 6-12"		1340				X	X	X		"	
13	" 24"		"			X			~~X~~	V00637	"	

Analysis Parameters

Comments:
Cal #2
HNU O.K.
(MW)

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Mark Laura	1-12-99				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks: 10 ADDITIONAL BORINGS WERE LOGGED W/ NO SAMPLES TAKEN TO FIND NATIVE SOILS

print legibly

Custodydera.xls12/29/98

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:_____

Project No: IJN 98-0211
Location: M14 - LANDFILL (UNDOED AREA)

Samplers Name / Company : MARK LAURA / TVS PWS-007

Lab Sample I.D.		Sample Location	Date	Time	Sample Type	# bottles	VOA+15	Metals	PEST PCB	%SOLID	VOA ID NUMBER	OVA	Remarks / Preservation Method
4189.	1	TRIP BLANK	1-13-99		METH.	1	X				V00638		<4°C
	2	M14-113 6-12"		1000	SOIL	2		X	X	X		0 PPM	
	3	" 24"		"			X			X	V00639	"	
	4	M14-114 6-12"		1022				X	X	X		"	
	5	" 24"		"			X			X	V00640	"	
	6	M14-115 6-12"		1040				X	X	X		"	
	7	" 24"		"			X			X	V00642	"	
	8	M14-116 6-12"		1100				X	X	X		"	
	9	" 24"		"			X			X	V00643	"	
	10	M14-117 6-12"		1130				X	X	X		"	
	11	" 24"		"			X			X	V00644	"	
	12	M14-118 6-12"		1139				X	X	X		"	
	13	" 24"		"			X			X	V00648	"	
	14	M14-119 6-12"		1150				X	X	X		"	

Comments: SAMPLES TAKEN W/- HAND AUGER

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	1-13-99 1300	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks:

000024

print legibly

Custodydera.xls12/29/98

Fort Monmouth Environmental Testing Laboratory

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NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon SELFM-PW-EV
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other:_____

Project No: IJN 98-0211
Location: M14- LANDFILL (WOODED AREA)

Samplers Name / Company : MARK LAURA / TVS PWS-007

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: VOA+15	Metals	PEST PCB ASTBN	% SOLID	VOA ID NUMBER	OVA	Comments: Remarks / Preservation Method
4189. 15	M14-119 24"	1-13-99	1150	SOIL	2	X			X	V00649	9PPM	see Pg. 1
16	FIELD DUP. 6-12"	"	—	"	"		X	X	X		"	
17	" 24"	"	—	"	"	X			X	V00650	"	

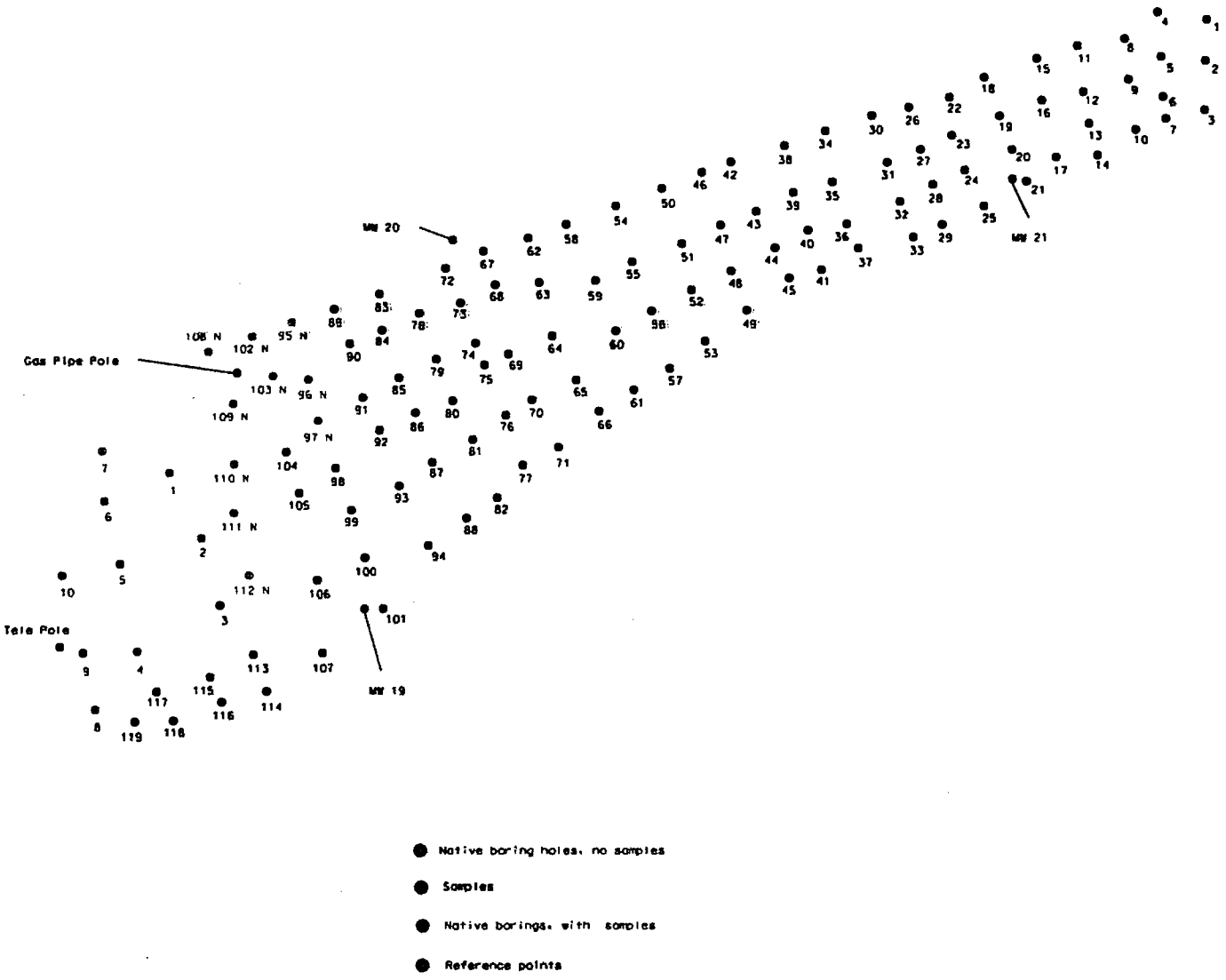
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Matthew	1-13-99 1300	J. Laura			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks:

000025

GPS MAPS



M14 LANDFILL SITE

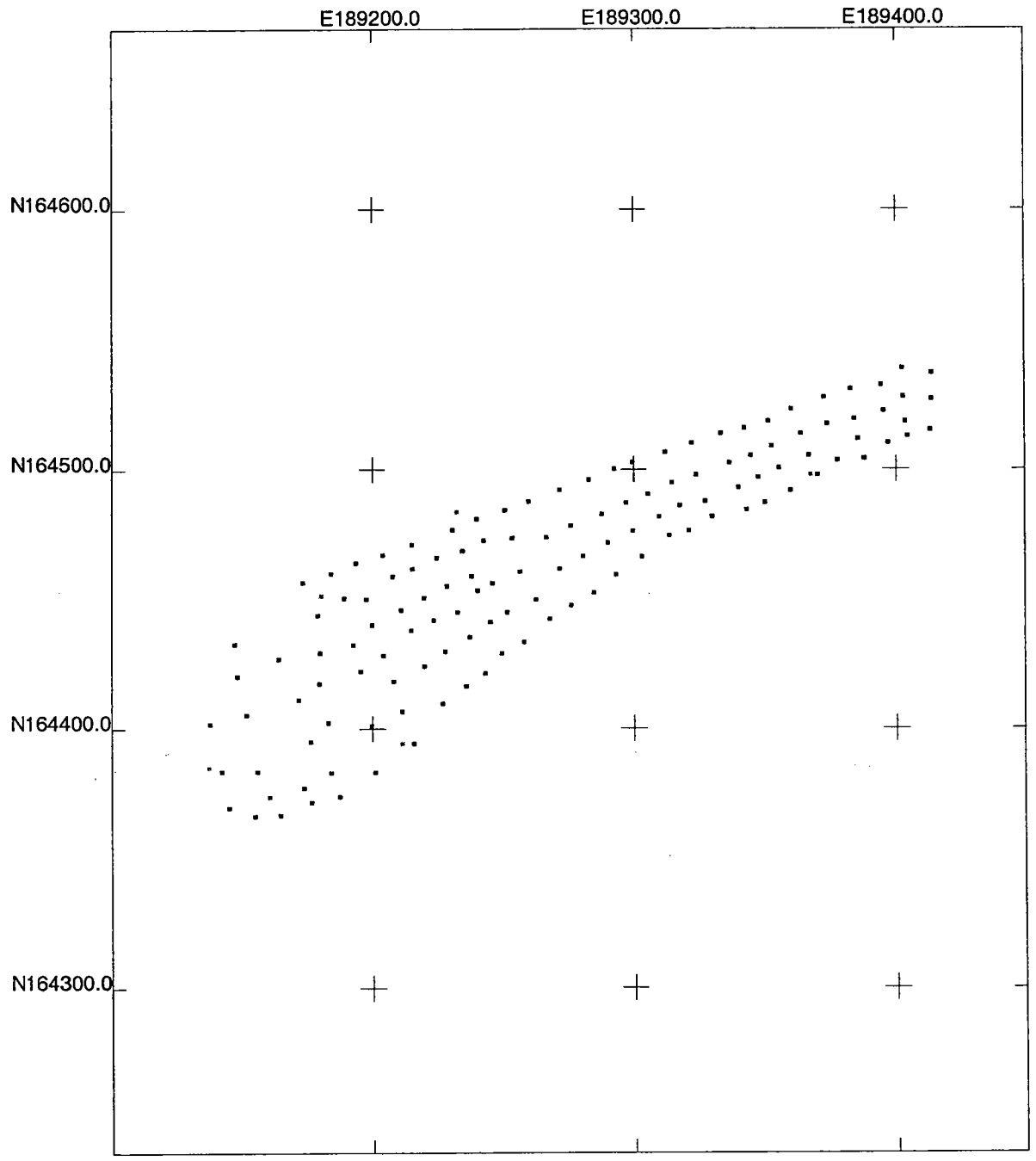
SITE MAP
M14 LANDFILL
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

FT. MONMOUTH ENV. TESTING LAB

Engineers, Managers, Scientists & Planners

SCALE: NTS | DATE: 03/22/99

000027



M14 Landfill Soil Boring GPS Map

US State Plane 1983
New Jersey (NY East) 2900
NAD 1983 (Conus)

N

Scale 1:2500
0 75.00
Meters

final m14 combo with corre
3/20/1999
Pathfinder Office
Trimble

M14 LANDFILL SITE GPS POSITION & COORDINATES

US STATE PLANE 1983 NJ (NY EAST) 2900 NAD 1983 (CONUS)

(IN METERS)

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
1	164537.184	189413.251
2	164527.123	189413.157
3	164515.265	189412.685
4	164538.987	189402.073
5	164528.144	189402.471
6	164518.608	189403.17
7	164512.968	189404.007
8	164532.674	189394.113
9	164522.733	189395.039
10	164510.423	189396.619
11	164531.029	189382.723
12	164519.627	189384.102
13	164512.043	189385.507
14	164504.435	189387.569
15	164527.862	189372.848
16	164517.71	189373.976
17	164503.817	189377.765
18	164523.486	189360.303
19	164514.07	189363.96
20	164505.675	189366.921
21	164498.192	189370.245
22	164518.81	189351.524
23	164509.255	189352.831
24	164500.944	189355.556
25	164492.09	189360.016
26	164516.124	189342.18
27	164505.667	189344.753
28	164497.207	189347.75
29	164487.458	189350.252
30	164514.172	189333.351
31	164502.772	189336.651
32	164493.309	189339.932
33	164484.765	189343.068
34	164510.402	189322.082
35	164498.148	189323.69
36	164487.99	189327.176
37	164481.929	189329.838
38	164506.961	189311.925
39	164495.169	189314.479
40	164486.282	189317.414
41	164476.667	189320.899
42	164503.032	189299.227

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
43	164490.781	189305.17
44	164481.924	189309.665
45	164474.639	189313.392
46	164500.446	189292.306
47	164487.364	189296.78
48	164476.491	189299.343
49	164466.507	189302.803
50	164496.327	189282.52
51	164483.014	189287.512
52	164471.947	189289.863
53	164459.493	189292.932
54	164492.409	189271.298
55	164478.614	189275.558
56	164466.682	189280.212
57	164452.587	189284.4
58	164487.981	189259.481
59	164474.004	189266.266
60	164461.87	189271.302
61	164447.722	189275.767
62	164484.577	189250.449
63	164473.803	189253.18
64	164460.786	189256.189
65	164450.031	189262.175
66	164442.447	189267.44
67	164481.21	189239.563
68	164472.908	189242.307
69	164456.33	189245.743
70	164445.033	189251.255
71	164433.602	189257.772
72	164476.859	189230.461
73	164468.85	189234.126
74	164459.067	189237.635
75	164453.501	189239.982
76	164441.326	189244.868
77	164429.261	189249.179
78	164466.095	189224.337
79	164455.155	189228.267
80	164445.111	189232.307
81	164435.559	189236.925
82	164421.514	189242.788
83	164471.192	189214.76
84	164461.87	189215.022
85	164450.695	189219.497
86	164441.94	189223.178
87	164429.909	189227.62
88	164416.525	189235.571
89	164467.26	189203.808
90	164458.942	189207.458
91	164445.849	189210.619
92	164438.027	189214.549

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
93	164424.213	189219.589
94	164409.868	189226.515
95 NATIVE & SAMPLED	164464.148	189193.469
96 NATIVE & SAMPLED	164450.172	189197.44
97 NATIVE & SAMPLED	164440.126	189199.663
98	164428.422	189203.977
99	164418.424	189207.822
100	164406.784	189211.096
101	164394.399	189215.572
102 NATIVE & SAMPLED	164460.112	189184.129
103 NATIVE & SAMPLED	164450.534	189189.098
104	164432.588	189192.548
105	164422.411	189195.352
106	164401.347	189199.404
107	164383.401	189200.836
108 NATIVE & SAMPLED	164456.703	189173.461
109 NATIVE & SAMPLED	164443.934	189179.109
110 NATIVE & SAMPLED	164429.51	189179.979
111 NATIVE & SAMPLED	164417.643	189179.778
112 NATIVE & SAMPLED	164402.624	189183.091
113	164383.257	189184.055
114	164374.057	189187.375
115	164377.386	189173.945
116	164371.807	189176.779
117	164373.923	189161.11
118	164366.817	189165.095
119	164366.476	189155.661

LANDFILL COVER

M-14
Landfill Cover

Boring		Boring		Boring	
B1	Minimum 2 foot cap.	B44	Minimum 2 foot cap.	B87	Minimum 2 foot cap.
B2	Minimum 2 foot cap.	B45	Minimum 2 foot cap.	B88	Minimum 18 inch cap.
B3	Minimum 2 foot cap.	B46	Minimum 2 foot cap.	B89	Minimum 2 foot cap.
B4	Minimum 2 foot cap.	B47	Minimum 2 foot cap.	B90	Minimum 2 foot cap.
B5	Minimum 2 foot cap.	B48	Minimum 2 foot cap.	B91	Minimum 2 foot cap.
B6	Minimum 2 foot cap.	B49	Minimum 1 foot cap.	B92	Minimum 2 foot cap.
B7	Minimum 6 inch cap.	B50	Minimum 2 foot cap.	B93	Minimum 2 foot cap.
B8	Minimum 6 inch cap.	B51	Minimum 2 foot cap.	B94	Minimum 2 foot cap.
B9	Minimum 2 foot cap.	B52	Minimum 2 foot cap.	B95	Minimum 2 foot cap.
B10	Minimum 2 foot cap.	B53	Minimum 6 inch cap.	B96	Minimum 2 foot cap.
B11	Minimum 2 foot cap.	B54	Minimum 2 foot cap.	B97	Minimum 2 foot cap.
B12	Minimum 2 foot cap.	B55	Minimum 2 foot cap.	B98	Minimum 2 foot cap.
B13	Minimum 2 foot cap.	B56	Minimum 2 foot cap.	B99	Minimum 2 foot cap.
B14	Minimum 6 inch cap.	B57	Minimum 2 foot cap.	B100	Minimum 2 foot cap.
B15	Minimum 6 inch cap.	B58	Minimum 2 foot cap.	B101	Minimum 2 foot cap.
B16	Minimum 6 inch cap.	B59	Minimum 2 foot cap.	B102	Minimum 6 inch cap.
B17	Minimum 2 foot cap.	B60	Minimum 2 foot cap.	B103	Minimum 6 inch cap.
B18	Minimum 2 foot cap.	B61	Minimum 2 foot cap.	B104	Minimum 6 inch cap.
B19	Minimum 18 inch cap.	B62	Minimum 2 foot cap.	B105	Minimum 2 foot cap.
B20	Minimum 6 inch cap.	B63	Minimum 2 foot cap.	B106	Minimum 2 foot cap.
B21	Minimum 6 inch cap.	B64	Minimum 2 foot cap.	B107	Minimum 2 foot cap.
B22	Minimum 2 foot cap.	B65	Minimum 2 foot cap.	B108	Minimum 2 foot cap.
B23	Minimum 6 inch cap.	B66	Minimum 2 foot cap.	B109	Minimum 2 foot cap.
B24	Minimum 6 inch cap.	B67	Minimum 2 foot cap.	B110	Minimum 2 foot cap.
B25	Minimum 6 inch cap.	B68	Minimum 6 inch cap.	B111	Minimum 2 foot cap.
B26	Minimum 18 inch cap.	B69	Minimum 6 inch cap.	B112	Minimum 2 foot cap.
B27	Minimum 18 inch cap.	B70	Minimum 6 inch cap.	B113	Minimum 1 foot cap.
B28	Minimum 2 foot cap.	B71	Minimum 6 inch cap.	B114	Minimum 2 foot cap.
B29	Minimum 2 foot cap.	B72	Minimum 2 foot cap.	B115	Minimum 18 inch cap.
B30	Minimum 2 foot cap.	B73	Minimum 2 foot cap.	B116	Minimum 18 inch cap.
B31	Minimum 2 foot cap.	B74	Minimum 2 foot cap.	B117	Minimum 2 foot cap.
B32	Minimum 2 foot cap.	B75	Minimum 18 inch cap.	B118	Minimum 2 foot cap.
B33	Minimum 2 foot cap.	B76	Minimum 2 foot cap.	B119	Minimum 2 foot cap.
B34	Minimum 2 foot cap.	B77	Minimum 2 foot cap.	NATIVE1	Minimum 2 foot cap.
B35	Minimum 2 foot cap.	B78	Minimum 6 inch cap.	NATIVE2	Minimum 2 foot cap.
B36	Minimum 6 inch cap.	B79	Minimum 6 inch cap.	NATIVE3	Minimum 2 foot cap.
B37	Minimum 2 foot cap.	B80	Minimum 6 inch cap.	NATIVE4	Minimum 2 foot cap.
B38	Minimum 2 foot cap.	B81	Minimum 18 inch cap.	NATIVE5	Minimum 2 foot cap.
B39	Minimum 2 foot cap.	B82	Minimum 2 foot cap.	NATIVE6	Minimum 18 inch cap.
B40	Minimum 2 foot cap.	B83	Minimum 2 foot cap.	NATIVE7	Minimum 2 foot cap.
B41	Minimum 2 foot cap.	B84	Minimum 2 foot cap.	NATIVE8	Minimum 2 foot cap.
B42	Minimum 2 foot cap.	B85	Minimum 2 foot cap.	NATIVE9	Minimum 2 foot cap.
B43	Minimum 2 foot cap.	B86	Minimum 2 foot cap.	NATIVE10	Minimum 2 foot cap.

32B

FIELD DUPLICATE IDENTIFICATION

Field Duplicate Identification

Sample Id	Lab ID	Field Duplicate
B-22 6-12"	4160.06	4160.22
B-22 24"	4160.07	4160.23
B-51 6-12"	4164.14	4164.20
B-51 24"	4164.15	4164.21
B-71 6-12"	4169.36	4169.38
B-71 24"	4169.37	4169.39
B-95 6-12"	4177.18	4177.20
B-95 24"	4177.19	4177.21
B-119 6-12"	4189.14	4189.16
B-119 24"	4189.15	4189.17

METHODOLOGY SUMMARY

Method Summary

EPA SW-846 Method 8260
Gas Chromatographic Determination of Volatiles in Soil

A 50ul volume of methanol soil sample is added to 5-ml aliquot of water. Surrogates and internal standards are added and the sample is placed on a purge and trap concentrator. The sample as purged and desorbed into a GC/MS system. Volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent moisture, methanol volume and concentration.

EPA SW-846 Method 8270
Gas Chromatographic Determination of Semi-volatiles in Soil

Surrogates are added to a 10-gram soil sample, which has been dried with sodium sulfate. The sample is then extracted using a soxtherm extractor. The extract is concentrated to 1 ml. Internal standards are added and the sample is injected into a GC/MS system. Semi-volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent moisture and concentration.

EPA SW-846 Method 8080
Gas Chromatographic Determination of Pesticides and PCB's in Soil

Surrogates are added to a 10-gram soil sample, which has been dried with sodium sulfate. The sample is then extracted using a soxtherm extractor. The extract is concentrated to 10 ml. Internal standards are added and the sample is injected into a GC/ECD system. Pesticides and PCB's are identified and quantitated. The final concentration is calculated using soil weight, percent moisture and concentration.

EPA SW-846 Method 9045
pH Electrometric Measurement of Soils

20 ml of reagent water is added to a 20-gram soil sample. The sample is covered and then continuously stir the suspension for 5 minutes. Allow the suspension to stand for approximately 1 hour. Lower a calibrated glass electrode deep enough into the clear supernatant to obtain a pH measurement. Record this reading.

Methodology Summary

EPA SW-846 Method 3151, 3rd Edition Base Manual with Final Updates I, II, IIA, IIB, and III: Digestion TAL Metals

Milestone MLS 1200 MEGA
A representative sample of 1.0 to 0.5 g is digested in 10 ml of concentrated nitric acid for 10 minutes using microwave heating with a suitable laboratory microwave unit. The sample and acid are placed in a fluorocarbon (TFM) microvessel. This vessel is capped and heated in the microwave unit. After cooling the vessel contents are filtered and then diluted to 100ml volume and analyzed by ICP.

EPA SW-846 Method 6010B, 3rd Edition Base Manual with Final Updates I, II, IIA, IIB, and III: ICP TAL Metals

Perkin Elmer OPTIMA 3000 DV
The method measures element–emitted light by optical spectrometry. Samples are nebulized and the resulting aerosol is transported to the plasma torch. Radio-frequency inductively coupled plasma produces element-specific atomic-line emission spectra. The spectra are dispersed by a grating spectrometer, and a Segmented-array Charged-coupled-device Detector (SCD) monitors the intensities of the lines. Background and inter-elemental correction is used for trace element determinations.

EPA SW-846 Method 7471A, 3rd Edition Base Manual with Final Updates I, II, IIA, IIB, and III: Mercury

Varian SpectrAA-640, VGA-77
The flameless AA procedure is a physical method based on the absorption of radiation at 253.7 nm by mercury vapor. The mercury is reduced to the elemental state and aerated from solution in a closed system. The mercury vapor passes through a cell positioned in the light path of an atomic absorption spectrometer. Absorbance (peak height) is measured as a function of mercury concentration and recorded in the usual manner.

CASE NARRATIVE

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 4156 **Site:** M-14

	Date	Hold Time
Date Sampled	12/23/98	NA
Receipt/Refrigeration	12/23/98	NA
Extractions		
1. Base Neutrals	12/29/98	14 Days
2. Pest/PCB's	12/24/98	07 Days
Analyses		
1. Volatile Organics	12/30/98	14 Days
2. Base Neutrals	12/30/98 01/07,11,13/99	40 Days
3. Pest/PCB's	01/22/99	40 Days
4. Metals	01/06/99	6 Months
5. Mercury	12/31/98	28 Days

Laboratory Chronicle

Lab ID: 4159 **Site:** M-14

	Date	Hold Time
Date Sampled	12/28/98	NA
Receipt/Refrigeration	12/28/98	NA
Extractions		
1. Base Neutrals	12/29/98	14 Days
2. Pest/PCB's	12/29,30/98	07 Days
Analyses		
1. Volatile Organics	12/30/98 01/06/99	14 Days
2. Base Neutrals	12/30/98 01/11,12,14/99	40 Days
3. Pest/PCB's	01/15,16/99	40 Days
4. Metals	01/06/99	6 Months
5. Mercury	12/31/98	28 Days

Laboratory Chronicle

Lab ID: 4160 **Site:** M-14

	Date	Hold Time
Date Sampled	12/29/98	NA
Receipt/Refrigeration	12/29/98	NA
Extractions		
1. Base Neutrals	12/30/98	14 Days
2. Pest/PCB's	12/30/98	07 Days
Analyses		
1. Volatile Organics	01/06,07/99	14 Days
2. Base Neutrals	01/12,13,19/99	40 Days
3. Pest/PCB's	01/16,21/99	40 Days
4. Metals	01/06/99	6 Months
5. Mercury	01/06/99	28 Days

Laboratory Chronicle

Lab ID: 4162 **Site:** M-14

	Date	Hold Time
Date Sampled	12/30/98	NA
Receipt/Refrigeration	12/30/98	NA
Extractions		
1. Base Neutrals	12/30/98 01/04/99	14 Days
2. Pest/PCB's	12/30,31/98	07 Days
Analyses		
1. Volatile Organics	01/07,11/99	14 Days
2. Base Neutrals	01/12,15,19/99	40 Days
3. Pest/PCB's	01/25/99	40 Days
4. Metals	01/06/99	6 Months
5. Mercury	01/06/99	28 Days

Laboratory Chronicle

Lab ID: 4164 **Site:** M-14

	Date	Hold Time
Date Sampled	12/31/98	NA
Receipt/Refrigeration	12/31/98	NA
Extractions		
1. Base Neutrals	01/04/99	14 Days
2. Pest/PCB's	01/06/99	07 Days
Analyses		
1. Volatile Organics	01/07,08/99	14 Days
2. Base Neutrals	01/12,13/99	40 Days
3. Pest/PCB's	01/26,29/99	40 Days
4. Metals	01/06/99	6 Months
5. Mercury	01/06/99	28 Days

Laboratory Chronicle

Lab ID: 4169 **Site:** M-14

	Date	Hold Time
Date Sampled	01/05/99	NA
Receipt/Refrigeration	01/05/99	NA
Extractions		
1. Base Neutrals	01/07/99	14 Days
2. Pest/PCB's	01/06,08,13/99	07 Days
Analyses		
1. Volatile Organics	01/13,15/99	14 Days
2. Base Neutrals	01/12,13,14,15,19/99	40 Days
3. Pest/PCB's	01/29,30/99 02/03/99	40 Days
4. Metals	01/13/99	6 Months
5. Mercury	01/07/99	28 Days

Laboratory Chronicle

Lab ID: 4173 **Site:** M-14

	Date	Hold Time
Date Sampled	01/06/99	NA
Receipt/Refrigeration	01/06/99	NA
Extractions		
1. Base Neutrals	01/07/99	14 Days
2. Pest/PCB's	01/08/99	07 Days
Analyses		
1. Volatile Organics	01/15,19/99	14 Days
2. Base Neutrals	01/12,19,20,21/99	40 Days
3. Pest/PCB's	02/10/99	40 Days
4. Metals	01/13/99	6 Months
5. Mercury	01/07/99	28 Days

Laboratory Chronicle

Lab ID: 4177 **Site:** M-14

	Date	Hold Time
Date Sampled	01/07/99	NA
Receipt/Refrigeration	01/07/99	NA
Extractions		
1. Base Neutrals	01/07,12/99	14 Days
2. Pest/PCB's	01/08/99	07 Days
Analyses		
1. Volatile Organics	01/20/99	14 Days
2. Base Neutrals	01/12,19,20/99	40 Days
3. Pest/PCB's	02/10,11/99	40 Days
4. Metals	01/13/99	6 Months
5. Mercury	01/14/99	28 Days

Laboratory Chronicle

Lab ID: 4179 **Site:** M-14

	Date	Hold Time
Date Sampled	01/11/99	NA
Receipt/Refrigeration	01/11/99	NA
Extractions		
1. Base Neutrals	01/12,20/99	14 Days
2. Pest/PCB's	01/13/99	07 Days
Analyses		
1. Volatile Organics	01/21/99	14 Days
2. Base Neutrals	01/19,20,21/99	40 Days
3. Pest/PCB's	02/11,12/99	40 Days
4. Metals	01/13/99	6 Months
5. Mercury	01/14/99	28 Days

Laboratory Chronicle

Lab ID: 4184 **Site:** M-14

	Date	Hold Time
Date Sampled	01/12/99	NA
Receipt/Refrigeration	01/12/99	NA
Extractions		
1. Base Neutrals	01/12,20/99	14 Days
2. Pest/PCB's	01/13/99	07 Days
Analyses		
1. Volatile Organics	01/21,25/99	14 Days
2. Base Neutrals	01/19,20,21/99	40 Days
3. Pest/PCB's	02/02,12/99	40 Days
4. Metals	01/25/99	6 Months
5. Mercury	01/14/99	28 Days

Laboratory Chronicle

Lab ID: 4189 **Site:** M-14

	Date	Hold Time
Date Sampled	01/13/99	NA
Receipt/Refrigeration	01/13/99	NA
Extractions		
1. Base Neutrals	01/20/99	14 Days
2. Pest/PCB's	01/13,20/99	07 Days
Analyses		
1. Volatile Organics	01/25/99	14 Days
2. Base Neutrals	01/21,22/99	40 Days
3. Pest/PCB's	02/22,24,25/99	40 Days
4. Metals	01/25/99	6 Months
5. Mercury	01/14/99	28 Days

SOIL CLEAN-UP CRITERIA

Soil Cleanup Criteria

Compound	mg/kg
Acrolein	NLE
Acrylonitrile	1
tert-Butyl alcohol	NLE
Methyl-tert-Butyl ether	NLE
Di-isopropyl ether	NLE
Dichlorodifluoromethane	NLE
Chloromethane	520
Vinyl Chloride	2
Bromomethane	79
Chloroethane	NLE
Trichlorofluoromethane	NLE
1,1-Dichloroethene	8
Acetone	1000
Carbon Disulfide	NLE
Methylene Chloride	49
trans-1,2-Dichloroethene	1000
1,1-Dichloroethane	570
Vinyl Acetate	NLE
2-Butanone	1000
cis-1,2-Dichloroethene	79
Chloroform	19
1,1,1-Trichloroethane	210
Carbon Tetrachloride	2
Benzene	3
1,2-Dichloroethane	6
Trichloroethene	23
1,2-Dichloropropane	10
Bromodichloromethane	11
2-Chloroethyl vinyl ether	NLE
cis-1,3-Dichloropropene	4
4-Methyl-2-Pentanone	1000
Toluene	1000
trans-1,3-Dichloropropene	4
1,1,2-Trichloroethane	22
Tetrachloroethene	4
2-Hexanone	NLE
Dibromochloromethane	110
Chlorobenzene	37
Ethylbenzene	1000
Total Xylenes	410
Styrene	23
Bromoform	86
1,1,2,2-Tetrachloroethane	34
Anthracene	10000
Di-n-butylphthalate	5700
Fluoranthene	2300
Benzidine	NLE
Pyrene	1700
Butylbenzylphthalate	1100
Benzo(a)anthracene	0.9
3,3'-Dichlorobenzidine	2
bis(2-Ethylhexyl)phthalate	49
Di-n-octylphthalate	1100
Benzo(b)fluoranthene	0.9
Benzo(k)fluoranthene	0.9
Benzo(a)pyrene	0.66
Indeno(1,2,3-cd)pyrene	0.9

Compound	mg/kg
Pyridine	NLE
N-nitroso-dimethylamine	NLE
Aniline	NLE
Phenol	10000
bis(2-Chloroethyl)ether	0.66
2-Chlorophenol	280
1,3-Dichlorobenzene	5100
1,4-Dichlorobenzene	570
Benzyl alcohol	10000
1,2-Dichlorobenzene	5100
2-Methylphenol	2800
bis(2-chloroisopropyl)ether	2300
4-Methylphenol	2800
n-Nitroso-di-n-propylamine	0.66
Hexachloroethane	6
Nitrobenzene	28
Isophorone	1100
2-Nitrophenol	NLE
2,4-Dimethylphenol	1100
bis(2-Chloroethoxy) methane	NLE
2,4-Dichlorophenol	170
Benzoic Acid	NLE
1,2,4-Trichlorobenzene	68
Naphthalene	230
4-Chloroaniline	230
Hexachlorobutadiene	1
2,4,6-Trichlorophenol	62
2,4,5-Trichlorophenol	5600
2-Chloronaphthalene	NLE
4-Chloro-3-methylphenol	10000
2-Methylnaphthalene	NLE
Hexachlorocyclopentadiene	400
2-Nitroaniline	NLE
Dimethylphthalate	NLE
Acenaphthylene	NLE
2,6-Dinitrotoluene	NLE
3-Nitroaniline	NLE
Acenaphthene	3400
2,4-Dinitrophenol	110
4-Nitrophenol	NLE
Dibenzofuran	NLE
2,4-Dinitrotoluene	1
Diethylphthalate	10000
Fluorene	2300
4-Chlorophenyl-phenylether	NLE
4-Nitroaniline	NLE
4,6-Dinitro-2-methylphenol	NLE
n-Nitrosodiphenylamine	140
4-Bromophenyl-phenylether	NLE
Hexachlorobenzene	0.66
Pentachlorophenol	6
Phenanthrene	NLE
Dibenz(a,h)anthracene	0.66
Benzo(g,h,i)perylene	NLE
Azobenzene	NLE
Chrysene	9

NLE- No Limits Established

QUALIFIER CODES

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

Definition of Qualifiers

MDL : Method Detection Limit
J : Compound identified below detection limit
B : Compound in both sample and blank
D : Results from dilution of sample
U : Compound searched for but not detected

ANALYTICAL RESULTS

METHOD BLANKS

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk137**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk137

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05351.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 0 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

000188

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk137**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk137

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05351.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 0 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Vblk137**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk137

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05351.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 0 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk138**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk138

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05371.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 0 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk138**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk138

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05371.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 0 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Vblk138**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk138

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05371.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 0 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000193

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk139**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk139

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05389.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 0 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk139**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk139

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05389.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 0 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Vblk139**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk139

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05389.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 0 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk140**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk140

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05408.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 0 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk140**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk140

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05408.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 0 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Vblk140**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk140

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05408.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 0 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Vblk78

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: Vblk78

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB02466.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 0 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Vblk78

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: Vblk78

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB02466.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 0 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

Vblk78

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: Vblk78

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB02466.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 0 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk141**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk141

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05424.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 0 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk141**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk141

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05424.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 0 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Vblk141**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk141

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05424.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 0 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk142**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk142

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05449.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 0 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk142**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk142

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05449.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 0 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Vblk142**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk142

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05449.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 0 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk143**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk143

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05468.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 0 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk143**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk143

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05468.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 0 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Vblk143**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk143

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05468.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 0 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk144**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk144

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05485.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 0 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk144**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk144

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05485.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 0 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Vblk144**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk144

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05485.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 0 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk145**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk145

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05501.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 0 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk145**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk145

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05501.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 0 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Vblk145**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk145

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05501.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 0 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

006217

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk147**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk147

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05544.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 0 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk147**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk147

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05544.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 0 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Vblk147**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk147

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05544.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 0 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

TRIP BLANKS

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05352.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 0 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	620	
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05352.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 0 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05352.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 0 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05361.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 0 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	740	
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05361.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 0 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05361.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 0 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000227

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05383.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 0 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID

Trip Blank

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05383.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 0 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05383.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 0 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05399.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 0 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05399.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 0 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID

TENTATIVELY IDENTIFIED COMPOUNDS

Trip Blank

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05399.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 0 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000233

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Trip Blank

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB02467.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 0 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB02467.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 0 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

Trip Blank

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB02467.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 0 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05425.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 0 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05425.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 0 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05425.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 0 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000239

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05458.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 0 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05458.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 0 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID

TENTATIVELY IDENTIFIED COMPOUNDS

Trip Blank

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05458.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 0 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000242

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05486.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 0 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	690	
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID

Trip Blank

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05486.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 0 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05486.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 0 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000245

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05502.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 0 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05502.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 0 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05502.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 0 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05514.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 0 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID

Trip Blank

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05514.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 0 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05514.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 0 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000251

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk147**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk147

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05544.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 0 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Vblk147**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk147

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05544.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 0 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Vblk147**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: Vblk147

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05544.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 0 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000254

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05550.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 0 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05550.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 0 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05550.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 0 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000257

FIELD DUPLICATES

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Field Dup**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.23

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05398.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 13.27 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3900	U
1634044	Methyl-tert-Butyl ether	900	U
108203	Di-isopropyl ether	600	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl Chloride	900	U
74-83-9	Bromomethane	600	U
75-00-3	Chloroethane	900	U
75-69-4	Trichlorofluoromethane	600	U
75-35-4	1,1-Dichloroethene	300	U
67-64-1	Acetone	600	U
75-15-0	Carbon Disulfide	300	U
75-09-2	Methylene Chloride	360	J
156-60-5	trans-1,2-Dichloroethene	600	U
75-35-3	1,1-Dichloroethane	300	U
108-05-4	Vinyl Acetate	900	U
78-93-3	2-Butanone	900	U
	cis-1,2-Dichloroethene	300	U
67-66-3	Chloroform	300	U
75-55-6	1,1,1-Trichloroethane	300	U
56-23-5	Carbon Tetrachloride	600	U
71-43-2	Benzene	300	U
107-06-2	1,2-Dichloroethane	600	U
79-01-6	Trichloroethene	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
110-75-8	2-Chloroethyl vinyl ether	600	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-Pentanone	600	U
108-88-3	Toluene	300	U
10061-02-6	trans-1,3-Dichloropropene	600	U
79-00-5	1,1,2-Trichloroethane	600	U
127-18-4	Tetrachloroethene	300	U
591-78-6	2-Hexanone	600	U
126-48-1	Dibromochloromethane	600	U
108-90-7	Chlorobenzene	300	U
100-41-4	Ethylbenzene	600	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Field Dup**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.23

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05398.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 13.27 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	900	U
1330-20-7	o-Xylene	600	U
100-42-5	Styrene	600	U
75-25-2	Bromoform	600	U
79-34-5	1,1,2,2-Tetrachloroethane	600	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID

TENTATIVELY IDENTIFIED COMPOUNDS

Field Dup

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.23

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05398.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 13.27 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Field Dup

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.21

Sample wt/vol: 10.5 (g/ml) G Lab File ID: VB02477.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 15.81 Date Analyzed: 01/08/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3700	U
1634044	Methyl-tert-Butyl ether	850	U
108203	Di-isopropyl ether	560	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	850	U
74-83-9	Bromomethane	560	U
75-00-3	Chloroethane	850	U
75-69-4	Trichlorofluoromethane	560	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	560	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	560	U
156-60-5	trans-1,2-Dichloroethene	560	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	850	U
78-93-3	2-Butanone	850	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	560	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	560	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	560	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	560	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	560	U
79-00-5	1,1,2-Trichloroethane	560	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	560	U
126-48-1	Dibromochloromethane	560	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	560	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Field Dup

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.21

Sample wt/vol: 10.5 (g/ml) G Lab File ID: VB02477.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 15.81 Date Analyzed: 01/08/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	850	U
1330-20-7	o-Xylene	560	U
100-42-5	Styrene	560	U
75-25-2	Bromoform	560	U
79-34-5	1,1,2,2-Tetrachloroethane	560	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

Field Dup

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.21

Sample wt/vol: 10.5 (g/ml) G Lab File ID: VB02477.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 15.81 Date Analyzed: 01/08/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Field Dup**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.39

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05455.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 14.82 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	880	U
108203	Di-isopropyl ether	590	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	880	U
74-83-9	Bromomethane	590	U
75-00-3	Chloroethane	880	U
75-69-4	Trichlorofluoromethane	590	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	590	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	390	J
156-60-5	trans-1,2-Dichloroethene	590	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	880	U
78-93-3	2-Butanone	880	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	590	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	590	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	590	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	590	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	590	U
79-00-5	1,1,2-Trichloroethane	590	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	590	U
126-48-1	Dibromochloromethane	590	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	590	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Field Dup**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.39

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05455.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 14.82 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	880	U
1330-20-7	o-Xylene	590	U
100-42-5	Styrene	590	U
75-25-2	Bromoform	590	U
79-34-5	1,1,2,2-Tetrachloroethane	590	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Field Dup**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.39

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05455.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 14.82 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Field Dup**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.21

Sample wt/vol: 10.6 (g/ml) G Lab File ID: V05496.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 18.69 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	870	U
108203	Di-isopropyl ether	580	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	870	U
74-83-9	Bromomethane	580	U
75-00-3	Chloroethane	870	U
75-69-4	Trichlorofluoromethane	580	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	580	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	580	U
156-60-5	trans-1,2-Dichloroethene	580	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	870	U
78-93-3	2-Butanone	870	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	580	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	580	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	580	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	580	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	580	U
79-00-5	1,1,2-Trichloroethane	580	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	580	U
126-48-1	Dibromochloromethane	580	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	580	U

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Dup

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.21

Sample wt/vol: 10.6 (g/ml) G Lab File ID: V05496.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 18.69 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	870	U
1330-20-7	o-Xylene	580	U
100-42-5	Styrene	580	U
75-25-2	Bromoform	580	U
79-34-5	1,1,2,2-Tetrachloroethane	580	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Field Dup**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.21

Sample wt/vol: 10.6 (g/ml) G Lab File ID: V05496.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 18.69 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Field Dup**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.17

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05558.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 6.87 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1900	U
107131	Acrylonitrile	1900	U
75650	tert-Butyl alcohol	3500	U
1634044	Methyl-tert-Butyl ether	810	U
108203	Di-isopropyl ether	540	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	270	U
75-01-4	Vinyl Chloride	810	U
74-83-9	Bromomethane	540	U
75-00-3	Chloroethane	810	U
75-69-4	Trichlorofluoromethane	540	U
75-35-4	1,1-Dichloroethene	270	U
67-64-1	Acetone	540	U
75-15-0	Carbon Disulfide	270	U
75-09-2	Methylene Chloride	540	U
156-60-5	trans-1,2-Dichloroethene	540	U
75-35-3	1,1-Dichloroethane	270	U
108-05-4	Vinyl Acetate	810	U
78-93-3	2-Butanone	810	U
	cis-1,2-Dichloroethene	270	U
67-66-3	Chloroform	270	U
75-55-6	1,1,1-Trichloroethane	270	U
56-23-5	Carbon Tetrachloride	540	U
71-43-2	Benzene	270	U
107-06-2	1,2-Dichloroethane	540	U
79-01-6	Trichloroethene	270	U
78-87-5	1,2-Dichloropropane	270	U
75-27-4	Bromodichloromethane	270	U
110-75-8	2-Chloroethyl vinyl ether	540	U
10061-01-5	cis-1,3-Dichloropropene	270	U
108-10-1	4-Methyl-2-Pentanone	540	U
108-88-3	Toluene	270	U
10061-02-6	trans-1,3-Dichloropropene	540	U
79-00-5	1,1,2-Trichloroethane	540	U
127-18-4	Tetrachloroethene	270	U
591-78-6	2-Hexanone	540	U
126-48-1	Dibromochloromethane	540	U
108-90-7	Chlorobenzene	270	U
100-41-4	Ethylbenzene	540	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Field Dup**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.17

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05558.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 6.87 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	810	U
1330-20-7	o-Xylene	540	U
100-42-5	Styrene	540	U
75-25-2	Bromoform	540	U
79-34-5	1,1,2,2-Tetrachloroethane	540	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Field Dup**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.17

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05558.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 6.87 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

SAMPLES

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-1**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.03

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V05353.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 8.84 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	880	U
108203	Di-isopropyl ether	590	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	880	U
74-83-9	Bromomethane	590	U
75-00-3	Chloroethane	880	U
75-69-4	Trichlorofluoromethane	590	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	590	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	720	
156-60-5	trans-1,2-Dichloroethene	590	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	880	U
78-93-3	2-Butanone	880	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	590	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	590	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	590	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	590	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	590	U
79-00-5	1,1,2-Trichloroethane	590	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	590	U
126-48-1	Dibromochloromethane	590	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	590	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-1

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.03

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V05353.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 8.84 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	880	U
1330-20-7	o-Xylene	590	U
100-42-5	Styrene	590	U
75-25-2	Bromoform	590	U
79-34-5	1,1,2,2-Tetrachloroethane	590	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-1**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.03

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V05353.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 8.84 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-2

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.05

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05354.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 4.42 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3400	U
1634044	Methyl-tert-Butyl ether	790	U
108203	Di-isopropyl ether	520	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	260	U
75-01-4	Vinyl Chloride	790	U
74-83-9	Bromomethane	520	U
75-00-3	Chloroethane	790	U
75-69-4	Trichlorofluoromethane	520	U
75-35-4	1,1-Dichloroethene	260	U
67-64-1	Acetone	520	U
75-15-0	Carbon Disulfide	260	U
75-09-2	Methylene Chloride	520	U
156-60-5	trans-1,2-Dichloroethene	520	U
75-35-3	1,1-Dichloroethane	260	U
108-05-4	Vinyl Acetate	790	U
78-93-3	2-Butanone	790	U
	cis-1,2-Dichloroethene	260	U
67-66-3	Chloroform	260	U
75-55-6	1,1,1-Trichloroethane	260	U
56-23-5	Carbon Tetrachloride	520	U
71-43-2	Benzene	260	U
107-06-2	1,2-Dichloroethane	520	U
79-01-6	Trichloroethene	260	U
78-87-5	1,2-Dichloropropane	260	U
75-27-4	Bromodichloromethane	260	U
110-75-8	2-Chloroethyl vinyl ether	520	U
10061-01-5	cis-1,3-Dichloropropene	260	U
108-10-1	4-Methyl-2-Pentanone	520	U
108-88-3	Toluene	260	U
10061-02-6	trans-1,3-Dichloropropene	520	U
79-00-5	1,1,2-Trichloroethane	520	U
127-18-4	Tetrachloroethene	260	U
591-78-6	2-Hexanone	520	U
126-48-1	Dibromochloromethane	520	U
108-90-7	Chlorobenzene	260	U
100-41-4	Ethylbenzene	520	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-2**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.05

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05354.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 4.42 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	790	U
1330-20-7	o-Xylene	520	U
100-42-5	Styrene	520	U
75-25-2	Bromoform	520	U
79-34-5	1,1,2,2-Tetrachloroethane	520	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-2**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.05

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05354.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 4.42 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-3

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.07

Sample wt/vol: 10.4 (g/ml) G Lab File ID: V05355.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 10.68 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1900	U
107131	Acrylonitrile	1900	U
75650	tert-Butyl alcohol	3500	U
1634044	Methyl-tert-Butyl ether	810	U
108203	Di-isopropyl ether	540	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	270	U
75-01-4	Vinyl Chloride	810	U
74-83-9	Bromomethane	540	U
75-00-3	Chloroethane	810	U
75-69-4	Trichlorofluoromethane	540	U
75-35-4	1,1-Dichloroethene	270	U
67-64-1	Acetone	540	U
75-15-0	Carbon Disulfide	270	U
75-09-2	Methylene Chloride	690	
156-60-5	trans-1,2-Dichloroethene	540	U
75-35-3	1,1-Dichloroethane	270	U
108-05-4	Vinyl Acetate	810	U
78-93-3	2-Butanone	810	U
	cis-1,2-Dichloroethene	270	U
67-66-3	Chloroform	270	U
75-55-6	1,1,1-Trichloroethane	270	U
56-23-5	Carbon Tetrachloride	540	U
71-43-2	Benzene	270	U
107-06-2	1,2-Dichloroethane	540	U
79-01-6	Trichloroethene	270	U
78-87-5	1,2-Dichloropropane	270	U
75-27-4	Bromodichloromethane	270	U
110-75-8	2-Chloroethyl vinyl ether	540	U
10061-01-5	cis-1,3-Dichloropropene	270	U
108-10-1	4-Methyl-2-Pentanone	540	U
108-88-3	Toluene	270	U
10061-02-6	trans-1,3-Dichloropropene	540	U
79-00-5	1,1,2-Trichloroethane	540	U
127-18-4	Tetrachloroethene	270	U
591-78-6	2-Hexanone	540	U
126-48-1	Dibromochloromethane	540	U
108-90-7	Chlorobenzene	270	U
100-41-4	Ethylbenzene	540	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-3

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.07

Sample wt/vol: 10.4 (g/ml) G Lab File ID: V05355.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 10.68 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	810	U
1330-20-7	o-Xylene	540	U
100-42-5	Styrene	540	U
75-25-2	Bromoform	540	U
79-34-5	1,1,2,2-Tetrachloroethane	540	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID

TENTATIVELY IDENTIFIED COMPOUNDS

B-3

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.07

Sample wt/vol: 10.4 (g/ml) G Lab File ID: V05355.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 10.68 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

00283

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-4

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.09

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05356.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 11.25 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3700	U
1634044	Methyl-tert-Butyl ether	840	U
108203	Di-isopropyl ether	560	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	840	U
74-83-9	Bromomethane	560	U
75-00-3	Chloroethane	840	U
75-69-4	Trichlorofluoromethane	560	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	560	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	560	U
156-60-5	trans-1,2-Dichloroethene	560	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	840	U
78-93-3	2-Butanone	840	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	560	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	560	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	560	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	560	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	560	U
79-00-5	1,1,2-Trichloroethane	560	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	560	U
126-48-1	Dibromochloromethane	560	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	560	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-4**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.09

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05356.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 11.25 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	840	U
1330-20-7	o-Xylene	560	U
100-42-5	Styrene	560	U
75-25-2	Bromoform	560	U
79-34-5	1,1,2,2-Tetrachloroethane	560	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID

TENTATIVELY IDENTIFIED COMPOUNDS

B-4

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.09

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05356.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 11.25 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000286

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-5

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.11

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05357.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 10.15 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3600	U
1634044	Methyl-tert-Butyl ether	840	U
108203	Di-isopropyl ether	560	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	840	U
74-83-9	Bromomethane	560	U
75-00-3	Chloroethane	840	U
75-69-4	Trichlorofluoromethane	560	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	560	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	420	J
156-60-5	trans-1,2-Dichloroethene	560	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	840	U
78-93-3	2-Butanone	840	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	560	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	560	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	560	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	560	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	560	U
79-00-5	1,1,2-Trichloroethane	560	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	560	U
126-48-1	Dibromochloromethane	560	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	560	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-5**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.11

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05357.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 10.15 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	840	U
1330-20-7	o-Xylene	560	U
100-42-5	Styrene	560	U
75-25-2	Bromoform	560	U
79-34-5	1,1,2,2-Tetrachloroethane	560	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-5**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.11

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05357.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 10.15 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000289

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-6**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.13

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05358.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 11.42 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3700	U
1634044	Methyl-tert-Butyl ether	860	U
108203	Di-isopropyl ether	570	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	860	U
74-83-9	Bromomethane	570	U
75-00-3	Chloroethane	860	U
75-69-4	Trichlorofluoromethane	570	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	570	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	690	
156-60-5	trans-1,2-Dichloroethene	570	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	860	U
78-93-3	2-Butanone	860	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	570	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	570	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	570	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	570	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	570	U
79-00-5	1,1,2-Trichloroethane	570	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	570	U
126-48-1	Dibromochloromethane	570	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	570	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-6**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.13

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05358.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 11.42 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	860	U
1330-20-7	o-Xylene	570	U
100-42-5	Styrene	570	U
75-25-2	Bromoform	570	U
79-34-5	1,1,2,2-Tetrachloroethane	570	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-6**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4156 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4156.13

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05358.D

Level: (low/med) MED Date Received: 12/23/98

% Moisture: not dec. 11.42 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-7

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.03

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05362.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 14.58 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3900	U
1634044	Methyl-tert-Butyl ether	910	U
108203	Di-isopropyl ether	600	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl Chloride	910	U
74-83-9	Bromomethane	600	U
75-00-3	Chloroethane	910	U
75-69-4	Trichlorofluoromethane	600	U
75-35-4	1,1-Dichloroethene	300	U
67-64-1	Acetone	600	U
75-15-0	Carbon Disulfide	300	U
75-09-2	Methylene Chloride	760	
156-60-5	trans-1,2-Dichloroethene	600	U
75-35-3	1,1-Dichloroethane	300	U
108-05-4	Vinyl Acetate	910	U
78-93-3	2-Butanone	910	U
	cis-1,2-Dichloroethene	300	U
67-66-3	Chloroform	300	U
75-55-6	1,1,1-Trichloroethane	300	U
56-23-5	Carbon Tetrachloride	600	U
71-43-2	Benzene	300	U
107-06-2	1,2-Dichloroethane	600	U
79-01-6	Trichloroethene	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
110-75-8	2-Chloroethyl vinyl ether	600	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-Pentanone	600	U
108-88-3	Toluene	300	U
10061-02-6	trans-1,3-Dichloropropene	600	U
79-00-5	1,1,2-Trichloroethane	600	U
127-18-4	Tetrachloroethene	300	U
591-78-6	2-Hexanone	600	U
126-48-1	Dibromochloromethane	600	U
108-90-7	Chlorobenzene	300	U
100-41-4	Ethylbenzene	600	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-7**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.03

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05362.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 14.58 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	910	U
1330-20-7	o-Xylene	600	U
100-42-5	Styrene	600	U
75-25-2	Bromoform	600	U
79-34-5	1,1,2,2-Tetrachloroethane	600	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: B-7

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.03

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05362.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 14.58 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

OC 0295

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-8**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.05

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05363.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 14.78 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	920	U
108203	Di-isopropyl ether	620	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	920	U
74-83-9	Bromomethane	620	U
75-00-3	Chloroethane	920	U
75-69-4	Trichlorofluoromethane	620	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	620	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	620	U
156-60-5	trans-1,2-Dichloroethene	620	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	920	U
78-93-3	2-Butanone	920	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	620	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	620	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	620	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	620	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	620	U
79-00-5	1,1,2-Trichloroethane	620	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	620	U
126-48-1	Dibromochloromethane	620	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	620	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-8**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.05

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05363.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 14.78 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	920	U
1330-20-7	o-Xylene	620	U
100-42-5	Styrene	620	U
75-25-2	Bromoform	620	U
79-34-5	1,1,2,2-Tetrachloroethane	620	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-8**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.05

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05363.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 14.78 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

OU298

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-9**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.07

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05364.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 21.3 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	930	U
108203	Di-isopropyl ether	620	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	930	U
74-83-9	Bromomethane	620	U
75-00-3	Chloroethane	930	U
75-69-4	Trichlorofluoromethane	620	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	620	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	620	U
156-60-5	trans-1,2-Dichloroethene	620	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	930	U
78-93-3	2-Butanone	930	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	620	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	620	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	620	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	620	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	620	U
79-00-5	1,1,2-Trichloroethane	620	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	620	U
126-48-1	Dibromochloromethane	620	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	620	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-9**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.07

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05364.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 21.3 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	930	U
1330-20-7	o-Xylene	620	U
100-42-5	Styrene	620	U
75-25-2	Bromoform	620	U
79-34-5	1,1,2,2-Tetrachloroethane	620	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-9**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.07

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05364.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 21.3 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-10

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.09

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05365.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 11.76 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3600	U
1634044	Methyl-tert-Butyl ether	840	U
108203	Di-isopropyl ether	560	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	840	U
74-83-9	Bromomethane	560	U
75-00-3	Chloroethane	840	U
75-69-4	Trichlorofluoromethane	560	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	560	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	560	U
156-60-5	trans-1,2-Dichloroethene	560	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	840	U
78-93-3	2-Butanone	840	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	560	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	560	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	560	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	560	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	560	U
79-00-5	1,1,2-Trichloroethane	560	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	560	U
126-48-1	Dibromochloromethane	560	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	560	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-10**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.09

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05365.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 11.76 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	840	U
1330-20-7	o-Xylene	560	U
100-42-5	Styrene	560	U
75-25-2	Bromoform	560	U
79-34-5	1,1,2,2-Tetrachloroethane	560	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-10**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.09

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05365.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 11.76 Date Analyzed: 12/30/98

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000304

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-11

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.11

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05372.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 16.27 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	930	U
108203	Di-isopropyl ether	620	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	930	U
74-83-9	Bromomethane	620	U
75-00-3	Chloroethane	930	U
75-69-4	Trichlorofluoromethane	620	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	620	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	510	J
156-60-5	trans-1,2-Dichloroethene	620	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	930	U
78-93-3	2-Butanone	930	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	620	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	620	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	620	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	620	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	620	U
79-00-5	1,1,2-Trichloroethane	620	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	620	U
126-48-1	Dibromochloromethane	620	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	620	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-11**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.11

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05372.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 16.27 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	930	U
1330-20-7	o-Xylene	620	U
100-42-5	Styrene	620	U
75-25-2	Bromoform	620	U
79-34-5	1,1,2,2-Tetrachloroethane	620	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: B-11

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.11

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05372.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 16.27 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-12**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.13

Sample wt/vol: 10.3 (g/ml) G Lab File ID: V05373.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 16.86 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	870	U
108203	Di-isopropyl ether	580	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	870	U
74-83-9	Bromomethane	580	U
75-00-3	Chloroethane	870	U
75-69-4	Trichlorofluoromethane	580	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	580	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	580	U
156-60-5	trans-1,2-Dichloroethene	580	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	870	U
78-93-3	2-Butanone	870	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	580	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	580	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	580	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	580	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	580	U
79-00-5	1,1,2-Trichloroethane	580	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	580	U
126-48-1	Dibromochloromethane	580	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	580	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-12

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.13

Sample wt/vol: 10.3 (g/ml) G Lab File ID: V05373.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 16.86 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	870	U
1330-20-7	o-Xylene	580	U
100-42-5	Styrene	580	U
75-25-2	Bromoform	580	U
79-34-5	1,1,2,2-Tetrachloroethane	580	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-12**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.13

Sample wt/vol: 10.3 (g/ml) G Lab File ID: V05373.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 16.86 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000310

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-13

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.15

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05374.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 10.65 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3600	U
1634044	Methyl-tert-Butyl ether	840	U
108203	Di-isopropyl ether	560	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	840	U
74-83-9	Bromomethane	560	U
75-00-3	Chloroethane	840	U
75-69-4	Trichlorofluoromethane	560	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	560	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	560	U
156-60-5	trans-1,2-Dichloroethene	560	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	840	U
78-93-3	2-Butanone	840	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	560	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	560	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	560	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	560	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	560	U
79-00-5	1,1,2-Trichloroethane	560	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	560	U
126-48-1	Dibromochloromethane	560	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	560	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-13**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.15

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05374.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 10.65 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	840	U
1330-20-7	o-Xylene	560	U
100-42-5	Styrene	560	U
75-25-2	Bromoform	560	U
79-34-5	1,1,2,2-Tetrachloroethane	560	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID

TENTATIVELY IDENTIFIED COMPOUNDS

B-13

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.15

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05374.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 10.65 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000313

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-14

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.17

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05375.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 13.19 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	880	U
108203	Di-isopropyl ether	580	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	880	U
74-83-9	Bromomethane	580	U
75-00-3	Chloroethane	880	U
75-69-4	Trichlorofluoromethane	580	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	580	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	580	U
156-60-5	trans-1,2-Dichloroethene	580	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	880	U
78-93-3	2-Butanone	880	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	580	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	580	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	580	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	580	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	580	U
79-00-5	1,1,2-Trichloroethane	580	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	580	U
126-48-1	Dibromochloromethane	580	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	580	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-14**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.17

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05375.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 13.19 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	880	U
1330-20-7	o-Xylene	580	U
100-42-5	Styrene	580	U
75-25-2	Bromoform	580	U
79-34-5	1,1,2,2-Tetrachloroethane	580	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: B-14

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.17

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05375.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 13.19 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-15**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.19

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05376.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 14.41 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3900	U
1634044	Methyl-tert-Butyl ether	910	U
108203	Di-isopropyl ether	610	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl Chloride	910	U
74-83-9	Bromomethane	610	U
75-00-3	Chloroethane	910	U
75-69-4	Trichlorofluoromethane	610	U
75-35-4	1,1-Dichloroethene	300	U
67-64-1	Acetone	610	U
75-15-0	Carbon Disulfide	300	U
75-09-2	Methylene Chloride	610	U
156-60-5	trans-1,2-Dichloroethene	610	U
75-35-3	1,1-Dichloroethane	300	U
108-05-4	Vinyl Acetate	910	U
78-93-3	2-Butanone	910	U
	cis-1,2-Dichloroethene	300	U
67-66-3	Chloroform	300	U
75-55-6	1,1,1-Trichloroethane	300	U
56-23-5	Carbon Tetrachloride	610	U
71-43-2	Benzene	300	U
107-06-2	1,2-Dichloroethane	610	U
79-01-6	Trichloroethene	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
110-75-8	2-Chloroethyl vinyl ether	610	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-Pentanone	610	U
108-88-3	Toluene	300	U
10061-02-6	trans-1,3-Dichloropropene	610	U
79-00-5	1,1,2-Trichloroethane	610	U
127-18-4	Tetrachloroethene	300	U
591-78-6	2-Hexanone	610	U
126-48-1	Dibromochloromethane	610	U
108-90-7	Chlorobenzene	300	U
100-41-4	Ethylbenzene	610	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-15**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.19

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05376.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 14.41 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	910	U
1330-20-7	o-Xylene	610	U
100-42-5	Styrene	610	U
75-25-2	Bromoform	610	U
79-34-5	1,1,2,2-Tetrachloroethane	610	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-15**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.19

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05376.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 14.41 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-16

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.21

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05377.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 12.75 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3700	U
1634044	Methyl-tert-Butyl ether	850	U
108203	Di-isopropyl ether	570	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	850	U
74-83-9	Bromomethane	570	U
75-00-3	Chloroethane	850	U
75-69-4	Trichlorofluoromethane	570	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	570	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	570	U
156-60-5	trans-1,2-Dichloroethene	570	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	850	U
78-93-3	2-Butanone	850	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	570	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	570	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	570	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	570	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	570	U
79-00-5	1,1,2-Trichloroethane	570	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	570	U
126-48-1	Dibromochloromethane	570	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	570	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-16**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.21

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05377.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 12.75 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	850	U
1330-20-7	o-Xylene	570	U
100-42-5	Styrene	570	U
75-25-2	Bromoform	570	U
79-34-5	1,1,2,2-Tetrachloroethane	570	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-16**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.21

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05377.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 12.75 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-17**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.23

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05378.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 12.6 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	880	U
108203	Di-isopropyl ether	590	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	880	U
74-83-9	Bromomethane	590	U
75-00-3	Chloroethane	880	U
75-69-4	Trichlorofluoromethane	590	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	590	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	720	
156-60-5	trans-1,2-Dichloroethene	590	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	880	U
78-93-3	2-Butanone	880	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	590	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	590	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	590	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	590	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	590	U
79-00-5	1,1,2-Trichloroethane	590	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	590	U
126-48-1	Dibromochloromethane	590	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	590	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-17**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.23

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05378.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 12.6 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	880	U
1330-20-7	o-Xylene	590	U
100-42-5	Styrene	590	U
75-25-2	Bromoform	590	U
79-34-5	1,1,2,2-Tetrachloroethane	590	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-17**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.23

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05378.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 12.6 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-18**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.25

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05379.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 13.65 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	880	U
108203	Di-isopropyl ether	590	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	880	U
74-83-9	Bromomethane	590	U
75-00-3	Chloroethane	880	U
75-69-4	Trichlorofluoromethane	590	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	590	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	590	U
156-60-5	trans-1,2-Dichloroethene	590	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	880	U
78-93-3	2-Butanone	880	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	590	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	590	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	590	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	590	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	590	U
79-00-5	1,1,2-Trichloroethane	590	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	590	U
126-48-1	Dibromochloromethane	590	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	590	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-18**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.25

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05379.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 13.65 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	880	U
1330-20-7	o-Xylene	590	U
100-42-5	Styrene	590	U
75-25-2	Bromoform	590	U
79-34-5	1,1,2,2-Tetrachloroethane	590	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-18**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.25

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05379.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 13.65 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-19

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.27

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05380.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 14.17 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3700	U
1634044	Methyl-tert-Butyl ether	860	U
108203	Di-isopropyl ether	580	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	860	U
74-83-9	Bromomethane	580	U
75-00-3	Chloroethane	860	U
75-69-4	Trichlorofluoromethane	580	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	580	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	580	U
156-60-5	trans-1,2-Dichloroethene	580	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	860	U
78-93-3	2-Butanone	860	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	580	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	580	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	580	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	580	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	580	U
79-00-5	1,1,2-Trichloroethane	580	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	580	U
126-48-1	Dibromochloromethane	580	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	580	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-19**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.27

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05380.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 14.17 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	860	U
1330-20-7	o-Xylene	580	U
100-42-5	Styrene	580	U
75-25-2	Bromoform	580	U
79-34-5	1,1,2,2-Tetrachloroethane	580	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-19**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4159 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4159.27

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05380.D

Level: (low/med) MED Date Received: 12/28/98

% Moisture: not dec. 14.17 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-20**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05384.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 12.99 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	870	U
108203	Di-isopropyl ether	580	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	870	U
74-83-9	Bromomethane	580	U
75-00-3	Chloroethane	870	U
75-69-4	Trichlorofluoromethane	580	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	580	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	580	U
156-60-5	trans-1,2-Dichloroethene	580	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	870	U
78-93-3	2-Butanone	870	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	580	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	580	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	580	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	580	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	580	U
79-00-5	1,1,2-Trichloroethane	580	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	580	U
126-48-1	Dibromochloromethane	580	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	580	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-20**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05384.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 12.99 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	870	U
1330-20-7	o-Xylene	580	U
100-42-5	Styrene	580	U
75-25-2	Bromoform	580	U
79-34-5	1,1,2,2-Tetrachloroethane	580	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-20**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05384.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 12.99 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-21

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.05

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05385.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 12.65 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3900	U
1634044	Methyl-tert-Butyl ether	900	U
108203	Di-isopropyl ether	600	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl Chloride	900	U
74-83-9	Bromomethane	600	U
75-00-3	Chloroethane	900	U
75-69-4	Trichlorofluoromethane	600	U
75-35-4	1,1-Dichloroethene	300	U
67-64-1	Acetone	600	U
75-15-0	Carbon Disulfide	300	U
75-09-2	Methylene Chloride	600	U
156-60-5	trans-1,2-Dichloroethene	600	U
75-35-3	1,1-Dichloroethane	300	U
108-05-4	Vinyl Acetate	900	U
78-93-3	2-Butanone	900	U
	cis-1,2-Dichloroethene	300	U
67-66-3	Chloroform	300	U
75-55-6	1,1,1-Trichloroethane	300	U
56-23-5	Carbon Tetrachloride	600	U
71-43-2	Benzene	300	U
107-06-2	1,2-Dichloroethane	600	U
79-01-6	Trichloroethene	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
110-75-8	2-Chloroethyl vinyl ether	600	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-Pentanone	600	U
108-88-3	Toluene	300	U
10061-02-6	trans-1,3-Dichloropropene	600	U
79-00-5	1,1,2-Trichloroethane	600	U
127-18-4	Tetrachloroethene	300	U
591-78-6	2-Hexanone	600	U
126-48-1	Dibromochloromethane	600	U
108-90-7	Chlorobenzene	300	U
100-41-4	Ethylbenzene	600	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-21

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.05

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05385.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 12.65 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	900	U
1330-20-7	o-Xylene	600	U
100-42-5	Styrene	600	U
75-25-2	Bromoform	600	U
79-34-5	1,1,2,2-Tetrachloroethane	600	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-21**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.05

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05385.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 12.65 Date Analyzed: 01/06/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000337

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-22**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.07

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05390.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 10.7 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3600	U
1634044	Methyl-tert-Butyl ether	840	U
108203	Di-isopropyl ether	560	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	840	U
74-83-9	Bromomethane	560	U
75-00-3	Chloroethane	840	U
75-69-4	Trichlorofluoromethane	560	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	560	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	560	U
156-60-5	trans-1,2-Dichloroethene	560	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	840	U
78-93-3	2-Butanone	840	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	560	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	560	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	560	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	560	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	560	U
79-00-5	1,1,2-Trichloroethane	560	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	560	U
126-48-1	Dibromochloromethane	560	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	560	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-22

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.07

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05390.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 10.7 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	840	U
1330-20-7	o-Xylene	560	U
100-42-5	Styrene	560	U
75-25-2	Bromoform	560	U
79-34-5	1,1,2,2-Tetrachloroethane	560	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-22**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.07

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05390.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 10.7 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000340

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-23**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.09

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05391.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 13.54 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	870	U
108203	Di-isopropyl ether	580	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	870	U
74-83-9	Bromomethane	580	U
75-00-3	Chloroethane	870	U
75-69-4	Trichlorofluoromethane	580	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	580	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	580	U
156-60-5	trans-1,2-Dichloroethene	580	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	870	U
78-93-3	2-Butanone	870	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	580	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	580	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	580	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	580	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	580	U
79-00-5	1,1,2-Trichloroethane	580	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	580	U
126-48-1	Dibromochloromethane	580	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	580	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-23

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.09

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05391.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 13.54 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	870	U
1330-20-7	o-Xylene	580	U
100-42-5	Styrene	580	U
75-25-2	Bromoform	580	U
79-34-5	1,1,2,2-Tetrachloroethane	580	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-23**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.09

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05391.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 13.54 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000343

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-24**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.11

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05392.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 14.51 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	880	U
108203	Di-isopropyl ether	590	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	880	U
74-83-9	Bromomethane	590	U
75-00-3	Chloroethane	880	U
75-69-4	Trichlorofluoromethane	590	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	590	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	360	J
156-60-5	trans-1,2-Dichloroethene	590	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	880	U
78-93-3	2-Butanone	880	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	590	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	590	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	590	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	590	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	590	U
79-00-5	1,1,2-Trichloroethane	590	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	590	U
126-48-1	Dibromochloromethane	590	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	590	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-24

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.11

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05392.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 14.51 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	880	U
1330-20-7	o-Xylene	590	U
100-42-5	Styrene	590	U
75-25-2	Bromoform	590	U
79-34-5	1,1,2,2-Tetrachloroethane	590	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-24**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.11

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05392.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 14.51 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000346

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-25**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.13

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05393.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 12.25 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3900	U
1634044	Methyl-tert-Butyl ether	900	U
108203	Di-isopropyl ether	600	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl Chloride	900	U
74-83-9	Bromomethane	600	U
75-00-3	Chloroethane	900	U
75-69-4	Trichlorofluoromethane	600	U
75-35-4	1,1-Dichloroethene	300	U
67-64-1	Acetone	600	U
75-15-0	Carbon Disulfide	300	U
75-09-2	Methylene Chloride	600	U
156-60-5	trans-1,2-Dichloroethene	600	U
75-35-3	1,1-Dichloroethane	300	U
108-05-4	Vinyl Acetate	900	U
78-93-3	2-Butanone	900	U
	cis-1,2-Dichloroethene	300	U
67-66-3	Chloroform	300	U
75-55-6	1,1,1-Trichloroethane	300	U
56-23-5	Carbon Tetrachloride	600	U
71-43-2	Benzene	300	U
107-06-2	1,2-Dichloroethane	600	U
79-01-6	Trichloroethene	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
110-75-8	2-Chloroethyl vinyl ether	600	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-Pentanone	600	U
108-88-3	Toluene	300	U
10061-02-6	trans-1,3-Dichloropropene	600	U
79-00-5	1,1,2-Trichloroethane	600	U
127-18-4	Tetrachloroethene	300	U
591-78-6	2-Hexanone	600	U
126-48-1	Dibromochloromethane	600	U
108-90-7	Chlorobenzene	300	U
100-41-4	Ethylbenzene	600	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-25

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.13

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05393.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 12.25 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	900	U
1330-20-7	o-Xylene	600	U
100-42-5	Styrene	600	U
75-25-2	Bromoform	600	U
79-34-5	1,1,2,2-Tetrachloroethane	600	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-25**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.13

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05393.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 12.25 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000349

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-26**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.15

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05394.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 10.73 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3700	U
1634044	Methyl-tert-Butyl ether	850	U
108203	Di-isopropyl ether	570	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	850	U
74-83-9	Bromomethane	570	U
75-00-3	Chloroethane	850	U
75-69-4	Trichlorofluoromethane	570	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	570	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	620	
156-60-5	trans-1,2-Dichloroethene	570	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	850	U
78-93-3	2-Butanone	850	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	570	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	570	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	570	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	570	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	570	U
79-00-5	1,1,2-Trichloroethane	570	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	570	U
126-48-1	Dibromochloromethane	570	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	570	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-26**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.15

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05394.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 10.73 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	850	U
1330-20-7	o-Xylene	570	U
100-42-5	Styrene	570	U
75-25-2	Bromoform	570	U
79-34-5	1,1,2,2-Tetrachloroethane	570	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-26**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.15

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05394.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 10.73 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-27

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.17

Sample wt/vol: 10.5 (g/ml) G Lab File ID: V05395.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 12.66 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1900	U
107131	Acrylonitrile	1900	U
75650	tert-Butyl alcohol	3600	U
1634044	Methyl-tert-Butyl ether	820	U
108203	Di-isopropyl ether	550	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	270	U
75-01-4	Vinyl Chloride	820	U
74-83-9	Bromomethane	550	U
75-00-3	Chloroethane	820	U
75-69-4	Trichlorofluoromethane	550	U
75-35-4	1,1-Dichloroethene	270	U
67-64-1	Acetone	550	U
75-15-0	Carbon Disulfide	270	U
75-09-2	Methylene Chloride	370	J
156-60-5	trans-1,2-Dichloroethene	550	U
75-35-3	1,1-Dichloroethane	270	U
108-05-4	Vinyl Acetate	820	U
78-93-3	2-Butanone	820	U
	cis-1,2-Dichloroethene	270	U
67-66-3	Chloroform	270	U
75-55-6	1,1,1-Trichloroethane	270	U
56-23-5	Carbon Tetrachloride	550	U
71-43-2	Benzene	270	U
107-06-2	1,2-Dichloroethane	550	U
79-01-6	Trichloroethene	270	U
78-87-5	1,2-Dichloropropane	270	U
75-27-4	Bromodichloromethane	270	U
110-75-8	2-Chloroethyl vinyl ether	550	U
10061-01-5	cis-1,3-Dichloropropene	270	U
108-10-1	4-Methyl-2-Pentanone	550	U
108-88-3	Toluene	270	U
10061-02-6	trans-1,3-Dichloropropene	550	U
79-00-5	1,1,2-Trichloroethane	550	U
127-18-4	Tetrachloroethene	270	U
591-78-6	2-Hexanone	550	U
126-48-1	Dibromochloromethane	550	U
108-90-7	Chlorobenzene	270	U
100-41-4	Ethylbenzene	550	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-27

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.17

Sample wt/vol: 10.5 (g/ml) G Lab File ID: V05395.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 12.66 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	820	U
1330-20-7	o-Xylene	550	U
100-42-5	Styrene	550	U
75-25-2	Bromoform	550	U
79-34-5	1,1,2,2-Tetrachloroethane	550	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-27**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.17

Sample wt/vol: 10.5 (g/ml) G Lab File ID: V05395.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 12.66 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-28**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.19

Sample wt/vol: 10.3 (g/ml) G Lab File ID: V05396.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 12.61 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1900	U
107131	Acrylonitrile	1900	U
75650	tert-Butyl alcohol	3600	U
1634044	Methyl-tert-Butyl ether	830	U
108203	Di-isopropyl ether	560	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	830	U
74-83-9	Bromomethane	560	U
75-00-3	Chloroethane	830	U
75-69-4	Trichlorofluoromethane	560	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	560	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	660	
156-60-5	trans-1,2-Dichloroethene	560	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	830	U
78-93-3	2-Butanone	830	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	560	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	560	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	560	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	560	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	560	U
79-00-5	1,1,2-Trichloroethane	560	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	560	U
126-48-1	Dibromochloromethane	560	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	560	U

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

B-28

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.19

Sample wt/vol: 10.3 (g/ml) G Lab File ID: V05396.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 12.61 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	830	U
1330-20-7	o-Xylene	560	U
100-42-5	Styrene	560	U
75-25-2	Bromoform	560	U
79-34-5	1,1,2,2-Tetrachloroethane	560	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-28**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.19

Sample wt/vol: 10.3 (g/ml) G Lab File ID: V05396.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 12.61 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000358

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

B-29

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.21

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05397.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 15.04 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	930	U
108203	Di-isopropyl ether	620	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	930	U
74-83-9	Bromomethane	620	U
75-00-3	Chloroethane	930	U
75-69-4	Trichlorofluoromethane	620	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	620	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	620	U
156-60-5	trans-1,2-Dichloroethene	620	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	930	U
78-93-3	2-Butanone	930	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	620	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	620	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	620	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	620	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	620	U
79-00-5	1,1,2-Trichloroethane	620	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	620	U
126-48-1	Dibromochloromethane	620	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	620	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-29**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.21

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05397.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 15.04 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	930	U
1330-20-7	o-Xylene	620	U
100-42-5	Styrene	620	U
75-25-2	Bromoform	620	U
79-34-5	1,1,2,2-Tetrachloroethane	620	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-29**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4160 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4160.21

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05397.D

Level: (low/med) MED Date Received: 12/29/98

% Moisture: not dec. 15.04 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-30

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.03

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05400.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 17.89 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	930	U
108203	Di-isopropyl ether	620	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	930	U
74-83-9	Bromomethane	620	U
75-00-3	Chloroethane	930	U
75-69-4	Trichlorofluoromethane	620	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	620	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	620	U
156-60-5	trans-1,2-Dichloroethene	620	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	930	U
78-93-3	2-Butanone	930	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	620	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	620	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	620	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	620	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	620	U
79-00-5	1,1,2-Trichloroethane	620	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	620	U
126-48-1	Dibromochloromethane	620	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	620	U

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

B-30

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.03

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05400.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 17.89 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	930	U
1330-20-7	o-Xylene	620	U
100-42-5	Styrene	620	U
75-25-2	Bromoform	620	U
79-34-5	1,1,2,2-Tetrachloroethane	620	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-30**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.03

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05400.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 17.89 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

OC0364

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-31

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.05

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05401.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 14.12 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	880	U
108203	Di-isopropyl ether	580	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	880	U
74-83-9	Bromomethane	580	U
75-00-3	Chloroethane	880	U
75-69-4	Trichlorofluoromethane	580	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	580	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	580	U
156-60-5	trans-1,2-Dichloroethene	580	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	880	U
78-93-3	2-Butanone	880	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	580	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	580	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	580	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	580	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	580	U
79-00-5	1,1,2-Trichloroethane	580	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	580	U
126-48-1	Dibromochloromethane	580	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	580	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-31

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.05

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05401.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 14.12 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	880	U
1330-20-7	o-Xylene	580	U
100-42-5	Styrene	580	U
75-25-2	Bromoform	580	U
79-34-5	1,1,2,2-Tetrachloroethane	580	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-31**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.05

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05401.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 14.12 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-32

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.07

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05402.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 14.67 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3900	U
1634044	Methyl-tert-Butyl ether	900	U
108203	Di-isopropyl ether	600	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl Chloride	900	U
74-83-9	Bromomethane	600	U
75-00-3	Chloroethane	900	U
75-69-4	Trichlorofluoromethane	600	U
75-35-4	1,1-Dichloroethene	300	U
67-64-1	Acetone	600	U
75-15-0	Carbon Disulfide	300	U
75-09-2	Methylene Chloride	600	U
156-60-5	trans-1,2-Dichloroethene	600	U
75-35-3	1,1-Dichloroethane	300	U
108-05-4	Vinyl Acetate	900	U
78-93-3	2-Butanone	900	U
	cis-1,2-Dichloroethene	300	U
67-66-3	Chloroform	300	U
75-55-6	1,1,1-Trichloroethane	300	U
56-23-5	Carbon Tetrachloride	600	U
71-43-2	Benzene	300	U
107-06-2	1,2-Dichloroethane	600	U
79-01-6	Trichloroethene	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
110-75-8	2-Chloroethyl vinyl ether	600	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-Pentanone	600	U
108-88-3	Toluene	300	U
10061-02-6	trans-1,3-Dichloropropene	600	U
79-00-5	1,1,2-Trichloroethane	600	U
127-18-4	Tetrachloroethene	300	U
591-78-6	2-Hexanone	600	U
126-48-1	Dibromochloromethane	600	U
108-90-7	Chlorobenzene	300	U
100-41-4	Ethylbenzene	600	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-32**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.07

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05402.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 14.67 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	900	U
1330-20-7	o-Xylene	600	U
100-42-5	Styrene	600	U
75-25-2	Bromoform	600	U
79-34-5	1,1,2,2-Tetrachloroethane	600	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-32**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.07

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05402.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 14.67 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000370

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-33

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.09

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05403.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 9.19 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1900	U
107131	Acrylonitrile	1900	U
75650	tert-Butyl alcohol	3500	U
1634044	Methyl-tert-Butyl ether	810	U
108203	Di-isopropyl ether	540	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	270	U
75-01-4	Vinyl Chloride	810	U
74-83-9	Bromomethane	540	U
75-00-3	Chloroethane	810	U
75-69-4	Trichlorofluoromethane	540	U
75-35-4	1,1-Dichloroethene	270	U
67-64-1	Acetone	540	U
75-15-0	Carbon Disulfide	270	U
75-09-2	Methylene Chloride	540	U
156-60-5	trans-1,2-Dichloroethene	540	U
75-35-3	1,1-Dichloroethane	270	U
108-05-4	Vinyl Acetate	810	U
78-93-3	2-Butanone	810	U
	cis-1,2-Dichloroethene	270	U
67-66-3	Chloroform	270	U
75-55-6	1,1,1-Trichloroethane	270	U
56-23-5	Carbon Tetrachloride	540	U
71-43-2	Benzene	270	U
107-06-2	1,2-Dichloroethane	540	U
79-01-6	Trichloroethene	270	U
78-87-5	1,2-Dichloropropane	270	U
75-27-4	Bromodichloromethane	270	U
110-75-8	2-Chloroethyl vinyl ether	540	U
10061-01-5	cis-1,3-Dichloropropene	270	U
108-10-1	4-Methyl-2-Pentanone	540	U
108-88-3	Toluene	270	U
10061-02-6	trans-1,3-Dichloropropene	540	U
79-00-5	1,1,2-Trichloroethane	540	U
127-18-4	Tetrachloroethene	270	U
591-78-6	2-Hexanone	540	U
126-48-1	Dibromochloromethane	540	U
108-90-7	Chlorobenzene	270	U
100-41-4	Ethylbenzene	540	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-33**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.09

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05403.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 9.19 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	810	U
1330-20-7	o-Xylene	540	U
100-42-5	Styrene	540	U
75-25-2	Bromoform	540	U
79-34-5	1,1,2,2-Tetrachloroethane	540	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-33**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.09

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05403.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 9.19 Date Analyzed: 01/07/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-34

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.11

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05409.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 19.05 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2300	U
107131	Acrylonitrile	2300	U
75650	tert-Butyl alcohol	4200	U
1634044	Methyl-tert-Butyl ether	970	U
108203	Di-isopropyl ether	650	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	320	U
75-01-4	Vinyl Chloride	970	U
74-83-9	Bromomethane	650	U
75-00-3	Chloroethane	970	U
75-69-4	Trichlorofluoromethane	650	U
75-35-4	1,1-Dichloroethene	320	U
67-64-1	Acetone	17000	
75-15-0	Carbon Disulfide	320	U
75-09-2	Methylene Chloride	650	U
156-60-5	trans-1,2-Dichloroethene	650	U
75-35-3	1,1-Dichloroethane	320	U
108-05-4	Vinyl Acetate	970	U
78-93-3	2-Butanone	970	U
	cis-1,2-Dichloroethene	320	U
67-66-3	Chloroform	320	U
75-55-6	1,1,1-Trichloroethane	320	U
56-23-5	Carbon Tetrachloride	650	U
71-43-2	Benzene	320	U
107-06-2	1,2-Dichloroethane	650	U
79-01-6	Trichloroethene	320	U
78-87-5	1,2-Dichloropropane	320	U
75-27-4	Bromodichloromethane	320	U
110-75-8	2-Chloroethyl vinyl ether	650	U
10061-01-5	cis-1,3-Dichloropropene	320	U
108-10-1	4-Methyl-2-Pentanone	650	U
108-88-3	Toluene	320	U
10061-02-6	trans-1,3-Dichloropropene	650	U
79-00-5	1,1,2-Trichloroethane	650	U
127-18-4	Tetrachloroethene	320	U
591-78-6	2-Hexanone	650	U
126-48-1	Dibromochloromethane	650	U
108-90-7	Chlorobenzene	320	U
100-41-4	Ethylbenzene	650	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-34**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.11

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05409.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 19.05 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	970	U
1330-20-7	o-Xylene	650	U
100-42-5	Styrene	650	U
75-25-2	Bromoform	650	U
79-34-5	1,1,2,2-Tetrachloroethane	650	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-34**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.11

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05409.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 19.05 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000376

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

B-35

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.13

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05410.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 14.12 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	870	U
108203	Di-isopropyl ether	580	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	870	U
74-83-9	Bromomethane	580	U
75-00-3	Chloroethane	870	U
75-69-4	Trichlorofluoromethane	580	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	580	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	580	U
156-60-5	trans-1,2-Dichloroethene	580	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	870	U
78-93-3	2-Butanone	870	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	580	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	580	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	580	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	580	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	580	U
79-00-5	1,1,2-Trichloroethane	580	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	580	U
126-48-1	Dibromochloromethane	580	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	580	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-35

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.13

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05410.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 14.12 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	870	U
1330-20-7	o-Xylene	580	U
100-42-5	Styrene	580	U
75-25-2	Bromoform	580	U
79-34-5	1,1,2,2-Tetrachloroethane	580	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-35**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.13

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05410.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 14.12 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-36

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.15

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05411.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 15.7 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	920	U
108203	Di-isopropyl ether	610	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	920	U
74-83-9	Bromomethane	610	U
75-00-3	Chloroethane	920	U
75-69-4	Trichlorofluoromethane	610	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	610	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	610	U
156-60-5	trans-1,2-Dichloroethene	610	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	920	U
78-93-3	2-Butanone	920	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	610	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	610	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	610	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	610	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	610	U
79-00-5	1,1,2-Trichloroethane	610	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	610	U
126-48-1	Dibromochloromethane	610	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	610	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-36**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.15

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05411.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 15.7 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	920	U
1330-20-7	o-Xylene	610	U
100-42-5	Styrene	610	U
75-25-2	Bromoform	610	U
79-34-5	1,1,2,2-Tetrachloroethane	610	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-36**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.15

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05411.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 15.7 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-37

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.17

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05412.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 24.05 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2400	U
107131	Acrylonitrile	2400	U
75650	tert-Butyl alcohol	4500	U
1634044	Methyl-tert-Butyl ether	1000	U
108203	Di-isopropyl ether	690	U
	Dichlorodifluoromethane	1400	U
74-87-3	Chloromethane	340	U
75-01-4	Vinyl Chloride	1000	U
74-83-9	Bromomethane	690	U
75-00-3	Chloroethane	1000	U
75-69-4	Trichlorofluoromethane	690	U
75-35-4	1,1-Dichloroethene	340	U
67-64-1	Acetone	690	U
75-15-0	Carbon Disulfide	340	U
75-09-2	Methylene Chloride	690	U
156-60-5	trans-1,2-Dichloroethene	690	U
75-35-3	1,1-Dichloroethane	340	U
108-05-4	Vinyl Acetate	1000	U
78-93-3	2-Butanone	1000	U
	cis-1,2-Dichloroethene	340	U
67-66-3	Chloroform	340	U
75-55-6	1,1,1-Trichloroethane	340	U
56-23-5	Carbon Tetrachloride	690	U
71-43-2	Benzene	340	U
107-06-2	1,2-Dichloroethane	690	U
79-01-6	Trichloroethene	340	U
78-87-5	1,2-Dichloropropane	340	U
75-27-4	Bromodichloromethane	340	U
110-75-8	2-Chloroethyl vinyl ether	690	U
10061-01-5	cis-1,3-Dichloropropene	340	U
108-10-1	4-Methyl-2-Pentanone	690	U
108-88-3	Toluene	340	U
10061-02-6	trans-1,3-Dichloropropene	690	U
79-00-5	1,1,2-Trichloroethane	690	U
127-18-4	Tetrachloroethene	340	U
591-78-6	2-Hexanone	690	U
126-48-1	Dibromochloromethane	690	U
108-90-7	Chlorobenzene	340	U
100-41-4	Ethylbenzene	690	U

000383

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-37

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.17

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05412.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 24.05 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	1000	U
1330-20-7	o-Xylene	690	U
100-42-5	Styrene	690	U
75-25-2	Bromoform	690	U
79-34-5	1,1,2,2-Tetrachloroethane	690	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-37**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.17

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05412.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 24.05 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-38

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.19

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05413.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 14.06 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3700	U
1634044	Methyl-tert-Butyl ether	860	U
108203	Di-isopropyl ether	580	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	860	U
74-83-9	Bromomethane	580	U
75-00-3	Chloroethane	860	U
75-69-4	Trichlorofluoromethane	580	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	580	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	580	U
156-60-5	trans-1,2-Dichloroethene	580	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	860	U
78-93-3	2-Butanone	860	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	580	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	580	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	580	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	580	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	580	U
79-00-5	1,1,2-Trichloroethane	580	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	580	U
126-48-1	Dibromochloromethane	580	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	580	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-38

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.19

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05413.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 14.06 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	860	U
1330-20-7	o-Xylene	580	U
100-42-5	Styrene	580	U
75-25-2	Bromoform	580	U
79-34-5	1,1,2,2-Tetrachloroethane	580	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: B-38

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.19

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05413.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 14.06 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-39

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.21

Sample wt/vol: 10.3 (g/ml) G Lab File ID: V05414.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 12.66 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3600	U
1634044	Methyl-tert-Butyl ether	840	U
108203	Di-isopropyl ether	560	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	840	U
74-83-9	Bromomethane	560	U
75-00-3	Chloroethane	840	U
75-69-4	Trichlorofluoromethane	560	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	560	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	560	U
156-60-5	trans-1,2-Dichloroethene	560	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	840	U
78-93-3	2-Butanone	840	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	560	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	560	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	560	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	560	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	560	U
79-00-5	1,1,2-Trichloroethane	560	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	560	U
126-48-1	Dibromochloromethane	560	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	560	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-39

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.21

Sample wt/vol: 10.3 (g/ml) G Lab File ID: V05414.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 12.66 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	840	U
1330-20-7	o-Xylene	560	U
100-42-5	Styrene	560	U
75-25-2	Bromoform	560	U
79-34-5	1,1,2,2-Tetrachloroethane	560	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-39**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.21

Sample wt/vol: 10.3 (g/ml) G Lab File ID: V05414.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 12.66 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-40

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.23

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05415.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 12.34 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3700	U
1634044	Methyl-tert-Butyl ether	850	U
108203	Di-isopropyl ether	570	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	850	U
74-83-9	Bromomethane	570	U
75-00-3	Chloroethane	850	U
75-69-4	Trichlorofluoromethane	570	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	570	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	570	U
156-60-5	trans-1,2-Dichloroethene	570	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	850	U
78-93-3	2-Butanone	850	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	570	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	570	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	570	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	570	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	570	U
79-00-5	1,1,2-Trichloroethane	570	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	570	U
126-48-1	Dibromochloromethane	570	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	570	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-40**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.23

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05415.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 12.34 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	850	U
1330-20-7	o-Xylene	570	U
100-42-5	Styrene	570	U
75-25-2	Bromoform	570	U
79-34-5	1,1,2,2-Tetrachloroethane	570	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-40**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.23

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05415.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 12.34 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-41

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.25

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05416.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 13.52 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	880	U
108203	Di-isopropyl ether	580	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	880	U
74-83-9	Bromomethane	580	U
75-00-3	Chloroethane	880	U
75-69-4	Trichlorofluoromethane	580	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	580	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	580	U
156-60-5	trans-1,2-Dichloroethene	580	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	880	U
78-93-3	2-Butanone	880	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	580	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	580	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	580	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	580	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	580	U
79-00-5	1,1,2-Trichloroethane	580	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	580	U
126-48-1	Dibromochloromethane	580	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	580	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-41**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.25

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05416.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 13.52 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	880	U
1330-20-7	o-Xylene	580	U
100-42-5	Styrene	580	U
75-25-2	Bromoform	580	U
79-34-5	1,1,2,2-Tetrachloroethane	580	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-41**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.25

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05416.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 13.52 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-42

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.27

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05417.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 14.58 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3900	U
1634044	Methyl-tert-Butyl ether	900	U
108203	Di-isopropyl ether	600	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl Chloride	900	U
74-83-9	Bromomethane	600	U
75-00-3	Chloroethane	900	U
75-69-4	Trichlorofluoromethane	600	U
75-35-4	1,1-Dichloroethene	300	U
67-64-1	Acetone	600	U
75-15-0	Carbon Disulfide	300	U
75-09-2	Methylene Chloride	600	U
156-60-5	trans-1,2-Dichloroethene	600	U
75-35-3	1,1-Dichloroethane	300	U
108-05-4	Vinyl Acetate	900	U
78-93-3	2-Butanone	900	U
	cis-1,2-Dichloroethene	300	U
67-66-3	Chloroform	300	U
75-55-6	1,1,1-Trichloroethane	300	U
56-23-5	Carbon Tetrachloride	600	U
71-43-2	Benzene	300	U
107-06-2	1,2-Dichloroethane	600	U
79-01-6	Trichloroethene	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
110-75-8	2-Chloroethyl vinyl ether	600	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-Pentanone	600	U
108-88-3	Toluene	300	U
10061-02-6	trans-1,3-Dichloropropene	600	U
79-00-5	1,1,2-Trichloroethane	600	U
127-18-4	Tetrachloroethene	300	U
591-78-6	2-Hexanone	600	U
126-48-1	Dibromochloromethane	600	U
108-90-7	Chlorobenzene	300	U
100-41-4	Ethylbenzene	600	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-42

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.27

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05417.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 14.58 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	900	U
1330-20-7	o-Xylene	600	U
100-42-5	Styrene	600	U
75-25-2	Bromoform	600	U
79-34-5	1,1,2,2-Tetrachloroethane	600	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-42**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.27

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05417.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 14.58 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-43

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.29

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05418.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 13.88 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	910	U
108203	Di-isopropyl ether	610	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl Chloride	910	U
74-83-9	Bromomethane	610	U
75-00-3	Chloroethane	910	U
75-69-4	Trichlorofluoromethane	610	U
75-35-4	1,1-Dichloroethene	300	U
67-64-1	Acetone	610	U
75-15-0	Carbon Disulfide	300	U
75-09-2	Methylene Chloride	610	U
156-60-5	trans-1,2-Dichloroethene	610	U
75-35-3	1,1-Dichloroethane	300	U
108-05-4	Vinyl Acetate	910	U
78-93-3	2-Butanone	910	U
	cis-1,2-Dichloroethene	300	U
67-66-3	Chloroform	300	U
75-55-6	1,1,1-Trichloroethane	300	U
56-23-5	Carbon Tetrachloride	610	U
71-43-2	Benzene	300	U
107-06-2	1,2-Dichloroethane	610	U
79-01-6	Trichloroethene	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
110-75-8	2-Chloroethyl vinyl ether	610	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-Pentanone	610	U
108-88-3	Toluene	300	U
10061-02-6	trans-1,3-Dichloropropene	610	U
79-00-5	1,1,2-Trichloroethane	610	U
127-18-4	Tetrachloroethene	300	U
591-78-6	2-Hexanone	610	U
126-48-1	Dibromochloromethane	610	U
108-90-7	Chlorobenzene	300	U
100-41-4	Ethylbenzene	610	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-43**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.29

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05418.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 13.88 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	910	U
1330-20-7	o-Xylene	610	U
100-42-5	Styrene	610	U
75-25-2	Bromoform	610	U
79-34-5	1,1,2,2-Tetrachloroethane	610	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-43**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.29

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05418.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 13.88 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-44

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.31

Sample wt/vol: 10.4 (g/ml) G Lab File ID: V05419.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 14.91 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3700	U
1634044	Methyl-tert-Butyl ether	850	U
108203	Di-isopropyl ether	570	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	850	U
74-83-9	Bromomethane	570	U
75-00-3	Chloroethane	850	U
75-69-4	Trichlorofluoromethane	570	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	570	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	570	U
156-60-5	trans-1,2-Dichloroethene	570	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	850	U
78-93-3	2-Butanone	850	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	570	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	570	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	570	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	570	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	570	U
79-00-5	1,1,2-Trichloroethane	570	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	570	U
126-48-1	Dibromochloromethane	570	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	570	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-44**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.31

Sample wt/vol: 10.4 (g/ml) G Lab File ID: V05419.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 14.91 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	850	U
1330-20-7	o-Xylene	570	U
100-42-5	Styrene	570	U
75-25-2	Bromoform	570	U
79-34-5	1,1,2,2-Tetrachloroethane	570	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-44**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4162 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4162.31

Sample wt/vol: 10.4 (g/ml) G Lab File ID: V05419.D

Level: (low/med) MED Date Received: 12/30/98

% Moisture: not dec. 14.91 Date Analyzed: 01/11/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-45

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.03

Sample wt/vol: 9.9 (g/ml) G Lab File ID: VB02468.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 15.45 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3900	U
1634044	Methyl-tert-Butyl ether	900	U
108203	Di-isopropyl ether	600	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl Chloride	900	U
74-83-9	Bromomethane	600	U
75-00-3	Chloroethane	900	U
75-69-4	Trichlorofluoromethane	600	U
75-35-4	1,1-Dichloroethene	300	U
67-64-1	Acetone	600	U
75-15-0	Carbon Disulfide	300	U
75-09-2	Methylene Chloride	600	U
156-60-5	trans-1,2-Dichloroethene	600	U
75-35-3	1,1-Dichloroethane	300	U
108-05-4	Vinyl Acetate	900	U
78-93-3	2-Butanone	900	U
	cis-1,2-Dichloroethene	300	U
67-66-3	Chloroform	300	U
75-55-6	1,1,1-Trichloroethane	300	U
56-23-5	Carbon Tetrachloride	600	U
71-43-2	Benzene	300	U
107-06-2	1,2-Dichloroethane	600	U
79-01-6	Trichloroethene	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
110-75-8	2-Chloroethyl vinyl ether	600	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-Pentanone	600	U
108-88-3	Toluene	300	U
10061-02-6	trans-1,3-Dichloropropene	600	U
79-00-5	1,1,2-Trichloroethane	600	U
127-18-4	Tetrachloroethene	300	U
591-78-6	2-Hexanone	600	U
126-48-1	Dibromochloromethane	600	U
108-90-7	Chlorobenzene	300	U
100-41-4	Ethylbenzene	600	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-45

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.03

Sample wt/vol: 9.9 (g/ml) G Lab File ID: VB02468.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 15.45 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	900	U
1330-20-7	o-Xylene	600	U
100-42-5	Styrene	600	U
75-25-2	Bromoform	600	U
79-34-5	1,1,2,2-Tetrachloroethane	600	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

B-45

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.03

Sample wt/vol: 9.9 (g/ml) G Lab File ID: VB02468.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 15.45 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-46

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.05

Sample wt/vol: 9.9 (g/ml) G Lab File ID: VB02469.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 10.37 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3700	U
1634044	Methyl-tert-Butyl ether	850	U
108203	Di-isopropyl ether	570	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	850	U
74-83-9	Bromomethane	570	U
75-00-3	Chloroethane	850	U
75-69-4	Trichlorofluoromethane	570	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	570	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	570	U
156-60-5	trans-1,2-Dichloroethene	570	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	850	U
78-93-3	2-Butanone	850	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	570	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	570	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	570	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	570	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	570	U
79-00-5	1,1,2-Trichloroethane	570	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	570	U
126-48-1	Dibromochloromethane	570	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	570	U

UC0410

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-46

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.05

Sample wt/vol: 9.9 (g/ml) G Lab File ID: VB02469.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 10.37 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	850	U
1330-20-7	o-Xylene	570	U
100-42-5	Styrene	570	U
75-25-2	Bromoform	570	U
79-34-5	1,1,2,2-Tetrachloroethane	570	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

B-46

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.05

Sample wt/vol: 9.9 (g/ml) G Lab File ID: VB02469.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 10.37 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 1

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	7.16	1900	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-47

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.07

Sample wt/vol: 10.3 (g/ml) G Lab File ID: VB02470.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 16.85 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	880	U
108203	Di-isopropyl ether	580	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	880	U
74-83-9	Bromomethane	580	U
75-00-3	Chloroethane	880	U
75-69-4	Trichlorofluoromethane	580	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	580	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	580	U
156-60-5	trans-1,2-Dichloroethene	580	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	880	U
78-93-3	2-Butanone	880	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	580	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	580	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	580	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	580	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	580	U
79-00-5	1,1,2-Trichloroethane	580	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	580	U
126-48-1	Dibromochloromethane	580	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	580	U

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

B-47

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.07

Sample wt/vol: 10.3 (g/ml) G Lab File ID: VB02470.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 16.85 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	880	U
1330-20-7	o-Xylene	580	U
100-42-5	Styrene	580	U
75-25-2	Bromoform	580	U
79-34-5	1,1,2,2-Tetrachloroethane	580	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

B-47

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.07

Sample wt/vol: 10.3 (g/ml) G Lab File ID: VB02470.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 16.85 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-48

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.09

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB02471.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 23.92 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

107028	Acrolein	2300	U
107131	Acrylonitrile	2300	U
75650	tert-Butyl alcohol	4300	U
1634044	Methyl-tert-Butyl ether	990	U
108203	Di-isopropyl ether	660	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	330	U
75-01-4	Vinyl Chloride	990	U
74-83-9	Bromomethane	660	U
75-00-3	Chloroethane	990	U
75-69-4	Trichlorofluoromethane	660	U
75-35-4	1,1-Dichloroethene	330	U
67-64-1	Acetone	660	U
75-15-0	Carbon Disulfide	330	U
75-09-2	Methylene Chloride	660	U
156-60-5	trans-1,2-Dichloroethene	660	U
75-35-3	1,1-Dichloroethane	330	U
108-05-4	Vinyl Acetate	990	U
78-93-3	2-Butanone	990	U
	cis-1,2-Dichloroethene	330	U
67-66-3	Chloroform	330	U
75-55-6	1,1,1-Trichloroethane	330	U
56-23-5	Carbon Tetrachloride	660	U
71-43-2	Benzene	330	U
107-06-2	1,2-Dichloroethane	660	U
79-01-6	Trichloroethene	330	U
78-87-5	1,2-Dichloropropane	330	U
75-27-4	Bromodichloromethane	330	U
110-75-8	2-Chloroethyl vinyl ether	660	U
10061-01-5	cis-1,3-Dichloropropene	330	U
108-10-1	4-Methyl-2-Pentanone	660	U
108-88-3	Toluene	330	U
10061-02-6	trans-1,3-Dichloropropene	660	U
79-00-5	1,1,2-Trichloroethane	660	U
127-18-4	Tetrachloroethene	330	U
591-78-6	2-Hexanone	660	U
126-48-1	Dibromochloromethane	660	U
108-90-7	Chlorobenzene	330	U
100-41-4	Ethylbenzene	660	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-48

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.09

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB02471.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 23.92 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	990	U
1330-20-7	o-Xylene	660	U
100-42-5	Styrene	660	U
75-25-2	Bromoform	660	U
79-34-5	1,1,2,2-Tetrachloroethane	660	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

B-48

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.09

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB02471.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 23.92 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-49

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.11

Sample wt/vol: 9.9 (g/ml) G Lab File ID: VB02472.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 16.04 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3900	U
1634044	Methyl-tert-Butyl ether	900	U
108203	Di-isopropyl ether	600	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl Chloride	900	U
74-83-9	Bromomethane	600	U
75-00-3	Chloroethane	900	U
75-69-4	Trichlorofluoromethane	600	U
75-35-4	1,1-Dichloroethene	300	U
67-64-1	Acetone	600	U
75-15-0	Carbon Disulfide	300	U
75-09-2	Methylene Chloride	600	U
156-60-5	trans-1,2-Dichloroethene	600	U
75-35-3	1,1-Dichloroethane	300	U
108-05-4	Vinyl Acetate	900	U
78-93-3	2-Butanone	900	U
	cis-1,2-Dichloroethene	300	U
67-66-3	Chloroform	300	U
75-55-6	1,1,1-Trichloroethane	300	U
56-23-5	Carbon Tetrachloride	600	U
71-43-2	Benzene	300	U
107-06-2	1,2-Dichloroethane	600	U
79-01-6	Trichloroethene	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
110-75-8	2-Chloroethyl vinyl ether	600	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-Pentanone	600	U
108-88-3	Toluene	300	U
10061-02-6	trans-1,3-Dichloropropene	600	U
79-00-5	1,1,2-Trichloroethane	600	U
127-18-4	Tetrachloroethene	300	U
591-78-6	2-Hexanone	600	U
126-48-1	Dibromochloromethane	600	U
108-90-7	Chlorobenzene	300	U
100-41-4	Ethylbenzene	600	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-49

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.11

Sample wt/vol: 9.9 (g/ml) G Lab File ID: VB02472.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 16.04 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

1330-20-7	m+p-Xylenes	900	U
1330-20-7	o-Xylene	600	U
100-42-5	Styrene	600	U
75-25-2	Bromoform	600	U
79-34-5	1,1,2,2-Tetrachloroethane	600	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

B-49

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.11

Sample wt/vol: 9.9 (g/ml) G Lab File ID: VB02472.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 16.04 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

B-50

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.13

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB02473.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 17.93 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3900	U
1634044	Methyl-tert-Butyl ether	910	U
108203	Di-isopropyl ether	610	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl Chloride	910	U
74-83-9	Bromomethane	610	U
75-00-3	Chloroethane	910	U
75-69-4	Trichlorofluoromethane	610	U
75-35-4	1,1-Dichloroethene	300	U
67-64-1	Acetone	610	U
75-15-0	Carbon Disulfide	300	U
75-09-2	Methylene Chloride	610	U
156-60-5	trans-1,2-Dichloroethene	610	U
75-35-3	1,1-Dichloroethane	300	U
108-05-4	Vinyl Acetate	910	U
78-93-3	2-Butanone	910	U
	cis-1,2-Dichloroethene	300	U
67-66-3	Chloroform	300	U
75-55-6	1,1,1-Trichloroethane	300	U
56-23-5	Carbon Tetrachloride	610	U
71-43-2	Benzene	300	U
107-06-2	1,2-Dichloroethane	610	U
79-01-6	Trichloroethene	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
110-75-8	2-Chloroethyl vinyl ether	610	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-Pentanone	610	U
108-88-3	Toluene	300	U
10061-02-6	trans-1,3-Dichloropropene	610	U
79-00-5	1,1,2-Trichloroethane	610	U
127-18-4	Tetrachloroethene	300	U
591-78-6	2-Hexanone	610	U
126-48-1	Dibromochloromethane	610	U
108-90-7	Chlorobenzene	300	U
100-41-4	Ethylbenzene	610	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-50

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.13

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB02473.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 17.93 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	910	U
1330-20-7	o-Xylene	610	U
100-42-5	Styrene	610	U
75-25-2	Bromoform	610	U
79-34-5	1,1,2,2-Tetrachloroethane	610	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

B-50

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.13

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB02473.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 17.93 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-51

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.15

Sample wt/vol: 9.5 (g/ml) G Lab File ID: VB02474.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 14.73 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	920	U
108203	Di-isopropyl ether	620	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	920	U
74-83-9	Bromomethane	620	U
75-00-3	Chloroethane	920	U
75-69-4	Trichlorofluoromethane	620	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	620	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	620	U
156-60-5	trans-1,2-Dichloroethene	620	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	920	U
78-93-3	2-Butanone	920	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	620	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	620	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	620	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	620	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	620	U
79-00-5	1,1,2-Trichloroethane	620	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	620	U
126-48-1	Dibromochloromethane	620	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	620	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-51

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.15

Sample wt/vol: 9.5 (g/ml) G Lab File ID: VB02474.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 14.73 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	920	U
1330-20-7	o-Xylene	620	U
100-42-5	Styrene	620	U
75-25-2	Bromoform	620	U
79-34-5	1,1,2,2-Tetrachloroethane	620	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

B-51

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.15

Sample wt/vol: 9.5 (g/ml) G Lab File ID: VB02474.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 14.73 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-52

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.17

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB02475.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 10.69 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3600	U
1634044	Methyl-tert-Butyl ether	840	U
108203	Di-isopropyl ether	560	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	840	U
74-83-9	Bromomethane	560	U
75-00-3	Chloroethane	840	U
75-69-4	Trichlorofluoromethane	560	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	560	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	560	U
156-60-5	trans-1,2-Dichloroethene	560	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	840	U
78-93-3	2-Butanone	840	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	560	U
71-43-2	Benzene	300	
107-06-2	1,2-Dichloroethane	560	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	560	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	560	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	560	U
79-00-5	1,1,2-Trichloroethane	560	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	560	U
126-48-1	Dibromochloromethane	560	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	560	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-52

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.17

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB02475.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 10.69 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	840	U
1330-20-7	o-Xylene	560	U
100-42-5	Styrene	560	U
75-25-2	Bromoform	560	U
79-34-5	1,1,2,2-Tetrachloroethane	560	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

B-52

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.17

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB02475.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 10.69 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-53

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.19

Sample wt/vol: 10.4 (g/ml) G Lab File ID: VB02476.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 18.16 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	880	U
108203	Di-isopropyl ether	590	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	880	U
74-83-9	Bromomethane	590	U
75-00-3	Chloroethane	880	U
75-69-4	Trichlorofluoromethane	590	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	590	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	590	U
156-60-5	trans-1,2-Dichloroethene	590	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	880	U
78-93-3	2-Butanone	880	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	590	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	590	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	590	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	590	U
108-88-3	Toluene	560	
10061-02-6	trans-1,3-Dichloropropene	590	U
79-00-5	1,1,2-Trichloroethane	590	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	590	U
126-48-1	Dibromochloromethane	590	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	590	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-53

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.19

Sample wt/vol: 10.4 (g/ml) G Lab File ID: VB02476.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 18.16 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	880	U
1330-20-7	o-Xylene	590	U
100-42-5	Styrene	590	U
75-25-2	Bromoform	590	U
79-34-5	1,1,2,2-Tetrachloroethane	590	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

B-53

Lab Name: FMETL NJDEP # 13561

Project: 980211 Case No.: 4164 SDG No: _____ Location: M-14

Matrix: (soil/water) SOIL Lab Sample ID: 4164.19

Sample wt/vol: 10.4 (g/ml) G Lab File ID: VB02476.D

Level: (low/med) MED Date Received: 12/31/98

% Moisture: not dec. 18.16 Date Analyzed: 01/07/99

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-54**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.03

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05426.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 17.33 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4100	U
1634044	Methyl-tert-Butyl ether	950	U
108203	Di-isopropyl ether	630	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	320	U
75-01-4	Vinyl Chloride	950	U
74-83-9	Bromomethane	630	U
75-00-3	Chloroethane	950	U
75-69-4	Trichlorofluoromethane	630	U
75-35-4	1,1-Dichloroethene	320	U
67-64-1	Acetone	630	U
75-15-0	Carbon Disulfide	320	U
75-09-2	Methylene Chloride	630	U
156-60-5	trans-1,2-Dichloroethene	630	U
75-35-3	1,1-Dichloroethane	320	U
108-05-4	Vinyl Acetate	950	U
78-93-3	2-Butanone	950	U
	cis-1,2-Dichloroethene	320	U
67-66-3	Chloroform	320	U
75-55-6	1,1,1-Trichloroethane	320	U
56-23-5	Carbon Tetrachloride	630	U
71-43-2	Benzene	320	U
107-06-2	1,2-Dichloroethane	630	U
79-01-6	Trichloroethene	320	U
78-87-5	1,2-Dichloropropane	320	U
75-27-4	Bromodichloromethane	320	U
110-75-8	2-Chloroethyl vinyl ether	630	U
10061-01-5	cis-1,3-Dichloropropene	320	U
108-10-1	4-Methyl-2-Pentanone	630	U
108-88-3	Toluene	320	U
10061-02-6	trans-1,3-Dichloropropene	630	U
79-00-5	1,1,2-Trichloroethane	630	U
127-18-4	Tetrachloroethene	320	U
591-78-6	2-Hexanone	630	U
126-48-1	Dibromochloromethane	630	U
108-90-7	Chlorobenzene	320	U
100-41-4	Ethylbenzene	630	U

000434

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-54**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.03

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05426.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 17.33 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	950	U
1330-20-7	o-Xylene	630	U
100-42-5	Styrene	630	U
75-25-2	Bromoform	630	U
79-34-5	1,1,2,2-Tetrachloroethane	630	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-54**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.03

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05426.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 17.33 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-55

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.05

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05427.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 17.69 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4100	U
1634044	Methyl-tert-Butyl ether	960	U
108203	Di-isopropyl ether	640	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	320	U
75-01-4	Vinyl Chloride	960	U
74-83-9	Bromomethane	640	U
75-00-3	Chloroethane	960	U
75-69-4	Trichlorofluoromethane	640	U
75-35-4	1,1-Dichloroethene	320	U
67-64-1	Acetone	640	U
75-15-0	Carbon Disulfide	320	U
75-09-2	Methylene Chloride	640	U
156-60-5	trans-1,2-Dichloroethene	640	U
75-35-3	1,1-Dichloroethane	320	U
108-05-4	Vinyl Acetate	960	U
78-93-3	2-Butanone	960	U
	cis-1,2-Dichloroethene	320	U
67-66-3	Chloroform	320	U
75-55-6	1,1,1-Trichloroethane	320	U
56-23-5	Carbon Tetrachloride	640	U
71-43-2	Benzene	320	U
107-06-2	1,2-Dichloroethane	640	U
79-01-6	Trichloroethene	320	U
78-87-5	1,2-Dichloropropane	320	U
75-27-4	Bromodichloromethane	320	U
110-75-8	2-Chloroethyl vinyl ether	640	U
10061-01-5	cis-1,3-Dichloropropene	320	U
108-10-1	4-Methyl-2-Pentanone	640	U
108-88-3	Toluene	320	U
10061-02-6	trans-1,3-Dichloropropene	640	U
79-00-5	1,1,2-Trichloroethane	640	U
127-18-4	Tetrachloroethene	320	U
591-78-6	2-Hexanone	640	U
126-48-1	Dibromochloromethane	640	U
108-90-7	Chlorobenzene	320	U
100-41-4	Ethylbenzene	640	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-55

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.05

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05427.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 17.69 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	960	U
1330-20-7	o-Xylene	640	U
100-42-5	Styrene	640	U
75-25-2	Bromoform	640	U
79-34-5	1,1,2,2-Tetrachloroethane	640	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-55**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.05

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05427.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 17.69 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000439

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-56

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.07

Sample wt/vol: 6.9 (g/ml) G Lab File ID: V05428.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 8.44 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2800	U
107131	Acrylonitrile	2800	U
75650	tert-Butyl alcohol	5200	U
1634044	Methyl-tert-Butyl ether	1200	U
108203	Di-isopropyl ether	790	U
	Dichlorodifluoromethane	1600	U
74-87-3	Chloromethane	400	U
75-01-4	Vinyl Chloride	1200	U
74-83-9	Bromomethane	790	U
75-00-3	Chloroethane	1200	U
75-69-4	Trichlorofluoromethane	790	U
75-35-4	1,1-Dichloroethene	400	U
67-64-1	Acetone	790	U
75-15-0	Carbon Disulfide	400	U
75-09-2	Methylene Chloride	790	U
156-60-5	trans-1,2-Dichloroethene	790	U
75-35-3	1,1-Dichloroethane	400	U
108-05-4	Vinyl Acetate	1200	U
78-93-3	2-Butanone	1200	U
	cis-1,2-Dichloroethene	400	U
67-66-3	Chloroform	400	U
75-55-6	1,1,1-Trichloroethane	400	U
56-23-5	Carbon Tetrachloride	790	U
71-43-2	Benzene	400	U
107-06-2	1,2-Dichloroethane	790	U
79-01-6	Trichloroethene	400	U
78-87-5	1,2-Dichloropropane	400	U
75-27-4	Bromodichloromethane	400	U
110-75-8	2-Chloroethyl vinyl ether	790	U
10061-01-5	cis-1,3-Dichloropropene	400	U
108-10-1	4-Methyl-2-Pentanone	790	U
108-88-3	Toluene	750	
10061-02-6	trans-1,3-Dichloropropene	790	U
79-00-5	1,1,2-Trichloroethane	790	U
127-18-4	Tetrachloroethene	400	U
591-78-6	2-Hexanone	790	U
126-48-1	Dibromochloromethane	790	U
108-90-7	Chlorobenzene	400	U
100-41-4	Ethylbenzene	790	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-56**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.07

Sample wt/vol: 6.9 (g/ml) G Lab File ID: V05428.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 8.44 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	1200	U
1330-20-7	o-Xylene	790	U
100-42-5	Styrene	790	U
75-25-2	Bromoform	790	U
79-34-5	1,1,2,2-Tetrachloroethane	790	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-56**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.07

Sample wt/vol: 6.9 (g/ml) G Lab File ID: V05428.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 8.44 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-57

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.09

Sample wt/vol: 7.8 (g/ml) G Lab File ID: V05429.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 26.49 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	3100	U
107131	Acrylonitrile	3100	U
75650	tert-Butyl alcohol	5700	U
1634044	Methyl-tert-Butyl ether	1300	U
108203	Di-isopropyl ether	880	U
	Dichlorodifluoromethane	1800	U
74-87-3	Chloromethane	440	U
75-01-4	Vinyl Chloride	1300	U
74-83-9	Bromomethane	880	U
75-00-3	Chloroethane	1300	U
75-69-4	Trichlorofluoromethane	880	U
75-35-4	1,1-Dichloroethene	440	U
67-64-1	Acetone	880	U
75-15-0	Carbon Disulfide	440	U
75-09-2	Methylene Chloride	880	U
156-60-5	trans-1,2-Dichloroethene	880	U
75-35-3	1,1-Dichloroethane	440	U
108-05-4	Vinyl Acetate	1300	U
78-93-3	2-Butanone	1300	U
	cis-1,2-Dichloroethene	440	U
67-66-3	Chloroform	440	U
75-55-6	1,1,1-Trichloroethane	440	U
56-23-5	Carbon Tetrachloride	880	U
71-43-2	Benzene	440	U
107-06-2	1,2-Dichloroethane	880	U
79-01-6	Trichloroethene	440	U
78-87-5	1,2-Dichloropropane	440	U
75-27-4	Bromodichloromethane	440	U
110-75-8	2-Chloroethyl vinyl ether	880	U
10061-01-5	cis-1,3-Dichloropropene	440	U
108-10-1	4-Methyl-2-Pentanone	880	U
108-88-3	Toluene	440	U
10061-02-6	trans-1,3-Dichloropropene	880	U
79-00-5	1,1,2-Trichloroethane	880	U
127-18-4	Tetrachloroethene	440	U
591-78-6	2-Hexanone	880	U
126-48-1	Dibromochloromethane	880	U
108-90-7	Chlorobenzene	440	U
100-41-4	Ethylbenzene	880	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-57

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.09

Sample wt/vol: 7.8 (g/ml) G Lab File ID: V05429.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 26.49 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	1300	U
1330-20-7	o-Xylene	880	U
100-42-5	Styrene	880	U
75-25-2	Bromoform	880	U
79-34-5	1,1,2,2-Tetrachloroethane	880	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-57**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.09

Sample wt/vol: 7.8 (g/ml) G Lab File ID: V05429.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 26.49 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-58

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.11

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05430.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 15.97 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	880	U
108203	Di-isopropyl ether	580	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	880	U
74-83-9	Bromomethane	580	U
75-00-3	Chloroethane	880	U
75-69-4	Trichlorofluoromethane	580	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	580	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	580	U
156-60-5	trans-1,2-Dichloroethene	580	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	880	U
78-93-3	2-Butanone	880	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	580	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	580	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	580	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	580	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	580	U
79-00-5	1,1,2-Trichloroethane	580	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	580	U
126-48-1	Dibromochloromethane	580	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	580	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-58**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.11

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05430.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 15.97 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	880	U
1330-20-7	o-Xylene	580	U
100-42-5	Styrene	580	U
75-25-2	Bromoform	580	U
79-34-5	1,1,2,2-Tetrachloroethane	580	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-58**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.11

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05430.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 15.97 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-59

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.13

Sample wt/vol: 11.2 (g/ml) G Lab File ID: V05431.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 15.38 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3400	U
1634044	Methyl-tert-Butyl ether	790	U
108203	Di-isopropyl ether	530	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	260	U
75-01-4	Vinyl Chloride	790	U
74-83-9	Bromomethane	530	U
75-00-3	Chloroethane	790	U
75-69-4	Trichlorofluoromethane	530	U
75-35-4	1,1-Dichloroethene	260	U
67-64-1	Acetone	530	U
75-15-0	Carbon Disulfide	260	U
75-09-2	Methylene Chloride	530	U
156-60-5	trans-1,2-Dichloroethene	530	U
75-35-3	1,1-Dichloroethane	260	U
108-05-4	Vinyl Acetate	790	U
78-93-3	2-Butanone	790	U
	cis-1,2-Dichloroethene	260	U
67-66-3	Chloroform	260	U
75-55-6	1,1,1-Trichloroethane	260	U
56-23-5	Carbon Tetrachloride	530	U
71-43-2	Benzene	260	U
107-06-2	1,2-Dichloroethane	530	U
79-01-6	Trichloroethene	260	U
78-87-5	1,2-Dichloropropane	260	U
75-27-4	Bromodichloromethane	260	U
110-75-8	2-Chloroethyl vinyl ether	530	U
10061-01-5	cis-1,3-Dichloropropene	260	U
108-10-1	4-Methyl-2-Pentanone	530	U
108-88-3	Toluene	260	U
10061-02-6	trans-1,3-Dichloropropene	530	U
79-00-5	1,1,2-Trichloroethane	530	U
127-18-4	Tetrachloroethene	260	U
591-78-6	2-Hexanone	530	U
126-48-1	Dibromochloromethane	530	U
108-90-7	Chlorobenzene	260	U
100-41-4	Ethylbenzene	530	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-59**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.13

Sample wt/vol: 11.2 (g/ml) G Lab File ID: V05431.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 15.38 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	790	U
1330-20-7	o-Xylene	530	U
100-42-5	Styrene	530	U
75-25-2	Bromoform	530	U
79-34-5	1,1,2,2-Tetrachloroethane	530	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-59**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.13

Sample wt/vol: 11.2 (g/ml) G Lab File ID: V05431.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 15.38 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-60**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.15

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05432.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 16.97 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	920	U
108203	Di-isopropyl ether	610	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	920	U
74-83-9	Bromomethane	610	U
75-00-3	Chloroethane	920	U
75-69-4	Trichlorofluoromethane	610	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	610	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	610	U
156-60-5	trans-1,2-Dichloroethene	610	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	920	U
78-93-3	2-Butanone	920	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	610	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	610	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	610	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	610	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	610	U
79-00-5	1,1,2-Trichloroethane	610	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	610	U
126-48-1	Dibromochloromethane	610	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	610	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-60**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.15

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05432.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 16.97 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	920	U
1330-20-7	o-Xylene	610	U
100-42-5	Styrene	610	U
75-25-2	Bromoform	610	U
79-34-5	1,1,2,2-Tetrachloroethane	610	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-60**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.15

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05432.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 16.97 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000454

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-61**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.17

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05433.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 19.78 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4100	U
1634044	Methyl-tert-Butyl ether	950	U
108203	Di-isopropyl ether	630	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	320	U
75-01-4	Vinyl Chloride	950	U
74-83-9	Bromomethane	630	U
75-00-3	Chloroethane	950	U
75-69-4	Trichlorofluoromethane	630	U
75-35-4	1,1-Dichloroethene	320	U
67-64-1	Acetone	630	U
75-15-0	Carbon Disulfide	320	U
75-09-2	Methylene Chloride	630	U
156-60-5	trans-1,2-Dichloroethene	630	U
75-35-3	1,1-Dichloroethane	320	U
108-05-4	Vinyl Acetate	950	U
78-93-3	2-Butanone	950	U
	cis-1,2-Dichloroethene	320	U
67-66-3	Chloroform	320	U
75-55-6	1,1,1-Trichloroethane	320	U
56-23-5	Carbon Tetrachloride	630	U
71-43-2	Benzene	320	U
107-06-2	1,2-Dichloroethane	630	U
79-01-6	Trichloroethene	320	U
78-87-5	1,2-Dichloropropane	320	U
75-27-4	Bromodichloromethane	320	U
110-75-8	2-Chloroethyl vinyl ether	630	U
10061-01-5	cis-1,3-Dichloropropene	320	U
108-10-1	4-Methyl-2-Pentanone	630	U
108-88-3	Toluene	320	U
10061-02-6	trans-1,3-Dichloropropene	630	U
79-00-5	1,1,2-Trichloroethane	630	U
127-18-4	Tetrachloroethene	320	U
591-78-6	2-Hexanone	630	U
126-48-1	Dibromochloromethane	630	U
108-90-7	Chlorobenzene	320	U
100-41-4	Ethylbenzene	630	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID

B-61

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.17

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05433.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 19.78 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	950	U
1330-20-7	o-Xylene	630	U
100-42-5	Styrene	630	U
75-25-2	Bromoform	630	U
79-34-5	1,1,2,2-Tetrachloroethane	630	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-61**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.17

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05433.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 19.78 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000457

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-62

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.19

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05434.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 16.93 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3900	U
1634044	Methyl-tert-Butyl ether	900	U
108203	Di-isopropyl ether	600	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl Chloride	900	U
74-83-9	Bromomethane	600	U
75-00-3	Chloroethane	900	U
75-69-4	Trichlorofluoromethane	600	U
75-35-4	1,1-Dichloroethene	300	U
67-64-1	Acetone	600	U
75-15-0	Carbon Disulfide	300	U
75-09-2	Methylene Chloride	600	U
156-60-5	trans-1,2-Dichloroethene	600	U
75-35-3	1,1-Dichloroethane	300	U
108-05-4	Vinyl Acetate	900	U
78-93-3	2-Butanone	900	U
	cis-1,2-Dichloroethene	300	U
67-66-3	Chloroform	300	U
75-55-6	1,1,1-Trichloroethane	300	U
56-23-5	Carbon Tetrachloride	600	U
71-43-2	Benzene	300	U
107-06-2	1,2-Dichloroethane	600	U
79-01-6	Trichloroethene	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
110-75-8	2-Chloroethyl vinyl ether	600	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-Pentanone	600	U
108-88-3	Toluene	300	U
10061-02-6	trans-1,3-Dichloropropene	600	U
79-00-5	1,1,2-Trichloroethane	600	U
127-18-4	Tetrachloroethene	300	U
591-78-6	2-Hexanone	600	U
126-48-1	Dibromochloromethane	600	U
108-90-7	Chlorobenzene	300	U
100-41-4	Ethylbenzene	600	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-62

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.19

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05434.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 16.93 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	900	U
1330-20-7	o-Xylene	600	U
100-42-5	Styrene	600	U
75-25-2	Bromoform	600	U
79-34-5	1,1,2,2-Tetrachloroethane	600	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-62**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.19

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05434.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 16.93 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-63

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.21

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05435.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 15.84 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	920	U
108203	Di-isopropyl ether	610	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	920	U
74-83-9	Bromomethane	610	U
75-00-3	Chloroethane	920	U
75-69-4	Trichlorofluoromethane	610	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	610	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	610	U
156-60-5	trans-1,2-Dichloroethene	610	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	920	U
78-93-3	2-Butanone	920	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	610	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	610	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	610	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	610	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	610	U
79-00-5	1,1,2-Trichloroethane	610	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	610	U
126-48-1	Dibromochloromethane	610	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	610	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-63**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.21

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05435.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 15.84 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	920	U
1330-20-7	o-Xylene	610	U
100-42-5	Styrene	610	U
75-25-2	Bromoform	610	U
79-34-5	1,1,2,2-Tetrachloroethane	610	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-63**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.21

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05435.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 15.84 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-64**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.23

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05436.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 14.75 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3900	U
1634044	Methyl-tert-Butyl ether	900	U
108203	Di-isopropyl ether	600	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl Chloride	900	U
74-83-9	Bromomethane	600	U
75-00-3	Chloroethane	900	U
75-69-4	Trichlorofluoromethane	600	U
75-35-4	1,1-Dichloroethene	300	U
67-64-1	Acetone	600	U
75-15-0	Carbon Disulfide	300	U
75-09-2	Methylene Chloride	600	U
156-60-5	trans-1,2-Dichloroethene	600	U
75-35-3	1,1-Dichloroethane	300	U
108-05-4	Vinyl Acetate	900	U
78-93-3	2-Butanone	900	U
	cis-1,2-Dichloroethene	300	U
67-66-3	Chloroform	300	U
75-55-6	1,1,1-Trichloroethane	300	U
56-23-5	Carbon Tetrachloride	600	U
71-43-2	Benzene	300	U
107-06-2	1,2-Dichloroethane	600	U
79-01-6	Trichloroethene	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
110-75-8	2-Chloroethyl vinyl ether	600	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-Pentanone	600	U
108-88-3	Toluene	300	U
10061-02-6	trans-1,3-Dichloropropene	600	U
79-00-5	1,1,2-Trichloroethane	600	U
127-18-4	Tetrachloroethene	300	U
591-78-6	2-Hexanone	600	U
126-48-1	Dibromochloromethane	600	U
108-90-7	Chlorobenzene	300	U
100-41-4	Ethylbenzene	600	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-64**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.23

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05436.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 14.75 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	900	U
1330-20-7	o-Xylene	600	U
100-42-5	Styrene	600	U
75-25-2	Bromoform	600	U
79-34-5	1,1,2,2-Tetrachloroethane	600	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-64**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.23

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05436.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 14.75 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-65

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.25

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05437.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 17.9 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	930	U
108203	Di-isopropyl ether	620	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	930	U
74-83-9	Bromomethane	620	U
75-00-3	Chloroethane	930	U
75-69-4	Trichlorofluoromethane	620	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	620	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	620	U
156-60-5	trans-1,2-Dichloroethene	620	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	930	U
78-93-3	2-Butanone	930	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	620	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	620	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	620	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	620	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	620	U
79-00-5	1,1,2-Trichloroethane	620	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	620	U
126-48-1	Dibromochloromethane	620	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	620	U

000467

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

B-65

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.25

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05437.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 17.9 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	930	U
1330-20-7	o-Xylene	620	U
100-42-5	Styrene	620	U
75-25-2	Bromoform	620	U
79-34-5	1,1,2,2-Tetrachloroethane	620	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-65**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.25

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05437.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 17.9 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-66**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.27

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05438.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 18.08 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	920	U
108203	Di-isopropyl ether	620	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	920	U
74-83-9	Bromomethane	620	U
75-00-3	Chloroethane	920	U
75-69-4	Trichlorofluoromethane	620	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	620	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	620	U
156-60-5	trans-1,2-Dichloroethene	620	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	920	U
78-93-3	2-Butanone	920	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	620	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	620	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	620	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	620	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	620	U
79-00-5	1,1,2-Trichloroethane	620	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	620	U
126-48-1	Dibromochloromethane	620	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	620	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-66**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.27

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05438.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 18.08 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	920	U
1330-20-7	o-Xylene	620	U
100-42-5	Styrene	620	U
75-25-2	Bromoform	620	U
79-34-5	1,1,2,2-Tetrachloroethane	620	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-66**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.27

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05438.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 18.08 Date Analyzed: 01/13/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-67

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.29

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05450.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 19.6 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	920	U
108203	Di-isopropyl ether	610	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	920	U
74-83-9	Bromomethane	610	U
75-00-3	Chloroethane	920	U
75-69-4	Trichlorofluoromethane	610	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	610	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	940	
156-60-5	trans-1,2-Dichloroethene	610	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	920	U
78-93-3	2-Butanone	920	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	610	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	610	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	610	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	610	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	610	U
79-00-5	1,1,2-Trichloroethane	610	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	610	U
126-48-1	Dibromochloromethane	610	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	610	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-67**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.29

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05450.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 19.6 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	920	U
1330-20-7	o-Xylene	610	U
100-42-5	Styrene	610	U
75-25-2	Bromoform	610	U
79-34-5	1,1,2,2-Tetrachloroethane	610	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-67**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.29

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05450.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 19.6 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-68**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.31

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05451.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 21.3 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4100	U
1634044	Methyl-tert-Butyl ether	940	U
108203	Di-isopropyl ether	620	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	940	U
74-83-9	Bromomethane	620	U
75-00-3	Chloroethane	940	U
75-69-4	Trichlorofluoromethane	620	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	620	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	910	
156-60-5	trans-1,2-Dichloroethene	620	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	940	U
78-93-3	2-Butanone	940	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	620	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	620	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	620	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	620	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	620	U
79-00-5	1,1,2-Trichloroethane	620	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	620	U
126-48-1	Dibromochloromethane	620	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	620	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-68**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.31

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05451.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 21.3 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	940	U
1330-20-7	o-Xylene	620	U
100-42-5	Styrene	620	U
75-25-2	Bromoform	620	U
79-34-5	1,1,2,2-Tetrachloroethane	620	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-68**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.31

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05451.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 21.3 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-69

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.33

Sample wt/vol: 8.3 (g/ml) G Lab File ID: V05452.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 13.24 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2400	U
107131	Acrylonitrile	2400	U
75650	tert-Butyl alcohol	4500	U
1634044	Methyl-tert-Butyl ether	1000	U
108203	Di-isopropyl ether	700	U
	Dichlorodifluoromethane	1400	U
74-87-3	Chloromethane	350	U
75-01-4	Vinyl Chloride	1000	U
74-83-9	Bromomethane	700	U
75-00-3	Chloroethane	1000	U
75-69-4	Trichlorofluoromethane	700	U
75-35-4	1,1-Dichloroethene	350	U
67-64-1	Acetone	700	U
75-15-0	Carbon Disulfide	350	U
75-09-2	Methylene Chloride	1000	
156-60-5	trans-1,2-Dichloroethene	700	U
75-35-3	1,1-Dichloroethane	350	U
108-05-4	Vinyl Acetate	1000	U
78-93-3	2-Butanone	1000	U
	cis-1,2-Dichloroethene	350	U
67-66-3	Chloroform	350	U
75-55-6	1,1,1-Trichloroethane	350	U
56-23-5	Carbon Tetrachloride	700	U
71-43-2	Benzene	350	U
107-06-2	1,2-Dichloroethane	700	U
79-01-6	Trichloroethene	350	U
78-87-5	1,2-Dichloropropane	350	U
75-27-4	Bromodichloromethane	350	U
110-75-8	2-Chloroethyl vinyl ether	700	U
10061-01-5	cis-1,3-Dichloropropene	350	U
108-10-1	4-Methyl-2-Pentanone	700	U
108-88-3	Toluene	350	U
10061-02-6	trans-1,3-Dichloropropene	700	U
79-00-5	1,1,2-Trichloroethane	700	U
127-18-4	Tetrachloroethene	350	U
591-78-6	2-Hexanone	700	U
126-48-1	Dibromochloromethane	700	U
108-90-7	Chlorobenzene	350	U
100-41-4	Ethylbenzene	700	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-69**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.33

Sample wt/vol: 8.3 (g/ml) G Lab File ID: V05452.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 13.24 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	1000	U
1330-20-7	o-Xylene	700	U
100-42-5	Styrene	700	U
75-25-2	Bromoform	700	U
79-34-5	1,1,2,2-Tetrachloroethane	700	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID

TENTATIVELY IDENTIFIED COMPOUNDS

B-69

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.33

Sample wt/vol: 8.3 (g/ml) G Lab File ID: V05452.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 13.24 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-70

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.35

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05453.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 11.23 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3700	U
1634044	Methyl-tert-Butyl ether	840	U
108203	Di-isopropyl ether	560	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	840	U
74-83-9	Bromomethane	560	U
75-00-3	Chloroethane	840	U
75-69-4	Trichlorofluoromethane	560	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	560	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	440	J
156-60-5	trans-1,2-Dichloroethene	560	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	840	U
78-93-3	2-Butanone	840	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	560	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	560	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	560	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	560	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	560	U
79-00-5	1,1,2-Trichloroethane	560	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	560	U
126-48-1	Dibromochloromethane	560	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	560	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-70**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.35

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05453.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 11.23 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	840	U
1330-20-7	o-Xylene	560	U
100-42-5	Styrene	560	U
75-25-2	Bromoform	560	U
79-34-5	1,1,2,2-Tetrachloroethane	560	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-70**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.35

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05453.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 11.23 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-71**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.37

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V05454.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 17.36 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4200	U
1634044	Methyl-tert-Butyl ether	960	U
108203	Di-isopropyl ether	640	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	320	U
75-01-4	Vinyl Chloride	960	U
74-83-9	Bromomethane	640	U
75-00-3	Chloroethane	960	U
75-69-4	Trichlorofluoromethane	640	U
75-35-4	1,1-Dichloroethene	320	U
67-64-1	Acetone	640	U
75-15-0	Carbon Disulfide	320	U
75-09-2	Methylene Chloride	960	
156-60-5	trans-1,2-Dichloroethene	640	U
75-35-3	1,1-Dichloroethane	320	U
108-05-4	Vinyl Acetate	960	U
78-93-3	2-Butanone	960	U
	cis-1,2-Dichloroethene	320	U
67-66-3	Chloroform	320	U
75-55-6	1,1,1-Trichloroethane	320	U
56-23-5	Carbon Tetrachloride	640	U
71-43-2	Benzene	320	U
107-06-2	1,2-Dichloroethane	640	U
79-01-6	Trichloroethene	320	U
78-87-5	1,2-Dichloropropane	320	U
75-27-4	Bromodichloromethane	320	U
110-75-8	2-Chloroethyl vinyl ether	640	U
10061-01-5	cis-1,3-Dichloropropene	320	U
108-10-1	4-Methyl-2-Pentanone	640	U
108-88-3	Toluene	320	U
10061-02-6	trans-1,3-Dichloropropene	640	U
79-00-5	1,1,2-Trichloroethane	640	U
127-18-4	Tetrachloroethene	320	U
591-78-6	2-Hexanone	640	U
126-48-1	Dibromochloromethane	640	U
108-90-7	Chlorobenzene	320	U
100-41-4	Ethylbenzene	640	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-71

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.37

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V05454.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 17.36 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	960	U
1330-20-7	o-Xylene	640	U
100-42-5	Styrene	640	U
75-25-2	Bromoform	640	U
79-34-5	1,1,2,2-Tetrachloroethane	640	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: B-71

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4169 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4169.37

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V05454.D

Level: (low/med) MED Date Received: 01/05/99

% Moisture: not dec. 17.36 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000487

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-72

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.03

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05459.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 16.72 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4100	U
1634044	Methyl-tert-Butyl ether	940	U
108203	Di-isopropyl ether	630	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	940	U
74-83-9	Bromomethane	630	U
75-00-3	Chloroethane	940	U
75-69-4	Trichlorofluoromethane	630	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	630	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	950	
156-60-5	trans-1,2-Dichloroethene	630	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	940	U
78-93-3	2-Butanone	940	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	630	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	630	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	630	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	630	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	630	U
79-00-5	1,1,2-Trichloroethane	630	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	630	U
126-48-1	Dibromochloromethane	630	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	630	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-72

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.03

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05459.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 16.72 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	940	U
1330-20-7	o-Xylene	630	U
100-42-5	Styrene	630	U
75-25-2	Bromoform	630	U
79-34-5	1,1,2,2-Tetrachloroethane	630	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-72**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.03

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05459.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 16.72 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-73

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.05

Sample wt/vol: 10.5 (g/ml) G Lab File ID: V05460.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 19.4 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	890	U
108203	Di-isopropyl ether	590	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl Chloride	890	U
74-83-9	Bromomethane	590	U
75-00-3	Chloroethane	890	U
75-69-4	Trichlorofluoromethane	590	U
75-35-4	1,1-Dichloroethene	300	U
67-64-1	Acetone	590	U
75-15-0	Carbon Disulfide	300	U
75-09-2	Methylene Chloride	400	J
156-60-5	trans-1,2-Dichloroethene	590	U
75-35-3	1,1-Dichloroethane	300	U
108-05-4	Vinyl Acetate	890	U
78-93-3	2-Butanone	890	U
	cis-1,2-Dichloroethene	300	U
67-66-3	Chloroform	300	U
75-55-6	1,1,1-Trichloroethane	300	U
56-23-5	Carbon Tetrachloride	590	U
71-43-2	Benzene	300	U
107-06-2	1,2-Dichloroethane	590	U
79-01-6	Trichloroethene	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
110-75-8	2-Chloroethyl vinyl ether	590	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-Pentanone	590	U
108-88-3	Toluene	300	U
10061-02-6	trans-1,3-Dichloropropene	590	U
79-00-5	1,1,2-Trichloroethane	590	U
127-18-4	Tetrachloroethene	300	U
591-78-6	2-Hexanone	590	U
126-48-1	Dibromochloromethane	590	U
108-90-7	Chlorobenzene	300	U
100-41-4	Ethylbenzene	590	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-73

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.05

Sample wt/vol: 10.5 (g/ml) G Lab File ID: V05460.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 19.4 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	890	U
1330-20-7	o-Xylene	590	U
100-42-5	Styrene	590	U
75-25-2	Bromoform	590	U
79-34-5	1,1,2,2-Tetrachloroethane	590	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-73**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.05

Sample wt/vol: 10.5 (g/ml) G Lab File ID: V05460.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 19.4 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000493

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-74

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.07

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05461.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 23.8 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2400	U
107131	Acrylonitrile	2400	U
75650	tert-Butyl alcohol	4400	U
1634044	Methyl-tert-Butyl ether	1000	U
108203	Di-isopropyl ether	680	U
	Dichlorodifluoromethane	1400	U
74-87-3	Chloromethane	340	U
75-01-4	Vinyl Chloride	1000	U
74-83-9	Bromomethane	680	U
75-00-3	Chloroethane	1000	U
75-69-4	Trichlorofluoromethane	680	U
75-35-4	1,1-Dichloroethene	340	U
67-64-1	Acetone	680	U
75-15-0	Carbon Disulfide	340	U
75-09-2	Methylene Chloride	550	J
156-60-5	trans-1,2-Dichloroethene	680	U
75-35-3	1,1-Dichloroethane	340	U
108-05-4	Vinyl Acetate	1000	U
78-93-3	2-Butanone	1000	U
	cis-1,2-Dichloroethene	340	U
67-66-3	Chloroform	340	U
75-55-6	1,1,1-Trichloroethane	340	U
56-23-5	Carbon Tetrachloride	680	U
71-43-2	Benzene	340	U
107-06-2	1,2-Dichloroethane	680	U
79-01-6	Trichloroethene	340	U
78-87-5	1,2-Dichloropropane	340	U
75-27-4	Bromodichloromethane	340	U
110-75-8	2-Chloroethyl vinyl ether	680	U
10061-01-5	cis-1,3-Dichloropropene	340	U
108-10-1	4-Methyl-2-Pentanone	680	U
108-88-3	Toluene	340	U
10061-02-6	trans-1,3-Dichloropropene	680	U
79-00-5	1,1,2-Trichloroethane	680	U
127-18-4	Tetrachloroethene	340	U
591-78-6	2-Hexanone	680	U
126-48-1	Dibromochloromethane	680	U
108-90-7	Chlorobenzene	340	U
100-41-4	Ethylbenzene	680	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-74**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.07

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05461.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 23.8 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	1000	U
1330-20-7	o-Xylene	680	U
100-42-5	Styrene	680	U
75-25-2	Bromoform	680	U
79-34-5	1,1,2,2-Tetrachloroethane	680	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-74**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.07

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05461.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 23.8 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000496

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-75**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.09

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05462.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 14.84 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	870	U
108203	Di-isopropyl ether	580	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	870	U
74-83-9	Bromomethane	580	U
75-00-3	Chloroethane	870	U
75-69-4	Trichlorofluoromethane	580	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	580	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	420	J
156-60-5	trans-1,2-Dichloroethene	580	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	870	U
78-93-3	2-Butanone	870	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	580	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	580	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	580	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	580	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	580	U
79-00-5	1,1,2-Trichloroethane	580	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	580	U
126-48-1	Dibromochloromethane	580	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	580	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-75**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.09

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05462.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 14.84 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	870	U
1330-20-7	o-Xylene	580	U
100-42-5	Styrene	580	U
75-25-2	Bromoform	580	U
79-34-5	1,1,2,2-Tetrachloroethane	580	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-75**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.09

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05462.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 14.84 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

C0499

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-76

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.11

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05463.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 19.05 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4100	U
1634044	Methyl-tert-Butyl ether	950	U
108203	Di-isopropyl ether	630	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	320	U
75-01-4	Vinyl Chloride	950	U
74-83-9	Bromomethane	630	U
75-00-3	Chloroethane	950	U
75-69-4	Trichlorofluoromethane	630	U
75-35-4	1,1-Dichloroethene	320	U
67-64-1	Acetone	630	U
75-15-0	Carbon Disulfide	320	U
75-09-2	Methylene Chloride	420	J
156-60-5	trans-1,2-Dichloroethene	630	U
75-35-3	1,1-Dichloroethane	320	U
108-05-4	Vinyl Acetate	950	U
78-93-3	2-Butanone	950	U
	cis-1,2-Dichloroethene	320	U
67-66-3	Chloroform	320	U
75-55-6	1,1,1-Trichloroethane	320	U
56-23-5	Carbon Tetrachloride	630	U
71-43-2	Benzene	320	U
107-06-2	1,2-Dichloroethane	630	U
79-01-6	Trichloroethene	320	U
78-87-5	1,2-Dichloropropane	320	U
75-27-4	Bromodichloromethane	320	U
110-75-8	2-Chloroethyl vinyl ether	630	U
10061-01-5	cis-1,3-Dichloropropene	320	U
108-10-1	4-Methyl-2-Pentanone	630	U
108-88-3	Toluene	320	U
10061-02-6	trans-1,3-Dichloropropene	630	U
79-00-5	1,1,2-Trichloroethane	630	U
127-18-4	Tetrachloroethene	320	U
591-78-6	2-Hexanone	630	U
126-48-1	Dibromochloromethane	630	U
108-90-7	Chlorobenzene	320	U
100-41-4	Ethylbenzene	630	U

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

B-76

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.11

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05463.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 19.05 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	950	U
1330-20-7	o-Xylene	630	U
100-42-5	Styrene	630	U
75-25-2	Bromoform	630	U
79-34-5	1,1,2,2-Tetrachloroethane	630	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID

TENTATIVELY IDENTIFIED COMPOUNDS

B-76

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.11

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05463.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 19.05 Date Analyzed: 01/15/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-77

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.13

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05473.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 14.26 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3900	U
1634044	Methyl-tert-Butyl ether	890	U
108203	Di-isopropyl ether	590	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl Chloride	890	U
74-83-9	Bromomethane	590	U
75-00-3	Chloroethane	890	U
75-69-4	Trichlorofluoromethane	590	U
75-35-4	1,1-Dichloroethene	300	U
67-64-1	Acetone	590	U
75-15-0	Carbon Disulfide	300	U
75-09-2	Methylene Chloride	1100	
156-60-5	trans-1,2-Dichloroethene	590	U
75-35-3	1,1-Dichloroethane	300	U
108-05-4	Vinyl Acetate	890	U
78-93-3	2-Butanone	890	U
	cis-1,2-Dichloroethene	300	U
67-66-3	Chloroform	300	U
75-55-6	1,1,1-Trichloroethane	300	U
56-23-5	Carbon Tetrachloride	590	U
71-43-2	Benzene	300	U
107-06-2	1,2-Dichloroethane	590	U
79-01-6	Trichloroethene	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
110-75-8	2-Chloroethyl vinyl ether	590	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-Pentanone	590	U
108-88-3	Toluene	300	U
10061-02-6	trans-1,3-Dichloropropene	590	U
79-00-5	1,1,2-Trichloroethane	590	U
127-18-4	Tetrachloroethene	300	U
591-78-6	2-Hexanone	590	U
126-48-1	Dibromochloromethane	590	U
108-90-7	Chlorobenzene	300	U
100-41-4	Ethylbenzene	590	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-77**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.13

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05473.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 14.26 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	890	U
1330-20-7	o-Xylene	590	U
100-42-5	Styrene	590	U
75-25-2	Bromoform	590	U
79-34-5	1,1,2,2-Tetrachloroethane	590	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-77**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.13

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05473.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 14.26 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

VC0505

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-78**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.15

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05474.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 21.47 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2300	U
107131	Acrylonitrile	2300	U
75650	tert-Butyl alcohol	4300	U
1634044	Methyl-tert-Butyl ether	990	U
108203	Di-isopropyl ether	660	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	330	U
75-01-4	Vinyl Chloride	990	U
74-83-9	Bromomethane	660	U
75-00-3	Chloroethane	990	U
75-69-4	Trichlorofluoromethane	660	U
75-35-4	1,1-Dichloroethene	330	U
67-64-1	Acetone	660	U
75-15-0	Carbon Disulfide	330	U
75-09-2	Methylene Chloride	2000	
156-60-5	trans-1,2-Dichloroethene	660	U
75-35-3	1,1-Dichloroethane	330	U
108-05-4	Vinyl Acetate	990	U
78-93-3	2-Butanone	990	U
	cis-1,2-Dichloroethene	330	U
67-66-3	Chloroform	330	U
75-55-6	1,1,1-Trichloroethane	330	U
56-23-5	Carbon Tetrachloride	660	U
71-43-2	Benzene	330	U
107-06-2	1,2-Dichloroethane	660	U
79-01-6	Trichloroethene	330	U
78-87-5	1,2-Dichloropropane	330	U
75-27-4	Bromodichloromethane	330	U
110-75-8	2-Chloroethyl vinyl ether	660	U
10061-01-5	cis-1,3-Dichloropropene	330	U
108-10-1	4-Methyl-2-Pentanone	660	U
108-88-3	Toluene	330	U
10061-02-6	trans-1,3-Dichloropropene	660	U
79-00-5	1,1,2-Trichloroethane	660	U
127-18-4	Tetrachloroethene	330	U
591-78-6	2-Hexanone	660	U
126-48-1	Dibromochloromethane	660	U
108-90-7	Chlorobenzene	330	U
100-41-4	Ethylbenzene	660	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-78

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.15

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05474.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 21.47 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	990	U
1330-20-7	o-Xylene	660	U
100-42-5	Styrene	660	U
75-25-2	Bromoform	660	U
79-34-5	1,1,2,2-Tetrachloroethane	660	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-78**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.15

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05474.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 21.47 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

C0508

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-79**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.17

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05475.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 14.27 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3700	U
1634044	Methyl-tert-Butyl ether	860	U
108203	Di-isopropyl ether	570	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	860	U
74-83-9	Bromomethane	570	U
75-00-3	Chloroethane	860	U
75-69-4	Trichlorofluoromethane	570	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	570	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	1900	
156-60-5	trans-1,2-Dichloroethene	570	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	860	U
78-93-3	2-Butanone	860	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	570	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	570	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	570	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	570	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	570	U
79-00-5	1,1,2-Trichloroethane	570	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	570	U
126-48-1	Dibromochloromethane	570	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	570	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-79**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.17

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05475.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 14.27 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	860	U
1330-20-7	o-Xylene	570	U
100-42-5	Styrene	570	U
75-25-2	Bromoform	570	U
79-34-5	1,1,2,2-Tetrachloroethane	570	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-79**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.17

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05475.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 14.27 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000511

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-80**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.19

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05476.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 6.77 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3600	U
1634044	Methyl-tert-Butyl ether	840	U
108203	Di-isopropyl ether	560	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	840	U
74-83-9	Bromomethane	560	U
75-00-3	Chloroethane	840	U
75-69-4	Trichlorofluoromethane	560	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	560	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	1100	
156-60-5	trans-1,2-Dichloroethene	560	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	840	U
78-93-3	2-Butanone	840	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	560	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	560	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	560	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	560	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	560	U
79-00-5	1,1,2-Trichloroethane	560	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	560	U
126-48-1	Dibromochloromethane	560	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	560	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-80**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.19

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05476.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 6.77 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	840	U
1330-20-7	o-Xylene	560	U
100-42-5	Styrene	560	U
75-25-2	Bromoform	560	U
79-34-5	1,1,2,2-Tetrachloroethane	560	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-80**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.19

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05476.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 6.77 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

00514

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-81

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.21

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05477.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 5.86 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1900	U
107131	Acrylonitrile	1900	U
75650	tert-Butyl alcohol	3500	U
1634044	Methyl-tert-Butyl ether	810	U
108203	Di-isopropyl ether	540	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	270	U
75-01-4	Vinyl Chloride	810	U
74-83-9	Bromomethane	540	U
75-00-3	Chloroethane	810	U
75-69-4	Trichlorofluoromethane	540	U
75-35-4	1,1-Dichloroethene	270	U
67-64-1	Acetone	540	U
75-15-0	Carbon Disulfide	270	U
75-09-2	Methylene Chloride	1700	
156-60-5	trans-1,2-Dichloroethene	540	U
75-35-3	1,1-Dichloroethane	270	U
108-05-4	Vinyl Acetate	810	U
78-93-3	2-Butanone	810	U
	cis-1,2-Dichloroethene	270	U
67-66-3	Chloroform	270	U
75-55-6	1,1,1-Trichloroethane	270	U
56-23-5	Carbon Tetrachloride	540	U
71-43-2	Benzene	270	U
107-06-2	1,2-Dichloroethane	540	U
79-01-6	Trichloroethene	270	U
78-87-5	1,2-Dichloropropane	270	U
75-27-4	Bromodichloromethane	270	U
110-75-8	2-Chloroethyl vinyl ether	540	U
10061-01-5	cis-1,3-Dichloropropene	270	U
108-10-1	4-Methyl-2-Pentanone	540	U
108-88-3	Toluene	270	U
10061-02-6	trans-1,3-Dichloropropene	540	U
79-00-5	1,1,2-Trichloroethane	540	U
127-18-4	Tetrachloroethene	270	U
591-78-6	2-Hexanone	540	U
126-48-1	Dibromochloromethane	540	U
108-90-7	Chlorobenzene	270	U
100-41-4	Ethylbenzene	540	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-81**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.21

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05477.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 5.86 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	810	U
1330-20-7	o-Xylene	540	U
100-42-5	Styrene	540	U
75-25-2	Bromoform	540	U
79-34-5	1,1,2,2-Tetrachloroethane	540	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-81**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.21

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05477.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 5.86 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-82

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.23

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05478.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 10.21 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1900	U
107131	Acrylonitrile	1900	U
75650	tert-Butyl alcohol	3600	U
1634044	Methyl-tert-Butyl ether	820	U
108203	Di-isopropyl ether	550	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	270	U
75-01-4	Vinyl Chloride	820	U
74-83-9	Bromomethane	550	U
75-00-3	Chloroethane	820	U
75-69-4	Trichlorofluoromethane	550	U
75-35-4	1,1-Dichloroethene	270	U
67-64-1	Acetone	550	U
75-15-0	Carbon Disulfide	270	U
75-09-2	Methylene Chloride	1800	
156-60-5	trans-1,2-Dichloroethene	550	U
75-35-3	1,1-Dichloroethane	270	U
108-05-4	Vinyl Acetate	820	U
78-93-3	2-Butanone	820	U
	cis-1,2-Dichloroethene	270	U
67-66-3	Chloroform	270	U
75-55-6	1,1,1-Trichloroethane	270	U
56-23-5	Carbon Tetrachloride	550	U
71-43-2	Benzene	270	U
107-06-2	1,2-Dichloroethane	550	U
79-01-6	Trichloroethene	270	U
78-87-5	1,2-Dichloropropane	270	U
75-27-4	Bromodichloromethane	270	U
110-75-8	2-Chloroethyl vinyl ether	550	U
10061-01-5	cis-1,3-Dichloropropene	270	U
108-10-1	4-Methyl-2-Pentanone	550	U
108-88-3	Toluene	270	U
10061-02-6	trans-1,3-Dichloropropene	550	U
79-00-5	1,1,2-Trichloroethane	550	U
127-18-4	Tetrachloroethene	270	U
591-78-6	2-Hexanone	550	U
126-48-1	Dibromochloromethane	550	U
108-90-7	Chlorobenzene	270	U
100-41-4	Ethylbenzene	550	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-82**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.23

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05478.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 10.21 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	820	U
1330-20-7	o-Xylene	550	U
100-42-5	Styrene	550	U
75-25-2	Bromoform	550	U
79-34-5	1,1,2,2-Tetrachloroethane	550	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-82**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.23

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05478.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 10.21 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000520

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-83

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.25

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05479.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 16.88 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4100	U
1634044	Methyl-tert-Butyl ether	940	U
108203	Di-isopropyl ether	630	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	940	U
74-83-9	Bromomethane	630	U
75-00-3	Chloroethane	940	U
75-69-4	Trichlorofluoromethane	630	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	630	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	1100	
156-60-5	trans-1,2-Dichloroethene	630	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	940	U
78-93-3	2-Butanone	940	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	630	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	630	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	630	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	630	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	630	U
79-00-5	1,1,2-Trichloroethane	630	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	630	U
126-48-1	Dibromochloromethane	630	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	630	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-83**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.25

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05479.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 16.88 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	940	U
1330-20-7	o-Xylene	630	U
100-42-5	Styrene	630	U
75-25-2	Bromoform	630	U
79-34-5	1,1,2,2-Tetrachloroethane	630	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-83**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.25

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05479.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 16.88 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-84

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.27

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05480.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 9.97 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3700	U
1634044	Methyl-tert-Butyl ether	860	U
108203	Di-isopropyl ether	570	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	860	U
74-83-9	Bromomethane	570	U
75-00-3	Chloroethane	860	U
75-69-4	Trichlorofluoromethane	570	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	570	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	1800	
156-60-5	trans-1,2-Dichloroethene	570	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	860	U
78-93-3	2-Butanone	860	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	570	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	570	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	570	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	570	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	570	U
79-00-5	1,1,2-Trichloroethane	570	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	570	U
126-48-1	Dibromochloromethane	570	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	570	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-84

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.27

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05480.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 9.97 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	860	U
1330-20-7	o-Xylene	570	U
100-42-5	Styrene	570	U
75-25-2	Bromoform	570	U
79-34-5	1,1,2,2-Tetrachloroethane	570	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-84**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.27

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05480.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 9.97 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-85

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.29

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05481.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 19.15 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	920	U
108203	Di-isopropyl ether	610	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	920	U
74-83-9	Bromomethane	610	U
75-00-3	Chloroethane	920	U
75-69-4	Trichlorofluoromethane	610	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	610	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	2000	
156-60-5	trans-1,2-Dichloroethene	610	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	920	U
78-93-3	2-Butanone	920	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	610	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	610	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	610	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	610	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	610	U
79-00-5	1,1,2-Trichloroethane	610	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	610	U
126-48-1	Dibromochloromethane	610	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	610	U

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

B-85

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.29

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05481.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 19.15 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	920	U
1330-20-7	o-Xylene	610	U
100-42-5	Styrene	610	U
75-25-2	Bromoform	610	U
79-34-5	1,1,2,2-Tetrachloroethane	610	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-85**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.29

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05481.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 19.15 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-86**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.31

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05482.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 20.16 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4100	U
1634044	Methyl-tert-Butyl ether	960	U
108203	Di-isopropyl ether	640	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	320	U
75-01-4	Vinyl Chloride	960	U
74-83-9	Bromomethane	640	U
75-00-3	Chloroethane	960	U
75-69-4	Trichlorofluoromethane	640	U
75-35-4	1,1-Dichloroethene	320	U
67-64-1	Acetone	640	U
75-15-0	Carbon Disulfide	320	U
75-09-2	Methylene Chloride	2100	
156-60-5	trans-1,2-Dichloroethene	640	U
75-35-3	1,1-Dichloroethane	320	U
108-05-4	Vinyl Acetate	960	U
78-93-3	2-Butanone	960	U
	cis-1,2-Dichloroethene	320	U
67-66-3	Chloroform	320	U
75-55-6	1,1,1-Trichloroethane	320	U
56-23-5	Carbon Tetrachloride	640	U
71-43-2	Benzene	320	U
107-06-2	1,2-Dichloroethane	640	U
79-01-6	Trichloroethene	320	U
78-87-5	1,2-Dichloropropane	320	U
75-27-4	Bromodichloromethane	320	U
110-75-8	2-Chloroethyl vinyl ether	640	U
10061-01-5	cis-1,3-Dichloropropene	320	U
108-10-1	4-Methyl-2-Pentanone	640	U
108-88-3	Toluene	320	U
10061-02-6	trans-1,3-Dichloropropene	640	U
79-00-5	1,1,2-Trichloroethane	640	U
127-18-4	Tetrachloroethene	320	U
591-78-6	2-Hexanone	640	U
126-48-1	Dibromochloromethane	640	U
108-90-7	Chlorobenzene	320	U
100-41-4	Ethylbenzene	640	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-86**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.31

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05482.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 20.16 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	960	U
1330-20-7	o-Xylene	640	U
100-42-5	Styrene	640	U
75-25-2	Bromoform	640	U
79-34-5	1,1,2,2-Tetrachloroethane	640	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-86**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4173 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4173.31

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05482.D

Level: (low/med) MED Date Received: 01/06/99

% Moisture: not dec. 20.16 Date Analyzed: 01/19/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-87**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.03

Sample wt/vol: 9.1 (g/ml) G Lab File ID: V05487.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 12.71 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4100	U
1634044	Methyl-tert-Butyl ether	940	U
108203	Di-isopropyl ether	630	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	940	U
74-83-9	Bromomethane	630	U
75-00-3	Chloroethane	940	U
75-69-4	Trichlorofluoromethane	630	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	630	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	720	
156-60-5	trans-1,2-Dichloroethene	630	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	940	U
78-93-3	2-Butanone	940	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	630	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	630	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	630	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	630	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	630	U
79-00-5	1,1,2-Trichloroethane	630	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	630	U
126-48-1	Dibromochloromethane	630	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	630	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-87

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.03

Sample wt/vol: 9.1 (g/ml) G Lab File ID: V05487.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 12.71 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	940	U
1330-20-7	o-Xylene	630	U
100-42-5	Styrene	630	U
75-25-2	Bromoform	630	U
79-34-5	1,1,2,2-Tetrachloroethane	630	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-87**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.03

Sample wt/vol: 9.1 (g/ml) G Lab File ID: V05487.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 12.71 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 1

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000616-42-2	Sulfurous acid, dimethyl ester	24.41	2600	JN

000535

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-88**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.05

Sample wt/vol: 8.2 (g/ml) G Lab File ID: V05488.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 15.93 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2500	U
107131	Acrylonitrile	2500	U
75650	tert-Butyl alcohol	4700	U
1634044	Methyl-tert-Butyl ether	1100	U
108203	Di-isopropyl ether	730	U
	Dichlorodifluoromethane	1500	U
74-87-3	Chloromethane	360	U
75-01-4	Vinyl Chloride	1100	U
74-83-9	Bromomethane	730	U
75-00-3	Chloroethane	1100	U
75-69-4	Trichlorofluoromethane	730	U
75-35-4	1,1-Dichloroethene	360	U
67-64-1	Acetone	730	U
75-15-0	Carbon Disulfide	360	U
75-09-2	Methylene Chloride	830	
156-60-5	trans-1,2-Dichloroethene	730	U
75-35-3	1,1-Dichloroethane	360	U
108-05-4	Vinyl Acetate	1100	U
78-93-3	2-Butanone	1100	U
	cis-1,2-Dichloroethene	360	U
67-66-3	Chloroform	360	U
75-55-6	1,1,1-Trichloroethane	360	U
56-23-5	Carbon Tetrachloride	730	U
71-43-2	Benzene	360	U
107-06-2	1,2-Dichloroethane	730	U
79-01-6	Trichloroethene	360	U
78-87-5	1,2-Dichloropropane	360	U
75-27-4	Bromodichloromethane	360	U
110-75-8	2-Chloroethyl vinyl ether	730	U
10061-01-5	cis-1,3-Dichloropropene	360	U
108-10-1	4-Methyl-2-Pentanone	730	U
108-88-3	Toluene	360	U
10061-02-6	trans-1,3-Dichloropropene	730	U
79-00-5	1,1,2-Trichloroethane	730	U
127-18-4	Tetrachloroethene	360	U
591-78-6	2-Hexanone	730	U
126-48-1	Dibromochloromethane	730	U
108-90-7	Chlorobenzene	360	U
100-41-4	Ethylbenzene	730	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-88**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.05

Sample wt/vol: 8.2 (g/ml) G Lab File ID: V05488.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 15.93 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	1100	U
1330-20-7	o-Xylene	730	U
100-42-5	Styrene	730	U
75-25-2	Bromoform	730	U
79-34-5	1,1,2,2-Tetrachloroethane	730	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-88**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.05

Sample wt/vol: 8.2 (g/ml) G Lab File ID: V05488.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 15.93 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-89

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.07

Sample wt/vol: 10.8 (g/ml) G Lab File ID: V05489.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 19.33 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3700	U
1634044	Methyl-tert-Butyl ether	860	U
108203	Di-isopropyl ether	570	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	860	U
74-83-9	Bromomethane	570	U
75-00-3	Chloroethane	860	U
75-69-4	Trichlorofluoromethane	570	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	570	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	400	J
156-60-5	trans-1,2-Dichloroethene	570	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	860	U
78-93-3	2-Butanone	860	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	570	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	570	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	570	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	570	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	570	U
79-00-5	1,1,2-Trichloroethane	570	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	570	U
126-48-1	Dibromochloromethane	570	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	570	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-89**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.07

Sample wt/vol: 10.8 (g/ml) G Lab File ID: V05489.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 19.33 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	860	U
1330-20-7	o-Xylene	570	U
100-42-5	Styrene	570	U
75-25-2	Bromoform	570	U
79-34-5	1,1,2,2-Tetrachloroethane	570	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-89**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.07

Sample wt/vol: 10.8 (g/ml) G Lab File ID: V05489.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 19.33 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-90

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.09

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05490.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 14.41 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3700	U
1634044	Methyl-tert-Butyl ether	860	U
108203	Di-isopropyl ether	570	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	860	U
74-83-9	Bromomethane	570	U
75-00-3	Chloroethane	860	U
75-69-4	Trichlorofluoromethane	570	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	570	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	680	
156-60-5	trans-1,2-Dichloroethene	570	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	860	U
78-93-3	2-Butanone	860	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	570	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	570	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	570	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	570	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	570	U
79-00-5	1,1,2-Trichloroethane	570	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	570	U
126-48-1	Dibromochloromethane	570	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	570	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-90**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.09

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05490.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 14.41 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	860	U
1330-20-7	o-Xylene	570	U
100-42-5	Styrene	570	U
75-25-2	Bromoform	570	U
79-34-5	1,1,2,2-Tetrachloroethane	570	U

000543

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: B-90

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.09

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05490.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 14.41 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000544

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

B-91

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.11

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05491.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 21.85 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2300	U
107131	Acrylonitrile	2300	U
75650	tert-Butyl alcohol	4200	U
1634044	Methyl-tert-Butyl ether	970	U
108203	Di-isopropyl ether	650	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	320	U
75-01-4	Vinyl Chloride	970	U
74-83-9	Bromomethane	650	U
75-00-3	Chloroethane	970	U
75-69-4	Trichlorofluoromethane	650	U
75-35-4	1,1-Dichloroethene	320	U
67-64-1	Acetone	650	U
75-15-0	Carbon Disulfide	320	U
75-09-2	Methylene Chloride	510	J
156-60-5	trans-1,2-Dichloroethene	650	U
75-35-3	1,1-Dichloroethane	320	U
108-05-4	Vinyl Acetate	970	U
78-93-3	2-Butanone	970	U
	cis-1,2-Dichloroethene	320	U
67-66-3	Chloroform	320	U
75-55-6	1,1,1-Trichloroethane	320	U
56-23-5	Carbon Tetrachloride	650	U
71-43-2	Benzene	320	U
107-06-2	1,2-Dichloroethane	650	U
79-01-6	Trichloroethene	320	U
78-87-5	1,2-Dichloropropane	320	U
75-27-4	Bromodichloromethane	320	U
110-75-8	2-Chloroethyl vinyl ether	650	U
10061-01-5	cis-1,3-Dichloropropene	320	U
108-10-1	4-Methyl-2-Pentanone	650	U
108-88-3	Toluene	320	U
10061-02-6	trans-1,3-Dichloropropene	650	U
79-00-5	1,1,2-Trichloroethane	650	U
127-18-4	Tetrachloroethene	320	U
591-78-6	2-Hexanone	650	U
126-48-1	Dibromochloromethane	650	U
108-90-7	Chlorobenzene	320	U
100-41-4	Ethylbenzene	650	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-91**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.11

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05491.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 21.85 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	970	U
1330-20-7	o-Xylene	650	U
100-42-5	Styrene	650	U
75-25-2	Bromoform	650	U
79-34-5	1,1,2,2-Tetrachloroethane	650	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-91**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.11

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05491.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 21.85 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 1

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown hydrocarbon	14.23	2200	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-92

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.13

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05492.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 16.91 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4100	U
1634044	Methyl-tert-Butyl ether	940	U
108203	Di-isopropyl ether	620	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	940	U
74-83-9	Bromomethane	620	U
75-00-3	Chloroethane	940	U
75-69-4	Trichlorofluoromethane	620	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	620	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	670	
156-60-5	trans-1,2-Dichloroethene	620	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	940	U
78-93-3	2-Butanone	940	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	620	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	620	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	620	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	620	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	620	U
79-00-5	1,1,2-Trichloroethane	620	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	620	U
126-48-1	Dibromochloromethane	620	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	620	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-92**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.13

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05492.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 16.91 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	940	U
1330-20-7	o-Xylene	620	U
100-42-5	Styrene	620	U
75-25-2	Bromoform	620	U
79-34-5	1,1,2,2-Tetrachloroethane	620	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-92**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.13

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05492.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 16.91 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000550

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-93

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.15

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05493.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 13.6 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	870	U
108203	Di-isopropyl ether	580	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	870	U
74-83-9	Bromomethane	580	U
75-00-3	Chloroethane	870	U
75-69-4	Trichlorofluoromethane	580	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	580	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	580	U
156-60-5	trans-1,2-Dichloroethene	580	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	870	U
78-93-3	2-Butanone	870	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	580	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	580	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	580	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	580	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	580	U
79-00-5	1,1,2-Trichloroethane	580	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	580	U
126-48-1	Dibromochloromethane	580	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	580	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-93**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.15

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05493.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 13.6 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	870	U
1330-20-7	o-Xylene	580	U
100-42-5	Styrene	580	U
75-25-2	Bromoform	580	U
79-34-5	1,1,2,2-Tetrachloroethane	580	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: B-93

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.15

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V05493.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 13.6 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-94

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.17

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05494.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 18.08 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	930	U
108203	Di-isopropyl ether	620	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	930	U
74-83-9	Bromomethane	620	U
75-00-3	Chloroethane	930	U
75-69-4	Trichlorofluoromethane	620	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	620	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	700	
156-60-5	trans-1,2-Dichloroethene	620	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	930	U
78-93-3	2-Butanone	930	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	620	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	620	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	620	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	620	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	620	U
79-00-5	1,1,2-Trichloroethane	620	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	620	U
126-48-1	Dibromochloromethane	620	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	620	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-94**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.17

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05494.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 18.08 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	930	U
1330-20-7	o-Xylene	620	U
100-42-5	Styrene	620	U
75-25-2	Bromoform	620	U
79-34-5	1,1,2,2-Tetrachloroethane	620	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: B-94

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.17

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05494.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 18.08 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-95

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.19

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05495.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 18.66 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4100	U
1634044	Methyl-tert-Butyl ether	940	U
108203	Di-isopropyl ether	630	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	940	U
74-83-9	Bromomethane	630	U
75-00-3	Chloroethane	940	U
75-69-4	Trichlorofluoromethane	630	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	630	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	730	
156-60-5	trans-1,2-Dichloroethene	630	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	940	U
78-93-3	2-Butanone	940	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	630	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	630	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	630	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	630	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	630	U
79-00-5	1,1,2-Trichloroethane	630	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	630	U
126-48-1	Dibromochloromethane	630	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	630	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-95**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.19

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05495.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 18.66 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	940	U
1330-20-7	o-Xylene	630	U
100-42-5	Styrene	630	U
75-25-2	Bromoform	630	U
79-34-5	1,1,2,2-Tetrachloroethane	630	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-95**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4177 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4177.19

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05495.D

Level: (low/med) MED Date Received: 01/07/99

% Moisture: not dec. 18.66 Date Analyzed: 01/20/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000559

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-96

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.03

Sample wt/vol: 7.5 (g/ml) G Lab File ID: V05503.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 15.2 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2800	U
107131	Acrylonitrile	2800	U
75650	tert-Butyl alcohol	5100	U
1634044	Methyl-tert-Butyl ether	1200	U
108203	Di-isopropyl ether	790	U
	Dichlorodifluoromethane	1600	U
74-87-3	Chloromethane	400	U
75-01-4	Vinyl Chloride	1200	U
74-83-9	Bromomethane	790	U
75-00-3	Chloroethane	1200	U
75-69-4	Trichlorofluoromethane	790	U
75-35-4	1,1-Dichloroethene	400	U
67-64-1	Acetone	790	U
75-15-0	Carbon Disulfide	400	U
75-09-2	Methylene Chloride	790	U
156-60-5	trans-1,2-Dichloroethene	790	U
75-35-3	1,1-Dichloroethane	400	U
108-05-4	Vinyl Acetate	1200	U
78-93-3	2-Butanone	1200	U
	cis-1,2-Dichloroethene	400	U
67-66-3	Chloroform	400	U
75-55-6	1,1,1-Trichloroethane	400	U
56-23-5	Carbon Tetrachloride	790	U
71-43-2	Benzene	400	U
107-06-2	1,2-Dichloroethane	790	U
79-01-6	Trichloroethene	400	U
78-87-5	1,2-Dichloropropane	400	U
75-27-4	Bromodichloromethane	400	U
110-75-8	2-Chloroethyl vinyl ether	790	U
10061-01-5	cis-1,3-Dichloropropene	400	U
108-10-1	4-Methyl-2-Pentanone	790	U
108-88-3	Toluene	400	U
10061-02-6	trans-1,3-Dichloropropene	790	U
79-00-5	1,1,2-Trichloroethane	790	U
127-18-4	Tetrachloroethene	400	U
591-78-6	2-Hexanone	790	U
126-48-1	Dibromochloromethane	790	U
108-90-7	Chlorobenzene	400	U
100-41-4	Ethylbenzene	790	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-96**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.03

Sample wt/vol: 7.5 (g/ml) G Lab File ID: V05503.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 15.2 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	1200	U
1330-20-7	o-Xylene	790	U
100-42-5	Styrene	790	U
75-25-2	Bromoform	790	U
79-34-5	1,1,2,2-Tetrachloroethane	790	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-96**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.03

Sample wt/vol: 7.5 (g/ml) G Lab File ID: V05503.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 15.2 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000562

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-97

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.05

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05504.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 15.22 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	920	U
108203	Di-isopropyl ether	610	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	920	U
74-83-9	Bromomethane	610	U
75-00-3	Chloroethane	920	U
75-69-4	Trichlorofluoromethane	610	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	610	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	610	U
156-60-5	trans-1,2-Dichloroethene	610	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	920	U
78-93-3	2-Butanone	920	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	610	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	610	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	610	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	610	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	610	U
79-00-5	1,1,2-Trichloroethane	610	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	610	U
126-48-1	Dibromochloromethane	610	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	610	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-97**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.05

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05504.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 15.22 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	920	U
1330-20-7	o-Xylene	610	U
100-42-5	Styrene	610	U
75-25-2	Bromoform	610	U
79-34-5	1,1,2,2-Tetrachloroethane	610	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-97**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.05

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05504.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 15.22 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

DC0565

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-98

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.07

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05505.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 12.09 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1900	U
107131	Acrylonitrile	1900	U
75650	tert-Butyl alcohol	3600	U
1634044	Methyl-tert-Butyl ether	830	U
108203	Di-isopropyl ether	560	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	830	U
74-83-9	Bromomethane	560	U
75-00-3	Chloroethane	830	U
75-69-4	Trichlorofluoromethane	560	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	560	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	560	U
156-60-5	trans-1,2-Dichloroethene	560	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	830	U
78-93-3	2-Butanone	830	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	560	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	560	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	560	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	560	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	560	U
79-00-5	1,1,2-Trichloroethane	560	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	560	U
126-48-1	Dibromochloromethane	560	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	560	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-98**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.07

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05505.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 12.09 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	830	U
1330-20-7	o-Xylene	560	U
100-42-5	Styrene	560	U
75-25-2	Bromoform	560	U
79-34-5	1,1,2,2-Tetrachloroethane	560	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-98**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.07

Sample wt/vol: 10.2 (g/ml) G Lab File ID: V05505.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 12.09 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-99**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.09

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05506.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 20.06 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4100	U
1634044	Methyl-tert-Butyl ether	960	U
108203	Di-isopropyl ether	640	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	320	U
75-01-4	Vinyl Chloride	960	U
74-83-9	Bromomethane	640	U
75-00-3	Chloroethane	960	U
75-69-4	Trichlorofluoromethane	640	U
75-35-4	1,1-Dichloroethene	320	U
67-64-1	Acetone	640	U
75-15-0	Carbon Disulfide	320	U
75-09-2	Methylene Chloride	640	U
156-60-5	trans-1,2-Dichloroethene	640	U
75-35-3	1,1-Dichloroethane	320	U
108-05-4	Vinyl Acetate	960	U
78-93-3	2-Butanone	960	U
	cis-1,2-Dichloroethene	320	U
67-66-3	Chloroform	320	U
75-55-6	1,1,1-Trichloroethane	320	U
56-23-5	Carbon Tetrachloride	640	U
71-43-2	Benzene	320	U
107-06-2	1,2-Dichloroethane	640	U
79-01-6	Trichloroethene	320	U
78-87-5	1,2-Dichloropropane	320	U
75-27-4	Bromodichloromethane	320	U
110-75-8	2-Chloroethyl vinyl ether	640	U
10061-01-5	cis-1,3-Dichloropropene	320	U
108-10-1	4-Methyl-2-Pentanone	640	U
108-88-3	Toluene	320	U
10061-02-6	trans-1,3-Dichloropropene	640	U
79-00-5	1,1,2-Trichloroethane	640	U
127-18-4	Tetrachloroethene	320	U
591-78-6	2-Hexanone	640	U
126-48-1	Dibromochloromethane	640	U
108-90-7	Chlorobenzene	320	U
100-41-4	Ethylbenzene	640	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-99

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.09

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05506.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 20.06 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	960	U
1330-20-7	o-Xylene	640	U
100-42-5	Styrene	640	U
75-25-2	Bromoform	640	U
79-34-5	1,1,2,2-Tetrachloroethane	640	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-99**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.09

Sample wt/vol: 9.8 (g/ml) G Lab File ID: V05506.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 20.06 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000571

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-100**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.11

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05507.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 17.38 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	920	U
108203	Di-isopropyl ether	610	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	920	U
74-83-9	Bromomethane	610	U
75-00-3	Chloroethane	920	U
75-69-4	Trichlorofluoromethane	610	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	610	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	610	U
156-60-5	trans-1,2-Dichloroethene	610	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	920	U
78-93-3	2-Butanone	920	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	610	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	610	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	610	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	610	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	610	U
79-00-5	1,1,2-Trichloroethane	610	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	610	U
126-48-1	Dibromochloromethane	610	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	610	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID

B-100

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.11

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05507.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 17.38 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	920	U
1330-20-7	o-Xylene	610	U
100-42-5	Styrene	610	U
75-25-2	Bromoform	610	U
79-34-5	1,1,2,2-Tetrachloroethane	610	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-100**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.11

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05507.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 17.38 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000574

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-101

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.13

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05508.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 18.5 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3900	U
1634044	Methyl-tert-Butyl ether	910	U
108203	Di-isopropyl ether	610	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl Chloride	910	U
74-83-9	Bromomethane	610	U
75-00-3	Chloroethane	910	U
75-69-4	Trichlorofluoromethane	610	U
75-35-4	1,1-Dichloroethene	300	U
67-64-1	Acetone	610	U
75-15-0	Carbon Disulfide	300	U
75-09-2	Methylene Chloride	610	U
156-60-5	trans-1,2-Dichloroethene	610	U
75-35-3	1,1-Dichloroethane	300	U
108-05-4	Vinyl Acetate	910	U
78-93-3	2-Butanone	910	U
	cis-1,2-Dichloroethene	300	U
67-66-3	Chloroform	300	U
75-55-6	1,1,1-Trichloroethane	300	U
56-23-5	Carbon Tetrachloride	610	U
71-43-2	Benzene	300	U
107-06-2	1,2-Dichloroethane	610	U
79-01-6	Trichloroethene	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
110-75-8	2-Chloroethyl vinyl ether	610	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-Pentanone	610	U
108-88-3	Toluene	300	U
10061-02-6	trans-1,3-Dichloropropene	610	U
79-00-5	1,1,2-Trichloroethane	610	U
127-18-4	Tetrachloroethene	300	U
591-78-6	2-Hexanone	610	U
126-48-1	Dibromochloromethane	610	U
108-90-7	Chlorobenzene	300	U
100-41-4	Ethylbenzene	610	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-101**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.13

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05508.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 18.5 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	910	U
1330-20-7	o-Xylene	610	U
100-42-5	Styrene	610	U
75-25-2	Bromoform	610	U
79-34-5	1,1,2,2-Tetrachloroethane	610	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-101**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.13

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05508.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 18.5 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000577

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-102**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.15

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05509.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 12.01 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	880	U
108203	Di-isopropyl ether	590	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	880	U
74-83-9	Bromomethane	590	U
75-00-3	Chloroethane	880	U
75-69-4	Trichlorofluoromethane	590	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	590	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	590	U
156-60-5	trans-1,2-Dichloroethene	590	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	880	U
78-93-3	2-Butanone	880	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	590	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	590	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	590	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	590	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	590	U
79-00-5	1,1,2-Trichloroethane	590	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	590	U
126-48-1	Dibromochloromethane	590	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	590	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-102**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.15

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05509.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 12.01 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	880	U
1330-20-7	o-Xylene	590	U
100-42-5	Styrene	590	U
75-25-2	Bromoform	590	U
79-34-5	1,1,2,2-Tetrachloroethane	590	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-102**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.15

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05509.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 12.01 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-103**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.17

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05510.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 14.23 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	870	U
108203	Di-isopropyl ether	580	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	870	U
74-83-9	Bromomethane	580	U
75-00-3	Chloroethane	870	U
75-69-4	Trichlorofluoromethane	580	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	580	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	580	U
156-60-5	trans-1,2-Dichloroethene	580	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	870	U
78-93-3	2-Butanone	870	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	580	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	580	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	580	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	580	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	580	U
79-00-5	1,1,2-Trichloroethane	580	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	580	U
126-48-1	Dibromochloromethane	580	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	580	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-103**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.17

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05510.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 14.23 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	870	U
1330-20-7	o-Xylene	580	U
100-42-5	Styrene	580	U
75-25-2	Bromoform	580	U
79-34-5	1,1,2,2-Tetrachloroethane	580	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-103**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.17

Sample wt/vol: 10.1 (g/ml) G Lab File ID: V05510.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 14.23 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-104**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.19

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V05511.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 14.37 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	930	U
108203	Di-isopropyl ether	620	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	930	U
74-83-9	Bromomethane	620	U
75-00-3	Chloroethane	930	U
75-69-4	Trichlorofluoromethane	620	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	620	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	620	U
156-60-5	trans-1,2-Dichloroethene	620	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	930	U
78-93-3	2-Butanone	930	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	620	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	620	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	620	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	620	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	620	U
79-00-5	1,1,2-Trichloroethane	620	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	620	U
126-48-1	Dibromochloromethane	620	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	620	U

000584

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-104**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.19

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V05511.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 14.37 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	930	U
1330-20-7	o-Xylene	620	U
100-42-5	Styrene	620	U
75-25-2	Bromoform	620	U
79-34-5	1,1,2,2-Tetrachloroethane	620	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-104**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.19

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V05511.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 14.37 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-105**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.21

Sample wt/vol: 9.3 (g/ml) G Lab File ID: V05512.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 17.31 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2300	U
107131	Acrylonitrile	2300	U
75650	tert-Butyl alcohol	4200	U
1634044	Methyl-tert-Butyl ether	970	U
108203	Di-isopropyl ether	650	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	320	U
75-01-4	Vinyl Chloride	970	U
74-83-9	Bromomethane	650	U
75-00-3	Chloroethane	970	U
75-69-4	Trichlorofluoromethane	650	U
75-35-4	1,1-Dichloroethene	320	U
67-64-1	Acetone	650	U
75-15-0	Carbon Disulfide	320	U
75-09-2	Methylene Chloride	650	U
156-60-5	trans-1,2-Dichloroethene	650	U
75-35-3	1,1-Dichloroethane	320	U
108-05-4	Vinyl Acetate	970	U
78-93-3	2-Butanone	970	U
	cis-1,2-Dichloroethene	320	U
67-66-3	Chloroform	320	U
75-55-6	1,1,1-Trichloroethane	320	U
56-23-5	Carbon Tetrachloride	650	U
71-43-2	Benzene	320	U
107-06-2	1,2-Dichloroethane	650	U
79-01-6	Trichloroethene	320	U
78-87-5	1,2-Dichloropropane	320	U
75-27-4	Bromodichloromethane	320	U
110-75-8	2-Chloroethyl vinyl ether	650	U
10061-01-5	cis-1,3-Dichloropropene	320	U
108-10-1	4-Methyl-2-Pentanone	650	U
108-88-3	Toluene	320	U
10061-02-6	trans-1,3-Dichloropropene	650	U
79-00-5	1,1,2-Trichloroethane	650	U
127-18-4	Tetrachloroethene	320	U
591-78-6	2-Hexanone	650	U
126-48-1	Dibromochloromethane	650	U
108-90-7	Chlorobenzene	320	U
100-41-4	Ethylbenzene	650	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-105**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.21

Sample wt/vol: 9.3 (g/ml) G Lab File ID: V05512.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 17.31 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	970	U
1330-20-7	o-Xylene	650	U
100-42-5	Styrene	650	U
75-25-2	Bromoform	650	U
79-34-5	1,1,2,2-Tetrachloroethane	650	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID

TENTATIVELY IDENTIFIED COMPOUNDS

B-105

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.21

Sample wt/vol: 9.3 (g/ml) G Lab File ID: V05512.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 17.31 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000589

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-106**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.23

Sample wt/vol: 9.2 (g/ml) G Lab File ID: V05513.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 18.45 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2300	U
107131	Acrylonitrile	2300	U
75650	tert-Butyl alcohol	4400	U
1634044	Methyl-tert-Butyl ether	1000	U
108203	Di-isopropyl ether	670	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	330	U
75-01-4	Vinyl Chloride	1000	U
74-83-9	Bromomethane	670	U
75-00-3	Chloroethane	1000	U
75-69-4	Trichlorofluoromethane	670	U
75-35-4	1,1-Dichloroethene	330	U
67-64-1	Acetone	670	U
75-15-0	Carbon Disulfide	330	U
75-09-2	Methylene Chloride	670	U
156-60-5	trans-1,2-Dichloroethene	670	U
75-35-3	1,1-Dichloroethane	330	U
108-05-4	Vinyl Acetate	1000	U
78-93-3	2-Butanone	1000	U
	cis-1,2-Dichloroethene	330	U
67-66-3	Chloroform	330	U
75-55-6	1,1,1-Trichloroethane	330	U
56-23-5	Carbon Tetrachloride	670	U
71-43-2	Benzene	330	U
107-06-2	1,2-Dichloroethane	670	U
79-01-6	Trichloroethene	330	U
78-87-5	1,2-Dichloropropane	330	U
75-27-4	Bromodichloromethane	330	U
110-75-8	2-Chloroethyl vinyl ether	670	U
10061-01-5	cis-1,3-Dichloropropene	330	U
108-10-1	4-Methyl-2-Pentanone	670	U
108-88-3	Toluene	330	U
10061-02-6	trans-1,3-Dichloropropene	670	U
79-00-5	1,1,2-Trichloroethane	670	U
127-18-4	Tetrachloroethene	330	U
591-78-6	2-Hexanone	670	U
126-48-1	Dibromochloromethane	670	U
108-90-7	Chlorobenzene	330	U
100-41-4	Ethylbenzene	670	U

000590

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-106**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.23

Sample wt/vol: 9.2 (g/ml) G Lab File ID: V05513.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 18.45 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	1000	U
1330-20-7	o-Xylene	670	U
100-42-5	Styrene	670	U
75-25-2	Bromoform	670	U
79-34-5	1,1,2,2-Tetrachloroethane	670	U

000591

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-106**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4179 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4179.23

Sample wt/vol: 9.2 (g/ml) G Lab File ID: V05513.D

Level: (low/med) MED Date Received: 01/11/98

% Moisture: not dec. 18.45 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000592

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-107

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.03

Sample wt/vol: 9.2 (g/ml) G Lab File ID: V05515.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 14.06 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4100	U
1634044	Methyl-tert-Butyl ether	950	U
108203	Di-isopropyl ether	640	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	320	U
75-01-4	Vinyl Chloride	950	U
74-83-9	Bromomethane	640	U
75-00-3	Chloroethane	950	U
75-69-4	Trichlorofluoromethane	640	U
75-35-4	1,1-Dichloroethene	320	U
67-64-1	Acetone	640	U
75-15-0	Carbon Disulfide	320	U
75-09-2	Methylene Chloride	640	U
156-60-5	trans-1,2-Dichloroethene	640	U
75-35-3	1,1-Dichloroethane	320	U
108-05-4	Vinyl Acetate	950	U
78-93-3	2-Butanone	950	U
	cis-1,2-Dichloroethene	320	U
67-66-3	Chloroform	320	U
75-55-6	1,1,1-Trichloroethane	320	U
56-23-5	Carbon Tetrachloride	640	U
71-43-2	Benzene	320	U
107-06-2	1,2-Dichloroethane	640	U
79-01-6	Trichloroethene	320	U
78-87-5	1,2-Dichloropropane	320	U
75-27-4	Bromodichloromethane	320	U
110-75-8	2-Chloroethyl vinyl ether	640	U
10061-01-5	cis-1,3-Dichloropropene	320	U
108-10-1	4-Methyl-2-Pentanone	640	U
108-88-3	Toluene	320	U
10061-02-6	trans-1,3-Dichloropropene	640	U
79-00-5	1,1,2-Trichloroethane	640	U
127-18-4	Tetrachloroethene	320	U
591-78-6	2-Hexanone	640	U
126-48-1	Dibromochloromethane	640	U
108-90-7	Chlorobenzene	320	U
100-41-4	Ethylbenzene	640	U

000593

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

B-107

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.03

Sample wt/vol: 9.2 (g/ml) G Lab File ID: V05515.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 14.06 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	950	U
1330-20-7	o-Xylene	640	U
100-42-5	Styrene	640	U
75-25-2	Bromoform	640	U
79-34-5	1,1,2,2-Tetrachloroethane	640	U

000594

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-107**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.03

Sample wt/vol: 9.2 (g/ml) G Lab File ID: V05515.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 14.06 Date Analyzed: 01/21/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

B-108

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.05

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05545.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 16 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	930	U
108203	Di-isopropyl ether	620	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	930	U
74-83-9	Bromomethane	620	U
75-00-3	Chloroethane	930	U
75-69-4	Trichlorofluoromethane	620	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	620	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	620	U
156-60-5	trans-1,2-Dichloroethene	620	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	930	U
78-93-3	2-Butanone	930	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	620	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	620	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	620	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	620	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	620	U
79-00-5	1,1,2-Trichloroethane	620	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	620	U
126-48-1	Dibromochloromethane	620	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	620	U

000596

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-108**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.05

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05545.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 16 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	930	U
1330-20-7	o-Xylene	620	U
100-42-5	Styrene	620	U
75-25-2	Bromoform	620	U
79-34-5	1,1,2,2-Tetrachloroethane	620	U

000597

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-108**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.05

Sample wt/vol: 9.6 (g/ml) G Lab File ID: V05545.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 16 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000598

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-109

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.07

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05546.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 14.17 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	880	U
108203	Di-isopropyl ether	590	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	880	U
74-83-9	Bromomethane	590	U
75-00-3	Chloroethane	880	U
75-69-4	Trichlorofluoromethane	590	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	590	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	590	U
156-60-5	trans-1,2-Dichloroethene	590	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	880	U
78-93-3	2-Butanone	880	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	590	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	590	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	590	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	590	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	590	U
79-00-5	1,1,2-Trichloroethane	590	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	590	U
126-48-1	Dibromochloromethane	590	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	590	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-109**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.07

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05546.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 14.17 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	880	U
1330-20-7	o-Xylene	590	U
100-42-5	Styrene	590	U
75-25-2	Bromoform	590	U
79-34-5	1,1,2,2-Tetrachloroethane	590	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-109**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.07

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05546.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 14.17 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-110

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.09

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V05547.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 14.51 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	930	U
108203	Di-isopropyl ether	620	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	930	U
74-83-9	Bromomethane	620	U
75-00-3	Chloroethane	930	U
75-69-4	Trichlorofluoromethane	620	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	620	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	620	U
156-60-5	trans-1,2-Dichloroethene	620	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	930	U
78-93-3	2-Butanone	930	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	620	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	620	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	620	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	620	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	620	U
79-00-5	1,1,2-Trichloroethane	620	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	620	U
126-48-1	Dibromochloromethane	620	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	620	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID

B-110

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.09

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V05547.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 14.51 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	930	U
1330-20-7	o-Xylene	620	U
100-42-5	Styrene	620	U
75-25-2	Bromoform	620	U
79-34-5	1,1,2,2-Tetrachloroethane	620	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-110**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.09

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V05547.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 14.51 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000604

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-111

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.11

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05548.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 9.79 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3700	U
1634044	Methyl-tert-Butyl ether	860	U
108203	Di-isopropyl ether	570	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	290	U
75-01-4	Vinyl Chloride	860	U
74-83-9	Bromomethane	570	U
75-00-3	Chloroethane	860	U
75-69-4	Trichlorofluoromethane	570	U
75-35-4	1,1-Dichloroethene	290	U
67-64-1	Acetone	570	U
75-15-0	Carbon Disulfide	290	U
75-09-2	Methylene Chloride	570	U
156-60-5	trans-1,2-Dichloroethene	570	U
75-35-3	1,1-Dichloroethane	290	U
108-05-4	Vinyl Acetate	860	U
78-93-3	2-Butanone	860	U
	cis-1,2-Dichloroethene	290	U
67-66-3	Chloroform	290	U
75-55-6	1,1,1-Trichloroethane	290	U
56-23-5	Carbon Tetrachloride	570	U
71-43-2	Benzene	290	U
107-06-2	1,2-Dichloroethane	570	U
79-01-6	Trichloroethene	290	U
78-87-5	1,2-Dichloropropane	290	U
75-27-4	Bromodichloromethane	290	U
110-75-8	2-Chloroethyl vinyl ether	570	U
10061-01-5	cis-1,3-Dichloropropene	290	U
108-10-1	4-Methyl-2-Pentanone	570	U
108-88-3	Toluene	290	U
10061-02-6	trans-1,3-Dichloropropene	570	U
79-00-5	1,1,2-Trichloroethane	570	U
127-18-4	Tetrachloroethene	290	U
591-78-6	2-Hexanone	570	U
126-48-1	Dibromochloromethane	570	U
108-90-7	Chlorobenzene	290	U
100-41-4	Ethylbenzene	570	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-111**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.11

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05548.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 9.79 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	860	U
1330-20-7	o-Xylene	570	U
100-42-5	Styrene	570	U
75-25-2	Bromoform	570	U
79-34-5	1,1,2,2-Tetrachloroethane	570	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-111**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.11

Sample wt/vol: 9.7 (g/ml) G Lab File ID: V05548.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 9.79 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-112**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.13

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V05549.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 5.96 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3700	U
1634044	Methyl-tert-Butyl ether	850	U
108203	Di-isopropyl ether	570	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	850	U
74-83-9	Bromomethane	570	U
75-00-3	Chloroethane	850	U
75-69-4	Trichlorofluoromethane	570	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	570	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	570	U
156-60-5	trans-1,2-Dichloroethene	570	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	850	U
78-93-3	2-Butanone	850	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	570	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	570	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	570	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	570	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	570	U
79-00-5	1,1,2-Trichloroethane	570	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	570	U
126-48-1	Dibromochloromethane	570	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	570	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-112**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.13

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V05549.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 5.96 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	850	U
1330-20-7	o-Xylene	570	U
100-42-5	Styrene	570	U
75-25-2	Bromoform	570	U
79-34-5	1,1,2,2-Tetrachloroethane	570	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-112**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4184 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4184.13

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V05549.D

Level: (low/med) MED Date Received: 01/12/99

% Moisture: not dec. 5.96 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

B-113

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.03

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05551.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 15.14 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3900	U
1634044	Methyl-tert-Butyl ether	900	U
108203	Di-isopropyl ether	600	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl Chloride	900	U
74-83-9	Bromomethane	600	U
75-00-3	Chloroethane	900	U
75-69-4	Trichlorofluoromethane	600	U
75-35-4	1,1-Dichloroethene	300	U
67-64-1	Acetone	600	U
75-15-0	Carbon Disulfide	300	U
75-09-2	Methylene Chloride	600	U
156-60-5	trans-1,2-Dichloroethene	600	U
75-35-3	1,1-Dichloroethane	300	U
108-05-4	Vinyl Acetate	900	U
78-93-3	2-Butanone	900	U
	cis-1,2-Dichloroethene	300	U
67-66-3	Chloroform	300	U
75-55-6	1,1,1-Trichloroethane	300	U
56-23-5	Carbon Tetrachloride	600	U
71-43-2	Benzene	300	U
107-06-2	1,2-Dichloroethane	600	U
79-01-6	Trichloroethene	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
110-75-8	2-Chloroethyl vinyl ether	600	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-Pentanone	600	U
108-88-3	Toluene	300	U
10061-02-6	trans-1,3-Dichloropropene	600	U
79-00-5	1,1,2-Trichloroethane	600	U
127-18-4	Tetrachloroethene	300	U
591-78-6	2-Hexanone	600	U
126-48-1	Dibromochloromethane	600	U
108-90-7	Chlorobenzene	300	U
100-41-4	Ethylbenzene	600	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-113

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.03

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05551.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 15.14 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	900	U
1330-20-7	o-Xylene	600	U
100-42-5	Styrene	600	U
75-25-2	Bromoform	600	U
79-34-5	1,1,2,2-Tetrachloroethane	600	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-113**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.03

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V05551.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 15.14 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-114

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.05

Sample wt/vol: 10.3 (g/ml) G Lab File ID: V05552.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 17.45 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3800	U
1634044	Methyl-tert-Butyl ether	890	U
108203	Di-isopropyl ether	590	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl Chloride	890	U
74-83-9	Bromomethane	590	U
75-00-3	Chloroethane	890	U
75-69-4	Trichlorofluoromethane	590	U
75-35-4	1,1-Dichloroethene	300	U
67-64-1	Acetone	590	U
75-15-0	Carbon Disulfide	300	U
75-09-2	Methylene Chloride	590	U
156-60-5	trans-1,2-Dichloroethene	590	U
75-35-3	1,1-Dichloroethane	300	U
108-05-4	Vinyl Acetate	890	U
78-93-3	2-Butanone	890	U
	cis-1,2-Dichloroethene	300	U
67-66-3	Chloroform	300	U
75-55-6	1,1,1-Trichloroethane	300	U
56-23-5	Carbon Tetrachloride	590	U
71-43-2	Benzene	300	U
107-06-2	1,2-Dichloroethane	590	U
79-01-6	Trichloroethene	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
110-75-8	2-Chloroethyl vinyl ether	590	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-Pentanone	590	U
108-88-3	Toluene	300	U
10061-02-6	trans-1,3-Dichloropropene	590	U
79-00-5	1,1,2-Trichloroethane	590	U
127-18-4	Tetrachloroethene	300	U
591-78-6	2-Hexanone	590	U
126-48-1	Dibromochloromethane	590	U
108-90-7	Chlorobenzene	300	U
100-41-4	Ethylbenzene	590	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-114**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.05

Sample wt/vol: 10.3 (g/ml) G Lab File ID: V05552.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 17.45 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	890	U
1330-20-7	o-Xylene	590	U
100-42-5	Styrene	590	U
75-25-2	Bromoform	590	U
79-34-5	1,1,2,2-Tetrachloroethane	590	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: B-114

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.05

Sample wt/vol: 10.3 (g/ml) G Lab File ID: V05552.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 17.45 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-115**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.07

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05553.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 6.1 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3600	U
1634044	Methyl-tert-Butyl ether	840	U
108203	Di-isopropyl ether	560	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	840	U
74-83-9	Bromomethane	560	U
75-00-3	Chloroethane	840	U
75-69-4	Trichlorofluoromethane	560	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	560	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	560	U
156-60-5	trans-1,2-Dichloroethene	560	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	840	U
78-93-3	2-Butanone	840	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	560	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	560	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	560	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	560	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	560	U
79-00-5	1,1,2-Trichloroethane	560	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	560	U
126-48-1	Dibromochloromethane	560	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	560	U

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

B-115

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.07

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05553.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 6.1 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	840	U
1330-20-7	o-Xylene	560	U
100-42-5	Styrene	560	U
75-25-2	Bromoform	560	U
79-34-5	1,1,2,2-Tetrachloroethane	560	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-115**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.07

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05553.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 6.1 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-116**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.09

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V05554.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 16.02 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4100	U
1634044	Methyl-tert-Butyl ether	950	U
108203	Di-isopropyl ether	630	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	320	U
75-01-4	Vinyl Chloride	950	U
74-83-9	Bromomethane	630	U
75-00-3	Chloroethane	950	U
75-69-4	Trichlorofluoromethane	630	U
75-35-4	1,1-Dichloroethene	320	U
67-64-1	Acetone	630	U
75-15-0	Carbon Disulfide	320	U
75-09-2	Methylene Chloride	630	U
156-60-5	trans-1,2-Dichloroethene	630	U
75-35-3	1,1-Dichloroethane	320	U
108-05-4	Vinyl Acetate	950	U
78-93-3	2-Butanone	950	U
	cis-1,2-Dichloroethene	320	U
67-66-3	Chloroform	320	U
75-55-6	1,1,1-Trichloroethane	320	U
56-23-5	Carbon Tetrachloride	630	U
71-43-2	Benzene	320	U
107-06-2	1,2-Dichloroethane	630	U
79-01-6	Trichloroethene	320	U
78-87-5	1,2-Dichloropropane	320	U
75-27-4	Bromodichloromethane	320	U
110-75-8	2-Chloroethyl vinyl ether	630	U
10061-01-5	cis-1,3-Dichloropropene	320	U
108-10-1	4-Methyl-2-Pentanone	630	U
108-88-3	Toluene	320	U
10061-02-6	trans-1,3-Dichloropropene	630	U
79-00-5	1,1,2-Trichloroethane	630	U
127-18-4	Tetrachloroethene	320	U
591-78-6	2-Hexanone	630	U
126-48-1	Dibromochloromethane	630	U
108-90-7	Chlorobenzene	320	U
100-41-4	Ethylbenzene	630	U

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

B-116

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.09

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V05554.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 16.02 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	950	U
1330-20-7	o-Xylene	630	U
100-42-5	Styrene	630	U
75-25-2	Bromoform	630	U
79-34-5	1,1,2,2-Tetrachloroethane	630	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-116**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.09

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V05554.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 16.02 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

B-117

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.11

Sample wt/vol: 9.3 (g/ml) G Lab File ID: V05555.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 5.74 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3700	U
1634044	Methyl-tert-Butyl ether	850	U
108203	Di-isopropyl ether	570	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	850	U
74-83-9	Bromomethane	570	U
75-00-3	Chloroethane	850	U
75-69-4	Trichlorofluoromethane	570	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	570	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	570	U
156-60-5	trans-1,2-Dichloroethene	570	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	850	U
78-93-3	2-Butanone	850	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	570	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	570	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	570	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	570	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	570	U
79-00-5	1,1,2-Trichloroethane	570	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	570	U
126-48-1	Dibromochloromethane	570	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	570	U

000623

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-117

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.11

Sample wt/vol: 9.3 (g/ml) G Lab File ID: V05555.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 5.74 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	850	U
1330-20-7	o-Xylene	570	U
100-42-5	Styrene	570	U
75-25-2	Bromoform	570	U
79-34-5	1,1,2,2-Tetrachloroethane	570	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-117**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.11

Sample wt/vol: 9.3 (g/ml) G Lab File ID: V05555.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 5.74 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **B-118**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.13

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05556.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 11.78 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2100	U
107131	Acrylonitrile	2100	U
75650	tert-Butyl alcohol	3900	U
1634044	Methyl-tert-Butyl ether	900	U
108203	Di-isopropyl ether	600	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	300	U
75-01-4	Vinyl Chloride	900	U
74-83-9	Bromomethane	600	U
75-00-3	Chloroethane	900	U
75-69-4	Trichlorofluoromethane	600	U
75-35-4	1,1-Dichloroethene	300	U
67-64-1	Acetone	600	U
75-15-0	Carbon Disulfide	300	U
75-09-2	Methylene Chloride	600	U
156-60-5	trans-1,2-Dichloroethene	600	U
75-35-3	1,1-Dichloroethane	300	U
108-05-4	Vinyl Acetate	900	U
78-93-3	2-Butanone	900	U
	cis-1,2-Dichloroethene	300	U
67-66-3	Chloroform	300	U
75-55-6	1,1,1-Trichloroethane	300	U
56-23-5	Carbon Tetrachloride	600	U
71-43-2	Benzene	300	U
107-06-2	1,2-Dichloroethane	600	U
79-01-6	Trichloroethene	300	U
78-87-5	1,2-Dichloropropane	300	U
75-27-4	Bromodichloromethane	300	U
110-75-8	2-Chloroethyl vinyl ether	600	U
10061-01-5	cis-1,3-Dichloropropene	300	U
108-10-1	4-Methyl-2-Pentanone	600	U
108-88-3	Toluene	300	U
10061-02-6	trans-1,3-Dichloropropene	600	U
79-00-5	1,1,2-Trichloroethane	600	U
127-18-4	Tetrachloroethene	300	U
591-78-6	2-Hexanone	600	U
126-48-1	Dibromochloromethane	600	U
108-90-7	Chlorobenzene	300	U
100-41-4	Ethylbenzene	600	U

000626

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID

B-118

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.13

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05556.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 11.78 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	900	U
1330-20-7	o-Xylene	600	U
100-42-5	Styrene	600	U
75-25-2	Bromoform	600	U
79-34-5	1,1,2,2-Tetrachloroethane	600	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-118**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.13

Sample wt/vol: 9.5 (g/ml) G Lab File ID: V05556.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 11.78 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000628

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

B-119

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.15

Sample wt/vol: 10.4 (g/ml) G Lab File ID: V05557.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 6.85 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3400	U
1634044	Methyl-tert-Butyl ether	780	U
108203	Di-isopropyl ether	520	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	260	U
75-01-4	Vinyl Chloride	780	U
74-83-9	Bromomethane	520	U
75-00-3	Chloroethane	780	U
75-69-4	Trichlorofluoromethane	520	U
75-35-4	1,1-Dichloroethene	260	U
67-64-1	Acetone	520	U
75-15-0	Carbon Disulfide	260	U
75-09-2	Methylene Chloride	520	U
156-60-5	trans-1,2-Dichloroethene	520	U
75-35-3	1,1-Dichloroethane	260	U
108-05-4	Vinyl Acetate	780	U
78-93-3	2-Butanone	780	U
	cis-1,2-Dichloroethene	260	U
67-66-3	Chloroform	260	U
75-55-6	1,1,1-Trichloroethane	260	U
56-23-5	Carbon Tetrachloride	520	U
71-43-2	Benzene	260	U
107-06-2	1,2-Dichloroethane	520	U
79-01-6	Trichloroethene	260	U
78-87-5	1,2-Dichloropropane	260	U
75-27-4	Bromodichloromethane	260	U
110-75-8	2-Chloroethyl vinyl ether	520	U
10061-01-5	cis-1,3-Dichloropropene	260	U
108-10-1	4-Methyl-2-Pentanone	520	U
108-88-3	Toluene	260	U
10061-02-6	trans-1,3-Dichloropropene	520	U
79-00-5	1,1,2-Trichloroethane	520	U
127-18-4	Tetrachloroethene	260	U
591-78-6	2-Hexanone	520	U
126-48-1	Dibromochloromethane	520	U
108-90-7	Chlorobenzene	260	U
100-41-4	Ethylbenzene	520	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: B-119

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.15

Sample wt/vol: 10.4 (g/ml) G Lab File ID: V05557.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 6.85 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	780	U
1330-20-7	o-Xylene	520	U
100-42-5	Styrene	520	U
75-25-2	Bromoform	520	U
79-34-5	1,1,2,2-Tetrachloroethane	520	U

000630

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **B-119**

Lab Name: FMETL NJDEP# 13461

Project 980211 Case No.: 4189 Location M-14 SAS No

Matrix: (soil/water) SOIL Lab Sample ID: 4189.15

Sample wt/vol: 10.4 (g/ml) G Lab File ID: V05557.D

Level: (low/med) MED Date Received: 01/13/99

% Moisture: not dec. 6.85 Date Analyzed: 01/25/99

GC Column: RTX502 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000631

METHOD BLANKS

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Sblk186

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: Sblk186

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01758.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 0 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/30/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1000	U
62-75-9	N-nitroso-dimethylamine	1000	U
62-53-3	Aniline	1000	U
108-95-2	Phenol	1000	U
111-44-4	bis(2-Chloroethyl)ether	1000	U
95-57-8	2-Chlorophenol	1000	U
541-73-1	1,3-Dichlorobenzene	1000	U
106-46-7	1,4-Dichlorobenzene	1000	U
100-51-6	Benzyl alcohol	1000	U
95-50-1	1,2-Dichlorobenzene	1000	U
	2-Methylphenol	1000	U
108-60-1	bis(2-chloroisopropyl)ether	1000	U
	4-Methylphenol	1000	U
621-64-7	n-Nitroso-di-n-propylamine	1000	U
67-72-1	Hexachloroethane	1000	U
98-95-3	Nitrobenzene	1000	U
78-59-1	Isophorone	1000	U
88-75-5	2-Nitrophenol	1000	U
105-67-9	2,4-Dimethylphenol	1000	U
111-91-1	bis(2-Chloroethoxy)methane	1000	U
120-83-2	2,4-Dichlorophenol	1000	U
65-85-0	Benzoic Acid	1000	U
120-82-1	1,2,4-Trichlorobenzene	1000	U
91-20-3	Naphthalene	1000	U
106-47-8	4-Chloroaniline	1000	U
87-68-3	Hexachlorobutadiene	1000	U
59-50-7	4-Chloro-3-methylphenol	1000	U
91-57-6	2-Methylnaphthalene	1000	U
77-47-4	Hexachlorocyclopentadiene	1000	U
88-06-2	2,4,6-Trichlorophenol	1000	U
	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	1000	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	1000	U
208-96-8	Acenaphthylene	1000	U
606-20-2	2,6-Dinitrotoluene	1000	U
99-09-2	3-Nitroaniline	1000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Sblk186

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: Sblk186

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01758.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 0 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/30/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1000	U
51-28-5	2,4-Dinitrophenol	1000	U
132-64-9	Dibenzofuran	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	1000	U
84-66-2	Diethylphthalate	1000	U
86-73-7	Fluorene	1000	U
7005-72-3	4-Chlorophenyl-phenylether	1000	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	n-Nitrosodiphenylamine	1000	U
103-33-3	Azobenzene	1000	U
101-55-3	4-Bromophenyl-phenylether	1000	U
118-74-1	Hexachlorobenzene	1000	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	1000	U
120-12-7	Anthracene	1000	U
84-74-2	Di-n-butylphthalate	900	J
206-44-0	Fluoranthene	1000	U
92-87-5	Benzidine	1000	U
129-00-0	Pyrene	1000	U
85-68-7	Butylbenzylphthalate	1000	U
56-55-3	Benzo[a]anthracene	1000	U
91-94-1	3,3'-Dichlorobenzidine	1000	U
218-01-9	Chrysene	1000	U
117-81-7	bis(2-Ethylhexyl)phthalate	100	J
117-84-0	Di-n-octylphthalate	1000	U
205-99-2	Benzo[b]fluoranthene	1000	U
207-08-9	Benzo[k]fluoranthene	1000	U
50-32-8	Benzo[a]pyrene	1000	U
193-39-5	Indeno[1,2,3-cd]pyrene	1000	U
53-70-3	Dibenz[a,h]anthracene	1000	U
191-24-2	Benzo[g,h,i]perylene	1000	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

Sblk186

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: Sblk186

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01758.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 0 decanted: (Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/30/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000541-02-6	Cyclopentasiloxane, decamethyl-	9.76	1300	JN
2. 000540-97-6	Cyclohexasiloxane, dodecamethy	12.21	900	JN
3. 000112-88-9	1-Octadecene	24.01	2100	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SBLK187

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: SBLK187

Sample wt/vol: 10 (g/ml) G Lab File ID: BN02623.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 0 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1000	U
62-75-9	N-nitroso-dimethylamine	1000	U
62-53-3	Aniline	1000	U
108-95-2	Phenol	1000	U
111-44-4	bis(2-Chloroethyl)ether	1000	U
95-57-8	2-Chlorophenol	1000	U
541-73-1	1,3-Dichlorobenzene	1000	U
106-46-7	1,4-Dichlorobenzene	1000	U
100-51-6	Benzyl alcohol	1000	U
95-50-1	1,2-Dichlorobenzene	1000	U
	2-Methylphenol	1000	U
108-60-1	bis(2-chloroisopropyl)ether	1000	U
	4-Methylphenol	1000	U
621-64-7	n-Nitroso-di-n-propylamine	1000	U
67-72-1	Hexachloroethane	1000	U
98-95-3	Nitrobenzene	1000	U
78-59-1	Isophorone	1000	U
88-75-5	2-Nitrophenol	1000	U
105-67-9	2,4-Dimethylphenol	1000	U
111-91-1	bis(2-Chloroethoxy)methane	1000	U
120-83-2	2,4-Dichlorophenol	1000	U
65-85-0	Benzoic Acid	1000	U
120-82-1	1,2,4-Trichlorobenzene	1000	U
91-20-3	Naphthalene	1000	U
106-47-8	4-Chloroaniline	1000	U
87-68-3	Hexachlorobutadiene	1000	U
59-50-7	4-Chloro-3-methylphenol	1000	U
91-57-6	2-Methylnaphthalene	1000	U
77-47-4	Hexachlorocyclopentadiene	1000	U
88-06-2	2,4,6-Trichlorophenol	1000	U
	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	1000	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	1000	U
208-96-8	Acenaphthylene	1000	U
606-20-2	2,6-Dinitrotoluene	1000	U
99-09-2	3-Nitroaniline	1000	U

1C

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SBLK187

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: SBLK187

Sample wt/vol: 10 (g/ml) G Lab File ID: BN02623.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 0 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1000	U
51-28-5	2,4-Dinitrophenol	1000	U
132-64-9	Dibenzofuran	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	1000	U
84-66-2	Diethylphthalate	1000	U
86-73-7	Fluorene	1000	U
7005-72-3	4-Chlorophenyl-phenylether	1000	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	n-Nitrosodiphenylamine	1000	U
103-33-3	Azobenzene	1000	U
101-55-3	4-Bromophenyl-phenylether	1000	U
118-74-1	Hexachlorobenzene	1000	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	1000	U
120-12-7	Anthracene	1000	U
84-74-2	Di-n-butylphthalate	1300	
206-44-0	Fluoranthene	1000	U
92-87-5	Benzidine	1000	U
129-00-0	Pyrene	1000	U
85-68-7	Butylbenzylphthalate	1000	U
56-55-3	Benzo[a]anthracene	1000	U
91-94-1	3,3'-Dichlorobenzidine	1000	U
218-01-9	Chrysene	1000	U
117-81-7	bis(2-Ethylhexyl)phthalate	1000	U
117-84-0	Di-n-octylphthalate	1000	U
205-99-2	Benzo[b]fluoranthene	1000	U
207-08-9	Benzo[k]fluoranthene	1000	U
50-32-8	Benzo[a]pyrene	1000	U
193-39-5	Indeno[1,2,3-cd]pyrene	1000	U
53-70-3	Dibenz[a,h]anthracene	1000	U
191-24-2	Benzo[g,h,i]perylene	1000	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **SBLK187**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: SBLK187

Sample wt/vol: 10 (g/ml) G Lab File ID: BN02623.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 0 decanted: (Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-64-0	1,2-Benzenedicarboxylic acid, but	18.83	1500	JN
2. 000629-96-9	1-Eicosanol	24.24	2200	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SBLK188

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: SBLK188

Sample wt/vol: 10 (g/ml) G Lab File ID: BN02625.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 0 decanted:(Y/N) N Date Extracted: 1/4/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1000	U
62-75-9	N-nitroso-dimethylamine	1000	U
62-53-3	Aniline	1000	U
108-95-2	Phenol	1000	U
111-44-4	bis(2-Chloroethyl)ether	1000	U
95-57-8	2-Chlorophenol	1000	U
541-73-1	1,3-Dichlorobenzene	1000	U
106-46-7	1,4-Dichlorobenzene	1000	U
100-51-6	Benzyl alcohol	1000	U
95-50-1	1,2-Dichlorobenzene	1000	U
	2-Methylphenol	1000	U
108-60-1	bis(2-chloroisopropyl)ether	1000	U
	4-Methylphenol	1000	U
621-64-7	n-Nitroso-di-n-propylamine	1000	U
67-72-1	Hexachloroethane	1000	U
98-95-3	Nitrobenzene	1000	U
78-59-1	Isophorone	1000	U
88-75-5	2-Nitrophenol	1000	U
105-67-9	2,4-Dimethylphenol	1000	U
111-91-1	bis(2-Chloroethoxy)methane	1000	U
120-83-2	2,4-Dichlorophenol	1000	U
65-85-0	Benzoic Acid	1000	U
120-82-1	1,2,4-Trichlorobenzene	1000	U
91-20-3	Naphthalene	1000	U
106-47-8	4-Chloroaniline	1000	U
87-68-3	Hexachlorobutadiene	1000	U
59-50-7	4-Chloro-3-methylphenol	1000	U
91-57-6	2-Methylnaphthalene	1000	U
77-47-4	Hexachlorocyclopentadiene	1000	U
88-06-2	2,4,6-Trichlorophenol	1000	U
	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	1000	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	1000	U
208-96-8	Acenaphthylene	1000	U
606-20-2	2,6-Dinitrotoluene	1000	U
99-09-2	3-Nitroaniline	1000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **SBLK188**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: SBLK188

Sample wt/vol: 10 (g/ml) G Lab File ID: BN02625.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 0 decanted:(Y/N) N Date Extracted: 1/4/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1000	U
51-28-5	2,4-Dinitrophenol	1000	U
132-64-9	Dibenzofuran	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	1000	U
84-66-2	Diethylphthalate	1000	U
86-73-7	Fluorene	1000	U
7005-72-3	4-Chlorophenyl-phenylether	1000	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	n-Nitrosodiphenylamine	1000	U
103-33-3	Azobenzene	1000	U
101-55-3	4-Bromophenyl-phenylether	1000	U
118-74-1	Hexachlorobenzene	1000	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	1000	U
120-12-7	Anthracene	1000	U
84-74-2	Di-n-butylphthalate	1400	
206-44-0	Fluoranthene	1000	U
92-87-5	Benzidine	1000	U
129-00-0	Pyrene	1000	U
85-68-7	Butylbenzylphthalate	1000	U
56-55-3	Benzo[a]anthracene	1000	U
91-94-1	3,3'-Dichlorobenzidine	1000	U
218-01-9	Chrysene	1000	U
117-81-7	bis(2-Ethylhexyl)phthalate	110	J
117-84-0	Di-n-octylphthalate	1000	U
205-99-2	Benzo[b]fluoranthene	1000	U
207-08-9	Benzo[k]fluoranthene	1000	U
50-32-8	Benzo[a]pyrene	1000	U
193-39-5	Indeno[1,2,3-cd]pyrene	1000	U
53-70-3	Dibenz[a,h]anthracene	1000	U
191-24-2	Benzo[g,h,i]perylene	1000	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **SBLK188**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: SBLK188

Sample wt/vol: 10 (g/ml) G Lab File ID: BN02625.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 0 decanted: (Y/N) N Date Extracted: 1/4/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	12.90	1100	J
2. 000109-21-7	Butanoic acid, butyl ester	13.18	1300	JN
3.	unknown	18.84	2600	J
4. 001454-84-8	1-Nonadecanol	24.24	3500	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SBLK189

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: SBLK189

Sample wt/vol: 10 (g/ml) G Lab File ID: BN02627.D

Level: (low/med) LOW Date Received: 1/5/99

% Moisture: 0 decanted:(Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1000	U
62-75-9	N-nitroso-dimethylamine	1000	U
62-53-3	Aniline	1000	U
108-95-2	Phenol	1000	U
111-44-4	bis(2-Chloroethyl)ether	1000	U
95-57-8	2-Chlorophenol	1000	U
541-73-1	1,3-Dichlorobenzene	1000	U
106-46-7	1,4-Dichlorobenzene	1000	U
100-51-6	Benzyl alcohol	1000	U
95-50-1	1,2-Dichlorobenzene	1000	U
	2-Methylphenol	1000	U
108-60-1	bis(2-chloroisopropyl)ether	1000	U
	4-Methylphenol	1000	U
621-64-7	n-Nitroso-di-n-propylamine	1000	U
67-72-1	Hexachloroethane	1000	U
98-95-3	Nitrobenzene	1000	U
78-59-1	Isophorone	1000	U
88-75-5	2-Nitrophenol	1000	U
105-67-9	2,4-Dimethylphenol	1000	U
111-91-1	bis(2-Chloroethoxy)methane	1000	U
120-83-2	2,4-Dichlorophenol	1000	U
65-85-0	Benzoic Acid	1000	U
120-82-1	1,2,4-Trichlorobenzene	1000	U
91-20-3	Naphthalene	1000	U
106-47-8	4-Chloroaniline	1000	U
87-68-3	Hexachlorobutadiene	1000	U
59-50-7	4-Chloro-3-methylphenol	1000	U
91-57-6	2-Methylnaphthalene	1000	U
77-47-4	Hexachlorocyclopentadiene	1000	U
88-06-2	2,4,6-Trichlorophenol	1000	U
	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	1000	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	1000	U
208-96-8	Acenaphthylene	1000	U
606-20-2	2,6-Dinitrotoluene	1000	U
99-09-2	3-Nitroaniline	1000	U

1C

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SBLK189

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: SBLK189

Sample wt/vol: 10 (g/ml) G Lab File ID: BN02627.D

Level: (low/med) LOW Date Received: 1/5/99

% Moisture: 0 decanted:(Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1000	U
51-28-5	2,4-Dinitrophenol	1000	U
132-64-9	Dibenzofuran	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	1000	U
84-66-2	Diethylphthalate	1000	U
86-73-7	Fluorene	1000	U
7005-72-3	4-Chlorophenyl-phenylether	1000	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	n-Nitrosodiphenylamine	1000	U
103-33-3	Azobenzene	1000	U
101-55-3	4-Bromophenyl-phenylether	1000	U
118-74-1	Hexachlorobenzene	1000	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	1000	U
120-12-7	Anthracene	1000	U
84-74-2	Di-n-butylphthalate	320	J
206-44-0	Fluoranthene	1000	U
92-87-5	Benzidine	1000	U
129-00-0	Pyrene	1000	U
85-68-7	Butylbenzylphthalate	1000	U
56-55-3	Benzo[a]anthracene	1000	U
91-94-1	3,3'-Dichlorobenzidine	1000	U
218-01-9	Chrysene	1000	U
117-81-7	bis(2-Ethylhexyl)phthalate	100	J
117-84-0	Di-n-octylphthalate	1000	U
205-99-2	Benzo[b]fluoranthene	1000	U
207-08-9	Benzo[k]fluoranthene	1000	U
50-32-8	Benzo[a]pyrene	1000	U
193-39-5	Indeno[1,2,3-cd]pyrene	1000	U
53-70-3	Dibenz[a,h]anthracene	1000	U
191-24-2	Benzo[g,h,i]perylene	1000	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **SBLK189**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: SBLK189

Sample wt/vol: 10 (g/ml) G Lab File ID: BN02627.D

Level: (low/med) LOW Date Received: 1/5/99

% Moisture: 0 decanted: (Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000112-92-5	1-Octadecanol	24.24	5000	JN
2. 000661-19-8	1-Docosanol	28.48	1400	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SBLK190

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: SBLK190

Sample wt/vol: 10 (g/ml) G Lab File ID: BN02629.D

Level: (low/med) LOW Date Received: 1/5/99

% Moisture: 0 decanted:(Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1000	U
62-75-9	N-nitroso-dimethylamine	1000	U
62-53-3	Aniline	1000	U
108-95-2	Phenol	1000	U
111-44-4	bis(2-Chloroethyl)ether	1000	U
95-57-8	2-Chlorophenol	1000	U
541-73-1	1,3-Dichlorobenzene	1000	U
106-46-7	1,4-Dichlorobenzene	1000	U
100-51-6	Benzyl alcohol	1000	U
95-50-1	1,2-Dichlorobenzene	1000	U
	2-Methylphenol	1000	U
108-60-1	bis(2-chloroisopropyl)ether	1000	U
	4-Methylphenol	1000	U
621-64-7	n-Nitroso-di-n-propylamine	1000	U
67-72-1	Hexachloroethane	1000	U
98-95-3	Nitrobenzene	1000	U
78-59-1	Isophorone	1000	U
88-75-5	2-Nitrophenol	1000	U
105-67-9	2,4-Dimethylphenol	1000	U
111-91-1	bis(2-Chloroethoxy)methane	1000	U
120-83-2	2,4-Dichlorophenol	1000	U
65-85-0	Benzoic Acid	1000	U
120-82-1	1,2,4-Trichlorobenzene	1000	U
91-20-3	Naphthalene	1000	U
106-47-8	4-Chloroaniline	1000	U
87-68-3	Hexachlorobutadiene	1000	U
59-50-7	4-Chloro-3-methylphenol	1000	U
91-57-6	2-Methylnaphthalene	1000	U
77-47-4	Hexachlorocyclopentadiene	1000	U
88-06-2	2,4,6-Trichlorophenol	1000	U
	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	1000	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	1000	U
208-96-8	Acenaphthylene	1000	U
606-20-2	2,6-Dinitrotoluene	1000	U
99-09-2	3-Nitroaniline	1000	U

1C

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SBLK190

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: SBLK190

Sample wt/vol: 10 (g/ml) G Lab File ID: BN02629.D

Level: (low/med) LOW Date Received: 1/5/99

% Moisture: 0 decanted:(Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1000	U
51-28-5	2,4-Dinitrophenol	1000	U
132-64-9	Dibenzofuran	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	1000	U
84-66-2	Diethylphthalate	1000	U
86-73-7	Fluorene	1000	U
7005-72-3	4-Chlorophenyl-phenylether	1000	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	n-Nitrosodiphenylamine	1000	U
103-33-3	Azobenzene	1000	U
101-55-3	4-Bromophenyl-phenylether	1000	U
118-74-1	Hexachlorobenzene	1000	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	1000	U
120-12-7	Anthracene	1000	U
84-74-2	Di-n-butylphthalate	690	J
206-44-0	Fluoranthene	1000	U
92-87-5	Benzidine	1000	U
129-00-0	Pyrene	1000	U
85-68-7	Butylbenzylphthalate	1000	U
56-55-3	Benzo[a]anthracene	1000	U
91-94-1	3,3'-Dichlorobenzidine	1000	U
218-01-9	Chrysene	1000	U
117-81-7	bis(2-Ethylhexyl)phthalate	1000	U
117-84-0	Di-n-octylphthalate	1000	U
205-99-2	Benzo[b]fluoranthene	1000	U
207-08-9	Benzo[k]fluoranthene	1000	U
50-32-8	Benzo[a]pyrene	1000	U
193-39-5	Indeno[1,2,3-cd]pyrene	1000	U
53-70-3	Dibenz[a,h]anthracene	1000	U
191-24-2	Benzo[g,h,i]perylene	1000	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **SBLK190**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: SBLK190

Sample wt/vol: 10 (g/ml) G Lab File ID: BN02629.D

Level: (low/med) LOW Date Received: 1/5/99

% Moisture: 0 decanted: (Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

Number TICs found: 3 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-64-0	1,2-Benzenedicarboxylic acid, but	18.85	5300	JN
2. 000112-92-5	1-Octadecanol	24.24	4800	JN
3. 000629-96-9	1-Eicosanol	28.48	1300	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SBLK191

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: SBLK191

Sample wt/vol: 10 (g/ml) G Lab File ID: BN02645.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 0 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1000	U
62-75-9	N-nitroso-dimethylamine	1000	U
62-53-3	Aniline	1000	U
108-95-2	Phenol	1000	U
111-44-4	bis(2-Chloroethyl)ether	1000	U
95-57-8	2-Chlorophenol	1000	U
541-73-1	1,3-Dichlorobenzene	1000	U
106-46-7	1,4-Dichlorobenzene	1000	U
100-51-6	Benzyl alcohol	1000	U
95-50-1	1,2-Dichlorobenzene	1000	U
	2-Methylphenol	1000	U
108-60-1	bis(2-chloroisopropyl)ether	1000	U
	4-Methylphenol	1000	U
621-64-7	n-Nitroso-di-n-propylamine	1000	U
67-72-1	Hexachloroethane	1000	U
98-95-3	Nitrobenzene	1000	U
78-59-1	Isophorone	1000	U
88-75-5	2-Nitrophenol	1000	U
105-67-9	2,4-Dimethylphenol	1000	U
111-91-1	bis(2-Chloroethoxy)methane	1000	U
120-83-2	2,4-Dichlorophenol	1000	U
65-85-0	Benzoic Acid	1000	U
120-82-1	1,2,4-Trichlorobenzene	1000	U
91-20-3	Naphthalene	1000	U
106-47-8	4-Chloroaniline	1000	U
87-68-3	Hexachlorobutadiene	1000	U
59-50-7	4-Chloro-3-methylphenol	1000	U
91-57-6	2-Methylnaphthalene	1000	U
77-47-4	Hexachlorocyclopentadiene	1000	U
88-06-2	2,4,6-Trichlorophenol	1000	U
	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	1000	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	1000	U
208-96-8	Acenaphthylene	1000	U
606-20-2	2,6-Dinitrotoluene	1000	U
99-09-2	3-Nitroaniline	1000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **SBLK191**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: SBLK191

Sample wt/vol: 10 (g/ml) G Lab File ID: BN02645.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 0 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1000	U
51-28-5	2,4-Dinitrophenol	1000	U
132-64-9	Dibenzofuran	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	1000	U
84-66-2	Diethylphthalate	1000	U
86-73-7	Fluorene	1000	U
7005-72-3	4-Chlorophenyl-phenylether	1000	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	n-Nitrosodiphenylamine	1000	U
103-33-3	Azobenzene	1000	U
101-55-3	4-Bromophenyl-phenylether	1000	U
118-74-1	Hexachlorobenzene	1000	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	1000	U
120-12-7	Anthracene	1000	U
84-74-2	Di-n-butylphthalate	310	J
206-44-0	Fluoranthene	1000	U
92-87-5	Benzidine	1000	U
129-00-0	Pyrene	1000	U
85-68-7	Butylbenzylphthalate	1000	U
56-55-3	Benzo[a]anthracene	1000	U
91-94-1	3,3'-Dichlorobenzidine	1000	U
218-01-9	Chrysene	1000	U
117-81-7	bis(2-Ethylhexyl)phthalate	1000	U
117-84-0	Di-n-octylphthalate	1000	U
205-99-2	Benzo[b]fluoranthene	1000	U
207-08-9	Benzo[k]fluoranthene	1000	U
50-32-8	Benzo[a]pyrene	1000	U
193-39-5	Indeno[1,2,3-cd]pyrene	1000	U
53-70-3	Dibenz[a,h]anthracene	1000	U
191-24-2	Benzo[g,h,i]perylene	1000	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **SBLK191**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: SBLK191

Sample wt/vol: 10 (g/ml) G Lab File ID: BN02645.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 0 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000629-96-9	1-Eicosanol	24.15	3500	JN
2. 006624-79-9	1-Dotriacontanol	28.40	900	JN

1B

FIELD ID.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Sblk193

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: Sblk193

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01988.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 0 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1000	U
62-75-9	N-nitroso-dimethylamine	1000	U
62-53-3	Aniline	1000	U
108-95-2	Phenol	1000	U
111-44-4	bis(2-Chloroethyl)ether	1000	U
95-57-8	2-Chlorophenol	1000	U
541-73-1	1,3-Dichlorobenzene	1000	U
106-46-7	1,4-Dichlorobenzene	1000	U
100-51-6	Benzyl alcohol	1000	U
95-50-1	1,2-Dichlorobenzene	1000	U
	2-Methylphenol	1000	U
108-60-1	bis(2-chloroisopropyl)ether	1000	U
	4-Methylphenol	1000	U
621-64-7	n-Nitroso-di-n-propylamine	1000	U
67-72-1	Hexachloroethane	1000	U
98-95-3	Nitrobenzene	1000	U
78-59-1	Isophorone	1000	U
88-75-5	2-Nitrophenol	1000	U
105-67-9	2,4-Dimethylphenol	1000	U
111-91-1	bis(2-Chloroethoxy)methane	1000	U
120-83-2	2,4-Dichlorophenol	1000	U
65-85-0	Benzoic Acid	1000	U
120-82-1	1,2,4-Trichlorobenzene	1000	U
91-20-3	Naphthalene	1000	U
106-47-8	4-Chloroaniline	1000	U
87-68-3	Hexachlorobutadiene	1000	U
59-50-7	4-Chloro-3-methylphenol	1000	U
91-57-6	2-Methylnaphthalene	1000	U
77-47-4	Hexachlorocyclopentadiene	1000	U
88-06-2	2,4,6-Trichlorophenol	1000	U
	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	1000	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	1000	U
208-96-8	Acenaphthylene	1000	U
606-20-2	2,6-Dinitrotoluene	1000	U
99-09-2	3-Nitroaniline	1000	U

000652

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Sblk193

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: Sblk193

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01988.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 0 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1000	U
51-28-5	2,4-Dinitrophenol	1000	U
132-64-9	Dibenzofuran	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	1000	U
84-66-2	Diethylphthalate	1000	U
86-73-7	Fluorene	1000	U
7005-72-3	4-Chlorophenyl-phenylether	1000	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	n-Nitrosodiphenylamine	1000	U
103-33-3	Azobenzene	1000	U
101-55-3	4-Bromophenyl-phenylether	1000	U
118-74-1	Hexachlorobenzene	1000	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	1000	U
120-12-7	Anthracene	1000	U
84-74-2	Di-n-butylphthalate	240	J
206-44-0	Fluoranthene	1000	U
92-87-5	Benzidine	1000	U
129-00-0	Pyrene	1000	U
85-68-7	Butylbenzylphthalate	1000	U
56-55-3	Benzo[a]anthracene	1000	U
91-94-1	3,3'-Dichlorobenzidine	1000	U
218-01-9	Chrysene	1000	U
117-81-7	bis(2-Ethylhexyl)phthalate	1000	U
117-84-0	Di-n-octylphthalate	1000	U
205-99-2	Benzo[b]fluoranthene	1000	U
207-08-9	Benzo[k]fluoranthene	1000	U
50-32-8	Benzo[a]pyrene	1000	U
193-39-5	Indeno[1,2,3-cd]pyrene	1000	U
53-70-3	Dibenz[a,h]anthracene	1000	U
191-24-2	Benzo[g,h,i]perylene	1000	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

Sblk193

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: Sblk193

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01988.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 0 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000112-88-9	1-Octadecene	23.89	1400	JN

FIELD DUPLICATES

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field Dup

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.22

Sample wt/vol: 10.2 (g/ml) G Lab File ID: BN02649.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 14.61 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field Dup

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.22

Sample wt/vol: 10.2 (g/ml) G Lab File ID: BN02649.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 14.61 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1300	B
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	120	J
117-81-7	bis(2-Ethylhexyl)phthalate	120	J
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **Field Dup**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.22

Sample wt/vol: 10.2 (g/ml) G Lab File ID: BN02649.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 14.61 decanted: (Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 25 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	000629-80-1	Hexadecanal	29.29	3700	JN
2.	000630-02-4	Octacosane	29.61	960	JN
3.	000506-52-5	1-Hexacosanol	29.70	1600	JN
4.		unknown	29.82	1900	J
5.	000514-07-8	D-Friedoolean-14-en-3-one	29.97	2400	JN
6.		unknown	30.48	1100	J
7.	007390-81-0	Oxirane, hexadecyl-	30.78	1200	JN
8.		unknown	12.80	920	J
9.	000109-21-7	Butanoic acid, butyl ester	13.08	1200	JN
10.		unknown	17.27	1300	J
11.		unknown	17.40	940	J
12.		unknown	18.74	2500	J
13.	001599-67-3	1-Docosene	24.16	7400	JN
14.	000112-85-6	Docosanoic acid	24.73	1100	JN
15.	040710-42-7	1-Hentetracontanol	25.67	6000	JN
16.	000506-12-7	Heptadecanoic acid	26.22	4100	JN
17.		unknown	26.38	1200	J
18.	000638-66-4	Octadecanal	26.67	2900	JN
19.	006971-40-0	17-Pentatriacontene	27.08	6300	JN
20.		unknown	27.59	2600	J
21.	056554-90-6	13-Octadecenal	28.01	3500	JN
22.	000593-45-3	Octadecane	28.36	3100	JN
23.	000629-96-9	1-Eicosanol	28.41	4300	JN
24.		unknown	28.52	1500	J
25.	000057-11-4	Octadecanoic acid	28.88	1200	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Field Dup

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.20

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01906.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 14.2 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Field Dup

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.20

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01906.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 14.2 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	330	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

Field Dup

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.20

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01906.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 14.2 decanted: (Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.48	2000	JN
2. 000112-88-9	1-Octadecene	23.93	3100	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Field Dup

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.38

Sample wt/vol: 10.54 (g/ml) G Lab File ID: BNA01938.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 14.93 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Field Dup

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.38

Sample wt/vol: 10.54 (g/ml) G Lab File ID: BNA01938.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 14.93 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	360	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Dupe.

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.20

Sample wt/vol: 10.12 (g/ml) G Lab File ID: BN02661.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 13.82 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Dupe.

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.20

Sample wt/vol: 10.12 (g/ml) G Lab File ID: BN02661.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 13.82 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	830	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

000666

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **Dupe.**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.20

Sample wt/vol: 10.12 (g/ml) G Lab File ID: BN02661.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 13.82 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 9 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	000084-64-0	1,2-Benzenedicarboxylic acid, but	18.73	1500	JN
2.	001454-84-8	1-Nonadecanol	24.16	7300	JN
3.	006971-40-0	17-Pentatriacontene	25.66	1800	JN
4.	006624-79-9	1-Dotriacontanol	27.07	1700	JN
5.	013287-24-6	Nonadecane, 9-methyl-	28.34	1100	JN
6.	000629-96-9	1-Eicosanol	28.40	3500	JN
7.	000629-80-1	Hexadecanal	29.27	1100	JN
8.	004630-07-3	Naphthalene, 1,2,3,5,6,7,8,8a-oct	29.43	1500	JN
9.	000506-52-5	1-Hexacosanol	29.69	1600	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Field Dup

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.16

Sample wt/vol: 10.12 (g/ml) G Lab File ID: BNA02005.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 8.37 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Field Dup

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.16

Sample wt/vol: 10.12 (g/ml) G Lab File ID: BNA02005.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 8.37 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	1200	B
206-44-0	Fluoranthene	200	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	150	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

Field Dup

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.16

Sample wt/vol: 10.12 (g/ml) G Lab File ID: BNA02005.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 8.37 decanted: (Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.41	950	JN
2.	unknown	23.32	2600	J
3. 074685-30-6	5-Eicosene, (E)-	23.87	2000	JN

SAMPLES

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-1

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4156.02

Sample wt/vol: 10.12 (g/ml) G Lab File ID: BNA01845.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 9.63 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/07/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-1

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4156.02

Sample wt/vol: 10.12 (g/ml) G Lab File ID: BNA01845.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 9.63 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/07/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	660	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	230	JB
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-1

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4156.02

Sample wt/vol: 10.12 (g/ml) G Lab File ID: BNA01845.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 9.63 decanted: (Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/07/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000541-02-6	Cyclopentasiloxane, decamethyl-	9.74	2300	JN
2. 000540-97-6	Cyclohexasiloxane, dodecamethy	12.20	2000	JN
3. 074685-33-9	3-Eicosene, (E)-	24.00	2600	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-2

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4156.04

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01884.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 7.74 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	110	J
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	380	J
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-2

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4156.04

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01884.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 7.74 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	270	J
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1900	
120-12-7	Anthracene	300	J
84-74-2	Di-n-butylphthalate	370	JB
206-44-0	Fluoranthene	1600	
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	2200	
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	880	J
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1200	
117-81-7	bis(2-Ethylhexyl)phthalate	110	JB
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	720	J
207-08-9	Benzo[k]fluoranthene	610	J
50-32-8	Benzo[a]pyrene	830	J
193-39-5	Indeno[1,2,3-cd]pyrene	270	J
53-70-3	Dibenz[a,h]anthracene	110	J
191-24-2	Benzo[g,h,i]perylene	340	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-2

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4156.04

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01884.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 7.74 decanted: (Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 7 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000541-02-6	Cyclopentasiloxane, decamethyl-	9.70	2400	JN
2. 000540-97-6	Cyclohexasiloxane, dodecamethy	12.16	1900	JN
3. 074685-30-6	5-Eicosene, (E)-	23.96	2700	JN
4. 000629-96-9	1-Eicosanol	25.48	2300	JN
5. 000638-66-4	Octadecanal	26.47	890	JN
6. 000000-00-0	1-Hexacosanal	27.83	1100	JN
7. 000629-80-1	Hexadecanal	29.10	1100	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-3

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4156.06

Sample wt/vol: 10.08 (g/ml) G Lab File ID: BNA01908.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 10.16 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	130	J
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	120	J
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	890	J
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-3

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4156.06

Sample wt/vol: 10.08 (g/ml) G Lab File ID: BNA01908.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 10.16 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	680	J
120-12-7	Anthracene	290	J
84-74-2	Di-n-butylphthalate	830	JB
206-44-0	Fluoranthene	790	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1300	
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	660	J
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	990	J
117-81-7	bis(2-Ethylhexyl)phthalate	160	JB
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	620	J
207-08-9	Benzo[k]fluoranthene	730	J
50-32-8	Benzo[a]pyrene	1000	J
193-39-5	Indeno[1,2,3-cd]pyrene	380	J
53-70-3	Dibenz[a,h]anthracene	140	J
191-24-2	Benzo[g,h,i]perylene	660	J

000679

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-3

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4156.06

Sample wt/vol: 10.08 (g/ml) G Lab File ID: BNA01908.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 10.16 decanted: (Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000541-02-6	Cyclopentasiloxane, decamethyl-	9.68	1200	JN
2. 000540-97-6	Cyclohexasiloxane, dodecamethy	12.14	940	JN
3. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.47	890	JN
4. 074685-33-9	3-Eicosene, (E)-	23.93	1900	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID. **B-4**

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4156.08

Sample wt/vol: 10.25 (g/ml) G Lab File ID: BNA01871.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 8.62 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

000681

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-4

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4156.08

Sample wt/vol: 10.25 (g/ml) G Lab File ID: BNA01871.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 8.62 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	110	J
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	1400	B
206-44-0	Fluoranthene	150	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	150	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	130	JB
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-4

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4156.08

Sample wt/vol: 10.25 (g/ml) G Lab File ID: BNA01871.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 8.62 decanted: (Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000541-02-6	Cyclopentasiloxane, decamethyl-	9.70	2000	JN
2. 000540-97-6	Cyclohexasiloxane, dodecamethy	12.16	1400	JN
3. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.48	1400	JN
4. 000629-96-9	1-Eicosanol	23.95	1900	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-5

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4156.10

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01872.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 15.29 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-5

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4156.10

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01872.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 15.29 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	400	JB
206-44-0	Fluoranthene	130	J
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	130	J
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-5

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4156.10

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01872.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 15.29 decanted: (Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000541-02-6	Cyclopentasiloxane, decamethyl-	9.70	1900	JN
2.	unknown	12.15	1200	J
3. 000629-96-9	1-Eicosanol	23.95	2600	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-6

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4156.12

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01873.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 14.46 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	120	J
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-6

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4156.12

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01873.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 14.46 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	140	J
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1600	B
206-44-0	Fluoranthene	220	J
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	300	J
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	170	J
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	240	J
117-81-7	bis(2-Ethylhexyl)phthalate	170	JB
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	180	J
207-08-9	Benzo[k]fluoranthene	200	J
50-32-8	Benzo[a]pyrene	270	J
193-39-5	Indeno[1,2,3-cd]pyrene	130	J
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	210	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-6

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4156 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4156.12

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01873.D

Level: (low/med) LOW Date Received: 12/23/98

% Moisture: 14.46 decanted: (Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 4 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000541-02-6	Cyclopentasiloxane, decamethyl-	9.70	2500	JN
2.	unknown	12.16	2300	J
3. 017851-53-5	1,2-Benzenedicarboxylic acid, but	18.48	1100	JN
4. 074685-33-9	3-Eicosene, (E)-	23.95	2000	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-7

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.02

Sample wt/vol: 10.07 (g/ml) G Lab File ID: BNA01874.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 12.5 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-7

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.02

Sample wt/vol: 10.07 (g/ml) G Lab File ID: BNA01874.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 12.5 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	2700	B
206-44-0	Fluoranthene	120	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	150	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	130	J
117-81-7	bis(2-Ethylhexyl)phthalate	110	JB
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-7

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.02

Sample wt/vol: 10.07 (g/ml) G Lab File ID: BNA01874.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 12.5 decanted: (Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000541-02-6	Cyclopentasiloxane, decamethyl-	9.70	1900	JN
2. 000540-97-6	Cyclohexasiloxane, dodecamethy	12.16	2200	JN
3. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.49	2000	JN
4. 074685-33-9	3-Eicosene, (E)-	23.95	2200	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-8

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.04

Sample wt/vol: 10.11 (g/ml) G Lab File ID: BNA01916.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 9.48 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-8

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.04

Sample wt/vol: 10.11 (g/ml) G Lab File ID: BNA01916.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 9.48 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	240	J
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	110	J
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1000	J
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	8400	
120-12-7	Anthracene	1000	J
84-74-2	Di-n-butylphthalate	1700	B
206-44-0	Fluoranthene	4300	
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	6600	
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	2400	
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	3600	
117-81-7	bis(2-Ethylhexyl)phthalate	130	JB
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1200	
207-08-9	Benzo[k]fluoranthene	1600	
50-32-8	Benzo[a]pyrene	2000	
193-39-5	Indeno[1,2,3-cd]pyrene	630	J
53-70-3	Dibenz[a,h]anthracene	270	J
191-24-2	Benzo[g,h,i]perylene	990	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-8

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.04

Sample wt/vol: 10.11 (g/ml) G Lab File ID: BNA01916.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 9.48 decanted: (Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 13 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000541-02-6	Cyclopentasiloxane, decamethyl-	9.67	2300	JN
2. 000091-57-6	Naphthalene, 2-methyl-	11.95	1400	JN
3. 000540-97-6	Cyclohexasiloxane, dodecamethy	12.13	2600	JN
4. 000575-41-7	Naphthalene, 1,3-dimethyl-	13.39	1000	JN
5. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.47	1400	JN
6. 002531-84-2	Phenanthrene, 2-methyl-	18.78	2700	JN
7. 000832-69-9	Phenanthrene, 1-methyl-	18.84	3100	JN
8. 000832-64-4	Phenanthrene, 4-methyl-	19.03	1900	JN
9. 000613-12-7	Anthracene, 2-methyl-	19.08	2200	JN
10. 000781-43-1	9,10-Dimethylanthracene	20.13	2100	JN
11. 002381-21-7	Pyrene, 1-methyl-	21.96	1100	JN
12. 001454-84-8	1-Nonadecanol	23.93	1300	JN
13. 000629-62-9	Pentadecane	25.46	2500	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-9

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.06

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01875.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 13.52 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-9

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.06

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01875.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 13.52 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	120	J
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	19000	EB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	120	JB
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-9

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.06

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01875.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 13.52 decanted: (Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000541-02-6	Cyclopentasiloxane, decamethyl-	9.70	1900	JN
2. 000540-97-6	Cyclohexasiloxane, dodecamethy	12.16	2300	JN
3. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.49	1900	JN
4. 074685-33-9	3-Eicosene, (E)-	23.95	2300	JN

1B

FIELD ID.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-9

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.06 (1:10)

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01876.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 13.52 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	12000	U
62-75-9	N-nitroso-dimethylamine	12000	U
62-53-3	Aniline	12000	U
108-95-2	Phenol	12000	U
111-44-4	bis(2-Chloroethyl)ether	12000	U
95-57-8	2-Chlorophenol	12000	U
541-73-1	1,3-Dichlorobenzene	12000	U
106-46-7	1,4-Dichlorobenzene	12000	U
100-51-6	Benzyl alcohol	12000	U
95-50-1	1,2-Dichlorobenzene	12000	U
	2-Methylphenol	12000	U
108-60-1	bis(2-chloroisopropyl)ether	12000	U
	4-Methylphenol	12000	U
621-64-7	n-Nitroso-di-n-propylamine	12000	U
67-72-1	Hexachloroethane	12000	U
98-95-3	Nitrobenzene	12000	U
78-59-1	Isophorone	12000	U
88-75-5	2-Nitrophenol	12000	U
105-67-9	2,4-Dimethylphenol	12000	U
111-91-1	bis(2-Chloroethoxy)methane	12000	U
120-83-2	2,4-Dichlorophenol	12000	U
65-85-0	Benzoic Acid	12000	U
120-82-1	1,2,4-Trichlorobenzene	12000	U
91-20-3	Naphthalene	12000	U
106-47-8	4-Chloroaniline	12000	U
87-68-3	Hexachlorobutadiene	12000	U
59-50-7	4-Chloro-3-methylphenol	12000	U
91-57-6	2-Methylnaphthalene	12000	U
77-47-4	Hexachlorocyclopentadiene	12000	U
88-06-2	2,4,6-Trichlorophenol	12000	U
	2,4,5-Trichlorophenol	12000	U
91-58-7	2-Chloronaphthalene	12000	U
88-74-4	2-Nitroaniline	12000	U
131-11-3	Dimethylphthalate	12000	U
208-96-8	Acenaphthylene	12000	U
606-20-2	2,6-Dinitrotoluene	12000	U
99-09-2	3-Nitroaniline	12000	U

1C

FIELD ID.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-9

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.06 (1:10)

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01876.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 13.52 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	12000	U
51-28-5	2,4-Dinitrophenol	12000	U
132-64-9	Dibenzofuran	12000	U
100-02-7	4-Nitrophenol	12000	U
121-14-2	2,4-Dinitrotoluene	12000	U
84-66-2	Diethylphthalate	12000	U
86-73-7	Fluorene	12000	U
7005-72-3	4-Chlorophenyl-phenylether	12000	U
100-01-6	4-Nitroaniline	12000	U
534-52-1	4,6-Dinitro-2-methylphenol	12000	U
86-30-6	n-Nitrosodiphenylamine	12000	U
103-33-3	Azobenzene	12000	U
101-55-3	4-Bromophenyl-phenylether	12000	U
118-74-1	Hexachlorobenzene	12000	U
87-86-5	Pentachlorophenol	12000	U
85-01-8	Phenanthrene	12000	U
120-12-7	Anthracene	12000	U
84-74-2	Di-n-butylphthalate	31000	BD
206-44-0	Fluoranthene	12000	U
92-87-5	Benzidine	12000	U
129-00-0	Pyrene	12000	U
85-68-7	Butylbenzylphthalate	12000	U
56-55-3	Benzo[a]anthracene	12000	U
91-94-1	3,3'-Dichlorobenzidine	12000	U
218-01-9	Chrysene	12000	U
117-81-7	bis(2-Ethylhexyl)phthalate	12000	U
117-84-0	Di-n-octylphthalate	12000	U
205-99-2	Benzo[b]fluoranthene	12000	U
207-08-9	Benzo[k]fluoranthene	12000	U
50-32-8	Benzo[a]pyrene	12000	U
193-39-5	Indeno[1,2,3-cd]pyrene	12000	U
53-70-3	Dibenz[a,h]anthracene	12000	U
191-24-2	Benzo[g,h,i]perylene	12000	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-10

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.08

Sample wt/vol: 10.26 (g/ml) G Lab File ID: BNA01877.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 10.29 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

000701

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-10

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.08

Sample wt/vol: 10.26 (g/ml) G Lab File ID: BNA01877.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 10.29 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	220	J
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	3700	B
206-44-0	Fluoranthene	290	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	250	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	130	J
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	160	J
117-81-7	bis(2-Ethylhexyl)phthalate	130	JB
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	120	J
207-08-9	Benzo[k]fluoranthene	180	J
50-32-8	Benzo[a]pyrene	110	J
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-10

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.08

Sample wt/vol: 10.26 (g/ml) G Lab File ID: BNA01877.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 10.29 decanted: (Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 5 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000541-02-6	Cyclopentasiloxane, decamethyl-	9.70	2000	JN
2. 000540-97-6	Cyclohexasiloxane, dodecamethy	12.16	2000	JN
3. 074367-34-3	Propanoic acid, 2-methyl-, 3-hydr	12.81	1000	JN
4. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.49	2200	JN
5. 001454-84-8	1-Nonadecanol	23.95	2800	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-11

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.10

Sample wt/vol: 10.07 (g/ml) G Lab File ID: BNA01878.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 10.47 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-11

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.10

Sample wt/vol: 10.07 (g/ml) G Lab File ID: BNA01878.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 10.47 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	1400	B
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	150	JB
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	240	J
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-12

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.12

Sample wt/vol: 10.04 (g/ml) G Lab File ID: BNA01879.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 11.86 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

000707

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-12

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.12

Sample wt/vol: 10.04 (g/ml) G Lab File ID: BNA01879.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 11.86 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	300	J
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	380	JB
206-44-0	Fluoranthene	250	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	360	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	150	J
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	240	J
117-81-7	bis(2-Ethylhexyl)phthalate	140	JB
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	170	J
50-32-8	Benzo[a]pyrene	140	J
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-12

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.12

Sample wt/vol: 10.04 (g/ml) G Lab File ID: BNA01879.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 11.86 decanted: (Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	9.70	1300	J
2. 000540-97-6	Cyclohexasiloxane, dodecamethy	12.16	1500	JN
3. 074685-30-6	5-Eicosene, (E)-	23.95	2200	JN

000709

1B

FIELD ID.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-13

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.14

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01880.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 12.06 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-13

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.14

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01880.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 12.06 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	300	J
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	470	JB
206-44-0	Fluoranthene	130	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	220	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-13

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.14

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01880.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 12.06 decanted: (Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 3 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	9.70	2000	J
2. 000540-97-6	Cyclohexasiloxane, dodecamethy	12.16	1600	JN
3. 001599-67-3	1-Docosene	23.95	2300	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-14

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.16

Sample wt/vol: 10.29 (g/ml) G Lab File ID: BNA01881.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 15.23 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-14

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.16

Sample wt/vol: 10.29 (g/ml) G Lab File ID: BNA01881.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 15.23 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	1400	B
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	120	JB
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-14

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.16

Sample wt/vol: 10.29 (g/ml) G Lab File ID: BNA01881.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 15.23 decanted: (Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 4 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000541-02-6	Cyclopentasiloxane, decamethyl-	9.70	1600	JN
2. 000540-97-6	Cyclohexasiloxane, dodecamethy	12.16	1200	JN
3. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.49	1400	JN
4. 074685-30-6	5-Eicosene, (E)-	23.95	2900	JN

1B

FIELD ID.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-15

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.18

Sample wt/vol: 10.08 (g/ml) G Lab File ID: BNA01882.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 13.94 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-15

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.18

Sample wt/vol: 10.08 (g/ml) G Lab File ID: BNA01882.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 13.94 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1000	JB
206-44-0	Fluoranthene	170	J
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	180	J
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-15

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.18

Sample wt/vol: 10.08 (g/ml) G Lab File ID: BNA01882.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 13.94 decanted: (Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.48	1200	JN
2. 074685-30-6	5-Eicosene, (E)-	23.95	2800	JN
3. 006765-39-5	1-Heptadecene	25.47	960	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-16

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.20

Sample wt/vol: 10.04 (g/ml) G Lab File ID: BNA01891.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 10.65 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-16

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.20

Sample wt/vol: 10.04 (g/ml) G Lab File ID: BNA01891.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 10.65 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	430	J
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	2300	B
206-44-0	Fluoranthene	290	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	440	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	170	J
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	260	J
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	150	J
207-08-9	Benzo[k]fluoranthene	170	J
50-32-8	Benzo[a]pyrene	150	J
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-16

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.20

Sample wt/vol: 10.04 (g/ml) G Lab File ID: BNA01891.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 10.65 decanted: (Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.49	1500	JN
2. 074685-30-6	5-Eicosene, (E)-	23.94	1700	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-17

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.22

Sample wt/vol: 10.04 (g/ml) G Lab File ID: BNA01892.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 11.15 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-17

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.22

Sample wt/vol: 10.04 (g/ml) G Lab File ID: BNA01892.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 11.15 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	890	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	150	JB
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-17

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.22

Sample wt/vol: 10.04 (g/ml) G Lab File ID: BNA01892.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 11.15 decanted: (Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.48	900	JN
2. 074685-30-6	5-Eicosene, (E)-	23.94	2100	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-18

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.24

Sample wt/vol: 10.04 (g/ml) G Lab File ID: BNA01893.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 13.26 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-18

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.24

Sample wt/vol: 10.04 (g/ml) G Lab File ID: BNA01893.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 13.26 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	130	J
120-12-7	Anthracene	130	J
84-74-2	Di-n-butylphthalate	480	JB
206-44-0	Fluoranthene	160	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	180	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	130	J
117-81-7	bis(2-Ethylhexyl)phthalate	140	JB
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	110	J
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-18

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.24

Sample wt/vol: 10.04 (g/ml) G Lab File ID: BNA01893.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 13.26 decanted: (Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 074685-30-6	5-Eicosene, (E)-	23.95	2600	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-19

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.26

Sample wt/vol: 10.24 (g/ml) G Lab File ID: BNA01894.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 12.8 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-19

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4159 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4159.26

Sample wt/vol: 10.24 (g/ml) G Lab File ID: BNA01894.D

Level: (low/med) LOW Date Received: 12/28/98

% Moisture: 12.8 decanted:(Y/N) N Date Extracted: 12/29/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	370	J
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	250	JB
206-44-0	Fluoranthene	260	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	370	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	140	J
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	210	J
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	140	J
50-32-8	Benzo[a]pyrene	120	J
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-20

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.02

Sample wt/vol: 10.7 (g/ml) G Lab File ID: BN02631.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 11.26 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-20**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.02

Sample wt/vol: 10.7 (g/ml) G Lab File ID: BN02631.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 11.26 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	300	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-20**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.02

Sample wt/vol: 10.7 (g/ml) G Lab File ID: BN02631.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 11.26 decanted: (Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 9 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 056554-90-6	13-Octadecenal	29.37	1200	JN
2. 040710-42-7	1-Hentetracontanol	29.78	1000	JN
3.	unknown	30.06	860	J
4. 000629-96-9	1-Eicosanol	24.24	5500	JN
5. 006624-79-9	1-Dotriacontanol	25.75	2400	JN
6. 000630-06-8	Hexatriacontane	27.14	1500	JN
7. 000000-00-0	1-Hexacosanal	28.09	1100	JN
8. 000629-59-4	Tetradecane	28.43	1100	JN
9. 001599-67-3	1-Docosene	28.49	2200	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-21

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.04

Sample wt/vol: 10.1 (g/ml) G Lab File ID: BN02634.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 8.98 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	230	J
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-21

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.04

Sample wt/vol: 10.1 (g/ml) G Lab File ID: BN02634.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 8.98 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	300	J
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	370	JB
206-44-0	Fluoranthene	430	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	630	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	440	J
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	920	J
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	380	J
207-08-9	Benzo[k]fluoranthene	510	J
50-32-8	Benzo[a]pyrene	560	J
193-39-5	Indeno[1,2,3-cd]pyrene	280	J
53-70-3	Dibenz[a,h]anthracene	150	J
191-24-2	Benzo[g,h,i]perylene	330	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-21**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.04

Sample wt/vol: 10.1 (g/ml) G Lab File ID: BN02634.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 8.98 decanted: (Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 16 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000057-11-4	Octadecanoic acid	21.55	1800	JN
2. 006971-40-0	17-Pentatriacontene	25.76	5200	JN
3. 002363-71-5	Heneicosanoic acid	26.30	2100	JN
4. 000000-00-0	1-Hexacosanal	26.75	2100	JN
5.	unknown	27.01	880	J
6. 000629-96-9	1-Eicosanol	27.17	6200	JN
7.	unknown	27.67	1200	J
8. 000638-66-4	Octadecanal	28.10	2900	JN
9. 000629-78-7	Heptadecane	28.44	2400	JN
10. 000112-92-5	1-Octadecanol	28.49	3300	JN
11.	unknown	28.60	1300	J
12. 056554-86-0	17-Octadecenal	29.37	2700	JN
13. 000629-78-7	Heptadecane	29.70	940	JN
14. 000661-19-8	1-Docosanol	29.79	1600	JN
15.	unknown	29.91	1600	J
16.	unknown	30.07	900	J

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-22

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.06

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BN02635.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 13.73 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

Field ID: B-22

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.06

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BN02635.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 13.73 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	920	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-22**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.06

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BN02635.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 13.73 decanted: (Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 19 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.83	1400	JN
2. 000112-92-5	1-Octadecanol	24.24	7100	JN
3. 000646-30-0	Nonadecanoic acid	24.82	1200	JN
4. 006971-40-0	17-Pentatriacontene	25.76	5600	JN
5. 002363-71-5	Heneicosanoic acid	26.31	4000	JN
6. 000295-65-8	Cyclohexadecane	26.46	1100	JN
7. 000000-00-0	1-Hexacosanal	26.75	2400	JN
8. 000629-96-9	1-Eicosanol	27.17	5800	JN
9.	unknown	27.68	2600	J
10. 056554-90-6	13-Octadecenal	28.09	3000	JN
11. 000593-45-3	Octadecane	28.44	2500	JN
12.	unknown	28.49	3900	J
13.	unknown	28.60	1500	J
14.	unknown	28.96	1200	J
15. 000629-80-1	Hexadecanal	29.37	3000	JN
16. 000661-19-8	1-Docosanol	29.79	1900	JN
17.	unknown	29.91	1600	J
18.	unknown	30.07	2000	J
19.	unknown	30.60	1400	J

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-23

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.08

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BN02636.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 11.42 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-23**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.08

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BN02636.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 11.42 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	140	J
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	1200	B
206-44-0	Fluoranthene	180	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	230	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	200	J
117-81-7	bis(2-Ethylhexyl)phthalate	110	J
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	110	J
50-32-8	Benzo[a]pyrene	110	J
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-23**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.08

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BN02636.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 11.42 decanted: (Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 15 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-64-0	1,2-Benzenedicarboxylic acid, but	18.83	1900	JN
2. 000057-10-3	Hexadecanoic acid	19.70	1400	JN
3. 006971-40-0	17-Pentatriacontene	25.75	5000	JN
4. 002363-71-5	Heneicosanoic acid	26.30	2500	JN
5. 000638-66-4	Octadecanal	26.75	1800	JN
6. 000629-96-9	1-Eicosanol	27.17	4200	JN
7. 000057-11-4	Octadecanoic acid	27.67	1600	JN
8. 000000-00-0	1-Hexacosanal	28.10	2300	JN
9. 000630-06-8	Hexatriacontane	28.43	1900	JN
10.	unknown	28.49	3000	J
11.	unknown	28.60	1000	J
12. 056554-90-6	13-Octadecenal	29.37	2300	JN
13. 001653-33-4	4-Tetradecanol	29.79	1500	JN
14.	unknown	29.91	1300	J
15.	unknown	30.07	1200	J

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-24

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.10

Sample wt/vol: 10.12 (g/ml) G Lab File ID: BN02637.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 12.98 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

Field ID: B-24

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.10

Sample wt/vol: 10.12 (g/ml) G Lab File ID: BN02637.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 12.98 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	980	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-24**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.10

Sample wt/vol: 10.12 (g/ml) G Lab File ID: BN02637.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 12.98 decanted: (Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 12 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	18.83	1600	J
2. 000057-10-3	Hexadecanoic acid	19.70	1800	JN
3. 001454-84-8	1-Nonadecanol	24.25	7100	JN
4. 006971-40-0	17-Pentatriacontene	25.75	3700	JN
5.	unknown	26.29	1200	J
6. 002765-11-9	Pentadecanal-	26.75	970	JN
7. 000629-96-9	1-Eicosanol	27.16	3100	JN
8. 056554-90-6	13-Octadecenal	28.09	1300	JN
9. 007098-22-8	Tetratetracontane	28.43	1300	JN
10. 001599-67-3	1-Docosene	28.49	2700	JN
11. 000638-66-4	Octadecanal	29.37	1400	JN
12. 006624-79-9	1-Dotriacontanol	29.78	1200	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-25

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.12

Sample wt/vol: 10.27 (g/ml) G Lab File ID: BN02638.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 11.47 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	120	J
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

Field ID: B-25

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.12

Sample wt/vol: 10.27 (g/ml) G Lab File ID: BN02638.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 11.47 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	210	J
120-12-7	Anthracene	230	J
84-74-2	Di-n-butylphthalate	1100	B
206-44-0	Fluoranthene	630	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	840	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1000	J
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1800	
117-81-7	bis(2-Ethylhexyl)phthalate	110	J
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1200	
207-08-9	Benzo[k]fluoranthene	1300	
50-32-8	Benzo[a]pyrene	910	J
193-39-5	Indeno[1,2,3-cd]pyrene	550	J
53-70-3	Dibenz[a,h]anthracene	210	J
191-24-2	Benzo[g,h,i]perylene	480	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-25**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.12

Sample wt/vol: 10.27 (g/ml) G Lab File ID: BN02638.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 11.47 decanted: (Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 23 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		unknown	12.89	940	J
2.	000109-21-7	Butanoic acid, butyl ester	13.17	1200	JN
3.	000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.83	1700	JN
4.		unknown	22.82	1600	J
5.		unknown	22.86	960	J
6.		unknown	23.62	6600	J
7.		unknown	23.85	6000	J
8.	000112-85-6	Docosanoic acid	24.82	1200	JN
9.	006971-40-0	17-Pentatriacontene	25.76	5000	JN
10.		unknown	26.30	2500	J
11.	056554-90-6	13-Octadecenal	26.75	2600	JN
12.		unknown	27.02	910	J
13.	006624-79-9	1-Dotriacontanol	27.17	6300	JN
14.		unknown	27.67	1300	J
15.	002765-11-9	Pentadecanal-	28.09	2300	JN
16.	000629-92-5	Nonadecane	28.44	2300	JN
17.	000629-96-9	1-Eicosanol	28.49	3800	JN
18.		unknown	28.60	1000	J
19.	000629-80-1	Hexadecanal	29.37	2100	JN
20.	000506-51-4	1-Tetracosanol	29.79	2000	JN
21.		unknown	29.92	1200	J
22.		unknown	30.12	5800	J
23.		unknown	30.70	960	J

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-26

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.14

Sample wt/vol: 10.16 (g/ml) G Lab File ID: BN02639.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 12.07 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-26

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.14

Sample wt/vol: 10.16 (g/ml) G Lab File ID: BN02639.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 12.07 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	1500	B
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-26**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.14

Sample wt/vol: 10.16 (g/ml) G Lab File ID: BN02639.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 12.07 decanted: (Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 14 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		unknown	12.89	920	J
2.	000109-21-7	Butanoic acid, butyl ester	13.17	1300	JN
3.		unknown	18.83	2500	J
4.	000057-10-3	Hexadecanoic acid	19.70	1200	JN
5.	001454-84-8	1-Nonadecanol	24.24	6100	JN
6.	006624-79-9	1-Dotriacontanol	25.75	3900	JN
7.		unknown	26.29	990	J
8.	056554-87-1	16-Octadecenal	26.75	920	JN
9.	001599-67-3	1-Docosene	27.16	2900	JN
10.	002765-11-9	Pentadecanal-	28.09	1300	JN
11.	000630-06-8	Hexatriacontane	28.43	1200	JN
12.	000629-96-9	1-Eicosanol	28.49	2100	JN
13.	000629-80-1	Hexadecanal	29.37	1400	JN
14.	000661-19-8	1-Docosanol	29.78	940	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-27

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.16

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BN02640.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 13.46 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-27**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.16

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BN02640.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 13.46 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	210	J
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	890	JB
206-44-0	Fluoranthene	270	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	320	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	140	J
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	260	J
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	120	J
207-08-9	Benzo[k]fluoranthene	160	J
50-32-8	Benzo[a]pyrene	140	J
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-27**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.16

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BN02640.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 13.46 decanted: (Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 11 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	000084-64-0	1,2-Benzenedicarboxylic acid, but	18.83	1600	JN
2.	006971-40-0	17-Pentatriacontene	25.75	3700	JN
3.	002363-71-5	Heneicosanoic acid	26.29	1600	JN
4.	000000-00-0	1-Hexacosanal	26.75	1100	JN
5.	006624-79-9	1-Dotriacontanol	27.16	3000	JN
6.		unknown	27.66	1000	J
7.	002765-11-9	Pentadecanal-	28.09	1500	JN
8.	000112-95-8	Eicosane	28.43	1400	JN
9.	000629-96-9	1-Eicosanol	28.48	3200	JN
10.	000638-66-4	Octadecanal	29.37	1500	JN
11.	000506-52-5	1-Hexacosanol	29.78	1400	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-28**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.18

Sample wt/vol: 10.01 (g/ml) G Lab File ID: BN02647.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 12.39 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-28

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.18

Sample wt/vol: 10.01 (g/ml) G Lab File ID: BN02647.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 12.39 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	130	J
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	320	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	130	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-28**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.18

Sample wt/vol: 10.01 (g/ml) G Lab File ID: BN02647.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 12.39 decanted: (Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 8 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 001599-67-3	1-Docosene	24.15	5200	JN
2. 006624-79-9	1-Dotriacontanol	25.67	2500	JN
3. 000000-00-0	1-Hexacosanal	26.66	930	JN
4. 000506-51-4	1-Tetracosanol	27.08	2100	JN
5. 002765-11-9	Pentadecanal-	28.01	1300	JN
6. 000630-06-8	Hexatriacontane	28.35	1200	JN
7. 000629-96-9	1-Eicosanol	28.41	1900	JN
8. 056554-90-6	13-Octadecenal	29.28	1400	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-29

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.20

Sample wt/vol: 10.12 (g/ml) G Lab File ID: BN02648.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 12.87 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-29**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.20

Sample wt/vol: 10.12 (g/ml) G Lab File ID: BN02648.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 12.87 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	760	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	110	J
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-29**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4160 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4160.20

Sample wt/vol: 10.12 (g/ml) G Lab File ID: BN02648.D

Level: (low/med) LOW Date Received: 12/29/98

% Moisture: 12.87 decanted: (Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 9 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.74	1700	JN
2. 001599-67-3	1-Docosene	24.15	5600	JN
3. 006624-79-9	1-Dotriacontanol	25.67	3100	JN
4. 000638-66-4	Octadecanal	26.66	1000	JN
5. 000112-95-8	Eicosane	27.06	1400	JN
6. 002765-11-9	Pentadecanal-	28.01	1200	JN
7. 007098-22-8	Tetratetracontane	28.35	1500	JN
8. 000629-96-9	1-Eicosanol	28.40	1800	JN
9. 056554-90-6	13-Octadecenal	29.28	1600	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-30

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.02

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01939.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 13.59 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-30

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.02

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01939.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 13.59 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	750	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-30

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.02

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01939.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 13.59 decanted: (Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.45	930	JN
2. 074685-33-9	3-Eicosene, (E)-	23.91	2200	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-31

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.04

Sample wt/vol: 10.14 (g/ml) G Lab File ID: BNA01940.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 13.28 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-31

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.04

Sample wt/vol: 10.14 (g/ml) G Lab File ID: BNA01940.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 13.28 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	240	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-31

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.04

Sample wt/vol: 10.14 (g/ml) G Lab File ID: BNA01940.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 13.28 decanted: (Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 1 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 074685-33-9	3-Eicosene, (E)-	23.91	1900	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-32

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.06

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01941.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 13.81 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-32

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.06

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01941.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 13.81 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	310	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-32

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.06

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01941.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 13.81 decanted: (Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 074685-30-6	5-Eicosene, (E)-	23.91	2300	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-33

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.08

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01942.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 6.24 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-33

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.08

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01942.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 6.24 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	1500	B
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-33

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.08

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01942.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 6.24 decanted: (Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.45	1600	JN
2. 074685-30-6	5-Eicosene, (E)-	23.91	1800	JN

1B

FIELD ID.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-34

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.10

Sample wt/vol: 10.11 (g/ml) G Lab File ID: BNA01944.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 8.65 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-34

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.10

Sample wt/vol: 10.11 (g/ml) G Lab File ID: BNA01944.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 8.65 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	800	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-34

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.10

Sample wt/vol: 10.11 (g/ml) G Lab File ID: BNA01944.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 8.65 decanted: (Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.45	870	JN
2. 001599-67-3	1-Docosene	23.91	1300	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-35

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.12

Sample wt/vol: 10.03 (g/ml) G Lab File ID: BNA01943.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 11.1 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-35

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.12

Sample wt/vol: 10.03 (g/ml) G Lab File ID: BNA01943.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 11.1 decanted:(Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	300	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-35

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.12

Sample wt/vol: 10.03 (g/ml) G Lab File ID: BNA01943.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 11.1 decanted: (Y/N) N Date Extracted: 12/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 074685-30-6	5-Eicosene, (E)-	23.91	2500	JN

000778

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-36

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.14

Sample wt/vol: 10.35 (g/ml) G Lab File ID: BNA01949.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 13.37 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-36

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.14

Sample wt/vol: 10.35 (g/ml) G Lab File ID: BNA01949.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 13.37 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	330	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-36

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.14

Sample wt/vol: 10.35 (g/ml) G Lab File ID: BNA01949.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 13.37 decanted: (Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 074685-30-6	5-Eicosene, (E)-	23.91	2300	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-37

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.16

Sample wt/vol: 10.08 (g/ml) G Lab File ID: BNA01952.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 13.19 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-37

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.16

Sample wt/vol: 10.08 (g/ml) G Lab File ID: BNA01952.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 13.19 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	850	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-37

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.16

Sample wt/vol: 10.08 (g/ml) G Lab File ID: BNA01952.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 13.19 decanted: (Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.45	1300	JN
2. 001599-67-3	1-Docosene	23.91	2400	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-38

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.18

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BNA01953.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 10.75 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-38

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.18

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BNA01953.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 10.75 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	900	JB
206-44-0	Fluoranthene	120	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	130	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-38

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.18

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BNA01953.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 10.75 decanted: (Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 017851-53-5	1,2-Benzenedicarboxylic acid, but	18.45	1600	JN
2. 074685-33-9	3-Eicosene, (E)-	23.91	2500	JN

1B

FIELD ID.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-39

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.20

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BNA01954.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 14.82 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

000788

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-39

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.20

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BNA01954.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 14.82 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	150	J
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	350	JB
206-44-0	Fluoranthene	220	J
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	220	J
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	170	J
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	150	J
207-08-9	Benzo[k]fluoranthene	140	J
50-32-8	Benzo[a]pyrene	130	J
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-39

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.20

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BNA01954.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 14.82 decanted: (Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 1 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 074685-33-9	3-Eicosene, (E)-	23.91	2800	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-40

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.22

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BNA01955.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 14.76 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-40

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.22

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BNA01955.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 14.76 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	820	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-40

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.22

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BNA01955.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 14.76 decanted: (Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.45	1500	JN
2. 000629-96-9	1-Eicosanol	23.91	3300	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-41

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.24

Sample wt/vol: 10.03 (g/ml) G Lab File ID: BNA01956.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 14.46 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-41

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.24

Sample wt/vol: 10.03 (g/ml) G Lab File ID: BNA01956.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 14.46 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	140	J
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	380	JB
206-44-0	Fluoranthene	140	J
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	190	J
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	130	J
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-41

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.24

Sample wt/vol: 10.03 (g/ml) G Lab File ID: BNA01956.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 14.46 decanted: (Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 1 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 074685-30-6	5-Eicosene, (E)-	23.92	3900	JN

000796

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-42

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.26

Sample wt/vol: 10.17 (g/ml) G Lab File ID: BNA01957.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 16.25 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-42

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.26

Sample wt/vol: 10.17 (g/ml) G Lab File ID: BNA01957.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 16.25 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	440	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

000798

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-42

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.26

Sample wt/vol: 10.17 (g/ml) G Lab File ID: BNA01957.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 16.25 decanted: (Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 001599-67-3	1-Docosene	23.91	3800	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-43

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.28

Sample wt/vol: 10.11 (g/ml) G Lab File ID: BNA01958.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 13.95 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	160	J
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	140	J
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	200	J
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-43

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.28

Sample wt/vol: 10.11 (g/ml) G Lab File ID: BNA01958.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 13.95 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	640	J
120-12-7	Anthracene	140	J
84-74-2	Di-n-butylphthalate	1100	JB
206-44-0	Fluoranthene	420	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	520	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	260	J
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	350	J
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	170	J
207-08-9	Benzo[k]fluoranthene	230	J
50-32-8	Benzo[a]pyrene	240	J
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	140	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-43

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.28

Sample wt/vol: 10.11 (g/ml) G Lab File ID: BNA01958.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 13.95 decanted: (Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 4 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	12.49	1100	J
2.	unknown	12.78	1200	J
3. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.45	1400	JN
4. 000629-96-9	1-Eicosanol	23.91	3400	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-44

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.30

Sample wt/vol: 10.07 (g/ml) G Lab File ID: BNA01959.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 14.75 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-44

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.30

Sample wt/vol: 10.07 (g/ml) G Lab File ID: BNA01959.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 14.75 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1600	B
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-44

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4162 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4162.30

Sample wt/vol: 10.07 (g/ml) G Lab File ID: BNA01959.D

Level: (low/med) LOW Date Received: 12/30/98

% Moisture: 14.75 decanted: (Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.45	2200	JN
2. 077899-03-7	1-Heneicosyl formate	23.91	4300	JN
3. 000297-03-0	Cyclotetracosane	25.44	2200	JN
4. 000112-85-6	Docosanoic acid	26.01	2800	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-45

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.02

Sample wt/vol: 10.36 (g/ml) G Lab File ID: BNA01895.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 14.41 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-45

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.02

Sample wt/vol: 10.36 (g/ml) G Lab File ID: BNA01895.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 14.41 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	140	J
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	1000	JB
206-44-0	Fluoranthene	190	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	220	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	100	J
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	140	J
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	120	J
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-45

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.02

Sample wt/vol: 10.36 (g/ml) G Lab File ID: BNA01895.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 14.41 decanted: (Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/12/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.49	1800	JN
2. 000112-88-9	1-Octadecene	23.94	3900	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-46

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.04

Sample wt/vol: 10.1 (g/ml) G Lab File ID: BNA01898.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 15.17 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

OCL809

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-46

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.04

Sample wt/vol: 10.1 (g/ml) G Lab File ID: BNA01898.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 15.17 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	210	J
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	450	JB
206-44-0	Fluoranthene	280	J
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	310	J
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	150	J
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	210	J
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	130	J
207-08-9	Benzo[k]fluoranthene	160	J
50-32-8	Benzo[a]pyrene	160	J
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-46

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.04

Sample wt/vol: 10.1 (g/ml) G Lab File ID: BNA01898.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 15.17 decanted: (Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000629-96-9	1-Eicosanol	23.94	3500	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-47

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.06

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01899.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 14.84 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-47

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.06

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01899.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 14.84 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	390	JB
206-44-0	Fluoranthene	120	J
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	150	J
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-47

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.06

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01899.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 14.84 decanted: (Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 1 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000112-88-9	1-Octadecene	23.93	3800	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-48

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.08

Sample wt/vol: 10.21 (g/ml) G Lab File ID: BNA01900.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 14.29 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-48

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.08

Sample wt/vol: 10.21 (g/ml) G Lab File ID: BNA01900.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 14.29 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	120	J
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	1100	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	130	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-48

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.08

Sample wt/vol: 10.21 (g/ml) G Lab File ID: BNA01900.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 14.29 decanted: (Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.47	1300	JN
2. 000629-96-9	1-Eicosanol	23.93	2600	JN

1B

FIELD ID.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-49

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.10

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BNA01901.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 15.4 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-49

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.10

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BNA01901.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 15.4 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1200	B
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-49

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.10

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BNA01901.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 15.4 decanted: (Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.48	2000	JN
2. 001454-84-8	1-Nonadecanol	23.93	2700	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-50

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.12

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01902.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 13.33 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-50

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.12

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01902.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 13.33 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	2200	B
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-50

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.12

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01902.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 13.33 decanted: (Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.48	3100	JN
2. 010544-50-0	Sulfur, mol. (S8)	20.12	1600	JN
3. 074685-30-6	5-Eicosene, (E)-	23.93	3300	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-51

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.14

Sample wt/vol: 10.08 (g/ml) G Lab File ID: BNA01903.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 14.44 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-51

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.14

Sample wt/vol: 10.08 (g/ml) G Lab File ID: BNA01903.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 14.44 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1000	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-51

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.14

Sample wt/vol: 10.08 (g/ml) G Lab File ID: BNA01903.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 14.44 decanted: (Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.47	1500	JN
2. 074685-33-9	3-Eicosene, (E)-	23.92	1800	JN

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-52

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.16

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BNA01904.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 17.33 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-52

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.16

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BNA01904.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 17.33 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1000	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-52

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.16

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BNA01904.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 17.33 decanted: (Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.47	1600	JN
2. 074685-30-6	5-Eicosene, (E)-	23.93	2100	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-53

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.18

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BNA01905.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 15.19 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-53

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.18

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BNA01905.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 15.19 decanted:(Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	720	JB
206-44-0	Fluoranthene	130	J
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

000831

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-53

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4164 Location: M-14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4164.18

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BNA01905.D

Level: (low/med) LOW Date Received: 12/31/98

% Moisture: 15.19 decanted: (Y/N) N Date Extracted: 01/04/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.48	3800	JN
2. 074685-33-9	3-Eicosene, (E)-	23.93	2900	JN

1B

FIELD ID.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-54

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.02

Sample wt/vol: 9.73 (g/ml) G Lab File ID: BNA01909.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 12 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-54

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.02

Sample wt/vol: 9.73 (g/ml) G Lab File ID: BNA01909.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 12 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	130	J
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	330	JB
206-44-0	Fluoranthene	220	J
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	240	J
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	120	J
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	130	J
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-54

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.02

Sample wt/vol: 9.73 (g/ml) G Lab File ID: BNA01909.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 12 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/13/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 001599-67-3	1-Docosene	23.93	3500	JN
2. 001599-67-3	1-Docosene	25.45	1000	JN

1B

FIELD ID.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-55

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.04

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BNA01919.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 17.34 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-55

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.04

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BNA01919.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 17.34 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1900	B
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	140	JB
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-55

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.04

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BNA01919.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 17.34 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.46	1200	JN
2. 074685-30-6	5-Eicosene, (E)-	23.91	2200	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-56

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.06

Sample wt/vol: 10.49 (g/ml) G Lab File ID: BNA01920.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.14 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-56

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.06

Sample wt/vol: 10.49 (g/ml) G Lab File ID: BNA01920.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.14 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	1100	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-56

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.06

Sample wt/vol: 10.49 (g/ml) G Lab File ID: BNA01920.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.14 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 1 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 074685-30-6	5-Eicosene, (E)-	23.91	2000	JN

000841

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-57

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.08

Sample wt/vol: 11.01 (g/ml) G Lab File ID: BNA01921.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.34 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-57

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.08

Sample wt/vol: 11.01 (g/ml) G Lab File ID: BNA01921.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.34 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	19000	EB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-57

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.08

Sample wt/vol: 11.01 (g/ml) G Lab File ID: BNA01921.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.34 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.46	1200	JN
2. 074685-33-9	3-Eicosene, (E)-	23.91	1500	JN

000844

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-57

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.08 (1:5)

Sample wt/vol: 11.01 (g/ml) G Lab File ID: BNA01930.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.34 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 5.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	5400	U
62-75-9	N-nitroso-dimethylamine	5400	U
62-53-3	Aniline	5400	U
108-95-2	Phenol	5400	U
111-44-4	bis(2-Chloroethyl)ether	5400	U
95-57-8	2-Chlorophenol	5400	U
541-73-1	1,3-Dichlorobenzene	5400	U
106-46-7	1,4-Dichlorobenzene	5400	U
100-51-6	Benzyl alcohol	5400	U
95-50-1	1,2-Dichlorobenzene	5400	U
	2-Methylphenol	5400	U
108-60-1	bis(2-chloroisopropyl)ether	5400	U
	4-Methylphenol	5400	U
621-64-7	n-Nitroso-di-n-propylamine	5400	U
67-72-1	Hexachloroethane	5400	U
98-95-3	Nitrobenzene	5400	U
78-59-1	Isophorone	5400	U
88-75-5	2-Nitrophenol	5400	U
105-67-9	2,4-Dimethylphenol	5400	U
111-91-1	bis(2-Chloroethoxy)methane	5400	U
120-83-2	2,4-Dichlorophenol	5400	U
65-85-0	Benzoic Acid	5400	U
120-82-1	1,2,4-Trichlorobenzene	5400	U
91-20-3	Naphthalene	5400	U
106-47-8	4-Chloroaniline	5400	U
87-68-3	Hexachlorobutadiene	5400	U
59-50-7	4-Chloro-3-methylphenol	5400	U
91-57-6	2-Methylnaphthalene	5400	U
77-47-4	Hexachlorocyclopentadiene	5400	U
88-06-2	2,4,6-Trichlorophenol	5400	U
	2,4,5-Trichlorophenol	5400	U
91-58-7	2-Chloronaphthalene	5400	U
88-74-4	2-Nitroaniline	5400	U
131-11-3	Dimethylphthalate	5400	U
208-96-8	Acenaphthylene	5400	U
606-20-2	2,6-Dinitrotoluene	5400	U
99-09-2	3-Nitroaniline	5400	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-57

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.08 (1:5)

Sample wt/vol: 11.01 (g/ml) G Lab File ID: BNA01930.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.34 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 5.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	5400	U
51-28-5	2,4-Dinitrophenol	5400	U
132-64-9	Dibenzofuran	5400	U
100-02-7	4-Nitrophenol	5400	U
121-14-2	2,4-Dinitrotoluene	5400	U
84-66-2	Diethylphthalate	5400	U
86-73-7	Fluorene	5400	U
7005-72-3	4-Chlorophenyl-phenylether	5400	U
100-01-6	4-Nitroaniline	5400	U
534-52-1	4,6-Dinitro-2-methylphenol	5400	U
86-30-6	n-Nitrosodiphenylamine	5400	U
103-33-3	Azobenzene	5400	U
101-55-3	4-Bromophenyl-phenylether	5400	U
118-74-1	Hexachlorobenzene	5400	U
87-86-5	Pentachlorophenol	5400	U
85-01-8	Phenanthrene	5400	U
120-12-7	Anthracene	5400	U
84-74-2	Di-n-butylphthalate	22000	BD
206-44-0	Fluoranthene	5400	U
92-87-5	Benzidine	5400	U
129-00-0	Pyrene	5400	U
85-68-7	Butylbenzylphthalate	5400	U
56-55-3	Benzo[a]anthracene	5400	U
91-94-1	3,3'-Dichlorobenzidine	5400	U
218-01-9	Chrysene	5400	U
117-81-7	bis(2-Ethylhexyl)phthalate	5400	U
117-84-0	Di-n-octylphthalate	5400	U
205-99-2	Benzo[b]fluoranthene	5400	U
207-08-9	Benzo[k]fluoranthene	5400	U
50-32-8	Benzo[a]pyrene	5400	U
193-39-5	Indeno[1,2,3-cd]pyrene	5400	U
53-70-3	Dibenz[a,h]anthracene	5400	U
191-24-2	Benzo[g,h,i]perylene	5400	U

1B

FIELD ID.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-58

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.10

Sample wt/vol: 10.23 (g/ml) G Lab File ID: BNA01922.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 14.97 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

000847

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-58

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.10

Sample wt/vol: 10.23 (g/ml) G Lab File ID: BNA01922.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 14.97 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	2000	B
206-44-0	Fluoranthene	180	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	190	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	130	JB
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

000848

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-58

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.10

Sample wt/vol: 10.23 (g/ml) G Lab File ID: BNA01922.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 14.97 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 017851-53-5	1,2-Benzenedicarboxylic acid, but	18.47	1800	JN
2. 074685-30-6	5-Eicosene, (E)-	23.92	1900	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-59

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.12

Sample wt/vol: 10.41 (g/ml) G Lab File ID: BNA01923.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 14.26 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-59

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.12

Sample wt/vol: 10.41 (g/ml) G Lab File ID: BNA01923.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 14.26 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	900	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-59

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.12

Sample wt/vol: 10.41 (g/ml) G Lab File ID: BNA01923.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 14.26 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 074685-33-9	3-Eicosene, (E)-	23.91	1700	JN

000852

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-60

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.14

Sample wt/vol: 10.65 (g/ml) G Lab File ID: BNA01945.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 15.89 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	3600	
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	480	J
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-60

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.14

Sample wt/vol: 10.65 (g/ml) G Lab File ID: BNA01945.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 15.89 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	7300	
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	4200	
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	8100	
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	39000	E
120-12-7	Anthracene	14000	E
84-74-2	Di-n-butylphthalate	230	JB
206-44-0	Fluoranthene	43000	E
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	33000	E
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	24000	E
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	20000	E
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	46000	E
207-08-9	Benzo[k]fluoranthene	26000	E
50-32-8	Benzo[a]pyrene	27000	E
193-39-5	Indeno[1,2,3-cd]pyrene	13000	
53-70-3	Dibenz[a,h]anthracene	1100	J
191-24-2	Benzo[g,h,i]perylene	14000	E

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-60

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.14

Sample wt/vol: 10.65 (g/ml) G Lab File ID: BNA01945.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 15.89 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 13 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000238-84-6	11H-Benzo[a]fluorene	21.79	1600	JN
2. 000243-17-4	11H-Benzo[b]fluorene	21.94	1600	JN
3.	unknown	23.29	1700	J
4. 025732-74-5	3,4-Dihydrocyclopenta(cd)pyrene	24.07	2000	JN
5. 000243-51-6	11H-Indeno(1,2-B)quinoline	24.29	960	JN
6. 000192-97-2	Benzo[e]pyrene	26.40	6200	JN
7.	unknown	26.88	29000	J
8. 000198-55-0	Perylene	27.01	7200	JN
9.	unknown	27.28	1800	J
10.	unknown	27.76	1900	J
11.	unknown	28.70	3200	J
12. 000000-00-0	1,2:7,8-Dibenzphenanthrene	29.08	1900	JN
13.	unknown	29.15	2000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-60

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.14 (1:20)

Sample wt/vol: 10.65 (g/ml) G Lab File ID: BNA01948.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 15.89 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	22000	U
62-75-9	N-nitroso-dimethylamine	22000	U
62-53-3	Aniline	22000	U
108-95-2	Phenol	22000	U
111-44-4	bis(2-Chloroethyl)ether	22000	U
95-57-8	2-Chlorophenol	22000	U
541-73-1	1,3-Dichlorobenzene	22000	U
106-46-7	1,4-Dichlorobenzene	22000	U
100-51-6	Benzyl alcohol	22000	U
95-50-1	1,2-Dichlorobenzene	22000	U
	2-Methylphenol	22000	U
108-60-1	bis(2-chloroisopropyl)ether	22000	U
	4-Methylphenol	22000	U
621-64-7	n-Nitroso-di-n-propylamine	22000	U
67-72-1	Hexachloroethane	22000	U
98-95-3	Nitrobenzene	22000	U
78-59-1	Isophorone	22000	U
88-75-5	2-Nitrophenol	22000	U
105-67-9	2,4-Dimethylphenol	22000	U
111-91-1	bis(2-Chloroethoxy)methane	22000	U
120-83-2	2,4-Dichlorophenol	22000	U
65-85-0	Benzoic Acid	22000	U
120-82-1	1,2,4-Trichlorobenzene	22000	U
91-20-3	Naphthalene	3100	JD
106-47-8	4-Chloroaniline	22000	U
87-68-3	Hexachlorobutadiene	22000	U
59-50-7	4-Chloro-3-methylphenol	22000	U
91-57-6	2-Methylnaphthalene	22000	U
77-47-4	Hexachlorocyclopentadiene	22000	U
88-06-2	2,4,6-Trichlorophenol	22000	U
	2,4,5-Trichlorophenol	22000	U
91-58-7	2-Chloronaphthalene	22000	U
88-74-4	2-Nitroaniline	22000	U
131-11-3	Dimethylphthalate	22000	U
208-96-8	Acenaphthylene	22000	U
606-20-2	2,6-Dinitrotoluene	22000	U
99-09-2	3-Nitroaniline	22000	U

1C

FIELD ID.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-60

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.14 (1:20)

Sample wt/vol: 10.65 (g/ml) G Lab File ID: BNA01948.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 15.89 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	5600	JD
51-28-5	2,4-Dinitrophenol	22000	U
132-64-9	Dibenzofuran	3400	JD
100-02-7	4-Nitrophenol	22000	U
121-14-2	2,4-Dinitrotoluene	22000	U
84-66-2	Diethylphthalate	22000	U
86-73-7	Fluorene	6300	JD
7005-72-3	4-Chlorophenyl-phenylether	22000	U
100-01-6	4-Nitroaniline	22000	U
534-52-1	4,6-Dinitro-2-methylphenol	22000	U
86-30-6	n-Nitrosodiphenylamine	22000	U
103-33-3	Azobenzene	22000	U
101-55-3	4-Bromophenyl-phenylether	22000	U
118-74-1	Hexachlorobenzene	22000	U
87-86-5	Pentachlorophenol	22000	U
85-01-8	Phenanthrene	76000	D
120-12-7	Anthracene	17000	JD
84-74-2	Di-n-butylphthalate	22000	U
206-44-0	Fluoranthene	89000	D
92-87-5	Benzidine	22000	U
129-00-0	Pyrene	60000	D
85-68-7	Butylbenzylphthalate	22000	U
56-55-3	Benzo[a]anthracene	27000	D
91-94-1	3,3'-Dichlorobenzidine	22000	U
218-01-9	Chrysene	29000	D
117-81-7	bis(2-Ethylhexyl)phthalate	22000	U
117-84-0	Di-n-octylphthalate	22000	U
205-99-2	Benzo[b]fluoranthene	23000	D
207-08-9	Benzo[k]fluoranthene	25000	D
50-32-8	Benzo[a]pyrene	26000	D
193-39-5	Indeno[1,2,3-cd]pyrene	14000	JD
53-70-3	Dibenz[a,h]anthracene	3100	JD
191-24-2	Benzo[g,h,i]perylene	18000	JD

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-61

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.16

Sample wt/vol: 10.84 (g/ml) G Lab File ID: BNA01924.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 18.37 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

000858

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-61

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.16

Sample wt/vol: 10.84 (g/ml) G Lab File ID: BNA01924.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 18.37 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	330	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-61

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.16

Sample wt/vol: 10.84 (g/ml) G Lab File ID: BNA01924.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 18.37 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 001599-67-3	1-Docosene	23.92	2700	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-62

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.18

Sample wt/vol: 10.54 (g/ml) G Lab File ID: BNA01925.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 13.66 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-62

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.18

Sample wt/vol: 10.54 (g/ml) G Lab File ID: BNA01925.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 13.66 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	340	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-62

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.18

Sample wt/vol: 10.54 (g/ml) G Lab File ID: BNA01925.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 13.66 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 1 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 074685-33-9	3-Eicosene, (E)-	23.91	2400	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-63

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.20

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01926.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.9 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-63

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.20

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01926.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.9 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1800	B
206-44-0	Fluoranthene	130	J
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	120	J
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	130	JB
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-63

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.20

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01926.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.9 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.46	1600	JN
2. 074685-30-6	5-Eicosene, (E)-	23.92	3600	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-64

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.22

Sample wt/vol: 10.6 (g/ml) G Lab File ID: BNA01927.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 20.05 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-64

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.22

Sample wt/vol: 10.6 (g/ml) G Lab File ID: BNA01927.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 20.05 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	490	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

000868

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-64

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.22

Sample wt/vol: 10.6 (g/ml) G Lab File ID: BNA01927.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 20.05 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 1 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 001599-67-3	1-Docosene	23.91	1800	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-65

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.24

Sample wt/vol: 10.59 (g/ml) G Lab File ID: BNA01931.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 13.99 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-65

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.24

Sample wt/vol: 10.59 (g/ml) G Lab File ID: BNA01931.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 13.99 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	1200	B
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	140	JB
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-65

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.24

Sample wt/vol: 10.59 (g/ml) G Lab File ID: BNA01931.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 13.99 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.46	920	JN
2. 074685-30-6	5-Eicosene, (E)-	23.91	1100	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-66

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.26

Sample wt/vol: 11 (g/ml) G Lab File ID: BNA01932.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.53 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-66

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.26

Sample wt/vol: 11 (g/ml) G Lab File ID: BNA01932.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.53 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	190	J
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	1100	B
206-44-0	Fluoranthene	210	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	230	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	150	J
117-81-7	bis(2-Ethylhexyl)phthalate	120	JB
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	120	J
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-66

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.26

Sample wt/vol: 11 (g/ml) G Lab File ID: BNA01932.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.53 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.46	1000	JN
2. 000789-02-6	o,p'-DDT	22.88	1200	JN
3. 074685-30-6	5-Eicosene, (E)-	23.91	1500	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-67

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.28

Sample wt/vol: 10.53 (g/ml) G Lab File ID: BNA01933.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 17.27 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-67

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.28

Sample wt/vol: 10.53 (g/ml) G Lab File ID: BNA01933.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 17.27 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	1100	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-67

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.28

Sample wt/vol: 10.53 (g/ml) G Lab File ID: BNA01933.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 17.27 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.46	1000	JN
2. 074685-33-9	3-Eicosene, (E)-	23.91	1500	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-68

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.30

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01934.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 18.48 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-68

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.30

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01934.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 18.48 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1700	B
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-68

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.30

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01934.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 18.48 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.46	1400	JN
2. 000629-96-9	1-Eicosanol	23.91	1900	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-69

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.32

Sample wt/vol: 10.17 (g/ml) G Lab File ID: BNA01935.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.28 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	610	J
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-69

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.32

Sample wt/vol: 10.17 (g/ml) G Lab File ID: BNA01935.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.28 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1000	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-69

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.32

Sample wt/vol: 10.17 (g/ml) G Lab File ID: BNA01935.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.28 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.45	960	JN
2. 074685-30-6	5-Eicosene, (E)-	23.91	2000	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-70

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.34

Sample wt/vol: 10.19 (g/ml) G Lab File ID: BNA01936.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 19.91 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-70

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.34

Sample wt/vol: 10.19 (g/ml) G Lab File ID: BNA01936.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 19.91 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	2700	B
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-70

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.34

Sample wt/vol: 10.19 (g/ml) G Lab File ID: BNA01936.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 19.91 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.46	1800	JN
2. 074685-30-6	5-Eicosene, (E)-	23.91	1700	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-71

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.36

Sample wt/vol: 10.16 (g/ml) G Lab File ID: BNA01937.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.03 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-71

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.36

Sample wt/vol: 10.16 (g/ml) G Lab File ID: BNA01937.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.03 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	250	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-71

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4169 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4169.36

Sample wt/vol: 10.16 (g/ml) G Lab File ID: BNA01937.D

Level: (low/med) LOW Date Received: 01/05/99

% Moisture: 16.03 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.45	1300	JN
2. 000112-88-9	1-Octadecene	23.92	2200	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-72

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.02

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01965.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 18.11 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-72

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.02

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01965.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 18.11 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	660	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-72

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.02

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01965.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 18.11 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.45	3800	JN
2. 001454-84-8	1-Nonadecanol	23.90	2000	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-73

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173-04

Sample wt/vol: 10.12 (g/ml) G Lab File ID: BNA01960.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 11.99 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-73

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173-04

Sample wt/vol: 10.12 (g/ml) G Lab File ID: BNA01960.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 11.99 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	280	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-73

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173-04

Sample wt/vol: 10.12 (g/ml) G Lab File ID: BNA01960.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 11.99 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.45	1600	JN
2. 001454-84-8	1-Nonadecanol	23.91	2200	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-74

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.06

Sample wt/vol: 10.16 (g/ml) G Lab File ID: BNA01966.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 14.1 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-74

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.06

Sample wt/vol: 10.16 (g/ml) G Lab File ID: BNA01966.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 14.1 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	1300	B
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	130	J
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-74

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.06

Sample wt/vol: 10.16 (g/ml) G Lab File ID: BNA01966.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 14.1 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 3 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.46	4400	JN
2.	unknown	20.70	7000	J
3. 074685-30-6	5-Eicosene, (E)-	23.91	3500	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-75

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.08

Sample wt/vol: 10.08 (g/ml) G Lab File ID: BNA01981.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 17.01 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-75

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.08

Sample wt/vol: 10.08 (g/ml) G Lab File ID: BNA01981.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 17.01 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	210	J
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1200	JB
206-44-0	Fluoranthene	180	J
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	140	J
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

000901

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-75

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.08

Sample wt/vol: 10.08 (g/ml) G Lab File ID: BNA01981.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 17.01 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.45	5300	JN
2. 000112-88-9	1-Octadecene	23.90	3000	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-76

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.10

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BNA01977.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 14.71 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	160	J
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	130	J
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-76

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.10

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BNA01977.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 14.71 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1400	
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	720	J
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1500	
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	20000	E
120-12-7	Anthracene	6400	
84-74-2	Di-n-butylphthalate	910	JB
206-44-0	Fluoranthene	28000	E
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	18000	E
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	11000	
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	11000	
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	11000	
207-08-9	Benzo[k]fluoranthene	6600	
50-32-8	Benzo[a]pyrene	10000	
193-39-5	Indeno[1,2,3-cd]pyrene	4100	
53-70-3	Dibenz[a,h]anthracene	1200	
191-24-2	Benzo[g,h,i]perylene	4600	

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-76

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.10

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BNA01977.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 14.71 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 14 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000132-65-0	Dibenzothiophene	17.28	1100	JN
2. 017851-53-5	1,2-Benzenedicarboxylic acid, but	18.45	2600	JN
3. 002531-84-2	Phenanthrene, 2-methyl-	18.75	1800	JN
4. 000832-64-4	Phenanthrene, 4-methyl-	18.81	2300	JN
5. 000613-12-7	Anthracene, 2-methyl-	18.90	1200	JN
6. 000203-64-5	4H-Cyclopenta[def]phenanthrene	18.98	2500	JN
7. 000779-02-2	Anthracene, 9-methyl-	19.05	1200	JN
8. 035465-71-5	2-Phenylnaphthalene	19.50	1400	JN
9. 000629-96-9	1-Eicosanol	23.91	970	JN
10. 000192-97-2	Benzo[e]pyrene	26.33	2100	JN
11. 000198-55-0	Perylene	26.66	5800	JN
12. 001948-92-1	4-Nitro-4'-aminodiphenylsulphone	28.66	1500	JN
13. 000000-00-0	1,2:7,8-Dibenzphenanthrene	29.03	1300	JN
14.	unknown	29.09	1000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-76

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.10 (1:10)

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BNA01984.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 14.71 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	12000	U
62-75-9	N-nitroso-dimethylamine	12000	U
62-53-3	Aniline	12000	U
108-95-2	Phenol	12000	U
111-44-4	bis(2-Chloroethyl)ether	12000	U
95-57-8	2-Chlorophenol	12000	U
541-73-1	1,3-Dichlorobenzene	12000	U
106-46-7	1,4-Dichlorobenzene	12000	U
100-51-6	Benzyl alcohol	12000	U
95-50-1	1,2-Dichlorobenzene	12000	U
	2-Methylphenol	12000	U
108-60-1	bis(2-chloroisopropyl)ether	12000	U
	4-Methylphenol	12000	U
621-64-7	n-Nitroso-di-n-propylamine	12000	U
67-72-1	Hexachloroethane	12000	U
98-95-3	Nitrobenzene	12000	U
78-59-1	Isophorone	12000	U
88-75-5	2-Nitrophenol	12000	U
105-67-9	2,4-Dimethylphenol	12000	U
111-91-1	bis(2-Chloroethoxy)methane	12000	U
120-83-2	2,4-Dichlorophenol	12000	U
65-85-0	Benzoic Acid	12000	U
120-82-1	1,2,4-Trichlorobenzene	12000	U
91-20-3	Naphthalene	12000	U
106-47-8	4-Chloroaniline	12000	U
87-68-3	Hexachlorobutadiene	12000	U
59-50-7	4-Chloro-3-methylphenol	12000	U
91-57-6	2-Methylnaphthalene	12000	U
77-47-4	Hexachlorocyclopentadiene	12000	U
88-06-2	2,4,6-Trichlorophenol	12000	U
	2,4,5-Trichlorophenol	12000	U
91-58-7	2-Chloronaphthalene	12000	U
88-74-4	2-Nitroaniline	12000	U
131-11-3	Dimethylphthalate	12000	U
208-96-8	Acenaphthylene	12000	U
606-20-2	2,6-Dinitrotoluene	12000	U
99-09-2	3-Nitroaniline	12000	U

000906

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-76

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.10 (1:10)

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BNA01984.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 14.71 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	12000	U
51-28-5	2,4-Dinitrophenol	12000	U
132-64-9	Dibenzofuran	12000	U
100-02-7	4-Nitrophenol	12000	U
121-14-2	2,4-Dinitrotoluene	12000	U
84-66-2	Diethylphthalate	12000	U
86-73-7	Fluorene	12000	U
7005-72-3	4-Chlorophenyl-phenylether	12000	U
100-01-6	4-Nitroaniline	12000	U
534-52-1	4,6-Dinitro-2-methylphenol	12000	U
86-30-6	n-Nitrosodiphenylamine	12000	U
103-33-3	Azobenzene	12000	U
101-55-3	4-Bromophenyl-phenylether	12000	U
118-74-1	Hexachlorobenzene	12000	U
87-86-5	Pentachlorophenol	12000	U
85-01-8	Phenanthrene	16000	D
120-12-7	Anthracene	4300	JD
84-74-2	Di-n-butylphthalate	12000	U
206-44-0	Fluoranthene	25000	D
92-87-5	Benzidine	12000	U
129-00-0	Pyrene	18000	D
85-68-7	Butylbenzylphthalate	12000	U
56-55-3	Benzo[a]anthracene	8400	JD
91-94-1	3,3'-Dichlorobenzidine	12000	U
218-01-9	Chrysene	8400	JD
117-81-7	bis(2-Ethylhexyl)phthalate	12000	U
117-84-0	Di-n-octylphthalate	12000	U
205-99-2	Benzo[b]fluoranthene	5400	JD
207-08-9	Benzo[k]fluoranthene	6800	JD
50-32-8	Benzo[a]pyrene	6700	JD
193-39-5	Indeno[1,2,3-cd]pyrene	3300	JD
53-70-3	Dibenz[a,h]anthracene	12000	U
191-24-2	Benzo[g,h,i]perylene	4200	JD

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-77

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.12

Sample wt/vol: 10.14 (g/ml) G Lab File ID: BNA01968.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 15.87 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-77

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.12

Sample wt/vol: 10.14 (g/ml) G Lab File ID: BNA01968.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 15.87 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	340	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-77

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.12

Sample wt/vol: 10.14 (g/ml) G Lab File ID: BNA01968.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 15.87 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.44	2000	JN
2. 001599-67-3	1-Docosene	23.90	2900	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-78

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.14

Sample wt/vol: 10.09 (g/ml) G Lab File ID: BNA01969.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 14.68 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-78

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.14

Sample wt/vol: 10.09 (g/ml) G Lab File ID: BNA01969.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 14.68 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	250	J
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1400	B
206-44-0	Fluoranthene	280	J
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	430	J
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	200	J
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	260	J
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	150	J
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-78

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.14

Sample wt/vol: 10.09 (g/ml) G Lab File ID: BNA01969.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 14.68 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 4 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.46	6800	JN
2. 010544-50-0	Sulfur, mol. (S8)	20.10	1700	JN
3. 000072-54-8	1,1-Dichloro-2,2-bis(p-chlorophen	22.21	930	JN
4. 074685-30-6	5-Eicosene, (E)-	23.90	3000	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-79

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.16

Sample wt/vol: 10.14 (g/ml) G Lab File ID: BNA01982.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 17.21 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-79

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.16

Sample wt/vol: 10.14 (g/ml) G Lab File ID: BNA01982.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 17.21 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1000	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-79

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.16

Sample wt/vol: 10.14 (g/ml) G Lab File ID: BNA01982.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 17.21 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.45	4600	JN
2. 074685-30-6	5-Eicosene, (E)-	23.90	3300	JN

1B

FIELD ID.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-80

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.18

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01971.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 14.38 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-80

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.18

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01971.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 14.38 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1200	B
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-80

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.18

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01971.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 14.38 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.46	5600	JN
2. 000629-96-9	1-Eicosanol	23.91	3500	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-81

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.20

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01972.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 17.58 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

000920

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-81

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.20

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01972.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 17.58 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	170	J
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	870	JB
206-44-0	Fluoranthene	430	J
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	340	J
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	190	J
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	220	J
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	140	J
207-08-9	Benzo[k]fluoranthene	200	J
50-32-8	Benzo[a]pyrene	190	J
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	140	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-81

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.20

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA01972.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 17.58 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.45	4000	JN
2. 074685-30-6	5-Eicosene, (E)-	23.90	2600	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-82

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.22

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BNA01983.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 15.8 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

FIELD ID.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-82

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.22

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BNA01983.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 15.8 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	130	J
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	2200	B
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-82

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.22

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BNA01983.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 15.8 decanted: (Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 4 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	12.48	1300	J
2. 074367-34-3	Propanoic acid, 2-methyl-, 3-hydr	12.77	1600	JN
3. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.44	1600	JN
4. 001599-67-3	1-Docosene	23.89	1800	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-83

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.24

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01973.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 10.39 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

000926

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-83

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.24

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01973.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 10.39 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	300	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-83

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.24

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01973.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 10.39 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 017851-53-5	1,2-Benzenedicarboxylic acid, but	18.44	1700	JN
2. 074685-30-6	5-Eicosene, (E)-	23.90	2700	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-84

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.26

Sample wt/vol: 10.23 (g/ml) G Lab File ID: BNA01985.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 9.7 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

000929

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-84

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.26

Sample wt/vol: 10.23 (g/ml) G Lab File ID: BNA01985.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 9.7 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	360	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-84

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.26

Sample wt/vol: 10.23 (g/ml) G Lab File ID: BNA01985.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 9.7 decanted: (Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.44	2300	JN
2. 074685-30-6	5-Eicosene, (E)-	23.90	2900	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-85

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.28

Sample wt/vol: 10.07 (g/ml) G Lab File ID: BNA01976.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 18.03 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-85

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.28

Sample wt/vol: 10.07 (g/ml) G Lab File ID: BNA01976.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 18.03 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1900	B
206-44-0	Fluoranthene	140	J
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-85

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.28

Sample wt/vol: 10.07 (g/ml) G Lab File ID: BNA01976.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 18.03 decanted: (Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 3 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.44	1200	JN
2. 000057-11-4	Octadecanoic acid	21.21	1200	JN
3. 001599-67-3	1-Docosene	23.90	2300	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-86

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.30

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01974.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 16.28 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-86

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.30

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01974.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 16.28 decanted:(Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1300	B
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-86

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4173 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4173.30

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01974.D

Level: (low/med) LOW Date Received: 01/06/99

% Moisture: 16.28 decanted: (Y/N) N Date Extracted: 01/07/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.45	4700	JN
2. 074685-33-9	3-Eicosene, (E)-	23.90	2600	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-87

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.02

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BN02650.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 19.12 decanted:(Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-87

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.02

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BN02650.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 19.12 decanted:(Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	150	J
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	130	J
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1500	
120-12-7	Anthracene	370	J
84-74-2	Di-n-butylphthalate	830	JB
206-44-0	Fluoranthene	1700	
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1500	
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	620	J
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	880	J
117-81-7	bis(2-Ethylhexyl)phthalate	140	J
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	480	J
207-08-9	Benzo[k]fluoranthene	520	J
50-32-8	Benzo[a]pyrene	540	J
193-39-5	Indeno[1,2,3-cd]pyrene	270	J
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	260	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-87**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.02

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BN02650.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 19.12 decanted: (Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 5 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000109-21-7	Butanoic acid, butyl ester	13.08	1100	JN
2.	unknown	18.75	4900	J
3. 000057-10-3	Hexadecanoic acid	19.61	1900	JN
4. 001454-84-8	1-Nonadecanol	25.66	1100	JN
5. 001599-67-3	1-Docosene	28.40	1600	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-88

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.04

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BN02651.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 12.06 decanted:(Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-88**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.04

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BN02651.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 12.06 decanted:(Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	230	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-88**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.04

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BN02651.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 12.06 decanted: (Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.73	2100	JN
2. 001599-67-3	1-Docosene	24.15	4500	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-89

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.06

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BN02652.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 14.18 decanted:(Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-89

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.06

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BN02652.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 14.18 decanted:(Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	310	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-89**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.06

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BN02652.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 14.18 decanted: (Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	000084-64-0	1,2-Benzenedicarboxylic acid, but	18.74	2900	JN
2.	001599-67-3	1-Docosene	24.15	6100	JN
3.	006971-40-0	17-Pentatriacontene	25.66	1200	JN
4.	000629-96-9	1-Eicosanol	28.39	1600	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-90

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.08

Sample wt/vol: 10.03 (g/ml) G Lab File ID: BN02653.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 10.06 decanted:(Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-90**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.08

Sample wt/vol: 10.03 (g/ml) G Lab File ID: BN02653.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 10.06 decanted:(Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	700	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-90**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.08

Sample wt/vol: 10.03 (g/ml) G Lab File ID: BN02653.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 10.06 decanted: (Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 7 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		unknown	12.80	1600	J
2.	074367-34-3	Propanoic acid, 2-methyl-, 3-hydr	13.08	2000	JN
3.	000084-64-0	1,2-Benzenedicarboxylic acid, but	18.73	1200	JN
4.	001599-67-3	1-Docosene	24.16	5700	JN
5.	006624-79-9	1-Dotriacontanol	25.66	1500	JN
6.	006971-40-0	17-Pentatriacontene	27.08	1000	JN
7.	000112-92-5	1-Octadecanol	28.40	1600	JN

1B

Field ID: B-91

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.10

Sample wt/vol: 10.01 (g/ml) G Lab File ID: BN02654.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 15.73 decanted:(Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-91**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.10

Sample wt/vol: 10.01 (g/ml) G Lab File ID: BN02654.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 15.73 decanted:(Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	210	J
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	920	JB
206-44-0	Fluoranthene	300	J
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	260	J
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	180	J
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	120	J
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-91**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.10

Sample wt/vol: 10.01 (g/ml) G Lab File ID: BN02654.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 15.73 decanted: (Y/N) N Date Extracted: 1/7/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	000084-64-0	1,2-Benzenedicarboxylic acid, but	18.75	5400	JN
2.	001599-67-3	1-Docosene	24.15	4900	JN
3.	000629-96-9	1-Eicosanol	28.40	1500	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-92

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.12

Sample wt/vol: 10.04 (g/ml) G Lab File ID: BN02655.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 15.17 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

Field ID: B-92

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.12

Sample wt/vol: 10.04 (g/ml) G Lab File ID: BN02655.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 15.17 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1500	B
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	160	J
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-92**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.12

Sample wt/vol: 10.04 (g/ml) G Lab File ID: BN02655.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 15.17 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 8 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	12.80	2200	J
2.	unknown	13.08	2900	J
3. 000084-64-0	1,2-Benzenedicarboxylic acid, but	18.74	1800	JN
4. 000112-88-9	1-Octadecene	24.15	7000	JN
5. 000629-96-9	1-Eicosanol	25.66	1300	JN
6. 006971-40-0	17-Pentatriacontene	27.07	1400	JN
7. 001599-67-3	1-Docosene	28.40	2600	JN
8. 006624-79-9	1-Dotriacontanol	29.69	1000	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-93

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.14

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BN02658.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 16.2 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-93**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.14

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BN02658.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 16.2 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1000	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	140	J
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-93**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.14

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BN02658.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 16.2 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 6 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		unknown	12.80	1600	J
2.	074367-34-3	Propanoic acid, 2-methyl-, 3-hydr	13.08	2000	JN
3.	000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.73	1400	JN
4.	000057-10-3	Hexadecanoic acid	19.60	1600	JN
5.	001599-67-3	1-Docosene	24.15	5700	JN
6.	000506-51-4	1-Tetracosanol	28.39	2000	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-94**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.16

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BN02659.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 14.38 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-94**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.16

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BN02659.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 14.38 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	200	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-94**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.16

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BN02659.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 14.38 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 5 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000057-10-3	Hexadecanoic acid	19.61	1600	JN
2. 001454-84-8	1-Nonadecanol	24.15	6800	JN
3. 006971-40-0	17-Pentatriacontene	25.66	1200	JN
4. 000629-96-9	1-Eicosanol	28.40	2700	JN
5. 000506-52-5	1-Hexacosanol	29.68	1100	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-95

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.18

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BN02660.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 13.65 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-95

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.18

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BN02660.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 13.65 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	270	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-95**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4177 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4177.18

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BN02660.D

Level: (low/med) LOW Date Received: 1/7/99

% Moisture: 13.65 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	001454-84-8	1-Nonadecanol	24.15	5200	JN
2.	006624-79-9	1-Dotriacontanol	25.66	1000	JN
3.	000629-96-9	1-Eicosanol	28.40	2100	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-96

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.02

Sample wt/vol: 10.2 (g/ml) G Lab File ID: BN02664.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 28.68 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1400	U
62-75-9	N-nitroso-dimethylamine	1400	U
62-53-3	Aniline	1400	U
108-95-2	Phenol	1400	U
111-44-4	bis(2-Chloroethyl)ether	1400	U
95-57-8	2-Chlorophenol	1400	U
541-73-1	1,3-Dichlorobenzene	1400	U
106-46-7	1,4-Dichlorobenzene	1400	U
100-51-6	Benzyl alcohol	1400	U
95-50-1	1,2-Dichlorobenzene	1400	U
	2-Methylphenol	1400	U
108-60-1	bis(2-chloroisopropyl)ether	1400	U
	4-Methylphenol	1400	U
621-64-7	n-Nitroso-di-n-propylamine	1400	U
67-72-1	Hexachloroethane	1400	U
98-95-3	Nitrobenzene	1400	U
78-59-1	Isophorone	1400	U
88-75-5	2-Nitrophenol	1400	U
105-67-9	2,4-Dimethylphenol	1400	U
111-91-1	bis(2-Chloroethoxy)methane	1400	U
120-83-2	2,4-Dichlorophenol	1400	U
65-85-0	Benzoic Acid	1400	U
120-82-1	1,2,4-Trichlorobenzene	1400	U
91-20-3	Naphthalene	1400	U
106-47-8	4-Chloroaniline	1400	U
87-68-3	Hexachlorobutadiene	1400	U
59-50-7	4-Chloro-3-methylphenol	1400	U
91-57-6	2-Methylnaphthalene	1400	U
77-47-4	Hexachlorocyclopentadiene	1400	U
88-06-2	2,4,6-Trichlorophenol	1400	U
	2,4,5-Trichlorophenol	1400	U
91-58-7	2-Chloronaphthalene	1400	U
88-74-4	2-Nitroaniline	1400	U
131-11-3	Dimethylphthalate	1400	U
208-96-8	Acenaphthylene	1400	U
606-20-2	2,6-Dinitrotoluene	1400	U
99-09-2	3-Nitroaniline	1400	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-96**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.02

Sample wt/vol: 10.2 (g/ml) G Lab File ID: BN02664.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 28.68 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1400	U
51-28-5	2,4-Dinitrophenol	1400	U
132-64-9	Dibenzofuran	1400	U
100-02-7	4-Nitrophenol	1400	U
121-14-2	2,4-Dinitrotoluene	1400	U
84-66-2	Diethylphthalate	190	J
86-73-7	Fluorene	1400	U
7005-72-3	4-Chlorophenyl-phenylether	1400	U
100-01-6	4-Nitroaniline	1400	U
534-52-1	4,6-Dinitro-2-methylphenol	1400	U
86-30-6	n-Nitrosodiphenylamine	1400	U
103-33-3	Azobenzene	1400	U
101-55-3	4-Bromophenyl-phenylether	1400	U
118-74-1	Hexachlorobenzene	1400	U
87-86-5	Pentachlorophenol	1400	U
85-01-8	Phenanthrene	1400	U
120-12-7	Anthracene	1400	U
84-74-2	Di-n-butylphthalate	540	JB
206-44-0	Fluoranthene	1400	U
92-87-5	Benzidine	1400	U
129-00-0	Pyrene	1400	U
85-68-7	Butylbenzylphthalate	1400	U
56-55-3	Benzo[a]anthracene	1400	U
91-94-1	3,3'-Dichlorobenzidine	1400	U
218-01-9	Chrysene	1400	U
117-81-7	bis(2-Ethylhexyl)phthalate	1400	U
117-84-0	Di-n-octylphthalate	1400	U
205-99-2	Benzo[b]fluoranthene	1400	U
207-08-9	Benzo[k]fluoranthene	1400	U
50-32-8	Benzo[a]pyrene	1400	U
193-39-5	Indeno[1,2,3-cd]pyrene	1400	U
53-70-3	Dibenz[a,h]anthracene	1400	U
191-24-2	Benzo[g,h,i]perylene	1400	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-96**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 4179.02

Sample wt/vol: 10.2 (g/ml) G Lab File ID: BN02664.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 28.68 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000057-10-3	Hexadecanoic acid	19.63	1900	JN
2. 018435-45-5	1-Nonadecene	24.17	5600	JN

000967

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-97

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.04

Sample wt/vol: 10.09 (g/ml) G Lab File ID: BN02665.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 13.73 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-97

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.04

Sample wt/vol: 10.09 (g/ml) G Lab File ID: BN02665.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 13.73 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	300	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	120	J
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-97**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.04

Sample wt/vol: 10.09 (g/ml) G Lab File ID: BN02665.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 13.73 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000057-10-3	Hexadecanoic acid	19.63	1500	JN
2. 001599-67-3	1-Docosene	24.17	5000	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-98

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.06

Sample wt/vol: 10.08 (g/ml) G Lab File ID: BN02666.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 14.43 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-98**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.06

Sample wt/vol: 10.08 (g/ml) G Lab File ID: BN02666.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 14.43 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1300	B
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	160	J
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-98**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.06

Sample wt/vol: 10.08 (g/ml) G Lab File ID: BN02666.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 14.43 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 10 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		unknown	12.81	1600	J
2.	000109-21-7	Butanoic acid, butyl ester	13.09	2100	JN
3.	000084-64-0	1,2-Benzenedicarboxylic acid, but	18.75	1500	JN
4.	000057-10-3	Hexadecanoic acid	19.63	1500	JN
5.	000112-92-5	1-Octadecanol	24.17	6500	JN
6.		unknown	25.68	1100	J
7.	000630-02-4	Octacosane	27.07	1200	JN
8.	002765-11-9	Pentadecanal-	28.02	1200	JN
9.	000629-96-9	1-Eicosanol	28.42	1700	JN
10.	056554-90-6	13-Octadecenal	29.30	2000	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-99

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.08

Sample wt/vol: 10.14 (g/ml) G Lab File ID: BN02667.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 16.96 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-99**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.08

Sample wt/vol: 10.14 (g/ml) G Lab File ID: BN02667.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 16.96 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	380	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-99**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.08

Sample wt/vol: 10.14 (g/ml) G Lab File ID: BN02667.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 16.96 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000629-96-9	1-Eicosanol	24.17	5600	JN
2. 000544-85-4	Dotriacontane	27.07	1100	JN
3. 001599-67-3	1-Docosene	28.42	1300	JN
4. 002765-11-9	Pentadecanal-	29.30	1000	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-100

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.10

Sample wt/vol: 10.15 (g/ml) G Lab File ID: BN02668.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 19.08 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-100**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.10

Sample wt/vol: 10.15 (g/ml) G Lab File ID: BN02668.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 19.08 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1400	B
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	130	J
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-100**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.10

Sample wt/vol: 10.15 (g/ml) G Lab File ID: BN02668.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 19.08 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.76	2100	JN
2. 000057-10-3	Hexadecanoic acid	19.63	2400	JN
3. 000112-92-5	1-Octadecanol	24.17	6100	JN
4. 001599-67-3	1-Docosene	28.42	1300	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-101**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.12

Sample wt/vol: 10.22 (g/ml) G Lab File ID: BN02669.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 11.68 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-101

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.12

Sample wt/vol: 10.22 (g/ml) G Lab File ID: BN02669.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 11.68 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	670	J
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	370	JB
206-44-0	Fluoranthene	640	J
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	770	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	330	J
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	660	J
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	240	J
207-08-9	Benzo[k]fluoranthene	290	J
50-32-8	Benzo[a]pyrene	270	J
193-39-5	Indeno[1,2,3-cd]pyrene	180	J
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	190	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-101**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.12

Sample wt/vol: 10.22 (g/ml) G Lab File ID: BN02669.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 11.68 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 001599-67-3	1-Docosene	24.17	5500	JN
2. 002461-18-9	Oxirane, [(dodecyloxy)methyl]-	25.69	1600	JN
3. 056554-90-6	13-Octadecenal	28.03	950	JN
4. 000112-95-8	Eicosane	28.37	1100	JN
5. 000629-96-9	1-Eicosanol	28.42	1800	JN
6. 002765-11-9	Pentadecanal-	29.30	1200	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-102

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.14

Sample wt/vol: 10.09 (g/ml) G Lab File ID: BN02670.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 16.25 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-102**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.14

Sample wt/vol: 10.09 (g/ml) G Lab File ID: BN02670.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 16.25 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	380	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-102**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.14

Sample wt/vol: 10.09 (g/ml) G Lab File ID: BN02670.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 16.25 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 001599-67-3	1-Docosene	24.17	5000	JN
2. 000629-96-9	1-Eicosanol	28.41	1100	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-103

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.16

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BN02671.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 12.34 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-103**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.16

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BN02671.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 12.34 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	1300	B
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-103**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.16

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BN02671.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 12.34 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.76	2100	JN
2. 000112-88-9	1-Octadecene	24.17	6900	JN
3. 001599-67-3	1-Docosene	25.68	1100	JN
4. 000506-52-5	1-Hexacosanol	28.41	1900	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-104**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.18

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BN02672.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 9.37 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-104**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.18

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BN02672.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 9.37 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	880	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	110	J
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-104**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.18

Sample wt/vol: 10.05 (g/ml) G Lab File ID: BN02672.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 9.37 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 6 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.75	1900	JN
2. 000057-10-3	Hexadecanoic acid	19.62	1500	JN
3. 018435-45-5	1-Nonadecene	24.17	7200	JN
4. 001599-67-3	1-Docosene	25.69	2000	JN
5. 006624-79-9	1-Dotriacontanol	27.09	1300	JN
6. 000629-96-9	1-Eicosanol	28.42	2100	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-105

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.20

Sample wt/vol: 10.04 (g/ml) G Lab File ID: BN02673.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 19.53 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-105

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.20

Sample wt/vol: 10.04 (g/ml) G Lab File ID: BN02673.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 19.53 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1300	B
206-44-0	Fluoranthene	140	J
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	130	J
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	160	J
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-105**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.20

Sample wt/vol: 10.04 (g/ml) G Lab File ID: BN02673.D

Level: (low/med) LOW Date Received: 1/11/99

% Moisture: 19.53 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 9 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.75	2100	JN
2. 000112-88-9	1-Octadecene	24.17	7300	JN
3. 000112-85-6	Docosanoic acid	24.75	1500	JN
4. 006624-79-9	1-Dotriacontanol	25.68	1600	JN
5. 000124-25-4	Tetradecanal	26.68	1000	JN
6. 000629-96-9	1-Eicosanol	27.09	1600	JN
7. 000112-92-5	1-Octadecanol	28.42	2400	JN
8. 002765-11-9	Pentadecanal-	29.29	1000	JN
9. 006971-40-0	17-Pentatriacontene	29.71	1200	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-106

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.22

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BNA01990.D

Level: (low/med) LOW Date Received: 01/11/99

% Moisture: 15.82 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-106

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.22

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BNA01990.D

Level: (low/med) LOW Date Received: 01/11/99

% Moisture: 15.82 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	370	JB
206-44-0	Fluoranthene	140	J
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	120	J
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-106

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4179 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4179.22

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BNA01990.D

Level: (low/med) LOW Date Received: 01/11/99

% Moisture: 15.82 decanted: (Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 1 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 074685-30-6	5-Eicosene, (E)-	23.90	3600	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-107**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4184.02

Sample wt/vol: 10.11 (g/ml) G Lab File ID: BN02674.D

Level: (low/med) LOW Date Received: 1/12/99

% Moisture: 14.19 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

Field ID: **B-107**

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4184.02

Sample wt/vol: 10.11 (g/ml) G Lab File ID: BN02674.D

Level: (low/med) LOW Date Received: 1/12/99

% Moisture: 14.19 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	
120-12-7	Anthracene	300	J
84-74-2	Di-n-butylphthalate	1900	B
206-44-0	Fluoranthene	1600	
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1300	
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	640	J
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	920	J
117-81-7	bis(2-Ethylhexyl)phthalate	150	J
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	400	J
207-08-9	Benzo[k]fluoranthene	490	J
50-32-8	Benzo[a]pyrene	480	J
193-39-5	Indeno[1,2,3-cd]pyrene	280	J
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	260	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-107**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4184.02

Sample wt/vol: 10.11 (g/ml) G Lab File ID: BN02674.D

Level: (low/med) LOW Date Received: 1/12/99

% Moisture: 14.19 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

Number TICs found: 4 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	18.76	3200	J
2. 000629-96-9	1-Eicosanol	24.17	5300	JN
3. 006971-40-0	17-Pentatriacontene	25.68	1100	JN
4. 000629-96-9	1-Eicosanol	28.42	2200	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-108

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4184.04

Sample wt/vol: 10.09 (g/ml) G Lab File ID: BN02675.D

Level: (low/med) LOW Date Received: 1/12/99

% Moisture: 15.18 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-108**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4184.04

Sample wt/vol: 10.09 (g/ml) G Lab File ID: BN02675.D

Level: (low/med) LOW Date Received: 1/12/99

% Moisture: 15.18 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1200	B
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	170	J
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-108**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4184.04

Sample wt/vol: 10.09 (g/ml) G Lab File ID: BN02675.D

Level: (low/med) LOW Date Received: 1/12/99

% Moisture: 15.18 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.75	2300	JN
2. 000057-11-4	Octadecanoic acid	21.46	1000	JN
3. 000112-92-5	1-Octadecanol	24.17	6600	JN
4. 001599-67-3	1-Docosene	28.41	1900	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID: **B-109**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4184.06

Sample wt/vol: 10 (g/ml) G Lab File ID: BN02676.D

Level: (low/med) LOW Date Received: 1/12/99

% Moisture: 15.19 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-109

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4184.06

Sample wt/vol: 10 (g/ml) G Lab File ID: BN02676.D

Level: (low/med) LOW Date Received: 1/12/99

% Moisture: 15.19 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	21000	EB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	200	J
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-109**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4184.06

Sample wt/vol: 10 (g/ml) G Lab File ID: BN02676.D

Level: (low/med) LOW Date Received: 1/12/99

% Moisture: 15.19 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 6 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	12.81	1300	J
2. 000109-21-7	Butanoic acid, butyl ester	13.09	1500	JN
3.	unknown	18.76	2400	J
4. 000057-10-3	Hexadecanoic acid	19.64	2500	JN
5. 001454-84-8	1-Nonadecanol	24.17	5400	JN
6. 001599-67-3	1-Docosene	28.41	1600	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-109

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4184.06 (1:5)

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01987.D

Level: (low/med) LOW Date Received: 01/12/99

% Moisture: 15.19 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 5.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	5900	U
62-75-9	N-nitroso-dimethylamine	5900	U
62-53-3	Aniline	5900	U
108-95-2	Phenol	5900	U
111-44-4	bis(2-Chloroethyl)ether	5900	U
95-57-8	2-Chlorophenol	5900	U
541-73-1	1,3-Dichlorobenzene	5900	U
106-46-7	1,4-Dichlorobenzene	5900	U
100-51-6	Benzyl alcohol	5900	U
95-50-1	1,2-Dichlorobenzene	5900	U
	2-Methylphenol	5900	U
108-60-1	bis(2-chloroisopropyl)ether	5900	U
	4-Methylphenol	5900	U
621-64-7	n-Nitroso-di-n-propylamine	5900	U
67-72-1	Hexachloroethane	5900	U
98-95-3	Nitrobenzene	5900	U
78-59-1	Isophorone	5900	U
88-75-5	2-Nitrophenol	5900	U
105-67-9	2,4-Dimethylphenol	5900	U
111-91-1	bis(2-Chloroethoxy)methane	5900	U
120-83-2	2,4-Dichlorophenol	5900	U
65-85-0	Benzoic Acid	5900	U
120-82-1	1,2,4-Trichlorobenzene	5900	U
91-20-3	Naphthalene	5900	U
106-47-8	4-Chloroaniline	5900	U
87-68-3	Hexachlorobutadiene	5900	U
59-50-7	4-Chloro-3-methylphenol	5900	U
91-57-6	2-Methylnaphthalene	5900	U
77-47-4	Hexachlorocyclopentadiene	5900	U
88-06-2	2,4,6-Trichlorophenol	5900	U
	2,4,5-Trichlorophenol	5900	U
91-58-7	2-Chloronaphthalene	5900	U
88-74-4	2-Nitroaniline	5900	U
131-11-3	Dimethylphthalate	5900	U
208-96-8	Acenaphthylene	5900	U
606-20-2	2,6-Dinitrotoluene	5900	U
99-09-2	3-Nitroaniline	5900	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-109

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4184.06 (1:5)

Sample wt/vol: 10 (g/ml) G Lab File ID: BNA01987.D

Level: (low/med) LOW Date Received: 01/12/99

% Moisture: 15.19 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 5.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	5900	U
51-28-5	2,4-Dinitrophenol	5900	U
132-64-9	Dibenzofuran	5900	U
100-02-7	4-Nitrophenol	5900	U
121-14-2	2,4-Dinitrotoluene	5900	U
84-66-2	Diethylphthalate	5900	U
86-73-7	Fluorene	5900	U
7005-72-3	4-Chlorophenyl-phenylether	5900	U
100-01-6	4-Nitroaniline	5900	U
534-52-1	4,6-Dinitro-2-methylphenol	5900	U
86-30-6	n-Nitrosodiphenylamine	5900	U
103-33-3	Azobenzene	5900	U
101-55-3	4-Bromophenyl-phenylether	5900	U
118-74-1	Hexachlorobenzene	5900	U
87-86-5	Pentachlorophenol	5900	U
85-01-8	Phenanthrene	5900	U
120-12-7	Anthracene	5900	U
84-74-2	Di-n-butylphthalate	30000	BD
206-44-0	Fluoranthene	5900	U
92-87-5	Benzidine	5900	U
129-00-0	Pyrene	5900	U
85-68-7	Butylbenzylphthalate	5900	U
56-55-3	Benzo[a]anthracene	5900	U
91-94-1	3,3'-Dichlorobenzidine	5900	U
218-01-9	Chrysene	5900	U
117-81-7	bis(2-Ethylhexyl)phthalate	5900	U
117-84-0	Di-n-octylphthalate	5900	U
205-99-2	Benzo[b]fluoranthene	5900	U
207-08-9	Benzo[k]fluoranthene	5900	U
50-32-8	Benzo[a]pyrene	5900	U
193-39-5	Indeno[1,2,3-cd]pyrene	5900	U
53-70-3	Dibenz[a,h]anthracene	5900	U
191-24-2	Benzo[g,h,i]perylene	5900	U

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-110

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 4184.08

Sample wt/vol: 10.03 (g/ml) G Lab File ID: BN02677.D

Level: (low/med) LOW Date Received: 1/12/99

% Moisture: 7.85 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

Field ID: B-110

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4184.08

Sample wt/vol: 10.03 (g/ml) G Lab File ID: BN02677.D

Level: (low/med) LOW Date Received: 1/12/99

% Moisture: 7.85 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	2000	B
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	130	J
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-110**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4184.08

Sample wt/vol: 10.03 (g/ml) G Lab File ID: BN02677.D

Level: (low/med) LOW Date Received: 1/12/99

% Moisture: 7.85 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	18.75	2000	J
2. 001599-67-3	1-Docosene	24.17	4900	JN
3. 001454-84-8	1-Nonadecanol	28.41	1300	JN

1B

Field ID:

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B-111

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4184.10

Sample wt/vol: 10.11 (g/ml) G Lab File ID: BN02678.D

Level: (low/med) LOW Date Received: 1/12/99

% Moisture: 12.06 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

Field ID: B-111

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4184.10

Sample wt/vol: 10.11 (g/ml) G Lab File ID: BN02678.D

Level: (low/med) LOW Date Received: 1/12/99

% Moisture: 12.06 decanted:(Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	1100	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	140	J
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **B-111**

Lab Name: FMETL Lab Cod 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4184.10

Sample wt/vol: 10.11 (g/ml) G Lab File ID: BN02678.D

Level: (low/med) LOW Date Received: 1/12/99

% Moisture: 12.06 decanted: (Y/N) N Date Extracted: 1/12/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 15 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.75	2000	JN
2.	001454-84-8	1-Nonadecanol	24.17	7300	JN
3.	000112-85-6	Docosanoic acid	24.74	1100	JN
4.	006624-79-9	1-Dotriacontanol	25.68	3700	JN
5.	000506-12-7	Heptadecanoic acid	26.21	980	JN
6.	000000-00-0	1-Hexacosanal	26.68	1600	JN
7.	000630-07-9	Pentatriacontane	27.07	4400	JN
8.	000638-66-4	Octadecanal	28.02	2100	JN
9.	013287-24-6	Nonadecane, 9-methyl-	28.37	2500	JN
10.	000629-96-9	1-Eicosanol	28.42	3700	JN
11.	002765-11-9	Pentadecanal-	29.30	2600	JN
12.	000112-95-8	Eicosane	29.62	1000	JN
13.	006971-40-0	17-Pentatriacontene	29.71	2000	JN
14.	000083-47-6	.gamma.-Sitosterol	29.99	2500	JN
15.		unknown	30.78	1700	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-112

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4184.12

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01993.D

Level: (low/med) LOW Date Received: 01/12/99

% Moisture: 5.86 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1000	U
62-75-9	N-nitroso-dimethylamine	1000	U
62-53-3	Aniline	1000	U
108-95-2	Phenol	1000	U
111-44-4	bis(2-Chloroethyl)ether	1000	U
95-57-8	2-Chlorophenol	1000	U
541-73-1	1,3-Dichlorobenzene	1000	U
106-46-7	1,4-Dichlorobenzene	1000	U
100-51-6	Benzyl alcohol	1000	U
95-50-1	1,2-Dichlorobenzene	1000	U
	2-Methylphenol	1000	U
108-60-1	bis(2-chloroisopropyl)ether	1000	U
	4-Methylphenol	1000	U
621-64-7	n-Nitroso-di-n-propylamine	1000	U
67-72-1	Hexachloroethane	1000	U
98-95-3	Nitrobenzene	1000	U
78-59-1	Isophorone	1000	U
88-75-5	2-Nitrophenol	1000	U
105-67-9	2,4-Dimethylphenol	1000	U
111-91-1	bis(2-Chloroethoxy)methane	1000	U
120-83-2	2,4-Dichlorophenol	1000	U
65-85-0	Benzoic Acid	1000	U
120-82-1	1,2,4-Trichlorobenzene	1000	U
91-20-3	Naphthalene	110	J
106-47-8	4-Chloroaniline	1000	U
87-68-3	Hexachlorobutadiene	1000	U
59-50-7	4-Chloro-3-methylphenol	1000	U
91-57-6	2-Methylnaphthalene	1000	U
77-47-4	Hexachlorocyclopentadiene	1000	U
88-06-2	2,4,6-Trichlorophenol	1000	U
	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	1000	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	1000	U
208-96-8	Acenaphthylene	520	J
606-20-2	2,6-Dinitrotoluene	1000	U
99-09-2	3-Nitroaniline	1000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-112

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4184.12

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01993.D

Level: (low/med) LOW Date Received: 01/12/99

% Moisture: 5.86 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	130	J
51-28-5	2,4-Dinitrophenol	1000	U
132-64-9	Dibenzofuran	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	1000	U
84-66-2	Diethylphthalate	1000	U
86-73-7	Fluorene	310	J
7005-72-3	4-Chlorophenyl-phenylether	1000	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	n-Nitrosodiphenylamine	1000	U
103-33-3	Azobenzene	1000	U
101-55-3	4-Bromophenyl-phenylether	1000	U
118-74-1	Hexachlorobenzene	1000	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	6400	
120-12-7	Anthracene	860	J
84-74-2	Di-n-butylphthalate	1200	B
206-44-0	Fluoranthene	7900	
92-87-5	Benzidine	1000	U
129-00-0	Pyrene	6400	
85-68-7	Butylbenzylphthalate	1000	U
56-55-3	Benzo[a]anthracene	2800	
91-94-1	3,3'-Dichlorobenzidine	1000	U
218-01-9	Chrysene	3900	
117-81-7	bis(2-Ethylhexyl)phthalate	150	J
117-84-0	Di-n-octylphthalate	1000	U
205-99-2	Benzo[b]fluoranthene	2000	
207-08-9	Benzo[k]fluoranthene	2100	
50-32-8	Benzo[a]pyrene	2300	
193-39-5	Indeno[1,2,3-cd]pyrene	950	J
53-70-3	Dibenz[a,h]anthracene	310	J
191-24-2	Benzo[g,h,i]perylene	1100	

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-112

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4184 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4184.12

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA01993.D

Level: (low/med) LOW Date Received: 01/12/99

% Moisture: 5.86 decanted: (Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/21/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 9 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.44	1000	JN
2. 002531-84-2	Phenanthrene, 2-methyl-	18.75	1300	JN
3. 000832-69-9	Phenanthrene, 1-methyl-	18.81	1500	JN
4. 000883-20-5	Phenanthrene, 9-methyl-	19.00	950	JN
5. 000832-64-4	Phenanthrene, 4-methyl-	19.05	1100	JN
6. 000084-65-1	9,10-Anthracenedione	19.52	1400	JN
7. 003674-66-6	Phenanthrene, 2,5-dimethyl-	20.09	1400	JN
8. 074685-33-9	3-Eicosene, (E)-	23.90	1300	JN
9. 000192-97-2	Benzo[e]pyrene	26.63	1300	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-113

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.02

Sample wt/vol: 10.1 (g/ml) G Lab File ID: BNA01998.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 9.3 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-113

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.02

Sample wt/vol: 10.1 (g/ml) G Lab File ID: BNA01998.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 9.3 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	380	JB
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-113

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.02

Sample wt/vol: 10.1 (g/ml) G Lab File ID: BNA01998.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 9.3 decanted: (Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 074685-33-9	3-Eicosene, (E)-	23.87	2300	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-114

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.04

Sample wt/vol: 10.03 (g/ml) G Lab File ID: BNA01999.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 17.03 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	170	J
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-114

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.04

Sample wt/vol: 10.03 (g/ml) G Lab File ID: BNA01999.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 17.03 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	860	J
120-12-7	Anthracene	270	J
84-74-2	Di-n-butylphthalate	470	JB
206-44-0	Fluoranthene	6400	
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	4800	
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	2400	
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	2600	
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	2200	
207-08-9	Benzo[k]fluoranthene	2100	
50-32-8	Benzo[a]pyrene	2500	
193-39-5	Indeno[1,2,3-cd]pyrene	1200	J
53-70-3	Dibenz[a,h]anthracene	340	J
191-24-2	Benzo[g,h,i]perylene	1500	

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-114

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.04

Sample wt/vol: 10.03 (g/ml) G Lab File ID: BNA01999.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 17.03 decanted: (Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 074685-33-9	3-Eicosene, (E)-	23.87	2400	JN
2. 000192-97-2	Benzo[e]pyrene	26.59	1300	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-115

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.06

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA02000.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 14.02 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

001024

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-115

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.06

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA02000.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 14.02 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	380	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-115

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.06

Sample wt/vol: 10.02 (g/ml) G Lab File ID: BNA02000.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 14.02 decanted: (Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 074685-33-9	3-Eicosene, (E)-	23.87	2100	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-116

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.08

Sample wt/vol: 10.03 (g/ml) G Lab File ID: BNA02001.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 15.33 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1200	U
62-75-9	N-nitroso-dimethylamine	1200	U
62-53-3	Aniline	1200	U
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
	2-Methylphenol	1200	U
108-60-1	bis(2-chloroisopropyl)ether	1200	U
	4-Methylphenol	1200	U
621-64-7	n-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
65-85-0	Benzoic Acid	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	1200	U

001027

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-116

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.08

Sample wt/vol: 10.03 (g/ml) G Lab File ID: BNA02001.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 15.33 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	1200	U
132-64-9	Dibenzofuran	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	n-Nitrosodiphenylamine	1200	U
103-33-3	Azobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	1200	JB
206-44-0	Fluoranthene	1200	U
92-87-5	Benzidine	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
56-55-3	Benzo[a]anthracene	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo[b]fluoranthene	1200	U
207-08-9	Benzo[k]fluoranthene	1200	U
50-32-8	Benzo[a]pyrene	1200	U
193-39-5	Indeno[1,2,3-cd]pyrene	1200	U
53-70-3	Dibenz[a,h]anthracene	1200	U
191-24-2	Benzo[g,h,i]perylene	1200	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-116

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.08

Sample wt/vol: 10.03 (g/ml) G Lab File ID: BNA02001.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 15.33 decanted: (Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 017851-53-5	1,2-Benzenedicarboxylic acid, but	18.41	990	JN
2. 000629-96-9	1-Eicosanol	23.87	2700	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-117

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.10

Sample wt/vol: 10.16 (g/ml) G Lab File ID: BNA02002.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 5.87 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1000	U
62-75-9	N-nitroso-dimethylamine	1000	U
62-53-3	Aniline	1000	U
108-95-2	Phenol	1000	U
111-44-4	bis(2-Chloroethyl)ether	1000	U
95-57-8	2-Chlorophenol	1000	U
541-73-1	1,3-Dichlorobenzene	1000	U
106-46-7	1,4-Dichlorobenzene	1000	U
100-51-6	Benzyl alcohol	1000	U
95-50-1	1,2-Dichlorobenzene	1000	U
	2-Methylphenol	1000	U
108-60-1	bis(2-chloroisopropyl)ether	1000	U
	4-Methylphenol	1000	U
621-64-7	n-Nitroso-di-n-propylamine	1000	U
67-72-1	Hexachloroethane	1000	U
98-95-3	Nitrobenzene	1000	U
78-59-1	Isophorone	1000	U
88-75-5	2-Nitrophenol	1000	U
105-67-9	2,4-Dimethylphenol	1000	U
111-91-1	bis(2-Chloroethoxy)methane	1000	U
120-83-2	2,4-Dichlorophenol	1000	U
65-85-0	Benzoic Acid	1000	U
120-82-1	1,2,4-Trichlorobenzene	1000	U
91-20-3	Naphthalene	1000	U
106-47-8	4-Chloroaniline	1000	U
87-68-3	Hexachlorobutadiene	1000	U
59-50-7	4-Chloro-3-methylphenol	1000	U
91-57-6	2-Methylnaphthalene	1000	U
77-47-4	Hexachlorocyclopentadiene	1000	U
88-06-2	2,4,6-Trichlorophenol	1000	U
	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	1000	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	1000	U
208-96-8	Acenaphthylene	1000	U
606-20-2	2,6-Dinitrotoluene	1000	U
99-09-2	3-Nitroaniline	1000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-117

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.10

Sample wt/vol: 10.16 (g/ml) G Lab File ID: BNA02002.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 5.87 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1000	U
51-28-5	2,4-Dinitrophenol	1000	U
132-64-9	Dibenzofuran	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	1000	U
84-66-2	Diethylphthalate	1000	U
86-73-7	Fluorene	1000	U
7005-72-3	4-Chlorophenyl-phenylether	1000	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	n-Nitrosodiphenylamine	1000	U
103-33-3	Azobenzene	1000	U
101-55-3	4-Bromophenyl-phenylether	1000	U
118-74-1	Hexachlorobenzene	1000	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	1000	U
120-12-7	Anthracene	1000	U
84-74-2	Di-n-butylphthalate	310	JB
206-44-0	Fluoranthene	1000	U
92-87-5	Benzidine	1000	U
129-00-0	Pyrene	1000	U
85-68-7	Butylbenzylphthalate	1000	U
56-55-3	Benzo[a]anthracene	1000	U
91-94-1	3,3'-Dichlorobenzidine	1000	U
218-01-9	Chrysene	1000	U
117-81-7	bis(2-Ethylhexyl)phthalate	120	J
117-84-0	Di-n-octylphthalate	1000	U
205-99-2	Benzo[b]fluoranthene	1000	U
207-08-9	Benzo[k]fluoranthene	1000	U
50-32-8	Benzo[a]pyrene	1000	U
193-39-5	Indeno[1,2,3-cd]pyrene	1000	U
53-70-3	Dibenz[a,h]anthracene	1000	U
191-24-2	Benzo[g,h,i]perylene	1000	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-117

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.10

Sample wt/vol: 10.16 (g/ml) G Lab File ID: BNA02002.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 5.87 decanted: (Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 1 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 001599-67-3	1-Docosene	23.87	2500	JN

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-118

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.12

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA02003.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 10.58 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-118

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.12

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA02003.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 10.58 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	1100	U
132-64-9	Dibenzofuran	1100	U
100-02-7	4-Nitrophenol	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
86-73-7	Fluorene	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	n-Nitrosodiphenylamine	1100	U
103-33-3	Azobenzene	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	1400	B
206-44-0	Fluoranthene	1100	U
92-87-5	Benzidine	1100	U
129-00-0	Pyrene	110	J
85-68-7	Butylbenzylphthalate	1100	U
56-55-3	Benzo[a]anthracene	1100	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	170	J
117-84-0	Di-n-octylphthalate	1100	U
205-99-2	Benzo[b]fluoranthene	1100	U
207-08-9	Benzo[k]fluoranthene	1100	U
50-32-8	Benzo[a]pyrene	1100	U
193-39-5	Indeno[1,2,3-cd]pyrene	1100	U
53-70-3	Dibenz[a,h]anthracene	1100	U
191-24-2	Benzo[g,h,i]perylene	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-118

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.12

Sample wt/vol: 10.13 (g/ml) G Lab File ID: BNA02003.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 10.58 decanted: (Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 3 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000094-59-7	1,3-Benzodioxole, 5-(2-propenyl)-	11.62	1300	JN
2. 000084-69-5	1,2-Benzenedicarboxylic acid, bis	18.41	1400	JN
3. 074685-30-6	5-Eicosene, (E)-	23.87	3200	JN

001035

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

B-119

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.14

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BNA02004.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 8.8 decanted:(Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	1100	U
62-75-9	N-nitroso-dimethylamine	1100	U
62-53-3	Aniline	1100	U
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
	2-Methylphenol	1100	U
108-60-1	bis(2-chloroisopropyl)ether	1100	U
	4-Methylphenol	1100	U
621-64-7	n-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
65-85-0	Benzoic Acid	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U
99-09-2	3-Nitroaniline	1100	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

B-119

Lab Name: FMETL NJDEP: 13461

Project: 980211 Case No.: 4189 Location: M14 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4189.14

Sample wt/vol: 10.06 (g/ml) G Lab File ID: BNA02004.D

Level: (low/med) LOW Date Received: 01/13/99

% Moisture: 8.8 decanted: (Y/N) N Date Extracted: 01/20/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 4 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	12.46	880	J
2. 074367-34-3	Propanoic acid, 2-methyl-, 3-hydr	12.75	1100	JN
3.	unknown	18.42	1600	J
4. 074685-33-9	3-Eicosene, (E)-	23.87	2500	JN

METHOD BLANKS

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	BLK264
	DPW. SELFM-PW-EV	**Date Rec'd:**	
	Bldg. 173	**Extraction Date:**	12/24/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/23/99
Analysis:	SW-846 Method 8081/8082	**Location :**	
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	100.00	0.0003	ND	NLE
beta-BHC	1	100.00	0.0003	ND	NLE
gamma-BHC	1	100.00	0.0004	ND	0.52
delta-BHC	1	100.00	0.0004	ND	NLE
Heptachlor	1	100.00	0.0003	ND	0.15
Aldrin	1	100.00	0.0004	ND	0.04
Heptachlor Epoxide	1	100.00	0.0006	ND	NLE
Endosulfan I	1	100.00	0.0005	ND	NLE
4,4'-DDE	1	100.00	0.0004	ND	2
Dieldrin	1	100.00	0.0005	ND	0.042
Endrin	1	100.00	0.0005	ND	17
Endosulfan II	1	100.00	0.0004	ND	NLE
4,4'-DDD	1	100.00	0.0006	ND	3
Endrin Aldehyde	1	100.00	0.0005	ND	NLE
4,4'-DDT	1	100.00	0.0011	ND	2
Endosulfan-Sulfate	1	100.00	0.0004	ND	NLE
gamma -Chlordane	1	100.00	0.0005	ND	NLE
alpha-Chlordane	1	100.00	0.0005	ND	NLE
Toxaphene	1	100.00	0.0003	ND	0.1
Arochlor 1016	1	100.00	0.0112	ND	0.49
Arochlor 1221	1	100.00	0.0206	ND	0.49
Arochlor 1232	1	100.00	0.0140	ND	0.49
Arochlor 1242	1	100.00	0.0160	ND	0.49
Arochlor 1248	1	100.00	0.0064	ND	0.49
Arochlor 1254	1	100.00	0.0040	ND	0.49
Arochlor 1260	1	100.00	0.0036	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	BLK265
	DPW. SELFM-PW-EV	**Date Rec'd:**	
	Bldg. 173	**Extraction Date:**	12/29/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/15/99
Analysis:	SW-846 Method 8081/8082	**Location :**	
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	100.00	0.0003	ND	NLE
beta-BHC	1	100.00	0.0003	ND	NLE
gamma-BHC	1	100.00	0.0004	ND	0.52
delta-BHC	1	100.00	0.0004	ND	NLE
Heptachlor	1	100.00	0.0003	ND	0.15
Aldrin	1	100.00	0.0004	ND	0.04
Heptachlor Epoxide	1	100.00	0.0006	ND	NLE
Endosulfan I	1	100.00	0.0005	ND	NLE
4,4'-DDE	1	100.00	0.0004	ND	2
Dieldrin	1	100.00	0.0005	ND	0.042
Endrin	1	100.00	0.0005	ND	17
Endosulfan II	1	100.00	0.0004	ND	NLE
4,4'-DDD	1	100.00	0.0006	ND	3
Endrin Aldehyde	1	100.00	0.0005	ND	NLE
4,4'-DDT	1	100.00	0.0011	ND	2
Endosulfan-Sulfate	1	100.00	0.0004	ND	NLE
gamma -Chlordane	1	100.00	0.0005	ND	NLE
alpha-Chlordane	1	100.00	0.0005	ND	NLE
Toxaphene	1	100.00	0.0003	ND	0.1
Arochlor 1016	1	100.00	0.0112	ND	0.49
Arochlor 1221	1	100.00	0.0206	ND	0.49
Arochlor 1232	1	100.00	0.0140	ND	0.49
Arochlor 1242	1	100.00	0.0160	ND	0.49
Arochlor 1248	1	100.00	0.0064	ND	0.49
Arochlor 1254	1	100.00	0.0040	ND	0.49
Arochlor 1260	1	100.00	0.0036	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	BLK266
	DPW. SELFM-PW-EV	**Date Rec'd:**	
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/15/99
Analysis:	SW-846 Method 8081/8082	**Location :**	
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	100.00	0.0003	ND	NLE
beta-BHC	1	100.00	0.0003	ND	NLE
gamma-BHC	1	100.00	0.0004	ND	0.52
delta-BHC	1	100.00	0.0004	ND	NLE
Heptachlor	1	100.00	0.0003	ND	0.15
Aldrin	1	100.00	0.0004	ND	0.04
Heptachlor Epoxide	1	100.00	0.0006	ND	NLE
Endosulfan I	1	100.00	0.0005	ND	NLE
4,4'-DDE	1	100.00	0.0004	ND	2
Dieldrin	1	100.00	0.0005	ND	0.042
Endrin	1	100.00	0.0005	ND	17
Endosulfan II	1	100.00	0.0004	ND	NLE
4,4'-DDD	1	100.00	0.0006	ND	3
Endrin Aldehyde	1	100.00	0.0005	ND	NLE
4,4'-DDT	1	100.00	0.0011	ND	2
Endosulfan-Sulfate	1	100.00	0.0004	ND	NLE
gamma -Chlordane	1	100.00	0.0005	ND	NLE
alpha-Chlordane	1	100.00	0.0005	ND	NLE
Toxaphene	1	100.00	0.0003	ND	0.1
Arochlor 1016	1	100.00	0.0112	ND	0.49
Arochlor 1221	1	100.00	0.0206	ND	0.49
Arochlor 1232	1	100.00	0.0140	ND	0.49
Arochlor 1242	1	100.00	0.0160	ND	0.49
Arochlor 1248	1	100.00	0.0064	ND	0.49
Arochlor 1254	1	100.00	0.0040	ND	0.49
Arochlor 1260	1	100.00	0.0036	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	BLK267
	DPW. SELFM-PW-EV	**Date Rec'd:**	
	Bldg. 173	**Extraction Date:**	12/31/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/25/99
Analysis:	SW-846 Method 8081/8082	**Location :**	
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	100.00	0.0003	ND	NLE
beta-BHC	1	100.00	0.0003	ND	NLE
gamma-BHC	1	100.00	0.0004	ND	0.52
delta-BHC	1	100.00	0.0004	ND	NLE
Heptachlor	1	100.00	0.0003	ND	0.15
Aldrin	1	100.00	0.0004	ND	0.04
Heptachlor Epoxide	1	100.00	0.0006	ND	NLE
Endosulfan I	1	100.00	0.0005	ND	NLE
4,4'-DDE	1	100.00	0.0004	ND	2
Dieldrin	1	100.00	0.0005	ND	0.042
Endrin	1	100.00	0.0005	ND	17
Endosulfan II	1	100.00	0.0004	ND	NLE
4,4'-DDD	1	100.00	0.0006	ND	3
Endrin Aldehyde	1	100.00	0.0005	ND	NLE
4,4'-DDT	1	100.00	0.0011	ND	2
Endosulfan-Sulfate	1	100.00	0.0004	ND	NLE
gamma -Chlordane	1	100.00	0.0005	ND	NLE
alpha-Chlordane	1	100.00	0.0005	ND	NLE
Toxaphene	1	100.00	0.0003	ND	0.1
Arochlor 1016	1	100.00	0.0112	ND	0.49
Arochlor 1221	1	100.00	0.0206	ND	0.49
Arochlor 1232	1	100.00	0.0140	ND	0.49
Arochlor 1242	1	100.00	0.0160	ND	0.49
Arochlor 1248	1	100.00	0.0064	ND	0.49
Arochlor 1254	1	100.00	0.0040	ND	0.49
Arochlor 1260	1	100.00	0.0036	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	BLK268
	DPW. SELFM-PW-EV	**Date Rec'd:**	
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/26/99
Analysis:	SW-846 Method 8081/8082	**Location :**	
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	100.00	0.0003	ND	NLE
beta-BHC	1	100.00	0.0003	ND	NLE
gamma-BHC	1	100.00	0.0004	ND	0.52
delta-BHC	1	100.00	0.0004	ND	NLE
Heptachlor	1	100.00	0.0003	ND	0.15
Aldrin	1	100.00	0.0004	ND	0.04
Heptachlor Epoxide	1	100.00	0.0006	ND	NLE
Endosulfan I	1	100.00	0.0005	ND	NLE
4,4'-DDE	1	100.00	0.0004	ND	2
Dieldrin	1	100.00	0.0005	ND	0.042
Endrin	1	100.00	0.0005	ND	17
Endosulfan II	1	100.00	0.0004	ND	NLE
4,4'-DDD	1	100.00	0.0006	ND	3
Endrin Aldehyde	1	100.00	0.0005	ND	NLE
4,4'-DDT	1	100.00	0.0011	ND	2
Endosulfan-Sulfate	1	100.00	0.0004	ND	NLE
gamma -Chlordane	1	100.00	0.0005	ND	NLE
alpha-Chlordane	1	100.00	0.0005	ND	NLE
Toxaphene	1	100.00	0.0003	ND	0.1
Arochlor 1016	1	100.00	0.0112	ND	0.49
Arochlor 1221	1	100.00	0.0206	ND	0.49
Arochlor 1232	1	100.00	0.0140	ND	0.49
Arochlor 1242	1	100.00	0.0160	ND	0.49
Arochlor 1248	1	100.00	0.0064	ND	0.49
Arochlor 1254	1	100.00	0.0040	ND	0.49
Arochlor 1260	1	100.00	0.0036	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	BLK269
	DPW. SELFM-PW-EV	**Date Rec'd:**	
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/29/99
Analysis:	SW-846 Method 8081/8082	**Location :**	
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	100.00	0.0003	ND	NLE
beta-BHC	1	100.00	0.0003	ND	NLE
gamma-BHC	1	100.00	0.0004	ND	0.52
delta-BHC	1	100.00	0.0004	ND	NLE
Heptachlor	1	100.00	0.0003	ND	0.15
Aldrin	1	100.00	0.0004	ND	0.04
Heptachlor Epoxide	1	100.00	0.0006	ND	NLE
Endosulfan I	1	100.00	0.0005	ND	NLE
4,4'-DDE	1	100.00	0.0004	ND	2
Dieldrin	1	100.00	0.0005	ND	0.042
Endrin	1	100.00	0.0005	ND	17
Endosulfan II	1	100.00	0.0004	ND	NLE
4,4'-DDD	1	100.00	0.0006	ND	3
Endrin Aldehyde	1	100.00	0.0005	ND	NLE
4,4'-DDT	1	100.00	0.0011	ND	2
Endosulfan-Sulfate	1	100.00	0.0004	ND	NLE
gamma -Chlordane	1	100.00	0.0005	ND	NLE
alpha-Chlordane	1	100.00	0.0005	ND	NLE
Toxaphene	1	100.00	0.0003	ND	0.1
Arochlor 1016	1	100.00	0.0112	ND	0.49
Arochlor 1221	1	100.00	0.0206	ND	0.49
Arochlor 1232	1	100.00	0.0140	ND	0.49
Arochlor 1242	1	100.00	0.0160	ND	0.49
Arochlor 1248	1	100.00	0.0064	ND	0.49
Arochlor 1254	1	100.00	0.0040	ND	0.49
Arochlor 1260	1	100.00	0.0036	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	BLK270
	DPW. SELFM-PW-EV	**Date Rec'd:**	
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/10/99
Analysis:	SW-846 Method 8081/8082	**Location :**	
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	100.00	0.0003	ND	NLE
beta-BHC	1	100.00	0.0003	ND	NLE
gamma-BHC	1	100.00	0.0004	ND	0.52
delta-BHC	1	100.00	0.0004	ND	NLE
Heptachlor	1	100.00	0.0003	ND	0.15
Aldrin	1	100.00	0.0004	ND	0.04
Heptachlor Epoxide	1	100.00	0.0006	ND	NLE
Endosulfan I	1	100.00	0.0005	ND	NLE
4,4'-DDE	1	100.00	0.0004	ND	2
Dieldrin	1	100.00	0.0005	ND	0.042
Endrin	1	100.00	0.0005	ND	17
Endosulfan II	1	100.00	0.0004	ND	NLE
4,4'-DDD	1	100.00	0.0006	ND	3
Endrin Aldehyde	1	100.00	0.0005	ND	NLE
4,4'-DDT	1	100.00	0.0011	ND	2
Endosulfan-Sulfate	1	100.00	0.0004	ND	NLE
gamma -Chlordane	1	100.00	0.0005	ND	NLE
alpha-Chlordane	1	100.00	0.0005	ND	NLE
Toxaphene	1	100.00	0.0003	ND	0.1
Arochlor 1016	1	100.00	0.0112	ND	0.49
Arochlor 1221	1	100.00	0.0206	ND	0.49
Arochlor 1232	1	100.00	0.0140	ND	0.49
Arochlor 1242	1	100.00	0.0160	ND	0.49
Arochlor 1248	1	100.00	0.0064	ND	0.49
Arochlor 1254	1	100.00	0.0040	ND	0.49
Arochlor 1260	1	100.00	0.0036	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	BLK271
	DPW. SELFM-PW-EV	**Date Rec'd:**	
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/3/99
Analysis:	SW-846 Method 8081/8082	**Location :**	
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	100.00	0.0003	ND	NLE
beta-BHC	1	100.00	0.0003	ND	NLE
gamma-BHC	1	100.00	0.0004	ND	0.52
delta-BHC	1	100.00	0.0004	ND	NLE
Heptachlor	1	100.00	0.0003	ND	0.15
Aldrin	1	100.00	0.0004	ND	0.04
Heptachlor Epoxide	1	100.00	0.0006	ND	NLE
Endosulfan I	1	100.00	0.0005	ND	NLE
4,4'-DDE	1	100.00	0.0004	ND	2
Dieldrin	1	100.00	0.0005	ND	0.042
Endrin	1	100.00	0.0005	ND	17
Endosulfan II	1	100.00	0.0004	ND	NLE
4,4'-DDD	1	100.00	0.0006	ND	3
Endrin Aldehyde	1	100.00	0.0005	ND	NLE
4,4'-DDT	1	100.00	0.0011	ND	2
Endosulfan-Sulfate	1	100.00	0.0004	ND	NLE
gamma -Chlordane	1	100.00	0.0005	ND	NLE
alpha-Chlordane	1	100.00	0.0005	ND	NLE
Toxaphene	1	100.00	0.0003	ND	0.1
Arochlor 1016	1	100.00	0.0112	ND	0.49
Arochlor 1221	1	100.00	0.0206	ND	0.49
Arochlor 1232	1	100.00	0.0140	ND	0.49
Arochlor 1242	1	100.00	0.0160	ND	0.49
Arochlor 1248	1	100.00	0.0064	ND	0.49
Arochlor 1254	1	100.00	0.0040	ND	0.49
Arochlor 1260	1	100.00	0.0036	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	BLK272
	DPW. SELFM-PW-EV	**Date Rec'd:**	
	Bldg. 173	**Extraction Date:**	1/20/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/25/99
Analysis:	SW-846 Method 8081/8082	**Location :**	
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	100.00	0.0003	ND	NLE
beta-BHC	1	100.00	0.0003	ND	NLE
gamma-BHC	1	100.00	0.0004	ND	0.52
delta-BHC	1	100.00	0.0004	ND	NLE
Heptachlor	1	100.00	0.0003	ND	0.15
Aldrin	1	100.00	0.0004	ND	0.04
Heptachlor Epoxide	1	100.00	0.0006	ND	NLE
Endosulfan I	1	100.00	0.0005	ND	NLE
4,4'-DDE	1	100.00	0.0004	ND	2
Dieldrin	1	100.00	0.0005	ND	0.042
Endrin	1	100.00	0.0005	ND	17
Endosulfan II	1	100.00	0.0004	ND	NLE
4,4'-DDD	1	100.00	0.0006	ND	3
Endrin Aldehyde	1	100.00	0.0005	ND	NLE
4,4'-DDT	1	100.00	0.0011	ND	2
Endosulfan-Sulfate	1	100.00	0.0004	ND	NLE
gamma -Chlordane	1	100.00	0.0005	ND	NLE
alpha-Chlordane	1	100.00	0.0005	ND	NLE
Toxaphene	1	100.00	0.0003	ND	0.1
Arochlor 1016	1	100.00	0.0112	ND	0.49
Arochlor 1221	1	100.00	0.0206	ND	0.49
Arochlor 1232	1	100.00	0.0140	ND	0.49
Arochlor 1242	1	100.00	0.0160	ND	0.49
Arochlor 1248	1	100.00	0.0064	ND	0.49
Arochlor 1254	1	100.00	0.0040	ND	0.49
Arochlor 1260	1	100.00	0.0036	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

FIELD DUPLICATES

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4160.22
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/29/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/21/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	Field Dup

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	85.39	0.0004	ND	NLE
beta-BHC	1	85.39	0.0004	ND	NLE
gamma-BHC	1	85.39	0.0005	ND	0.52
delta-BHC	1	85.39	0.0005	ND	NLE
Heptachlor	1	85.39	0.0004	ND	0.15
Aldrin	1	85.39	0.0005	ND	0.04
Heptachlor Epoxide	1	85.39	0.0007	ND	NLE
Endosulfan I	1	85.39	0.0006	ND	NLE
4,4'-DDE	1	85.39	0.0005	0.013	2
Dieldrin	1	85.39	0.0006	ND	0.042
Endrin	1	85.39	0.0006	ND	17
Endosulfan II	1	85.39	0.0005	ND	NLE
4,4'-DDD	1	85.39	0.0007	0.018	3
Endrin Aldehyde	1	85.39	0.0006	ND	NLE
4,4'-DDT	1	85.39	0.0013	0.022	2
Endosulfan-Sulfate	1	85.39	0.0005	ND	NLE
gamma -Chlordane	1	85.39	0.0006	ND	NLE
alpha-Chlordane	1	85.39	0.0006	ND	NLE
Toxaphene	1	85.39	0.0004	ND	0.1
Arochlor 1016	1	85.39	0.0131	ND	0.49
Arochlor 1221	1	85.39	0.0241	ND	0.49
Arochlor 1232	1	85.39	0.0163	ND	0.49
Arochlor 1242	1	85.39	0.0187	ND	0.49
Arochlor 1248	1	85.39	0.0075	ND	0.49
Arochlor 1254	1	85.39	0.0047	ND	0.49
Arochlor 1260	1	85.39	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4164.20
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/31/98
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/29/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	Field Dup

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	85.80	0.0068	ND	NLE
beta-BHC	20	85.80	0.0068	ND	NLE
gamma-BHC	20	85.80	0.0091	ND	0.52
delta-BHC	20	85.80	0.0091	ND	NLE
Heptachlor	20	85.80	0.0068	ND	0.15
Aldrin	20	85.80	0.0091	ND	0.04
Heptachlor Epoxide	20	85.80	0.0136	ND	NLE
Endosulfan I	20	85.80	0.0113	ND	NLE
4,4'-DDE	20	85.80	0.0091	0.010	2
Dieldrin	20	85.80	0.0113	ND	0.042
Endrin	20	85.80	0.0113	ND	17
Endosulfan II	20	85.80	0.0091	ND	NLE
4,4'-DDD	20	85.80	0.0136	ND	3
Endrin Aldehyde	20	85.80	0.0113	ND	NLE
4,4'-DDT	20	85.80	0.0249	ND	2
Endosulfan-Sulfate	20	85.80	0.0091	ND	NLE
gamma -Chlordane	20	85.80	0.0113	ND	NLE
alpha-Chlordane	20	85.80	0.0113	ND	NLE
Toxaphene	20	85.80	0.0068	ND	0.1
Arochlor 1016	20	85.80	0.2540	ND	0.49
Arochlor 1221	20	85.80	0.4671	ND	0.49
Arochlor 1232	20	85.80	0.3175	ND	0.49
Arochlor 1242	20	85.80	0.3628	ND	0.49
Arochlor 1248	20	85.80	0.1451	ND	0.49
Arochlor 1254	20	85.80	0.0907	ND	0.49
Arochlor 1260	20	85.80	0.0816	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001052

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4169.38
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/5/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/30/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	Field Dup

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	85.07	0.0070	ND	NLE
beta-BHC	20	85.07	0.0070	ND	NLE
gamma-BHC	20	85.07	0.0093	ND	0.52
delta-BHC	20	85.07	0.0093	ND	NLE
Heptachlor	20	85.07	0.0070	ND	0.15
Aldrin	20	85.07	0.0093	ND	0.04
Heptachlor Epoxide	20	85.07	0.0139	ND	NLE
Endosulfan I	20	85.07	0.0116	ND	NLE
4,4'-DDE	20	85.07	0.0093	0.177	2
Dieldrin	20	85.07	0.0116	ND	0.042
Endrin	20	85.07	0.0116	ND	17
Endosulfan II	20	85.07	0.0093	ND	NLE
4,4'-DDD	20	85.07	0.0139	0.128	3
Endrin Aldehyde	20	85.07	0.0116	ND	NLE
4,4'-DDT	20	85.07	0.0255	0.117	2
Endosulfan-Sulfate	20	85.07	0.0093	ND	NLE
gamma -Chlordane	20	85.07	0.0116	0.080	NLE
alpha-Chlordane	20	85.07	0.0116	0.057	NLE
Toxaphene	20	85.07	0.0070	ND	0.1
Arochlor 1016	20	85.07	0.2599	ND	0.49
Arochlor 1221	20	85.07	0.4781	ND	0.49
Arochlor 1232	20	85.07	0.3249	ND	0.49
Arochlor 1242	20	85.07	0.3713	ND	0.49
Arochlor 1248	20	85.07	0.1485	ND	0.49
Arochlor 1254	20	85.07	0.0928	ND	0.49
Arochlor 1260	20	85.07	0.0836	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4177.20
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/7/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/11/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	Dupe

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	86.18	0.0003	ND	NLE
beta-BHC	1	86.18	0.0003	ND	NLE
gamma-BHC	1	86.18	0.0005	ND	0.52
delta-BHC	1	86.18	0.0005	ND	NLE
Heptachlor	1	86.18	0.0003	ND	0.15
Aldrin	1	86.18	0.0005	ND	0.04
Heptachlor Epoxide	1	86.18	0.0007	ND	NLE
Endosulfan I	1	86.18	0.0006	ND	NLE
4,4'-DDE	5	86.18	0.0023	0.269	2
Dieldrin	1	86.18	0.0006	ND	0.042
Endrin	1	86.18	0.0006	ND	17
Endosulfan II	1	86.18	0.0005	ND	NLE
4,4'-DDD	1	86.18	0.0007	0.025	3
Endrin Aldehyde	1	86.18	0.0006	ND	NLE
4,4'-DDT	5	86.18	0.0064	0.202	2
Endosulfan-Sulfate	1	86.18	0.0005	ND	NLE
gamma -Chlordane	1	86.18	0.0006	ND	NLE
alpha-Chlordane	1	86.18	0.0006	ND	NLE
Toxaphene	1	86.18	0.0003	ND	0.1
Arochlor 1016	1	86.18	0.0129	ND	0.49
Arochlor 1221	1	86.18	0.0238	ND	0.49
Arochlor 1232	1	86.18	0.0162	ND	0.49
Arochlor 1242	1	86.18	0.0185	ND	0.49
Arochlor 1248	1	86.18	0.0074	ND	0.49
Arochlor 1254	1	86.18	0.0046	ND	0.49
Arochlor 1260	1	86.18	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001054

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4189.16
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/13/99
	Bldg. 173	**Extraction Date:**	1/20/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/24/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	Field Dup

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	91.63	0.0065	ND	NLE
beta-BHC	20	91.63	0.0065	ND	NLE
gamma-BHC	20	91.63	0.0086	ND	0.52
delta-BHC	20	91.63	0.0086	ND	NLE
Heptachlor	20	91.63	0.0065	ND	0.15
Aldrin	20	91.63	0.0086	ND	0.04
Heptachlor Epoxide	20	91.63	0.0129	ND	NLE
Endosulfan I	20	91.63	0.0108	ND	NLE
4,4'-DDE	20	91.63	0.0086	0.092	2
Dieldrin	20	91.63	0.0108	ND	0.042
Endrin	20	91.63	0.0108	ND	17
Endosulfan II	20	91.63	0.0086	ND	NLE
4,4'-DDD	20	91.63	0.0129	ND	3
Endrin Aldehyde	20	91.63	0.0108	ND	NLE
4,4'-DDT	20	91.63	0.0237	0.057	2
Endosulfan-Sulfate	20	91.63	0.0086	ND	NLE
gamma -Chlordane	20	91.63	0.0108	ND	NLE
alpha-Chlordane	20	91.63	0.0108	ND	NLE
Toxaphene	20	91.63	0.0065	ND	0.1
Arochlor 1016	20	91.63	0.2413	ND	0.49
Arochlor 1221	20	91.63	0.4439	ND	0.49
Arochlor 1232	20	91.63	0.3017	ND	0.49
Arochlor 1242	20	91.63	0.3447	ND	0.49
Arochlor 1248	20	91.63	0.1379	ND	0.49
Arochlor 1254	20	91.63	0.0862	ND	0.49
Arochlor 1260	20	91.63	0.0776	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

SAMPLES

0C1056

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4156.02
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/23/98
	Bldg. 173	**Extraction Date:**	12/24/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/22/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	1

	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	90.37	0.0003	ND	NLE
beta-BHC	1	90.37	0.0003	ND	NLE
gamma-BHC	1	90.37	0.0004	ND	0.52
delta-BHC	1	90.37	0.0004	ND	NLE
Heptachlor	1	90.37	0.0003	ND	0.15
Aldrin	1	90.37	0.0004	ND	0.04
Heptachlor Epoxide	1	90.37	0.0007	ND	NLE
Endosulfan I	1	90.37	0.0006	ND	NLE
4,4'-DDE	5	90.37	0.0022	0.237	2
Dieldrin	1	90.37	0.0006	ND	0.042
Endrin	1	90.37	0.0006	ND	17
Endosulfan II	1	90.37	0.0004	ND	NLE
4,4'-DDD	1	90.37	0.0007	0.017	3
Endrin Aldehyde	1	90.37	0.0006	ND	NLE
4,4'-DDT	5	90.37	0.0061	0.113	2
Endosulfan-Sulfate	1	90.37	0.0004	ND	NLE
gamma -Chlordane	1	90.37	0.0006	ND	NLE
alpha-Chlordane	1	90.37	0.0006	ND	NLE
Toxaphene	1	90.37	0.0003	ND	0.1
Arochlor 1016	1	90.37	0.0123	ND	0.49
Arochlor 1221	1	90.37	0.0227	ND	0.49
Arochlor 1232	1	90.37	0.0154	ND	0.49
Arochlor 1242	1	90.37	0.0176	ND	0.49
Arochlor 1248	1	90.37	0.0071	ND	0.49
Arochlor 1254	1	90.37	0.0044	ND	0.49
Arochlor 1260	1	90.37	0.0040	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4156.04
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/23/98
	Bldg. 173	**Extraction Date:**	12/24/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/22/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	2

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	92.26	0.0003	ND	NLE
beta-BHC	1	92.26	0.0003	ND	NLE
gamma-BHC	1	92.26	0.0004	ND	0.52
delta-BHC	1	92.26	0.0004	ND	NLE
Heptachlor	1	92.26	0.0003	ND	0.15
Aldrin	1	92.26	0.0004	ND	0.04
Heptachlor Epoxide	1	92.26	0.0006	ND	NLE
Endosulfan I	1	92.26	0.0005	ND	NLE
4,4'-DDE	1	92.26	0.0004	0.054	2
Dieldrin	1	92.26	0.0005	0.001	0.042
Endrin	1	92.26	0.0005	ND	17
Endosulfan II	1	92.26	0.0004	ND	NLE
4,4'-DDD	1	92.26	0.0006	0.054	3
Endrin Aldehyde	1	92.26	0.0005	ND	NLE
4,4'-DDT	1	92.26	0.0012	0.106	2
Endosulfan-Sulfate	1	92.26	0.0004	ND	NLE
gamma -Chlordane	1	92.26	0.0005	0.002	NLE
alpha-Chlordane	1	92.26	0.0005	0.001	NLE
Toxaphene	1	92.26	0.0003	ND	0.1
Arochlor 1016	1	92.26	0.0118	ND	0.49
Arochlor 1221	1	92.26	0.0218	ND	0.49
Arochlor 1232	1	92.26	0.0148	ND	0.49
Arochlor 1242	1	92.26	0.0169	ND	0.49
Arochlor 1248	1	92.26	0.0068	ND	0.49
Arochlor 1254	1	92.26	0.0042	ND	0.49
Arochlor 1260	1	92.26	0.0038	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4156.06
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/23/98
	Bldg. 173	**Extraction Date:**	12/24/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/22/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	3

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	89.84	0.0003	ND	NLE
beta-BHC	1	89.84	0.0003	ND	NLE
gamma-BHC	1	89.84	0.0004	ND	0.52
delta-BHC	1	89.84	0.0004	ND	NLE
Heptachlor	1	89.84	0.0003	ND	0.15
Aldrin	1	89.84	0.0004	ND	0.04
Heptachlor Epoxide	1	89.84	0.0007	ND	NLE
Endosulfan I	1	89.84	0.0006	ND	NLE
4,4'-DDE	1	89.84	0.0004	0.027	2
Dieldrin	1	89.84	0.0006	ND	0.042
Endrin	1	89.84	0.0006	ND	17
Endosulfan II	1	89.84	0.0004	ND	NLE
4,4'-DDD	1	89.84	0.0007	0.022	3
Endrin Aldehyde	1	89.84	0.0006	ND	NLE
4,4'-DDT	2	89.84	0.0024	0.109	2
Endosulfan-Sulfate	1	89.84	0.0004	ND	NLE
gamma -Chlordane	1	89.84	0.0006	0.003	NLE
alpha-Chlordane	1	89.84	0.0006	0.001	NLE
Toxaphene	1	89.84	0.0003	ND	0.1
Arochlor 1016	1	89.84	0.0124	ND	0.49
Arochlor 1221	1	89.84	0.0228	ND	0.49
Arochlor 1232	1	89.84	0.0155	ND	0.49
Arochlor 1242	1	89.84	0.0177	ND	0.49
Arochlor 1248	1	89.84	0.0071	ND	0.49
Arochlor 1254	1	89.84	0.0044	ND	0.49
Arochlor 1260	1	89.84	0.0040	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4156.08
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/23/98
	Bldg. 173	**Extraction Date:**	12/24/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/22/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	4

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	91.38	0.0003	ND	NLE
beta-BHC	1	91.38	0.0003	ND	NLE
gamma-BHC	1	91.38	0.0004	ND	0.52
delta-BHC	1	91.38	0.0004	ND	NLE
Heptachlor	1	91.38	0.0003	ND	0.15
Aldrin	1	91.38	0.0004	ND	0.04
Heptachlor Epoxide	1	91.38	0.0006	ND	NLE
Endosulfan I	1	91.38	0.0005	ND	NLE
4,4'-DDE	10	91.38	0.0043	0.253	2
Dieldrin	1	91.38	0.0005	ND	0.042
Endrin	1	91.38	0.0005	ND	17
Endosulfan II	1	91.38	0.0004	ND	NLE
4,4'-DDD	1	91.38	0.0006	0.031	3
Endrin Aldehyde	1	91.38	0.0005	ND	NLE
4,4'-DDT	10	91.38	0.0117	0.273	2
Endosulfan-Sulfate	1	91.38	0.0004	ND	NLE
gamma -Chlordane	1	91.38	0.0005	0.002	NLE
alpha-Chlordane	1	91.38	0.0005	ND	NLE
Toxaphene	1	91.38	0.0003	ND	0.1
Arochlor 1016	1	91.38	0.0119	ND	0.49
Arochlor 1221	1	91.38	0.0220	ND	0.49
Arochlor 1232	1	91.38	0.0149	ND	0.49
Arochlor 1242	1	91.38	0.0171	ND	0.49
Arochlor 1248	1	91.38	0.0068	ND	0.49
Arochlor 1254	1	91.38	0.0043	ND	0.49
Arochlor 1260	1	91.38	0.0038	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4156.10
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/23/98
	Bldg. 173	**Extraction Date:**	12/24/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/22/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	5

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	84.71	0.0004	ND	NLE
beta-BHC	1	84.71	0.0004	ND	NLE
gamma-BHC	1	84.71	0.0005	ND	0.52
delta-BHC	1	84.71	0.0005	ND	NLE
Heptachlor	1	84.71	0.0004	ND	0.15
Aldrin	1	84.71	0.0005	ND	0.04
Heptachlor Epoxide	1	84.71	0.0007	ND	NLE
Endosulfan I	1	84.71	0.0006	ND	NLE
4,4'-DDE	1	84.71	0.0005	0.031	2
Dieldrin	1	84.71	0.0006	ND	0.042
Endrin	1	84.71	0.0006	ND	17
Endosulfan II	1	84.71	0.0005	ND	NLE
4,4'-DDD	1	84.71	0.0007	0.051	3
Endrin Aldehyde	1	84.71	0.0006	ND	NLE
4,4'-DDT	1	84.71	0.0013	0.028	2
Endosulfan-Sulfate	1	84.71	0.0005	ND	NLE
gamma -Chlordane	1	84.71	0.0006	ND	NLE
alpha-Chlordane	1	84.71	0.0006	ND	NLE
Toxaphene	1	84.71	0.0004	ND	0.1
Arochlor 1016	1	84.71	0.0131	ND	0.49
Arochlor 1221	1	84.71	0.0241	ND	0.49
Arochlor 1232	1	84.71	0.0164	ND	0.49
Arochlor 1242	1	84.71	0.0187	ND	0.49
Arochlor 1248	1	84.71	0.0075	ND	0.49
Arochlor 1254	1	84.71	0.0047	ND	0.49
Arochlor 1260	1	84.71	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4156.12
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/23/98
	Bldg. 173	**Extraction Date:**	12/24/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/22/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	6

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	85.54	0.0003	ND	NLE
beta-BHC	1	85.54	0.0003	ND	NLE
gamma-BHC	1	85.54	0.0005	ND	0.52
delta-BHC	1	85.54	0.0005	ND	NLE
Heptachlor	1	85.54	0.0003	ND	0.15
Aldrin	1	85.54	0.0005	ND	0.04
Heptachlor Epoxide	1	85.54	0.0007	ND	NLE
Endosulfan I	1	85.54	0.0006	ND	NLE
4,4'-DDE	1	85.54	0.0005	0.010	2
Dieldrin	1	85.54	0.0006	ND	0.042
Endrin	1	85.54	0.0006	ND	17
Endosulfan II	1	85.54	0.0005	ND	NLE
4,4'-DDD	1	85.54	0.0007	0.013	3
Endrin Aldehyde	1	85.54	0.0006	ND	NLE
4,4'-DDT	1	85.54	0.0013	0.017	2
Endosulfan-Sulfate	1	85.54	0.0005	ND	NLE
gamma -Chlordane	1	85.54	0.0006	ND	NLE
alpha-Chlordane	1	85.54	0.0006	ND	NLE
Toxaphene	1	85.54	0.0003	ND	0.1
Arochlor 1016	1	85.54	0.0130	ND	0.49
Arochlor 1221	1	85.54	0.0240	ND	0.49
Arochlor 1232	1	85.54	0.0163	ND	0.49
Arochlor 1242	1	85.54	0.0186	ND	0.49
Arochlor 1248	1	85.54	0.0074	ND	0.49
Arochlor 1254	1	85.54	0.0047	ND	0.49
Arochlor 1260	1	85.54	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001062

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4159.02
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/28/98
	Bldg. 173	**Extraction Date:**	12/29/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/15/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	7

	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	87.50	0.0003	ND	NLE
beta-BHC	1	87.50	0.0003	ND	NLE
gamma-BHC	1	87.50	0.0005	ND	0.52
delta-BHC	1	87.50	0.0005	ND	NLE
Heptachlor	1	87.50	0.0003	ND	0.15
Aldrin	1	87.50	0.0005	ND	0.04
Heptachlor Epoxide	1	87.50	0.0007	ND	NLE
Endosulfan I	1	87.50	0.0006	ND	NLE
4,4'-DDE	1	87.50	0.0005	0.021	2
Dieldrin	1	87.50	0.0006	ND	0.042
Endrin	1	87.50	0.0006	ND	17
Endosulfan II	1	87.50	0.0005	ND	NLE
4,4'-DDD	1	87.50	0.0007	0.028	3
Endrin Aldehyde	1	87.50	0.0006	ND	NLE
4,4'-DDT	1	87.50	0.0013	0.069	2
Endosulfan-Sulfate	1	87.50	0.0005	ND	NLE
gamma -Chlordane	1	87.50	0.0006	ND	NLE
alpha-Chlordane	1	87.50	0.0006	ND	NLE
Toxaphene	1	87.50	0.0003	ND	0.1
Arochlor 1016	1	87.50	0.0127	ND	0.49
Arochlor 1221	1	87.50	0.0234	ND	0.49
Arochlor 1232	1	87.50	0.0159	ND	0.49
Arochlor 1242	1	87.50	0.0182	ND	0.49
Arochlor 1248	1	87.50	0.0073	ND	0.49
Arochlor 1254	1	87.50	0.0046	ND	0.49
Arochlor 1260	1	87.50	0.0041	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4159.04
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/28/98
	Bldg. 173	**Extraction Date:**	12/29/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/15/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	8

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	90.52	0.0003	ND	NLE
beta-BHC	1	90.52	0.0003	ND	NLE
gamma-BHC	1	90.52	0.0004	ND	0.52
delta-BHC	1	90.52	0.0004	ND	NLE
Heptachlor	1	90.52	0.0003	ND	0.15
Aldrin	1	90.52	0.0004	ND	0.04
Heptachlor Epoxide	1	90.52	0.0007	ND	NLE
Endosulfan I	1	90.52	0.0006	ND	NLE
4,4'-DDE	1	90.52	0.0004	0.026	2
Dieldrin	1	90.52	0.0006	ND	0.042
Endrin	1	90.52	0.0006	ND	17
Endosulfan II	1	90.52	0.0004	ND	NLE
4,4'-DDD	1	90.52	0.0007	0.048	3
Endrin Aldehyde	1	90.52	0.0006	ND	NLE
4,4'-DDT	1	90.52	0.0012	0.046	2
Endosulfan-Sulfate	1	90.52	0.0004	ND	NLE
gamma -Chlordane	1	90.52	0.0006	ND	NLE
alpha-Chlordane	1	90.52	0.0006	ND	NLE
Toxaphene	1	90.52	0.0003	ND	0.1
Arochlor 1016	1	90.52	0.0123	ND	0.49
Arochlor 1221	1	90.52	0.0227	ND	0.49
Arochlor 1232	1	90.52	0.0154	ND	0.49
Arochlor 1242	1	90.52	0.0176	ND	0.49
Arochlor 1248	1	90.52	0.0070	ND	0.49
Arochlor 1254	1	90.52	0.0044	ND	0.49
Arochlor 1260	1	90.52	0.0040	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4159.06
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/28/98
	Bldg. 173	**Extraction Date:**	12/29/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/15/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	9

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	86.48	0.0003	ND	NLE
beta-BHC	1	86.48	0.0003	ND	NLE
gamma-BHC	1	86.48	0.0005	ND	0.52
delta-BHC	1	86.48	0.0005	ND	NLE
Heptachlor	1	86.48	0.0003	ND	0.15
Aldrin	1	86.48	0.0005	ND	0.04
Heptachlor Epoxide	1	86.48	0.0007	ND	NLE
Endosulfan I	1	86.48	0.0006	ND	NLE
4,4'-DDE	1	86.48	0.0005	0.012	2
Dieldrin	1	86.48	0.0006	ND	0.042
Endrin	1	86.48	0.0006	ND	17
Endosulfan II	1	86.48	0.0005	ND	NLE
4,4'-DDD	1	86.48	0.0007	0.014	3
Endrin Aldehyde	1	86.48	0.0006	ND	NLE
4,4'-DDT	1	86.48	0.0013	0.014	2
Endosulfan-Sulfate	1	86.48	0.0005	ND	NLE
gamma -Chlordane	1	86.48	0.0006	ND	NLE
alpha-Chlordane	1	86.48	0.0006	ND	NLE
Toxaphene	1	86.48	0.0003	ND	0.1
Arochlor 1016	1	86.48	0.0129	ND	0.49
Arochlor 1221	1	86.48	0.0237	ND	0.49
Arochlor 1232	1	86.48	0.0161	ND	0.49
Arochlor 1242	1	86.48	0.0184	ND	0.49
Arochlor 1248	1	86.48	0.0074	ND	0.49
Arochlor 1254	1	86.48	0.0046	ND	0.49
Arochlor 1260	1	86.48	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4159.08
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/28/98
	Bldg. 173	**Extraction Date:**	12/29/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/15/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	10

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	89.71	0.0003	ND	NLE
beta-BHC	1	89.71	0.0003	ND	NLE
gamma-BHC	1	89.71	0.0004	ND	0.52
delta-BHC	1	89.71	0.0004	ND	NLE
Heptachlor	1	89.71	0.0003	ND	0.15
Aldrin	1	89.71	0.0004	ND	0.04
Heptachlor Epoxide	1	89.71	0.0007	ND	NLE
Endosulfan I	1	89.71	0.0006	ND	NLE
4,4'-DDE	1	89.71	0.0004	0.024	2
Dieldrin	1	89.71	0.0006	0.001	0.042
Endrin	1	89.71	0.0006	ND	17
Endosulfan II	1	89.71	0.0004	ND	NLE
4,4'-DDD	1	89.71	0.0007	0.027	3
Endrin Aldehyde	1	89.71	0.0006	ND	NLE
4,4'-DDT	1	89.71	0.0012	0.055	2
Endosulfan-Sulfate	1	89.71	0.0004	ND	NLE
gamma -Chlordane	1	89.71	0.0006	ND	NLE
alpha-Chlordane	1	89.71	0.0006	ND	NLE
Toxaphene	1	89.71	0.0003	ND	0.1
Arochlor 1016	1	89.71	0.0124	ND	0.49
Arochlor 1221	1	89.71	0.0228	ND	0.49
Arochlor 1232	1	89.71	0.0155	ND	0.49
Arochlor 1242	1	89.71	0.0177	ND	0.49
Arochlor 1248	1	89.71	0.0071	ND	0.49
Arochlor 1254	1	89.71	0.0044	ND	0.49
Arochlor 1260	1	89.71	0.0040	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4159.10
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/28/98
	Bldg. 173	**Extraction Date:**	12/29/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/15/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	11

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	89.53	0.0003	ND	NLE
beta-BHC	1	89.53	0.0003	ND	NLE
gamma-BHC	1	89.53	0.0004	ND	0.52
delta-BHC	1	89.53	0.0004	ND	NLE
Heptachlor	1	89.53	0.0003	ND	0.15
Aldrin	1	89.53	0.0004	ND	0.04
Heptachlor Epoxide	1	89.53	0.0007	ND	NLE
Endosulfan I	1	89.53	0.0006	ND	NLE
4,4'-DDE	1	89.53	0.0004	0.013	2
Dieldrin	1	89.53	0.0006	ND	0.042
Endrin	1	89.53	0.0006	ND	17
Endosulfan II	1	89.53	0.0004	ND	NLE
4,4'-DDD	1	89.53	0.0007	0.014	3
Endrin Aldehyde	1	89.53	0.0006	ND	NLE
4,4'-DDT	1	89.53	0.0012	0.008	2
Endosulfan-Sulfate	1	89.53	0.0004	ND	NLE
gamma -Chlordane	1	89.53	0.0006	ND	NLE
alpha-Chlordane	1	89.53	0.0006	ND	NLE
Toxaphene	1	89.53	0.0003	ND	0.1
Arochlor 1016	1	89.53	0.0123	ND	0.49
Arochlor 1221	1	89.53	0.0227	ND	0.49
Arochlor 1232	1	89.53	0.0154	ND	0.49
Arochlor 1242	1	89.53	0.0176	ND	0.49
Arochlor 1248	1	89.53	0.0070	ND	0.49
Arochlor 1254	1	89.53	0.0044	ND	0.49
Arochlor 1260	1	89.53	0.0040	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4159.12
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/28/98
	Bldg. 173	**Extraction Date:**	12/29/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/15/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	12

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	88.14	0.0003	ND	NLE
beta-BHC	1	88.14	0.0003	ND	NLE
gamma-BHC	1	88.14	0.0004	ND	0.52
delta-BHC	1	88.14	0.0004	ND	NLE
Heptachlor	1	88.14	0.0003	ND	0.15
Aldrin	1	88.14	0.0004	ND	0.04
Heptachlor Epoxide	1	88.14	0.0007	ND	NLE
Endosulfan I	1	88.14	0.0006	ND	NLE
4,4'-DDE	1	88.14	0.0004	0.060	2
Dieldrin	1	88.14	0.0006	ND	0.042
Endrin	1	88.14	0.0006	ND	17
Endosulfan II	1	88.14	0.0004	ND	NLE
4,4'-DDD	2	88.14	0.0013	0.169	3
Endrin Aldehyde	1	88.14	0.0006	ND	NLE
4,4'-DDT	2	88.14	0.0025	0.173	2
Endosulfan-Sulfate	1	88.14	0.0004	ND	NLE
gamma -Chlordane	1	88.14	0.0006	0.003	NLE
alpha-Chlordane	1	88.14	0.0006	0.001	NLE
Toxaphene	1	88.14	0.0003	ND	0.1
Arochlor 1016	1	88.14	0.0125	ND	0.49
Arochlor 1221	1	88.14	0.0230	ND	0.49
Arochlor 1232	1	88.14	0.0156	ND	0.49
Arochlor 1242	1	88.14	0.0178	ND	0.49
Arochlor 1248	1	88.14	0.0071	ND	0.49
Arochlor 1254	1	88.14	0.0045	ND	0.49
Arochlor 1260	1	88.14	0.0040	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4159.14
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/28/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/15/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	13

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	87.94	0.0003	ND	NLE
beta-BHC	1	87.94	0.0003	ND	NLE
gamma-BHC	1	87.94	0.0005	ND	0.52
delta-BHC	1	87.94	0.0005	ND	NLE
Heptachlor	1	87.94	0.0003	ND	0.15
Aldrin	1	87.94	0.0005	ND	0.04
Heptachlor Epoxide	1	87.94	0.0007	ND	NLE
Endosulfan I	1	87.94	0.0006	ND	NLE
4,4'-DDE	1	87.94	0.0005	0.009	2
Dieldrin	1	87.94	0.0006	ND	0.042
Endrin	1	87.94	0.0006	ND	17
Endosulfan II	1	87.94	0.0005	ND	NLE
4,4'-DDD	1	87.94	0.0007	0.011	3
Endrin Aldehyde	1	87.94	0.0006	ND	NLE
4,4'-DDT	1	87.94	0.0012	0.015	2
Endosulfan-Sulfate	1	87.94	0.0005	ND	NLE
gamma -Chlordane	1	87.94	0.0006	ND	NLE
alpha-Chlordane	1	87.94	0.0006	ND	NLE
Toxaphene	1	87.94	0.0003	ND	0.1
Arochlor 1016	1	87.94	0.0127	ND	0.49
Arochlor 1221	1	87.94	0.0233	ND	0.49
Arochlor 1232	1	87.94	0.0158	ND	0.49
Arochlor 1242	1	87.94	0.0181	ND	0.49
Arochlor 1248	1	87.94	0.0072	ND	0.49
Arochlor 1254	1	87.94	0.0045	ND	0.49
Arochlor 1260	1	87.94	0.0041	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4159.16
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/28/98
	Bldg. 173	**Extraction Date:**	12/29/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/16/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	14

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	84.77	0.0004	ND	NLE
beta-BHC	1	84.77	0.0004	ND	NLE
gamma-BHC	1	84.77	0.0005	ND	0.52
delta-BHC	1	84.77	0.0005	ND	NLE
Heptachlor	1	84.77	0.0004	ND	0.15
Aldrin	1	84.77	0.0005	ND	0.04
Heptachlor Epoxide	1	84.77	0.0007	ND	NLE
Endosulfan I	1	84.77	0.0006	ND	NLE
4,4'-DDE	1	84.77	0.0005	0.008	2
Dieldrin	1	84.77	0.0006	ND	0.042
Endrin	1	84.77	0.0006	ND	17
Endosulfan II	1	84.77	0.0005	ND	NLE
4,4'-DDD	1	84.77	0.0007	0.011	3
Endrin Aldehyde	1	84.77	0.0006	ND	NLE
4,4'-DDT	1	84.77	0.0013	0.012	2
Endosulfan-Sulfate	1	84.77	0.0005	ND	NLE
gamma -Chlordane	1	84.77	0.0006	ND	NLE
alpha-Chlordane	1	84.77	0.0006	ND	NLE
Toxaphene	1	84.77	0.0004	ND	0.1
Arochlor 1016	1	84.77	0.0132	ND	0.49
Arochlor 1221	1	84.77	0.0242	ND	0.49
Arochlor 1232	1	84.77	0.0164	ND	0.49
Arochlor 1242	1	84.77	0.0188	ND	0.49
Arochlor 1248	1	84.77	0.0075	ND	0.49
Arochlor 1254	1	84.77	0.0047	ND	0.49
Arochlor 1260	1	84.77	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4159.18
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/28/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/16/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	15

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	86.06	0.0003	ND	NLE
beta-BHC	1	86.06	0.0003	ND	NLE
gamma-BHC	1	86.06	0.0005	ND	0.52
delta-BHC	1	86.06	0.0005	ND	NLE
Heptachlor	1	86.06	0.0003	ND	0.15
Aldrin	1	86.06	0.0005	ND	0.04
Heptachlor Epoxide	1	86.06	0.0007	ND	NLE
Endosulfan I	1	86.06	0.0006	ND	NLE
4,4'-DDE	1	86.06	0.0005	0.025	2
Dieldrin	1	86.06	0.0006	ND	0.042
Endrin	1	86.06	0.0006	ND	17
Endosulfan II	1	86.06	0.0005	ND	NLE
4,4'-DDD	1	86.06	0.0007	0.066	3
Endrin Aldehyde	1	86.06	0.0006	ND	NLE
4,4'-DDT	1	86.06	0.0013	0.108	2
Endosulfan-Sulfate	1	86.06	0.0005	ND	NLE
gamma -Chlordane	1	86.06	0.0006	ND	NLE
alpha-Chlordane	1	86.06	0.0006	ND	NLE
Toxaphene	1	86.06	0.0003	ND	0.1
Arochlor 1016	1	86.06	0.0129	ND	0.49
Arochlor 1221	1	86.06	0.0238	ND	0.49
Arochlor 1232	1	86.06	0.0162	ND	0.49
Arochlor 1242	1	86.06	0.0185	ND	0.49
Arochlor 1248	1	86.06	0.0074	ND	0.49
Arochlor 1254	1	86.06	0.0046	ND	0.49
Arochlor 1260	1	86.06	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4159.20
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/28/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/16/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	16

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	89.35	0.0003	ND	NLE
beta-BHC	1	89.35	0.0003	ND	NLE
gamma-BHC	1	89.35	0.0004	ND	0.52
delta-BHC	1	89.35	0.0004	ND	NLE
Heptachlor	1	89.35	0.0003	ND	0.15
Aldrin	1	89.35	0.0004	ND	0.04
Heptachlor Epoxide	1	89.35	0.0007	ND	NLE
Endosulfan I	1	89.35	0.0006	ND	NLE
4,4'-DDE	1	89.35	0.0004	0.039	2
Dieldrin	1	89.35	0.0006	ND	0.042
Endrin	1	89.35	0.0006	ND	17
Endosulfan II	1	89.35	0.0004	ND	NLE
4,4'-DDD	1	89.35	0.0007	0.047	3
Endrin Aldehyde	1	89.35	0.0006	ND	NLE
4,4'-DDT	1	89.35	0.0012	0.088	2
Endosulfan-Sulfate	1	89.35	0.0004	ND	NLE
gamma -Chlordane	1	89.35	0.0006	ND	NLE
alpha-Chlordane	1	89.35	0.0006	ND	NLE
Toxaphene	1	89.35	0.0003	ND	0.1
Arochlor 1016	1	89.35	0.0125	ND	0.49
Arochlor 1221	1	89.35	0.0230	ND	0.49
Arochlor 1232	1	89.35	0.0156	ND	0.49
Arochlor 1242	1	89.35	0.0179	ND	0.49
Arochlor 1248	1	89.35	0.0071	ND	0.49
Arochlor 1254	1	89.35	0.0045	ND	0.49
Arochlor 1260	1	89.35	0.0040	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

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Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4159.22
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/28/98
	Bldg. 173	**Extraction Date:**	12/29/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/16/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	17

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	88.85	0.0003	ND	NLE
beta-BHC	1	88.85	0.0003	ND	NLE
gamma-BHC	1	88.85	0.0004	ND	0.52
delta-BHC	1	88.85	0.0004	ND	NLE
Heptachlor	1	88.85	0.0003	ND	0.15
Aldrin	1	88.85	0.0004	ND	0.04
Heptachlor Epoxide	1	88.85	0.0007	ND	NLE
Endosulfan I	1	88.85	0.0006	ND	NLE
4,4'-DDE	1	88.85	0.0004	0.014	2
Dieldrin	1	88.85	0.0006	ND	0.042
Endrin	1	88.85	0.0006	ND	17
Endosulfan II	1	88.85	0.0004	ND	NLE
4,4'-DDD	1	88.85	0.0007	0.018	3
Endrin Aldehyde	1	88.85	0.0006	ND	NLE
4,4'-DDT	1	88.85	0.0012	0.026	2
Endosulfan-Sulfate	1	88.85	0.0004	ND	NLE
gamma -Chlordane	1	88.85	0.0006	ND	NLE
alpha-Chlordane	1	88.85	0.0006	ND	NLE
Toxaphene	1	88.85	0.0003	ND	0.1
Arochlor 1016	1	88.85	0.0125	ND	0.49
Arochlor 1221	1	88.85	0.0229	ND	0.49
Arochlor 1232	1	88.85	0.0156	ND	0.49
Arochlor 1242	1	88.85	0.0178	ND	0.49
Arochlor 1248	1	88.85	0.0071	ND	0.49
Arochlor 1254	1	88.85	0.0045	ND	0.49
Arochlor 1260	1	88.85	0.0040	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4159.24
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/28/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/16/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	18

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	86.74	0.0003	ND	NLE
beta-BHC	1	86.74	0.0003	ND	NLE
gamma-BHC	1	86.74	0.0005	ND	0.52
delta-BHC	1	86.74	0.0005	ND	NLE
Heptachlor	1	86.74	0.0003	ND	0.15
Aldrin	1	86.74	0.0005	ND	0.04
Heptachlor Epoxide	1	86.74	0.0007	ND	NLE
Endosulfan I	1	86.74	0.0006	ND	NLE
4,4'-DDE	1	86.74	0.0005	0.067	2
Dieldrin	1	86.74	0.0006	ND	0.042
Endrin	1	86.74	0.0006	ND	17
Endosulfan II	1	86.74	0.0005	ND	NLE
4,4'-DDD	2	86.74	0.0014	0.119	3
Endrin Aldehyde	1	86.74	0.0006	ND	NLE
4,4'-DDT	1	86.74	0.0012	0.097	2
Endosulfan-Sulfate	1	86.74	0.0005	ND	NLE
gamma -Chlordane	1	86.74	0.0006	ND	NLE
alpha-Chlordane	1	86.74	0.0006	ND	NLE
Toxaphene	1	86.74	0.0003	ND	0.1
Arochlor 1016	1	86.74	0.0127	ND	0.49
Arochlor 1221	1	86.74	0.0233	ND	0.49
Arochlor 1232	1	86.74	0.0159	ND	0.49
Arochlor 1242	1	86.74	0.0181	ND	0.49
Arochlor 1248	1	86.74	0.0072	ND	0.49
Arochlor 1254	1	86.74	0.0045	ND	0.49
Arochlor 1260	1	86.74	0.0041	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4159.26
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/28/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/16/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	19

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	87.20	0.0003	ND	NLE
beta-BHC	1	87.20	0.0003	ND	NLE
gamma-BHC	1	87.20	0.0005	ND	0.52
delta-BHC	1	87.20	0.0005	ND	NLE
Heptachlor	1	87.20	0.0003	ND	0.15
Aldrin	1	87.20	0.0005	ND	0.04
Heptachlor Epoxide	1	87.20	0.0007	ND	NLE
Endosulfan I	1	87.20	0.0006	ND	NLE
4,4'-DDE	1	87.20	0.0005	0.061	2
Dieldrin	1	87.20	0.0006	ND	0.042
Endrin	1	87.20	0.0006	ND	17
Endosulfan II	1	87.20	0.0005	ND	NLE
4,4'-DDD	1	87.20	0.0007	0.088	3
Endrin Aldehyde	1	87.20	0.0006	ND	NLE
4,4'-DDT	1	87.20	0.0013	0.065	2
Endosulfan-Sulfate	1	87.20	0.0005	ND	NLE
gamma -Chlordane	1	87.20	0.0006	ND	NLE
alpha-Chlordane	1	87.20	0.0006	ND	NLE
Toxaphene	1	87.20	0.0003	ND	0.1
Arochlor 1016	1	87.20	0.0128	ND	0.49
Arochlor 1221	1	87.20	0.0236	ND	0.49
Arochlor 1232	1	87.20	0.0160	ND	0.49
Arochlor 1242	1	87.20	0.0183	ND	0.49
Arochlor 1248	1	87.20	0.0073	ND	0.49
Arochlor 1254	1	87.20	0.0046	ND	0.49
Arochlor 1260	1	87.20	0.0041	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4160.02
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/29/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/16/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	20

	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	88.74	0.0003	ND	NLE
beta-BHC	1	88.74	0.0003	ND	NLE
gamma-BHC	1	88.74	0.0004	ND	0.52
delta-BHC	1	88.74	0.0004	ND	NLE
Heptachlor	1	88.74	0.0003	ND	0.15
Aldrin	1	88.74	0.0004	ND	0.04
Heptachlor Epoxide	1	88.74	0.0007	ND	NLE
Endosulfan I	1	88.74	0.0006	ND	NLE
4,4'-DDE	1	88.74	0.0004	0.023	2
Dieldrin	1	88.74	0.0006	ND	0.042
Endrin	1	88.74	0.0006	ND	17
Endosulfan II	1	88.74	0.0004	ND	NLE
4,4'-DDD	1	88.74	0.0007	0.031	3
Endrin Aldehyde	1	88.74	0.0006	ND	NLE
4,4'-DDT	1	88.74	0.0012	0.072	2
Endosulfan-Sulfate	1	88.74	0.0004	ND	NLE
gamma -Chlordane	1	88.74	0.0006	ND	NLE
alpha-Chlordane	1	88.74	0.0006	ND	NLE
Toxaphene	1	88.74	0.0003	ND	0.1
Arochlor 1016	1	88.74	0.0125	ND	0.49
Arochlor 1221	1	88.74	0.0231	ND	0.49
Arochlor 1232	1	88.74	0.0157	ND	0.49
Arochlor 1242	1	88.74	0.0179	ND	0.49
Arochlor 1248	1	88.74	0.0072	ND	0.49
Arochlor 1254	1	88.74	0.0045	ND	0.49
Arochlor 1260	1	88.74	0.0040	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4160.04
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/29/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/16/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	21

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	91.02	0.0003	ND	NLE
beta-BHC	1	91.02	0.0003	ND	NLE
gamma-BHC	1	91.02	0.0004	ND	0.52
delta-BHC	1	91.02	0.0004	ND	NLE
Heptachlor	1	91.02	0.0003	ND	0.15
Aldrin	1	91.02	0.0004	ND	0.04
Heptachlor Epoxide	1	91.02	0.0006	ND	NLE
Endosulfan I	1	91.02	0.0005	ND	NLE
4,4'-DDE	1	91.02	0.0004	0.065	2
Dieldrin	1	91.02	0.0005	ND	0.042
Endrin	1	91.02	0.0005	ND	17
Endosulfan II	1	91.02	0.0004	ND	NLE
4,4'-DDD	1	91.02	0.0006	0.070	3
Endrin Aldehyde	1	91.02	0.0005	ND	NLE
4,4'-DDT	2	91.02	0.0024	0.157	2
Endosulfan-Sulfate	1	91.02	0.0004	ND	NLE
gamma -Chlordane	1	91.02	0.0005	ND	NLE
alpha-Chlordane	1	91.02	0.0005	ND	NLE
Toxaphene	1	91.02	0.0003	ND	0.1
Arochlor 1016	1	91.02	0.0121	ND	0.49
Arochlor 1221	1	91.02	0.0222	ND	0.49
Arochlor 1232	1	91.02	0.0151	ND	0.49
Arochlor 1242	1	91.02	0.0173	ND	0.49
Arochlor 1248	1	91.02	0.0069	ND	0.49
Arochlor 1254	1	91.02	0.0043	ND	0.49
Arochlor 1260	1	91.02	0.0039	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001077

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4160.06
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/29/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/16/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	22

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	86.27	0.0003	ND	NLE
beta-BHC	1	86.27	0.0003	ND	NLE
gamma-BHC	1	86.27	0.0005	ND	0.52
delta-BHC	1	86.27	0.0005	ND	NLE
Heptachlor	1	86.27	0.0003	ND	0.15
Aldrin	1	86.27	0.0005	ND	0.04
Heptachlor Epoxide	1	86.27	0.0007	ND	NLE
Endosulfan I	1	86.27	0.0006	ND	NLE
4,4'-DDE	1	86.27	0.0005	0.021	2
Dieldrin	1	86.27	0.0006	ND	0.042
Endrin	1	86.27	0.0006	ND	17
Endosulfan II	1	86.27	0.0005	ND	NLE
4,4'-DDD	1	86.27	0.0007	0.030	3
Endrin Aldehyde	1	86.27	0.0006	ND	NLE
4,4'-DDT	1	86.27	0.0013	0.030	2
Endosulfan-Sulfate	1	86.27	0.0005	ND	NLE
gamma -Chlordane	1	86.27	0.0006	ND	NLE
alpha-Chlordane	1	86.27	0.0006	ND	NLE
Toxaphene	1	86.27	0.0003	ND	0.1
Arochlor 1016	1	86.27	0.0128	ND	0.49
Arochlor 1221	1	86.27	0.0235	ND	0.49
Arochlor 1232	1	86.27	0.0160	ND	0.49
Arochlor 1242	1	86.27	0.0183	ND	0.49
Arochlor 1248	1	86.27	0.0073	ND	0.49
Arochlor 1254	1	86.27	0.0046	ND	0.49
Arochlor 1260	1	86.27	0.0041	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4160.08
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/29/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/16/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	23

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	88.58	0.0003	ND	NLE
beta-BHC	1	88.58	0.0003	ND	NLE
gamma-BHC	1	88.58	0.0005	ND	0.52
delta-BHC	1	88.58	0.0005	ND	NLE
Heptachlor	1	88.58	0.0003	ND	0.15
Aldrin	1	88.58	0.0005	ND	0.04
Heptachlor Epoxide	1	88.58	0.0007	ND	NLE
Endosulfan I	1	88.58	0.0006	ND	NLE
4,4'-DDE	1	88.58	0.0005	0.023	2
Dieldrin	1	88.58	0.0006	ND	0.042
Endrin	1	88.58	0.0006	ND	17
Endosulfan II	1	88.58	0.0005	ND	NLE
4,4'-DDD	1	88.58	0.0007	0.041	3
Endrin Aldehyde	1	88.58	0.0006	ND	NLE
4,4'-DDT	1	88.58	0.0012	0.026	2
Endosulfan-Sulfate	1	88.58	0.0005	ND	NLE
gamma -Chlordane	1	88.58	0.0006	ND	NLE
alpha-Chlordane	1	88.58	0.0006	ND	NLE
Toxaphene	1	88.58	0.0003	ND	0.1
Arochlor 1016	1	88.58	0.0126	ND	0.49
Arochlor 1221	1	88.58	0.0232	ND	0.49
Arochlor 1232	1	88.58	0.0158	ND	0.49
Arochlor 1242	1	88.58	0.0180	ND	0.49
Arochlor 1248	1	88.58	0.0072	ND	0.49
Arochlor 1254	1	88.58	0.0045	ND	0.49
Arochlor 1260	1	88.58	0.0041	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4160.10
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/29/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/16/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	24

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	87.02	0.0003	ND	NLE
beta-BHC	1	87.02	0.0003	ND	NLE
gamma-BHC	1	87.02	0.0005	ND	0.52
delta-BHC	1	87.02	0.0005	ND	NLE
Heptachlor	1	87.02	0.0003	ND	0.15
Aldrin	1	87.02	0.0005	ND	0.04
Heptachlor Epoxide	1	87.02	0.0007	ND	NLE
Endosulfan I	1	87.02	0.0006	ND	NLE
4,4'-DDE	1	87.02	0.0005	0.012	2
Dieldrin	1	87.02	0.0006	ND	0.042
Endrin	1	87.02	0.0006	ND	17
Endosulfan II	1	87.02	0.0005	ND	NLE
4,4'-DDD	1	87.02	0.0007	0.016	3
Endrin Aldehyde	1	87.02	0.0006	ND	NLE
4,4'-DDT	1	87.02	0.0013	0.025	2
Endosulfan-Sulfate	1	87.02	0.0005	ND	NLE
gamma -Chlordane	1	87.02	0.0006	ND	NLE
alpha-Chlordane	1	87.02	0.0006	ND	NLE
Toxaphene	1	87.02	0.0003	ND	0.1
Arochlor 1016	1	87.02	0.0128	ND	0.49
Arochlor 1221	1	87.02	0.0236	ND	0.49
Arochlor 1232	1	87.02	0.0160	ND	0.49
Arochlor 1242	1	87.02	0.0183	ND	0.49
Arochlor 1248	1	87.02	0.0073	ND	0.49
Arochlor 1254	1	87.02	0.0046	ND	0.49
Arochlor 1260	1	87.02	0.0041	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4160.12
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/29/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/16/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	25

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	88.53	0.0003	ND	NLE
beta-BHC	1	88.53	0.0003	ND	NLE
gamma-BHC	1	88.53	0.0004	ND	0.52
delta-BHC	1	88.53	0.0004	ND	NLE
Heptachlor	1	88.53	0.0003	ND	0.15
Aldrin	1	88.53	0.0004	ND	0.04
Heptachlor Epoxide	1	88.53	0.0007	ND	NLE
Endosulfan I	1	88.53	0.0006	ND	NLE
4,4'-DDE	1	88.53	0.0004	0.013	2
Dieldrin	1	88.53	0.0006	ND	0.042
Endrin	1	88.53	0.0006	ND	17
Endosulfan II	1	88.53	0.0004	ND	NLE
4,4'-DDD	1	88.53	0.0007	0.012	3
Endrin Aldehyde	1	88.53	0.0006	ND	NLE
4,4'-DDT	1	88.53	0.0012	0.034	2
Endosulfan-Sulfate	1	88.53	0.0004	ND	NLE
gamma -Chlordane	1	88.53	0.0006	ND	NLE
alpha-Chlordane	1	88.53	0.0006	ND	NLE
Toxaphene	1	88.53	0.0003	ND	0.1
Arochlor 1016	1	88.53	0.0125	ND	0.49
Arochlor 1221	1	88.53	0.0230	ND	0.49
Arochlor 1232	1	88.53	0.0156	ND	0.49
Arochlor 1242	1	88.53	0.0179	ND	0.49
Arochlor 1248	1	88.53	0.0072	ND	0.49
Arochlor 1254	1	88.53	0.0045	ND	0.49
Arochlor 1260	1	88.53	0.0040	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4160.14
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/29/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/16/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	26

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	87.93	0.0003	ND	NLE
beta-BHC	1	87.93	0.0003	ND	NLE
gamma-BHC	1	87.93	0.0004	ND	0.52
delta-BHC	1	87.93	0.0004	ND	NLE
Heptachlor	1	87.93	0.0003	ND	0.15
Aldrin	1	87.93	0.0004	ND	0.04
Heptachlor Epoxide	1	87.93	0.0007	ND	NLE
Endosulfan I	1	87.93	0.0006	ND	NLE
4,4'-DDE	1	87.93	0.0004	0.020	2
Dieldrin	1	87.93	0.0006	ND	0.042
Endrin	1	87.93	0.0006	ND	17
Endosulfan II	1	87.93	0.0004	ND	NLE
4,4'-DDD	1	87.93	0.0007	0.044	3
Endrin Aldehyde	1	87.93	0.0006	ND	NLE
4,4'-DDT	1	87.93	0.0012	0.079	2
Endosulfan-Sulfate	1	87.93	0.0004	ND	NLE
gamma -Chlordane	1	87.93	0.0006	ND	NLE
alpha-Chlordane	1	87.93	0.0006	ND	NLE
Toxaphene	1	87.93	0.0003	ND	0.1
Arochlor 1016	1	87.93	0.0124	ND	0.49
Arochlor 1221	1	87.93	0.0229	ND	0.49
Arochlor 1232	1	87.93	0.0155	ND	0.49
Arochlor 1242	1	87.93	0.0178	ND	0.49
Arochlor 1248	1	87.93	0.0071	ND	0.49
Arochlor 1254	1	87.93	0.0044	ND	0.49
Arochlor 1260	1	87.93	0.0040	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4160.16
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/29/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/16/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	27

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	86.54	0.0003	ND	NLE
beta-BHC	1	86.54	0.0003	ND	NLE
gamma-BHC	1	86.54	0.0005	ND	0.52
delta-BHC	1	86.54	0.0005	ND	NLE
Heptachlor	1	86.54	0.0003	ND	0.15
Aldrin	1	86.54	0.0005	ND	0.04
Heptachlor Epoxide	1	86.54	0.0007	ND	NLE
Endosulfan I	1	86.54	0.0006	ND	NLE
4,4'-DDE	1	86.54	0.0005	0.029	2
Dieldrin	1	86.54	0.0006	ND	0.042
Endrin	1	86.54	0.0006	ND	17
Endosulfan II	1	86.54	0.0005	ND	NLE
4,4'-DDD	1	86.54	0.0007	0.055	3
Endrin Aldehyde	1	86.54	0.0006	ND	NLE
4,4'-DDT	1	86.54	0.0013	0.033	2
Endosulfan-Sulfate	1	86.54	0.0005	ND	NLE
gamma -Chlordane	1	86.54	0.0006	ND	NLE
alpha-Chlordane	1	86.54	0.0006	ND	NLE
Toxaphene	1	86.54	0.0003	ND	0.1
Arochlor 1016	1	86.54	0.0128	ND	0.49
Arochlor 1221	1	86.54	0.0236	ND	0.49
Arochlor 1232	1	86.54	0.0160	ND	0.49
Arochlor 1242	1	86.54	0.0183	ND	0.49
Arochlor 1248	1	86.54	0.0073	ND	0.49
Arochlor 1254	1	86.54	0.0046	ND	0.49
Arochlor 1260	1	86.54	0.0041	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4160.18
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/29/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/16/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	28

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	87.61	0.0003	ND	NLE
beta-BHC	1	87.61	0.0003	ND	NLE
gamma-BHC	1	87.61	0.0004	ND	0.52
delta-BHC	1	87.61	0.0004	ND	NLE
Heptachlor	1	87.61	0.0003	ND	0.15
Aldrin	1	87.61	0.0004	ND	0.04
Heptachlor Epoxide	1	87.61	0.0007	ND	NLE
Endosulfan I	1	87.61	0.0006	ND	NLE
4,4'-DDE	1	87.61	0.0004	0.015	2
Dieldrin	1	87.61	0.0006	ND	0.042
Endrin	1	87.61	0.0006	ND	17
Endosulfan II	1	87.61	0.0004	ND	NLE
4,4'-DDD	1	87.61	0.0007	0.024	3
Endrin Aldehyde	1	87.61	0.0006	ND	NLE
4,4'-DDT	1	87.61	0.0012	0.026	2
Endosulfan-Sulfate	1	87.61	0.0004	ND	NLE
gamma -Chlordane	1	87.61	0.0006	ND	NLE
alpha-Chlordane	1	87.61	0.0006	ND	NLE
Toxaphene	1	87.61	0.0003	ND	0.1
Arochlor 1016	1	87.61	0.0125	ND	0.49
Arochlor 1221	1	87.61	0.0231	ND	0.49
Arochlor 1232	1	87.61	0.0157	ND	0.49
Arochlor 1242	1	87.61	0.0179	ND	0.49
Arochlor 1248	1	87.61	0.0072	ND	0.49
Arochlor 1254	1	87.61	0.0045	ND	0.49
Arochlor 1260	1	87.61	0.0040	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4160.20
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/29/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/16/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	29

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	87.13	0.0003	ND	NLE
beta-BHC	1	87.13	0.0003	ND	NLE
gamma-BHC	1	87.13	0.0005	ND	0.52
delta-BHC	1	87.13	0.0005	ND	NLE
Heptachlor	1	87.13	0.0003	ND	0.15
Aldrin	1	87.13	0.0005	ND	0.04
Heptachlor Epoxide	1	87.13	0.0007	ND	NLE
Endosulfan I	1	87.13	0.0006	ND	NLE
4,4'-DDE	1	87.13	0.0005	0.006	2
Dieldrin	1	87.13	0.0006	ND	0.042
Endrin	1	87.13	0.0006	ND	17
Endosulfan II	1	87.13	0.0005	ND	NLE
4,4'-DDD	1	87.13	0.0007	0.007	3
Endrin Aldehyde	1	87.13	0.0006	ND	NLE
4,4'-DDT	1	87.13	0.0013	0.027	2
Endosulfan-Sulfate	1	87.13	0.0005	ND	NLE
gamma -Chlordane	1	87.13	0.0006	ND	NLE
alpha-Chlordane	1	87.13	0.0006	ND	NLE
Toxaphene	1	87.13	0.0003	ND	0.1
Arochlor 1016	1	87.13	0.0129	ND	0.49
Arochlor 1221	1	87.13	0.0236	ND	0.49
Arochlor 1232	1	87.13	0.0161	ND	0.49
Arochlor 1242	1	87.13	0.0184	ND	0.49
Arochlor 1248	1	87.13	0.0073	ND	0.49
Arochlor 1254	1	87.13	0.0046	ND	0.49
Arochlor 1260	1	87.13	0.0041	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4162.02
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/30/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/25/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	30

	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	86.41	0.0068	ND	NLE
beta-BHC	20	86.41	0.0068	ND	NLE
gamma-BHC	20	86.41	0.0091	ND	0.52
delta-BHC	20	86.41	0.0091	ND	NLE
Heptachlor	20	86.41	0.0068	ND	0.15
Aldrin	20	86.41	0.0091	ND	0.04
Heptachlor Epoxide	20	86.41	0.0136	ND	NLE
Endosulfan I	20	86.41	0.0113	ND	NLE
4,4'-DDE	20	86.41	0.0091	0.045	2
Dieldrin	20	86.41	0.0113	ND	0.042
Endrin	20	86.41	0.0113	ND	17
Endosulfan II	20	86.41	0.0091	ND	NLE
4,4'-DDD	20	86.41	0.0136	0.084	3
Endrin Aldehyde	20	86.41	0.0113	ND	NLE
4,4'-DDT	20	86.41	0.0249	0.053	2
Endosulfan-Sulfate	20	86.41	0.0091	ND	NLE
gamma -Chlordane	20	86.41	0.0113	ND	NLE
alpha-Chlordane	20	86.41	0.0113	ND	NLE
Toxaphene	20	86.41	0.0068	ND	0.1
Arochlor 1016	20	86.41	0.2539	ND	0.49
Arochlor 1221	20	86.41	0.4670	ND	0.49
Arochlor 1232	20	86.41	0.3174	ND	0.49
Arochlor 1242	20	86.41	0.3627	ND	0.49
Arochlor 1248	20	86.41	0.1451	ND	0.49
Arochlor 1254	20	86.41	0.0907	ND	0.49
Arochlor 1260	20	86.41	0.0816	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4162.04
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/30/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/25/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	31

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	86.72	0.0069	ND	NLE
beta-BHC	20	86.72	0.0069	ND	NLE
gamma-BHC	20	86.72	0.0092	ND	0.52
delta-BHC	20	86.72	0.0092	ND	NLE
Heptachlor	20	86.72	0.0069	ND	0.15
Aldrin	20	86.72	0.0092	ND	0.04
Heptachlor Epoxide	20	86.72	0.0138	ND	NLE
Endosulfan I	20	86.72	0.0115	ND	NLE
4,4'-DDE	20	86.72	0.0092	0.053	2
Dieldrin	20	86.72	0.0115	ND	0.042
Endrin	20	86.72	0.0115	ND	17
Endosulfan II	20	86.72	0.0092	ND	NLE
4,4'-DDD	20	86.72	0.0138	0.099	3
Endrin Aldehyde	20	86.72	0.0115	ND	NLE
4,4'-DDT	20	86.72	0.0253	0.117	2
Endosulfan-Sulfate	20	86.72	0.0092	ND	NLE
gamma -Chlordane	20	86.72	0.0115	ND	NLE
alpha-Chlordane	20	86.72	0.0115	ND	NLE
Toxaphene	20	86.72	0.0069	ND	0.1
Arochlor 1016	20	86.72	0.2578	ND	0.49
Arochlor 1221	20	86.72	0.4741	ND	0.49
Arochlor 1232	20	86.72	0.3222	ND	0.49
Arochlor 1242	20	86.72	0.3683	ND	0.49
Arochlor 1248	20	86.72	0.1473	ND	0.49
Arochlor 1254	20	86.72	0.0921	ND	0.49
Arochlor 1260	20	86.72	0.0829	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4162.06
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/30/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/25/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	32

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	86.19	0.0069	ND	NLE
beta-BHC	20	86.19	0.0069	ND	NLE
gamma-BHC	20	86.19	0.0091	ND	0.52
delta-BHC	20	86.19	0.0091	ND	NLE
Heptachlor	20	86.19	0.0069	ND	0.15
Aldrin	20	86.19	0.0091	ND	0.04
Heptachlor Epoxide	20	86.19	0.0137	ND	NLE
Endosulfan I	20	86.19	0.0114	ND	NLE
4,4'-DDE	20	86.19	0.0091	0.062	2
Dieldrin	20	86.19	0.0114	ND	0.042
Endrin	20	86.19	0.0114	ND	17
Endosulfan II	20	86.19	0.0091	ND	NLE
4,4'-DDD	20	86.19	0.0137	0.117	3
Endrin Aldehyde	20	86.19	0.0114	ND	NLE
4,4'-DDT	20	86.19	0.0251	0.171	2
Endosulfan-Sulfate	20	86.19	0.0091	ND	NLE
gamma -Chlordane	20	86.19	0.0114	ND	NLE
alpha-Chlordane	20	86.19	0.0114	ND	NLE
Toxaphene	20	86.19	0.0069	ND	0.1
Arochlor 1016	20	86.19	0.2558	ND	0.49
Arochlor 1221	20	86.19	0.4705	ND	0.49
Arochlor 1232	20	86.19	0.3197	ND	0.49
Arochlor 1242	20	86.19	0.3654	ND	0.49
Arochlor 1248	20	86.19	0.1462	ND	0.49
Arochlor 1254	20	86.19	0.0914	ND	0.49
Arochlor 1260	20	86.19	0.0822	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4162.08
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/30/98
	Bldg. 173	**Extraction Date:**	12/30/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/25/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	33

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	93.76	0.0064	ND	NLE
beta-BHC	20	93.76	0.0064	ND	NLE
gamma-BHC	20	93.76	0.0085	ND	0.52
delta-BHC	20	93.76	0.0085	ND	NLE
Heptachlor	20	93.76	0.0064	ND	0.15
Aldrin	20	93.76	0.0085	ND	0.04
Heptachlor Epoxide	20	93.76	0.0128	ND	NLE
Endosulfan I	20	93.76	0.0106	ND	NLE
4,4'-DDE	20	93.76	0.0085	0.068	2
Dieldrin	20	93.76	0.0106	ND	0.042
Endrin	20	93.76	0.0106	ND	17
Endosulfan II	20	93.76	0.0085	ND	NLE
4,4'-DDD	20	93.76	0.0128	0.354	3
Endrin Aldehyde	20	93.76	0.0106	ND	NLE
4,4'-DDT	50	93.76	0.0585	4.095	2
Endosulfan-Sulfate	20	93.76	0.0085	ND	NLE
gamma -Chlordane	20	93.76	0.0106	ND	NLE
alpha-Chlordane	20	93.76	0.0106	ND	NLE
Toxaphene	20	93.76	0.0064	ND	0.1
Arochlor 1016	20	93.76	0.2384	ND	0.49
Arochlor 1221	20	93.76	0.4385	ND	0.49
Arochlor 1232	20	93.76	0.2980	ND	0.49
Arochlor 1242	20	93.76	0.3406	ND	0.49
Arochlor 1248	20	93.76	0.1362	ND	0.49
Arochlor 1254	20	93.76	0.0852	ND	0.49
Arochlor 1260	20	93.76	0.0766	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001089

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4162.10
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/30/98
	Bldg. 173	**Extraction Date:**	12/31/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/25/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	34

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	91.35	0.0065	ND	NLE
beta-BHC	20	91.35	0.0065	ND	NLE
gamma-BHC	20	91.35	0.0087	ND	0.52
delta-BHC	20	91.35	0.0087	ND	NLE
Heptachlor	20	91.35	0.0065	ND	0.15
Aldrin	20	91.35	0.0087	ND	0.04
Heptachlor Epoxide	20	91.35	0.0130	ND	NLE
Endosulfan I	20	91.35	0.0109	ND	NLE
4,4'-DDE	20	91.35	0.0087	0.044	2
Dieldrin	20	91.35	0.0109	ND	0.042
Endrin	20	91.35	0.0109	ND	17
Endosulfan II	20	91.35	0.0087	ND	NLE
4,4'-DDD	20	91.35	0.0130	0.049	3
Endrin Aldehyde	20	91.35	0.0109	ND	NLE
4,4'-DDT	20	91.35	0.0239	0.098	2
Endosulfan-Sulfate	20	91.35	0.0087	ND	NLE
gamma -Chlordane	20	91.35	0.0109	ND	NLE
alpha-Chlordane	20	91.35	0.0109	ND	NLE
Toxaphene	20	91.35	0.0065	ND	0.1
Arochlor 1016	20	91.35	0.2433	ND	0.49
Arochlor 1221	20	91.35	0.4474	ND	0.49
Arochlor 1232	20	91.35	0.3041	ND	0.49
Arochlor 1242	20	91.35	0.3475	ND	0.49
Arochlor 1248	20	91.35	0.1390	ND	0.49
Arochlor 1254	20	91.35	0.0869	ND	0.49
Arochlor 1260	20	91.35	0.0782	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4162.12
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/30/98
	Bldg. 173	**Extraction Date:**	12/31/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/25/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	35

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	88.90	0.0067	ND	NLE
beta-BHC	20	88.90	0.0067	ND	NLE
gamma-BHC	20	88.90	0.0089	ND	0.52
delta-BHC	20	88.90	0.0089	ND	NLE
Heptachlor	20	88.90	0.0067	ND	0.15
Aldrin	20	88.90	0.0089	ND	0.04
Heptachlor Epoxide	20	88.90	0.0133	ND	NLE
Endosulfan I	20	88.90	0.0111	ND	NLE
4,4'-DDE	20	88.90	0.0089	0.025	2
Dieldrin	20	88.90	0.0111	ND	0.042
Endrin	20	88.90	0.0111	ND	17
Endosulfan II	20	88.90	0.0089	ND	NLE
4,4'-DDD	20	88.90	0.0133	0.033	3
Endrin Aldehyde	20	88.90	0.0111	ND	NLE
4,4'-DDT	20	88.90	0.0244	0.057	2
Endosulfan-Sulfate	20	88.90	0.0089	ND	NLE
gamma -Chlordane	20	88.90	0.0111	ND	NLE
alpha-Chlordane	20	88.90	0.0111	ND	NLE
Toxaphene	20	88.90	0.0067	ND	0.1
Arochlor 1016	20	88.90	0.2487	ND	0.49
Arochlor 1221	20	88.90	0.4575	ND	0.49
Arochlor 1232	20	88.90	0.3109	ND	0.49
Arochlor 1242	20	88.90	0.3553	ND	0.49
Arochlor 1248	20	88.90	0.1421	ND	0.49
Arochlor 1254	20	88.90	0.0888	ND	0.49
Arochlor 1260	20	88.90	0.0800	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4162.14
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/30/98
	Bldg. 173	**Extraction Date:**	12/31/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/25/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	36

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	86.63	0.0069	ND	NLE
beta-BHC	20	86.63	0.0069	ND	NLE
gamma-BHC	20	86.63	0.0091	ND	0.52
delta-BHC	20	86.63	0.0091	ND	NLE
Heptachlor	20	86.63	0.0069	ND	0.15
Aldrin	20	86.63	0.0091	ND	0.04
Heptachlor Epoxide	20	86.63	0.0137	ND	NLE
Endosulfan I	20	86.63	0.0114	ND	NLE
4,4'-DDE	20	86.63	0.0091	0.054	2
Dieldrin	20	86.63	0.0114	ND	0.042
Endrin	20	86.63	0.0114	ND	17
Endosulfan II	20	86.63	0.0091	ND	NLE
4,4'-DDD	20	86.63	0.0137	0.081	3
Endrin Aldehyde	20	86.63	0.0114	ND	NLE
4,4'-DDT	20	86.63	0.0251	0.108	2
Endosulfan-Sulfate	20	86.63	0.0091	ND	NLE
gamma -Chlordane	20	86.63	0.0114	ND	NLE
alpha-Chlordane	20	86.63	0.0114	ND	NLE
Toxaphene	20	86.63	0.0069	ND	0.1
Arochlor 1016	20	86.63	0.2558	ND	0.49
Arochlor 1221	20	86.63	0.4704	ND	0.49
Arochlor 1232	20	86.63	0.3197	ND	0.49
Arochlor 1242	20	86.63	0.3654	ND	0.49
Arochlor 1248	20	86.63	0.1461	ND	0.49
Arochlor 1254	20	86.63	0.0913	ND	0.49
Arochlor 1260	20	86.63	0.0822	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4162.16
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/30/98
	Bldg. 173	**Extraction Date:**	12/31/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/25/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	37

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	86.81	0.0068	ND	NLE
beta-BHC	20	86.81	0.0068	ND	NLE
gamma-BHC	20	86.81	0.0091	ND	0.52
delta-BHC	20	86.81	0.0091	ND	NLE
Heptachlor	20	86.81	0.0068	ND	0.15
Aldrin	20	86.81	0.0091	ND	0.04
Heptachlor Epoxide	20	86.81	0.0136	ND	NLE
Endosulfan I	20	86.81	0.0113	ND	NLE
4,4'-DDE	20	86.81	0.0091	0.038	2
Dieldrin	20	86.81	0.0113	ND	0.042
Endrin	20	86.81	0.0113	ND	17
Endosulfan II	20	86.81	0.0091	ND	NLE
4,4'-DDD	20	86.81	0.0136	0.061	3
Endrin Aldehyde	20	86.81	0.0113	ND	NLE
4,4'-DDT	20	86.81	0.0249	0.063	2
Endosulfan-Sulfate	20	86.81	0.0091	ND	NLE
gamma -Chlordane	20	86.81	0.0113	ND	NLE
alpha-Chlordane	20	86.81	0.0113	ND	NLE
Toxaphene	20	86.81	0.0068	ND	0.1
Arochlor 1016	20	86.81	0.2535	ND	0.49
Arochlor 1221	20	86.81	0.4662	ND	0.49
Arochlor 1232	20	86.81	0.3168	ND	0.49
Arochlor 1242	20	86.81	0.3621	ND	0.49
Arochlor 1248	20	86.81	0.1448	ND	0.49
Arochlor 1254	20	86.81	0.0905	ND	0.49
Arochlor 1260	20	86.81	0.0815	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4162.18
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/30/98
	Bldg. 173	**Extraction Date:**	12/31/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/25/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	38

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	89.25	0.0067	ND	NLE
beta-BHC	20	89.25	0.0067	ND	NLE
gamma-BHC	20	89.25	0.0089	ND	0.52
delta-BHC	20	89.25	0.0089	ND	NLE
Heptachlor	20	89.25	0.0067	ND	0.15
Aldrin	20	89.25	0.0089	ND	0.04
Heptachlor Epoxide	20	89.25	0.0133	ND	NLE
Endosulfan I	20	89.25	0.0111	ND	NLE
4,4'-DDE	20	89.25	0.0089	0.032	2
Dieldrin	20	89.25	0.0111	ND	0.042
Endrin	20	89.25	0.0111	ND	17
Endosulfan II	20	89.25	0.0089	ND	NLE
4,4'-DDD	20	89.25	0.0133	0.043	3
Endrin Aldehyde	20	89.25	0.0111	ND	NLE
4,4'-DDT	20	89.25	0.0244	0.067	2
Endosulfan-Sulfate	20	89.25	0.0089	ND	NLE
gamma -Chlordane	20	89.25	0.0111	ND	NLE
alpha-Chlordane	20	89.25	0.0111	ND	NLE
Toxaphene	20	89.25	0.0067	ND	0.1
Arochlor 1016	20	89.25	0.2485	ND	0.49
Arochlor 1221	20	89.25	0.4571	ND	0.49
Arochlor 1232	20	89.25	0.3106	ND	0.49
Arochlor 1242	20	89.25	0.3550	ND	0.49
Arochlor 1248	20	89.25	0.1420	ND	0.49
Arochlor 1254	20	89.25	0.0887	ND	0.49
Arochlor 1260	20	89.25	0.0799	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001094

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4162.20
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/30/98
	Bldg. 173	**Extraction Date:**	12/31/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/25/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	39

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	85.18	0.0069	ND	NLE
beta-BHC	20	85.18	0.0069	ND	NLE
gamma-BHC	20	85.18	0.0092	ND	0.52
delta-BHC	20	85.18	0.0092	ND	NLE
Heptachlor	20	85.18	0.0069	ND	0.15
Aldrin	20	85.18	0.0092	ND	0.04
Heptachlor Epoxide	20	85.18	0.0138	ND	NLE
Endosulfan I	20	85.18	0.0115	ND	NLE
4,4'-DDE	20	85.18	0.0092	0.030	2
Dieldrin	20	85.18	0.0115	ND	0.042
Endrin	20	85.18	0.0115	ND	17
Endosulfan II	20	85.18	0.0092	ND	NLE
4,4'-DDD	20	85.18	0.0138	0.042	3
Endrin Aldehyde	20	85.18	0.0115	ND	NLE
4,4'-DDT	20	85.18	0.0254	0.138	2
Endosulfan-Sulfate	20	85.18	0.0092	ND	NLE
gamma -Chlordane	20	85.18	0.0115	ND	NLE
alpha-Chlordane	20	85.18	0.0115	ND	NLE
Toxaphene	20	85.18	0.0069	ND	0.1
Arochlor 1016	20	85.18	0.2583	ND	0.49
Arochlor 1221	20	85.18	0.4751	ND	0.49
Arochlor 1232	20	85.18	0.3229	ND	0.49
Arochlor 1242	20	85.18	0.3690	ND	0.49
Arochlor 1248	20	85.18	0.1476	ND	0.49
Arochlor 1254	20	85.18	0.0923	ND	0.49
Arochlor 1260	20	85.18	0.0830	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4162.22
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/30/98
	Bldg. 173	**Extraction Date:**	12/31/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/25/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	40

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	85.24	0.0069	ND	NLE
beta-BHC	20	85.24	0.0069	ND	NLE
gamma-BHC	20	85.24	0.0092	ND	0.52
delta-BHC	20	85.24	0.0092	ND	NLE
Heptachlor	20	85.24	0.0069	ND	0.15
Aldrin	20	85.24	0.0092	ND	0.04
Heptachlor Epoxide	20	85.24	0.0138	ND	NLE
Endosulfan I	20	85.24	0.0115	ND	NLE
4,4'-DDE	20	85.24	0.0092	0.052	2
Dieldrin	20	85.24	0.0115	ND	0.042
Endrin	20	85.24	0.0115	ND	17
Endosulfan II	20	85.24	0.0092	ND	NLE
4,4'-DDD	20	85.24	0.0138	0.077	3
Endrin Aldehyde	20	85.24	0.0115	ND	NLE
4,4'-DDT	20	85.24	0.0252	0.293	2
Endosulfan-Sulfate	20	85.24	0.0092	ND	NLE
gamma -Chlordane	20	85.24	0.0115	ND	NLE
alpha-Chlordane	20	85.24	0.0115	ND	NLE
Toxaphene	20	85.24	0.0069	ND	0.1
Arochlor 1016	20	85.24	0.2569	ND	0.49
Arochlor 1221	20	85.24	0.4725	ND	0.49
Arochlor 1232	20	85.24	0.3211	ND	0.49
Arochlor 1242	20	85.24	0.3670	ND	0.49
Arochlor 1248	20	85.24	0.1468	ND	0.49
Arochlor 1254	20	85.24	0.0917	ND	0.49
Arochlor 1260	20	85.24	0.0826	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001096

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4162.24
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/30/98
	Bldg. 173	**Extraction Date:**	12/31/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/25/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	41

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	85.54	0.0070	ND	NLE
beta-BHC	20	85.54	0.0070	ND	NLE
gamma-BHC	20	85.54	0.0093	ND	0.52
delta-BHC	20	85.54	0.0093	ND	NLE
Heptachlor	20	85.54	0.0070	ND	0.15
Aldrin	20	85.54	0.0093	ND	0.04
Heptachlor Epoxide	20	85.54	0.0139	ND	NLE
Endosulfan I	20	85.54	0.0116	ND	NLE
4,4'-DDE	20	85.54	0.0093	0.032	2
Dieldrin	20	85.54	0.0116	ND	0.042
Endrin	20	85.54	0.0116	ND	17
Endosulfan II	20	85.54	0.0093	ND	NLE
4,4'-DDD	20	85.54	0.0139	0.043	3
Endrin Aldehyde	20	85.54	0.0116	ND	NLE
4,4'-DDT	20	85.54	0.0256	0.114	2
Endosulfan-Sulfate	20	85.54	0.0093	ND	NLE
gamma -Chlordane	20	85.54	0.0116	ND	NLE
alpha-Chlordane	20	85.54	0.0116	ND	NLE
Toxaphene	20	85.54	0.0070	ND	0.1
Arochlor 1016	20	85.54	0.2603	ND	0.49
Arochlor 1221	20	85.54	0.4788	ND	0.49
Arochlor 1232	20	85.54	0.3254	ND	0.49
Arochlor 1242	20	85.54	0.3719	ND	0.49
Arochlor 1248	20	85.54	0.1487	ND	0.49
Arochlor 1254	20	85.54	0.0930	ND	0.49
Arochlor 1260	20	85.54	0.0837	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4162.26
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/30/98
	Bldg. 173	**Extraction Date:**	12/31/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/25/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	42

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	83.75	0.0071	ND	NLE
beta-BHC	20	83.75	0.0071	ND	NLE
gamma-BHC	20	83.75	0.0094	ND	0.52
delta-BHC	20	83.75	0.0094	ND	NLE
Heptachlor	20	83.75	0.0071	ND	0.15
Aldrin	20	83.75	0.0094	ND	0.04
Heptachlor Epoxide	20	83.75	0.0141	ND	NLE
Endosulfan I	20	83.75	0.0118	ND	NLE
4,4'-DDE	20	83.75	0.0094	ND	2
Dieldrin	20	83.75	0.0118	ND	0.042
Endrin	20	83.75	0.0118	ND	17
Endosulfan II	20	83.75	0.0094	ND	NLE
4,4'-DDD	20	83.75	0.0141	ND	3
Endrin Aldehyde	20	83.75	0.0118	ND	NLE
4,4'-DDT	20	83.75	0.0259	0.039	2
Endosulfan-Sulfate	20	83.75	0.0094	ND	NLE
gamma -Chlordane	20	83.75	0.0118	ND	NLE
alpha-Chlordane	20	83.75	0.0118	ND	NLE
Toxaphene	20	83.75	0.0071	ND	0.1
Arochlor 1016	20	83.75	0.2633	ND	0.49
Arochlor 1221	20	83.75	0.4842	ND	0.49
Arochlor 1232	20	83.75	0.3291	ND	0.49
Arochlor 1242	20	83.75	0.3761	ND	0.49
Arochlor 1248	20	83.75	0.1504	ND	0.49
Arochlor 1254	20	83.75	0.0940	ND	0.49
Arochlor 1260	20	83.75	0.0846	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4162.28
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/30/98
	Bldg. 173	**Extraction Date:**	12/31/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/25/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	43

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	86.05	0.0069	ND	NLE
beta-BHC	20	86.05	0.0069	ND	NLE
gamma-BHC	20	86.05	0.0093	ND	0.52
delta-BHC	20	86.05	0.0093	ND	NLE
Heptachlor	20	86.05	0.0069	ND	0.15
Aldrin	20	86.05	0.0093	ND	0.04
Heptachlor Epoxide	20	86.05	0.0139	ND	NLE
Endosulfan I	20	86.05	0.0116	ND	NLE
4,4'-DDE	20	86.05	0.0093	0.028	2
Dieldrin	20	86.05	0.0116	ND	0.042
Endrin	20	86.05	0.0116	ND	17
Endosulfan II	20	86.05	0.0093	ND	NLE
4,4'-DDD	20	86.05	0.0139	0.040	3
Endrin Aldehyde	20	86.05	0.0116	ND	NLE
4,4'-DDT	20	86.05	0.0254	0.100	2
Endosulfan-Sulfate	20	86.05	0.0093	ND	NLE
gamma -Chlordane	20	86.05	0.0116	ND	NLE
alpha-Chlordane	20	86.05	0.0116	ND	NLE
Toxaphene	20	86.05	0.0069	ND	0.1
Arochlor 1016	20	86.05	0.2590	ND	0.49
Arochlor 1221	20	86.05	0.4764	ND	0.49
Arochlor 1232	20	86.05	0.3238	ND	0.49
Arochlor 1242	20	86.05	0.3700	ND	0.49
Arochlor 1248	20	86.05	0.1480	ND	0.49
Arochlor 1254	20	86.05	0.0925	ND	0.49
Arochlor 1260	20	86.05	0.0833	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4162.30
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/30/98
	Bldg. 173	**Extraction Date:**	12/31/98
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/25/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	44

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	85.25	0.0069	ND	NLE
beta-BHC	20	85.25	0.0069	ND	NLE
gamma-BHC	20	85.25	0.0092	ND	0.52
delta-BHC	20	85.25	0.0092	ND	NLE
Heptachlor	20	85.25	0.0069	ND	0.15
Aldrin	20	85.25	0.0092	ND	0.04
Heptachlor Epoxide	20	85.25	0.0138	ND	NLE
Endosulfan I	20	85.25	0.0115	ND	NLE
4,4'-DDE	20	85.25	0.0092	0.055	2
Dieldrin	20	85.25	0.0115	ND	0.042
Endrin	20	85.25	0.0115	ND	17
Endosulfan II	20	85.25	0.0092	ND	NLE
4,4'-DDD	20	85.25	0.0138	0.068	3
Endrin Aldehyde	20	85.25	0.0115	ND	NLE
4,4'-DDT	20	85.25	0.0254	0.123	2
Endosulfan-Sulfate	20	85.25	0.0092	ND	NLE
gamma -Chlordane	20	85.25	0.0115	ND	NLE
alpha-Chlordane	20	85.25	0.0115	ND	NLE
Toxaphene	20	85.25	0.0069	ND	0.1
Arochlor 1016	20	85.25	0.2581	ND	0.49
Arochlor 1221	20	85.25	0.4747	ND	0.49
Arochlor 1232	20	85.25	0.3226	ND	0.49
Arochlor 1242	20	85.25	0.3687	ND	0.49
Arochlor 1248	20	85.25	0.1475	ND	0.49
Arochlor 1254	20	85.25	0.0922	ND	0.49
Arochlor 1260	20	85.25	0.0830	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4164.02
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/31/98
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/26/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	45

	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	85.59	0.0076	ND	NLE
beta-BHC	20	85.59	0.0076	ND	NLE
gamma-BHC	20	85.59	0.0101	ND	0.52
delta-BHC	20	85.59	0.0101	ND	NLE
Heptachlor	20	85.59	0.0076	ND	0.15
Aldrin	20	85.59	0.0101	ND	0.04
Heptachlor Epoxide	20	85.59	0.0152	ND	NLE
Endosulfan I	20	85.59	0.0126	ND	NLE
4,4'-DDE	20	85.59	0.0101	0.037	2
Dieldrin	20	85.59	0.0126	ND	0.042
Endrin	20	85.59	0.0126	ND	17
Endosulfan II	20	85.59	0.0101	ND	NLE
4,4'-DDD	20	85.59	0.0152	0.038	3
Endrin Aldehyde	20	85.59	0.0126	ND	NLE
4,4'-DDT	20	85.59	0.0278	0.134	2
Endosulfan-Sulfate	20	85.59	0.0101	ND	NLE
gamma -Chlordane	20	85.59	0.0126	ND	NLE
alpha-Chlordane	20	85.59	0.0126	ND	NLE
Toxaphene	20	85.59	0.0076	ND	0.1
Arochlor 1016	20	85.59	0.2832	ND	0.49
Arochlor 1221	20	85.59	0.5210	ND	0.49
Arochlor 1232	20	85.59	0.3540	ND	0.49
Arochlor 1242	20	85.59	0.4046	ND	0.49
Arochlor 1248	20	85.59	0.1619	ND	0.49
Arochlor 1254	20	85.59	0.1012	ND	0.49
Arochlor 1260	20	85.59	0.0910	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001101

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4164.04
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/31/98
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/26/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	46

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	84.83	0.0065	ND	NLE
beta-BHC	20	84.83	0.0065	ND	NLE
gamma-BHC	20	84.83	0.0086	ND	0.52
delta-BHC	20	84.83	0.0086	ND	NLE
Heptachlor	20	84.83	0.0065	ND	0.15
Aldrin	20	84.83	0.0086	ND	0.04
Heptachlor Epoxide	20	84.83	0.0130	ND	NLE
Endosulfan I	20	84.83	0.0108	ND	NLE
4,4'-DDE	20	84.83	0.0086	0.030	2
Dieldrin	20	84.83	0.0108	ND	0.042
Endrin	20	84.83	0.0108	ND	17
Endosulfan II	20	84.83	0.0086	ND	NLE
4,4'-DDD	20	84.83	0.0130	0.056	3
Endrin Aldehyde	20	84.83	0.0108	ND	NLE
4,4'-DDT	20	84.83	0.0238	0.175	2
Endosulfan-Sulfate	20	84.83	0.0086	ND	NLE
gamma -Chlordane	20	84.83	0.0108	ND	NLE
alpha-Chlordane	20	84.83	0.0108	ND	NLE
Toxaphene	20	84.83	0.0065	ND	0.1
Arochlor 1016	20	84.83	0.2420	ND	0.49
Arochlor 1221	20	84.83	0.4452	ND	0.49
Arochlor 1232	20	84.83	0.3025	ND	0.49
Arochlor 1242	20	84.83	0.3458	ND	0.49
Arochlor 1248	20	84.83	0.1383	ND	0.49
Arochlor 1254	20	84.83	0.0864	ND	0.49
Arochlor 1260	20	84.83	0.0778	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4164.06
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/31/98
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/26/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	47

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	85.16	0.0069	ND	NLE
beta-BHC	20	85.16	0.0069	ND	NLE
gamma-BHC	20	85.16	0.0092	ND	0.52
delta-BHC	20	85.16	0.0092	ND	NLE
Heptachlor	20	85.16	0.0069	ND	0.15
Aldrin	20	85.16	0.0092	ND	0.04
Heptachlor Epoxide	20	85.16	0.0138	ND	NLE
Endosulfan I	20	85.16	0.0115	ND	NLE
4,4'-DDE	20	85.16	0.0092	0.036	2
Dieldrin	20	85.16	0.0115	ND	0.042
Endrin	20	85.16	0.0115	ND	17
Endosulfan II	20	85.16	0.0092	ND	NLE
4,4'-DDD	20	85.16	0.0138	0.039	3
Endrin Aldehyde	20	85.16	0.0115	ND	NLE
4,4'-DDT	20	85.16	0.0254	0.077	2
Endosulfan-Sulfate	20	85.16	0.0092	ND	NLE
gamma -Chlordane	20	85.16	0.0115	ND	NLE
alpha-Chlordane	20	85.16	0.0115	ND	NLE
Toxaphene	20	85.16	0.0069	ND	0.1
Arochlor 1016	20	85.16	0.2584	ND	0.49
Arochlor 1221	20	85.16	0.4752	ND	0.49
Arochlor 1232	20	85.16	0.3230	ND	0.49
Arochlor 1242	20	85.16	0.3691	ND	0.49
Arochlor 1248	20	85.16	0.1476	ND	0.49
Arochlor 1254	20	85.16	0.0923	ND	0.49
Arochlor 1260	20	85.16	0.0831	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4164.08
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/31/98
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/26/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	48

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	85.71	0.0070	ND	NLE
beta-BHC	20	85.71	0.0070	ND	NLE
gamma-BHC	20	85.71	0.0093	ND	0.52
delta-BHC	20	85.71	0.0093	ND	NLE
Heptachlor	20	85.71	0.0070	ND	0.15
Aldrin	20	85.71	0.0093	ND	0.04
Heptachlor Epoxide	20	85.71	0.0139	ND	NLE
Endosulfan I	20	85.71	0.0116	ND	NLE
4,4'-DDE	20	85.71	0.0093	0.034	2
Dieldrin	20	85.71	0.0116	ND	0.042
Endrin	20	85.71	0.0116	ND	17
Endosulfan II	20	85.71	0.0093	ND	NLE
4,4'-DDD	20	85.71	0.0139	0.165	3
Endrin Aldehyde	20	85.71	0.0116	ND	NLE
4,4'-DDT	20	85.71	0.0256	0.044	2
Endosulfan-Sulfate	20	85.71	0.0093	ND	NLE
gamma -Chlordane	20	85.71	0.0116	ND	NLE
alpha-Chlordane	20	85.71	0.0116	ND	NLE
Toxaphene	20	85.71	0.0070	ND	0.1
Arochlor 1016	20	85.71	0.2603	ND	0.49
Arochlor 1221	20	85.71	0.4788	ND	0.49
Arochlor 1232	20	85.71	0.3254	ND	0.49
Arochlor 1242	20	85.71	0.3719	ND	0.49
Arochlor 1248	20	85.71	0.1487	ND	0.49
Arochlor 1254	20	85.71	0.0930	ND	0.49
Arochlor 1260	20	85.71	0.0837	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4164.10
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/31/98
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/26/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	49

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	84.60	0.0065	ND	NLE
beta-BHC	20	84.60	0.0065	ND	NLE
gamma-BHC	20	84.60	0.0087	ND	0.52
delta-BHC	20	84.60	0.0087	ND	NLE
Heptachlor	20	84.60	0.0065	ND	0.15
Aldrin	20	84.60	0.0087	ND	0.04
Heptachlor Epoxide	20	84.60	0.0130	ND	NLE
Endosulfan I	20	84.60	0.0108	ND	NLE
4,4'-DDE	20	84.60	0.0087	0.010	2
Dieldrin	20	84.60	0.0108	ND	0.042
Endrin	20	84.60	0.0108	ND	17
Endosulfan II	20	84.60	0.0087	ND	NLE
4,4'-DDD	20	84.60	0.0130	ND	3
Endrin Aldehyde	20	84.60	0.0108	ND	NLE
4,4'-DDT	20	84.60	0.0238	0.031	2
Endosulfan-Sulfate	20	84.60	0.0087	ND	NLE
gamma -Chlordane	20	84.60	0.0108	ND	NLE
alpha-Chlordane	20	84.60	0.0108	ND	NLE
Toxaphene	20	84.60	0.0065	ND	0.1
Arochlor 1016	20	84.60	0.2425	ND	0.49
Arochlor 1221	20	84.60	0.4460	ND	0.49
Arochlor 1232	20	84.60	0.3031	ND	0.49
Arochlor 1242	20	84.60	0.3464	ND	0.49
Arochlor 1248	20	84.60	0.1386	ND	0.49
Arochlor 1254	20	84.60	0.0866	ND	0.49
Arochlor 1260	20	84.60	0.0779	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4164.12
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/31/98
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/26/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	50

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	86.67	0.0066	ND	NLE
beta-BHC	20	86.67	0.0066	ND	NLE
gamma-BHC	20	86.67	0.0088	ND	0.52
delta-BHC	20	86.67	0.0088	ND	NLE
Heptachlor	20	86.67	0.0066	ND	0.15
Aldrin	20	86.67	0.0088	ND	0.04
Heptachlor Epoxide	20	86.67	0.0132	ND	NLE
Endosulfan I	20	86.67	0.0110	ND	NLE
4,4'-DDE	20	86.67	0.0088	0.028	2
Dieldrin	20	86.67	0.0110	ND	0.042
Endrin	20	86.67	0.0110	ND	17
Endosulfan II	20	86.67	0.0088	ND	NLE
4,4'-DDD	20	86.67	0.0132	0.034	3
Endrin Aldehyde	20	86.67	0.0110	ND	NLE
4,4'-DDT	20	86.67	0.0242	0.042	2
Endosulfan-Sulfate	20	86.67	0.0088	ND	NLE
gamma -Chlordane	20	86.67	0.0110	ND	NLE
alpha-Chlordane	20	86.67	0.0110	ND	NLE
Toxaphene	20	86.67	0.0066	ND	0.1
Arochlor 1016	20	86.67	0.2461	ND	0.49
Arochlor 1221	20	86.67	0.4527	ND	0.49
Arochlor 1232	20	86.67	0.3077	ND	0.49
Arochlor 1242	20	86.67	0.3516	ND	0.49
Arochlor 1248	20	86.67	0.1407	ND	0.49
Arochlor 1254	20	86.67	0.0879	ND	0.49
Arochlor 1260	20	86.67	0.0791	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4164.14
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/31/98
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/29/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	51

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	85.56	0.0067	ND	NLE
beta-BHC	20	85.56	0.0067	ND	NLE
gamma-BHC	20	85.56	0.0090	ND	0.52
delta-BHC	20	85.56	0.0090	ND	NLE
Heptachlor	20	85.56	0.0067	ND	0.15
Aldrin	20	85.56	0.0090	ND	0.04
Heptachlor Epoxide	20	85.56	0.0135	ND	NLE
Endosulfan I	20	85.56	0.0112	ND	NLE
4,4'-DDE	20	85.56	0.0090	ND	2
Dieldrin	20	85.56	0.0112	ND	0.042
Endrin	20	85.56	0.0112	ND	17
Endosulfan II	20	85.56	0.0090	ND	NLE
4,4'-DDD	20	85.56	0.0135	ND	3
Endrin Aldehyde	20	85.56	0.0112	ND	NLE
4,4'-DDT	20	85.56	0.0247	ND	2
Endosulfan-Sulfate	20	85.56	0.0090	ND	NLE
gamma -Chlordane	20	85.56	0.0112	ND	NLE
alpha-Chlordane	20	85.56	0.0112	ND	NLE
Toxaphene	20	85.56	0.0067	ND	0.1
Arochlor 1016	20	85.56	0.2517	ND	0.49
Arochlor 1221	20	85.56	0.4630	ND	0.49
Arochlor 1232	20	85.56	0.3147	ND	0.49
Arochlor 1242	20	85.56	0.3596	ND	0.49
Arochlor 1248	20	85.56	0.1438	ND	0.49
Arochlor 1254	20	85.56	0.0899	ND	0.49
Arochlor 1260	20	85.56	0.0809	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4164.16
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/31/98
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/29/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	52

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	82.67	0.0066	ND	NLE
beta-BHC	20	82.67	0.0066	ND	NLE
gamma-BHC	20	82.67	0.0088	ND	0.52
delta-BHC	20	82.67	0.0088	ND	NLE
Heptachlor	20	82.67	0.0066	ND	0.15
Aldrin	20	82.67	0.0088	ND	0.04
Heptachlor Epoxide	20	82.67	0.0133	ND	NLE
Endosulfan I	20	82.67	0.0110	ND	NLE
4,4'-DDE	20	82.67	0.0088	ND	2
Dieldrin	20	82.67	0.0110	ND	0.042
Endrin	20	82.67	0.0110	ND	17
Endosulfan II	20	82.67	0.0088	ND	NLE
4,4'-DDD	20	82.67	0.0133	ND	3
Endrin Aldehyde	20	82.67	0.0110	ND	NLE
4,4'-DDT	20	82.67	0.0243	ND	2
Endosulfan-Sulfate	20	82.67	0.0088	ND	NLE
gamma -Chlordane	20	82.67	0.0110	ND	NLE
alpha-Chlordane	20	82.67	0.0110	ND	NLE
Toxaphene	20	82.67	0.0066	ND	0.1
Arochlor 1016	20	82.67	0.2474	ND	0.49
Arochlor 1221	20	82.67	0.4551	ND	0.49
Arochlor 1232	20	82.67	0.3093	ND	0.49
Arochlor 1242	20	82.67	0.3535	ND	0.49
Arochlor 1248	20	82.67	0.1414	ND	0.49
Arochlor 1254	20	82.67	0.0884	ND	0.49
Arochlor 1260	20	82.67	0.0795	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4164.18
	DPW. SELFM-PW-EV	**Date Rec'd:**	12/31/98
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/29/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	53

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	84.81	0.0066	ND	NLE
beta-BHC	20	84.81	0.0066	ND	NLE
gamma-BHC	20	84.81	0.0088	ND	0.52
delta-BHC	20	84.81	0.0088	ND	NLE
Heptachlor	20	84.81	0.0066	ND	0.15
Aldrin	20	84.81	0.0088	ND	0.04
Heptachlor Epoxide	20	84.81	0.0131	ND	NLE
Endosulfan I	20	84.81	0.0109	ND	NLE
4,4'-DDE	20	84.81	0.0088	0.038	2
Dieldrin	20	84.81	0.0109	ND	0.042
Endrin	20	84.81	0.0109	ND	17
Endosulfan II	20	84.81	0.0088	ND	NLE
4,4'-DDD	20	84.81	0.0131	ND	3
Endrin Aldehyde	20	84.81	0.0109	ND	NLE
4,4'-DDT	20	84.81	0.0241	0.046	2
Endosulfan-Sulfate	20	84.81	0.0088	ND	NLE
gamma -Chlordane	20	84.81	0.0109	ND	NLE
alpha-Chlordane	20	84.81	0.0109	ND	NLE
Toxaphene	20	84.81	0.0066	ND	0.1
Arochlor 1016	20	84.81	0.2452	ND	0.49
Arochlor 1221	20	84.81	0.4511	ND	0.49
Arochlor 1232	20	84.81	0.3065	ND	0.49
Arochlor 1242	20	84.81	0.3503	ND	0.49
Arochlor 1248	20	84.81	0.1401	ND	0.49
Arochlor 1254	20	84.81	0.0876	ND	0.49
Arochlor 1260	20	84.81	0.0788	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4169.02
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/5/99
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/29/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	54

	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	88.00	0.0068	ND	NLE
beta-BHC	20	88.00	0.0068	ND	NLE
gamma-BHC	20	88.00	0.0091	ND	0.52
delta-BHC	20	88.00	0.0091	ND	NLE
Heptachlor	20	88.00	0.0068	ND	0.15
Aldrin	20	88.00	0.0091	ND	0.04
Heptachlor Epoxide	20	88.00	0.0136	ND	NLE
Endosulfan I	20	88.00	0.0114	ND	NLE
4,4'-DDE	20	88.00	0.0091	0.023	2
Dieldrin	20	88.00	0.0114	ND	0.042
Endrin	20	88.00	0.0114	ND	17
Endosulfan II	20	88.00	0.0091	ND	NLE
4,4'-DDD	20	88.00	0.0136	0.020	3
Endrin Aldehyde	20	88.00	0.0114	ND	NLE
4,4'-DDT	20	88.00	0.0250	ND	2
Endosulfan-Sulfate	20	88.00	0.0091	ND	NLE
gamma -Chlordane	20	88.00	0.0114	ND	NLE
alpha-Chlordane	20	88.00	0.0114	ND	NLE
Toxaphene	20	88.00	0.0068	ND	0.1
Arochlor 1016	20	88.00	0.2545	ND	0.49
Arochlor 1221	20	88.00	0.4682	ND	0.49
Arochlor 1232	20	88.00	0.3182	ND	0.49
Arochlor 1242	20	88.00	0.3636	ND	0.49
Arochlor 1248	20	88.00	0.1455	ND	0.49
Arochlor 1254	20	88.00	0.0909	ND	0.49
Arochlor 1260	20	88.00	0.0818	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4169.04
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/5/99
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/29/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	55

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	82.66	0.0069	ND	NLE
beta-BHC	20	82.66	0.0069	ND	NLE
gamma-BHC	20	82.66	0.0092	ND	0.52
delta-BHC	20	82.66	0.0092	ND	NLE
Heptachlor	20	82.66	0.0069	ND	0.15
Aldrin	20	82.66	0.0092	ND	0.04
Heptachlor Epoxide	20	82.66	0.0138	ND	NLE
Endosulfan I	20	82.66	0.0115	ND	NLE
4,4'-DDE	20	82.66	0.0092	ND	2
Dieldrin	20	82.66	0.0115	ND	0.042
Endrin	20	82.66	0.0115	ND	17
Endosulfan II	20	82.66	0.0092	ND	NLE
4,4'-DDD	20	82.66	0.0138	ND	3
Endrin Aldehyde	20	82.66	0.0115	ND	NLE
4,4'-DDT	20	82.66	0.0253	ND	2
Endosulfan-Sulfate	20	82.66	0.0092	ND	NLE
gamma -Chlordane	20	82.66	0.0115	ND	NLE
alpha-Chlordane	20	82.66	0.0115	ND	NLE
Toxaphene	20	82.66	0.0069	ND	0.1
Arochlor 1016	20	82.66	0.2574	ND	0.49
Arochlor 1221	20	82.66	0.4733	ND	0.49
Arochlor 1232	20	82.66	0.3217	ND	0.49
Arochlor 1242	20	82.66	0.3676	ND	0.49
Arochlor 1248	20	82.66	0.1471	ND	0.49
Arochlor 1254	20	82.66	0.0919	ND	0.49
Arochlor 1260	20	82.66	0.0827	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4169.06
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/5/99
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/29/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	56

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	83.86	0.0071	ND	NLE
beta-BHC	20	83.86	0.0071	ND	NLE
gamma-BHC	20	83.86	0.0094	ND	0.52
delta-BHC	20	83.86	0.0094	ND	NLE
Heptachlor	20	83.86	0.0071	ND	0.15
Aldrin	20	83.86	0.0094	ND	0.04
Heptachlor Epoxide	20	83.86	0.0142	ND	NLE
Endosulfan I	20	83.86	0.0118	ND	NLE
4,4'-DDE	20	83.86	0.0094	ND	2
Dieldrin	20	83.86	0.0118	ND	0.042
Endrin	20	83.86	0.0118	ND	17
Endosulfan II	20	83.86	0.0094	ND	NLE
4,4'-DDD	20	83.86	0.0142	ND	3
Endrin Aldehyde	20	83.86	0.0118	ND	NLE
4,4'-DDT	20	83.86	0.0259	ND	2
Endosulfan-Sulfate	20	83.86	0.0094	ND	NLE
gamma -Chlordane	20	83.86	0.0118	ND	NLE
alpha-Chlordane	20	83.86	0.0118	ND	NLE
Toxaphene	20	83.86	0.0071	ND	0.1
Arochlor 1016	20	83.86	0.2642	ND	0.49
Arochlor 1221	20	83.86	0.4859	ND	0.49
Arochlor 1232	20	83.86	0.3303	ND	0.49
Arochlor 1242	20	83.86	0.3774	ND	0.49
Arochlor 1248	20	83.86	0.1510	ND	0.49
Arochlor 1254	20	83.86	0.0944	ND	0.49
Arochlor 1260	20	83.86	0.0849	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4169.08
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/5/99
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/29/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	57

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	83.66	0.0068	ND	NLE
beta-BHC	20	83.66	0.0068	ND	NLE
gamma-BHC	20	83.66	0.0091	ND	0.52
delta-BHC	20	83.66	0.0091	ND	NLE
Heptachlor	20	83.66	0.0068	ND	0.15
Aldrin	20	83.66	0.0091	ND	0.04
Heptachlor Epoxide	20	83.66	0.0137	ND	NLE
Endosulfan I	20	83.66	0.0114	ND	NLE
4,4'-DDE	20	83.66	0.0091	0.075	2
Dieldrin	20	83.66	0.0114	ND	0.042
Endrin	20	83.66	0.0114	ND	17
Endosulfan II	20	83.66	0.0091	ND	NLE
4,4'-DDD	20	83.66	0.0137	0.030	3
Endrin Aldehyde	20	83.66	0.0114	ND	NLE
4,4'-DDT	20	83.66	0.0251	0.155	2
Endosulfan-Sulfate	20	83.66	0.0091	ND	NLE
gamma -Chlordane	20	83.66	0.0114	ND	NLE
alpha-Chlordane	20	83.66	0.0114	ND	NLE
Toxaphene	20	83.66	0.0068	ND	0.1
Arochlor 1016	20	83.66	0.2552	ND	0.49
Arochlor 1221	20	83.66	0.4695	ND	0.49
Arochlor 1232	20	83.66	0.3191	ND	0.49
Arochlor 1242	20	83.66	0.3646	ND	0.49
Arochlor 1248	20	83.66	0.1459	ND	0.49
Arochlor 1254	20	83.66	0.0912	ND	0.49
Arochlor 1260	20	83.66	0.0820	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4169.10
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/5/99
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/29/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	58

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	85.03	0.0068	ND	NLE
beta-BHC	20	85.03	0.0068	ND	NLE
gamma-BHC	20	85.03	0.0091	ND	0.52
delta-BHC	20	85.03	0.0091	ND	NLE
Heptachlor	20	85.03	0.0068	ND	0.15
Aldrin	20	85.03	0.0091	ND	0.04
Heptachlor Epoxide	20	85.03	0.0137	ND	NLE
Endosulfan I	20	85.03	0.0114	ND	NLE
4,4'-DDE	20	85.03	0.0091	0.017	2
Dieldrin	20	85.03	0.0114	ND	0.042
Endrin	20	85.03	0.0114	ND	17
Endosulfan II	20	85.03	0.0091	ND	NLE
4,4'-DDD	20	85.03	0.0137	0.025	3
Endrin Aldehyde	20	85.03	0.0114	ND	NLE
4,4'-DDT	20	85.03	0.0251	ND	2
Endosulfan-Sulfate	20	85.03	0.0091	ND	NLE
gamma -Chlordane	20	85.03	0.0114	ND	NLE
alpha-Chlordane	20	85.03	0.0114	ND	NLE
Toxaphene	20	85.03	0.0068	ND	0.1
Arochlor 1016	20	85.03	0.2553	ND	0.49
Arochlor 1221	20	85.03	0.4695	ND	0.49
Arochlor 1232	20	85.03	0.3191	ND	0.49
Arochlor 1242	20	85.03	0.3647	ND	0.49
Arochlor 1248	20	85.03	0.1459	ND	0.49
Arochlor 1254	20	85.03	0.0912	ND	0.49
Arochlor 1260	20	85.03	0.0821	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4169.12
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/5/99
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/29/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	59

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	85.74	0.0070	ND	NLE
beta-BHC	20	85.74	0.0070	ND	NLE
gamma-BHC	20	85.74	0.0093	ND	0.52
delta-BHC	20	85.74	0.0093	ND	NLE
Heptachlor	20	85.74	0.0070	ND	0.15
Aldrin	20	85.74	0.0093	ND	0.04
Heptachlor Epoxide	20	85.74	0.0140	ND	NLE
Endosulfan I	20	85.74	0.0117	ND	NLE
4,4'-DDE	20	85.74	0.0093	ND	2
Dieldrin	20	85.74	0.0117	ND	0.042
Endrin	20	85.74	0.0117	ND	17
Endosulfan II	20	85.74	0.0093	ND	NLE
4,4'-DDD	20	85.74	0.0140	ND	3
Endrin Aldehyde	20	85.74	0.0117	ND	NLE
4,4'-DDT	20	85.74	0.0257	ND	2
Endosulfan-Sulfate	20	85.74	0.0093	ND	NLE
gamma -Chlordane	20	85.74	0.0117	ND	NLE
alpha-Chlordane	20	85.74	0.0117	ND	NLE
Toxaphene	20	85.74	0.0070	ND	0.1
Arochlor 1016	20	85.74	0.2618	ND	0.49
Arochlor 1221	20	85.74	0.4815	ND	0.49
Arochlor 1232	20	85.74	0.3272	ND	0.49
Arochlor 1242	20	85.74	0.3740	ND	0.49
Arochlor 1248	20	85.74	0.1496	ND	0.49
Arochlor 1254	20	85.74	0.0935	ND	0.49
Arochlor 1260	20	85.74	0.0841	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4169.14
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/5/99
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/29/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	60

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	84.11	0.0073	ND	NLE
beta-BHC	20	84.11	0.0073	ND	NLE
gamma-BHC	20	84.11	0.0098	ND	0.52
delta-BHC	20	84.11	0.0098	ND	NLE
Heptachlor	20	84.11	0.0073	ND	0.15
Aldrin	20	84.11	0.0098	ND	0.04
Heptachlor Epoxide	20	84.11	0.0146	ND	NLE
Endosulfan I	20	84.11	0.0122	ND	NLE
4,4'-DDE	20	84.11	0.0098	ND	2
Dieldrin	20	84.11	0.0122	ND	0.042
Endrin	20	84.11	0.0122	ND	17
Endosulfan II	20	84.11	0.0098	ND	NLE
4,4'-DDD	20	84.11	0.0146	ND	3
Endrin Aldehyde	20	84.11	0.0122	ND	NLE
4,4'-DDT	20	84.11	0.0268	ND	2
Endosulfan-Sulfate	20	84.11	0.0098	ND	NLE
gamma -Chlordane	20	84.11	0.0122	ND	NLE
alpha-Chlordane	20	84.11	0.0122	ND	NLE
Toxaphene	20	84.11	0.0073	ND	0.1
Arochlor 1016	20	84.11	0.2731	ND	0.49
Arochlor 1221	20	84.11	0.5024	ND	0.49
Arochlor 1232	20	84.11	0.3414	ND	0.49
Arochlor 1242	20	84.11	0.3902	ND	0.49
Arochlor 1248	20	84.11	0.1561	ND	0.49
Arochlor 1254	20	84.11	0.0976	ND	0.49
Arochlor 1260	20	84.11	0.0878	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4169.16
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/5/99
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/29/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	61

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	81.63	0.0068	ND	NLE
beta-BHC	20	81.63	0.0068	ND	NLE
gamma-BHC	20	81.63	0.0090	ND	0.52
delta-BHC	20	81.63	0.0090	ND	NLE
Heptachlor	20	81.63	0.0068	ND	0.15
Aldrin	20	81.63	0.0090	ND	0.04
Heptachlor Epoxide	20	81.63	0.0135	ND	NLE
Endosulfan I	20	81.63	0.0113	ND	NLE
4,4'-DDE	20	81.63	0.0090	0.015	2
Dieldrin	20	81.63	0.0113	ND	0.042
Endrin	20	81.63	0.0113	ND	17
Endosulfan II	20	81.63	0.0090	ND	NLE
4,4'-DDD	20	81.63	0.0135	ND	3
Endrin Aldehyde	20	81.63	0.0113	ND	NLE
4,4'-DDT	20	81.63	0.0248	0.040	2
Endosulfan-Sulfate	20	81.63	0.0090	ND	NLE
gamma -Chlordane	20	81.63	0.0113	ND	NLE
alpha-Chlordane	20	81.63	0.0113	ND	NLE
Toxaphene	20	81.63	0.0068	ND	0.1
Arochlor 1016	20	81.63	0.2529	ND	0.49
Arochlor 1221	20	81.63	0.4652	ND	0.49
Arochlor 1232	20	81.63	0.3161	ND	0.49
Arochlor 1242	20	81.63	0.3613	ND	0.49
Arochlor 1248	20	81.63	0.1445	ND	0.49
Arochlor 1254	20	81.63	0.0903	ND	0.49
Arochlor 1260	20	81.63	0.0813	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4169.18
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/5/99
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/29/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	62

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	86.34	0.0066	ND	NLE
beta-BHC	20	86.34	0.0066	ND	NLE
gamma-BHC	20	86.34	0.0088	ND	0.52
delta-BHC	20	86.34	0.0088	ND	NLE
Heptachlor	20	86.34	0.0066	ND	0.15
Aldrin	20	86.34	0.0088	ND	0.04
Heptachlor Epoxide	20	86.34	0.0132	ND	NLE
Endosulfan I	20	86.34	0.0110	ND	NLE
4,4'-DDE	20	86.34	0.0088	0.013	2
Dieldrin	20	86.34	0.0110	ND	0.042
Endrin	20	86.34	0.0110	ND	17
Endosulfan II	20	86.34	0.0088	ND	NLE
4,4'-DDD	20	86.34	0.0132	0.018	3
Endrin Aldehyde	20	86.34	0.0110	ND	NLE
4,4'-DDT	20	86.34	0.0241	ND	2
Endosulfan-Sulfate	20	86.34	0.0088	ND	NLE
gamma -Chlordane	20	86.34	0.0110	ND	NLE
alpha-Chlordane	20	86.34	0.0110	ND	NLE
Toxaphene	20	86.34	0.0066	ND	0.1
Arochlor 1016	20	86.34	0.2457	ND	0.49
Arochlor 1221	20	86.34	0.4519	ND	0.49
Arochlor 1232	20	86.34	0.3071	ND	0.49
Arochlor 1242	20	86.34	0.3510	ND	0.49
Arochlor 1248	20	86.34	0.1404	ND	0.49
Arochlor 1254	20	86.34	0.0877	ND	0.49
Arochlor 1260	20	86.34	0.0790	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4169.20
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/5/99
	Bldg. 173	**Extraction Date:**	1/6/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/29/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	63

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	83.10	0.0072	ND	NLE
beta-BHC	20	83.10	0.0072	ND	NLE
gamma-BHC	20	83.10	0.0096	ND	0.52
delta-BHC	20	83.10	0.0096	ND	NLE
Heptachlor	20	83.10	0.0072	ND	0.15
Aldrin	20	83.10	0.0096	ND	0.04
Heptachlor Epoxide	20	83.10	0.0143	ND	NLE
Endosulfan I	20	83.10	0.0120	ND	NLE
4,4'-DDE	20	83.10	0.0096	ND	2
Dieldrin	20	83.10	0.0120	ND	0.042
Endrin	20	83.10	0.0120	ND	17
Endosulfan II	20	83.10	0.0096	ND	NLE
4,4'-DDD	20	83.10	0.0143	ND	3
Endrin Aldehyde	20	83.10	0.0120	ND	NLE
4,4'-DDT	20	83.10	0.0263	ND	2
Endosulfan-Sulfate	20	83.10	0.0096	ND	NLE
gamma -Chlordane	20	83.10	0.0120	ND	NLE
alpha-Chlordane	20	83.10	0.0120	ND	NLE
Toxaphene	20	83.10	0.0072	ND	0.1
Arochlor 1016	20	83.10	0.2677	ND	0.49
Arochlor 1221	20	83.10	0.4923	ND	0.49
Arochlor 1232	20	83.10	0.3346	ND	0.49
Arochlor 1242	20	83.10	0.3824	ND	0.49
Arochlor 1248	20	83.10	0.1530	ND	0.49
Arochlor 1254	20	83.10	0.0956	ND	0.49
Arochlor 1260	20	83.10	0.0860	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4169.22
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/5/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/29/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	64

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	79.95	0.0075	ND	NLE
beta-BHC	20	79.95	0.0075	ND	NLE
gamma-BHC	20	79.95	0.0100	ND	0.52
delta-BHC	20	79.95	0.0100	ND	NLE
Heptachlor	20	79.95	0.0075	ND	0.15
Aldrin	20	79.95	0.0100	ND	0.04
Heptachlor Epoxide	20	79.95	0.0150	ND	NLE
Endosulfan I	20	79.95	0.0125	ND	NLE
4,4'-DDE	20	79.95	0.0100	ND	2
Dieldrin	20	79.95	0.0125	ND	0.042
Endrin	20	79.95	0.0125	ND	17
Endosulfan II	20	79.95	0.0100	ND	NLE
4,4'-DDD	20	79.95	0.0150	ND	3
Endrin Aldehyde	20	79.95	0.0125	ND	NLE
4,4'-DDT	20	79.95	0.0275	ND	2
Endosulfan-Sulfate	20	79.95	0.0100	ND	NLE
gamma -Chlordane	20	79.95	0.0125	ND	NLE
alpha-Chlordane	20	79.95	0.0125	ND	NLE
Toxaphene	20	79.95	0.0075	ND	0.1
Arochlor 1016	20	79.95	0.2796	ND	0.49
Arochlor 1221	20	79.95	0.5143	ND	0.49
Arochlor 1232	20	79.95	0.3495	ND	0.49
Arochlor 1242	20	79.95	0.3995	ND	0.49
Arochlor 1248	20	79.95	0.1598	ND	0.49
Arochlor 1254	20	79.95	0.0999	ND	0.49
Arochlor 1260	20	79.95	0.0899	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4169.24
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/5/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/30/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	65

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	86.01	0.0069	ND	NLE
beta-BHC	20	86.01	0.0069	ND	NLE
gamma-BHC	20	86.01	0.0091	ND	0.52
delta-BHC	20	86.01	0.0091	ND	NLE
Heptachlor	20	86.01	0.0069	ND	0.15
Aldrin	20	86.01	0.0091	ND	0.04
Heptachlor Epoxide	20	86.01	0.0137	ND	NLE
Endosulfan I	20	86.01	0.0114	ND	NLE
4,4'-DDE	20	86.01	0.0091	ND	2
Dieldrin	20	86.01	0.0114	ND	0.042
Endrin	20	86.01	0.0114	ND	17
Endosulfan II	20	86.01	0.0091	ND	NLE
4,4'-DDD	20	86.01	0.0137	ND	3
Endrin Aldehyde	20	86.01	0.0114	ND	NLE
4,4'-DDT	20	86.01	0.0251	ND	2
Endosulfan-Sulfate	20	86.01	0.0091	ND	NLE
gamma -Chlordane	20	86.01	0.0114	ND	NLE
alpha-Chlordane	20	86.01	0.0114	ND	NLE
Toxaphene	20	86.01	0.0069	ND	0.1
Arochlor 1016	20	86.01	0.2558	ND	0.49
Arochlor 1221	20	86.01	0.4705	ND	0.49
Arochlor 1232	20	86.01	0.3198	ND	0.49
Arochlor 1242	20	86.01	0.3655	ND	0.49
Arochlor 1248	20	86.01	0.1462	ND	0.49
Arochlor 1254	20	86.01	0.0914	ND	0.49
Arochlor 1260	20	86.01	0.0822	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4169.26
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/5/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/30/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	66

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	83.47	0.0071	ND	NLE
beta-BHC	20	83.47	0.0071	ND	NLE
gamma-BHC	20	83.47	0.0095	ND	0.52
delta-BHC	20	83.47	0.0095	ND	NLE
Heptachlor	20	83.47	0.0071	ND	0.15
Aldrin	20	83.47	0.0095	ND	0.04
Heptachlor Epoxide	20	83.47	0.0143	ND	NLE
Endosulfan I	20	83.47	0.0119	ND	NLE
4,4'-DDE	20	83.47	0.0095	0.693	2
Dieldrin	20	83.47	0.0119	ND	0.042
Endrin	20	83.47	0.0119	ND	17
Endosulfan II	20	83.47	0.0095	ND	NLE
4,4'-DDD	20	83.47	0.0143	0.282	3
Endrin Aldehyde	20	83.47	0.0119	ND	NLE
4,4'-DDT	20	83.47	0.0261	2.590	2
Endosulfan-Sulfate	20	83.47	0.0095	ND	NLE
gamma -Chlordane	20	83.47	0.0119	ND	NLE
alpha-Chlordane	20	83.47	0.0119	ND	NLE
Toxaphene	20	83.47	0.0071	ND	0.1
Arochlor 1016	20	83.47	0.2662	ND	0.49
Arochlor 1221	20	83.47	0.4897	ND	0.49
Arochlor 1232	20	83.47	0.3328	ND	0.49
Arochlor 1242	20	83.47	0.3803	ND	0.49
Arochlor 1248	20	83.47	0.1521	ND	0.49
Arochlor 1254	20	83.47	0.0951	ND	0.49
Arochlor 1260	20	83.47	0.0856	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4169.28
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/5/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/30/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	67

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	82.73	0.0072	ND	NLE
beta-BHC	20	82.73	0.0072	ND	NLE
gamma-BHC	20	82.73	0.0096	ND	0.52
delta-BHC	20	82.73	0.0096	ND	NLE
Heptachlor	20	82.73	0.0072	ND	0.15
Aldrin	20	82.73	0.0096	ND	0.04
Heptachlor Epoxide	20	82.73	0.0144	ND	NLE
Endosulfan I	20	82.73	0.0120	ND	NLE
4,4'-DDE	20	82.73	0.0096	0.015	2
Dieldrin	20	82.73	0.0120	ND	0.042
Endrin	20	82.73	0.0120	ND	17
Endosulfan II	20	82.73	0.0096	ND	NLE
4,4'-DDD	20	82.73	0.0144	0.033	3
Endrin Aldehyde	20	82.73	0.0120	ND	NLE
4,4'-DDT	20	82.73	0.0264	ND	2
Endosulfan-Sulfate	20	82.73	0.0096	ND	NLE
gamma -Chlordane	20	82.73	0.0120	ND	NLE
alpha-Chlordane	20	82.73	0.0120	ND	NLE
Toxaphene	20	82.73	0.0072	ND	0.1
Arochlor 1016	20	82.73	0.2689	ND	0.49
Arochlor 1221	20	82.73	0.4945	ND	0.49
Arochlor 1232	20	82.73	0.3361	ND	0.49
Arochlor 1242	20	82.73	0.3841	ND	0.49
Arochlor 1248	20	82.73	0.1536	ND	0.49
Arochlor 1254	20	82.73	0.0960	ND	0.49
Arochlor 1260	20	82.73	0.0864	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001123

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4169.30
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/5/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/30/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	68

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	81.52	0.0073	ND	NLE
beta-BHC	20	81.52	0.0073	ND	NLE
gamma-BHC	20	81.52	0.0097	ND	0.52
delta-BHC	20	81.52	0.0097	ND	NLE
Heptachlor	20	81.52	0.0073	ND	0.15
Aldrin	20	81.52	0.0097	ND	0.04
Heptachlor Epoxide	20	81.52	0.0146	ND	NLE
Endosulfan I	20	81.52	0.0122	ND	NLE
4,4'-DDE	20	81.52	0.0097	ND	2
Dieldrin	20	81.52	0.0122	ND	0.042
Endrin	20	81.52	0.0122	ND	17
Endosulfan II	20	81.52	0.0097	ND	NLE
4,4'-DDD	20	81.52	0.0146	ND	3
Endrin Aldehyde	20	81.52	0.0122	ND	NLE
4,4'-DDT	20	81.52	0.0268	ND	2
Endosulfan-Sulfate	20	81.52	0.0097	ND	NLE
gamma -Chlordane	20	81.52	0.0122	ND	NLE
alpha-Chlordane	20	81.52	0.0122	ND	NLE
Toxaphene	20	81.52	0.0073	ND	0.1
Arochlor 1016	20	81.52	0.2726	ND	0.49
Arochlor 1221	20	81.52	0.5014	ND	0.49
Arochlor 1232	20	81.52	0.3407	ND	0.49
Arochlor 1242	20	81.52	0.3894	ND	0.49
Arochlor 1248	20	81.52	0.1558	ND	0.49
Arochlor 1254	20	81.52	0.0974	ND	0.49
Arochlor 1260	20	81.52	0.0876	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4169.32
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/5/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/3/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	69

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	83.72	0.0071	ND	NLE
beta-BHC	20	83.72	0.0071	ND	NLE
gamma-BHC	20	83.72	0.0095	ND	0.52
delta-BHC	20	83.72	0.0095	ND	NLE
Heptachlor	20	83.72	0.0071	ND	0.15
Aldrin	20	83.72	0.0095	ND	0.04
Heptachlor Epoxide	20	83.72	0.0142	ND	NLE
Endosulfan I	20	83.72	0.0118	ND	NLE
4,4'-DDE	20	83.72	0.0095	0.019	2
Dieldrin	20	83.72	0.0118	ND	0.042
Endrin	20	83.72	0.0118	ND	17
Endosulfan II	20	83.72	0.0095	ND	NLE
4,4'-DDD	20	83.72	0.0142	0.028	3
Endrin Aldehyde	20	83.72	0.0118	ND	NLE
4,4'-DDT	20	83.72	0.0260	ND	2
Endosulfan-Sulfate	20	83.72	0.0095	ND	NLE
gamma -Chlordane	20	83.72	0.0118	ND	NLE
alpha-Chlordane	20	83.72	0.0118	ND	NLE
Toxaphene	20	83.72	0.0071	ND	0.1
Arochlor 1016	20	83.72	0.2649	ND	0.49
Arochlor 1221	20	83.72	0.4872	ND	0.49
Arochlor 1232	20	83.72	0.3311	ND	0.49
Arochlor 1242	20	83.72	0.3784	ND	0.49
Arochlor 1248	20	83.72	0.1514	ND	0.49
Arochlor 1254	20	83.72	0.0946	ND	0.49
Arochlor 1260	20	83.72	0.0851	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4169.34
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/5/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/30/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	70

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	80.09	0.0073	ND	NLE
beta-BHC	20	80.09	0.0073	ND	NLE
gamma-BHC	20	80.09	0.0097	ND	0.52
delta-BHC	20	80.09	0.0097	ND	NLE
Heptachlor	20	80.09	0.0073	ND	0.15
Aldrin	20	80.09	0.0097	ND	0.04
Heptachlor Epoxide	20	80.09	0.0146	ND	NLE
Endosulfan I	20	80.09	0.0121	ND	NLE
4,4'-DDE	20	80.09	0.0097	ND	2
Dieldrin	20	80.09	0.0121	ND	0.042
Endrin	20	80.09	0.0121	ND	17
Endosulfan II	20	80.09	0.0097	ND	NLE
4,4'-DDD	20	80.09	0.0146	ND	3
Endrin Aldehyde	20	80.09	0.0121	ND	NLE
4,4'-DDT	20	80.09	0.0267	ND	2
Endosulfan-Sulfate	20	80.09	0.0097	ND	NLE
gamma -Chlordane	20	80.09	0.0121	ND	NLE
alpha-Chlordane	20	80.09	0.0121	ND	NLE
Toxaphene	20	80.09	0.0073	ND	0.1
Arochlor 1016	20	80.09	0.2721	ND	0.49
Arochlor 1221	20	80.09	0.5004	ND	0.49
Arochlor 1232	20	80.09	0.3401	ND	0.49
Arochlor 1242	20	80.09	0.3887	ND	0.49
Arochlor 1248	20	80.09	0.1555	ND	0.49
Arochlor 1254	20	80.09	0.0972	ND	0.49
Arochlor 1260	20	80.09	0.0875	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4169.36
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/5/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	1/30/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	71

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	83.97	0.0071	ND	NLE
beta-BHC	20	83.97	0.0071	ND	NLE
gamma-BHC	20	83.97	0.0095	ND	0.52
delta-BHC	20	83.97	0.0095	ND	NLE
Heptachlor	20	83.97	0.0071	ND	0.15
Aldrin	20	83.97	0.0095	ND	0.04
Heptachlor Epoxide	20	83.97	0.0142	ND	NLE
Endosulfan I	20	83.97	0.0119	ND	NLE
4,4'-DDE	20	83.97	0.0095	0.131	2
Dieldrin	20	83.97	0.0119	ND	0.042
Endrin	20	83.97	0.0119	ND	17
Endosulfan II	20	83.97	0.0095	ND	NLE
4,4'-DDD	20	83.97	0.0142	0.101	3
Endrin Aldehyde	20	83.97	0.0119	ND	NLE
4,4'-DDT	20	83.97	0.0261	0.095	2
Endosulfan-Sulfate	20	83.97	0.0095	ND	NLE
gamma -Chlordane	20	83.97	0.0119	0.057	NLE
alpha-Chlordane	20	83.97	0.0119	0.040	NLE
Toxaphene	20	83.97	0.0071	ND	0.1
Arochlor 1016	20	83.97	0.2657	ND	0.49
Arochlor 1221	20	83.97	0.4887	ND	0.49
Arochlor 1232	20	83.97	0.3321	ND	0.49
Arochlor 1242	20	83.97	0.3796	ND	0.49
Arochlor 1248	20	83.97	0.1518	ND	0.49
Arochlor 1254	20	83.97	0.0949	ND	0.49
Arochlor 1260	20	83.97	0.0854	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001127

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4173.02
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/6/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/10/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	72

	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	81.89	0.0004	ND	NLE
beta-BHC	1	81.89	0.0004	ND	NLE
gamma-BHC	1	81.89	0.0005	ND	0.52
delta-BHC	1	81.89	0.0005	ND	NLE
Heptachlor	1	81.89	0.0004	ND	0.15
Aldrin	1	81.89	0.0005	ND	0.04
Heptachlor Epoxide	1	81.89	0.0007	ND	NLE
Endosulfan I	1	81.89	0.0006	ND	NLE
4,4'-DDE	1	81.89	0.0005	0.018	2
Dieldrin	1	81.89	0.0006	ND	0.042
Endrin	1	81.89	0.0006	ND	17
Endosulfan II	1	81.89	0.0005	ND	NLE
4,4'-DDD	1	81.89	0.0007	0.017	3
Endrin Aldehyde	1	81.89	0.0006	ND	NLE
4,4'-DDT	1	81.89	0.0013	0.025	2
Endosulfan-Sulfate	1	81.89	0.0005	ND	NLE
gamma -Chlordane	1	81.89	0.0006	ND	NLE
alpha-Chlordane	1	81.89	0.0006	ND	NLE
Toxaphene	1	81.89	0.0004	ND	0.1
Arochlor 1016	1	81.89	0.0136	ND	0.49
Arochlor 1221	1	81.89	0.0251	ND	0.49
Arochlor 1232	1	81.89	0.0171	ND	0.49
Arochlor 1242	1	81.89	0.0195	ND	0.49
Arochlor 1248	1	81.89	0.0078	ND	0.49
Arochlor 1254	1	81.89	0.0049	ND	0.49
Arochlor 1260	1	81.89	0.0044	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4173.04
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/6/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/10/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	73

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	88.01	0.0003	ND	NLE
beta-BHC	1	88.01	0.0003	ND	NLE
gamma-BHC	1	88.01	0.0004	ND	0.52
delta-BHC	1	88.01	0.0004	ND	NLE
Heptachlor	1	88.01	0.0003	ND	0.15
Aldrin	1	88.01	0.0004	ND	0.04
Heptachlor Epoxide	1	88.01	0.0007	ND	NLE
Endosulfan I	1	88.01	0.0006	ND	NLE
4,4'-DDE	1	88.01	0.0004	0.002	2
Dieldrin	1	88.01	0.0006	ND	0.042
Endrin	1	88.01	0.0006	ND	17
Endosulfan II	1	88.01	0.0004	ND	NLE
4,4'-DDD	1	88.01	0.0007	0.001	3
Endrin Aldehyde	1	88.01	0.0006	ND	NLE
4,4'-DDT	1	88.01	0.0012	ND	2
Endosulfan-Sulfate	1	88.01	0.0004	ND	NLE
gamma -Chlordane	1	88.01	0.0006	ND	NLE
alpha-Chlordane	1	88.01	0.0006	ND	NLE
Toxaphene	1	88.01	0.0003	ND	0.1
Arochlor 1016	1	88.01	0.0125	ND	0.49
Arochlor 1221	1	88.01	0.0230	ND	0.49
Arochlor 1232	1	88.01	0.0156	ND	0.49
Arochlor 1242	1	88.01	0.0179	ND	0.49
Arochlor 1248	1	88.01	0.0072	ND	0.49
Arochlor 1254	1	88.01	0.0045	ND	0.49
Arochlor 1260	1	88.01	0.0040	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4173.06
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/6/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/10/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	74

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	85.90	0.0003	ND	NLE
beta-BHC	1	85.90	0.0003	ND	NLE
gamma-BHC	1	85.90	0.0005	ND	0.52
delta-BHC	1	85.90	0.0005	ND	NLE
Heptachlor	1	85.90	0.0003	ND	0.15
Aldrin	1	85.90	0.0005	ND	0.04
Heptachlor Epoxide	1	85.90	0.0007	ND	NLE
Endosulfan I	1	85.90	0.0006	ND	NLE
4,4'-DDE	1	85.90	0.0005	ND	2
Dieldrin	1	85.90	0.0006	ND	0.042
Endrin	1	85.90	0.0006	ND	17
Endosulfan II	1	85.90	0.0005	ND	NLE
4,4'-DDD	1	85.90	0.0007	0.017	3
Endrin Aldehyde	1	85.90	0.0006	ND	NLE
4,4'-DDT	1	85.90	0.0013	ND	2
Endosulfan-Sulfate	1	85.90	0.0005	ND	NLE
gamma -Chlordane	1	85.90	0.0006	ND	NLE
alpha-Chlordane	1	85.90	0.0006	ND	NLE
Toxaphene	1	85.90	0.0003	ND	0.1
Arochlor 1016	1	85.90	0.0128	ND	0.49
Arochlor 1221	1	85.90	0.0236	ND	0.49
Arochlor 1232	1	85.90	0.0161	ND	0.49
Arochlor 1242	1	85.90	0.0184	ND	0.49
Arochlor 1248	1	85.90	0.0073	ND	0.49
Arochlor 1254	1	85.90	0.0046	ND	0.49
Arochlor 1260	1	85.90	0.0041	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4173.08
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/6/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/10/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	75

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	82.99	0.0004	ND	NLE
beta-BHC	1	82.99	0.0004	ND	NLE
gamma-BHC	1	82.99	0.0005	ND	0.52
delta-BHC	1	82.99	0.0005	ND	NLE
Heptachlor	1	82.99	0.0004	ND	0.15
Aldrin	1	82.99	0.0005	ND	0.04
Heptachlor Epoxide	1	82.99	0.0007	ND	NLE
Endosulfan I	1	82.99	0.0006	ND	NLE
4,4'-DDE	1	82.99	0.0005	0.001	2
Dieldrin	1	82.99	0.0006	ND	0.042
Endrin	1	82.99	0.0006	ND	17
Endosulfan II	1	82.99	0.0005	ND	NLE
4,4'-DDD	1	82.99	0.0007	ND	3
Endrin Aldehyde	1	82.99	0.0006	ND	NLE
4,4'-DDT	1	82.99	0.0013	0.002	2
Endosulfan-Sulfate	1	82.99	0.0005	ND	NLE
gamma -Chlordane	1	82.99	0.0006	ND	NLE
alpha-Chlordane	1	82.99	0.0006	ND	NLE
Toxaphene	1	82.99	0.0004	ND	0.1
Arochlor 1016	1	82.99	0.0134	ND	0.49
Arochlor 1221	1	82.99	0.0247	ND	0.49
Arochlor 1232	1	82.99	0.0168	ND	0.49
Arochlor 1242	1	82.99	0.0192	ND	0.49
Arochlor 1248	1	82.99	0.0077	ND	0.49
Arochlor 1254	1	82.99	0.0048	ND	0.49
Arochlor 1260	1	82.99	0.0043	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4173.10
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/6/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/10/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	76

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	85.29	0.0003	ND	NLE
beta-BHC	1	85.29	0.0003	ND	NLE
gamma-BHC	1	85.29	0.0005	ND	0.52
delta-BHC	1	85.29	0.0005	ND	NLE
Heptachlor	1	85.29	0.0003	ND	0.15
Aldrin	1	85.29	0.0005	ND	0.04
Heptachlor Epoxide	1	85.29	0.0007	ND	NLE
Endosulfan I	1	85.29	0.0006	ND	NLE
4,4'-DDE	1	85.29	0.0005	ND	2
Dieldrin	1	85.29	0.0006	ND	0.042
Endrin	1	85.29	0.0006	ND	17
Endosulfan II	1	85.29	0.0005	ND	NLE
4,4'-DDD	1	85.29	0.0007	ND	3
Endrin Aldehyde	1	85.29	0.0006	ND	NLE
4,4'-DDT	1	85.29	0.0013	ND	2
Endosulfan-Sulfate	1	85.29	0.0005	ND	NLE
gamma -Chlordane	1	85.29	0.0006	ND	NLE
alpha-Chlordane	1	85.29	0.0006	ND	NLE
Toxaphene	1	85.29	0.0003	ND	0.1
Arochlor 1016	1	85.29	0.0129	ND	0.49
Arochlor 1221	1	85.29	0.0238	ND	0.49
Arochlor 1232	1	85.29	0.0162	ND	0.49
Arochlor 1242	1	85.29	0.0185	ND	0.49
Arochlor 1248	1	85.29	0.0074	ND	0.49
Arochlor 1254	1	85.29	0.0046	ND	0.49
Arochlor 1260	1	85.29	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4173.12
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/6/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/10/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	77

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	84.13	0.0003	ND	NLE
beta-BHC	1	84.13	0.0003	ND	NLE
gamma-BHC	1	84.13	0.0005	ND	0.52
delta-BHC	1	84.13	0.0005	ND	NLE
Heptachlor	1	84.13	0.0003	ND	0.15
Aldrin	1	84.13	0.0005	ND	0.04
Heptachlor Epoxide	1	84.13	0.0007	ND	NLE
Endosulfan I	1	84.13	0.0006	ND	NLE
4,4'-DDE	1	84.13	0.0005	0.014	2
Dieldrin	1	84.13	0.0006	ND	0.042
Endrin	1	84.13	0.0006	ND	17
Endosulfan II	1	84.13	0.0005	ND	NLE
4,4'-DDD	1	84.13	0.0007	0.003	3
Endrin Aldehyde	1	84.13	0.0006	ND	NLE
4,4'-DDT	1	84.13	0.0013	0.030	2
Endosulfan-Sulfate	1	84.13	0.0005	ND	NLE
gamma -Chlordane	1	84.13	0.0006	ND	NLE
alpha-Chlordane	1	84.13	0.0006	ND	NLE
Toxaphene	1	84.13	0.0003	ND	0.1
Arochlor 1016	1	84.13	0.0129	ND	0.49
Arochlor 1221	1	84.13	0.0237	ND	0.49
Arochlor 1232	1	84.13	0.0161	ND	0.49
Arochlor 1242	1	84.13	0.0184	ND	0.49
Arochlor 1248	1	84.13	0.0074	ND	0.49
Arochlor 1254	1	84.13	0.0046	ND	0.49
Arochlor 1260	1	84.13	0.0041	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4173.14
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/6/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/10/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	78

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	85.32	0.0003	ND	NLE
beta-BHC	1	85.32	0.0003	ND	NLE
gamma-BHC	1	85.32	0.0005	ND	0.52
delta-BHC	1	85.32	0.0005	ND	NLE
Heptachlor	1	85.32	0.0003	ND	0.15
Aldrin	1	85.32	0.0005	ND	0.04
Heptachlor Epoxide	1	85.32	0.0007	ND	NLE
Endosulfan I	1	85.32	0.0006	ND	NLE
4,4'-DDE	20	85.32	0.0093	0.292	2
Dieldrin	1	85.32	0.0006	ND	0.042
Endrin	1	85.32	0.0006	ND	17
Endosulfan II	1	85.32	0.0005	ND	NLE
4,4'-DDD	20	85.32	0.0140	1.132	3
Endrin Aldehyde	1	85.32	0.0006	ND	NLE
4,4'-DDT	20	85.32	0.0256	0.349	2
Endosulfan-Sulfate	1	85.32	0.0005	ND	NLE
gamma -Chlordane	1	85.32	0.0006	ND	NLE
alpha-Chlordane	1	85.32	0.0006	ND	NLE
Toxaphene	1	85.32	0.0003	ND	0.1
Arochlor 1016	1	85.32	0.0130	ND	0.49
Arochlor 1221	1	85.32	0.0240	ND	0.49
Arochlor 1232	1	85.32	0.0163	ND	0.49
Arochlor 1242	1	85.32	0.0186	ND	0.49
Arochlor 1248	1	85.32	0.0074	ND	0.49
Arochlor 1254	1	85.32	0.0047	ND	0.49
Arochlor 1260	1	85.32	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4173.16
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/6/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/10/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	79

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	82.79	0.0004	ND	NLE
beta-BHC	1	82.79	0.0004	ND	NLE
gamma-BHC	1	82.79	0.0005	ND	0.52
delta-BHC	1	82.79	0.0005	ND	NLE
Heptachlor	1	82.79	0.0004	ND	0.15
Aldrin	1	82.79	0.0005	ND	0.04
Heptachlor Epoxide	1	82.79	0.0007	ND	NLE
Endosulfan I	1	82.79	0.0006	ND	NLE
4,4'-DDE	1	82.79	0.0005	0.022	2
Dieldrin	1	82.79	0.0006	ND	0.042
Endrin	1	82.79	0.0006	ND	17
Endosulfan II	1	82.79	0.0005	ND	NLE
4,4'-DDD	1	82.79	0.0007	0.007	3
Endrin Aldehyde	1	82.79	0.0006	ND	NLE
4,4'-DDT	1	82.79	0.0013	0.062	2
Endosulfan-Sulfate	1	82.79	0.0005	ND	NLE
gamma -Chlordane	1	82.79	0.0006	ND	NLE
alpha-Chlordane	1	82.79	0.0006	ND	NLE
Toxaphene	1	82.79	0.0004	ND	0.1
Arochlor 1016	1	82.79	0.0135	ND	0.49
Arochlor 1221	1	82.79	0.0248	ND	0.49
Arochlor 1232	1	82.79	0.0169	ND	0.49
Arochlor 1242	1	82.79	0.0193	ND	0.49
Arochlor 1248	1	82.79	0.0077	ND	0.49
Arochlor 1254	1	82.79	0.0048	ND	0.49
Arochlor 1260	1	82.79	0.0043	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4173.18
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/6/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/10/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	80

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	85.62	0.0004	ND	NLE
beta-BHC	1	85.62	0.0004	ND	NLE
gamma-BHC	1	85.62	0.0005	ND	0.52
delta-BHC	1	85.62	0.0005	ND	NLE
Heptachlor	1	85.62	0.0004	ND	0.15
Aldrin	1	85.62	0.0005	ND	0.04
Heptachlor Epoxide	1	85.62	0.0007	ND	NLE
Endosulfan I	1	85.62	0.0006	ND	NLE
4,4'-DDE	1	85.62	0.0005	ND	2
Dieldrin	1	85.62	0.0006	ND	0.042
Endrin	1	85.62	0.0006	ND	17
Endosulfan II	1	85.62	0.0005	ND	NLE
4,4'-DDD	1	85.62	0.0007	ND	3
Endrin Aldehyde	1	85.62	0.0006	ND	NLE
4,4'-DDT	1	85.62	0.0013	ND	2
Endosulfan-Sulfate	1	85.62	0.0005	ND	NLE
gamma -Chlordane	1	85.62	0.0006	ND	NLE
alpha-Chlordane	1	85.62	0.0006	ND	NLE
Toxaphene	1	85.62	0.0004	ND	0.1
Arochlor 1016	1	85.62	0.0131	ND	0.49
Arochlor 1221	1	85.62	0.0241	ND	0.49
Arochlor 1232	1	85.62	0.0164	ND	0.49
Arochlor 1242	1	85.62	0.0187	ND	0.49
Arochlor 1248	1	85.62	0.0075	ND	0.49
Arochlor 1254	1	85.62	0.0047	ND	0.49
Arochlor 1260	1	85.62	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4173.20
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/6/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/10/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	81

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	82.42	0.0004	ND	NLE
beta-BHC	1	82.42	0.0004	ND	NLE
gamma-BHC	1	82.42	0.0005	ND	0.52
delta-BHC	1	82.42	0.0005	ND	NLE
Heptachlor	1	82.42	0.0004	ND	0.15
Aldrin	1	82.42	0.0005	ND	0.04
Heptachlor Epoxide	1	82.42	0.0007	ND	NLE
Endosulfan I	1	82.42	0.0006	ND	NLE
4,4'-DDE	1	82.42	0.0005	0.004	2
Dieldrin	1	82.42	0.0006	ND	0.042
Endrin	1	82.42	0.0006	ND	17
Endosulfan II	1	82.42	0.0005	ND	NLE
4,4'-DDD	1	82.42	0.0007	0.001	3
Endrin Aldehyde	1	82.42	0.0006	ND	NLE
4,4'-DDT	1	82.42	0.0013	0.006	2
Endosulfan-Sulfate	1	82.42	0.0005	ND	NLE
gamma -Chlordane	1	82.42	0.0006	ND	NLE
alpha-Chlordane	1	82.42	0.0006	ND	NLE
Toxaphene	1	82.42	0.0004	ND	0.1
Arochlor 1016	1	82.42	0.0133	ND	0.49
Arochlor 1221	1	82.42	0.0245	ND	0.49
Arochlor 1232	1	82.42	0.0166	ND	0.49
Arochlor 1242	1	82.42	0.0190	ND	0.49
Arochlor 1248	1	82.42	0.0076	ND	0.49
Arochlor 1254	1	82.42	0.0047	ND	0.49
Arochlor 1260	1	82.42	0.0043	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4173.22
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/6/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/10/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	82

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	84.20	0.0004	ND	NLE
beta-BHC	1	84.20	0.0004	ND	NLE
gamma-BHC	1	84.20	0.0005	ND	0.52
delta-BHC	1	84.20	0.0005	ND	NLE
Heptachlor	1	84.20	0.0004	ND	0.15
Aldrin	1	84.20	0.0005	ND	0.04
Heptachlor Epoxide	1	84.20	0.0007	ND	NLE
Endosulfan I	1	84.20	0.0006	ND	NLE
4,4'-DDE	1	84.20	0.0005	0.004	2
Dieldrin	1	84.20	0.0006	ND	0.042
Endrin	1	84.20	0.0006	ND	17
Endosulfan II	1	84.20	0.0005	ND	NLE
4,4'-DDD	1	84.20	0.0007	0.001	3
Endrin Aldehyde	1	84.20	0.0006	ND	NLE
4,4'-DDT	1	84.20	0.0013	0.007	2
Endosulfan-Sulfate	1	84.20	0.0005	ND	NLE
gamma -Chlordane	1	84.20	0.0006	ND	NLE
alpha-Chlordane	1	84.20	0.0006	ND	NLE
Toxaphene	1	84.20	0.0004	ND	0.1
Arochlor 1016	1	84.20	0.0132	ND	0.49
Arochlor 1221	1	84.20	0.0243	ND	0.49
Arochlor 1232	1	84.20	0.0165	ND	0.49
Arochlor 1242	1	84.20	0.0189	ND	0.49
Arochlor 1248	1	84.20	0.0075	ND	0.49
Arochlor 1254	1	84.20	0.0047	ND	0.49
Arochlor 1260	1	84.20	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4173.24
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/6/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/10/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	83

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	89.61	0.0003	ND	NLE
beta-BHC	1	89.61	0.0003	ND	NLE
gamma-BHC	1	89.61	0.0004	ND	0.52
delta-BHC	1	89.61	0.0004	ND	NLE
Heptachlor	1	89.61	0.0003	ND	0.15
Aldrin	1	89.61	0.0004	ND	0.04
Heptachlor Epoxide	1	89.61	0.0007	ND	NLE
Endosulfan I	1	89.61	0.0006	ND	NLE
4,4'-DDE	5	89.61	0.0022	0.125	2
Dieldrin	1	89.61	0.0006	ND	0.042
Endrin	1	89.61	0.0006	ND	17
Endosulfan II	1	89.61	0.0004	ND	NLE
4,4'-DDD	1	89.61	0.0007	0.013	3
Endrin Aldehyde	1	89.61	0.0006	ND	NLE
4,4'-DDT	5	89.61	0.0061	0.224	2
Endosulfan-Sulfate	1	89.61	0.0004	ND	NLE
gamma -Chlordane	1	89.61	0.0006	ND	NLE
alpha-Chlordane	1	89.61	0.0006	ND	NLE
Toxaphene	1	89.61	0.0003	ND	0.1
Arochlor 1016	1	89.61	0.0125	ND	0.49
Arochlor 1221	1	89.61	0.0230	ND	0.49
Arochlor 1232	1	89.61	0.0156	ND	0.49
Arochlor 1242	1	89.61	0.0178	ND	0.49
Arochlor 1248	1	89.61	0.0071	ND	0.49
Arochlor 1254	1	89.61	0.0045	ND	0.49
Arochlor 1260	1	89.61	0.0040	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001139

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4173.26
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/6/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/10/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	84

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	90.30	0.0003	ND	NLE
beta-BHC	1	90.30	0.0003	ND	NLE
gamma-BHC	1	90.30	0.0004	ND	0.52
delta-BHC	1	90.30	0.0004	ND	NLE
Heptachlor	1	90.30	0.0003	ND	0.15
Aldrin	1	90.30	0.0004	ND	0.04
Heptachlor Epoxide	1	90.30	0.0007	ND	NLE
Endosulfan I	1	90.30	0.0005	ND	NLE
4,4'-DDE	1	90.30	0.0004	0.046	2
Dieldrin	1	90.30	0.0005	ND	0.042
Endrin	1	90.30	0.0005	ND	17
Endosulfan II	1	90.30	0.0004	ND	NLE
4,4'-DDD	1	90.30	0.0007	0.050	3
Endrin Aldehyde	1	90.30	0.0005	ND	NLE
4,4'-DDT	1	90.30	0.0012	0.047	2
Endosulfan-Sulfate	1	90.30	0.0004	ND	NLE
gamma -Chlordane	1	90.30	0.0005	ND	NLE
alpha-Chlordane	1	90.30	0.0005	ND	NLE
Toxaphene	1	90.30	0.0003	ND	0.1
Arochlor 1016	1	90.30	0.0122	ND	0.49
Arochlor 1221	1	90.30	0.0225	ND	0.49
Arochlor 1232	1	90.30	0.0153	ND	0.49
Arochlor 1242	1	90.30	0.0175	ND	0.49
Arochlor 1248	1	90.30	0.0070	ND	0.49
Arochlor 1254	1	90.30	0.0044	ND	0.49
Arochlor 1260	1	90.30	0.0039	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4173.28
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/6/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/10/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	85

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	81.97	0.0004	ND	NLE
beta-BHC	1	81.97	0.0004	ND	NLE
gamma-BHC	1	81.97	0.0005	ND	0.52
delta-BHC	1	81.97	0.0005	ND	NLE
Heptachlor	1	81.97	0.0004	ND	0.15
Aldrin	1	81.97	0.0005	ND	0.04
Heptachlor Epoxide	1	81.97	0.0007	ND	NLE
Endosulfan I	1	81.97	0.0006	ND	NLE
4,4'-DDE	1	81.97	0.0005	0.015	2
Dieldrin	1	81.97	0.0006	ND	0.042
Endrin	1	81.97	0.0006	ND	17
Endosulfan II	1	81.97	0.0005	ND	NLE
4,4'-DDD	1	81.97	0.0007	0.002	3
Endrin Aldehyde	1	81.97	0.0006	ND	NLE
4,4'-DDT	1	81.97	0.0013	0.021	2
Endosulfan-Sulfate	1	81.97	0.0005	ND	NLE
gamma -Chlordane	1	81.97	0.0006	ND	NLE
alpha-Chlordane	1	81.97	0.0006	ND	NLE
Toxaphene	1	81.97	0.0004	ND	0.1
Arochlor 1016	1	81.97	0.0136	ND	0.49
Arochlor 1221	1	81.97	0.0250	ND	0.49
Arochlor 1232	1	81.97	0.0170	ND	0.49
Arochlor 1242	1	81.97	0.0194	ND	0.49
Arochlor 1248	1	81.97	0.0078	ND	0.49
Arochlor 1254	1	81.97	0.0049	ND	0.49
Arochlor 1260	1	81.97	0.0044	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001141

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4173.30
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/6/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/10/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	86

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	83.72	0.0004	ND	NLE
beta-BHC	1	83.72	0.0004	ND	NLE
gamma-BHC	1	83.72	0.0005	ND	0.52
delta-BHC	1	83.72	0.0005	ND	NLE
Heptachlor	1	83.72	0.0004	ND	0.15
Aldrin	1	83.72	0.0005	ND	0.04
Heptachlor Epoxide	1	83.72	0.0007	ND	NLE
Endosulfan I	1	83.72	0.0006	ND	NLE
4,4'-DDE	1	83.72	0.0005	0.004	2
Dieldrin	1	83.72	0.0006	ND	0.042
Endrin	1	83.72	0.0006	ND	17
Endosulfan II	1	83.72	0.0005	ND	NLE
4,4'-DDD	1	83.72	0.0007	0.001	3
Endrin Aldehyde	1	83.72	0.0006	ND	NLE
4,4'-DDT	1	83.72	0.0013	0.007	2
Endosulfan-Sulfate	1	83.72	0.0005	ND	NLE
gamma -Chlordane	1	83.72	0.0006	ND	NLE
alpha-Chlordane	1	83.72	0.0006	ND	NLE
Toxaphene	1	83.72	0.0004	ND	0.1
Arochlor 1016	1	83.72	0.0133	ND	0.49
Arochlor 1221	1	83.72	0.0244	ND	0.49
Arochlor 1232	1	83.72	0.0166	ND	0.49
Arochlor 1242	1	83.72	0.0190	ND	0.49
Arochlor 1248	1	83.72	0.0076	ND	0.49
Arochlor 1254	1	83.72	0.0047	ND	0.49
Arochlor 1260	1	83.72	0.0043	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001142

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4177.02
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/7/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/10/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	B87

	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	80.88	0.0004	ND	NLE
beta-BHC	1	80.88	0.0004	ND	NLE
gamma-BHC	1	80.88	0.0005	ND	0.52
delta-BHC	1	80.88	0.0005	ND	NLE
Heptachlor	1	80.88	0.0004	ND	0.15
Aldrin	1	80.88	0.0005	ND	0.04
Heptachlor Epoxide	1	80.88	0.0007	ND	NLE
Endosulfan I	1	80.88	0.0006	ND	NLE
4,4'-DDE	1	80.88	0.0005	0.005	2
Dieldrin	1	80.88	0.0006	ND	0.042
Endrin	1	80.88	0.0006	ND	17
Endosulfan II	1	80.88	0.0005	ND	NLE
4,4'-DDD	1	80.88	0.0007	0.004	3
Endrin Aldehyde	1	80.88	0.0006	ND	NLE
4,4'-DDT	1	80.88	0.0013	0.009	2
Endosulfan-Sulfate	1	80.88	0.0005	ND	NLE
gamma -Chlordane	1	80.88	0.0006	ND	NLE
alpha-Chlordane	1	80.88	0.0006	ND	NLE
Toxaphene	1	80.88	0.0004	ND	0.1
Arochlor 1016	1	80.88	0.0137	ND	0.49
Arochlor 1221	1	80.88	0.0253	ND	0.49
Arochlor 1232	1	80.88	0.0172	ND	0.49
Arochlor 1242	1	80.88	0.0196	ND	0.49
Arochlor 1248	1	80.88	0.0079	ND	0.49
Arochlor 1254	1	80.88	0.0049	ND	0.49
Arochlor 1260	1	80.88	0.0044	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001143

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4177.04
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/7/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/11/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	B88

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	87.94	0.0003	ND	NLE
beta-BHC	1	87.94	0.0003	ND	NLE
gamma-BHC	1	87.94	0.0005	ND	0.52
delta-BHC	1	87.94	0.0005	ND	NLE
Heptachlor	1	87.94	0.0003	ND	0.15
Aldrin	1	87.94	0.0005	ND	0.04
Heptachlor Epoxide	1	87.94	0.0007	ND	NLE
Endosulfan I	1	87.94	0.0006	ND	NLE
4,4'-DDE	1	87.94	0.0005	0.002	2
Dieldrin	1	87.94	0.0006	ND	0.042
Endrin	1	87.94	0.0006	ND	17
Endosulfan II	1	87.94	0.0005	ND	NLE
4,4'-DDD	1	87.94	0.0007	0.002	3
Endrin Aldehyde	1	87.94	0.0006	ND	NLE
4,4'-DDT	1	87.94	0.0013	ND	2
Endosulfan-Sulfate	1	87.94	0.0005	ND	NLE
gamma -Chlordane	1	87.94	0.0006	ND	NLE
alpha-Chlordane	1	87.94	0.0006	ND	NLE
Toxaphene	1	87.94	0.0003	ND	0.1
Arochlor 1016	1	87.94	0.0127	ND	0.49
Arochlor 1221	1	87.94	0.0234	ND	0.49
Arochlor 1232	1	87.94	0.0159	ND	0.49
Arochlor 1242	1	87.94	0.0182	ND	0.49
Arochlor 1248	1	87.94	0.0073	ND	0.49
Arochlor 1254	1	87.94	0.0045	ND	0.49
Arochlor 1260	1	87.94	0.0041	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001144

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4177.06
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/7/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/11/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	B89

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	85.82	0.0003	ND	NLE
beta-BHC	1	85.82	0.0003	ND	NLE
gamma-BHC	1	85.82	0.0005	ND	0.52
delta-BHC	1	85.82	0.0005	ND	NLE
Heptachlor	1	85.82	0.0003	ND	0.15
Aldrin	1	85.82	0.0005	ND	0.04
Heptachlor Epoxide	1	85.82	0.0007	ND	NLE
Endosulfan I	1	85.82	0.0006	ND	NLE
4,4'-DDE	5	85.82	0.0023	0.234	2
Dieldrin	1	85.82	0.0006	ND	0.042
Endrin	1	85.82	0.0006	ND	17
Endosulfan II	1	85.82	0.0005	ND	NLE
4,4'-DDD	1	85.82	0.0007	0.027	3
Endrin Aldehyde	1	85.82	0.0006	ND	NLE
4,4'-DDT	5	85.82	0.0063	0.351	2
Endosulfan-Sulfate	1	85.82	0.0005	ND	NLE
gamma -Chlordane	1	85.82	0.0006	ND	NLE
alpha-Chlordane	1	85.82	0.0006	ND	NLE
Toxaphene	1	85.82	0.0003	ND	0.1
Arochlor 1016	1	85.82	0.0129	ND	0.49
Arochlor 1221	1	85.82	0.0238	ND	0.49
Arochlor 1232	1	85.82	0.0162	ND	0.49
Arochlor 1242	1	85.82	0.0185	ND	0.49
Arochlor 1248	1	85.82	0.0074	ND	0.49
Arochlor 1254	1	85.82	0.0046	ND	0.49
Arochlor 1260	1	85.82	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001145

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4177.08
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/7/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/11/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	B90

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	89.94	0.0003	ND	NLE
beta-BHC	1	89.94	0.0003	ND	NLE
gamma-BHC	1	89.94	0.0004	ND	0.52
delta-BHC	1	89.94	0.0004	ND	NLE
Heptachlor	1	89.94	0.0003	ND	0.15
Aldrin	1	89.94	0.0004	ND	0.04
Heptachlor Epoxide	1	89.94	0.0007	ND	NLE
Endosulfan I	1	89.94	0.0006	ND	NLE
4,4'-DDE	1	89.94	0.0004	0.058	2
Dieldrin	1	89.94	0.0006	ND	0.042
Endrin	1	89.94	0.0006	ND	17
Endosulfan II	1	89.94	0.0004	ND	NLE
4,4'-DDD	1	89.94	0.0007	0.010	3
Endrin Aldehyde	1	89.94	0.0006	ND	NLE
4,4'-DDT	1	89.94	0.0012	0.070	2
Endosulfan-Sulfate	1	89.94	0.0004	ND	NLE
gamma -Chlordane	1	89.94	0.0006	ND	NLE
alpha-Chlordane	1	89.94	0.0006	ND	NLE
Toxaphene	1	89.94	0.0003	ND	0.1
Arochlor 1016	1	89.94	0.0124	ND	0.49
Arochlor 1221	1	89.94	0.0227	ND	0.49
Arochlor 1232	1	89.94	0.0155	ND	0.49
Arochlor 1242	1	89.94	0.0177	ND	0.49
Arochlor 1248	1	89.94	0.0071	ND	0.49
Arochlor 1254	1	89.94	0.0044	ND	0.49
Arochlor 1260	1	89.94	0.0040	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001146

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4177.10
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/7/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/11/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	B91

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	84.27	0.0004	ND	NLE
beta-BHC	1	84.27	0.0004	ND	NLE
gamma-BHC	1	84.27	0.0005	ND	0.52
delta-BHC	1	84.27	0.0005	ND	NLE
Heptachlor	1	84.27	0.0004	ND	0.15
Aldrin	1	84.27	0.0005	ND	0.04
Heptachlor Epoxide	1	84.27	0.0007	ND	NLE
Endosulfan I	1	84.27	0.0006	ND	NLE
4,4'-DDE	1	84.27	0.0005	0.003	2
Dieldrin	1	84.27	0.0006	ND	0.042
Endrin	1	84.27	0.0006	ND	17
Endosulfan II	1	84.27	0.0005	ND	NLE
4,4'-DDD	1	84.27	0.0007	ND	3
Endrin Aldehyde	1	84.27	0.0006	ND	NLE
4,4'-DDT	1	84.27	0.0013	ND	2
Endosulfan-Sulfate	1	84.27	0.0005	ND	NLE
gamma -Chlordane	1	84.27	0.0006	ND	NLE
alpha-Chlordane	1	84.27	0.0006	ND	NLE
Toxaphene	1	84.27	0.0004	ND	0.1
Arochlor 1016	1	84.27	0.0131	ND	0.49
Arochlor 1221	1	84.27	0.0242	ND	0.49
Arochlor 1232	1	84.27	0.0164	ND	0.49
Arochlor 1242	1	84.27	0.0188	ND	0.49
Arochlor 1248	1	84.27	0.0075	ND	0.49
Arochlor 1254	1	84.27	0.0047	ND	0.49
Arochlor 1260	1	84.27	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001147

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4177.12
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/7/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/11/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	B92

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	84.83	0.0003	ND	NLE
beta-BHC	1	84.83	0.0003	ND	NLE
gamma-BHC	1	84.83	0.0005	ND	0.52
delta-BHC	1	84.83	0.0005	ND	NLE
Heptachlor	1	84.83	0.0003	ND	0.15
Aldrin	1	84.83	0.0005	ND	0.04
Heptachlor Epoxide	1	84.83	0.0007	ND	NLE
Endosulfan I	1	84.83	0.0006	ND	NLE
4,4'-DDE	1	84.83	0.0005	0.058	2
Dieldrin	1	84.83	0.0006	ND	0.042
Endrin	1	84.83	0.0006	ND	17
Endosulfan II	1	84.83	0.0005	ND	NLE
4,4'-DDD	1	84.83	0.0007	0.069	3
Endrin Aldehyde	1	84.83	0.0006	ND	NLE
4,4'-DDT	5	84.83	0.0064	0.347	2
Endosulfan-Sulfate	1	84.83	0.0005	ND	NLE
gamma -Chlordane	1	84.83	0.0006	ND	NLE
alpha-Chlordane	1	84.83	0.0006	ND	NLE
Toxaphene	1	84.83	0.0003	ND	0.1
Arochlor 1016	1	84.83	0.0131	ND	0.49
Arochlor 1221	1	84.83	0.0240	ND	0.49
Arochlor 1232	1	84.83	0.0163	ND	0.49
Arochlor 1242	1	84.83	0.0187	ND	0.49
Arochlor 1248	1	84.83	0.0075	ND	0.49
Arochlor 1254	1	84.83	0.0047	ND	0.49
Arochlor 1260	1	84.83	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001148

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4177.14
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/7/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/11/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	B93

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	83.80	0.0004	ND	NLE
beta-BHC	1	83.80	0.0004	ND	NLE
gamma-BHC	1	83.80	0.0005	ND	0.52
delta-BHC	1	83.80	0.0005	ND	NLE
Heptachlor	1	83.80	0.0004	ND	0.15
Aldrin	1	83.80	0.0005	ND	0.04
Heptachlor Epoxide	1	83.80	0.0007	ND	NLE
Endosulfan I	1	83.80	0.0006	ND	NLE
4,4'-DDE	1	83.80	0.0005	0.001	2
Dieldrin	1	83.80	0.0006	ND	0.042
Endrin	1	83.80	0.0006	ND	17
Endosulfan II	1	83.80	0.0005	ND	NLE
4,4'-DDD	1	83.80	0.0007	ND	3
Endrin Aldehyde	1	83.80	0.0006	ND	NLE
4,4'-DDT	1	83.80	0.0013	0.002	2
Endosulfan-Sulfate	1	83.80	0.0005	ND	NLE
gamma -Chlordane	1	83.80	0.0006	ND	NLE
alpha-Chlordane	1	83.80	0.0006	ND	NLE
Toxaphene	1	83.80	0.0004	ND	0.1
Arochlor 1016	1	83.80	0.0132	ND	0.49
Arochlor 1221	1	83.80	0.0243	ND	0.49
Arochlor 1232	1	83.80	0.0165	ND	0.49
Arochlor 1242	1	83.80	0.0189	ND	0.49
Arochlor 1248	1	83.80	0.0075	ND	0.49
Arochlor 1254	1	83.80	0.0047	ND	0.49
Arochlor 1260	1	83.80	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001149

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4177.16
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/7/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/11/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	B94

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	85.62	0.0003	ND	NLE
beta-BHC	1	85.62	0.0003	ND	NLE
gamma-BHC	1	85.62	0.0005	ND	0.52
delta-BHC	1	85.62	0.0005	ND	NLE
Heptachlor	1	85.62	0.0003	ND	0.15
Aldrin	1	85.62	0.0005	ND	0.04
Heptachlor Epoxide	1	85.62	0.0007	ND	NLE
Endosulfan I	1	85.62	0.0006	ND	NLE
4,4'-DDE	1	85.62	0.0005	0.007	2
Dieldrin	1	85.62	0.0006	ND	0.042
Endrin	1	85.62	0.0006	ND	17
Endosulfan II	1	85.62	0.0005	ND	NLE
4,4'-DDD	1	85.62	0.0007	0.003	3
Endrin Aldehyde	1	85.62	0.0006	ND	NLE
4,4'-DDT	1	85.62	0.0013	0.023	2
Endosulfan-Sulfate	1	85.62	0.0005	ND	NLE
gamma -Chlordane	1	85.62	0.0006	ND	NLE
alpha-Chlordane	1	85.62	0.0006	ND	NLE
Toxaphene	1	85.62	0.0003	ND	0.1
Arochlor 1016	1	85.62	0.0131	ND	0.49
Arochlor 1221	1	85.62	0.0240	ND	0.49
Arochlor 1232	1	85.62	0.0163	ND	0.49
Arochlor 1242	1	85.62	0.0186	ND	0.49
Arochlor 1248	1	85.62	0.0075	ND	0.49
Arochlor 1254	1	85.62	0.0047	ND	0.49
Arochlor 1260	1	85.62	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4177.18
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/7/99
	Bldg. 173	**Extraction Date:**	1/8/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/11/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	B95

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	86.35	0.0003	ND	NLE
beta-BHC	1	86.35	0.0003	ND	NLE
gamma-BHC	1	86.35	0.0005	ND	0.52
delta-BHC	1	86.35	0.0005	ND	NLE
Heptachlor	1	86.35	0.0003	ND	0.15
Aldrin	1	86.35	0.0005	ND	0.04
Heptachlor Epoxide	1	86.35	0.0007	ND	NLE
Endosulfan I	1	86.35	0.0006	ND	NLE
4,4'-DDE	10	86.35	0.0046	0.488	2
Dieldrin	1	86.35	0.0006	ND	0.042
Endrin	1	86.35	0.0006	ND	17
Endosulfan II	1	86.35	0.0005	ND	NLE
4,4'-DDD	1	86.35	0.0007	0.049	3
Endrin Aldehyde	1	86.35	0.0006	ND	NLE
4,4'-DDT	10	86.35	0.0127	0.516	2
Endosulfan-Sulfate	1	86.35	0.0005	ND	NLE
gamma -Chlordane	1	86.35	0.0006	ND	NLE
alpha-Chlordane	1	86.35	0.0006	ND	NLE
Toxaphene	1	86.35	0.0003	ND	0.1
Arochlor 1016	1	86.35	0.0129	ND	0.49
Arochlor 1221	1	86.35	0.0238	ND	0.49
Arochlor 1232	1	86.35	0.0162	ND	0.49
Arochlor 1242	1	86.35	0.0185	ND	0.49
Arochlor 1248	1	86.35	0.0074	ND	0.49
Arochlor 1254	1	86.35	0.0046	ND	0.49
Arochlor 1260	1	86.35	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4179.02
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/11/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/11/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	96

	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	71.32	0.0004	ND	NLE
beta-BHC	1	71.32	0.0004	ND	NLE
gamma-BHC	1	71.32	0.0006	ND	0.52
delta-BHC	1	71.32	0.0006	ND	NLE
Heptachlor	1	71.32	0.0004	ND	0.15
Aldrin	1	71.32	0.0006	ND	0.04
Heptachlor Epoxide	1	71.32	0.0008	ND	NLE
Endosulfan I	1	71.32	0.0007	ND	NLE
4,4'-DDE	5	71.32	0.0028	0.206	2
Dieldrin	1	71.32	0.0007	ND	0.042
Endrin	1	71.32	0.0007	ND	17
Endosulfan II	1	71.32	0.0006	ND	NLE
4,4'-DDD	1	71.32	0.0008	0.019	3
Endrin Aldehyde	1	71.32	0.0007	ND	NLE
4,4'-DDT	5	71.32	0.0076	0.213	2
Endosulfan-Sulfate	1	71.32	0.0006	ND	NLE
gamma -Chlordane	1	71.32	0.0007	ND	NLE
alpha-Chlordane	1	71.32	0.0007	ND	NLE
Toxaphene	1	71.32	0.0004	ND	0.1
Arochlor 1016	1	71.32	0.0155	ND	0.49
Arochlor 1221	1	71.32	0.0286	ND	0.49
Arochlor 1232	1	71.32	0.0194	ND	0.49
Arochlor 1242	1	71.32	0.0222	ND	0.49
Arochlor 1248	1	71.32	0.0089	ND	0.49
Arochlor 1254	1	71.32	0.0056	ND	0.49
Arochlor 1260	1	71.32	0.0050	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4179.04
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/11/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/11/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	97

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	86.27	0.0003	ND	NLE
beta-BHC	1	86.27	0.0003	ND	NLE
gamma-BHC	1	86.27	0.0005	ND	0.52
delta-BHC	1	86.27	0.0005	ND	NLE
Heptachlor	1	86.27	0.0003	ND	0.15
Aldrin	1	86.27	0.0005	ND	0.04
Heptachlor Epoxide	1	86.27	0.0007	ND	NLE
Endosulfan I	1	86.27	0.0006	ND	NLE
4,4'-DDE	1	86.27	0.0005	0.034	2
Dieldrin	1	86.27	0.0006	ND	0.042
Endrin	1	86.27	0.0006	ND	17
Endosulfan II	1	86.27	0.0005	ND	NLE
4,4'-DDD	1	86.27	0.0007	0.017	3
Endrin Aldehyde	1	86.27	0.0006	ND	NLE
4,4'-DDT	1	86.27	0.0013	0.028	2
Endosulfan-Sulfate	1	86.27	0.0005	ND	NLE
gamma -Chlordane	1	86.27	0.0006	ND	NLE
alpha-Chlordane	1	86.27	0.0006	ND	NLE
Toxaphene	1	86.27	0.0003	ND	0.1
Arochlor 1016	1	86.27	0.0128	ND	0.49
Arochlor 1221	1	86.27	0.0235	ND	0.49
Arochlor 1232	1	86.27	0.0160	ND	0.49
Arochlor 1242	1	86.27	0.0182	ND	0.49
Arochlor 1248	1	86.27	0.0073	ND	0.49
Arochlor 1254	1	86.27	0.0046	ND	0.49
Arochlor 1260	1	86.27	0.0041	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001153

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4179.06
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/11/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/11/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	98

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	85.57	0.0003	ND	NLE
beta-BHC	1	85.57	0.0003	ND	NLE
gamma-BHC	1	85.57	0.0005	ND	0.52
delta-BHC	1	85.57	0.0005	ND	NLE
Heptachlor	1	85.57	0.0003	ND	0.15
Aldrin	1	85.57	0.0005	ND	0.04
Heptachlor Epoxide	1	85.57	0.0007	ND	NLE
Endosulfan I	1	85.57	0.0006	ND	NLE
4,4'-DDE	1	85.57	0.0005	0.075	2
Dieldrin	1	85.57	0.0006	0.001	0.042
Endrin	1	85.57	0.0006	ND	17
Endosulfan II	1	85.57	0.0005	ND	NLE
4,4'-DDD	5	85.57	0.0035	0.172	3
Endrin Aldehyde	1	85.57	0.0006	ND	NLE
4,4'-DDT	5	85.57	0.0064	0.309	2
Endosulfan-Sulfate	1	85.57	0.0005	ND	NLE
gamma -Chlordane	1	85.57	0.0006	ND	NLE
alpha-Chlordane	1	85.57	0.0006	ND	NLE
Toxaphene	1	85.57	0.0003	ND	0.1
Arochlor 1016	1	85.57	0.0129	ND	0.49
Arochlor 1221	1	85.57	0.0238	ND	0.49
Arochlor 1232	1	85.57	0.0162	ND	0.49
Arochlor 1242	1	85.57	0.0185	ND	0.49
Arochlor 1248	1	85.57	0.0074	ND	0.49
Arochlor 1254	1	85.57	0.0046	ND	0.49
Arochlor 1260	1	85.57	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001154

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4179.08
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/11/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/12/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	99

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	83.04	0.0004	ND	NLE
beta-BHC	1	83.04	0.0004	ND	NLE
gamma-BHC	1	83.04	0.0005	ND	0.52
delta-BHC	1	83.04	0.0005	ND	NLE
Heptachlor	1	83.04	0.0004	ND	0.15
Aldrin	1	83.04	0.0005	ND	0.04
Heptachlor Epoxide	1	83.04	0.0007	ND	NLE
Endosulfan I	1	83.04	0.0006	ND	NLE
4,4'-DDE	1	83.04	0.0005	0.084	2
Dieldrin	1	83.04	0.0006	ND	0.042
Endrin	1	83.04	0.0006	ND	17
Endosulfan II	1	83.04	0.0005	ND	NLE
4,4'-DDD	50	83.04	0.0360	0.136	3
Endrin Aldehyde	1	83.04	0.0006	ND	NLE
4,4'-DDT	50	83.04	0.0660	2.930	2
Endosulfan-Sulfate	1	83.04	0.0005	ND	NLE
gamma -Chlordane	1	83.04	0.0006	ND	NLE
alpha-Chlordane	1	83.04	0.0006	ND	NLE
Toxaphene	1	83.04	0.0004	ND	0.1
Arochlor 1016	1	83.04	0.0134	ND	0.49
Arochlor 1221	1	83.04	0.0247	ND	0.49
Arochlor 1232	1	83.04	0.0168	ND	0.49
Arochlor 1242	1	83.04	0.0192	ND	0.49
Arochlor 1248	1	83.04	0.0077	ND	0.49
Arochlor 1254	1	83.04	0.0048	ND	0.49
Arochlor 1260	1	83.04	0.0043	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001155

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4179.10
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/11/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/12/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	100

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	80.92	0.0004	ND	NLE
beta-BHC	1	80.92	0.0004	ND	NLE
gamma-BHC	1	80.92	0.0005	ND	0.52
delta-BHC	1	80.92	0.0005	ND	NLE
Heptachlor	1	80.92	0.0004	ND	0.15
Aldrin	1	80.92	0.0005	ND	0.04
Heptachlor Epoxide	1	80.92	0.0007	ND	NLE
Endosulfan I	1	80.92	0.0006	ND	NLE
4,4'-DDE	1	80.92	0.0005	0.002	2
Dieldrin	1	80.92	0.0006	ND	0.042
Endrin	1	80.92	0.0006	ND	17
Endosulfan II	1	80.92	0.0005	ND	NLE
4,4'-DDD	1	80.92	0.0007	ND	3
Endrin Aldehyde	1	80.92	0.0006	ND	NLE
4,4'-DDT	1	80.92	0.0014	0.003	2
Endosulfan-Sulfate	1	80.92	0.0005	ND	NLE
gamma -Chlordane	1	80.92	0.0006	ND	NLE
alpha-Chlordane	1	80.92	0.0006	ND	NLE
Toxaphene	1	80.92	0.0004	ND	0.1
Arochlor 1016	1	80.92	0.0138	ND	0.49
Arochlor 1221	1	80.92	0.0254	ND	0.49
Arochlor 1232	1	80.92	0.0173	ND	0.49
Arochlor 1242	1	80.92	0.0197	ND	0.49
Arochlor 1248	1	80.92	0.0079	ND	0.49
Arochlor 1254	1	80.92	0.0049	ND	0.49
Arochlor 1260	1	80.92	0.0044	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001156

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4179.12
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/11/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/12/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	101

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	88.32	0.0003	ND	NLE
beta-BHC	1	88.32	0.0003	ND	NLE
gamma-BHC	1	88.32	0.0005	ND	0.52
delta-BHC	1	88.32	0.0005	ND	NLE
Heptachlor	1	88.32	0.0003	ND	0.15
Aldrin	1	88.32	0.0005	ND	0.04
Heptachlor Epoxide	1	88.32	0.0007	ND	NLE
Endosulfan I	1	88.32	0.0006	ND	NLE
4,4'-DDE	1	88.32	0.0005	0.066	2
Dieldrin	1	88.32	0.0006	ND	0.042
Endrin	1	88.32	0.0006	ND	17
Endosulfan II	1	88.32	0.0005	ND	NLE
4,4'-DDD	1	88.32	0.0007	0.061	3
Endrin Aldehyde	1	88.32	0.0006	ND	NLE
4,4'-DDT	5	88.32	0.0062	0.283	2
Endosulfan-Sulfate	1	88.32	0.0005	ND	NLE
gamma -Chlordane	1	88.32	0.0006	0.003	NLE
alpha-Chlordane	1	88.32	0.0006	0.002	NLE
Toxaphene	1	88.32	0.0003	ND	0.1
Arochlor 1016	1	88.32	0.0126	ND	0.49
Arochlor 1221	1	88.32	0.0232	ND	0.49
Arochlor 1232	1	88.32	0.0158	ND	0.49
Arochlor 1242	1	88.32	0.0180	ND	0.49
Arochlor 1248	1	88.32	0.0072	ND	0.49
Arochlor 1254	1	88.32	0.0045	ND	0.49
Arochlor 1260	1	88.32	0.0041	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001157

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4179.14
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/11/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/12/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	102

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	83.75	0.0004	ND	NLE
beta-BHC	1	83.75	0.0004	ND	NLE
gamma-BHC	1	83.75	0.0005	ND	0.52
delta-BHC	1	83.75	0.0005	ND	NLE
Heptachlor	1	83.75	0.0004	ND	0.15
Aldrin	1	83.75	0.0005	ND	0.04
Heptachlor Epoxide	1	83.75	0.0007	ND	NLE
Endosulfan I	1	83.75	0.0006	ND	NLE
4,4'-DDE	1	83.75	0.0005	0.029	2
Dieldrin	1	83.75	0.0006	ND	0.042
Endrin	1	83.75	0.0006	ND	17
Endosulfan II	1	83.75	0.0005	ND	NLE
4,4'-DDD	1	83.75	0.0007	0.003	3
Endrin Aldehyde	1	83.75	0.0006	ND	NLE
4,4'-DDT	1	83.75	0.0013	0.029	2
Endosulfan-Sulfate	1	83.75	0.0005	ND	NLE
gamma -Chlordane	1	83.75	0.0006	ND	NLE
alpha-Chlordane	1	83.75	0.0006	ND	NLE
Toxaphene	1	83.75	0.0004	ND	0.1
Arochlor 1016	1	83.75	0.0132	ND	0.49
Arochlor 1221	1	83.75	0.0244	ND	0.49
Arochlor 1232	1	83.75	0.0166	ND	0.49
Arochlor 1242	1	83.75	0.0189	ND	0.49
Arochlor 1248	1	83.75	0.0076	ND	0.49
Arochlor 1254	1	83.75	0.0047	ND	0.49
Arochlor 1260	1	83.75	0.0043	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4179.16
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/11/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/12/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	103

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	87.66	0.0003	ND	NLE
beta-BHC	1	87.66	0.0003	ND	NLE
gamma-BHC	1	87.66	0.0005	ND	0.52
delta-BHC	1	87.66	0.0005	ND	NLE
Heptachlor	1	87.66	0.0003	ND	0.15
Aldrin	1	87.66	0.0005	ND	0.04
Heptachlor Epoxide	1	87.66	0.0007	ND	NLE
Endosulfan I	1	87.66	0.0006	ND	NLE
4,4'-DDE	1	87.66	0.0005	0.020	2
Dieldrin	1	87.66	0.0006	ND	0.042
Endrin	1	87.66	0.0006	ND	17
Endosulfan II	1	87.66	0.0005	ND	NLE
4,4'-DDD	1	87.66	0.0007	0.002	3
Endrin Aldehyde	1	87.66	0.0006	ND	NLE
4,4'-DDT	1	87.66	0.0012	0.018	2
Endosulfan-Sulfate	1	87.66	0.0005	ND	NLE
gamma -Chlordane	1	87.66	0.0006	ND	NLE
alpha-Chlordane	1	87.66	0.0006	ND	NLE
Toxaphene	1	87.66	0.0003	ND	0.1
Arochlor 1016	1	87.66	0.0127	ND	0.49
Arochlor 1221	1	87.66	0.0233	ND	0.49
Arochlor 1232	1	87.66	0.0158	ND	0.49
Arochlor 1242	1	87.66	0.0181	ND	0.49
Arochlor 1248	1	87.66	0.0072	ND	0.49
Arochlor 1254	1	87.66	0.0045	ND	0.49
Arochlor 1260	1	87.66	0.0041	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4179.18
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/11/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/12/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	104

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	90.63	0.0003	ND	NLE
beta-BHC	1	90.63	0.0003	ND	NLE
gamma-BHC	1	90.63	0.0004	ND	0.52
delta-BHC	1	90.63	0.0004	ND	NLE
Heptachlor	1	90.63	0.0003	ND	0.15
Aldrin	1	90.63	0.0004	ND	0.04
Heptachlor Epoxide	1	90.63	0.0007	ND	NLE
Endosulfan I	1	90.63	0.0005	ND	NLE
4,4'-DDE	1	90.63	0.0004	0.024	2
Dieldrin	1	90.63	0.0005	ND	0.042
Endrin	1	90.63	0.0005	ND	17
Endosulfan II	1	90.63	0.0004	ND	NLE
4,4'-DDD	1	90.63	0.0007	0.051	3
Endrin Aldehyde	1	90.63	0.0005	ND	NLE
4,4'-DDT	1	90.63	0.0012	0.005	2
Endosulfan-Sulfate	1	90.63	0.0004	ND	NLE
gamma -Chlordane	1	90.63	0.0005	ND	NLE
alpha-Chlordane	1	90.63	0.0005	ND	NLE
Toxaphene	1	90.63	0.0003	ND	0.1
Arochlor 1016	1	90.63	0.0123	ND	0.49
Arochlor 1221	1	90.63	0.0226	ND	0.49
Arochlor 1232	1	90.63	0.0154	ND	0.49
Arochlor 1242	1	90.63	0.0175	ND	0.49
Arochlor 1248	1	90.63	0.0070	ND	0.49
Arochlor 1254	1	90.63	0.0044	ND	0.49
Arochlor 1260	1	90.63	0.0039	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001160

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4179.20
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/11/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/12/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	105

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	80.47	0.0004	ND	NLE
beta-BHC	1	80.47	0.0004	ND	NLE
gamma-BHC	1	80.47	0.0005	ND	0.52
delta-BHC	1	80.47	0.0005	ND	NLE
Heptachlor	1	80.47	0.0004	ND	0.15
Aldrin	1	80.47	0.0005	ND	0.04
Heptachlor Epoxide	1	80.47	0.0007	ND	NLE
Endosulfan I	1	80.47	0.0006	ND	NLE
4,4'-DDE	1	80.47	0.0005	0.013	2
Dieldrin	1	80.47	0.0006	ND	0.042
Endrin	1	80.47	0.0006	ND	17
Endosulfan II	1	80.47	0.0005	ND	NLE
4,4'-DDD	1	80.47	0.0007	0.006	3
Endrin Aldehyde	1	80.47	0.0006	ND	NLE
4,4'-DDT	1	80.47	0.0013	0.029	2
Endosulfan-Sulfate	1	80.47	0.0005	ND	NLE
gamma -Chlordane	1	80.47	0.0006	ND	NLE
alpha-Chlordane	1	80.47	0.0006	ND	NLE
Toxaphene	1	80.47	0.0004	ND	0.1
Arochlor 1016	1	80.47	0.0136	ND	0.49
Arochlor 1221	1	80.47	0.0249	ND	0.49
Arochlor 1232	1	80.47	0.0169	ND	0.49
Arochlor 1242	1	80.47	0.0194	ND	0.49
Arochlor 1248	1	80.47	0.0077	ND	0.49
Arochlor 1254	1	80.47	0.0048	ND	0.49
Arochlor 1260	1	80.47	0.0044	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001161

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4179.22
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/11/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/12/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	106

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	84.18	0.0004	ND	NLE
beta-BHC	1	84.18	0.0004	ND	NLE
gamma-BHC	1	84.18	0.0005	ND	0.52
delta-BHC	1	84.18	0.0005	ND	NLE
Heptachlor	1	84.18	0.0004	ND	0.15
Aldrin	1	84.18	0.0005	ND	0.04
Heptachlor Epoxide	1	84.18	0.0007	ND	NLE
Endosulfan I	1	84.18	0.0006	ND	NLE
4,4'-DDE	1	84.18	0.0005	0.109	2
Dieldrin	1	84.18	0.0006	ND	0.042
Endrin	1	84.18	0.0006	ND	17
Endosulfan II	1	84.18	0.0005	ND	NLE
4,4'-DDD	1	84.18	0.0007	0.031	3
Endrin Aldehyde	1	84.18	0.0006	ND	NLE
4,4'-DDT	5	84.18	0.0065	0.355	2
Endosulfan-Sulfate	1	84.18	0.0005	ND	NLE
gamma -Chlordane	1	84.18	0.0006	ND	NLE
alpha-Chlordane	1	84.18	0.0006	ND	NLE
Toxaphene	1	84.18	0.0004	ND	0.1
Arochlor 1016	1	84.18	0.0132	ND	0.49
Arochlor 1221	1	84.18	0.0243	ND	0.49
Arochlor 1232	1	84.18	0.0165	ND	0.49
Arochlor 1242	1	84.18	0.0189	ND	0.49
Arochlor 1248	1	84.18	0.0076	ND	0.49
Arochlor 1254	1	84.18	0.0047	ND	0.49
Arochlor 1260	1	84.18	0.0043	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4184.02
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/12/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/12/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	107

	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	85.81	0.0003	ND	NLE
beta-BHC	1	85.81	0.0003	ND	NLE
gamma-BHC	1	85.81	0.0005	ND	0.52
delta-BHC	1	85.81	0.0005	ND	NLE
Heptachlor	1	85.81	0.0003	ND	0.15
Aldrin	1	85.81	0.0005	ND	0.04
Heptachlor Epoxide	1	85.81	0.0007	ND	NLE
Endosulfan I	1	85.81	0.0006	ND	NLE
4,4'-DDE	1	85.81	0.0005	0.040	2
Dieldrin	1	85.81	0.0006	ND	0.042
Endrin	1	85.81	0.0006	ND	17
Endosulfan II	1	85.81	0.0005	ND	NLE
4,4'-DDD	1	85.81	0.0007	0.025	3
Endrin Aldehyde	1	85.81	0.0006	ND	NLE
4,4'-DDT	2	85.81	0.0025	0.144	2
Endosulfan-Sulfate	1	85.81	0.0005	ND	NLE
gamma -Chlordane	1	85.81	0.0006	ND	NLE
alpha-Chlordane	1	85.81	0.0006	ND	NLE
Toxaphene	1	85.81	0.0003	ND	0.1
Arochlor 1016	1	85.81	0.0129	ND	0.49
Arochlor 1221	1	85.81	0.0238	ND	0.49
Arochlor 1232	1	85.81	0.0162	ND	0.49
Arochlor 1242	1	85.81	0.0185	ND	0.49
Arochlor 1248	1	85.81	0.0074	ND	0.49
Arochlor 1254	1	85.81	0.0046	ND	0.49
Arochlor 1260	1	85.81	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001163

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4184.04
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/12/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/12/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	108

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	84.82	0.0003	ND	NLE
beta-BHC	1	84.82	0.0003	ND	NLE
gamma-BHC	1	84.82	0.0005	ND	0.52
delta-BHC	1	84.82	0.0005	ND	NLE
Heptachlor	1	84.82	0.0003	ND	0.15
Aldrin	1	84.82	0.0005	ND	0.04
Heptachlor Epoxide	1	84.82	0.0007	ND	NLE
Endosulfan I	1	84.82	0.0006	ND	NLE
4,4'-DDE	1	84.82	0.0005	0.007	2
Dieldrin	1	84.82	0.0006	ND	0.042
Endrin	1	84.82	0.0006	ND	17
Endosulfan II	1	84.82	0.0005	ND	NLE
4,4'-DDD	1	84.82	0.0007	0.001	3
Endrin Aldehyde	1	84.82	0.0006	ND	NLE
4,4'-DDT	1	84.82	0.0013	0.006	2
Endosulfan-Sulfate	1	84.82	0.0005	ND	NLE
gamma -Chlordane	1	84.82	0.0006	ND	NLE
alpha-Chlordane	1	84.82	0.0006	ND	NLE
Toxaphene	1	84.82	0.0003	ND	0.1
Arochlor 1016	1	84.82	0.0129	ND	0.49
Arochlor 1221	1	84.82	0.0238	ND	0.49
Arochlor 1232	1	84.82	0.0162	ND	0.49
Arochlor 1242	1	84.82	0.0185	ND	0.49
Arochlor 1248	1	84.82	0.0074	ND	0.49
Arochlor 1254	1	84.82	0.0046	ND	0.49
Arochlor 1260	1	84.82	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001164

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4184.06
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/12/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/12/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	109

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	84.81	0.0004	ND	NLE
beta-BHC	1	84.81	0.0004	ND	NLE
gamma-BHC	1	84.81	0.0005	ND	0.52
delta-BHC	1	84.81	0.0005	ND	NLE
Heptachlor	1	84.81	0.0004	ND	0.15
Aldrin	1	84.81	0.0005	ND	0.04
Heptachlor Epoxide	1	84.81	0.0007	ND	NLE
Endosulfan I	1	84.81	0.0006	ND	NLE
4,4'-DDE	1	84.81	0.0005	0.001	2
Dieldrin	1	84.81	0.0006	ND	0.042
Endrin	1	84.81	0.0006	ND	17
Endosulfan II	1	84.81	0.0005	ND	NLE
4,4'-DDD	1	84.81	0.0007	ND	3
Endrin Aldehyde	1	84.81	0.0006	ND	NLE
4,4'-DDT	1	84.81	0.0013	ND	2
Endosulfan-Sulfate	1	84.81	0.0005	ND	NLE
gamma -Chlordane	1	84.81	0.0006	ND	NLE
alpha-Chlordane	1	84.81	0.0006	ND	NLE
Toxaphene	1	84.81	0.0004	ND	0.1
Arochlor 1016	1	84.81	0.0131	ND	0.49
Arochlor 1221	1	84.81	0.0241	ND	0.49
Arochlor 1232	1	84.81	0.0164	ND	0.49
Arochlor 1242	1	84.81	0.0187	ND	0.49
Arochlor 1248	1	84.81	0.0075	ND	0.49
Arochlor 1254	1	84.81	0.0047	ND	0.49
Arochlor 1260	1	84.81	0.0042	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4184.08
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/12/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/12/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	110

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	92.15	0.0003	ND	NLE
beta-BHC	1	92.15	0.0003	ND	NLE
gamma-BHC	1	92.15	0.0004	ND	0.52
delta-BHC	1	92.15	0.0004	ND	NLE
Heptachlor	1	92.15	0.0003	ND	0.15
Aldrin	1	92.15	0.0004	ND	0.04
Heptachlor Epoxide	1	92.15	0.0006	ND	NLE
Endosulfan I	1	92.15	0.0005	ND	NLE
4,4'-DDE	1	92.15	0.0004	0.024	2
Dieldrin	1	92.15	0.0005	ND	0.042
Endrin	1	92.15	0.0005	ND	17
Endosulfan II	1	92.15	0.0004	ND	NLE
4,4'-DDD	1	92.15	0.0006	0.002	3
Endrin Aldehyde	1	92.15	0.0005	ND	NLE
4,4'-DDT	1	92.15	0.0012	0.012	2
Endosulfan-Sulfate	1	92.15	0.0004	ND	NLE
gamma -Chlordane	1	92.15	0.0005	ND	NLE
alpha-Chlordane	1	92.15	0.0005	ND	NLE
Toxaphene	1	92.15	0.0003	ND	0.1
Arochlor 1016	1	92.15	0.0121	ND	0.49
Arochlor 1221	1	92.15	0.0222	ND	0.49
Arochlor 1232	1	92.15	0.0151	ND	0.49
Arochlor 1242	1	92.15	0.0173	ND	0.49
Arochlor 1248	1	92.15	0.0069	ND	0.49
Arochlor 1254	1	92.15	0.0043	ND	0.49
Arochlor 1260	1	92.15	0.0039	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4184.10
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/12/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/12/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	111

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	87.94	0.0003	ND	NLE
beta-BHC	1	87.94	0.0003	ND	NLE
gamma-BHC	1	87.94	0.0004	ND	0.52
delta-BHC	1	87.94	0.0004	ND	NLE
Heptachlor	1	87.94	0.0003	ND	0.15
Aldrin	1	87.94	0.0004	ND	0.04
Heptachlor Epoxide	1	87.94	0.0007	ND	NLE
Endosulfan I	1	87.94	0.0006	ND	NLE
4,4'-DDE	1	87.94	0.0004	0.003	2
Dieldrin	1	87.94	0.0006	ND	0.042
Endrin	1	87.94	0.0006	ND	17
Endosulfan II	1	87.94	0.0004	ND	NLE
4,4'-DDD	1	87.94	0.0007	ND	3
Endrin Aldehyde	1	87.94	0.0006	ND	NLE
4,4'-DDT	1	87.94	0.0012	0.003	2
Endosulfan-Sulfate	1	87.94	0.0004	ND	NLE
gamma -Chlordane	1	87.94	0.0006	ND	NLE
alpha-Chlordane	1	87.94	0.0006	ND	NLE
Toxaphene	1	87.94	0.0003	ND	0.1
Arochlor 1016	1	87.94	0.0124	ND	0.49
Arochlor 1221	1	87.94	0.0229	ND	0.49
Arochlor 1232	1	87.94	0.0155	ND	0.49
Arochlor 1242	1	87.94	0.0178	ND	0.49
Arochlor 1248	1	87.94	0.0071	ND	0.49
Arochlor 1254	1	87.94	0.0044	ND	0.49
Arochlor 1260	1	87.94	0.0040	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001167

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4184.12
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/12/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/12/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	112

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	1	94.14	0.0003	ND	NLE
beta-BHC	1	94.14	0.0003	ND	NLE
gamma-BHC	1	94.14	0.0004	ND	0.52
delta-BHC	1	94.14	0.0004	ND	NLE
Heptachlor	1	94.14	0.0003	ND	0.15
Aldrin	1	94.14	0.0004	ND	0.04
Heptachlor Epoxide	1	94.14	0.0006	ND	NLE
Endosulfan I	1	94.14	0.0005	ND	NLE
4,4'-DDE	5	94.14	0.0021	0.117	2
Dieldrin	1	94.14	0.0005	ND	0.042
Endrin	1	94.14	0.0005	ND	17
Endosulfan II	1	94.14	0.0004	ND	NLE
4,4'-DDD	5	94.14	0.0032	0.149	3
Endrin Aldehyde	1	94.14	0.0005	ND	NLE
4,4'-DDT	5	94.14	0.0058	0.509	2
Endosulfan-Sulfate	1	94.14	0.0004	ND	NLE
gamma -Chlordane	1	94.14	0.0005	ND	NLE
alpha-Chlordane	1	94.14	0.0005	ND	NLE
Toxaphene	1	94.14	0.0003	ND	0.1
Arochlor 1016	1	94.14	0.0118	ND	0.49
Arochlor 1221	1	94.14	0.0218	ND	0.49
Arochlor 1232	1	94.14	0.0148	ND	0.49
Arochlor 1242	1	94.14	0.0169	ND	0.49
Arochlor 1248	1	94.14	0.0068	ND	0.49
Arochlor 1254	1	94.14	0.0042	ND	0.49
Arochlor 1260	1	94.14	0.0038	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4189.02
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/13/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/22/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	113

	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	90.70	0.0065	ND	NLE
beta-BHC	20	90.70	0.0065	ND	NLE
gamma-BHC	20	90.70	0.0087	ND	0.52
delta-BHC	20	90.70	0.0087	ND	NLE
Heptachlor	20	90.70	0.0065	ND	0.15
Aldrin	20	90.70	0.0087	ND	0.04
Heptachlor Epoxide	20	90.70	0.0131	ND	NLE
Endosulfan I	20	90.70	0.0109	ND	NLE
4,4'-DDE	20	90.70	0.0087	0.046	2
Dieldrin	20	90.70	0.0109	ND	0.042
Endrin	20	90.70	0.0109	ND	17
Endosulfan II	20	90.70	0.0087	ND	NLE
4,4'-DDD	20	90.70	0.0131	ND	3
Endrin Aldehyde	20	90.70	0.0109	ND	NLE
4,4'-DDT	20	90.70	0.0240	0.036	2
Endosulfan-Sulfate	20	90.70	0.0087	ND	NLE
gamma -Chlordane	20	90.70	0.0109	ND	NLE
alpha-Chlordane	20	90.70	0.0109	ND	NLE
Toxaphene	20	90.70	0.0065	ND	0.1
Arochlor 1016	20	90.70	0.2445	ND	0.49
Arochlor 1221	20	90.70	0.4497	ND	0.49
Arochlor 1232	20	90.70	0.3057	ND	0.49
Arochlor 1242	20	90.70	0.3493	ND	0.49
Arochlor 1248	20	90.70	0.1397	ND	0.49
Arochlor 1254	20	90.70	0.0873	ND	0.49
Arochlor 1260	20	90.70	0.0786	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4189.04
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/13/99
	Bldg. 173	**Extraction Date:**	1/13/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/22/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	114

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	82.97	0.0072	ND	NLE
beta-BHC	20	82.97	0.0072	ND	NLE
gamma-BHC	20	82.97	0.0095	ND	0.52
delta-BHC	20	82.97	0.0095	ND	NLE
Heptachlor	20	82.97	0.0072	ND	0.15
Aldrin	20	82.97	0.0095	ND	0.04
Heptachlor Epoxide	20	82.97	0.0143	ND	NLE
Endosulfan I	20	82.97	0.0119	ND	NLE
4,4'-DDE	20	82.97	0.0095	0.387	2
Dieldrin	20	82.97	0.0119	ND	0.042
Endrin	20	82.97	0.0119	ND	17
Endosulfan II	20	82.97	0.0095	ND	NLE
4,4'-DDD	20	82.97	0.0143	0.072	3
Endrin Aldehyde	20	82.97	0.0119	ND	NLE
4,4'-DDT	20	82.97	0.0262	0.466	2
Endosulfan-Sulfate	20	82.97	0.0095	ND	NLE
gamma -Chlordane	20	82.97	0.0119	ND	NLE
alpha-Chlordane	20	82.97	0.0119	ND	NLE
Toxaphene	20	82.97	0.0072	ND	0.1
Arochlor 1016	20	82.97	0.2670	ND	0.49
Arochlor 1221	20	82.97	0.4912	ND	0.49
Arochlor 1232	20	82.97	0.3338	ND	0.49
Arochlor 1242	20	82.97	0.3815	ND	0.49
Arochlor 1248	20	82.97	0.1526	ND	0.49
Arochlor 1254	20	82.97	0.0954	ND	0.49
Arochlor 1260	20	82.97	0.0858	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001170

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4189.06
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/13/99
	Bldg. 173	**Extraction Date:**	1/20/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/25/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	115

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	85.98	0.0068	ND	NLE
beta-BHC	20	85.98	0.0068	ND	NLE
gamma-BHC	20	85.98	0.0091	ND	0.52
delta-BHC	20	85.98	0.0091	ND	NLE
Heptachlor	20	85.98	0.0068	ND	0.15
Aldrin	20	85.98	0.0091	ND	0.04
Heptachlor Epoxide	20	85.98	0.0137	ND	NLE
Endosulfan I	20	85.98	0.0114	ND	NLE
4,4'-DDE	20	85.98	0.0091	0.743	2
Dieldrin	20	85.98	0.0114	ND	0.042
Endrin	20	85.98	0.0114	ND	17
Endosulfan II	20	85.98	0.0091	ND	NLE
4,4'-DDD	20	85.98	0.0137	0.695	3
Endrin Aldehyde	20	85.98	0.0114	ND	NLE
4,4'-DDT	100	85.98	0.1253	4.142	2
Endosulfan-Sulfate	20	85.98	0.0091	ND	NLE
gamma -Chlordane	20	85.98	0.0114	ND	NLE
alpha-Chlordane	20	85.98	0.0114	ND	NLE
Toxaphene	20	85.98	0.0068	ND	0.1
Arochlor 1016	20	85.98	0.2552	ND	0.49
Arochlor 1221	20	85.98	0.4693	ND	0.49
Arochlor 1232	20	85.98	0.3190	ND	0.49
Arochlor 1242	20	85.98	0.3645	ND	0.49
Arochlor 1248	20	85.98	0.1458	ND	0.49
Arochlor 1254	20	85.98	0.0911	ND	0.49
Arochlor 1260	20	85.98	0.0820	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001171

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4189.08
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/13/99
	Bldg. 173	**Extraction Date:**	1/20/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/24/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	116

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	84.67	0.0071	ND	NLE
beta-BHC	20	84.67	0.0071	ND	NLE
gamma-BHC	20	84.67	0.0094	ND	0.52
delta-BHC	20	84.67	0.0094	ND	NLE
Heptachlor	20	84.67	0.0071	ND	0.15
Aldrin	20	84.67	0.0094	ND	0.04
Heptachlor Epoxide	20	84.67	0.0142	ND	NLE
Endosulfan I	20	84.67	0.0118	ND	NLE
4,4'-DDE	20	84.67	0.0094	0.186	2
Dieldrin	20	84.67	0.0118	ND	0.042
Endrin	20	84.67	0.0118	ND	17
Endosulfan II	20	84.67	0.0094	ND	NLE
4,4'-DDD	20	84.67	0.0142	ND	3
Endrin Aldehyde	20	84.67	0.0118	ND	NLE
4,4'-DDT	20	84.67	0.0260	0.152	2
Endosulfan-Sulfate	20	84.67	0.0094	ND	NLE
gamma -Chlordane	20	84.67	0.0118	ND	NLE
alpha-Chlordane	20	84.67	0.0118	ND	NLE
Toxaphene	20	84.67	0.0071	ND	0.1
Arochlor 1016	20	84.67	0.2643	ND	0.49
Arochlor 1221	20	84.67	0.4861	ND	0.49
Arochlor 1232	20	84.67	0.3304	ND	0.49
Arochlor 1242	20	84.67	0.3776	ND	0.49
Arochlor 1248	20	84.67	0.1510	ND	0.49
Arochlor 1254	20	84.67	0.0944	ND	0.49
Arochlor 1260	20	84.67	0.0850	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4189.10
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/13/99
	Bldg. 173	**Extraction Date:**	1/20/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/24/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	117

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	94.13	0.0063	ND	NLE
beta-BHC	20	94.13	0.0063	ND	NLE
gamma-BHC	20	94.13	0.0084	ND	0.52
delta-BHC	20	94.13	0.0084	ND	NLE
Heptachlor	20	94.13	0.0063	ND	0.15
Aldrin	20	94.13	0.0084	ND	0.04
Heptachlor Epoxide	20	94.13	0.0126	ND	NLE
Endosulfan I	20	94.13	0.0105	ND	NLE
4,4'-DDE	20	94.13	0.0084	0.155	2
Dieldrin	20	94.13	0.0105	ND	0.042
Endrin	20	94.13	0.0105	ND	17
Endosulfan II	20	94.13	0.0084	ND	NLE
4,4'-DDD	20	94.13	0.0126	0.015	3
Endrin Aldehyde	20	94.13	0.0105	ND	NLE
4,4'-DDT	20	94.13	0.0231	0.165	2
Endosulfan-Sulfate	20	94.13	0.0084	ND	NLE
gamma -Chlordane	20	94.13	0.0105	ND	NLE
alpha-Chlordane	20	94.13	0.0105	ND	NLE
Toxaphene	20	94.13	0.0063	ND	0.1
Arochlor 1016	20	94.13	0.2354	ND	0.49
Arochlor 1221	20	94.13	0.4329	ND	0.49
Arochlor 1232	20	94.13	0.2942	ND	0.49
Arochlor 1242	20	94.13	0.3363	ND	0.49
Arochlor 1248	20	94.13	0.1345	ND	0.49
Arochlor 1254	20	94.13	0.0841	ND	0.49
Arochlor 1260	20	94.13	0.0757	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

001173

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4189.12
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/13/99
	Bldg. 173	**Extraction Date:**	1/20/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/24/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	118

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	89.42	0.0066	ND	NLE
beta-BHC	20	89.42	0.0066	ND	NLE
gamma-BHC	20	89.42	0.0088	ND	0.52
delta-BHC	20	89.42	0.0088	ND	NLE
Heptachlor	20	89.42	0.0066	ND	0.15
Aldrin	20	89.42	0.0088	ND	0.04
Heptachlor Epoxide	20	89.42	0.0132	ND	NLE
Endosulfan I	20	89.42	0.0110	ND	NLE
4,4'-DDE	20	89.42	0.0088	0.094	2
Dieldrin	20	89.42	0.0110	0.013	0.042
Endrin	20	89.42	0.0110	ND	17
Endosulfan II	20	89.42	0.0088	ND	NLE
4,4'-DDD	20	89.42	0.0132	ND	3
Endrin Aldehyde	20	89.42	0.0110	ND	NLE
4,4'-DDT	20	89.42	0.0243	0.080	2
Endosulfan-Sulfate	20	89.42	0.0088	ND	NLE
gamma -Chlordane	20	89.42	0.0110	ND	NLE
alpha-Chlordane	20	89.42	0.0110	ND	NLE
Toxaphene	20	89.42	0.0066	ND	0.1
Arochlor 1016	20	89.42	0.2473	ND	0.49
Arochlor 1221	20	89.42	0.4548	ND	0.49
Arochlor 1232	20	89.42	0.3091	ND	0.49
Arochlor 1242	20	89.42	0.3533	ND	0.49
Arochlor 1248	20	89.42	0.1413	ND	0.49
Arochlor 1254	20	89.42	0.0883	ND	0.49
Arochlor 1260	20	89.42	0.0795	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	4189.14
	DPW. SELFM-PW-EV	**Date Rec'd:**	1/13/99
	Bldg. 173	**Extraction Date:**	1/20/99
	Ft. Monmouth, NJ 07703	**Analysis Date:**	2/24/99
Analysis:	SW-846 Method 8081/8082	**Location :**	M-14
Matrix:	Soil		
Analyst:	D. Wright	**Field ID:**	119

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Cleanup Criteria (mg/kg)
alpha-BHC	20	91.20	0.0065	ND	NLE
beta-BHC	20	91.20	0.0065	ND	NLE
gamma-BHC	20	91.20	0.0087	ND	0.52
delta-BHC	20	91.20	0.0087	ND	NLE
Heptachlor	20	91.20	0.0065	ND	0.15
Aldrin	20	91.20	0.0087	ND	0.04
Heptachlor Epoxide	20	91.20	0.0130	ND	NLE
Endosulfan I	20	91.20	0.0109	ND	NLE
4,4'-DDE	20	91.20	0.0087	0.136	2
Dieldrin	20	91.20	0.0109	ND	0.042
Endrin	20	91.20	0.0109	ND	17
Endosulfan II	20	91.20	0.0087	ND	NLE
4,4'-DDD	20	91.20	0.0130	0.022	3
Endrin Aldehyde	20	91.20	0.0109	ND	NLE
4,4'-DDT	20	91.20	0.0239	0.113	2
Endosulfan-Sulfate	20	91.20	0.0087	ND	NLE
gamma -Chlordane	20	91.20	0.0109	ND	NLE
alpha-Chlordane	20	91.20	0.0109	ND	NLE
Toxaphene	20	91.20	0.0065	ND	0.1
Arochlor 1016	20	91.20	0.2434	ND	0.49
Arochlor 1221	20	91.20	0.4477	ND	0.49
Arochlor 1232	20	91.20	0.3043	ND	0.49
Arochlor 1242	20	91.20	0.3477	ND	0.49
Arochlor 1248	20	91.20	0.1391	ND	0.49
Arochlor 1254	20	91.20	0.0869	ND	0.49
Arochlor 1260	20	91.20	0.0782	ND	0.49

ND = Not Detected
MDL = Method Detection Limit
NLE = No Limit Established

Column-Primary: RTX-CLPestcide 30m/.32mmID/.25um
Column-Confirmation: RTX-CLPestcide2 30m/.32mmID/.25um

METHOD BLANKS

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4159
Sample Prepared: 01/05/99

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: Method Blank

TAL-METALS RESULTS SUMMARY (mg/L)

Element	Date Analyzed	Result	MDL
Aluminum	01/06/98	0.097	0.01
Antimony	01/06/98	0.003	0.002
Arsenic	01/06/98	ND	0.002
Barium	01/06/98	0.0009	0.0005
Beryllium	01/06/98	ND	0.0005
Cadmium	01/06/98	ND	0.0005
Calcium	01/06/98	0.302	0.02
Chromium	01/06/98	0.0009	0.0005
Cobalt	01/06/98	ND	0.0005
Copper	01/06/98	0.017	0.003
Iron	01/06/98	0.506	0.01
Lead	01/06/98	ND	0.002
Magnesium	01/06/98	0.247	0.02
Manganese	01/06/98	0.0021	0.0005
Mercury	12/31/98	ND	0.0001
Nickel	01/06/98	0.0028	0.0005
Potassium	01/06/98	ND	0.02
Selenium	01/06/98	ND	0.002
Silver	01/06/98	ND	0.003
Sodium	01/06/98	0.144	0.02
Thallium	01/06/98	ND	0.003
Vanadium	01/06/98	ND	0.001
Zinc	01/06/98	0.021	0.001

ND = Not Detected, MDL = Method Detection Limit

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4160
Sample Prepared: 01/05/99

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: Method Blank

TAL-METALS RESULTS SUMMARY (mg/L)

Element	Date of Analysis	Result	MDL
Aluminum	01/06/99	0.097	0.01
Antimony	01/06/99	0.003	0.002
Arsenic	01/06/99	ND	0.002
Barium	01/06/99	0.0009	0.0005
Beryllium	01/06/99	ND	0.0005
Cadmium	01/06/99	ND	0.0005
Calcium	01/06/99	0.302	0.02
Chromium	01/06/99	0.0009	0.0005
Cobalt	01/06/99	ND	0.0005
Copper	01/06/99	0.017	0.003
Iron	01/06/99	0.506	0.01
Lead	01/06/99	ND	0.002
Magnesium	01/06/99	0.247	0.02
Manganese	01/06/99	0.0021	0.0005
Mercury	01/06/99	ND	0.0001
Nickel	01/06/99	0.0028	0.0005
Potassium	01/06/99	ND	0.02
Selenium	01/06/99	ND	0.002
Silver	01/06/99	ND	0.003
Sodium	01/06/99	0.144	0.02
Thallium	01/06/99	ND	0.003
Vanadium	01/06/99	ND	0.001
Zinc	01/06/99	0.021	0.001

ND = Not Detected, MDL = Method Detection Limit

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4162
Sample Prepared: 01/05/99

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: Method Blank

TAL-METALS RESULTS SUMMARY (mg/L)

Element	Date Analyzed	Result	MDL
Aluminum	01/06/98	0.097	0.01
Antimony	01/06/98	0.003	0.002
Arsenic	01/06/98	ND	0.002
Barium	01/06/98	0.0009	0.0005
Beryllium	01/06/98	ND	0.0005
Cadmium	01/06/98	ND	0.0005
Calcium	01/06/98	0.302	0.02
Chromium	01/06/98	0.0009	0.0005
Cobalt	01/06/98	ND	0.0005
Copper	01/06/98	0.017	0.003
Iron	01/06/98	0.506	0.01
Lead	01/06/98	ND	0.002
Magnesium	01/06/98	0.247	0.02
Manganese	01/06/98	0.0021	0.0005
Mercury	01/06/99	ND	0.0001
Nickel	01/06/98	0.0028	0.0005
Potassium	01/06/98	ND	0.02
Selenium	01/06/98	ND	0.002
Silver	01/06/98	ND	0.003
Sodium	01/06/98	0.144	0.02
Thallium	01/06/98	ND	0.003
Vanadium	01/06/98	ND	0.001
Zinc	01/06/98	0.021	0.001

ND = Not Detected, MDL = Method Detection Limit

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4164
Sample Prepared: 01/05/99

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: Method Blank

TAL-METALS RESULTS SUMMARY (mg/L)

Element	Date of Analysis	Result	MDL
Aluminum	01/06/99	0.097	0.01
Antimony	01/06/99	0.003	0.002
Arsenic	01/06/99	ND	0.002
Barium	01/06/99	0.0009	0.0005
Beryllium	01/06/99	ND	0.0005
Cadmium	01/06/99	ND	0.0005
Calcium	01/06/99	0.302	0.02
Chromium	01/06/99	0.0009	0.0005
Cobalt	01/06/99	ND	0.0005
Copper	01/06/99	0.017	0.003
Iron	01/06/99	0.506	0.01
Lead	01/06/99	ND	0.002
Magnesium	01/06/99	0.247	0.02
Manganese	01/06/99	0.0021	0.0005
Mercury	01/06/99	ND	0.0001
Nickel	01/06/99	0.0028	0.0005
Potassium	01/06/99	ND	0.02
Selenium	01/06/99	ND	0.002
Silver	01/06/99	ND	0.003
Sodium	01/06/99	0.144	0.02
Thallium	01/06/99	ND	0.003
Vanadium	01/06/99	ND	0.001
Zinc	01/06/99	0.021	0.001

ND = Not Detected, MDL = Method Detection Limit

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169
Sample Prepared: 01/12/99

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: Method Blank

TAL-METALS RESULTS SUMMARY (mg/L)

Element	Date of Analysis	Result	MDL
Aluminum	01/13/99	0.08	0.01
Antimony	01/13/99	ND	0.002
Arsenic	01/13/99	ND	0.002
Barium	01/13/99	0.0015	0.0005
Beryllium	01/13/99	ND	0.0005
Cadmium	01/13/99	ND	0.0005
Calcium	01/13/99	0.38	0.02
Chromium	01/13/99	0.0010	0.0005
Cobalt	01/13/99	ND	0.0005
Copper	01/13/99	0.031	0.003
Iron	01/13/99	0.14	0.01
Lead	01/13/99	ND	0.002
Magnesium	01/13/99	0.42	0.02
Manganese	01/13/99	0.0011	0.0005
Mercury	01/07/99	ND	0.0001
Nickel	01/13/99	0.0031	0.0005
Potassium	01/13/99	0.12	0.02
Selenium	01/13/99	ND	0.002
Silver	01/13/99	ND	0.003
Sodium	01/13/99	0.29	0.02
Thallium	01/13/99	ND	0.003
Vanadium	01/13/99	ND	0.001
Zinc	01/13/99	0.063	0.001

ND = Not Detected, MDL = Method Detection Limit

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4156
Sample Prepared: 01/05/99

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: Method Blank

TAL-METALS RESULTS SUMMARY (mg/L)

Element	Date Analyzed	Result	MDL
Aluminum	01/06/98	0.097	0.01
Antimony	01/06/98	0.003	0.002
Arsenic	01/06/98	ND	0.002
Barium	01/06/98	0.0009	0.0005
Beryllium	01/06/98	ND	0.0005
Cadmium	01/06/98	ND	0.0005
Calcium	01/06/98	0.302	0.02
Chromium	01/06/98	0.0009	0.0005
Cobalt	01/06/98	ND	0.0005
Copper	01/06/98	0.017	0.003
Iron	01/06/98	0.506	0.01
Lead	01/06/98	ND	0.002
Magnesium	01/06/98	0.247	0.02
Manganese	01/06/98	0.0021	0.0005
Mercury	12/31/98	ND	0.0001
Nickel	01/06/98	0.0028	0.0005
Potassium	01/06/98	ND	0.02
Selenium	01/06/98	ND	0.002
Silver	01/06/98	ND	0.003
Sodium	01/06/98	0.144	0.02
Thallium	01/06/98	ND	0.003
Vanadium	01/06/98	ND	0.001
Zinc	01/06/98	0.021	0.001

ND = Not Detected, MDL = Method Detection Limit

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4173
Sample Prepared: 01//99

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: Method Blank

TAL-METALS RESULTS SUMMARY (mg/L)

Element	Date of Analysis	Result	MDL
Aluminum	01/13/99	0.08	0.01
Antimony	01/13/99	ND	0.002
Arsenic	01/13/99	ND	0.002
Barium	01/13/99	0.0015	0.0005
Beryllium	01/13/99	ND	0.0005
Cadmium	01/13/99	ND	0.0005
Calcium	01/13/99	0.38	0.02
Chromium	01/13/99	0.0010	0.0005
Cobalt	01/13/99	ND	0.0005
Copper	01/13/99	0.031	0.003
Iron	01/13/99	0.14	0.01
Lead	01/13/99	ND	0.002
Magnesium	01/13/99	0.42	0.02
Manganese	01/13/99	0.0011	0.0005
Mercury	01/07/99	ND	0.0001
Nickel	01/13/99	0.0031	0.0005
Potassium	01/13/99	0.12	0.02
Selenium	01/13/99	ND	0.002
Silver	01/13/99	ND	0.003
Sodium	01/13/99	0.29	0.02
Thallium	01/13/99	ND	0.003
Vanadium	01/13/99	ND	0.001
Zinc	01/13/99	0.063	0.001

ND = Not Detected, MDL = Method Detection Limit

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4177
Sample Prepared: 01//99

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: Method Blank

TAL-METALS RESULTS SUMMARY (mg/L)

Element	Date of Analysis	Result	MDL
Aluminum	01/13/99	0.08	0.01
Antimony	01/13/99	ND	0.002
Arsenic	01/13/99	ND	0.002
Barium	01/13/99	0.0015	0.0005
Beryllium	01/13/99	ND	0.0005
Cadmium	01/13/99	ND	0.0005
Calcium	01/13/99	0.38	0.02
Chromium	01/13/99	0.0010	0.0005
Cobalt	01/13/99	ND	0.0005
Copper	01/13/99	0.031	0.003
Iron	01/13/99	0.14	0.01
Lead	01/13/99	ND	0.002
Magnesium	01/13/99	0.42	0.02
Manganese	01/13/99	0.0011	0.0005
Mercury	01/14/99	ND	0.0001
Nickel	01/13/99	0.0031	0.0005
Potassium	01/13/99	0.12	0.02
Selenium	01/13/99	ND	0.002
Silver	01/13/99	ND	0.003
Sodium	01/13/99	0.29	0.02
Thallium	01/13/99	ND	0.003
Vanadium	01/13/99	ND	0.001
Zinc	01/13/99	0.063	0.001

ND = Not Detected, MDL = Method Detection Limit

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4179
Sample Prepared: 01/12/99

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: Method Blank

TAL-METALS RESULTS SUMMARY (mg/L)

Element	Date of Analysis	Result	MDL
Aluminum	01/13/99	0.08	0.01
Antimony	01/13/99	ND	0.002
Arsenic	01/13/99	ND	0.002
Barium	01/13/99	0.0015	0.0005
Beryllium	01/13/99	ND	0.0005
Cadmium	01/13/99	ND	0.0005
Calcium	01/13/99	0.38	0.02
Chromium	01/13/99	0.0010	0.0005
Cobalt	01/13/99	ND	0.0005
Copper	01/13/99	0.031	0.003
Iron	01/13/99	0.14	0.01
Lead	01/13/99	ND	0.002
Magnesium	01/13/99	0.42	0.02
Manganese	01/13/99	0.0011	0.0005
Mercury	01/14/99	ND	0.0001
Nickel	01/13/99	0.0031	0.0005
Potassium	01/13/99	0.12	0.02
Selenium	01/13/99	ND	0.002
Silver	01/13/99	ND	0.003
Sodium	01/13/99	0.29	0.02
Thallium	01/13/99	ND	0.003
Vanadium	01/13/99	ND	0.001
Zinc	01/13/99	0.063	0.001

ND = Not Detected, MDL = Method Detection Limit

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4184
Sample Prepared: 01/22/99

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: Method Blank

TAL-METALS RESULTS SUMMARY (mg/L)

Element	Date of Analysis	Result	MDL
Aluminum	01/25/99	0.08	0.01
Antimony	01/25/99	0.003	0.002
Arsenic	01/25/99	ND	0.002
Barium	01/25/99	0.0021	0.0005
Beryllium	01/25/99	ND	0.0005
Cadmium	01/25/99	ND	0.0005
Calcium	01/25/99	0.41	0.02
Chromium	01/25/99	0.0010	0.0005
Cobalt	01/25/99	0.0005	0.0005
Copper	01/25/99	0.637	0.003
Iron	01/25/99	0.15	0.01
Lead	01/25/99	ND	0.002
Magnesium	01/25/99	0.34	0.02
Manganese	01/25/99	0.0006	0.0005
Mercury	01/14/99	ND	0.0001
Nickel	01/25/99	0.0038	0.0005
Potassium	01/25/99	0.11	0.02
Selenium	01/25/99	ND	0.002
Silver	01/25/99	ND	0.003
Sodium	01/25/99	0.32	0.02
Thallium	01/25/99	ND	0.003
Vanadium	01/25/99	ND	0.001
Zinc	01/25/99	0.016	0.001

ND = Not Detected, MDL = Method Detection Limit

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4189
Sample Prepared: 01/22/99

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: Method Blank

TAL-METALS RESULTS SUMMARY (mg/L)

Element	Date of Analysis	Result	MDL
Aluminum	01/25/99	0.08	0.01
Antimony	01/25/99	0.003	0.002
Arsenic	01/25/99	ND	0.002
Barium	01/25/99	0.0021	0.0005
Beryllium	01/25/99	ND	0.0005
Cadmium	01/25/99	ND	0.0005
Calcium	01/25/99	0.41	0.02
Chromium	01/25/99	0.0010	0.0005
Cobalt	01/25/99	0.0005	0.0005
Copper	01/25/99	0.637	0.003
Iron	01/25/99	0.15	0.01
Lead	01/25/99	ND	0.002
Magnesium	01/25/99	0.34	0.02
Manganese	01/25/99	0.0006	0.0005
Mercury	01/14/99	ND	0.0001
Nickel	01/25/99	0.0038	0.0005
Potassium	01/25/99	0.11	0.02
Selenium	01/25/99	ND	0.002
Silver	01/25/99	ND	0.003
Sodium	01/25/99	0.32	0.02
Thallium	01/25/99	ND	0.003
Vanadium	01/25/99	ND	0.001
Zinc	01/25/99	0.016	0.001

ND = Not Detected, MDL = Method Detection Limit

FIELD DUPLICATES

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4160.22
Sample Received: 12/29/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: Field Dup, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	9740	NLE	2.34
Antimony	01/06/99	0.832	14	0.468
Arsenic	01/06/99	13.4	20	0.468
Barium	01/06/99	89.5	700	0.117
Beryllium	01/06/99	1.55	1	0.117
Cadmium	01/06/99	0.850	1	0.117
Calcium	01/06/99	7500	NLE	4.68
Chromium	01/06/99	.166	NLE	0.117
Cobalt	01/06/99	1.95	NLE	0.117
Copper	01/06/99	7.08	600	0.703
Iron	01/06/99	35000	NLE	2.34
Lead	01/06/99	15.0	100	0.468
Magnesium	01/06/99	3850	NLE	4.68
Manganese	01/06/99	28.5	NLE	0.117
Mercury	01/06/99	ND	14	0.022
Nickel	01/06/99	9.39	250	0.117
Potassium	01/06/99	9660	NLE	4.68
Selenium	01/06/99	1.97	63	0.703
Silver	01/06/99	ND	110	0.703
Sodium	01/06/99	213	NLE	4.68
Thallium	01/06/99	ND	2	0.703
Vanadium	01/06/99	70.5	370	0.234
Zinc	01/06/99	73.7	1500	0.234

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4164.20
Sample Received: 12/31/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: Field Dup, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	10100	NLE	2.53
Antimony	01/06/99	1.13	14	0.507
Arsenic	01/06/99	13.0	20	0.507
Barium	01/06/99	36.3	700	0.127
Beryllium	01/06/99	1.03	1	0.127
Cadmium	01/06/99	0.739	1	0.127
Calcium	01/06/99	830	NLE	5.07
Chromium	01/06/99	99.5	NLE	0.127
Cobalt	01/06/99	2.17	NLE	0.127
Copper	01/06/99	14.5	600	0.760
Iron	01/06/99	26000	NLE	2.53
Lead	01/06/99	20.8	100	0.507
Magnesium	01/06/99	2210	NLE	5.07
Manganese	01/06/99	23.9	NLE	0.127
Mercury	01/06/99	0.056	14	0.020
Nickel	01/06/99	8.27	250	0.127
Potassium	01/06/99	5310	NLE	5.07
Selenium	01/06/99	1.25	63	0.760
Silver	01/06/99	ND	110	0.760
Sodium	01/06/99	46.5	NLE	5.07
Thallium	01/06/99	ND	2	0.760
Vanadium	01/06/99	49.3	370	0.253
Zinc	01/06/99	62.8	1500	0.253

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169.38
Sample Received: 01/05/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: Field Dup, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	16900	NLE	2.45
Antimony	01/13/99	1.97	14	0.490
Arsenic	01/13/99	20.8	20	0.490
Barium	01/13/99	90.5	700	0.122
Beryllium	01/13/99	1.72	1	0.122
Cadmium	01/13/99	2.10	1	0.122
Calcium	01/13/99	987	NLE	4.90
Chromium	01/13/99	199	NLE	0.122
Cobalt	01/13/99	1.51	NLE	0.122
Copper	01/13/99	55.3	600	0.735
Iron	01/13/99	43900	NLE	2.45
Lead	01/13/99	75.8	100	0.490
Magnesium	01/13/99	6020	NLE	4.90
Manganese	01/13/99	41.8	NLE	0.122
Mercury	01/07/99	2.89	14	0.023
Nickel	01/13/99	7.13	250	0.122
Potassium	01/13/99	13500	NLE	4.90
Selenium	01/13/99	1.11	63	0.735
Silver	01/13/99	5.00	110	0.735
Sodium	01/13/99	151	NLE	4.90
Thallium	01/13/99	ND	2	0.735
Vanadium	01/13/99	84.7	370	0.245
Zinc	01/13/99	113	1500	0.245

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4177.20
Sample Received: 01/07/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: Field Dup, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	10100	NLE	2.47
Antimony	01/13/99	ND	14	0.494
Arsenic	01/13/99	6.88	20	0.494
Barium	01/13/99	14.9	700	0.123
Beryllium	01/13/99	1.13	1	0.123
Cadmium	01/13/99	0.734	1	0.123
Calcium	01/13/99	294	NLE	4.94
Chromium	01/13/99	93.1	NLE	0.123
Cobalt	01/13/99	1.23	NLE	0.123
Copper	01/13/99	4.69	600	0.741
Iron	01/13/99	29600	NLE	2.47
Lead	01/13/99	5.14	100	0.494
Magnesium	01/13/99	3170	NLE	4.94
Manganese	01/13/99	24.8	NLE	0.123
Mercury	01/14/99	0.044	14	0.023
Nickel	01/13/99	5.04	250	0.123
Potassium	01/13/99	8490	NLE	4.94
Selenium	01/13/99	ND	63	0.741
Silver	01/13/99	ND	110	0.741
Sodium	01/13/99	95.6	NLE	4.94
Thallium	01/13/99	ND	2	0.741
Vanadium	01/13/99	47.8	370	0.247
Zinc	01/13/99	43.4	1500	0.247

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4189.16
Sample Received: 01/13/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: Field Dup, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/25/99	6590	NLE	2.18
Antimony	01/25/99	ND	14	0.437
Arsenic	01/25/99	6.05	20	0.437
Barium	01/25/99	18.0	700	0.109
Beryllium	01/25/99	0.630	1	0.109
Cadmium	01/25/99	0.334	1	0.109
Calcium	01/25/99	276	NLE	4.37
Chromium	01/25/99	71.0	NLE	0.109
Cobalt	01/25/99	0.84	NLE	0.109
Copper	01/25/99	7.75	600	0.655
Iron	01/25/99	17100	NLE	2.18
Lead	01/25/99	13.5	100	0.437
Magnesium	01/25/99	2210	NLE	4.37
Manganese	01/25/99	23.8	NLE	0.109
Mercury	01/14/99	0.051	14	0.023
Nickel	01/25/99	3.39	250	0.109
Potassium	01/25/99	4560	NLE	4.37
Selenium	01/25/99	0.959	63	0.655
Silver	01/25/99	ND	110	0.655
Sodium	01/25/99	62.2	NLE	4.37
Thallium	01/25/99	ND	2	0.655
Vanadium	01/25/99	32.1	370	0.218
Zinc	01/25/99	39.3	1500	0.218

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

SAMPLES

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4156.02
Sample Received: 12/23/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-1, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	10200	NLE	2.012
Antimony	01/06/99	1.03	14	0.402
Arsenic	01/06/99	9.97	20	0.402
Barium	01/06/99	34.9	700	0.101
Beryllium	01/06/99	1.07	1	0.101
Cadmium	01/06/99	0.632	1	0.101
Calcium	01/06/99	518	NLE	4.024
Chromium	01/06/99	94.2	NLE	0.101
Cobalt	01/06/99	4.74	NLE	0.101
Copper	01/06/99	3.53	600	0.604
Iron	01/06/99	48200	NLE	2.012
Lead	01/06/99	11.0	100	0.402
Magnesium	01/06/99	1200	NLE	4.024
Manganese	01/06/99	150	NLE	0.101
Mercury	12/31/98	0.05	14	0.022
Nickel	01/06/99	15.8	250	0.101
Potassium	01/06/99	2180	NLE	4.024
Selenium	01/06/99	ND	63	0.604
Silver	01/06/99	ND	110	0.604
Sodium	01/06/99	310	NLE	4.024
Thallium	01/06/99	ND	2	0.604
Vanadium	01/06/99	138	370	0.201
Zinc	01/06/99	84.2	1500	0.201

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4156.04
Sample Received: 12/23/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-2, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	10600	NLE	2.125
Antimony	01/06/99	1.17	14	0.425
Arsenic	01/06/99	9.39	20	0.425
Barium	01/06/99	52.3	700	0.106
Beryllium	01/06/99	1.37	1	0.106
Cadmium	01/06/99	1.22	1	0.106
Calcium	01/06/99	1640	NLE	4.251
Chromium	01/06/99	95.0	NLE	0.106
Cobalt	01/06/99	3.25	NLE	0.106
Copper	01/06/99	15.5	600	0.638
Iron	01/06/99	30900	NLE	2.125
Lead	01/06/99	45.8	100	0.425
Magnesium	01/06/99	3190	NLE	4.251
Manganese	01/06/99	61.0	NLE	0.106
Mercury	12/31/98	0.11	14	0.024
Nickel	01/06/99	11.3	250	0.106
Potassium	01/06/99	6600	NLE	4.251
Selenium	01/06/99	0.762	63	0.638
Silver	01/06/99	ND	110	0.638
Sodium	01/06/99	155	NLE	4.251
Thallium	01/06/99	ND	2	0.638
Vanadium	01/06/99	56.0	370	0.213
Zinc	01/06/99	103	1500	0.213

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4156.06
Sample Received: 12/23/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-3, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	7420	NLE	2.183
Antimony	01/06/99	0.633	14	0.437
Arsenic	01/06/99	6.70	20	0.437
Barium	01/06/99	30.1	700	0.109
Beryllium	01/06/99	1.11	1	0.109
Cadmium	01/06/99	0.470	1	0.109
Calcium	01/06/99	1590	NLE	4.365
Chromium	01/06/99	99.2	NLE	0.109
Cobalt	01/06/99	2.62	NLE	0.109
Copper	01/06/99	14.2	600	0.655
Iron	01/06/99	24100	NLE	2.183
Lead	01/06/99	39.3	100	0.437
Magnesium	01/06/99	3150	NLE	4.365
Manganese	01/06/99	48.7	NLE	0.109
Mercury	12/31/98	0.11	14	0.024
Nickel	01/06/99	6.74	250	0.109
Potassium	01/06/99	6620	NLE	4.365
Selenium	01/06/99	1.28	63	0.655
Silver	01/06/99	ND	110	0.655
Sodium	01/06/99	228	NLE	4.365
Thallium	01/06/99	ND	2	0.655
Vanadium	01/06/99	47.3	370	0.218
Zinc	01/06/99	58.0	1500	0.218

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4156.08
Sample Received: 12/23/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-4, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	11500	NLE	1.710
Antimony	01/06/99	0.395	14	0.342
Arsenic	01/06/99	18.2	20	0.342
Barium	01/06/99	30.5	700	0.085
Beryllium	01/06/99	1.04	1	0.085
Cadmium	01/06/99	0.625	1	0.085
Calcium	01/06/99	697	NLE	3.420
Chromium	01/06/99	89.3	NLE	0.085
Cobalt	01/06/99	1.99	NLE	0.085
Copper	01/06/99	5.58	600	0.513
Iron	01/06/99	30900	NLE	1.710
Lead	01/06/99	16.9	100	0.342
Magnesium	01/06/99	3160	NLE	3.420
Manganese	01/06/99	51.8	NLE	0.085
Mercury	12/31/98	0.12	14	0.024
Nickel	01/06/99	6.91	250	0.085
Potassium	01/06/99	6610	NLE	3.420
Selenium	01/06/99	ND	63	0.513
Silver	01/06/99	ND	110	0.513
Sodium	01/06/99	96.7	NLE	3.420
Thallium	01/06/99	ND	2	0.513
Vanadium	01/06/99	58.9	370	0.171
Zinc	01/06/99	71.9	1500	0.171

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4156.10
Sample Received: 12/23/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-5, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	11700	NLE	2.146
Antimony	01/06/99	0.798	14	0.429
Arsenic	01/06/99	14.5	20	0.429
Barium	01/06/99	71.9	700	0.107
Beryllium	01/06/99	1.65	1	0.107
Cadmium	01/06/99	0.711	1	0.107
Calcium	01/06/99	1320	NLE	4.293
Chromium	01/06/99	169	NLE	0.107
Cobalt	01/06/99	1.98	NLE	0.107
Copper	01/06/99	7.72	600	0.644
Iron	01/06/99	39800	NLE	2.146
Lead	01/06/99	21.1	100	0.429
Magnesium	01/06/99	4950	NLE	4.293
Manganese	01/06/99	27.8	NLE	0.107
Mercury	12/31/98	0.12	14	0.026
Nickel	01/06/99	8.58	250	0.107
Potassium	01/06/99	11100	NLE	4.293
Selenium	01/06/99	2.19	63	0.644
Silver	01/06/99	ND	110	0.644
Sodium	01/06/99	157	NLE	4.293
Thallium	01/06/99	ND	2	0.644
Vanadium	01/06/99	82.1	370	0.215
Zinc	01/06/99	68.9	1500	0.215

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4156.12
Sample Received: 12/23/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-6, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	11900	NLE	2.338
Antimony	01/06/99	0.569	14	0.468
Arsenic	01/06/99	13.7	20	0.468
Barium	01/06/99	87.6	700	0.117
Beryllium	01/06/99	1.89	1	0.117
Cadmium	01/06/99	0.873	1	0.117
Calcium	01/06/99	8190	NLE	4.676
Chromium	01/06/99	179	NLE	0.117
Cobalt	01/06/99	2.58	NLE	0.117
Copper	01/06/99	7.43	600	0.701
Iron	01/06/99	38400	NLE	2.338
Lead	01/06/99	11.7	100	0.468
Magnesium	01/06/99	5370	NLE	4.676
Manganese	01/06/99	54.5	NLE	0.117
Mercury	12/31/98	0.07	14	0.022
Nickel	01/06/99	13.2	250	0.117
Potassium	01/06/99	16400	NLE	4.676
Selenium	01/06/99	2.18	63	0.701
Silver	01/06/99	ND	110	0.701
Sodium	01/06/99	360	NLE	4.676
Thallium	01/06/99	ND	2	0.701
Vanadium	01/06/99	77.1	370	0.234
Zinc	01/06/99	78.5	1500	0.234

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4159.02
Sample Received: 12/28/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-7, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	11700	NLE	2.198
Antimony	01/06/99	0.570	14	0.440
Arsenic	01/06/99	12.5	20	0.440
Barium	01/06/99	83.3	700	0.110
Beryllium	01/06/99	1.90	1	0.110
Cadmium	01/06/99	0.778	1	0.110
Calcium	01/06/99	5240	NLE	4.396
Chromium	01/06/99	211	NLE	0.110
Cobalt	01/06/99	1.59	NLE	0.110
Copper	01/06/99	6.79	600	0.659
Iron	01/06/99	45100	NLE	2.198
Lead	01/06/99	10.0	100	0.440
Magnesium	01/06/99	6280	NLE	4.396
Manganese	01/06/99	28.9	NLE	0.110
Mercury	12/31/98	0.06	14	0.023
Nickel	01/06/99	7.55	250	0.110
Potassium	01/06/99	14700	NLE	4.396
Selenium	01/06/99	1.39	63	0.659
Silver	01/06/99	ND	110	0.659
Sodium	01/06/99	167	NLE	4.396
Thallium	01/06/99	ND	2	0.659
Vanadium	01/06/99	82.8	370	0.220
Zinc	01/06/99	75.9	1500	0.220

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4159.04
Sample Received: 12/28/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-8, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	10800	NLE	2.166
Antimony	01/06/99	0.482	14	0.433
Arsenic	01/06/99	9.96	20	0.433
Barium	01/06/99	65.4	700	0.108
Beryllium	01/06/99	1.36	1	0.108
Cadmium	01/06/99	0.740	1	0.108
Calcium	01/06/99	3890	NLE	4.332
Chromium	01/06/99	140	NLE	0.108
Cobalt	01/06/99	1.94	NLE	0.108
Copper	01/06/99	14.0	600	0.650
Iron	01/06/99	31500	NLE	2.166
Lead	01/06/99	40.3	100	0.433
Magnesium	01/06/99	3940	NLE	4.332
Manganese	01/06/99	29.5	NLE	0.108
Mercury	12/31/98	0.10	14	0.023
Nickel	01/06/99	8.55	250	0.108
Potassium	01/06/99	8470	NLE	4.332
Selenium	01/06/99	1.49	63	0.650
Silver	01/06/99	ND	110	0.650
Sodium	01/06/99	229	NLE	4.332
Thallium	01/06/99	ND	2	0.650
Vanadium	01/06/99	66.3	370	0.217
Zinc	01/06/99	60.1	1500	0.217

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Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4159.06
Sample Received: 12/28/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-9, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	10200	NLE	1.865
Antimony	01/06/99	0.623	14	0.373
Arsenic	01/06/99	12.3	20	0.373
Barium	01/06/99	85.1	700	0.093
Beryllium	01/06/99	1.76	1	0.093
Cadmium	01/06/99	0.983	1	0.093
Calcium	01/06/99	4520	NLE	3.730
Chromium	01/06/99	190	NLE	0.093
Cobalt	01/06/99	1.45	NLE	0.093
Copper	01/06/99	8.04	600	0.560
Iron	01/06/99	40500	NLE	1.865
Lead	01/06/99	7.23	100	0.373
Magnesium	01/06/99	5670	NLE	3.730
Manganese	01/06/99	33.6	NLE	0.093
Mercury	12/31/98	0.06	14	0.026
Nickel	01/06/99	8.06	250	0.093
Potassium	01/06/99	13300	NLE	3.730
Selenium	01/06/99	1.88	63	0.560
Silver	01/06/99	ND	110	0.560
Sodium	01/06/99	496	NLE	3.730
Thallium	01/06/99	ND	2	0.560
Vanadium	01/06/99	76.4	370	0.187
Zinc	01/06/99	61.2	1500	0.187

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4159.08
Sample Received: 12/28/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-10, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	10000	NLE	2.372
Antimony	01/06/99	0.661	14	0.474
Arsenic	01/06/99	11.2	20	0.474
Barium	01/06/99	78.3	700	0.119
Beryllium	01/06/99	1.50	1	0.119
Cadmium	01/06/99	0.534	1	0.119
Calcium	01/06/99	5320	NLE	4.743
Chromium	01/06/99	165	NLE	0.119
Cobalt	01/06/99	1.80	NLE	0.119
Copper	01/06/99	6.37	600	0.712
Iron	01/06/99	36600	NLE	2.372
Lead	01/06/99	12.1	100	0.474
Magnesium	01/06/99	4810	NLE	4.743
Manganese	01/06/99	27.6	NLE	0.119
Mercury	12/31/98	0.05	14	0.024
Nickel	01/06/99	6.58	250	0.119
Potassium	01/06/99	11400	NLE	4.743
Selenium	01/06/99	1.71	63	0.712
Silver	01/06/99	ND	110	0.712
Sodium	01/06/99	257	NLE	4.743
Thallium	01/06/99	ND	2	0.712
Vanadium	01/06/99	71.2	370	0.237
Zinc	01/06/99	60.3	1500	0.237

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4159.10
Sample Received: 12/28/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-11, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	6820	NLE	2.279
Antimony	01/06/99	0.675	14	0.456
Arsenic	01/06/99	10.3	20	0.456
Barium	01/06/99	58.4	700	0.114
Beryllium	01/06/99	1.36	1	0.114
Cadmium	01/06/99	0.809	1	0.114
Calcium	01/06/99	3420	NLE	4.559
Chromium	01/06/99	107	NLE	0.114
Cobalt	01/06/99	1.91	NLE	0.114
Copper	01/06/99	6.89	600	0.684
Iron	01/06/99	24600	NLE	2.279
Lead	01/06/99	17.5	100	0.456
Magnesium	01/06/99	2930	NLE	4.559
Manganese	01/06/99	21.5	NLE	0.114
Mercury	12/31/98	0.07	14	0.022
Nickel	01/06/99	9.54	250	0.114
Potassium	01/06/99	6680	NLE	4.559
Selenium	01/06/99	1.83	63	0.684
Silver	01/06/99	ND	110	0.684
Sodium	01/06/99	556	NLE	4.559
Thallium	01/06/99	ND	2	0.684
Vanadium	01/06/99	44.7	370	0.228
Zinc	01/06/99	53.1	1500	0.228

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4159.12
Sample Received: 12/28/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-12, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	8430	NLE	2.414
Antimony	01/06/99	0.863	14	0.483
Arsenic	01/06/99	12.0	20	0.483
Barium	01/06/99	77.3	700	0.121
Beryllium	01/06/99	1.17	1	0.121
Cadmium	01/06/99	0.394	1	0.121
Calcium	01/06/99	5300	NLE	4.828
Chromium	01/06/99	129	NLE	0.121
Cobalt	01/06/99	1.30	NLE	0.121
Copper	01/06/99	6.83	600	0.724
Iron	01/06/99	29300	NLE	2.414
Lead	01/06/99	23.6	100	0.483
Magnesium	01/06/99	3420	NLE	4.828
Manganese	01/06/99	26.9	NLE	0.121
Mercury	12/31/98	0.09	14	0.023
Nickel	01/06/99	5.47	250	0.121
Potassium	01/06/99	7820	NLE	4.828
Selenium	01/06/99	1.72	63	0.724
Silver	01/06/99	ND	110	0.724
Sodium	01/06/99	132	NLE	4.828
Thallium	01/06/99	ND	2	0.724
Vanadium	01/06/99	58.7	370	0.241
Zinc	01/06/99	42.7	1500	0.241

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4159.14
Sample Received: 12/28/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-13, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	5870	NLE	2.321
Antimony	01/06/99	ND	14	0.464
Arsenic	01/06/99	10.8	20	0.464
Barium	01/06/99	66.3	700	0.116
Beryllium	01/06/99	0.952	1	0.116
Cadmium	01/06/99	0.381	1	0.116
Calcium	01/06/99	4910	NLE	4.641
Chromium	01/06/99	99.6	NLE	0.116
Cobalt	01/06/99	0.826	NLE	0.116
Copper	01/06/99	6.28	600	0.696
Iron	01/06/99	23800	NLE	2.321
Lead	01/06/99	10.7	100	0.464
Magnesium	01/06/99	2800	NLE	4.641
Manganese	01/06/99	17.1	NLE	0.116
Mercury	12/31/98	0.03	14	0.026
Nickel	01/06/99	4.88	250	0.116
Potassium	01/06/99	6240	NLE	4.641
Selenium	01/06/99	2.08	63	0.696
Silver	01/06/99	ND	110	0.696
Sodium	01/06/99	451	NLE	4.641
Thallium	01/06/99	ND	2	0.696
Vanadium	01/06/99	38.1	370	0.232
Zinc	01/06/99	41.1	1500	0.232

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4159.16
Sample Received: 12/28/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-14, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	9250	NLE	2.564
Antimony	01/06/99	0.619	14	0.513
Arsenic	01/06/99	12.2	20	0.513
Barium	01/06/99	68.6	700	0.128
Beryllium	01/06/99	1.24	1	0.128
Cadmium	01/06/99	0.519	1	0.128
Calcium	01/06/99	1070	NLE	5.129
Chromium	01/06/99	142	NLE	0.128
Cobalt	01/06/99	1.49	NLE	0.128
Copper	01/06/99	8.62	600	0.769
Iron	01/06/99	35700	NLE	2.564
Lead	01/06/99	20.1	100	0.513
Magnesium	01/06/99	3890	NLE	5.129
Manganese	01/06/99	27.2	NLE	0.128
Mercury	12/31/98	0.04	14	0.024
Nickel	01/06/99	6.63	250	0.128
Potassium	01/06/99	9260	NLE	5.129
Selenium	01/06/99	2.31	63	0.769
Silver	01/06/99	ND	110	0.769
Sodium	01/06/99	359	NLE	5.129
Thallium	01/06/99	ND	2	0.769
Vanadium	01/06/99	66.2	370	0.256
Zinc	01/06/99	56.8	1500	0.256

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4159.18
Sample Received: 12/28/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-15, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	4610	NLE	2.192
Antimony	01/06/99	0.612	14	0.438
Arsenic	01/06/99	7.57	20	0.438
Barium	01/06/99	48.9	700	0.110
Beryllium	01/06/99	0.825	1	0.110
Cadmium	01/06/99	0.332	1	0.110
Calcium	01/06/99	3020	NLE	4.385
Chromium	01/06/99	63.2	NLE	0.110
Cobalt	01/06/99	1.35	NLE	0.110
Copper	01/06/99	10.9	600	0.658
Iron	01/06/99	16800	NLE	2.192
Lead	01/06/99	25.6	100	0.438
Magnesium	01/06/99	1450	NLE	4.385
Manganese	01/06/99	13.8	NLE	0.110
Mercury	12/31/98	0.08	14	0.018
Nickel	01/06/99	5.00	250	0.110
Potassium	01/06/99	2920	NLE	4.385
Selenium	01/06/99	1.42	63	0.658
Silver	01/06/99	ND	110	0.658
Sodium	01/06/99	447	NLE	4.385
Thallium	01/06/99	ND	2	0.658
Vanadium	01/06/99	28.8	370	0.219
Zinc	01/06/99	39.4	1500	0.219

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4159.20
Sample Received: 12/28/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-16, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	5610	NLE	2.073
Antimony	01/06/99	0.643	14	0.415
Arsenic	01/06/99	9.56	20	0.415
Barium	01/06/99	64.1	700	0.104
Beryllium	01/06/99	1.02	1	0.104
Cadmium	01/06/99	0.548	1	0.104
Calcium	01/06/99	4580	NLE	4.145
Chromium	01/06/99	95.5	NLE	0.104
Cobalt	01/06/99	1.46	NLE	0.104
Copper	01/06/99	6.87	600	0.622
Iron	01/06/99	25100	NLE	2.073
Lead	01/06/99	17.1	100	0.415
Magnesium	01/06/99	2670	NLE	4.145
Manganese	01/06/99	19.5	NLE	0.104
Mercury	12/31/98	0.03	14	0.025
Nickel	01/06/99	6.78	250	0.104
Potassium	01/06/99	7030	NLE	4.145
Selenium	01/06/99	2.08	63	0.622
Silver	01/06/99	ND	110	0.622
Sodium	01/06/99	225	NLE	4.145
Thallium	01/06/99	ND	2	0.622
Vanadium	01/06/99	30.7	370	0.207
Zinc	01/06/99	63.1	1500	0.207

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4159.22
Sample Received: 12/28/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-17, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	6090	NLE	2.297
Antimony	01/06/99	0.604	14	0.459
Arsenic	01/06/99	6.30	20	0.459
Barium	01/06/99	49.9	700	0.115
Beryllium	01/06/99	1.02	1	0.115
Cadmium	01/06/99	0.486	1	0.115
Calcium	01/06/99	2840	NLE	4.594
Chromium	01/06/99	100	NLE	0.115
Cobalt	01/06/99	1.34	NLE	0.115
Copper	01/06/99	4.88	600	0.689
Iron	01/06/99	22900	NLE	2.297
Lead	01/06/99	8.62	100	0.459
Magnesium	01/06/99	2620	NLE	4.594
Manganese	01/06/99	21.2	NLE	0.115
Mercury	12/31/98	0.05	14	0.023
Nickel	01/06/99	5.90	250	0.115
Potassium	01/06/99	6140	NLE	4.594
Selenium	01/06/99	1.11	63	0.689
Silver	01/06/99	ND	110	0.689
Sodium	01/06/99	89.3	NLE	4.594
Thallium	01/06/99	ND	2	0.689
Vanadium	01/06/99	43.0	370	0.230
Zinc	01/06/99	43.9	1500	0.230

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4159.24
Sample Received: 12/28/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-18, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	11100	NLE	2.306
Antimony	01/06/99	1.01	14	0.461
Arsenic	01/06/99	8.28	20	0.461
Barium	01/06/99	60.8	700	0.115
Beryllium	01/06/99	1.32	1	0.115
Cadmium	01/06/99	6.29	1	0.115
Calcium	01/06/99	2170	NLE	4.611
Chromium	01/06/99	87.9	NLE	0.115
Cobalt	01/06/99	7.31	NLE	0.115
Copper	01/06/99	78.0	600	0.692
Iron	01/06/99	29600	NLE	2.306
Lead	01/06/99	30.2	100	0.461
Magnesium	01/06/99	3000	NLE	4.611
Manganese	01/06/99	296	NLE	0.115
Mercury	12/31/98	0.12	14	0.024
Nickel	01/06/99	23.3	250	0.115
Potassium	01/06/99	5890	NLE	4.611
Selenium	01/06/99	1.25	63	0.692
Silver	01/06/99	ND	110	0.692
Sodium	01/06/99	211	NLE	4.611
Thallium	01/06/99	ND	2	0.692
Vanadium	01/06/99	68.8	370	0.231
Zinc	01/06/99	113	1500	0.231

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4159.26
Sample Received: 12/28/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-19, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	7600	NLE	1.880
Antimony	01/06/99	1.67	14	0.376
Arsenic	01/06/99	5.82	20	0.376
Barium	01/06/99	43.3	700	0.094
Beryllium	01/06/99	1.10	1	0.094
Cadmium	01/06/99	0.453	1	0.094
Calcium	01/06/99	1600	NLE	3.760
Chromium	01/06/99	100	NLE	0.094
Cobalt	01/06/99	1.29	NLE	0.094
Copper	01/06/99	6.07	600	0.564
Iron	01/06/99	20500	NLE	1.880
Lead	01/06/99	17.9	100	0.376
Magnesium	01/06/99	2310	NLE	3.760
Manganese	01/06/99	18.6	NLE	0.094
Mercury	12/31/98	0.06	14	0.021
Nickel	01/06/99	6.13	250	0.094
Potassium	01/06/99	5250	NLE	3.760
Selenium	01/06/99	1.06	63	0.564
Silver	01/06/99	ND	110	0.564
Sodium	01/06/99	105	NLE	3.760
Thallium	01/06/99	ND	2	0.564
Vanadium	01/06/99	49.4	370	0.188
Zinc	01/06/99	42.5	1500	0.188

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4160.02
Sample Received: 12/29/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-20, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	10000	NLE	2.25
Antimony	01/06/99	0.755	14	0.451
Arsenic	01/06/99	12.9	20	0.451
Barium	01/06/99	65.5	700	0.113
Beryllium	01/06/99	2.040	1	0.113
Cadmium	01/06/99	0.799	1	0.113
Calcium	01/06/99	8010	NLE	4.51
Chromium	01/06/99	215	NLE	0.113
Cobalt	01/06/99	1.68	NLE	0.113
Copper	01/06/99	4.00	600	0.676
Iron	01/06/99	45100	NLE	2.25
Lead	01/06/99	4.90	100	0.451
Magnesium	01/06/99	5960	NLE	4.51
Manganese	01/06/99	23.9	NLE	0.113
Mercury	01/06/99	0.034	14	0.023
Nickel	01/06/99	7.25	250	0.113
Potassium	01/06/99	15400	NLE	4.51
Selenium	01/06/99	2.19	63	0.676
Silver	01/06/99	ND	110	0.676
Sodium	01/06/99	99.8	NLE	4.51
Thallium	01/06/99	ND	2	0.676
Vanadium	01/06/99	65.4	370	0.225
Zinc	01/06/99	94.1	1500	0.225

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4160.04
Sample Received: 12/29/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-21, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	7330	NLE	2.39
Antimony	01/06/99	0.895	14	0.478
Arsenic	01/06/99	8.97	20	0.478
Barium	01/06/99	54.5	700	0.119
Beryllium	01/06/99	1.15	1	0.119
Cadmium	01/06/99	0.448	1	0.12
Calcium	01/06/99	999	NLE	4.777
Chromium	01/06/99	110	NLE	0.119
Cobalt	01/06/99	1.47	NLE	0.119
Copper	01/06/99	9.58	600	0.717
Iron	01/06/99	28400	NLE	2.39
Lead	01/06/99	19.3	100	0.478
Magnesium	01/06/99	2660	NLE	4.78
Manganese	01/06/99	18.4	NLE	0.119
Mercury	01/06/99	0.080	14	0.019
Nickel	01/06/99	5.97	250	0.119
Potassium	01/06/99	6430	NLE	4.78
Selenium	01/06/99	1.55	63	0.717
Silver	01/06/99	ND	110	0.717
Sodium	01/06/99	159	NLE	4.78
Thallium	01/06/99	ND	2	0.717
Vanadium	01/06/99	48.4	370	0.239
Zinc	01/06/99	66.8	1500	0.239

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4160.06
Sample Received: 12/29/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-22, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	7110	NLE	2.32
Antimony	01/06/99	0.728	14	0.464
Arsenic	01/06/99	11.8	20	0.464
Barium	01/06/99	69.4	700	0.116
Beryllium	01/06/99	1.20	1	0.116
Cadmium	01/06/99	0.672	1	0.116
Calcium	01/06/99	5680	NLE	4.64
Chromium	01/06/99	123	NLE	0.116
Cobalt	01/06/99	1.58	NLE	0.116
Copper	01/06/99	5.49	600	0.695
Iron	01/06/99	27900	NLE	2.32
Lead	01/06/99	12.6	100	0.464
Magnesium	01/06/99	3080	NLE	4.64
Manganese	01/06/99	20	NLE	0.116
Mercury	01/06/99	0.043	14	0.021
Nickel	01/06/99	7.53	250	0.116
Potassium	01/06/99	7560	NLE	4.64
Selenium	01/06/99	2.05	63	0.695
Silver	01/06/99	ND	110	0.695
Sodium	01/06/99	165	NLE	4.64
Thallium	01/06/99	ND	2	0.695
Vanadium	01/06/99	50.8	370	0.232
Zinc	01/06/99	60.4	1500	0.232

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4160.08
Sample Received: 12/29/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-23, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	9400	NLE	2.51
Antimony	01/06/99	0.929	14	0.502
Arsenic	01/06/99	13.4	20	0.502
Barium	01/06/99	84.2	700	0.125
Beryllium	01/06/99	1.50	1	0.125
Cadmium	01/06/99	0.782	1	0.125
Calcium	01/06/99	4670	NLE	5.02
Chromium	01/06/99	152	NLE	0.125
Cobalt	01/06/99	1.78	NLE	0.125
Copper	01/06/99	6.31	600	0.753
Iron	01/06/99	34500	NLE	2.51
Lead	01/06/99	22.8	100	0.502
Magnesium	01/06/99	3950	NLE	5.02
Manganese	01/06/99	31.2	NLE	0.125
Mercury	01/06/99	0.045	14	0.021
Nickel	01/06/99	9.38	250	0.125
Potassium	01/06/99	9830	NLE	5.02
Selenium	01/06/99	1.88	63	0.753
Silver	01/06/99	ND	110	0.753
Sodium	01/06/99	336	NLE	5.02
Thallium	01/06/99	ND	2	0.753
Vanadium	01/06/99	66.3	370	0.251
Zinc	01/06/99	59.7	1500	0.251

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4160.10
Sample Received: 12/29/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-24, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	10000	NLE	1.95
Antimony	01/06/99	0.801	14	0.390
Arsenic	01/06/99	9.39	20	0.390
Barium	01/06/99	70.4	700	0.097
Beryllium	01/06/99	1.43	1	0.097
Cadmium	01/06/99	1.11	1	0.097
Calcium	01/06/99	3400	NLE	3.90
Chromium	01/06/99	135	NLE	0.097
Cobalt	01/06/99	2.44	NLE	0.097
Copper	01/06/99	8.92	600	0.584
Iron	01/06/99	30900	NLE	1.95
Lead	01/06/99	16.4	100	0.390
Magnesium	01/06/99	3350	NLE	3.90
Manganese	01/06/99	33.0	NLE	0.097
Mercury	01/06/99	0.057	14	0.019
Nickel	01/06/99	9.89	250	0.097
Potassium	01/06/99	8140	NLE	3.90
Selenium	01/06/99	1.49	63	0.584
Silver	01/06/99	ND	110	0.584
Sodium	01/06/99	373	NLE	3.90
Thallium	01/06/99	ND	2	0.584
Vanadium	01/06/99	63.4	370	0.195
Zinc	01/06/99	68.2	1500	0.195

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4160.12
Sample Received: 12/29/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-25, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	6970	NLE	2.46
Antimony	01/06/99	1.24	14	0.491
Arsenic	01/06/99	6.02	20	0.491
Barium	01/06/99	42.1	700	0.123
Beryllium	01/06/99	0.908	1	0.123
Cadmium	01/06/99	0.474	1	0.123
Calcium	01/06/99	507	NLE	4.91
Chromium	01/06/99	96.8	NLE	0.123
Cobalt	01/06/99	1.51	NLE	0.123
Copper	01/06/99	12.0	600	0.737
Iron	01/06/99	23100	NLE	2.46
Lead	01/06/99	17.6	100	0.491
Magnesium	01/06/99	2110	NLE	4.91
Manganese	01/06/99	19.6	NLE	0.123
Mercury	01/06/99	0.077	14	0.019
Nickel	01/06/99	5.36	250	0.123
Potassium	01/06/99	5000	NLE	4.91
Selenium	01/06/99	1.35	63	0.737
Silver	01/06/99	ND	110	0.737
Sodium	01/06/99	121	NLE	4.91
Thallium	01/06/99	ND	2	0.737
Vanadium	01/06/99	45.5	370	0.246
Zinc	01/06/99	46.3	1500	0.246

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4160.14
Sample Received: 12/29/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-26, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	7970	NLE	2.03
Antimony	01/06/99	0.854	14	0.406
Arsenic	01/06/99	11.2	20	0.406
Barium	01/06/99	77.4	700	0.102
Beryllium	01/06/99	1.30	1	0.102
Cadmium	01/06/99	0.518	1	0.102
Calcium	01/06/99	3660	NLE	4.06
Chromium	01/06/99	159	NLE	0.102
Cobalt	01/06/99	1.08	NLE	0.102
Copper	01/06/99	5.78	600	0.609
Iron	01/06/99	35100	NLE	2.03
Lead	01/06/99	7.76	100	0.406
Magnesium	01/06/99	3990	NLE	4.06
Manganese	01/06/99	18.5	NLE	0.102
Mercury	01/06/99	ND	14	0.023
Nickel	01/06/99	4.58	250	0.102
Potassium	01/06/99	10600	NLE	4.06
Selenium	01/06/99	2.14	63	0.609
Silver	01/06/99	ND	110	0.609
Sodium	01/06/99	138	NLE	4.06
Thallium	01/06/99	ND	2	0.609
Vanadium	01/06/99	63.6	370	0.203
Zinc	01/06/99	55.2	1500	0.203

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4160.16
Sample Received: 12/29/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-27, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	5250	NLE	2.27
Antimony	01/06/99	0.763	14	0.453
Arsenic	01/06/99	7.21	20	0.453
Barium	01/06/99	65.4	700	0.113
Beryllium	01/06/99	1.07	1	0.113
Cadmium	01/06/99	0.739	1	0.113
Calcium	01/06/99	5300	NLE	4.53
Chromium	01/06/99	85.2	NLE	0.113
Cobalt	01/06/99	3.05	NLE	0.113
Copper	01/06/99	3.93	600	0.680
Iron	01/06/99	19000	NLE	2.27
Lead	01/06/99	6.11	100	0.453
Magnesium	01/06/99	2160	NLE	4.53
Manganese	01/06/99	40.9	NLE	0.113
Mercury	01/06/99	ND	14	0.022
Nickel	01/06/99	10.2	250	0.113
Potassium	01/06/99	5200	NLE	4.53
Selenium	01/06/99	1.13	63	0.680
Silver	01/06/99	ND	110	0.680
Sodium	01/06/99	135	NLE	4.53
Thallium	01/06/99	ND	2	0.680
Vanadium	01/06/99	38.4	370	0.227
Zinc	01/06/99	56.5	1500	0.227

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4160.18
Sample Received: 12/29/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-28, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	7640	NLE	2.38
Antimony	01/06/99	0.827	14	0.476
Arsenic	01/06/99	168	20	0.476
Barium	01/06/99	73.2	700	0.119
Beryllium	01/06/99	1.23	1	0.119
Cadmium	01/06/99	0.742	1	0.119
Calcium	01/06/99	6360	NLE	4.76
Chromium	01/06/99	143	NLE	0.119
Cobalt	01/06/99	1.47	NLE	0.119
Copper	01/06/99	5.70	600	0.713
Iron	01/06/99	37900	NLE	2.38
Lead	01/06/99	11.4	100	0.476
Magnesium	01/06/99	3620	NLE	4.76
Manganese	01/06/99	24.6	NLE	0.119
Mercury	01/06/99	ND	14	0.023
Nickel	01/06/99	6.76	250	0.119
Potassium	01/06/99	10200	NLE	4.76
Selenium	01/06/99	2.18	63	0.713
Silver	01/06/99	ND	110	0.713
Sodium	01/06/99	304	NLE	4.76
Thallium	01/06/99	ND	2	0.713
Vanadium	01/06/99	61.9	370	0.238
Zinc	01/06/99	46.0	1500	0.238

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4160.20
Sample Received: 12/29/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-29, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	7360	NLE	2.61
Antimony	01/06/99	0.984	14	0.522
Arsenic	01/06/99	9.69	20	0.522
Barium	01/06/99	55.0	700	0.130
Beryllium	01/06/99	1.32	1	0.130
Cadmium	01/06/99	0.461	1	0.130
Calcium	01/06/99	1050	NLE	5.22
Chromium	01/06/99	149	NLE	0.130
Cobalt	01/06/99	1.33	NLE	0.130
Copper	01/06/99	5.47	600	0.783
Iron	01/06/99	31600	NLE	2.61
Lead	01/06/99	7.14	100	0.522
Magnesium	01/06/99	3480	NLE	5.22
Manganese	01/06/99	19.0	NLE	0.130
Mercury	01/06/99	ND	14	0.022
Nickel	01/06/99	5.94	250	0.130
Potassium	01/06/99	8740	NLE	5.22
Selenium	01/06/99	2.31	63	0.783
Silver	01/06/99	ND	110	0.783
Sodium	01/06/99	112	NLE	5.22
Thallium	01/06/99	ND	2	0.783
Vanadium	01/06/99	59.3	370	0.261
Zinc	01/06/99	49.2	1500	0.261

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4162.02
Sample Received: 12/30/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-30, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	10400	NLE	2.269
Antimony	01/06/99	1.27	14	0.454
Arsenic	01/06/99	19.9	20	0.454
Barium	01/06/99	70.7	700	0.113
Beryllium	01/06/99	1.43	1	0.113
Cadmium	01/06/99	0.789	1	0.113
Calcium	01/06/99	6460	NLE	4.538
Chromium	01/06/99	184	NLE	0.113
Cobalt	01/06/99	1.36	NLE	0.113
Copper	01/06/99	5.60	600	0.681
Iron	01/06/99	42100	NLE	2.269
Lead	01/06/99	13.2	100	0.454
Magnesium	01/06/99	4280	NLE	4.538
Manganese	01/06/99	26.1	NLE	0.113
Mercury	01/06/99	0.07	14	0.021
Nickel	01/06/99	6.20	250	0.113
Potassium	01/06/99	11200	NLE	4.538
Selenium	01/06/99	2.39	63	0.681
Silver	01/06/99	ND	110	0.681
Sodium	01/06/99	93.2	NLE	4.538
Thallium	01/06/99	ND	2	0.681
Vanadium	01/06/99	74.6	370	0.227
Zinc	01/06/99	59.2	1500	0.227

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4162.04
Sample Received: 12/30/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-31, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	9010	NLE	2.507
Antimony	01/06/99	1.03	14	0.501
Arsenic	01/06/99	11.8	20	0.501
Barium	01/06/99	82.8	700	0.125
Beryllium	01/06/99	1.59	1	0.125
Cadmium	01/06/99	0.761	1	0.125
Calcium	01/06/99	5550	NLE	5.014
Chromium	01/06/99	177	NLE	0.125
Cobalt	01/06/99	1.23	NLE	0.125
Copper	01/06/99	5.22	600	0.752
Iron	01/06/99	38600	NLE	2.507
Lead	01/06/99	11.7	100	0.501
Magnesium	01/06/99	4580	NLE	5.014
Manganese	01/06/99	23.8	NLE	0.125
Mercury	01/06/99	0.02	14	0.019
Nickel	01/06/99	7.44	250	0.125
Potassium	01/06/99	11800	NLE	5.014
Selenium	01/06/99	2.24	63	0.752
Silver	01/06/99	ND	110	0.752
Sodium	01/06/99	146	NLE	5.014
Thallium	01/06/99	ND	2	0.752
Vanadium	01/06/99	72.1	370	0.251
Zinc	01/06/99	52.9	1500	0.251

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4162.06
Sample Received: 12/30/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-32, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	8600	NLE	2.368
Antimony	01/06/99	1.14	14	0.474
Arsenic	01/06/99	9.51	20	0.474
Barium	01/06/99	58.1	700	0.118
Beryllium	01/06/99	1.31	1	0.118
Cadmium	01/06/99	0.528	1	0.118
Calcium	01/06/99	2300	NLE	4.736
Chromium	01/06/99	144	NLE	0.118
Cobalt	01/06/99	1.50	NLE	0.118
Copper	01/06/99	4.90	600	0.710
Iron	01/06/99	32700	NLE	2.368
Lead	01/06/99	10.9	100	0.474
Magnesium	01/06/99	3480	NLE	4.736
Manganese	01/06/99	22.3	NLE	0.118
Mercury	01/06/99	0.03	14	0.017
Nickel	01/06/99	5.95	250	0.118
Potassium	01/06/99	9250	NLE	4.736
Selenium	01/06/99	1.45	63	0.710
Silver	01/06/99	ND	110	0.710
Sodium	01/06/99	118	NLE	4.736
Thallium	01/06/99	ND	2	0.710
Vanadium	01/06/99	59.7	370	0.237
Zinc	01/06/99	49.7	1500	0.237

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4162.08
Sample Received: 12/30/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-33, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	9570	NLE	2.091
Antimony	01/06/99	0.882	14	0.418
Arsenic	01/06/99	15.5	20	0.418
Barium	01/06/99	68.1	700	0.105
Beryllium	01/06/99	1.51	1	0.105
Cadmium	01/06/99	0.698	1	0.105
Calcium	01/06/99	943	NLE	4.183
Chromium	01/06/99	172	NLE	0.105
Cobalt	01/06/99	1.52	NLE	0.105
Copper	01/06/99	6.69	600	0.627
Iron	01/06/99	38300	NLE	2.091
Lead	01/06/99	12.4	100	0.418
Magnesium	01/06/99	4170	NLE	4.183
Manganese	01/06/99	26.7	NLE	0.105
Mercury	01/06/99	0.11	14	0.019
Nickel	01/06/99	6.88	250	0.105
Potassium	01/06/99	10900	NLE	4.183
Selenium	01/06/99	2.16	63	0.627
Silver	01/06/99	ND	110	0.627
Sodium	01/06/99	71.0	NLE	4.183
Thallium	01/06/99	ND	2	0.627
Vanadium	01/06/99	71.5	370	0.209
Zinc	01/06/99	63.5	1500	0.209

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4162.10
Sample Received: 12/30/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-34, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	6450	NLE	2.380
Antimony	01/06/99	1.07	14	0.476
Arsenic	01/06/99	10.0	20	0.476
Barium	01/06/99	44.7	700	0.119
Beryllium	01/06/99	1.25	1	0.119
Cadmium	01/06/99	0.750	1	0.119
Calcium	01/06/99	983	NLE	4.760
Chromium	01/06/99	103	NLE	0.119
Cobalt	01/06/99	1.52	NLE	0.119
Copper	01/06/99	9.31	600	0.714
Iron	01/06/99	25600	NLE	2.380
Lead	01/06/99	28.4	100	0.476
Magnesium	01/06/99	2130	NLE	4.760
Manganese	01/06/99	26.5	NLE	0.119
Mercury	01/06/99	0.07	14	0.016
Nickel	01/06/99	8.18	250	0.119
Potassium	01/06/99	5520	NLE	4.760
Selenium	01/06/99	1.52	63	0.714
Silver	01/06/99	ND	110	0.714
Sodium	01/06/99	35.2	NLE	4.760
Thallium	01/06/99	ND	2	0.714
Vanadium	01/06/99	47.3	370	0.238
Zinc	01/06/99	78.8	1500	0.238

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4162.12
Sample Received: 12/30/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-35, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	9220	NLE	2.445
Antimony	01/06/99	0.898	14	0.489
Arsenic	01/06/99	12.4	20	0.489
Barium	01/06/99	86.4	700	0.122
Beryllium	01/06/99	1.51	1	0.122
Cadmium	01/06/99	0.625	1	0.122
Calcium	01/06/99	4120	NLE	4.891
Chromium	01/06/99	176	NLE	0.122
Cobalt	01/06/99	1.62	NLE	0.122
Copper	01/06/99	7.07	600	0.734
Iron	01/06/99	38000	NLE	2.445
Lead	01/06/99	11.4	100	0.489
Magnesium	01/06/99	4170	NLE	4.891
Manganese	01/06/99	23.9	NLE	0.122
Mercury	01/06/99	0.05	14	0.020
Nickel	01/06/99	6.05	250	0.122
Potassium	01/06/99	11300	NLE	4.891
Selenium	01/06/99	2.21	63	0.734
Silver	01/06/99	ND	110	0.734
Sodium	01/06/99	53.0	NLE	4.891
Thallium	01/06/99	ND	2	0.734
Vanadium	01/06/99	70.7	370	0.245
Zinc	01/06/99	60.6	1500	0.245

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4162.14
Sample Received: 12/30/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-36, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	4630	NLE	2.565
Antimony	01/06/99	1.97	14	0.513
Arsenic	01/06/99	8.87	20	0.513
Barium	01/06/99	64.5	700	0.128
Beryllium	01/06/99	1.28	1	0.128
Cadmium	01/06/99	1.33	1	0.128
Calcium	01/06/99	1910	NLE	5.130
Chromium	01/06/99	67.9	NLE	0.128
Cobalt	01/06/99	15.0	NLE	0.128
Copper	01/06/99	15.4	600	0.770
Iron	01/06/99	17900	NLE	2.565
Lead	01/06/99	24.9	100	0.513
Magnesium	01/06/99	1360	NLE	5.130
Manganese	01/06/99	171	NLE	0.128
Mercury	01/06/99	0.04	14	0.023
Nickel	01/06/99	10.9	250	0.128
Potassium	01/06/99	3430	NLE	5.130
Selenium	01/06/99	1.75	63	0.770
Silver	01/06/99	ND	110	0.770
Sodium	01/06/99	65.9	NLE	5.130
Thallium	01/06/99	ND	2	0.770
Vanadium	01/06/99	30.2	370	0.257
Zinc	01/06/99	92.5	1500	0.257

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4162.16
Sample Received: 12/30/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-37, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	8380	NLE	2.057
Antimony	01/06/99	1.31	14	0.411
Arsenic	01/06/99	14.5	20	0.411
Barium	01/06/99	90.4	700	0.103
Beryllium	01/06/99	1.56	1	0.103
Cadmium	01/06/99	0.706	1	0.103
Calcium	01/06/99	3490	NLE	4.114
Chromium	01/06/99	166	NLE	0.103
Cobalt	01/06/99	1.36	NLE	0.103
Copper	01/06/99	5.86	600	0.617
Iron	01/06/99	37800	NLE	2.057
Lead	01/06/99	13.3	100	0.411
Magnesium	01/06/99	3870	NLE	4.114
Manganese	01/06/99	21.9	NLE	0.103
Mercury	01/06/99	0.04	14	0.014
Nickel	01/06/99	5.21	250	0.103
Potassium	01/06/99	10800	NLE	4.114
Selenium	01/06/99	2.40	63	0.617
Silver	01/06/99	ND	110	0.617
Sodium	01/06/99	67.7	NLE	4.114
Thallium	01/06/99	ND	2	0.617
Vanadium	01/06/99	54.7	370	0.206
Zinc	01/06/99	64.7	1500	0.206

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4162.18
Sample Received: 12/30/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-38, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	4550	NLE	2.490
Antimony	01/06/99	0.990	14	0.498
Arsenic	01/06/99	11.6	20	0.498
Barium	01/06/99	60.9	700	0.124
Beryllium	01/06/99	0.872	1	0.124
Cadmium	01/06/99	0.351	1	0.124
Calcium	01/06/99	914	NLE	4.980
Chromium	01/06/99	84.9	NLE	0.124
Cobalt	01/06/99	1.29	NLE	0.124
Copper	01/06/99	6.86	600	0.747
Iron	01/06/99	23000	NLE	2.490
Lead	01/06/99	16.2	100	0.498
Magnesium	01/06/99	1800	NLE	4.980
Manganese	01/06/99	15.2	NLE	0.124
Mercury	01/06/99	0.05	14	0.023
Nickel	01/06/99	4.80	250	0.124
Potassium	01/06/99	4960	NLE	4.980
Selenium	01/06/99	1.98	63	0.747
Silver	01/06/99	ND	110	0.747
Sodium	01/06/99	66.4	NLE	4.980
Thallium	01/06/99	ND	2	0.747
Vanadium	01/06/99	29.6	370	0.249
Zinc	01/06/99	38.0	1500	0.249

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4162.20
Sample Received: 12/30/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-39, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	4090	NLE	2.096
Antimony	01/06/99	0.783	14	0.419
Arsenic	01/06/99	9.61	20	0.419
Barium	01/06/99	72.5	700	0.105
Beryllium	01/06/99	0.831	1	0.105
Cadmium	01/06/99	0.428	1	0.105
Calcium	01/06/99	4090	NLE	4.193
Chromium	01/06/99	68.8	NLE	0.105
Cobalt	01/06/99	1.46	NLE	0.105
Copper	01/06/99	6.04	600	0.629
Iron	01/06/99	18800	NLE	2.096
Lead	01/06/99	13.9	100	0.419
Magnesium	01/06/99	1470	NLE	4.193
Manganese	01/06/99	17.9	NLE	0.105
Mercury	01/06/99	0.07	14	0.021
Nickel	01/06/99	4.99	250	0.105
Potassium	01/06/99	4090	NLE	4.193
Selenium	01/06/99	1.86	63	0.629
Silver	01/06/99	ND	110	0.629
Sodium	01/06/99	86.7	NLE	4.193
Thallium	01/06/99	ND	2	0.629
Vanadium	01/06/99	25.5	370	0.210
Zinc	01/06/99	45.0	1500	0.210

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4162.22
Sample Received: 12/30/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-40, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	8650	NLE	2.300
Antimony	01/06/99	1.18	14	0.460
Arsenic	01/06/99	12.6	20	0.460
Barium	01/06/99	70.3	700	0.115
Beryllium	01/06/99	1.33	1	0.115
Cadmium	01/06/99	0.704	1	0.115
Calcium	01/06/99	997	NLE	4.601
Chromium	01/06/99	153	NLE	0.115
Cobalt	01/06/99	1.37	NLE	0.115
Copper	01/06/99	8.34	600	0.690
Iron	01/06/99	34300	NLE	2.300
Lead	01/06/99	18.6	100	0.460
Magnesium	01/06/99	3380	NLE	4.601
Manganese	01/06/99	23.8	NLE	0.115
Mercury	01/06/99	0.06	14	0.020
Nickel	01/06/99	6.05	250	0.115
Potassium	01/06/99	9200	NLE	4.601
Selenium	01/06/99	2.19	63	0.690
Silver	01/06/99	ND	110	0.690
Sodium	01/06/99	100	NLE	4.601
Thallium	01/06/99	ND	2	0.690
Vanadium	01/06/99	62.3	370	0.230
Zinc	01/06/99	59.6	1500	0.230

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4162.24
Sample Received: 12/30/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-41, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	7360	NLE	1.745
Antimony	01/06/99	0.722	14	0.349
Arsenic	01/06/99	11.7	20	0.349
Barium	01/06/99	70.2	700	0.087
Beryllium	01/06/99	1.17	1	0.087
Cadmium	01/06/99	0.551	1	0.087
Calcium	01/06/99	1010	NLE	3.490
Chromium	01/06/99	133	NLE	0.087
Cobalt	01/06/99	1.41	NLE	0.087
Copper	01/06/99	6.08	600	0.523
Iron	01/06/99	27800	NLE	1.745
Lead	01/06/99	20.1	100	0.349
Magnesium	01/06/99	2680	NLE	3.490
Manganese	01/06/99	19.3	NLE	0.087
Mercury	01/06/99	0.07	14	0.022
Nickel	01/06/99	5.61	250	0.087
Potassium	01/06/99	7500	NLE	3.490
Selenium	01/06/99	1.81	63	0.523
Silver	01/06/99	ND	110	0.523
Sodium	01/06/99	55.3	NLE	3.490
Thallium	01/06/99	ND	2	0.523
Vanadium	01/06/99	46.2	370	0.174
Zinc	01/06/99	54.7	1500	0.174

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4162.26
Sample Received: 12/30/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-42, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	9370	NLE	2.296
Antimony	01/06/99	0.954	14	0.459
Arsenic	01/06/99	9.31	20	0.459
Barium	01/06/99	56.8	700	0.115
Beryllium	01/06/99	1.41	1	0.115
Cadmium	01/06/99	0.632	1	0.115
Calcium	01/06/99	3680	NLE	4.592
Chromium	01/06/99	179	NLE	0.115
Cobalt	01/06/99	0.892	NLE	0.115
Copper	01/06/99	5.34	600	0.689
Iron	01/06/99	38000	NLE	2.296
Lead	01/06/99	7.66	100	0.459
Magnesium	01/06/99	4080	NLE	4.592
Manganese	01/06/99	23.3	NLE	0.115
Mercury	01/06/99	0.04	14	0.023
Nickel	01/06/99	5.07	250	0.115
Potassium	01/06/99	11700	NLE	4.592
Selenium	01/06/99	1.83	63	0.689
Silver	01/06/99	ND	110	0.689
Sodium	01/06/99	138	NLE	4.592
Thallium	01/06/99	ND	2	0.689
Vanadium	01/06/99	64.0	370	0.230
Zinc	01/06/99	92.8	1500	0.230

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4162.28
Sample Received: 12/30/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-43, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	11000	NLE	2.075
Antimony	01/06/99	0.760	14	0.415
Arsenic	01/06/99	11.9	20	0.415
Barium	01/06/99	120	700	0.104
Beryllium	01/06/99	1.89	1	0.104
Cadmium	01/06/99	0.953	1	0.104
Calcium	01/06/99	7320	NLE	4.150
Chromium	01/06/99	235	NLE	0.104
Cobalt	01/06/99	2.03	NLE	0.104
Copper	01/06/99	6.75	600	0.623
Iron	01/06/99	42400	NLE	2.075
Lead	01/06/99	8.59	100	0.415
Magnesium	01/06/99	5070	NLE	4.150
Manganese	01/06/99	42.6	NLE	0.104
Mercury	01/06/99	0.03	14	0.023
Nickel	01/06/99	8.93	250	0.104
Potassium	01/06/99	14300	NLE	4.150
Selenium	01/06/99	2.59	63	0.623
Silver	01/06/99	ND	110	0.623
Sodium	01/06/99	224	NLE	4.150
Thallium	01/06/99	ND	2	0.623
Vanadium	01/06/99	81.3	370	0.208
Zinc	01/06/99	77.7	1500	0.208

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4162.30
Sample Received: 12/30/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-44, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date Analyzed	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	9190	NLE	2.346
Antimony	01/06/99	1.23	14	0.469
Arsenic	01/06/99	11.1	20	0.469
Barium	01/06/99	77.4	700	0.117
Beryllium	01/06/99	1.39	1	0.117
Cadmium	01/06/99	0.704	1	0.117
Calcium	01/06/99	1370	NLE	4.692
Chromium	01/06/99	145	NLE	0.117
Cobalt	01/06/99	1.61	NLE	0.117
Copper	01/06/99	5.48	600	0.704
Iron	01/06/99	32900	NLE	2.346
Lead	01/06/99	22.8	100	0.469
Magnesium	01/06/99	3090	NLE	4.692
Manganese	01/06/99	28.2	NLE	0.117
Mercury	01/06/99	0.06	14	0.021
Nickel	01/06/99	6.82	250	0.117
Potassium	01/06/99	8680	NLE	4.692
Selenium	01/06/99	1.82	63	0.704
Silver	01/06/99	ND	110	0.704
Sodium	01/06/99	90.2	NLE	4.692
Thallium	01/06/99	ND	2	0.704
Vanadium	01/06/99	61.9	370	0.235
Zinc	01/06/99	55.3	1500	0.235

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4164.02
Sample Received: 12/31/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-45, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	7900	NLE	2.54
Antimony	01/06/99	1.40	14	0.508
Arsenic	01/06/99	12.7	20	0.508
Barium	01/06/99	57.3	700	0.127
Beryllium	01/06/99	1.26	1	0.127
Cadmium	01/06/99	0.747	1	0.127
Calcium	01/06/99	1350	NLE	5.08
Chromium	01/06/99	140	NLE	0.127
Cobalt	01/06/99	1.80	NLE	0.127
Copper	01/06/99	7.01	600	0.762
Iron	01/06/99	32100	NLE	2.54
Lead	01/06/99	16.0	100	0.508
Magnesium	01/06/99	2980	NLE	5.08
Manganese	01/06/99	44.3	NLE	0.127
Mercury	01/06/99	0.060	14	0.019
Nickel	01/06/99	8.41	250	0.127
Potassium	01/06/99	8220	NLE	5.08
Selenium	01/06/99	1.72	63	0.762
Silver	01/06/99	ND	110	0.762
Sodium	01/06/99	53.0	NLE	5.08
Thallium	01/06/99	ND	2	0.762
Vanadium	01/06/99	57.8	370	0.254
Zinc	01/06/99	82.3	1500	0.254

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4164.04
Sample Received: 12/31/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-46, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	10300	NLE	2.62
Antimony	01/06/99	1.19	14	0.524
Arsenic	01/06/99	12.7	20	0.524
Barium	01/06/99	77.4	700	0.131
Beryllium	01/06/99	1.91	1	0.131
Cadmium	01/06/99	1.47	1	0.13
Calcium	01/06/99	3880	NLE	5.239
Chromium	01/06/99	198	NLE	0.131
Cobalt	01/06/99	3.23	NLE	0.131
Copper	01/06/99	6.50	600	0.786
Iron	01/06/99	40900	NLE	2.62
Lead	01/06/99	19.6	100	0.524
Magnesium	01/06/99	4200	NLE	5.24
Manganese	01/06/99	43.2	NLE	0.131
Mercury	01/06/99	0.049	14	0.022
Nickel	01/06/99	27.7	250	0.131
Potassium	01/06/99	11900	NLE	5.24
Selenium	01/06/99	1.91	63	0.786
Silver	01/06/99	ND	110	0.786
Sodium	01/06/99	107	NLE	5.24
Thallium	01/06/99	ND	2	0.786
Vanadium	01/06/99	67.0	370	0.262
Zinc	01/06/99	79.0	1500	0.262

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4164.06
Sample Received: 12/31/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-47, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	9520	NLE	2.61
Antimony	01/06/99	0.932	14	0.522
Arsenic	01/06/99	14.2	20	0.522
Barium	01/06/99	83.1	700	0.130
Beryllium	01/06/99	1.61	1	0.130
Cadmium	01/06/99	0.701	1	0.130
Calcium	01/06/99	7000	NLE	5.22
Chromium	01/06/99	197	NLE	0.130
Cobalt	01/06/99	1.55	NLE	0.130
Copper	01/06/99	4.95	600	0.783
Iron	01/06/99	40400	NLE	2.61
Lead	01/06/99	7.92	100	0.522
Magnesium	01/06/99	4210	NLE	5.22
Manganese	01/06/99	25.4	NLE	0.130
Mercury	01/06/99	0.044	14	0.021
Nickel	01/06/99	6.53	250	0.130
Potassium	01/06/99	12400	NLE	5.22
Selenium	01/06/99	2.24	63	0.783
Silver	01/06/99	ND	110	0.783
Sodium	01/06/99	112	NLE	5.22
Thallium	01/06/99	ND	2	0.783
Vanadium	01/06/99	61.2	370	0.261
Zinc	01/06/99	76.2	1500	0.261

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4164.08
Sample Received: 12/31/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-48, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	5870	NLE	2.59
Antimony	01/06/99	1.86	14	0.519
Arsenic	01/06/99	8.06	20	0.519
Barium	01/06/99	71.4	700	0.130
Beryllium	01/06/99	0.808	1	0.130
Cadmium	01/06/99	0.587	1	0.130
Calcium	01/06/99	1210	NLE	5.19
Chromium	01/06/99	20.3	NLE	0.130
Cobalt	01/06/99	7.19	NLE	0.130
Copper	01/06/99	44.1	600	0.778
Iron	01/06/99	12700	NLE	2.59
Lead	01/06/99	19.4	100	0.519
Magnesium	01/06/99	263	NLE	5.19
Manganese	01/06/99	69.7	NLE	0.130
Mercury	01/06/99	0.048	14	0.022
Nickel	01/06/99	22.8	250	0.130
Potassium	01/06/99	677	NLE	5.19
Selenium	01/06/99	1.75	63	0.778
Silver	01/06/99	ND	110	0.778
Sodium	01/06/99	198	NLE	5.19
Thallium	01/06/99	ND	2	0.778
Vanadium	01/06/99	27.1	370	0.259
Zinc	01/06/99	44.1	1500	0.259

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4164.10
Sample Received: 12/31/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-49, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	12000	NLE	2.63
Antimony	01/06/99	1.07	14	0.525
Arsenic	01/06/99	16.8	20	0.525
Barium	01/06/99	57.7	700	0.131
Beryllium	01/06/99	0.910	1	0.131
Cadmium	01/06/99	0.804	1	0.131
Calcium	01/06/99	950	NLE	5.25
Chromium	01/06/99	110	NLE	0.131
Cobalt	01/06/99	1.81	NLE	0.131
Copper	01/06/99	27.0	600	0.788
Iron	01/06/99	27500	NLE	2.63
Lead	01/06/99	32.1	100	0.525
Magnesium	01/06/99	2460	NLE	5.25
Manganese	01/06/99	77.3	NLE	0.131
Mercury	01/06/99	0.048	14	0.023
Nickel	01/06/99	5.80	250	0.131
Potassium	01/06/99	5390	NLE	5.25
Selenium	01/06/99	1.04	63	0.788
Silver	01/06/99	ND	110	0.788
Sodium	01/06/99	100	NLE	5.25
Thallium	01/06/99	ND	2	0.788
Vanadium	01/06/99	57.9	370	0.263
Zinc	01/06/99	102	1500	0.263

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4164.12
Sample Received: 12/31/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-50, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	8490	NLE	1.67
Antimony	01/06/99	0.961	14	0.334
Arsenic	01/06/99	18.4	20	0.334
Barium	01/06/99	69.4	700	0.084
Beryllium	01/06/99	1.41	1	0.084
Cadmium	01/06/99	0.735	1	0.084
Calcium	01/06/99	7200	NLE	3.34
Chromium	01/06/99	173	NLE	0.084
Cobalt	01/06/99	1.21	NLE	0.084
Copper	01/06/99	6.42	600	0.502
Iron	01/06/99	38900	NLE	1.67
Lead	01/06/99	10.6	100	0.334
Magnesium	01/06/99	3580	NLE	3.34
Manganese	01/06/99	20.1	NLE	0.084
Mercury	01/06/99	0.047	14	0.024
Nickel	01/06/99	5.18	250	0.084
Potassium	01/06/99	11000	NLE	3.34
Selenium	01/06/99	1.74	63	0.502
Silver	01/06/99	ND	110	0.502
Sodium	01/06/99	52.4	NLE	3.34
Thallium	01/06/99	ND	2	0.502
Vanadium	01/06/99	52.0	370	0.167
Zinc	01/06/99	75.9	1500	0.167

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4164.14
Sample Received: 12/31/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-51, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	10300	NLE	2.29
Antimony	01/06/99	0.977	14	0.458
Arsenic	01/06/99	14.3	20	0.458
Barium	01/06/99	36.1	700	0.115
Beryllium	01/06/99	1.05	1	0.115
Cadmium	01/06/99	0.918	1	0.115
Calcium	01/06/99	887	NLE	4.58
Chromium	01/06/99	102	NLE	0.115
Cobalt	01/06/99	2.66	NLE	0.115
Copper	01/06/99	16.4	600	0.688
Iron	01/06/99	26400	NLE	2.29
Lead	01/06/99	39.0	100	0.458
Magnesium	01/06/99	2300	NLE	4.58
Manganese	01/06/99	28.4	NLE	0.115
Mercury	01/06/99	0.042	14	0.023
Nickel	01/06/99	9.22	250	0.115
Potassium	01/06/99	5580	NLE	4.58
Selenium	01/06/99	1.13	63	0.688
Silver	01/06/99	ND	110	0.688
Sodium	01/06/99	51.0	NLE	4.58
Thallium	01/06/99	ND	2	0.688
Vanadium	01/06/99	53.3	370	0.229
Zinc	01/06/99	56.2	1500	0.229

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4164.16
Sample Received: 12/31/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-52, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	11300	NLE	2.42
Antimony	01/06/99	0.953	14	0.484
Arsenic	01/06/99	26.1	20	0.484
Barium	01/06/99	15.9	700	0.121
Beryllium	01/06/99	0.808	1	0.121
Cadmium	01/06/99	0.558	1	0.121
Calcium	01/06/99	600	NLE	4.84
Chromium	01/06/99	86.4	NLE	0.121
Cobalt	01/06/99	1.21	NLE	0.121
Copper	01/06/99	7.28	600	0.726
Iron	01/06/99	28600	NLE	2.42
Lead	01/06/99	6.43	100	0.484
Magnesium	01/06/99	2060	NLE	4.84
Manganese	01/06/99	24.7	NLE	0.121
Mercury	01/06/99	0.033	14	0.022
Nickel	01/06/99	4.87	250	0.121
Potassium	01/06/99	3980	NLE	4.84
Selenium	01/06/99	0.99	63	0.726
Silver	01/06/99	ND	110	0.726
Sodium	01/06/99	59.7	NLE	4.84
Thallium	01/06/99	ND	2	0.726
Vanadium	01/06/99	50.3	370	0.242
Zinc	01/06/99	34.3	1500	0.242

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4164.18
Sample Received: 12/31/98
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-53, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/06/99	10400	NLE	1.97
Antimony	01/06/99	1.31	14	0.393
Arsenic	01/06/99	18.2	20	0.393
Barium	01/06/99	106	700	0.098
Beryllium	01/06/99	0.935	1	0.098
Cadmium	01/06/99	1.65	1	0.098
Calcium	01/06/99	865	NLE	3.93
Chromium	01/06/99	138	NLE	0.098
Cobalt	01/06/99	2.31	NLE	0.098
Copper	01/06/99	141	600	0.590
Iron	01/06/99	50100	NLE	1.97
Lead	01/06/99	263	100	0.393
Magnesium	01/06/99	2540	NLE	3.93
Manganese	01/06/99	125	NLE	0.098
Mercury	01/06/99	0.104	14	0.020
Nickel	01/06/99	10.7	250	0.098
Potassium	01/06/99	6200	NLE	3.93
Selenium	01/06/99	0.661	63	0.590
Silver	01/06/99	ND	110	0.590
Sodium	01/06/99	83.0	NLE	3.93
Thallium	01/06/99	ND	2	0.590
Vanadium	01/06/99	58.6	370	0.197
Zinc	01/06/99	337	1500	0.197

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Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169.02
Sample Received: 01/05/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-54, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	13200	NLE	2.10
Antimony	01/13/99	ND	14	0.421
Arsenic	01/13/99	25.2	20	0.421
Barium	01/13/99	70.5	700	0.105
Beryllium	01/13/99	2.12	1	0.105
Cadmium	01/13/99	1.98	1	0.105
Calcium	01/13/99	5110	NLE	4.21
Chromium	01/13/99	215	NLE	0.105
Cobalt	01/13/99	3.04	NLE	0.105
Copper	01/13/99	11.3	600	0.631
Iron	01/13/99	48900	NLE	2.10
Lead	01/13/99	19.3	100	0.421
Magnesium	01/13/99	7020	NLE	4.21
Manganese	01/13/99	54.1	NLE	0.105
Mercury	01/07/99	0.034	14	0.026
Nickel	01/13/99	17.3	250	0.105
Potassium	01/13/99	16000	NLE	4.21
Selenium	01/13/99	2.21	63	0.631
Silver	01/13/99	ND	110	0.631
Sodium	01/13/99	188	NLE	4.21
Thallium	01/13/99	ND	2	0.631
Vanadium	01/13/99	86.2	370	0.210
Zinc	01/13/99	93.8	1500	0.210

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169.04
Sample Received: 01/05/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-55, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	14700	NLE	2.16
Antimony	01/13/99	0.733	14	0.432
Arsenic	01/13/99	12.9	20	0.432
Barium	01/13/99	9.40	700	0.108
Beryllium	01/13/99	1.28	1	0.108
Cadmium	01/13/99	0.595	1	0.11
Calcium	01/13/99	1330	NLE	4.321
Chromium	01/13/99	172	NLE	0.108
Cobalt	01/13/99	1.04	NLE	0.108
Copper	01/13/99	10.2	600	0.648
Iron	01/13/99	28600	NLE	2.16
Lead	01/13/99	7.49	100	0.432
Magnesium	01/13/99	4840	NLE	4.32
Manganese	01/13/99	35.4	NLE	0.108
Mercury	01/07/99	ND	14	0.027
Nickel	01/13/99	4.83	250	0.108
Potassium	01/13/99	9210	NLE	4.32
Selenium	01/13/99	ND	63	0.648
Silver	01/13/99	ND	110	0.648
Sodium	01/13/99	211	NLE	4.32
Thallium	01/13/99	ND	2	0.648
Vanadium	01/13/99	81.0	370	0.216
Zinc	01/13/99	97.9	1500	0.216

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Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169.06
Sample Received: 01/05/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-56, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	22300	NLE	2.25
Antimony	01/13/99	ND	14	0.450
Arsenic	01/13/99	52.4	20	0.450
Barium	01/13/99	42.4	700	0.112
Beryllium	01/13/99	0.993	1	0.112
Cadmium	01/13/99	0.609	1	0.112
Calcium	01/13/99	463	NLE	4.50
Chromium	01/13/99	135	NLE	0.112
Cobalt	01/13/99	2.17	NLE	0.112
Copper	01/13/99	8.67	600	0.675
Iron	01/13/99	33200	NLE	2.25
Lead	01/13/99	6.08	100	0.450
Magnesium	01/13/99	3870	NLE	4.50
Manganese	01/13/99	60.0	NLE	0.112
Mercury	01/07/99	ND	14	0.026
Nickel	01/13/99	6.50	250	0.112
Potassium	01/13/99	6320	NLE	4.50
Selenium	01/13/99	1.04	63	0.675
Silver	01/13/99	ND	110	0.675
Sodium	01/13/99	165	NLE	4.50
Thallium	01/13/99	ND	2	0.675
Vanadium	01/13/99	74.5	370	0.225
Zinc	01/13/99	41.2	1500	0.225

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169.08
Sample Received: 01/05/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-57, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	13700	NLE	2.13
Antimony	01/13/99	1.34	14	0.427
Arsenic	01/13/99	19.8	20	0.427
Barium	01/13/99	42.1	700	0.107
Beryllium	01/13/99	1.32	1	0.107
Cadmium	01/13/99	1.28	1	0.107
Calcium	01/13/99	1330	NLE	4.27
Chromium	01/13/99	172	NLE	0.107
Cobalt	01/13/99	1.78	NLE	0.107
Copper	01/13/99	45.5	600	0.640
Iron	01/13/99	35100	NLE	2.13
Lead	01/13/99	58.7	100	0.427
Magnesium	01/13/99	4980	NLE	4.27
Manganese	01/13/99	177	NLE	0.107
Mercury	01/07/99	0.072	14	0.025
Nickel	01/13/99	7.80	250	0.107
Potassium	01/13/99	9370	NLE	4.27
Selenium	01/13/99	0.736	63	0.640
Silver	01/13/99	ND	110	0.640
Sodium	01/13/99	109	NLE	4.27
Thallium	01/13/99	ND	2	0.640
Vanadium	01/13/99	80.6	370	0.213
Zinc	01/13/99	207	1500	0.213

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Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169.10
Sample Received: 01/05/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-58, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	13500	NLE	1.93
Antimony	01/13/99	ND	14	0.386
Arsenic	01/13/99	14.1	20	0.386
Barium	01/13/99	73.6	700	0.096
Beryllium	01/13/99	2.37	1	0.096
Cadmium	01/13/99	2.51	1	0.096
Calcium	01/13/99	4410	NLE	3.86
Chromium	01/13/99	198	NLE	0.096
Cobalt	01/13/99	4.58	NLE	0.096
Copper	01/13/99	11.6	600	0.578
Iron	01/13/99	43500	NLE	1.93
Lead	01/13/99	26.2	100	0.386
Magnesium	01/13/99	6270	NLE	3.86
Manganese	01/13/99	52.3	NLE	0.096
Mercury	01/07/99	0.066	14	0.024
Nickel	01/13/99	35.3	250	0.096
Potassium	01/13/99	14200	NLE	3.86
Selenium	01/13/99	1.64	63	0.578
Silver	01/13/99	ND	110	0.578
Sodium	01/13/99	161	NLE	3.86
Thallium	01/13/99	ND	2	0.578
Vanadium	01/13/99	83.0	370	0.193
Zinc	01/13/99	110	1500	0.193

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Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169.12
Sample Received: 01/05/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-59, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	16800	NLE	2.12
Antimony	01/13/99	0.608	14	0.424
Arsenic	01/13/99	18.7	20	0.424
Barium	01/13/99	42.1	700	0.106
Beryllium	01/13/99	1.03	1	0.106
Cadmium	01/13/99	0.623	1	0.106
Calcium	01/13/99	1020	NLE	4.24
Chromium	01/13/99	114	NLE	0.106
Cobalt	01/13/99	2.00	NLE	0.106
Copper	01/13/99	17.0	600	0.636
Iron	01/13/99	29300	NLE	2.12
Lead	01/13/99	30.6	100	0.424
Magnesium	01/13/99	3790	NLE	4.24
Manganese	01/13/99	50.2	NLE	0.106
Mercury	01/07/99	ND	14	0.025
Nickel	01/13/99	7.99	250	0.106
Potassium	01/13/99	6650	NLE	4.24
Selenium	01/13/99	1.01	63	0.636
Silver	01/13/99	ND	110	0.636
Sodium	01/13/99	213	NLE	4.24
Thallium	01/13/99	ND	2	0.636
Vanadium	01/13/99	63.7	370	0.212
Zinc	01/13/99	53.7	1500	0.212

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169.14
Sample Received: 01/05/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-60, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	15300	NLE	1.83
Antimony	01/13/99	ND	14	0.366
Arsenic	01/13/99	25.7	20	0.366
Barium	01/13/99	25.0	700	0.091
Beryllium	01/13/99	1.81	1	0.091
Cadmium	01/13/99	0.763	1	0.091
Calcium	01/13/99	1070	NLE	3.66
Chromium	01/13/99	211	NLE	0.091
Cobalt	01/13/99	1.24	NLE	0.091
Copper	01/13/99	13.8	600	0.549
Iron	01/13/99	50800	NLE	1.83
Lead	01/13/99	8.44	100	0.366
Magnesium	01/13/99	6710	NLE	3.66
Manganese	01/13/99	56.6	NLE	0.091
Mercury	01/07/99	ND	14	0.025
Nickel	01/13/99	7.75	250	0.091
Potassium	01/13/99	13900	NLE	3.66
Selenium	01/13/99	1.13	63	0.549
Silver	01/13/99	ND	110	0.549
Sodium	01/13/99	154	NLE	3.66
Thallium	01/13/99	ND	2	0.549
Vanadium	01/13/99	91.2	370	0.183
Zinc	01/13/99	71.2	1500	0.183

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Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169.16
Sample Received: 01/05/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-61, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	18100	NLE	2.45
Antimony	01/13/99	ND	14	0.490
Arsenic	01/13/99	27.4	20	0.490
Barium	01/13/99	25.1	700	0.123
Beryllium	01/13/99	2.37	1	0.123
Cadmium	01/13/99	0.977	1	0.123
Calcium	01/13/99	1080	NLE	4.90
Chromium	01/13/99	277	NLE	0.123
Cobalt	01/13/99	0.914	NLE	0.123
Copper	01/13/99	21.0	600	0.735
Iron	01/13/99	55600	NLE	2.45
Lead	01/13/99	32.4	100	0.490
Magnesium	01/13/99	9020	NLE	4.90
Manganese	01/13/99	28.8	NLE	0.123
Mercury	01/07/99	ND	14	0.027
Nickel	01/13/99	6.94	250	0.123
Potassium	01/13/99	19500	NLE	4.90
Selenium	01/13/99	ND	63	0.735
Silver	01/13/99	ND	110	0.735
Sodium	01/13/99	183	NLE	4.90
Thallium	01/13/99	ND	2	0.735
Vanadium	01/13/99	119	370	0.245
Zinc	01/13/99	70.7	1500	0.245

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Report of Analysis
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NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169.18
Sample Received: 01/05/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-62, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	14200	NLE	2.19
Antimony	01/13/99	0.726	14	0.437
Arsenic	01/13/99	16.9	20	0.437
Barium	01/13/99	18.7	700	0.109
Beryllium	01/13/99	0.910	1	0.109
Cadmium	01/13/99	0.708	1	0.109
Calcium	01/13/99	2160	NLE	4.37
Chromium	01/13/99	98.7	NLE	0.109
Cobalt	01/13/99	1.49	NLE	0.109
Copper	01/13/99	10.2	600	0.656
Iron	01/13/99	32600	NLE	2.19
Lead	01/13/99	6.73	100	0.437
Magnesium	01/13/99	3470	NLE	4.37
Manganese	01/13/99	66.5	NLE	0.109
Mercury	01/07/99	ND	14	0.021
Nickel	01/13/99	6.34	250	0.109
Potassium	01/13/99	5070	NLE	4.37
Selenium	01/13/99	ND	63	0.656
Silver	01/13/99	ND	110	0.656
Sodium	01/13/99	168	NLE	4.37
Thallium	01/13/99	ND	2	0.656
Vanadium	01/13/99	57.1	370	0.219
Zinc	01/13/99	39.8	1500	0.219

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Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169.20
Sample Received: 01/05/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-63, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	18900	NLE	2.41
Antimony	01/13/99	ND	14	0.481
Arsenic	01/13/99	19.3	20	0.481
Barium	01/13/99	16.6	700	0.120
Beryllium	01/13/99	2.92	1	0.120
Cadmium	01/13/99	1.11	1	0.120
Calcium	01/13/99	1030	NLE	4.81
Chromium	01/13/99	325	NLE	0.120
Cobalt	01/13/99	0.937	NLE	0.120
Copper	01/13/99	9.68	600	0.722
Iron	01/13/99	63400	NLE	2.41
Lead	01/13/99	9.96	100	0.481
Magnesium	01/13/99	10700	NLE	4.81
Manganese	01/13/99	35.2	NLE	0.120
Mercury	01/07/99	ND	14	0.026
Nickel	01/13/99	8.88	250	0.120
Potassium	01/13/99	24700	NLE	4.81
Selenium	01/13/99	0.989	63	0.722
Silver	01/13/99	ND	110	0.722
Sodium	01/13/99	155	NLE	4.81
Thallium	01/13/99	ND	2	0.722
Vanadium	01/13/99	141	370	0.241
Zinc	01/13/99	71.7	1500	0.241

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Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169.22
Sample Received: 01/05/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-64, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	20800	NLE	2.23
Antimony	01/13/99	ND	14	0.447
Arsenic	01/13/99	32.6	20	0.447
Barium	01/13/99	18.7	700	0.112
Beryllium	01/13/99	3.24	1	0.112
Cadmium	01/13/99	1.13	1	0.112
Calcium	01/13/99	529	NLE	4.47
Chromium	01/13/99	367	NLE	0.112
Cobalt	01/13/99	1.36	NLE	0.112
Copper	01/13/99	14.2	600	0.670
Iron	01/13/99	75300	NLE	2.23
Lead	01/13/99	48.0	100	0.447
Magnesium	01/13/99	12500	NLE	4.47
Manganese	01/13/99	23.6	NLE	0.112
Mercury	01/07/99	ND	14	0.027
Nickel	01/13/99	8.23	250	0.112
Potassium	01/13/99	28900	NLE	4.47
Selenium	01/13/99	0.771	63	0.670
Silver	01/13/99	ND	110	0.670
Sodium	01/13/99	159	NLE	4.47
Thallium	01/13/99	ND	2	0.670
Vanadium	01/13/99	144	370	0.223
Zinc	01/13/99	72.0	1500	0.223

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169.24
Sample Received: 01/05/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-65, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	17300	NLE	2.28
Antimony	01/13/99	ND	14	0.456
Arsenic	01/13/99	18.2	20	0.456
Barium	01/13/99	53.6	700	0.114
Beryllium	01/13/99	1.40	1	0.114
Cadmium	01/13/99	0.556	1	0.114
Calcium	01/13/99	581	NLE	4.56
Chromium	01/13/99	149	NLE	0.114
Cobalt	01/13/99	1.87	NLE	0.114
Copper	01/13/99	21.7	600	0.684
Iron	01/13/99	38500	NLE	2.28
Lead	01/13/99	12.5	100	0.456
Magnesium	01/13/99	4760	NLE	4.56
Manganese	01/13/99	67.0	NLE	0.114
Mercury	01/07/99	0.027	14	0.019
Nickel	01/13/99	6.32	250	0.114
Potassium	01/13/99	10100	NLE	4.56
Selenium	01/13/99	0.99	63	0.684
Silver	01/13/99	ND	110	0.684
Sodium	01/13/99	211	NLE	4.56
Thallium	01/13/99	ND	2	0.684
Vanadium	01/13/99	77.7	370	0.228
Zinc	01/13/99	48.2	1500	0.228

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169.26
Sample Received: 01/05/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-66, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	17100	NLE	2.18
Antimony	01/13/99	ND	14	0.436
Arsenic	01/13/99	28.1	20	0.436
Barium	01/13/99	10.3	700	0.109
Beryllium	01/13/99	2.84	1	0.109
Cadmium	01/13/99	0.949	1	0.109
Calcium	01/13/99	453	NLE	4.36
Chromium	01/13/99	323	NLE	0.109
Cobalt	01/13/99	0.482	NLE	0.109
Copper	01/13/99	11.1	600	0.653
Iron	01/13/99	62000	NLE	2.18
Lead	01/13/99	7.33	100	0.436
Magnesium	01/13/99	10300	NLE	4.36
Manganese	01/13/99	19.3	NLE	0.109
Mercury	01/07/99	ND	14	0.023
Nickel	01/13/99	6.38	250	0.109
Potassium	01/13/99	24100	NLE	4.36
Selenium	01/13/99	ND	63	0.653
Silver	01/13/99	ND	110	0.653
Sodium	01/13/99	115	NLE	4.36
Thallium	01/13/99	ND	2	0.653
Vanadium	01/13/99	127	370	0.218
Zinc	01/13/99	65.2	1500	0.218

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169.28
Sample Received: 01/05/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-67, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	17900	NLE	2.37
Antimony	01/13/99	ND	14	0.474
Arsenic	01/13/99	30.2	20	0.474
Barium	01/13/99	13.0	700	0.119
Beryllium	01/13/99	2.49	1	0.119
Cadmium	01/13/99	0.814	1	0.119
Calcium	01/13/99	1200	NLE	4.74
Chromium	01/13/99	302	NLE	0.119
Cobalt	01/13/99	1.13	NLE	0.119
Copper	01/13/99	7.46	600	0.711
Iron	01/13/99	60300	NLE	2.37
Lead	01/13/99	4.28	100	0.474
Magnesium	01/13/99	9660	NLE	4.74
Manganese	01/13/99	24.3	NLE	0.119
Mercury	01/07/99	ND	14	0.025
Nickel	01/13/99	7.42	250	0.119
Potassium	01/13/99	22000	NLE	4.74
Selenium	01/13/99	ND	63	0.711
Silver	01/13/99	ND	110	0.711
Sodium	01/13/99	475	NLE	4.74
Thallium	01/13/99	ND	2	0.711
Vanadium	01/13/99	121	370	0.237
Zinc	01/13/99	59.1	1500	0.237

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169.30
Sample Received: 01/05/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-68, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	20000	NLE	2.04
Antimony	01/13/99	1.47	14	0.409
Arsenic	01/13/99	23.0	20	0.409
Barium	01/13/99	51.2	700	0.102
Beryllium	01/13/99	2.52	1	0.102
Cadmium	01/13/99	1.09	1	0.102
Calcium	01/13/99	919	NLE	4.09
Chromium	01/13/99	227	NLE	0.102
Cobalt	01/13/99	4.37	NLE	0.102
Copper	01/13/99	39.1	600	0.613
Iron	01/13/99	44300	NLE	2.04
Lead	01/13/99	54.5	100	0.409
Magnesium	01/13/99	6630	NLE	4.09
Manganese	01/13/99	37.1	NLE	0.102
Mercury	01/07/99	ND	14	0.027
Nickel	01/13/99	16.8	250	0.102
Potassium	01/13/99	15200	NLE	4.09
Selenium	01/13/99	2.76	63	0.613
Silver	01/13/99	ND	110	0.613
Sodium	01/13/99	212	NLE	4.09
Thallium	01/13/99	ND	2	0.613
Vanadium	01/13/99	108	370	0.204
Zinc	01/13/99	65.6	1500	0.204

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169.32
Sample Received: 01/05/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-69, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	7700	NLE	2.39
Antimony	01/13/99	1.04	14	0.478
Arsenic	01/13/99	17.4	20	0.478
Barium	01/13/99	44.8	700	0.119
Beryllium	01/13/99	1.03	1	0.119
Cadmium	01/13/99	0.495	1	0.119
Calcium	01/13/99	848	NLE	4.78
Chromium	01/13/99	66.0	NLE	0.119
Cobalt	01/13/99	10.5	NLE	0.119
Copper	01/13/99	283	600	0.717
Iron	01/13/99	19800	NLE	2.39
Lead	01/13/99	39.8	100	0.478
Magnesium	01/13/99	1850	NLE	4.78
Manganese	01/13/99	91.4	NLE	0.119
Mercury	01/07/99	ND	14	0.023
Nickel	01/13/99	88.0	250	0.119
Potassium	01/13/99	4270	NLE	4.78
Selenium	01/13/99	0.942	63	0.717
Silver	01/13/99	ND	110	0.717
Sodium	01/13/99	216	NLE	4.78
Thallium	01/13/99	ND	2	0.717
Vanadium	01/13/99	40.1	370	0.239
Zinc	01/13/99	93.6	1500	0.239

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169.34
Sample Received: 01/05/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-70, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	14200	NLE	2.27
Antimony	01/13/99	0.494	14	0.454
Arsenic	01/13/99	14.3	20	0.454
Barium	01/13/99	22.6	700	0.114
Beryllium	01/13/99	0.795	1	0.114
Cadmium	01/13/99	0.433	1	0.114
Calcium	01/13/99	519	NLE	4.54
Chromium	01/13/99	101	NLE	0.114
Cobalt	01/13/99	1.36	NLE	0.114
Copper	01/13/99	19.1	600	0.681
Iron	01/13/99	25900	NLE	2.27
Lead	01/13/99	12.3	100	0.454
Magnesium	01/13/99	3250	NLE	4.54
Manganese	01/13/99	49.4	NLE	0.114
Mercury	01/07/99	ND	14	0.027
Nickel	01/13/99	4.87	250	0.114
Potassium	01/13/99	5040	NLE	4.54
Selenium	01/13/99	ND	63	0.681
Silver	01/13/99	ND	110	0.681
Sodium	01/13/99	92.8	NLE	4.54
Thallium	01/13/99	ND	2	0.681
Vanadium	01/13/99	54.1	370	0.227
Zinc	01/13/99	48.1	1500	0.227

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4169.36
Sample Received: 01/05/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-71, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	13500	NLE	2.34
Antimony	01/13/99	2.09	14	0.467
Arsenic	01/13/99	15.5	20	0.467
Barium	01/13/99	63.2	700	0.117
Beryllium	01/13/99	1.33	1	0.117
Cadmium	01/13/99	1.91	1	0.117
Calcium	01/13/99	796	NLE	4.67
Chromium	01/13/99	165	NLE	0.117
Cobalt	01/13/99	1.40	NLE	0.117
Copper	01/13/99	41.8	600	0.701
Iron	01/13/99	35500	NLE	2.34
Lead	01/13/99	93.7	100	0.467
Magnesium	01/13/99	4670	NLE	4.67
Manganese	01/13/99	32.5	NLE	0.117
Mercury	01/07/99	3.61	14	0.025
Nickel	01/13/99	6.93	250	0.117
Potassium	01/13/99	9960	NLE	4.67
Selenium	01/13/99	0.716	63	0.701
Silver	01/13/99	2.90	110	0.701
Sodium	01/13/99	164	NLE	4.67
Thallium	01/13/99	ND	2	0.701
Vanadium	01/13/99	68.7	370	0.234
Zinc	01/13/99	106	1500	0.234

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4173.02
Sample Received: 01/06/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-72, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	13500	NLE	2.18
Antimony	01/13/99	ND	14	0.436
Arsenic	01/13/99	29.7	20	0.436
Barium	01/13/99	19.8	700	0.109
Beryllium	01/13/99	1.98	1	0.109
Cadmium	01/13/99	0.823	1	0.109
Calcium	01/13/99	2030	NLE	4.36
Chromium	01/13/99	237	NLE	0.109
Cobalt	01/13/99	1.43	NLE	0.109
Copper	01/13/99	9.26	600	0.654
Iron	01/13/99	53700	NLE	2.18
Lead	01/13/99	8.01	100	0.436
Magnesium	01/13/99	7460	NLE	4.36
Manganese	01/13/99	16.2	NLE	0.109
Mercury	01/07/99	0.115	14	0.023
Nickel	01/13/99	8.87	250	0.109
Potassium	01/13/99	18100	NLE	4.36
Selenium	01/13/99	0.927	63	0.654
Silver	01/13/99	ND	110	0.654
Sodium	01/13/99	291	NLE	4.36
Thallium	01/13/99	ND	2	0.654
Vanadium	01/13/99	87.3	370	0.218
Zinc	01/13/99	62.0	1500	0.218

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4173.04
Sample Received: 01/06/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-73, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	15100	NLE	2.52
Antimony	01/13/99	0.568	14	0.505
Arsenic	01/13/99	18.4	20	0.505
Barium	01/13/99	22.7	700	0.126
Beryllium	01/13/99	1.52	1	0.126
Cadmium	01/13/99	0.572	1	0.13
Calcium	01/13/99	546	NLE	5.050
Chromium	01/13/99	182	NLE	0.126
Cobalt	01/13/99	1.14	NLE	0.126
Copper	01/13/99	9.69	600	0.757
Iron	01/13/99	38300	NLE	2.52
Lead	01/13/99	9.17	100	0.505
Magnesium	01/13/99	5090	NLE	5.05
Manganese	01/13/99	21.9	NLE	0.126
Mercury	01/07/99	0.036	14	0.021
Nickel	01/13/99	6.70	250	0.126
Potassium	01/13/99	11600	NLE	5.05
Selenium	01/13/99	1.17	63	0.757
Silver	01/13/99	ND	110	0.757
Sodium	01/13/99	123	NLE	5.05
Thallium	01/13/99	ND	2	0.757
Vanadium	01/13/99	79.1	370	0.252
Zinc	01/13/99	49.9	1500	0.252

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4173.06
Sample Received: 01/06/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-74, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	12800	NLE	2.43
Antimony	01/13/99	ND	14	0.485
Arsenic	01/13/99	12.7	20	0.485
Barium	01/13/99	41.0	700	0.121
Beryllium	01/13/99	1.04	1	0.121
Cadmium	01/13/99	0.478	1	0.121
Calcium	01/13/99	636	NLE	4.85
Chromium	01/13/99	89.4	NLE	0.121
Cobalt	01/13/99	3.78	NLE	0.121
Copper	01/13/99	5.03	600	0.728
Iron	01/13/99	30400	NLE	2.43
Lead	01/13/99	6.67	100	0.485
Magnesium	01/13/99	3070	NLE	4.85
Manganese	01/13/99	62.7	NLE	0.121
Mercury	01/07/99	0.028	14	0.018
Nickel	01/13/99	6.71	250	0.121
Potassium	01/13/99	7100	NLE	4.85
Selenium	01/13/99	0.832	63	0.728
Silver	01/13/99	ND	110	0.728
Sodium	01/13/99	164	NLE	4.85
Thallium	01/13/99	ND	2	0.728
Vanadium	01/13/99	56.0	370	0.243
Zinc	01/13/99	61.6	1500	0.243

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4173.08
Sample Received: 01/06/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-75, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	17900	NLE	2.74
Antimony	01/13/99	ND	14	0.548
Arsenic	01/13/99	29.5	20	0.548
Barium	01/13/99	37.6	700	0.137
Beryllium	01/13/99	2.47	1	0.137
Cadmium	01/13/99	1.20	1	0.137
Calcium	01/13/99	965	NLE	5.48
Chromium	01/13/99	301	NLE	0.137
Cobalt	01/13/99	1.11	NLE	0.137
Copper	01/13/99	45.0	600	0.822
Iron	01/13/99	63700	NLE	2.74
Lead	01/13/99	35.3	100	0.548
Magnesium	01/13/99	8980	NLE	5.48
Manganese	01/13/99	37.0	NLE	0.137
Mercury	01/07/99	0.075	14	0.024
Nickel	01/13/99	7.77	250	0.137
Potassium	01/13/99	21100	NLE	5.48
Selenium	01/13/99	1.30	63	0.822
Silver	01/13/99	ND	110	0.822
Sodium	01/13/99	188	NLE	5.48
Thallium	01/13/99	ND	2	0.822
Vanadium	01/13/99	123	370	0.274
Zinc	01/13/99	141	1500	0.274

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4173.10
Sample Received: 01/06/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-76, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	16200	NLE	2.61
Antimony	01/13/99	ND	14	0.521
Arsenic	01/13/99	27.8	20	0.521
Barium	01/13/99	27.2	700	0.130
Beryllium	01/13/99	1.85	1	0.130
Cadmium	01/13/99	1.00	1	0.130
Calcium	01/13/99	1020	NLE	5.21
Chromium	01/13/99	215	NLE	0.130
Cobalt	01/13/99	1.25	NLE	0.130
Copper	01/13/99	106	600	0.782
Iron	01/13/99	47900	NLE	2.61
Lead	01/13/99	96.1	100	0.521
Magnesium	01/13/99	6230	NLE	5.21
Manganese	01/13/99	99.1	NLE	0.130
Mercury	01/07/99	0.066	14	0.025
Nickel	01/13/99	6.64	250	0.130
Potassium	01/13/99	14100	NLE	5.21
Selenium	01/13/99	1.08	63	0.782
Silver	01/13/99	ND	110	0.782
Sodium	01/13/99	99.9	NLE	5.21
Thallium	01/13/99	ND	2	0.782
Vanadium	01/13/99	94.5	370	0.261
Zinc	01/13/99	203	1500	0.261

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4173.12
Sample Received: 01/06/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-77, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	19300	NLE	2.64
Antimony	01/13/99	1.18	14	0.528
Arsenic	01/13/99	21.7	20	0.528
Barium	01/13/99	28.5	700	0.132
Beryllium	01/13/99	2.90	1	0.132
Cadmium	01/13/99	1.49	1	0.132
Calcium	01/13/99	745	NLE	5.28
Chromium	01/13/99	327	NLE	0.132
Cobalt	01/13/99	2.26	NLE	0.132
Copper	01/13/99	60.3	600	0.792
Iron	01/13/99	69300	NLE	2.64
Lead	01/13/99	58.2	100	0.528
Magnesium	01/13/99	10400	NLE	5.28
Manganese	01/13/99	40.1	NLE	0.132
Mercury	01/07/99	0.176	14	0.026
Nickel	01/13/99	9.43	250	0.132
Potassium	01/13/99	25600	NLE	5.28
Selenium	01/13/99	1.72	63	0.792
Silver	01/13/99	ND	110	0.792
Sodium	01/13/99	94.8	NLE	5.28
Thallium	01/13/99	ND	2	0.792
Vanadium	01/13/99	121	370	0.264
Zinc	01/13/99	168	1500	0.264

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4173.14
Sample Received: 01/06/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-78, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	16000	NLE	2.55
Antimony	01/13/99	0.822	14	0.510
Arsenic	01/13/99	21.0	20	0.510
Barium	01/13/99	45.4	700	0.127
Beryllium	01/13/99	1.76	1	0.127
Cadmium	01/13/99	1.18	1	0.127
Calcium	01/13/99	1230	NLE	5.10
Chromium	01/13/99	206	NLE	0.127
Cobalt	01/13/99	1.62	NLE	0.127
Copper	01/13/99	44.4	600	0.764
Iron	01/13/99	46200	NLE	2.55
Lead	01/13/99	74.8	100	0.510
Magnesium	01/13/99	6060	NLE	5.10
Manganese	01/13/99	67.1	NLE	0.127
Mercury	01/07/99	0.055	14	0.025
Nickel	01/13/99	8.03	250	0.127
Potassium	01/13/99	14600	NLE	5.10
Selenium	01/13/99	0.851	63	0.764
Silver	01/13/99	ND	110	0.764
Sodium	01/13/99	302	NLE	5.10
Thallium	01/13/99	ND	2	0.764
Vanadium	01/13/99	90.9	370	0.255
Zinc	01/13/99	133	1500	0.255

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4173.16
Sample Received: 01/06/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-79, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	12000	NLE	1.98
Antimony	01/13/99	0.426	14	0.396
Arsenic	01/13/99	22.7	20	0.396
Barium	01/13/99	10.4	700	0.099
Beryllium	01/13/99	1.86	1	0.099
Cadmium	01/13/99	0.759	1	0.099
Calcium	01/13/99	1090	NLE	3.96
Chromium	01/13/99	210	NLE	0.099
Cobalt	01/13/99	0.564	NLE	0.099
Copper	01/13/99	24.7	600	0.594
Iron	01/13/99	39300	NLE	1.98
Lead	01/13/99	45.2	100	0.396
Magnesium	01/13/99	5630	NLE	3.96
Manganese	01/13/99	25.6	NLE	0.099
Mercury	01/07/99	0.031	14	0.024
Nickel	01/13/99	5.25	250	0.099
Potassium	01/13/99	13300	NLE	3.96
Selenium	01/13/99	ND	63	0.594
Silver	01/13/99	ND	110	0.594
Sodium	01/13/99	90.6	NLE	3.96
Thallium	01/13/99	ND	2	0.594
Vanadium	01/13/99	83.5	370	0.198
Zinc	01/13/99	74.6	1500	0.198

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4173.18
Sample Received: 01/06/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-80, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	12100	NLE	2.25
Antimony	01/13/99	0.471	14	0.449
Arsenic	01/13/99	19.4	20	0.449
Barium	01/13/99	10.1	700	0.112
Beryllium	01/13/99	0.778	1	0.112
Cadmium	01/13/99	0.444	1	0.112
Calcium	01/13/99	436	NLE	4.49
Chromium	01/13/99	83.8	NLE	0.112
Cobalt	01/13/99	0.953	NLE	0.112
Copper	01/13/99	8.25	600	0.674
Iron	01/13/99	28300	NLE	2.25
Lead	01/13/99	5.47	100	0.449
Magnesium	01/13/99	2510	NLE	4.49
Manganese	01/13/99	35.5	NLE	0.112
Mercury	01/07/99	ND	14	0.025
Nickel	01/13/99	3.87	250	0.112
Potassium	01/13/99	4370	NLE	4.49
Selenium	01/13/99	ND	63	0.674
Silver	01/13/99	ND	110	0.674
Sodium	01/13/99	106	NLE	4.49
Thallium	01/13/99	ND	2	0.674
Vanadium	01/13/99	47.1	370	0.225
Zinc	01/13/99	31.7	1500	0.225

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4173.20
Sample Received: 01/06/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-81, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	16600	NLE	2.33
Antimony	01/13/99	1.67	14	0.467
Arsenic	01/13/99	20.7	20	0.467
Barium	01/13/99	102	700	0.117
Beryllium	01/13/99	1.81	1	0.117
Cadmium	01/13/99	1.65	1	0.117
Calcium	01/13/99	3110	NLE	4.67
Chromium	01/13/99	214	NLE	0.117
Cobalt	01/13/99	2.23	NLE	0.117
Copper	01/13/99	76.7	600	0.700
Iron	01/13/99	44100	NLE	2.33
Lead	01/13/99	237	100	0.467
Magnesium	01/13/99	6070	NLE	4.67
Manganese	01/13/99	210	NLE	0.117
Mercury	01/07/99	0.089	14	0.020
Nickel	01/13/99	8.56	250	0.117
Potassium	01/13/99	13900	NLE	4.67
Selenium	01/13/99	ND	63	0.700
Silver	01/13/99	ND	110	0.700
Sodium	01/13/99	850	NLE	4.67
Thallium	01/13/99	ND	2	0.700
Vanadium	01/13/99	98.0	370	0.233
Zinc	01/13/99	362	1500	0.233

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4173.22
Sample Received: 01/06/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-82, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	15300	NLE	2.42
Antimony	01/13/99	0.635	14	0.485
Arsenic	01/13/99	21.0	20	0.485
Barium	01/13/99	27.8	700	0.121
Beryllium	01/13/99	1.60	1	0.121
Cadmium	01/13/99	1.05	1	0.121
Calcium	01/13/99	447	NLE	4.85
Chromium	01/13/99	178	NLE	0.121
Cobalt	01/13/99	1.01	NLE	0.121
Copper	01/13/99	38.2	600	0.727
Iron	01/13/99	39900	NLE	2.42
Lead	01/13/99	53.8	100	0.485
Magnesium	01/13/99	5100	NLE	4.85
Manganese	01/13/99	33.7	NLE	0.121
Mercury	01/07/99	0.040	14	0.025
Nickel	01/13/99	5.48	250	0.121
Potassium	01/13/99	11700	NLE	4.85
Selenium	01/13/99	ND	63	0.727
Silver	01/13/99	ND	110	0.727
Sodium	01/13/99	83.2	NLE	4.85
Thallium	01/13/99	ND	2	0.727
Vanadium	01/13/99	77.4	370	0.242
Zinc	01/13/99	101	1500	0.242

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4173.24
Sample Received: 01/06/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-83, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	15300	NLE	2.42
Antimony	01/13/99	0.635	14	0.485
Arsenic	01/13/99	21.0	20	0.485
Barium	01/13/99	27.8	700	0.121
Beryllium	01/13/99	1.60	1	0.121
Cadmium	01/13/99	1.05	1	0.121
Calcium	01/13/99	447	NLE	4.85
Chromium	01/13/99	178	NLE	0.121
Cobalt	01/13/99	1.01	NLE	0.121
Copper	01/13/99	38.2	600	0.727
Iron	01/13/99	39900	NLE	2.42
Lead	01/13/99	53.8	100	0.485
Magnesium	01/13/99	5100	NLE	4.85
Manganese	01/13/99	33.7	NLE	0.121
Mercury	01/07/99	0.040	14	0.025
Nickel	01/13/99	5.48	250	0.121
Potassium	01/13/99	11700	NLE	4.85
Selenium	01/13/99	ND	63	0.727
Silver	01/13/99	ND	110	0.727
Sodium	01/13/99	83.2	NLE	4.85
Thallium	01/13/99	ND	2	0.727
Vanadium	01/13/99	77.4	370	0.242
Zinc	01/13/99	101	1500	0.242

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4173.26
Sample Received: 01/06/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-84, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	8640	NLE	2.36
Antimony	01/13/99	ND	14	0.471
Arsenic	01/13/99	6.64	20	0.471
Barium	01/13/99	17.0	700	0.118
Beryllium	01/13/99	0.572	1	0.118
Cadmium	01/13/99	0.719	1	0.118
Calcium	01/13/99	427	NLE	4.71
Chromium	01/13/99	71.5	NLE	0.118
Cobalt	01/13/99	1.32	NLE	0.118
Copper	01/13/99	9.02	600	0.707
Iron	01/13/99	16500	NLE	2.36
Lead	01/13/99	9.32	100	0.471
Magnesium	01/13/99	1710	NLE	4.71
Manganese	01/13/99	27.2	NLE	0.118
Mercury	01/07/99	0.039	14	0.024
Nickel	01/13/99	6.16	250	0.118
Potassium	01/13/99	3620	NLE	4.71
Selenium	01/13/99	ND	63	0.707
Silver	01/13/99	ND	110	0.707
Sodium	01/13/99	67.6	NLE	4.71
Thallium	01/13/99	ND	2	0.707
Vanadium	01/13/99	46.1	370	0.236
Zinc	01/13/99	49.6	1500	0.236

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4173.28
Sample Received: 01/06/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-85, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	19700	NLE	2.18
Antimony	01/13/99	0.495	14	0.436
Arsenic	01/13/99	27.5	20	0.436
Barium	01/13/99	37.9	700	0.109
Beryllium	01/13/99	2.82	1	0.109
Cadmium	01/13/99	1.79	1	0.109
Calcium	01/13/99	1190	NLE	4.36
Chromium	01/13/99	325	NLE	0.109
Cobalt	01/13/99	2.09	NLE	0.109
Copper	01/13/99	44.1	600	0.654
Iron	01/13/99	76100	NLE	2.18
Lead	01/13/99	44.7	100	0.436
Magnesium	01/13/99	10700	NLE	4.36
Manganese	01/13/99	44.1	NLE	0.109
Mercury	01/07/99	0.041	14	0.025
Nickel	01/13/99	9.33	250	0.109
Potassium	01/13/99	26700	NLE	4.36
Selenium	01/13/99	1.97	63	0.654
Silver	01/13/99	ND	110	0.654
Sodium	01/13/99	159	NLE	4.36
Thallium	01/13/99	ND	2	0.654
Vanadium	01/13/99	122	370	0.218
Zinc	01/13/99	144	1500	0.218

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4173.30
Sample Received: 01/06/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-86, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	16000	NLE	2.06
Antimony	01/13/99	0.512	14	0.412
Arsenic	01/13/99	24.8	20	0.412
Barium	01/13/99	38.6	700	0.103
Beryllium	01/13/99	2.53	1	0.103
Cadmium	01/13/99	1.15	1	0.103
Calcium	01/13/99	786	NLE	4.12
Chromium	01/13/99	286	NLE	0.103
Cobalt	01/13/99	0.935	NLE	0.103
Copper	01/13/99	58.4	600	0.618
Iron	01/13/99	57700	NLE	2.06
Lead	01/13/99	44.9	100	0.412
Magnesium	01/13/99	8550	NLE	4.12
Manganese	01/13/99	41.4	NLE	0.103
Mercury	01/07/99	0.040	14	0.022
Nickel	01/13/99	6.01	250	0.103
Potassium	01/13/99	21300	NLE	4.12
Selenium	01/13/99	3.33	63	0.618
Silver	01/13/99	ND	110	0.618
Sodium	01/13/99	111	NLE	4.12
Thallium	01/13/99	ND	2	0.618
Vanadium	01/13/99	125	370	0.206
Zinc	01/13/99	82.4	1500	0.206

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4177.02
Sample Received: 01/07/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-87, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	22100	NLE	2.33
Antimony	01/13/99	1.55	14	0.467
Arsenic	01/13/99	32.6	20	0.467
Barium	01/13/99	153	700	0.117
Beryllium	01/13/99	2.57	1	0.117
Cadmium	01/13/99	1.52	1	0.117
Calcium	01/13/99	1060	NLE	4.67
Chromium	01/13/99	307	NLE	0.117
Cobalt	01/13/99	4.48	NLE	0.117
Copper	01/13/99	118	600	0.700
Iron	01/13/99	63100	NLE	2.33
Lead	01/13/99	111	100	0.467
Magnesium	01/13/99	8610	NLE	4.67
Manganese	01/13/99	145	NLE	0.117
Mercury	01/14/99	0.212	14	0.027
Nickel	01/13/99	10.5	250	0.117
Potassium	01/13/99	20100	NLE	4.67
Selenium	01/13/99	2.13	63	0.700
Silver	01/13/99	ND	110	0.700
Sodium	01/13/99	169	NLE	4.67
Thallium	01/13/99	ND	2	0.700
Vanadium	01/13/99	134	370	0.233
Zinc	01/13/99	158	1500	0.233

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4177.04
Sample Received: 01/07/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-88, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	17400	NLE	2.47
Antimony	01/13/99	0.789	14	0.494
Arsenic	01/13/99	28.1	20	0.494
Barium	01/13/99	54.1	700	0.124
Beryllium	01/13/99	2.26	1	0.124
Cadmium	01/13/99	2.49	1	0.12
Calcium	01/13/99	885	NLE	4.944
Chromium	01/13/99	268	NLE	0.124
Cobalt	01/13/99	2.38	NLE	0.124
Copper	01/13/99	51.3	600	0.742
Iron	01/13/99	56000	NLE	2.47
Lead	01/13/99	61.2	100	0.494
Magnesium	01/13/99	7600	NLE	4.94
Manganese	01/13/99	107	NLE	0.124
Mercury	01/14/99	0.106	14	0.025
Nickel	01/13/99	7.33	250	0.124
Potassium	01/13/99	19300	NLE	4.94
Selenium	01/13/99	0.910	63	0.742
Silver	01/13/99	ND	110	0.742
Sodium	01/13/99	242	NLE	4.94
Thallium	01/13/99	ND	2	0.742
Vanadium	01/13/99	113	370	0.247
Zinc	01/13/99	147	1500	0.247

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

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U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4177.06
Sample Received: 01/07/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-89, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	15800	NLE	2.01
Antimony	01/13/99	ND	14	0.402
Arsenic	01/13/99	14.1	20	0.402
Barium	01/13/99	23.7	700	0.100
Beryllium	01/13/99	1.54	1	0.100
Cadmium	01/13/99	0.846	1	0.100
Calcium	01/13/99	246	NLE	4.02
Chromium	01/13/99	168	NLE	0.100
Cobalt	01/13/99	2.18	NLE	0.100
Copper	01/13/99	6.72	600	0.603
Iron	01/13/99	41300	NLE	2.01
Lead	01/13/99	6.61	100	0.402
Magnesium	01/13/99	4830	NLE	4.02
Manganese	01/13/99	33.3	NLE	0.100
Mercury	01/14/99	0.048	14	0.024
Nickel	01/13/99	7.21	250	0.100
Potassium	01/13/99	12400	NLE	4.02
Selenium	01/13/99	0.796	63	0.603
Silver	01/13/99	ND	110	0.603
Sodium	01/13/99	74.2	NLE	4.02
Thallium	01/13/99	ND	2	0.603
Vanadium	01/13/99	99.5	370	0.201
Zinc	01/13/99	50.4	1500	0.201

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4177.08
Sample Received: 01/07/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-90, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	5610	NLE	2.53
Antimony	01/13/99	0.526	14	0.505
Arsenic	01/13/99	2.96	20	0.505
Barium	01/13/99	12.4	700	0.126
Beryllium	01/13/99	0.375	1	0.126
Cadmium	01/13/99	0.541	1	0.126
Calcium	01/13/99	221	NLE	5.05
Chromium	01/13/99	37.1	NLE	0.126
Cobalt	01/13/99	1.14	NLE	0.126
Copper	01/13/99	3.52	600	0.758
Iron	01/13/99	9870	NLE	2.53
Lead	01/13/99	3.65	100	0.505
Magnesium	01/13/99	985	NLE	5.05
Manganese	01/13/99	24.1	NLE	0.126
Mercury	01/14/99	0.037	14	0.023
Nickel	01/13/99	3.93	250	0.126
Potassium	01/13/99	2090	NLE	5.05
Selenium	01/13/99	ND	63	0.758
Silver	01/13/99	ND	110	0.758
Sodium	01/13/99	82.1	NLE	5.05
Thallium	01/13/99	ND	2	0.758
Vanadium	01/13/99	22.8	370	0.253
Zinc	01/13/99	33.6	1500	0.253

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4177.10
Sample Received: 01/07/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-91, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	14700	NLE	2.47
Antimony	01/13/99	0.654	14	0.494
Arsenic	01/13/99	18.8	20	0.494
Barium	01/13/99	26.4	700	0.124
Beryllium	01/13/99	1.14	1	0.124
Cadmium	01/13/99	0.661	1	0.124
Calcium	01/13/99	691	NLE	4.94
Chromium	01/13/99	137	NLE	0.124
Cobalt	01/13/99	1.45	NLE	0.124
Copper	01/13/99	34.3	600	0.742
Iron	01/13/99	26900	NLE	2.47
Lead	01/13/99	75.9	100	0.494
Magnesium	01/13/99	3580	NLE	4.94
Manganese	01/13/99	42.6	NLE	0.124
Mercury	01/14/99	0.081	14	0.022
Nickel	01/13/99	4.40	250	0.124
Potassium	01/13/99	7510	NLE	4.94
Selenium	01/13/99	ND	63	0.742
Silver	01/13/99	ND	110	0.742
Sodium	01/13/99	122	NLE	4.94
Thallium	01/13/99	ND	2	0.742
Vanadium	01/13/99	69.5	370	0.247
Zinc	01/13/99	67.1	1500	0.247

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4177.12
Sample Received: 01/07/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-92, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	14400	NLE	2.51
Antimony	01/13/99	ND	14	0.502
Arsenic	01/13/99	13.9	20	0.502
Barium	01/13/99	81.9	700	0.125
Beryllium	01/13/99	1.83	1	0.125
Cadmium	01/13/99	1.09	1	0.125
Calcium	01/13/99	4230	NLE	5.02
Chromium	01/13/99	207	NLE	0.125
Cobalt	01/13/99	1.47	NLE	0.125
Copper	01/13/99	104	600	0.752
Iron	01/13/99	47800	NLE	2.51
Lead	01/13/99	33.3	100	0.502
Magnesium	01/13/99	5590	NLE	5.02
Manganese	01/13/99	29.0	NLE	0.125
Mercury	01/14/99	0.058	14	0.024
Nickel	01/13/99	6.49	250	0.125
Potassium	01/13/99	15200	NLE	5.02
Selenium	01/13/99	1.77	63	0.752
Silver	01/13/99	ND	110	0.752
Sodium	01/13/99	118	NLE	5.02
Thallium	01/13/99	ND	2	0.752
Vanadium	01/13/99	82.9	370	0.251
Zinc	01/13/99	92.3	1500	0.251

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Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4177.14
Sample Received: 01/07/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-93, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	17400	NLE	1.96
Antimony	01/13/99	0.434	14	0.391
Arsenic	01/13/99	24.7	20	0.391
Barium	01/13/99	24.1	700	0.098
Beryllium	01/13/99	2.58	1	0.098
Cadmium	01/13/99	1.70	1	0.098
Calcium	01/13/99	513	NLE	3.91
Chromium	01/13/99	305	NLE	0.098
Cobalt	01/13/99	0.971	NLE	0.098
Copper	01/13/99	20.3	600	0.587
Iron	01/13/99	63700	NLE	1.96
Lead	01/13/99	11.5	100	0.391
Magnesium	01/13/99	9110	NLE	3.91
Manganese	01/13/99	34.0	NLE	0.098
Mercury	01/14/99	0.038	14	0.024
Nickel	01/13/99	6.54	250	0.098
Potassium	01/13/99	24000	NLE	3.91
Selenium	01/13/99	0.666	63	0.587
Silver	01/13/99	ND	110	0.587
Sodium	01/13/99	232	NLE	3.91
Thallium	01/13/99	ND	2	0.587
Vanadium	01/13/99	121	370	0.196
Zinc	01/13/99	71.8	1500	0.196

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Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4177.16
Sample Received: 01/07/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-94, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	12400	NLE	2.49
Antimony	01/13/99	ND	14	0.497
Arsenic	01/13/99	16.1	20	0.497
Barium	01/13/99	16.4	700	0.124
Beryllium	01/13/99	1.35	1	0.124
Cadmium	01/13/99	0.892	1	0.124
Calcium	01/13/99	427	NLE	4.97
Chromium	01/13/99	150	NLE	0.124
Cobalt	01/13/99	0.930	NLE	0.124
Copper	01/13/99	18.5	600	0.746
Iron	01/13/99	35400	NLE	2.49
Lead	01/13/99	28.7	100	0.497
Magnesium	01/13/99	4130	NLE	4.97
Manganese	01/13/99	22.6	NLE	0.124
Mercury	01/14/99	0.086	14	0.025
Nickel	01/13/99	4.57	250	0.124
Potassium	01/13/99	10500	NLE	4.97
Selenium	01/13/99	ND	63	0.746
Silver	01/13/99	ND	110	0.746
Sodium	01/13/99	199	NLE	4.97
Thallium	01/13/99	ND	2	0.746
Vanadium	01/13/99	66.8	370	0.249
Zinc	01/13/99	44.2	1500	0.249

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4177.18
Sample Received: 01/07/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-95, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	10700	NLE	2.14
Antimony	01/13/99	ND	14	0.429
Arsenic	01/13/99	18	20	0.429
Barium	01/13/99	13.8	700	0.107
Beryllium	01/13/99	1.66	1	0.107
Cadmium	01/13/99	1.36	1	0.107
Calcium	01/13/99	180	NLE	4.29
Chromium	01/13/99	113	NLE	0.107
Cobalt	01/13/99	1.06	NLE	0.107
Copper	01/13/99	4.68	600	0.643
Iron	01/13/99	53200	NLE	2.14
Lead	01/13/99	6.11	100	0.429
Magnesium	01/13/99	2970	NLE	4.29
Manganese	01/13/99	24.8	NLE	0.107
Mercury	01/14/99	0.028	14	0.020
Nickel	01/13/99	4.84	250	0.107
Potassium	01/13/99	7970	NLE	4.29
Selenium	01/13/99	2.12	63	0.643
Silver	01/13/99	ND	110	0.643
Sodium	01/13/99	80.1	NLE	4.29
Thallium	01/13/99	ND	2	0.643
Vanadium	01/13/99	102	370	0.214
Zinc	01/13/99	46.7	1500	0.214

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Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4179.02
Sample Received: 01/11/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-96, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	13600	NLE	3.12
Antimony	01/13/99	ND	14	0.623
Arsenic	01/13/99	8.96	20	0.623
Barium	01/13/99	16.6	700	0.156
Beryllium	01/13/99	1.06	1	0.156
Cadmium	01/13/99	0.743	1	0.156
Calcium	01/13/99	270	NLE	6.23
Chromium	01/13/99	109	NLE	0.156
Cobalt	01/13/99	1.59	NLE	0.156
Copper	01/13/99	7.04	600	0.935
Iron	01/13/99	30400	NLE	3.12
Lead	01/13/99	6.11	100	0.623
Magnesium	01/13/99	3160	NLE	6.23
Manganese	01/13/99	28.6	NLE	0.156
Mercury	01/14/99	0.062	14	0.031
Nickel	01/13/99	5.57	250	0.156
Potassium	01/13/99	7990	NLE	6.23
Selenium	01/13/99	ND	63	0.935
Silver	01/13/99	ND	110	0.935
Sodium	01/13/99	334	NLE	6.23
Thallium	01/13/99	ND	2	0.935
Vanadium	01/13/99	63.6	370	0.312
Zinc	01/13/99	40.4	1500	0.312

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Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4179.04
Sample Received: 01/11/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-97, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	12400	NLE	2.47
Antimony	01/13/99	ND	14	0.493
Arsenic	01/13/99	23.2	20	0.493
Barium	01/13/99	17.6	700	0.123
Beryllium	01/13/99	2.03	1	0.123
Cadmium	01/13/99	1.26	1	0.12
Calcium	01/13/99	765	NLE	4.933
Chromium	01/13/99	231	NLE	0.123
Cobalt	01/13/99	0.771	NLE	0.123
Copper	01/13/99	11.7	600	0.740
Iron	01/13/99	48600	NLE	2.47
Lead	01/13/99	10.8	100	0.493
Magnesium	01/13/99	6380	NLE	4.93
Manganese	01/13/99	20.8	NLE	0.123
Mercury	01/14/99	0.039	14	0.024
Nickel	01/13/99	5.70	250	0.123
Potassium	01/13/99	16400	NLE	4.93
Selenium	01/13/99	ND	63	0.740
Silver	01/13/99	ND	110	0.740
Sodium	01/13/99	139	NLE	4.93
Thallium	01/13/99	ND	2	0.740
Vanadium	01/13/99	100.0	370	0.247
Zinc	01/13/99	61.7	1500	0.247

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Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4179.06
Sample Received: 01/11/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-98, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	15100	NLE	2.25
Antimony	01/13/99	0.611	14	0.449
Arsenic	01/13/99	29.9	20	0.449
Barium	01/13/99	41.5	700	0.112
Beryllium	01/13/99	2.12	1	0.112
Cadmium	01/13/99	1.66	1	0.112
Calcium	01/13/99	1860	NLE	4.49
Chromium	01/13/99	237	NLE	0.112
Cobalt	01/13/99	1.86	NLE	0.112
Copper	01/13/99	32.9	600	0.674
Iron	01/13/99	51300	NLE	2.25
Lead	01/13/99	47.3	100	0.449
Magnesium	01/13/99	6730	NLE	4.49
Manganese	01/13/99	100	NLE	0.112
Mercury	01/14/99	0.102	14	0.025
Nickel	01/13/99	11.0	250	0.112
Potassium	01/13/99	17800	NLE	4.49
Selenium	01/13/99	1.23	63	0.674
Silver	01/13/99	ND	110	0.674
Sodium	01/13/99	178	NLE	4.49
Thallium	01/13/99	ND	2	0.674
Vanadium	01/13/99	104	370	0.225
Zinc	01/13/99	95.5	1500	0.225

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Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4179.08
Sample Received: 01/11/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-99, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	14900	NLE	2.36
Antimony	01/13/99	ND	14	0.472
Arsenic	01/13/99	28.0	20	0.472
Barium	01/13/99	16.9	700	0.118
Beryllium	01/13/99	2.80	1	0.118
Cadmium	01/13/99	1.92	1	0.118
Calcium	01/13/99	1060	NLE	4.72
Chromium	01/13/99	317	NLE	0.118
Cobalt	01/13/99	0.628	NLE	0.118
Copper	01/13/99	20.6	600	0.708
Iron	01/13/99	64100	NLE	2.36
Lead	01/13/99	12.2	100	0.472
Magnesium	01/13/99	8860	NLE	4.72
Manganese	01/13/99	21.9	NLE	0.118
Mercury	01/14/99	0.050	14	0.024
Nickel	01/13/99	7.42	250	0.118
Potassium	01/13/99	23800	NLE	4.72
Selenium	01/13/99	0.725	63	0.708
Silver	01/13/99	ND	110	0.708
Sodium	01/13/99	93.5	NLE	4.72
Thallium	01/13/99	ND	2	0.708
Vanadium	01/13/99	126	370	0.236
Zinc	01/13/99	76.1	1500	0.236

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Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4179.10
Sample Received: 01/11/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-100, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	3190	NLE	2.38
Antimony	01/13/99	0.566	14	0.475
Arsenic	01/13/99	24.4	20	0.475
Barium	01/13/99	6.78	700	0.119
Beryllium	01/13/99	0.162	1	0.119
Cadmium	01/13/99	0.415	1	0.119
Calcium	01/13/99	432	NLE	4.75
Chromium	01/13/99	41.3	NLE	0.119
Cobalt	01/13/99	0.677	NLE	0.119
Copper	01/13/99	10.9	600	0.713
Iron	01/13/99	7170	NLE	2.38
Lead	01/13/99	4.86	100	0.475
Magnesium	01/13/99	346	NLE	4.75
Manganese	01/13/99	11.3	NLE	0.119
Mercury	01/14/99	0.031	14	0.026
Nickel	01/13/99	1.46	250	0.119
Potassium	01/13/99	608	NLE	4.75
Selenium	01/13/99	ND	63	0.713
Silver	01/13/99	ND	110	0.713
Sodium	01/13/99	63.7	NLE	4.75
Thallium	01/13/99	ND	2	0.713
Vanadium	01/13/99	14.2	370	0.238
Zinc	01/13/99	24.9	1500	0.238

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Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4179.12
Sample Received: 01/11/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-101, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	1420	NLE	2.52
Antimony	01/13/99	ND	14	0.503
Arsenic	01/13/99	6.59	20	0.503
Barium	01/13/99	16.0	700	0.126
Beryllium	01/13/99	ND	1	0.126
Cadmium	01/13/99	0.504	1	0.126
Calcium	01/13/99	135	NLE	5.03
Chromium	01/13/99	18.9	NLE	0.126
Cobalt	01/13/99	0.437	NLE	0.126
Copper	01/13/99	10.6	600	0.755
Iron	01/13/99	6930	NLE	2.52
Lead	01/13/99	24.6	100	0.503
Magnesium	01/13/99	163	NLE	5.03
Manganese	01/13/99	5.13	NLE	0.126
Mercury	01/14/99	0.164	14	0.023
Nickel	01/13/99	1.23	250	0.126
Potassium	01/13/99	369	NLE	5.03
Selenium	01/13/99	ND	63	0.755
Silver	01/13/99	1.03	110	0.755
Sodium	01/13/99	63.9	NLE	5.03
Thallium	01/13/99	ND	2	0.755
Vanadium	01/13/99	9.61	370	0.252
Zinc	01/13/99	16.6	1500	0.252

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4179.14
Sample Received: 01/11/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-102, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	4570	NLE	2.54
Antimony	01/13/99	ND	14	0.508
Arsenic	01/13/99	9.69	20	0.508
Barium	01/13/99	13.6	700	0.127
Beryllium	01/13/99	0.257	1	0.127
Cadmium	01/13/99	0.569	1	0.127
Calcium	01/13/99	148	NLE	5.08
Chromium	01/13/99	40.4	NLE	0.127
Cobalt	01/13/99	0.655	NLE	0.127
Copper	01/13/99	5.24	600	0.762
Iron	01/13/99	10500	NLE	2.54
Lead	01/13/99	4.79	100	0.508
Magnesium	01/13/99	350	NLE	5.08
Manganese	01/13/99	11.0	NLE	0.127
Mercury	01/14/99	0.040	14	0.027
Nickel	01/13/99	2.31	250	0.127
Potassium	01/13/99	717	NLE	5.08
Selenium	01/13/99	ND	63	0.762
Silver	01/13/99	ND	110	0.762
Sodium	01/13/99	87.5	NLE	5.08
Thallium	01/13/99	ND	2	0.762
Vanadium	01/13/99	31.3	370	0.254
Zinc	01/13/99	27.6	1500	0.254

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4179.16
Sample Received: 01/11/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-103, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	4140	NLE	1.81
Antimony	01/13/99	0.461	14	0.362
Arsenic	01/13/99	6.47	20	0.362
Barium	01/13/99	16.8	700	0.091
Beryllium	01/13/99	0.295	1	0.091
Cadmium	01/13/99	0.418	1	0.091
Calcium	01/13/99	143	NLE	3.62
Chromium	01/13/99	32.4	NLE	0.091
Cobalt	01/13/99	0.303	NLE	0.091
Copper	01/13/99	3.56	600	0.543
Iron	01/13/99	7410	NLE	1.81
Lead	01/13/99	2.21	100	0.362
Magnesium	01/13/99	214	NLE	3.62
Manganese	01/13/99	5.04	NLE	0.091
Mercury	01/14/99	0.039	14	0.019
Nickel	01/13/99	1.54	250	0.091
Potassium	01/13/99	231	NLE	3.62
Selenium	01/13/99	ND	63	0.543
Silver	01/13/99	ND	110	0.543
Sodium	01/13/99	50.2	NLE	3.62
Thallium	01/13/99	ND	2	0.543
Vanadium	01/13/99	30.3	370	0.181
Zinc	01/13/99	23.5	1500	0.181

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4179.18
Sample Received: 01/11/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-104, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	1600	NLE	2.30
Antimony	01/13/99	ND	14	0.460
Arsenic	01/13/99	1.14	20	0.460
Barium	01/13/99	4.92	700	0.115
Beryllium	01/13/99	ND	1	0.115
Cadmium	01/13/99	0.183	1	0.115
Calcium	01/13/99	73.7	NLE	4.60
Chromium	01/13/99	9.66	NLE	0.115
Cobalt	01/13/99	0.248	NLE	0.115
Copper	01/13/99	2.61	600	0.690
Iron	01/13/99	2320	NLE	2.30
Lead	01/13/99	1.21	100	0.460
Magnesium	01/13/99	51.0	NLE	4.60
Manganese	01/13/99	1.55	NLE	0.115
Mercury	01/14/99	0.055	14	0.021
Nickel	01/13/99	1.44	250	0.115
Potassium	01/13/99	96.6	NLE	4.60
Selenium	01/13/99	ND	63	0.690
Silver	01/13/99	ND	110	0.690
Sodium	01/13/99	66.0	NLE	4.60
Thallium	01/13/99	ND	2	0.690
Vanadium	01/13/99	9.70	370	0.230
Zinc	01/13/99	17.0	1500	0.230

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4179.20
Sample Received: 01/11/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-105, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	1500	NLE	2.70
Antimony	01/13/99	ND	14	0.540
Arsenic	01/13/99	14.9	20	0.540
Barium	01/13/99	34.0	700	0.135
Beryllium	01/13/99	0.217	1	0.135
Cadmium	01/13/99	0.952	1	0.135
Calcium	01/13/99	9270	NLE	5.40
Chromium	01/13/99	13.8	NLE	0.135
Cobalt	01/13/99	1.02	NLE	0.135
Copper	01/13/99	10.3	600	0.811
Iron	01/13/99	8270	NLE	2.70
Lead	01/13/99	17.9	100	0.540
Magnesium	01/13/99	4600	NLE	5.40
Manganese	01/13/99	36.3	NLE	0.135
Mercury	01/14/99	0.799	14	0.026
Nickel	01/13/99	5.85	250	0.135
Potassium	01/13/99	700	NLE	5.40
Selenium	01/13/99	1.09	63	0.811
Silver	01/13/99	ND	110	0.811
Sodium	01/13/99	115	NLE	5.40
Thallium	01/13/99	ND	2	0.811
Vanadium	01/13/99	8.80	370	0.270
Zinc	01/13/99	59.4	1500	0.270

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4179.22
Sample Received: 01/11/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-106, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/13/99	3380	NLE	2.33
Antimony	01/13/99	ND	14	0.466
Arsenic	01/13/99	17.0	20	0.466
Barium	01/13/99	10.2	700	0.116
Beryllium	01/13/99	0.217	1	0.116
Cadmium	01/13/99	0.532	1	0.116
Calcium	01/13/99	808	NLE	4.66
Chromium	01/13/99	25.8	NLE	0.116
Cobalt	01/13/99	0.562	NLE	0.116
Copper	01/13/99	12.5	600	0.699
Iron	01/13/99	10200	NLE	2.33
Lead	01/13/99	7.06	100	0.466
Magnesium	01/13/99	232	NLE	4.66
Manganese	01/13/99	16.7	NLE	0.116
Mercury	01/14/99	0.154	14	0.025
Nickel	01/13/99	1.81	250	0.116
Potassium	01/13/99	535	NLE	4.66
Selenium	01/13/99	ND	63	0.699
Silver	01/13/99	ND	110	0.699
Sodium	01/13/99	56.9	NLE	4.66
Thallium	01/13/99	ND	2	0.699
Vanadium	01/13/99	14.3	370	0.233
Zinc	01/13/99	24.3	1500	0.233

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4184.02
Sample Received: 01/12/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-107, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/25/99	12800	NLE	2.33
Antimony	01/25/99	0.663	14	0.466
Arsenic	01/25/99	16.2	20	0.466
Barium	01/25/99	26.5	700	0.117
Beryllium	01/25/99	1.38	1	0.117
Cadmium	01/25/99	0.786	1	0.117
Calcium	01/25/99	749	NLE	4.66
Chromium	01/25/99	161	NLE	0.117
Cobalt	01/25/99	0.996	NLE	0.117
Copper	01/25/99	52.1	600	0.699
Iron	01/25/99	37900	NLE	2.33
Lead	01/25/99	28.8	100	0.466
Magnesium	01/25/99	4880	NLE	4.66
Manganese	01/25/99	21.7	NLE	0.117
Mercury	01/14/99	0.154	14	0.023
Nickel	01/25/99	5.69	250	0.117
Potassium	01/25/99	10500	NLE	4.66
Selenium	01/25/99	1.14	63	0.699
Silver	01/25/99	ND	110	0.699
Sodium	01/25/99	174	NLE	4.66
Thallium	01/25/99	ND	2	0.699
Vanadium	01/25/99	65.7	370	0.233
Zinc	01/25/99	52.7	1500	0.233

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4184.04
Sample Received: 01/12/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-108, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/25/99	16600	NLE	1.90
Antimony	01/25/99	ND	14	0.380
Arsenic	01/25/99	11.8	20	0.380
Barium	01/25/99	26.5	700	0.095
Beryllium	01/25/99	1.85	1	0.095
Cadmium	01/25/99	1.02	1	0.10
Calcium	01/25/99	116	NLE	3.803
Chromium	01/25/99	188	NLE	0.095
Cobalt	01/25/99	1.83	NLE	0.095
Copper	01/25/99	36.6	600	0.570
Iron	01/25/99	51300	NLE	1.90
Lead	01/25/99	6.91	100	0.380
Magnesium	01/25/99	6450	NLE	3.80
Manganese	01/25/99	23.4	NLE	0.095
Mercury	01/14/99	0.054	14	0.023
Nickel	01/25/99	7.82	250	0.095
Potassium	01/25/99	15400	NLE	3.80
Selenium	01/25/99	0.711	63	0.570
Silver	01/25/99	ND	110	0.570
Sodium	01/25/99	118	NLE	3.80
Thallium	01/25/99	ND	2	0.570
Vanadium	01/25/99	98.4	370	0.190
Zinc	01/25/99	75.9	1500	0.190

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4184.06
Sample Received: 01/12/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-109, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/25/99	17100	NLE	1.87
Antimony	01/25/99	0.483	14	0.374
Arsenic	01/25/99	11.7	20	0.374
Barium	01/25/99	26.9	700	0.094
Beryllium	01/25/99	1.29	1	0.094
Cadmium	01/25/99	0.714	1	0.094
Calcium	01/25/99	134	NLE	3.74
Chromium	01/25/99	142	NLE	0.094
Cobalt	01/25/99	1.89	NLE	0.094
Copper	01/25/99	30.1	600	0.561
Iron	01/25/99	35400	NLE	1.87
Lead	01/25/99	7.09	100	0.374
Magnesium	01/25/99	4150	NLE	3.74
Manganese	01/25/99	30.3	NLE	0.094
Mercury	01/14/99	0.070	14	0.025
Nickel	01/25/99	6.76	250	0.094
Potassium	01/25/99	8550	NLE	3.74
Selenium	01/25/99	1.11	63	0.561
Silver	01/25/99	ND	110	0.561
Sodium	01/25/99	194	NLE	3.74
Thallium	01/25/99	ND	2	0.561
Vanadium	01/25/99	84.4	370	0.187
Zinc	01/25/99	43.1	1500	0.187

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4184.08
Sample Received: 01/12/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-110, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/25/99	4320	NLE	2.05
Antimony	01/25/99	0.581	14	0.410
Arsenic	01/25/99	1.90	20	0.410
Barium	01/25/99	10.7	700	0.102
Beryllium	01/25/99	0.255	1	0.102
Cadmium	01/25/99	0.313	1	0.102
Calcium	01/25/99	201	NLE	4.10
Chromium	01/25/99	32.7	NLE	0.102
Cobalt	01/25/99	0.634	NLE	0.102
Copper	01/25/99	23.6	600	0.614
Iron	01/25/99	6360	NLE	2.05
Lead	01/25/99	2.60	100	0.410
Magnesium	01/25/99	728	NLE	4.10
Manganese	01/25/99	15.9	NLE	0.102
Mercury	01/14/99	0.055	14	0.021
Nickel	01/25/99	2.43	250	0.102
Potassium	01/25/99	1050	NLE	4.10
Selenium	01/25/99	ND	63	0.614
Silver	01/25/99	ND	110	0.614
Sodium	01/25/99	71.6	NLE	4.10
Thallium	01/25/99	ND	2	0.614
Vanadium	01/25/99	23.0	370	0.205
Zinc	01/25/99	15.8	1500	0.205

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4184.10
Sample Received: 01/12/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-111, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/25/99	3040	NLE	2.37
Antimony	01/25/99	1.03	14	0.474
Arsenic	01/25/99	1.12	20	0.474
Barium	01/25/99	10.1	700	0.118
Beryllium	01/25/99	0.197	1	0.118
Cadmium	01/25/99	0.326	1	0.118
Calcium	01/25/99	199	NLE	4.74
Chromium	01/25/99	19.3	NLE	0.118
Cobalt	01/25/99	0.425	NLE	0.118
Copper	01/25/99	20.1	600	0.711
Iron	01/25/99	5400	NLE	2.37
Lead	01/25/99	2.41	100	0.474
Magnesium	01/25/99	470	NLE	4.74
Manganese	01/25/99	12.2	NLE	0.118
Mercury	01/14/99	0.054	14	0.025
Nickel	01/25/99	2.31	250	0.118
Potassium	01/25/99	566	NLE	4.74
Selenium	01/25/99	ND	63	0.711
Silver	01/25/99	ND	110	0.711
Sodium	01/25/99	69.4	NLE	4.74
Thallium	01/25/99	ND	2	0.711
Vanadium	01/25/99	14.0	370	0.237
Zinc	01/25/99	20.1	1500	0.237

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4184.12
Sample Received: 01/12/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-112, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/25/99	3070	NLE	1.97
Antimony	01/25/99	1.16	14	0.393
Arsenic	01/25/99	1.92	20	0.393
Barium	01/25/99	17.5	700	0.098
Beryllium	01/25/99	0.319	1	0.098
Cadmium	01/25/99	0.250	1	0.098
Calcium	01/25/99	299	NLE	3.93
Chromium	01/25/99	19.8	NLE	0.098
Cobalt	01/25/99	1.41	NLE	0.098
Copper	01/25/99	21.3	600	0.590
Iron	01/25/99	8550	NLE	1.97
Lead	01/25/99	40.7	100	0.393
Magnesium	01/25/99	831	NLE	3.93
Manganese	01/25/99	20.5	NLE	0.098
Mercury	01/14/99	0.066	14	0.022
Nickel	01/25/99	3.81	250	0.098
Potassium	01/25/99	1910	NLE	3.93
Selenium	01/25/99	1.16	63	0.590
Silver	01/25/99	ND	110	0.590
Sodium	01/25/99	79.5	NLE	3.93
Thallium	01/25/99	ND	2	0.590
Vanadium	01/25/99	12.6	370	0.197
Zinc	01/25/99	37.7	1500	0.197

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4189.02
Sample Received: 01/13/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-113, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/25/99	18000	NLE	1.93
Antimony	01/25/99	ND	14	0.387
Arsenic	01/25/99	23.3	20	0.387
Barium	01/25/99	26.2	700	0.097
Beryllium	01/25/99	2.54	1	0.097
Cadmium	01/25/99	1.21	1	0.097
Calcium	01/25/99	634	NLE	3.87
Chromium	01/25/99	308	NLE	0.097
Cobalt	01/25/99	0.573	NLE	0.097
Copper	01/25/99	65.4	600	0.580
Iron	01/25/99	64400	NLE	1.93
Lead	01/25/99	32.5	100	0.387
Magnesium	01/25/99	10100	NLE	3.87
Manganese	01/25/99	22.2	NLE	0.097
Mercury	01/14/99	0.073	14	0.023
Nickel	01/25/99	7.11	250	0.097
Potassium	01/25/99	22800	NLE	3.87
Selenium	01/25/99	2.48	63	0.580
Silver	01/25/99	ND	110	0.580
Sodium	01/25/99	148	NLE	3.87
Thallium	01/25/99	ND	2	0.580
Vanadium	01/25/99	120	370	0.193
Zinc	01/25/99	84.9	1500	0.193

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4189.04
Sample Received: 01/13/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-114, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/25/99	16300	NLE	16.64
Antimony	01/25/99	ND	14	3.328
Arsenic	01/25/99	25.6	20	3.328
Barium	01/25/99	29.2	700	0.832
Beryllium	01/25/99	2.16	1	0.832
Cadmium	01/25/99	1.09	1	0.83
Calcium	01/25/99	1200	NLE	33.280
Chromium	01/25/99	254	NLE	0.832
Cobalt	01/25/99	1.07	NLE	0.832
Copper	01/25/99	31.9	600	4.992
Iron	01/25/99	55300	NLE	16.64
Lead	01/25/99	36.5	100	3.328
Magnesium	01/25/99	8290	NLE	33.28
Manganese	01/25/99	30.4	NLE	0.832
Mercury	01/14/99	0.970	14	0.237
Nickel	01/25/99	7.88	250	0.832
Potassium	01/25/99	18600	NLE	33.28
Selenium	01/25/99	2.11	63	4.992
Silver	01/25/99	ND	110	4.992
Sodium	01/25/99	118	NLE	33.28
Thallium	01/25/99	ND	2	4.992
Vanadium	01/25/99	82.4	370	1.664
Zinc	01/25/99	85.3	1500	1.664

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4189.06
Sample Received: 01/13/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-115, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/25/99	17000	NLE	2.37
Antimony	01/25/99	0.588	14	0.475
Arsenic	01/25/99	19.3	20	0.475
Barium	01/25/99	17.6	700	0.119
Beryllium	01/25/99	2.30	1	0.119
Cadmium	01/25/99	1.00	1	0.119
Calcium	01/25/99	758	NLE	4.75
Chromium	01/25/99	258	NLE	0.119
Cobalt	01/25/99	0.298	NLE	0.119
Copper	01/25/99	25.5	600	0.712
Iron	01/25/99	55900	NLE	2.37
Lead	01/25/99	16.1	100	0.475
Magnesium	01/25/99	8380	NLE	4.75
Manganese	01/25/99	18.2	NLE	0.119
Mercury	01/14/99	0.044	14	0.024
Nickel	01/25/99	6.36	250	0.119
Potassium	01/25/99	19600	NLE	4.75
Selenium	01/25/99	1.94	63	0.712
Silver	01/25/99	ND	110	0.712
Sodium	01/25/99	238	NLE	4.75
Thallium	01/25/99	ND	2	0.712
Vanadium	01/25/99	94.6	370	0.237
Zinc	01/25/99	70.5	1500	0.237

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4189.08
Sample Received: 01/13/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-116, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/25/99	17300	NLE	2.46
Antimony	01/25/99	ND	14	0.492
Arsenic	01/25/99	23.4	20	0.492
Barium	01/25/99	40.3	700	0.123
Beryllium	01/25/99	2.39	1	0.123
Cadmium	01/25/99	3.17	1	0.123
Calcium	01/25/99	1180	NLE	4.92
Chromium	01/25/99	280	NLE	0.123
Cobalt	01/25/99	0.959	NLE	0.123
Copper	01/25/99	34.2	600	0.738
Iron	01/25/99	57600	NLE	2.46
Lead	01/25/99	45.2	100	0.492
Magnesium	01/25/99	9020	NLE	4.92
Manganese	01/25/99	47.0	NLE	0.123
Mercury	01/14/99	0.069	14	0.026
Nickel	01/25/99	8.00	250	0.123
Potassium	01/25/99	20500	NLE	4.92
Selenium	01/25/99	1.67	63	0.738
Silver	01/25/99	ND	110	0.738
Sodium	01/25/99	124	NLE	4.92
Thallium	01/25/99	ND	2	0.738
Vanadium	01/25/99	118	370	0.246
Zinc	01/25/99	256	1500	0.246

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4189.10
Sample Received: 01/13/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-117, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/25/99	2720	NLE	2.12
Antimony	01/25/99	0.792	14	0.425
Arsenic	01/25/99	1.36	20	0.425
Barium	01/25/99	12.9	700	0.106
Beryllium	01/25/99	0.190	1	0.106
Cadmium	01/25/99	0.268	1	0.106
Calcium	01/25/99	162	NLE	4.25
Chromium	01/25/99	16.3	NLE	0.106
Cobalt	01/25/99	0.443	NLE	0.106
Copper	01/25/99	4.80	600	0.637
Iron	01/25/99	4980	NLE	2.12
Lead	01/25/99	8.16	100	0.425
Magnesium	01/25/99	474	NLE	4.25
Manganese	01/25/99	18.5	NLE	0.106
Mercury	01/14/99	0.037	14	0.021
Nickel	01/25/99	2.26	250	0.106
Potassium	01/25/99	770	NLE	4.25
Selenium	01/25/99	0.661	63	0.637
Silver	01/25/99	ND	110	0.637
Sodium	01/25/99	74.9	NLE	4.25
Thallium	01/25/99	ND	2	0.637
Vanadium	01/25/99	9.79	370	0.212
Zinc	01/25/99	26.7	1500	0.212

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4189.12
Sample Received: 01/13/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-118, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/25/99	12100	NLE	1.78
Antimony	01/25/99	0.407	14	0.355
Arsenic	01/25/99	11.8	20	0.355
Barium	01/25/99	20.8	700	0.089
Beryllium	01/25/99	1.15	1	0.089
Cadmium	01/25/99	0.539	1	0.089
Calcium	01/25/99	386	NLE	3.55
Chromium	01/25/99	135	NLE	0.089
Cobalt	01/25/99	0.938	NLE	0.089
Copper	01/25/99	33.0	600	0.533
Iron	01/25/99	31000	NLE	1.78
Lead	01/25/99	30.5	100	0.355
Magnesium	01/25/99	4270	NLE	3.55
Manganese	01/25/99	29.6	NLE	0.089
Mercury	01/14/99	0.313	14	0.022
Nickel	01/25/99	10.9	250	0.089
Potassium	01/25/99	9350	NLE	3.55
Selenium	01/25/99	1.08	63	0.533
Silver	01/25/99	ND	110	0.533
Sodium	01/25/99	130	NLE	3.55
Thallium	01/25/99	ND	2	0.533
Vanadium	01/25/99	57.2	370	0.178
Zinc	01/25/99	49.8	1500	0.178

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab ID #: 4189.14
Sample Received: 01/13/99
Sample Matrix: Soil

Site: M-14
Ft. Monmouth, New Jersey

Field ID#: M-14-119, 6-12"

TAL-METALS RESULTS SUMMARY (mg/kg)

Element	Date of Analysis	Result	Soil Cleanup Criteria	MDL
Aluminum	01/25/99	5260	NLE	1.71
Antimony	01/25/99	0.424	14	0.343
Arsenic	01/25/99	5.03	20	0.343
Barium	01/25/99	19.8	700	0.086
Beryllium	01/25/99	0.470	1	0.086
Cadmium	01/25/99	0.276	1	0.086
Calcium	01/25/99	235	NLE	3.43
Chromium	01/25/99	51.0	NLE	0.086
Cobalt	01/25/99	0.692	NLE	0.086
Copper	01/25/99	7.50	600	0.514
Iron	01/25/99	13900	NLE	1.71
Lead	01/25/99	11.9	100	0.343
Magnesium	01/25/99	1520	NLE	3.43
Manganese	01/25/99	24.1	NLE	0.086
Mercury	01/14/99	0.068	14	0.023
Nickel	01/25/99	3.16	250	0.086
Potassium	01/25/99	3070	NLE	3.43
Selenium	01/25/99	0.705	63	0.514
Silver	01/25/99	ND	110	0.514
Sodium	01/25/99	64.9	NLE	3.43
Thallium	01/25/99	ND	2	0.514
Vanadium	01/25/99	24.1	370	0.171
Zinc	01/25/99	32.6	1500	0.171

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

APPENDIX E

Soil Boring Logs

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B1

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-23-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		SILTY SAND, fine - brown [turf 0-5"]		
6	4156.02		0908	0 PPM
12				
18		SAND, fine/ medium - tan / brown		
24	4156.03	SANDY SILT, fine - lt. olive green / tan w/ some cement debris	0908	0 PPM
30				
36				

04-23-1999 X:\MTECH5\M14\m14-b001.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B2

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-23-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		SILTY SAND, fine - brown [turf 0 - 4"]		
6	4156.04		0930	0 PPM
12				
18		SAND, fine/ medium - tan / brown		
24	4156.05	SANDY SILT, fine - lt. olive green / tan w/ some cement debris	0930	0 PPM
30				
36				

04-23-1999 X:\MTECH5\M14\m14-b002.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B3

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-23-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		SILTY SAND, fine - brown [turf 0 - 5"]		
6	4156.06		1000	0 PPM
12				
18		SAND, fine/ medium - tan / brown		
24	4156.07	SANDY SILT, fine - lt. olive green / tan w/ some cement debris	1000	0 PPM
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B4

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 12-23-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		SILTY SAND, fine - brown [turf 0 - 5"]		
6	4156.08		1038	0 PPM
12				
18		SAND, fine/ medium - tan / brown		
24	4156.09	SANDY SILT, fine - lt. olive green / tan w/ some cement debris	1038	0 PPM
30				
36				

04-23-1999 X:\MTECH5\M14\m14-b004.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B5

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-23-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		SILTY SAND, fine - brown [turf 0 - 5"]		
6	4156.10		1100	0 PPM
12				
18		SAND, fine/ medium - tan / brown		
24	4156.11	SANDY SILT, fine - lt. olive green / tan w/ some cement debris	1100	0 PPM
30				
36				

04-23-1999 X:\MTECH5\M14\m14-b005.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B6

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-23-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		SILTY SAND, fine - brown [turf 0 - 5"]		
6	4156.12		1125	0 PPM
12				
18		SILTY CLAY and fine sand - dk. brown		
24	4156.13		1125	0 PPM
30		CEMENT		
36				
42				

04-23-1999 X:\MTECH5\M14\m14-b006.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B7

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-28-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SANDY SILT, fine - brown -w/ some ang. and rnd. gravels		
	4159.04		1020	0 PPM
12				
18				
24	4159.05		1020	0 PPM
30				
36				
42				

04-23-1999 X:\MTECH5\M14\m14-b007.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B8

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-28-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SANDY SILT, fine - brown -w/ some ang. and rnd. gravels		
6	4159.04		1020	0 PPM
12				
18				
24	4159.05		1020	0 PPM
30				
36				

04-22-1999 X:\MTECH5\M14\m14-b008.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B9

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 12-28-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY CLAY, and fine sand - dk. gray / black		
6	4159.06		1035	0 PPM
12				
18				
24	4159.07		1035	0 PPM
30				
36				

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000042

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B10

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED	: 12-28-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine - brown		
	4159.08		1050	0 PPM
12				
18		SILTY CLAY, and fine sand - dk. gray / black		
24	4159.09		1050	0 PPM
30				
36				

04-22-1999 X:\MTECH5\M14\m14-b010.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B11

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 12-28-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		LOAMY SILTY SAND, fine - brown		
	4159.10	SILTY CLAY, and fine sand - dk. olive green	1110	0 PPM
12		NATIVE SOILS APPEARANCE		
18				
24	4159.11		1110	0 PPM
30				
36				
42				

04-23-1999 X:\MTECH5\M14\m14-b011.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B12

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 12-28-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine - brown		
	4159.12	SILTY CLAY, and fine sand - dk. brown	1125	0 PPM
12		NATIVE SOILS APPEARANCE		
18				
24	4159.13		1125	0 PPM
30				
36				
42				

04-23-1999 X:\MTECH5\M14\m14-b012.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B13

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-28-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine - brown		
6				
	4159.14	SILTY CLAY, and fine sand - dk. brown	1315	0 PPM
12				
		NATIVE SOILS APPEARANCE		
18				
24	4159.15		1315	0 PPM
30				
36				
42				

04-23-1999 X:\MTECH5\M14\m14-b013.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B14

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-28-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine -orange w/ some pea gravels		
6		SILTY SAND, fine - brown		
	4159.16		1330	0 PPM
12				
18				
24	4159.17		1330	0 PPM
30				
36				
42				

04-23-1999 X:\MTECH5\M14\m14-b014.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B15

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED	: 12-28-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine -orange w/ some pea gravels		
6		SILTY SAND, fine - brown		
	4159.18		1348	0 PPM
12				
18				
24	4159.19		1348	0 PPM
30				
36				
42				

04-23-1999 X:\MTECH5\M14\m14-b015.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B16

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-28-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine -orange w/ some pea gravels		
6		SILTY SAND, fine - brown		
	4159.20		1408	0 PPM
12				
18				
24	4159.21		1408	0 PPM
30				
36				
42				

04-23-1999 X:\MTECH5\M14\m14-b016.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B17

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-28-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine - brown		
	4159.22		1422	0 PPM
12				
18		SILTY SAND, fine - olive green		
24	4159.23		1422	0 PPM
		CEMENT		
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B18

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-28-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		LOAMY SILT and SAND - fine -brown		
6				
	4159.24	SILTY SAND, fine - brown	1442	0 PPM
12				
18		SILTY CLAY, and fine sand - dk. olive green		
24	4159.25		1442	0 PPM
		NATIVE SOILS APPEARANCE		
30				
36				

04-22-1999 X:\MTECH5\M14\m14-b018.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B19

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-28-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine - brown		
6				
	4159.26		1500	0 PPM
12				
18		SILTY SAND, fine - olive green w/ some cement debris		
24	4159.27		1500	0 PPM
30				
36				
42				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B20

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED	: 12-29-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine - w/ some clay - brown and some cinders		
6				
	4160.02		0955	0 PPM
12				
18				
24	4160.03		0955	0 PPM
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B21

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED	: 12-29-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine - brown - cement debris at 38"		
6				
	4160.04		1015	0 PPM
12				
18				
24	4160.05		1015	0 PPM
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B22

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED	: 12-29-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine - brown / black		
6	4160.06		1100	0 PPM
12				
18				
24	4160.07		1100	0 PPM
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B23

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 12-29-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine - brown - w/ some rnd. gravels		
	4160.08		1120	0 PPM
12				
18				
24	4160.09	SAND, fine - lt. brown / tan / olive green	1120	0 PPM
		SILTY SAND, fine - olive green		
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B24

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-29-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine - dk. brown w/ some [<2%] small rounded gravels		
	4160.10		1145	0 PPM
12				
18				
24	4160.11		1145	0 PPM
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B25

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-29-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine - dk. brown w/ some [<2%] small rounded gravels		
	4160.12		1327	0 PPM
12				
18				
24	4160.13		1327	0 PPM
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B26

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 12-29-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine - brown		
	4160.14		1349	0 PPM
12				
18				
		SANDY SILT, fine - black w/ some cement debris		
24	4160.15		1349	0 PPM
		SANDY SILT, fine - black w/ some cement and plastic debris		
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B27

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 12-29-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine - brown		
	4160.16		1410	0 PPM
12				
18		SANDY SILT, fine - black / brown - cement debris at 28"		
24	4160.17		1410	0 PPM
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B28

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-29-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine - brown		
	4160.18		1421	0 PPM
12				
18		SANDY SILT, fine - brown / olive green		
24	4160.19		1421	0 PPM
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B29

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-29-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, dk. brown		
	4160.20		1443	0 PPM
12		NATIVE SOILS APPEARANCE		
18				
24	4160.21		1443	0 PPM
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B30

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 12-30-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine -brown		
	4162.02		0925	0 PPM
12				
18				
		CLAYEY SILT, and fine sand - brown / black		
24	4162.03		0925	0 PPM
		NATIVE SOILS APPEARANCE		
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B31

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-30-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine - brown		
	4162.04		0945	0 PPM
12				
18				
24	4162.05		0945	0 PPM
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B32

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 12-30-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine - brown		
	4162.06		1000	0 PPM
12				
18				
24	4162.07		1000	0 PPM
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B33

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 12-30-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine - brown		
	4162.08		1015	0 PPM
12				
18				
24	4162.09		1015	0 PPM
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B34

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-30-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SAND, fine -brown		
	4162.10		1033	0 PPM
12				
18		SILTY SAND, fine -brown		
24	4162.11		1033	0 PPM
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B35

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 12-30-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SAND, fine -brown		
	4162.12		1050	0 PPM
12				
18		SILTY SAND, fine -brown		
24	4162.13		1050	0 PPM
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B36

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-30-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine - brown w/ some small rnd. gravels		
	4162.14		1103	0 PPM
12				
18				
24	4162.15	SILTY SAND, fine - dk. gray	1103	0 PPM
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B37

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-30-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine -brown		
6	4162.16		1120	0 PPM
12				
18				
24	4162.17		1120	0 PPM
30				
36				
42				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B38

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 12-30-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine -brown		
6				
	4162.18		1138	0 PPM
12				
18		SILTY CLAY, and fine sand - gray		
24	4162.19		1138	0 PPM
30				
36				

04-23-1999 X:\MTECH5\M14\m14-b038.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B39

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 12-30-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine -brown		
6				
	4162.20		1320	0 PPM
12				
18		SILTY CLAY, and fine sand - gray		
24	4162.21		1320	0 PPM
30				
36				

04-23-1999 X:\MTECH5\M14\m14-b039.bor

000072

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B40

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 12-30-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine -brown		
6				
	4162.22		1342	0 PPM
12				
		SILTY SAND, fine - dk. olive green		
18				
24	4162.23		1342	0 PPM
30				
36				

04-23-1999 X:\MTECH5\M14\m14-b040.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B41

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-30-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine -brown		
	4162.24		1355	0 PPM
12		SILTY SAND, fine - dk. olive green		
18				
24	4162.25		1355	0 PPM
30				
36				

04-23-1999 X:\MTECH5\M14\m14-b041.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B42

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 12-30-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine -brown		
6	4162.26		1415	0 PPM
12		SILTY SAND, fine - dk. olive green		
18				
24	4162.27		1415	0 PPM
30				
36				

04-23-1999 X:\MTECH5\M14\m14-b042.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B43

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-30-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine -brown		
6				
	4162.28		1432	0 PPM
12		SILTY SAND, fine - dk. olive green		
18				
24	4162.29		1432	0 PPM
30				
36				

04-23-1999 X:\MTECH5\M14\m14-b043.bor

000076

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B44

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 12-30-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine -brown		
6				
	4162.30		1448	0 PPM
12		SILTY SAND, fine - dk. olive green		
18				
24	4162.31		1448	0 PPM
30				
36				

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000077

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B45

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-31-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine - brown		
	4164.02		0938	0 PPM
12		CLAYEY SILT, SAND fine - olive green / brown Motled		
18				
24	4164.03		0938	0 PPM
30		CEMENT & GLASS MATERIAL		
36				

04-22-1999 X:\MTECH5\M14\m14-b045.bor

000078

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B46

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-31-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine - brown		
6				
	4164.04		0954	0 PPM
12				
18		CLAYEY SILT, and SAND, fine - olive green		
24	4164.05		0954	0 PPM
30				
36				

04-23-1999 X:\MTECH5\M14\m14-b046.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B47

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED	: 12-31-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine - brown		
6				
	4164.06		1020	0 PPM
12				
18		CLAYEY SILT, and SAND, fine - olive green		
24	4164.07		1020	0 PPM
30				
36				

04-23-1999 X:\MTECH5\M14\m14-b047.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B48

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 12-31-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine - brown / olive green		
6	4164.08		1040	0 PPM
		CINDERS		
12				
18				
24	4164.09		1040	0 PPM
30				
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b048.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B49

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-31-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6	4164.10		1100	0 PPM
12		SILTY SAND, fine - orange brown / olive green		
18				
24	4164.11	CINDERS	1100	0 PPM
30				

04-22-1999 X:\MTECH5\M14\m14-b049.bor

000082

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B50

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 12-31-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine - brown		
	4164.12		1120	0 PPM
12				
18		SILTY SAND, fine - brown - olive green		
24	4164.13	SILTY SAND, fine - olive green	1120	0 PPM
30				
36				
42				

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000083

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B51

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 12-31-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6	4164.14		1315	0 PPM
12		SILTY SAND, fine - olive green		
18				
24	4164.15		1315	0 PPM
30		CINDERS		
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b051.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B52

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 12-31-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6	4164.16	SILTY SAND, fine - tan	1330	0 PPM
12				
18				
24	4164.17	CINDERS	1330	0 PPM
30				
36				
42				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B53

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 12-31-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6	4164.18	SILTY SAND, fine - dark gray with some Porcelin Material	1349	0 PPM
12				
18				
24	4164.19	CINDERS	1349	0 PPM
30				
36				
42				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B54

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-05-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6	4169.02	SILTY SAND, fine - dark gray / Brown	1012	0 PPM
12				
18				
24	4169.03	SILTY SAND, fine - olive green (NATIVE SOILS APPEARANCE)	1012	0 PPM
30				
36				
42				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B55

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-05-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine - olive green		
6	4169.04		1020	0 PPM
12				
18				
24	4169.05		1020	0 PPM
30		CINDERS		
36				
42				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B56

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-05-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine - olive green		
	4169.06		1030	0 PPM
12				
18				
24	4169.07	CINDERS	1030	0 PPM
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B57

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED	: 1-05-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine - olive green		
	4169.08		1050	0 PPM
12				
18				
24	4169.09	CINDERS	1050	0 PPM
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B58

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-05-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6		SILTY SAND, fine - brown		
12	4169.10		1105	0 PPM
18		SILTY SAND, fine - gray / tan		
24	4169.11		1105	0 PPM
30		SILTY SAND, fine - olive green		
36		COAL		

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B59

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-05-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6	4169.12	SILTY SAND, fine - brown	1112	0 PPM
12				
18		SILTY SAND, fine - gray / tan		
24	4169.13		1112	0 PPM
30		SILTY SAND, fine - olive green		
		COAL		
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B60

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-05-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6	4169.14	SILTY SAND, fine - olive green	1125	0 PPM
12				
18		SILTY SAND, fine - orange		
24	4169.15		1125	0 PPM
		CINDERS		
30				
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b060.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B61

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 1-05-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6	4169.16	SILTY SAND, fine - olive green	1136	0 PPM
12				
18		SILTY SAND, fine - orange		
24	4169.17		1136	0 PPM
30		CINDERS		
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b061.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B62

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-05-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6	4169.18	SILTY SAND, fine - black / brown	1145	0 PPM
12				
18		SILTY SAND, fine - olive green		
24	4169.19		1145	0 PPM
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B63

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 1-05-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine - brown		
6		SILTY SAND, fine - olive green		
	4169.20		1340	0 PPM
12				
18				
24	4169.21		1340	0 PPM
30				
		CINDERS		
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b063.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B64

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 1-05-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine - brown		
6		SILTY SAND, fine - olive green		
	4169.22		1344	0 PPM
12				
18				
24	4169.23		1344	0 PPM
30		CINDERS		
36				
42				

04-23-1999 X:\MTECH5\M14\m14-b064.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B65

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 1-05-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine - brown		
6				
	4169.24		1400	0 PPM
12		SILTY SAND, fine -orange		
18				
24	4169.25		1400	0 PPM
		SILT LOAM, dark olive green		
30				
		CINDERS		
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b065.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B66

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-05-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SILTY SAND, fine - brown		
6	4169.26		1400	0 PPM
12		SILTY SAND, fine -orange		
18				
24	4169.27		1400	0 PPM
		SILT LOAM, dark olive green		
30				
		CINDERS		
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b066.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B67

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 1-05-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine - brown		
6	4169.28		1425	0 PPM
12		SILTY SAND, fine gray / dark olive green		
18				
24	4169.29	SILTY SAND, fine - olive green	1425	0 PPM
30		CINDERS		
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b067.bor

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B68

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-05-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		PLAY AREA MULCH		
6	4169.30		1444	0 PPM
12		SILTY CLAY, And SAND, fine - With Mixed Cinders Throughout		
18				
24	4169.31		1444	0 PPM
30				
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b068.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B69

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED	: 1-05-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		PLAY AREA		
		MULCH		
6	4169.32		1438	0 PPM
12		SILTY CLAY, And SAND, fine - With Mixed Cinders Throughout		
18				
24	4169.33		1438	0 PPM
30				
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b069.bor

000102

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B70

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-05-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		PLAY AREA MULCH		
6	4169.34		1445	0 PPM
12		SILTY CLAY, And SAND, fine - With Mixed Cinders Throughout		
18				
24	4169.35		1445	0 PPM
30				
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b070.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B71

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-05-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		PLAY AREA MULCH		
6	4169.36		1520	0 PPM
12		SILTY CLAY, And SAND, fine - With Mixed Cinders Throughout		
18				
24	4169.37		1520	0 PPM
30				
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b071.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B72

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-06-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
		SILTY SAND, fine - brown		
6	4173.02	SILTY SAND, fine - olive green	1045	0 PPM
18	4173.03		1045	0 PPM
24		CINDERS		
30				
36				

04-22-1999 X:\MTECH5\M14\m14-b072.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B73

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-06-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		PLAYGROUND		
		MULCH		
6	4173.04		1110	0 PPM
12		SILTY SAND, fine - olive green		
18	4173.05		1110	0 PPM
24				
30				
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b073.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B74

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-06-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		PLAYGROUND MULCH		
6	4173.06		1125	0 PPM
12		SILTY SAND, fine - olive green		
18	4173.07		1125	0 PPM
24				
30				
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b074.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B75

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 1-06-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0				
		TURF		
6	4173.08		1150	0 PPM
		SILTY SAND, fine - olive green		
12				
18	4173.09		1150	0 PPM
		CINDERS		
24		SILTY SAND, fine - olive green		
30				
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b075.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B76

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-06-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6	4173.10	SILTY SAND, fine - olive green	1200	0 PPM
12				
18	4173.11		1200	0 PPM
24				
30		CINDERS		
36		SILTY CLAY, SAND, fine - olive green		
42				

04-22-1999 X:\MTECH5\M14\m14-b076.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B77

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-06-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6	4173.12		1300	0 PPM
12		SILTY SAND, fine - olive green / brown NATIVE SOILS APPEARANCE		
18	4173.13		1300	0 PPM
24				
30				
36				
42				

04-23-1999 X:\WTECH5\M14\m14-b077.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B78

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 1-06-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0				
		TURF		
6				
	4173.14		1320	0 PPM
12		SILTY SAND, fine - With Some CLAY olive green / orange With <5% Coal Fragments		
18	4173.15		1320	0 PPM
24				
30				
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b078.bor

000111

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B79

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 1-06-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6	4173.16		1342	0 PPM
12		SILTY SAND, fine - With Some CLAY olive green / orange With <5% Coal Fragments		
18	4173.17		1342	0 PPM
24				
30				
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b079.bor

000112

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B80

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 1-06-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		SILTY SAND, fine - brown / olive green TURF		
6	4173.18	SAND, fine - with some small round gravel - orange	1358	0 PPM
18	4173.19		1358	0 PPM
		Coal & Cinder Material		
24		SAND, medium/fine - light brown with some Coal Fragments		
30				
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b080.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B81

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-06-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6	4173.20	SILTY CLAY, & Fine - SAND, olive green	1408	0 PPM
18	4173.21		1408	0 PPM
		SANDY SILT, fine - with some Coal Material		
24		SAND, medium/fine - light brown with some CINDERS		
30		SAND, medium/fine - olive green		
36				
42				

04-23-1999 X:\MTECH5\M14\m14-b081.bor

000114

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B82

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 1-06-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6	4173.22		1420	0 PPM
12				
18	4173.23	SILTY CLAY, & Fine SAND - brown	1420	0 PPM
24				
30				
36				
42		SAND, medium - light brown NATIVE SOILS APPEARANCE		
48				

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04-23-1999

000115

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B83

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 1-06-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SILTY SAND, fine - brown		
6	4173.24	SAND, fine - light olive green / brown	1435	0 PPM
12				
18	4173.25	SILTY CLAY, olive green	1435	0 PPM
24		CLAYEY SILT, & FINE SAND with some small round gravel		
30				
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b083.bor

000116

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B84

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-06-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SILTY SAND, fine - brown		
6	4173.26	SAND, fine - light olive green / brown	1453	0 PPM
12				
18	4173.27	SILTY CLAY, olive green	1453	0 PPM
24		CLAYEY SILT, & FINE SAND with some small round gravel		
30				
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b084.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B85

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 1-06-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SILTY SAND, fine - brown		
6	4173.28	SAND, fine - light olive green / brown	1504	0 PPM
18	4173.29	SILTY CLAY, olive green	1504	0 PPM
24		CLAYEY SILT, & FINE SAND with some small round gravel & <1% Coal Fragments		
30				
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b085.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B86

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-06-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SILTY SAND, fine - brown		
6	4173.30	SAND, fine - light olive green / brown	1520	0 PPM
18	4173.31	SILTY CLAY, olive green	1520	0 PPM
24		CLAYEY SILT, & FINE SAND with some small round gravel & <1% Coal Fragments		
30				
36				
42				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B87

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 1-07-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SAND, fine - brown		
6		SAND, fine - light olive green / brown		
	4177.02		0920	0 PPM
12				
18	4177.03		0920	0 PPM
		CINDERS		
24				
30		SAND, fine - olive green / black		
36				
42				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B88

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-07-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SAND, fine - brown		
6		SAND, fine - light olive green / brown		
	4177.04		0945	0 PPM
12				
18				
	4177.05		0945	0 PPM
		CINDERS		
24				
30				

04-22-1999 X:\MTECH5\M14\m14-b088.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B89

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-07-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SAND, fine - brown		
6		SANDY CLAY, fine - light olive green / brown		
	4177.06		1009	0 PPM
12				
18				
	4177.07		1009	0 PPM
24				
30				
36				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B90

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 1-07-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SAND, fine - brown		
6		SAND, fine - tan / light brown		
	4177.08		1033	0 PPM
12				
18	4177.09		1033	0 PPM
24				
30		CLAYEY SAND, fine - tan / light brown		
36				
42				

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000123

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B91

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 1-07-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SAND, fine - brown		
6		CLAYEY SAND, fine - olive green / tan		
	4177.10		1053	0 PPM
12				
18	4177.11		1053	0 PPM
		SAND, fine - White / Pinkinsh with round gravel		
24		CLAYEY SAND, fine - olive green		
		Wood, Clap Board and Cinders		
30				
36				

04-22-1999 X:\MTECH5\M14\m14-b091.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B92

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-07-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SAND, fine - brown		
6		CLAYEY SAND, fine - olive green / tan		
	4177.12		1114	0 PPM
12				
18	4177.13		1114	0 PPM
24				
30		WOOD		
		CLAYEY SAND, fine - olive green / tan		
36		CINDERS		
42				

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000125

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B93

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-07-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SAND, fine - brown		
6		CLAYEY SAND, fine - olive green / tan		
	4177.14		1322	0 PPM
12				
18	4177.15		1322	0 PPM
24		CINDERS		
30				
36				
		CONCRETE		
42				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B94

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-07-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SAND, fine - brown		
6	4177.16	CLAYEY SAND, fine - olive green / tan	1345	0 PPM
12		CINDERS		
18	4177.17		1345	0 PPM
24				
30				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B95

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-07-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0				
		TURF SAND, fine - brown		
6				
	4177.18	CLAYEY SAND, fine - brown / tan	1407	0 PPM
12				
18	4177.19		1407	0 PPM
24		CLAY - olive green / tan		
30				
36				
42				
48				

04-22-1999 X:\MTECH5\M14\m14-b095.bor

000128

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B96

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-11-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SILTY SAND, fine - brown (NATIVE)		
6	4179.02	CLAYEY SILT, SAND, fine - brown	1000	0 PPM
12				
18	4179.03		1000	0 PPM
24				
30				
36				
42				
48				

04-22-1999 X:\MTECH5\M14\m14-b096.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B97

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-11-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SILTY SAND, fine - brown (NATIVE)		
6	4179.04	SANDY SILT, olive green	1023	0 PPM
12				
18	4179.05		1023	0 PPM
24				
30		SANDY SILT, fine - black brown		
		SANDY SILT, fine - olive green with some orange mottling		
36				
42				
48				

04-22-1999 X:\MTECH5\M14\m14-b097.bor

000130

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B98

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-11-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SILTY SAND, fine - brown		
6	4179.06	SILTY SAND, fine - olive green	1040	0 PPM
12				
18	4179.07		1040	0 PPM
24		SILTY SAND, fine - with Coal Fragments		
30		SILTY CLAY, SAND, olive green		
36				
42				
48				

04-22-1999 X:\MTECH5\M14\m14-b098.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B99

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-11-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SILTY SAND, fine - brown		
6	4179.08	SANDY SILT, olive green / brown	1100	0 PPM
12				
18	4179.09	SANDY SILT, fine - olive green / orange	1100	0 PPM
24				
30		CINDERS & CEMENT		
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b099.bor

000132

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B100

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-11-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SILTY SAND, fine - brown		
6	4179.10	SILTY SAND, fine - olive green with some orange	1124	0 PPM
12				
18	4179.11		1124	0 PPM
24				
30		CINDERS		
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b100.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B101

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-11-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SILTY SAND, fine - brown		
6	4179.12	SAND, medium/fine - brown	1140	0 PPM
12				
18	4179.13	SILTY SAND, fine - olive green	1140	0 PPM
24		CINDERS		
30				
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b101.bor

000134

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B102

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-11-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SILTY SAND, fine - brown		
6	4179.14	(Native) SILTY SAND, with some Quartz Gravels throughout olive green	1400	0 PPM
12				
18	4179.15		1400	0 PPM
24				
30				
36				
42				
48				

04-22-1999 X:\MTECH5\M14\m14-b102.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B103

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-11-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SILTY SAND, fine - brown		
6	4179.16	(Native) SILTY SAND, with some Quartz Gravels throughout olive green	1417	0 PPM
12				
18	4179.17		1417	0 PPM
24				
30				
36				
42				
48				

04-22-1999 X:\MTECH5\M14\m14-b103.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B104

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-11-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SILTY SAND, fine - brown		
6		SAND, fine - tan / light olive green with Quartz Gravel		
12	4179.18	SAND, fine - tan / light olive green	1440	0 PPM
18	4179.19		1440	0 PPM
24				
30		CLAYEY SILT, fine - olive green with orange molting		
36				
42				
48				

04-22-1999 X:\MTECH5\M14\m14-b104.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B105

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-11-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SILTY SAND, fine - brown		
6	4179.20	SILTY CLAY, SAND, fine - olive green	1500	0 PPM
12				
18	4179.21		1500	0 PPM
24		CINDERS		
30		SILTY CLAY, olive green with Quartz Round Gravel		
36				
42				
48				

04-22-1999 X:\MTECH5\M14\m14-b105.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B106

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-11-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SILTY SAND, fine - brown		
6	4179.22	SANDY SILT, fine - brown / olive green	1515	0 PPM
12				
18	4179.23	CLAYEY SILT, olive green with orange moltting	1515	0 PPM
24				
30				
36		CINDERS		
42				
48				

04-22-1999 X:\MTECH5\M14\m14-b106.bor

000139

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B107

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-12-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SILTY SAND, fine - brown		
6	4184.02	SILTY CLAY, SAND, medium/fine - olive green	1030	0 PPM
12				
18	4184.03		1030	0 PPM
24		CINDERS		
30				
36				
42				

04-22-1999 X:\MTECH5\M14\m14-b107.bor

000140

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B108

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-12-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF SILTY SAND, fine - brown		
6	4184.04	SILTY CLAY, SAND, medium/fine - olive green (NATIVE)	1050	0 PPM
12				
18	4184.05		1050	0 PPM
24				
30				
36		36" Quartz Round Gravel		
42				
48				

04-22-1999 X:\MTECH5\M14\m14-b108.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B109

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-12-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		(NATIVE SOILS APPEARANCE)		
		SILTY SAND, fine - brown / tan		
6	4184.06		1104	0 PPM
12		SILTY CLAY, SAND, fine - olive green		
18	4184.07		1104	0 PPM
24				
		SAND, fine - olive green / orange		
30				
36				
		SAND, fine - olive green with Round Quartz Gravel		
42				
48				

04-23-1999 X:\MTECH5\M14\m14-b109.bor

000142

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B110

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-12-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		(NATIVE SOILS APPEARANCE)		
		SILTY SAND, fine - brown / tan		
6				
	4184.08		1115	0 PPM
12		SAND, medium/fine - tan		
18				
	4184.09		1115	0 PPM
		CLAYEY SILT, SAND, fine - olive green		
24				
30				
36				
		SILTY SAND, fine - olive green / orange		
42				
48				

04-23-1999 X:\MTECH5\M14\m14-b110.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B111

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-12-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		(NATIVE SOILS APPEARANCE)		
		SILTY SAND, fine - olive green		
6		SAND, fine - dark gray with some Silt		
	4184.10		1140	0 PPM
12		SAND, fine - tan		
18	4184.11		1140	0 PPM
24		SAND, fine - light olive green / tan		
30				
36		CLAYEY SILT, SAND, fine - olive green		
42				
48				

04-23-1999 X:\MTECH5\M14\m14-b111.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B112

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-12-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		(NATIVE SOILS APPEARANCE)		
		SILTY SAND, fine - olive green		
6	4184.12		1340	0 PPM
		SAND, medium - light tan / gray / brown		
12				
18	4184.13		1340	0 PPM
24		SAND, fine - light brown / orange		
30				
36				
42				

04-23-1999 X:\MTECH5\M14\m14-b112.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B113

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-13-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6	4189.02	SILTY SAND, fine - olive green	1000	0 PPM
12		CINDERS		
18	4189.03	SAND, medium/fine - with some SILT- light brown / orange & light olive green	1000	0 PPM
24				
30				

04-23-1999 X:\MTECH5\M14\m14-b113.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B114

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-13-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0				
		TURF		
6				
	4189.04		1022	0 PPM
12		SILTY CLAY, SAND, fine - olive green		
18				
	4189.05		1022	0 PPM
24				
30				

04-23-1999 X:\MTECH5\M14\m14-b114.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B115

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-13-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6	4189.06	SAND, fine - with little SILT- olive green	1040	0 PPM
12				
18		CINDERS		
	4189.07	SANDY SILT, fine - light brown	1040	0 PPM
24				
30				

04-23-1999 X:\MTECH5\M14\m14-b115.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B116

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-13-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6	4189.08	SAND, fine - with little SILT- olive green	1100	0 PPM
12				
18		CINDERS		
	4189.09	SANDY SILT, fine - light brown	1100	0 PPM
24				
30				

04-23-1999 X:\MTECH5\M14\m14-b116.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B117

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-13-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6	4189.10	SANDY SILT, fine - tan / olive green	1130	0 PPM
18	4189.11	(FILL SAND) SAND, medium - tan	1130	0 PPM
24				
30				

04-23-1999 X:\MTECH5\M14\m14-b117.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B118

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-13-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0				
		TURF		
6				
	4189.12	SANDY SILT, fine - tan / olive green	1139	0 PPM
12				
18				
	4189.13	(FILL SAND) SAND, medium - tan	1139	0 PPM
24				
30				

04-23-1999 X:\MTECH5\M14\m14-b118.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-B119

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-13-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		TURF		
6	4189.14	SANDY SILT, fine - tan / olive green	1150	0 PPM
18	4189.15	(FILL SAND) SAND, medium - tan	1150	0 PPM
24				
30				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-NATIVE 1

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-12-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		(NATIVE SOILS APPEARANCE)		
		SILTY SAND, fine - olive green		
6				
		SILTY CLAY, SAND, fine - olive green		
12				
18				
24				
30				
36				
42				
48				

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000153

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-NATIVE 2

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-12-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		(NATIVE SOILS APPEARANCE)		
		SILTY SAND, fine - olive green		
6				
12				
		SAND, medium/fine - light olive green		
18				
24				
30				
36				
		CLAYEY SILT, SAND, fine - olive green		
42				
48				

04-23-1999 X:\MTECH5\M14\m14-nat2.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-NATIVE 3

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-12-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		(NATIVE SOILS APPEARANCE)		
		SILTY SAND, fine - olive green with some CLAY		
6				
12				
18				
24				
30				
		CLAYEY SILT,SAND, fine - , olive green		
36				
42				
48				

04-23-1999 X:\MTECH5\M14\m14-nat3.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-NATIVE 4

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-12-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		(NATIVE SOILS APPEARANCE)		
		SANDY SILT, fine - olive green		
6				
12				
18				
24		SILTY CLAY, SAND, fine - with some small round gravel		
30				
36				
42				
48				

04-23-1999 X:\MTECH5\M14\m14-nat4.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-NATIVE 5

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-12-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		(NATIVE SOILS APPEARANCE)		
6		SAND, medium/fine - brown		
12		SAND, with some SILT- fine - olive green / tan		
18				
24				
30				
36		SILTY CLAY, SAND, fine - olive green		
42				
48				

04-23-1999 X:\MTECH5\M14\m14-nat5.bor

000157

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-NATIVE 6

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-12-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		(NATIVE SOILS APPEARANCE) SILTY SAND, fine - olive green		
6				
12				
18		SAND, medium/fine - olive green with some small round gravel		
24				
30		SILTY CLAY, olive green		
36				
42				
48				

04-23-1999 X:\MTECH5\M14\m14-nat6.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-NATIVE 7

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED : 1-12-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		(NATIVE SOILS APPEARANCE)		
		SAND, medium/fine - brown		
6		SAND, fine - light olive green		
12				
18				
24		SILTY CLAY, SAND, fine - olive green		
30				
36				
42		CLAYEY SILT, olive green / orange		
48				

04-23-1999 X:\MTECH5\M14\m14-nat7.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-NATIVE 8

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV

JOSEPH FALLON

M-14 LANDFILL

DATE COMPLETED : 1-12-98
HOLE DIAMETER : 2"
DRILLING METHOD : GEOPROBE
SAMPLING METHOD : 2" MACROCORE
H2O SAMPLER :

OPERATOR : MARK LAURA
CONTRACTOR : TVS-PWS-007
NJDEP LIC. # : J1486

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		(NATIVE SOILS APPEARANCE)		
		SANDY SILT, brown / light brown		
6				
12		SILTY SAND, fine - olive green		
18		CLAYEY SILT, SAND, fine - olive green		
24				
30				
36		CLAYEY SILT, SAND, fine - olive green / orange		
42				
48				

04-23-1999 X:\MTECH5\M14\m14-nat8.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-NATIVE 9

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 1-12-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		(NATIVE SOILS APPEARANCE)		
		SAND, medium/fine - light brown		
6				
		SAND, fine - with some SILT - olive green		
12				
18				
		SILTY CLAY, SAND, fine - olive green		
24				
30				
36		CLAYEY SILT, SAND, fine - olive green / orange		
42				
48				

04-23-1999 X:\MTECH5\M14\m14-nat9.bor

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING M14-NATIVE 10

U.S. ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M-14 LANDFILL

DATE COMPLETED	: 1-12-98	OPERATOR	: MARK LAURA
HOLE DIAMETER	: 2"	CONTRACTOR	: TVS-PWS-007
DRILLING METHOD	: GEOPROBE	NJDEP LIC. #	: J1486
SAMPLING METHOD	: 2" MACROCORE		
H2O SAMPLER	:		

Depth in INCHES	Lab No.	DESCRIPTION	TIME	HNU
0		(NATIVE SOILS APPEARANCE)		
		SAND, fine/ medium - dark brown / gray		
6		SAND, fine - with some SILT - olive green		
12				
18		SILTY CLAY, SAND, fine - olive green		
24				
30				
36		CLAYEY SILT, SAND, fine - olive green		
42				
48				

04-23-1999 X:\MTECH5\M14\m14-nat1.bor

APPENDIX F

Compliance Average Area Names

Appendix F
Compliance Average Area Names
M-14 Landfill
Fort Monmouth, New Jersey

Compliance Area Name:	AREA SVOC-1	Boring ID
		B60
		B65
		B70
		B76
		B81
		B87
		B93
		B99
		B100
		B106
		B107
		B112
		B114

Compliance Area Name:	AREA SVOC-2	Boring ID
		B02
		B03
		B05
		B06
		B07
		B08
		B09
		B10
		B12
		B13
		B14
		B17
		B21
		B25

Compliance Area Name:	AREA PESTPCB-1	Boring ID
		B99
		B100
		B106
		B107
		B113
		B114
		B115

Compliance Area Name:	AREA PESTPCB-2	Boring ID
		B33
		B37
		B41
		B45
		B49
		B53
		B57
		B61
		B66

Compliance Area Name:	AREA METALS-1	Boring ID
		B20

B21
B24
B25
B28
B29
B32
B33
B36
B37
B40
B41
B43
B44
B45
B47
B48
B49
B51
B52
B53
B54
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B87

B88
B90
B91
B92
B93
B94
B97
B98
B99
B100
B101
B106
B107
B113
B114
B115
B116

FINAL

Remedial Investigation Report
And
Sediment Quality Evaluation

M-12/M-14 Landfill Site

U. S. Army Installation Fort Monmouth
Fort Monmouth, New Jersey

Directorate of Public Works

October 15, 2003

Versar INC.
201 Gibraltar Road, Suite 100
Horsham, Pennsylvania 19044

Contract No. DACA51-00-D-0004
Delivery Order No. 17

United States Army
Fort Monmouth, New Jersey

Remedial Investigation Report And Sediment Quality Evaluation for the M-12/M-14 Landfill Site

Fort Monmouth, New Jersey

January 26, 2004

REMEDIAL INVESTIGATION REPORT AND SEDIMENT QUALITY EVALUATION FOR THE M-12/M-14 LANDFILL SITE FORT MONMOUTH, NEW JERSEY

PREPARED FOR:

UNITED STATES ARMY FORT MONMOUTH
DIRECTORATE OF PUBLIC WORKS
BUILDING 167
FORT MONMOUTH, NJ 07703

PREPARED BY:

201 GIBRALTAR ROAD, SUITE 100
HORSHAM, PA 19044

January 26, 2004

VERSAR PROJECT NO. 4936.117

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EXECUTIVE SUMMARY

VERSAR, Inc. (VERSAR) has been contracted by the United States (U.S.) Army Installation, Fort Monmouth (Fort Monmouth), Directorate of Public Works (DPW), Fort Monmouth, New Jersey, to prepare a Remedial Investigation Report (RIR) for data collected during recent sediment sampling events at the M-12/M-14 Landfill Sites (Site). This report describes the remedial investigation activities conducted at the Site on April 10, 2000.

The Site is located on the Main Post Area of Fort Monmouth on the north and south side of Husky Brook, west of Murphy Drive, and occupies approximately 9.0 acres. The Site is comprised of both the M-12 and the M-14 landfills. The M-12 landfill consists of two separate areas, a northeast area and a southwest area. According to the Roy F. Weston (WESTON) report, *Site Investigation, Fort Monmouth, New Jersey, Main Post and Charles Wood Areas, Site Investigation Report (December 1995)*, both landfills were historically used for the disposal of domestic and industrial wastes. In the 1995 Site Investigation (SI), WESTON conducted a geophysical survey, groundwater sampling and tidal monitoring at each landfill. In addition, surface water samples were obtained from the portion of Husky Brook that is adjacent to the M-14 landfill. WESTON recommended that a long-term groundwater monitoring program be developed and implemented at the M-12 and M-14, but provided no recommendations related to Site-specific sediment quality. A long-term surface water monitoring program was also recommended for M-14.

Other studies conducted at similar Main Post Landfill sites (M-2 and M-8) found polychlorinated biphenyl (PCB) -containing materials (e.g., electrical ballasts) disposed of in each landfill. In addition, PCBs were detected in soil and/or groundwater at both the M-2 and M-8 Landfill sites. Therefore, assuming that other landfills on the Main Post had received similar waste materials, the DPW initiated a sediment sampling investigation in the second quarter of 2000 to evaluate potential impacts to stream sediments in creeks and/or brooks running adjacent to the Main Post and Charles Wood (CW-3A only) landfill sites. The M-12/M-14 Landfill Site was included in the sediment sampling program to supplement the WESTON findings related to soil, surface water and groundwater matrices.

To determine potential PCB-related impacts to sediments in Husky Brook, the DPW obtained 25 sediment samples on April 10, 2000, including two duplicate samples for quality assurance/quality control (QA/QC), from the surface and near-surface sediments of Husky Brook. The samples were obtained along the 1,700-foot portion of Husky Brook that flows through the M-12/M-14 Site. All 25 sediment samples were analyzed for PCBs and compared to the sediment sampling guidance concentrations defined in the New Jersey Department of Environmental Protection (NJDEP) *Guidance for Sediment Quality Evaluations (November 1998).* The analytical data is summarized in table form in this RIR. VERSAR developed this RIR based on the evaluation of these sediment data.

Data presented in Section 3.0 of this RIR indicate that there was one anomalous detection of PCBs in a duplicate sample but that no PCBs were detected in any of the 25 samples obtained from Husky Brook. Based on NJDEP guidance criteria, the results indicate that there are no PCB-related impacts to sediments in Husky Brook, which flows through the M-12/M-14 Landfill Site.

Based on the results of this sediment quality evaluation, no PCBs were detected above the NJDEP guidance criteria for sediment quality in any sample, and no potential exists for long-term adverse benthic effects in Husky Brook associated with the M-12/M-14 Landfill Site. Therefore, No Further Action is recommended for the M-12/M-14 Landfill Site related to potential PCB impacts to the sediments of Husky Brook.

1.0 INTRODUCTION

VERSAR has been contracted by the U.S. Army Installation, Fort Monmouth, DPW, Fort Monmouth, New Jersey to prepare an RIR and sediment quality evaluation for the Site located at the Fort Monmouth Main Post Area. This report addresses the remedial investigation activities performed at the Site on April 10, 2000.

1.1 Objectives

Other studies conducted at similar Main Post Landfill sites (M-2 and M-8) found PCB-containing materials (e.g., electrical ballasts) disposed of in each landfill. In addition, PCBs were detected in soil and/or groundwater at both the M-2 and M-8 Landfill sites. Therefore, assuming that other landfills on the Main Post had received similar waste materials, the DPW initiated a sediment sampling investigation in the second quarter of 2000 to evaluate potential impacts to stream sediments in creeks and/or brooks running adjacent to the Main Post and Charles Wood (CW-3A only) landfill sites. The M-12/M-14 Landfill Site was included in the sediment sampling program to supplement the earlier WESTON findings related to the soil, surface water and groundwater matrices.

The objective of this RIR is to determine potential PCB-related impacts to stream sediments in Husky Brook, which flows through the M-12/M-14 Landfill Site. The remedial investigation was conducted in accordance with New Jersey Administrative Code (NJAC) 7:26E - *Technical Requirements for Site Remediation* (February 2003) and NJDEP *Guidance for Sediment Quality Evaluations* (November 1998).

The remedial investigation encompassed the following:

- Obtaining surface and near-surface sediment samples approximately every 100 feet along the bottom of Husky Brook, which flows through the M-12/M-14 Landfill Site.
- Analyzing the samples for PCBs by United States Environmental Protection Agency (USEPA) Method 8082.
- Comparing the analytical results to the screening level criteria defined in the NJDEP *Guidance for Sediment Quality Evaluations* (November 1998).

1.2 Report Organization

This report is organized to minimize repetition. **Section 2.0** provides background information and a general description of the M-12/M-14 Landfill Site located at the Fort Monmouth Main Post area. **Section 3.0** describes and summarizes the sampling procedure and activities. **Section 4.0** presents analytical results and compares those results with NJDEP guidance criteria. **Section 5.0** provides a summary of the findings of the remedial investigation, and requests a No Further Action determination from the NJDEP.

2.0 SITE BACKGROUND AND ENVIRONMENTAL SETTING

The following sections describe the Site background and environmental setting of the area surrounding Fort Monmouth and the M-12/M-14 Landfill Site. Included is a description of the Site location, background, current conditions and environmental setting.

2.1 Site Location and Description

Fort Monmouth is located in the central-eastern portion of New Jersey in Monmouth County, approximately 45 miles south of New York City and 70 miles northeast of Philadelphia (**Figure 2-1**). In addition to the Main Post, the installation includes two subposts, the Charles Wood Area and the Evans Area. The Main Post encompasses approximately 630 acres and is generally bounded by State Highway 35, Parkers Creek, Lafetra Creek, the New Jersey Transit Railroad and a residential area to the south. The post was established in 1918 during World War I (WWI) as an Army Signal Corps training center. The Main Post currently provides administrative, training, and housing support functions, as well as providing many of the community facilities for Fort Monmouth. The primary mission of Fort Monmouth is to provide command, administrative, and logistical support for Headquarters, U.S. Army Communications and Electronics Command (CECOM). CECOM is a major subordinate command of the U.S. Army Materiel Command (AMC) and is the host tenant at Fort Monmouth.

The M-12/M-14 Landfill Site is located on the north and south sides of Husky Brook, west of Murphy Drive, in the Main Post Area (**Figure 2-2**). The approximate area of the M-12/M-14 Landfill Site is 389,300 feet^2 (9.0 acres). The M-12 landfill consists of two areas, a northeast area and a southwest area. Husky Brook flows along the northern boundary of the M-14 landfill and eventually between both the M-12 and M-14 landfills, for a distance of approximately 1,700 feet. It ultimately flows into Oceanport Creek. The bank of Husky Brook contains trees, bramble and small vegetation upstream and large rocks downstream. Portions of Husky Brook have been repaired/restored as part of a streambank Landfill project.

The various Landfill Sites on the Main Post are identified on **Figure 2-3**. The map is provided to identify:

- the relative location of each of the former landfill sites due to the similarity of past site uses, the types debris deposited at these locations, and the nature of the contaminants identified in soil, groundwater and/or sediment samples during the present and former investigations; and
- the proximity and interrelatedness of the adjacent surface water bodies.

2.2 Site Background

The WESTON report, *Site Investigation, Fort Monmouth, New Jersey, Main Post and Charles Wood Areas, Site Investigation Report* (December 1995), summarized surface

water sampling events that have been conducted since February 1986 for samples collected in Husky Brook. These sampling events were part of a former New Jersey Pollutant Discharge Elimination System (NJPDES) Permit and were obtained in that portion of Husky Brook that flows along the northern border of the M-14 landfill. From these sampling events, a report prepared by WESTON in 1993 (*Investigation of Suspected Waste Sites at Fort Monmouth, New Jersey*) indicates that no compounds were detected above NJDEP surface-water criteria.

The WESTON SI Report (WESTON, 1995) summarizes the results of a geophysical survey for determining landfill boundaries, groundwater sampling and tidal monitoring. In addition, surface-water samples were obtained in that portion of Husky Brook flowing along the northern boundary of the M-14 landfill. The surface water samples were sampled for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, PCBs and TAL metals. According to the WESTON SI report, VOCs, SVOCs, pesticides and PCBs were not detected above laboratory method detection limits (MDLs) in the samples. For the TAL metals analysis, no metals were detected at concentrations above NJDEP surface water criteria. The WESTON SI report recommended the implementation of a long-term groundwater monitoring program due to the historical Site use as a landfill. The present investigation was undertaken to further expand the WESTON SI report and assess the potential PCB-related impacts to stream sediments based on past Site use.

2.3 Current Conditions

VERSAR conducted a site walk on December 11, 2000 to assess current conditions at the M-12/M-14 Landfill Site. The M-12 site consists of two areas separated by a tributary to Husky Brook, which is bounded by trees and shrubs. The western M-12 area was recently backfilled and graded with black fill material. There was no vegetation present at the time of the Site walk, with the exception of areas along Husky Brook on the north side of the site, which was bounded with trees. The eastern portion of the M-12 site was an open field of grass.

M-14, located on the north side of Husky Brook, consists of an open field with some trees. This area was landscaped, with the grass cut and the trees pruned. On the eastern side of the Site is a playground. Site photographs are provided in **Appendix A**.

2.4 Environmental Setting

The following is a description of the geological/hydrogeological setting of the area surrounding the M-12/M-14 Landfill Site. Included is a description of the regional geology and hydrogeology of the area surrounding Fort Monmouth, as well as descriptions of the local geology and hydrogeology of the M-12/M-14 area.

2.4.1 Regional Geology

Monmouth County lies within the New Jersey Section of the Atlantic Coastal Plain physiographic province. The M-12/M-14 Landfill Site is located in what may be referred to as the Outer Coastal Plain subprovince, or the Outer Lowlands. The geologic map of New Jersey is provided as **Figure 2-4**.

In general, New Jersey Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, sand and gravel. These formations typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile and were deposited on Precambrian and lower Paleozoic rocks (Zapecza, 1989). These sediments, predominantly derived from deltaic, shallow marine, and continental shelf environments, date from Cretaceous through the Quaternary Periods. The mineralogy ranges from quartz to glauconite.

The formations record several major transgressive/regressive cycles and contain units, which are generally thicker to the southeast and reflect a deeper water environment. More than 20 regional geologic units are present within the sediments of the Coastal Plain. Regressive, upward coarsening deposits are usually aquifers (e.g., Englishtown and Kirkwood Formations, and the Cohansey Sand), while the transgressive deposits act as confining units (e.g., the Merchantville, Marshalltown and Navesink Formations). The individual thickness for these units varies greatly (e.g., from several feet to several hundred feet). The Coastal Plain deposits thicken to the southeast from the Fall Line (e.g., a boundary zone between older, resistant rocks and younger, softer plain sediments) to greater than 6,500 feet in Cape May County (Brown and Zapecza, 1990).

Based on the regional geologic map (Jablonski, 1968), the Cretaceous age Red Bank and Tinton Sands outcrop at the Main Post Area. The Red Bank Sand conformably overlies the Navesink Formation and dips to the southeast at 35 feet per mile. The upper member (Shrewsbury) of the Red Bank Sand is a yellowish-gray to reddish brown clayey, medium-to-coarse-grained sand that contains abundant rock fragments, minor mica and glauconite (Jablonski). The lower member (Sandy Hook) is a dark gray to black, medium-to-fine grained sand with abundant clay, mica and glauconite.

The Tinton Sand conformably overlies the Red Bank Sand and ranges from a clayey medium to very coarse-grained feldspathic-quartz and glauconite-sand to a glauconitic-coarse sand. The color varies from dark yellowish orange or light brown to moderate brown and from light olive to grayish olive. Glauconite may constitute 60 to 80 percent of the sand fraction in the upper part of the unit (Minard, 1969). The upper part of the Tinton is often highly oxidized and iron oxide encrusted (Minard, 1969).

The Kirkwood Formation (part of the Kirkwood-Cohansey system) crops out southeast of the Main Post and dips to the southeast at a slope of 20 feet per mile (Jablonski, 1968). The Kirkwood Formation consists of alternating layers of sand and clay. The upper unit is a light gray to yellowish-brown, fine-grained quartz sand with quartz nodules and small pebbles. The lower unit is a brown silt in Monmouth County (Jablonski, 1968).

2.4.2 Regional Hydrogeology

Fort Monmouth lies in the Atlantic and Eastern Gulf Coastal Plain groundwater region (Meisler et al., 1988). This groundwater region is underlain by undeformed, unconsolidated to semi-consolidated sedimentary deposits. The chemistry of the water near the surface is variable with low dissolved solids and high iron concentrations. The water chemistry in areas underlain by glauconitic sediments (such as Red Bank and Tinton Sands) is dominated by aluminum, calcium, magnesium, manganese and iron. The sediments in the area of Fort Monmouth were deposited in fluvia-deltaic to nearshore environments.

The water table aquifer in the Main Post area is identified as part of the "composite confining units," or minor aquifers. The minor aquifers include the Navesink formation, Red Bank Sand, Tinton Sand, Hornerstown Sand, Vincentown Formation, Manasquan Formation, Shark River Formation, Piney Point Formation and the basal clay of the Kirkwood Formation.

Well records indicate that wells installed in the Red Bank and Tinton Sands produce 2 to 25 gallons per minute (gpm). Water in these upper hydrogeologic units is typically encountered at shallow depths below ground surface (2 to 9 feet bgs). However, domestic wells are generally screened deeper in these upper hydrogeologic units. The shallow water table conditions in the Tinton and Red Bank Sands, and the similar composition of these sands within the Kirkwood Formation, suggest that the Tinton-Red Bank-Kirkwood sequence forms a single, laterally continuous aquifer. Water in this water-table aquifer flows east toward the Atlantic Ocean. Local topography tends to deflect the flow toward local depressions.

As stated in the SI Report (WESTON, 1995), NJAC 7:9-6, *Groundwater Quality Standards* (GWQS) establishes groundwater quality criteria for different classes of groundwater. Class II-A, which is defined as all groundwater that is not classified as one of the other special classes, is the appropriate class for groundwater at Fort Monmouth. The primary designated use for Class II-A groundwater is potable water; secondary uses include agricultural and industrial water.

Shallow groundwater is locally influenced within the Main Post Area by the following factors:

- Tidal influence (based on proximity to the Atlantic Ocean, rivers and tributaries)
- Topography
- Nature of the fill material within the Main Post Area
- Presence of clay and silt lenses in the natural overburden deposits
- Local groundwater recharge areas (e.g., streams, lakes)

Due to the fluvial nature of the overburden deposits (e.g., sand and clay lenses), shallow groundwater flow direction is best determined on a case-by-case basis. The groundwater

flow in the vicinity of the M-12/M-14 Landfill Site is assumed to be to the north for the M-12 landfill, in the direction of Husky Brook, and south for the M-14 landfill, also towards Husky Brook.

2.4.3 Local Geology/Hydrogeology

As presented in the WESTON SI, the field logs from monitoring well installations indicate that the lithology at M-12/M-14 consists of a thin soil cover (0.3 feet) underlain by fill material. The components of the fill materials observed in the borings consisted of organic debris and coal fragments intermixed with a moderate to poorly sorted olive-green-brown silty medium-fine-grained sand with little clay. Groundwater saturation was observed at approximately 2 feet bgs across the site. Water-level elevation data collected during the WESTON SI indicate that local groundwater flow is west toward Husky Brook.

2.4.4 Soils

According to the U.S. Department of Agriculture (USDA), Soil Conservation Service, Monmouth County Soil Survey, the majority of the Main Post area is covered by urban land (**Figure 2-5**). The soil survey described urban land as areas where concrete, asphalt, buildings, shopping centers, airports or other impervious surfaces cover 80 percent or more of the surface. In addition, the survey indicated that the natural subsurface soils have largely been replaced with artificial or foreign fill materials (developed land with disturbed soils). The following soil series and classification units are mapped in the Main Post Area:

- DoB Downer sandy loam (with 2 to 5 percent slopes);
- FrB Freehold sandy loam (with 2 to 5 percent slopes);
- FUB Freehold sandy loam/urban land complex (with 0 to 10 percent slopes);
- HV Humaquepts, frequently flooded;
- KvA Kresson loam (with 0 to 5 percent slopes);
- UA Udorthents, smoothed; and
- UD Udorthents – urban land complex (with 0 to 3 percent slopes).

The Downer series soils are well-drained soils that are found on uplands and terraces. The soils are formed in acid, silty coastal plain sediments. The Freehold soils are also well drained and are formed in acid, loamy, coastal plain sediments that, by volume, are 1 to 10 percent glauconite and are found on uplands. The Humaquepts soils are somewhat poorly- to very poorly- drained soils that are formed in stratified, sandy, or loamy sediments of fluvial origins. The Humaquepts soils are located on the floodplain and are subject to flooding several times each year. The Kresson loam is a nearly level to gently sloping soil and is somewhat poorly drained. The soil is found on low divides and in depressions. The Udorthents soils have been altered by excavation or filling activities. In filled areas, these soils consist of loamy material that is more than 20 inches thick. The filled areas include floodplain, tidal marshes and areas with moderately, well drained to very poorly drained soils. Some Udorthent soils contain concrete, asphalt, metal and

glass. The soils in the vicinity of the M-12/M-14 Landfill Site are classified as UA to UD, Udorthents, smoothed to Udorthents, urban land complex.

2.4.5 Topography and Surface Drainage

Over the last 80 years, the natural topography of Fort Monmouth has been altered by excavation and filling activities by the military. The M-12/M-14 Landfill Site is located on the floodplain of Husky Brook. The USGS topographic map (**Figure 2-1**) shows that the land surface of the Site is relatively flat at an elevation of less than 20 feet above mean sea level (amsl).

Surface water bodies from the western part of the Main Post flows into the Lafetra Creek to the north or into the Mill Creek to the south. The USGS topographic map (**Figure 2-1**) shows the Lafetra Creek as Parkers Creek Branch and Mill Creek as Wampum. Both Mill and Lafetra Creek originate off-post. Mill Creek flows along the southern boundary of the Main Post, turning north just past the Auto Craft Shop. Mill Creek is channelized and flows past the north side of the M-2 Landfill. Lafetra Creek forms the northern boundary of the Main Post and joins Mill Creek to form Parkers Creek. Parkers Creek flows eastward along the northern boundary and joins Oceanport Creek east of the post. Most of Parkers Creek, Lafetra Creek and Mill Creek are tidally influenced.

The U.S Fish and Wildlife Service (FWS) National Wetland Inventory Long Branch quadrangle maps indicate the presence of wetlands at the Main Post. Parkers and Oceanport Creeks are classified as estuarine intertidal aquatic beds. The area of Parkers Creek and the part of Oceanport Creek/Husky Brook are classified as estuarine intertidal emergent wetlands. Lafetra Creek and Mill Creek are classified as riverine lower perennial open water/unknown bottom.

3.0 SEDIMENT SAMPLING ACTIVITIES

Fort Monmouth DPW conducted sediment sampling in Husky Brook to evaluate potential PCB-related impacts to stream sediments associated with the M-12/M-14 Landfill Site. On April 10, 2000, 11 borings were installed approximately every 100 feet along the bottom of Husky Brook, as shown in **Figure 3-1: M-12/M-14 Boring Location Map.** The locations extended from downstream at Boring B-1 near Murphy Drive to upstream at Boring B-11, and were sampled accordingly in that order (see chain-of-custody records, **Appendix D**). The sediment sampling was conducted in accordance with the *Installation Restoration Program Sediment Sampling Plan for Nine Former Landfill Sites* (TVS, March 2000) presented in **Appendix B**. The Sediment Sampling Plan (SSP) was approved by the NJDEP on April 3, 2000.

Twenty-five sediment samples were collected, including two duplicate samples for QA/QC, from 11 borings using a Wildco Sediment Sampler. The samples were obtained along the 1,700-foot portion of Husky Brook that flows through the Site. Sample depths ranged from surface (0 to 6 inches) to near-surface (6 inches to 12 inches below grade) at each boring location, with the exception of Borings B-1, B-4 and B-6, which were also sampled at a depth of 18 inches to 24 inches below grade. The samples consisted of black to brown fine sandy silt to green/black clay and sandy clay with black bands, some organic material and small angulars. Boring logs are provided in **Appendix C**.

Sampling equipment was thoroughly decontaminated before and after each use, in accordance with the SSP. The sediment samples were collected using a Wildco Sampler and immediately placed in laboratory-supplied bottleware. The sample containers were labeled, sealed, packed in ice and transported to the Fort Monmouth Environmental Testing Laboratory (FMETL), New Jersey Certification Number NJDEP 13461, under proper chain-of-custody procedures. The samples were analyzed by FMETL on April 10, 2000 for PCBs utilizing USEPA Method 8082. Copies of the chain-of-custody for the laboratory analysis can be found in **Appendix D**. A summary of the borings, including sample IDs, sample collection date/time, sample depths, northing/easting coordinates, analysis and general soil descriptions is provided in **Table 3-1: Sediment Sample Summary**.

4.0 SITE CHEMICAL CHARACTERIZATION

On April 10, 2000, DPW collected 25 sediment samples along the bottom of Husky Brook to evaluate potential PCB-related impacts to stream sediments from the adjacent M-12/M-14 Landfill Site. Eleven borings were installed at the approximate rate of one per 100 feet along the bottom of the brook. Twenty-five samples were collected from 11 borings at depths ranging from surface (0 to 6 inches) to near-surface (6 inches to 12 inches below grade) at each boring location with the exception of Borings B-1, B-4 and B-6, which were also sampled at a depth of 18 inches to 24 inches below grade. Samples were identified in the field using the following nomenclature: M-12 M-14/1 0-6", M-12 M-14/1 6"-12" to M-12 M-14/11 0-6", M-12 M-14/11 6"-12". The samples were analyzed for PCBs utilizing USEPA Method 8082.

4.1 Chemical Characterization

The sediment laboratory analytical data were compared to the established screening level criteria, as presented in the *NJDEP Guidance for Sediment Quality Evaluations* (November 1998). This evaluation included at least two samples from each boring to assess the sampling data and to identify potential contaminants of concern. For marine/estuarine sediment screenings, the guidelines define two guidance concentrations for Total PCBs, an Effects Range-Low (ER-L) and an Effects Range-Medium (ER-M). The ER-L (0.023 mg/kg Total PCBs) represents the concentration at which adverse benthic effects are found in approximately 10% of studies. The ER-M (0.180 mg/kg Total PCBs) represents the concentration at which a greater than 50% incidence of adverse effects to sensitive species and/or life stages is likely to occur. The ER-L and ER-M are not regulatory cleanup standards. An exceedence indicates a potential risk to the benthic community and helps determine the need for further investigations (e.g., toxicity testing, tissue bioassays, etc.). However, an exceedence of the ER-L/ER-M criteria does not necessarily mandate further investigations if the sediments proximal to the Site have similar contaminant concentration ranges to upgradient sediments. As stated previously, the samples were collected beginning with the downstream location (B-1) and proceeding to the upstream location (B-11). Therefore, the upgradient sediments are most closely represented by the laboratory data for location B-11 (see **Table 4-1**). No PCBs were detected in sediment samples collected at this location.

Based on the *NJDEP Guidance for Sediment Quality Evaluations* (November 1998), the Lowest Effects Levels (LEL) and the Severe Effects Levels (SEL) are to be used as guidelines for individual Arochlors. Arochlor 1254 is the only Arochlor found at the Landfill Sites shown on **Figure 2-3**. The LEL indicates concentrations at which adverse benthic impacts may begin to occur (level tolerated by most benthic organisms). The SEL is a contamination level that indicates severe impacts to the benthic community in most cases studied. Both the LEL and the SEL are derived from freshwater sediment screening criteria; however, they are used in conjunction with the marine/estuarine ER-L and ER-M values for screening purposes. The ER-L and ER-M apply to Total PCBs, whereas the LEL and SEL can be used for screening purposes for individual Arochlors.

In the case of non-polar organic compounds, such as PCBs, it may be necessary to modify the SEL to create a Site-specific SEL (SSEL) based on the Total Organic Carbon (TOC) fraction present in the sample. The TOC fraction is used to determine if the samples were collected in depositional zones, evidenced by a higher percentage of fine-grained particles. Depositional zones are generally the areas of highest potential contamination and are targeted during Site sampling events. To calculate a SSEL, the SEL is multiplied by the TOC fraction. If the TOC of the samples is not measured during sampling, as is the case at the M-12/M-14 Site, a default value of 1% is used. In this instance, each SEL is multiplied by 0.01 to derive the SSEL for comparison purposes. At M-12/M-14, no Arochlors were detected. However, at other Fort Monmouth Landfill Sites, the only Arochlor detected in the sediments was Arochlor 1254. The LEL, SEL and SSEL for Arochlor 1254 are shown below.

Polychlorinated Biphenyl	LEL (mg/kg, dry weight)	SEL (mg/kg organic carbon, dry weight)	SSEL (mg/kg)
Arochlor 1254	0.060	34	0.34

mg/kg=milligrams per kilogram

The USEPA, Region II, and the NJDEP Bureau of Environmental Evaluation and Risk Assessment/Environmental Toxicology and Risk Assessment (BEERA/ETRA) have discontinued the SSEL approach for general screening purposes except in cases of borderline screening exceedances and/or a weight of professional evidence suggesting that the SSEL is appropriate. The SSEL approach is discussed here for completeness, but was not otherwise used to formulate Site-related environmental risk decisions or conclusions.

The results of the PCB laboratory analysis indicated one detection above the laboratory MDL in the duplicate sample of M12M14/9 0-6". This detection is likely to be an anomalous result because PCBs were not detected in M12M14/9 0-6". Additionally, the result appears to be an isolated occurrence because no other upgradient landfill sites (M-3, M-4 and M-5) have presented similar PCB exceedances.

This sample result exceeds both the NJDEP Effects Range – Low (ER-L) and Effects Range – Medium (ER-M) guidance concentrations for Total PCBs (0.023 mg/kg and 0.180 mg/kg, respectively). The ER-L and ER-M represent the concentrations at which adverse benthic effects are found in approximately 10% and 50% of studies, respectively. This sample also exceeds the Arochlor 1254 (the only Arochlor detected at the Site) LEL of 0.060 mg/kg, the concentration at which adverse benthic impacts may begin to occur (the level tolerated by most benthic organisms). The PCB detection did not exceed the SSEL for Arochlor 1254 (0.34 mg/kg). As such, this result, if not anomalous, is unlikely to result in long-term adverse benthic effects in Husky Brook.

Due to the presence of only one potentially anomalous result that did not exceed the SSEL for Arochlor 1254, no potential exists for long-term adverse benthic effects in Husky Brook associated with the M-12/M-14 Landfill Site.

The sample results are summarized in **Table 4-1: PCB Sample Results Summary – M-12/M-14 Landfill Site**. The laboratory data sheets are available in **Appendix D**.

4.2 QA/QC

In order to verify the reliability of the analytical results, Versar reviewed the holding times for each sample and the results of the analysis of two field duplicate samples. All samples were analyzed by the FMETL within the prescribed holding time requirements for each analytical method.

Two field duplicate samples were collected during the Site sampling events to verify the consistency of the entire sampling and analysis procedure. The results for the two duplicate samples were close to those obtained for the original samples. The relative percent difference (RPD) was calculated for each duplicate sample. The RPD measures variability introduced by both the laboratory and field operations. The RPD for the duplicate samples was 175.6%. This RPD exceeds the established limit of 50% for laboratory duplicate samples. However, this is due to low sample concentrations and a correspondingly low MDL used by the laboratory and is not indicative of poor precision because the differences noted may be attributed to analytical sensitivity. Also, the comparison of one very small number with another very small number will result in a high RPD.

5.0 CONCLUSIONS

Based on the results of this sediment quality evaluation, no PCBs were detected above the NJDEP guidance criteria for sediment quality in any sample, and no potential exists for long-term adverse benthic effects in Husky Brook associated with the M-12/M-14 Landfill Site. Therefore, No Further Action is recommended for the M-12/M-14 Landfill Site related to potential PCB impacts to the sediments of Husky Brook.

6.0 REFERENCES

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FIGURES

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GOSSELIN AVENUE

258 256 333 245 243 247 334 255 253 251 249

M-14

M-12

M-12

HUSKY BROOK

RAILROAD

T-908

S-906

T-921

T-905

S-909

T-919

975

551

POST

FLAG

LAMP

MH

CB

HYD

ROAD (PAVED)		WOODED AREA	
ROAD/TRAILS (UNPAVED)		TREE/BUSH	
FENCE	—X—	LIGHT POLE	
BUILDING		UTILITY POLE	
APPROXIMATE BOUNDARY		BROOK/CREEK	
BASE BOUNDARY		MARSHY AREA	

NOTES:

REV.	REVISIONS	APPROVED	DATE	DRAWN BY

TITLE:

FIGURE 2-2
M-12/M-14 LANDFILL SITE
SITE LAYOUT
FORT MONMOUTH, NEW JERSEY

DRAWN BY: JMM	DATE DRAWN: 23 DEC 00
CHECKED BY:	DATE CHECKED:
APPROVED BY:	DATE APPROVED:
	DRAWING No.: M-12/M-14 FIG 2-2
	FILE No.: M-12/M-14 FIG. 2-2
	SCALE: 1" = 100'
	SHEET OF REV.: A

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Geologic Map of New Jersey

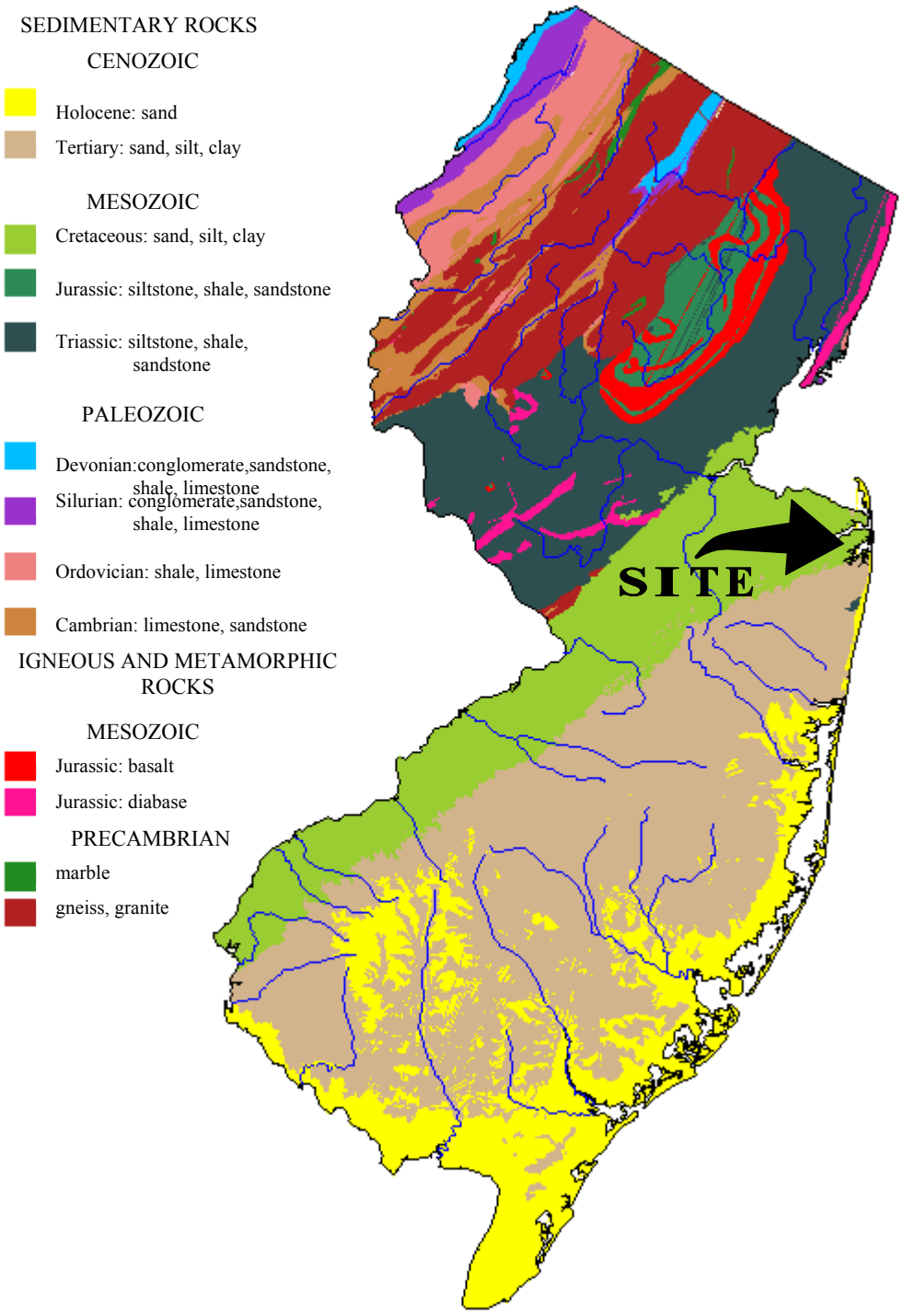

FIGURE 2-4
Geological Map of New Jersey
M-12/M-14 Landfill Site
Fort Monmouth, New Jersey

Source: New Jersey Gelolgic Survey, 1994, *Geologic Map of New Jersey*.

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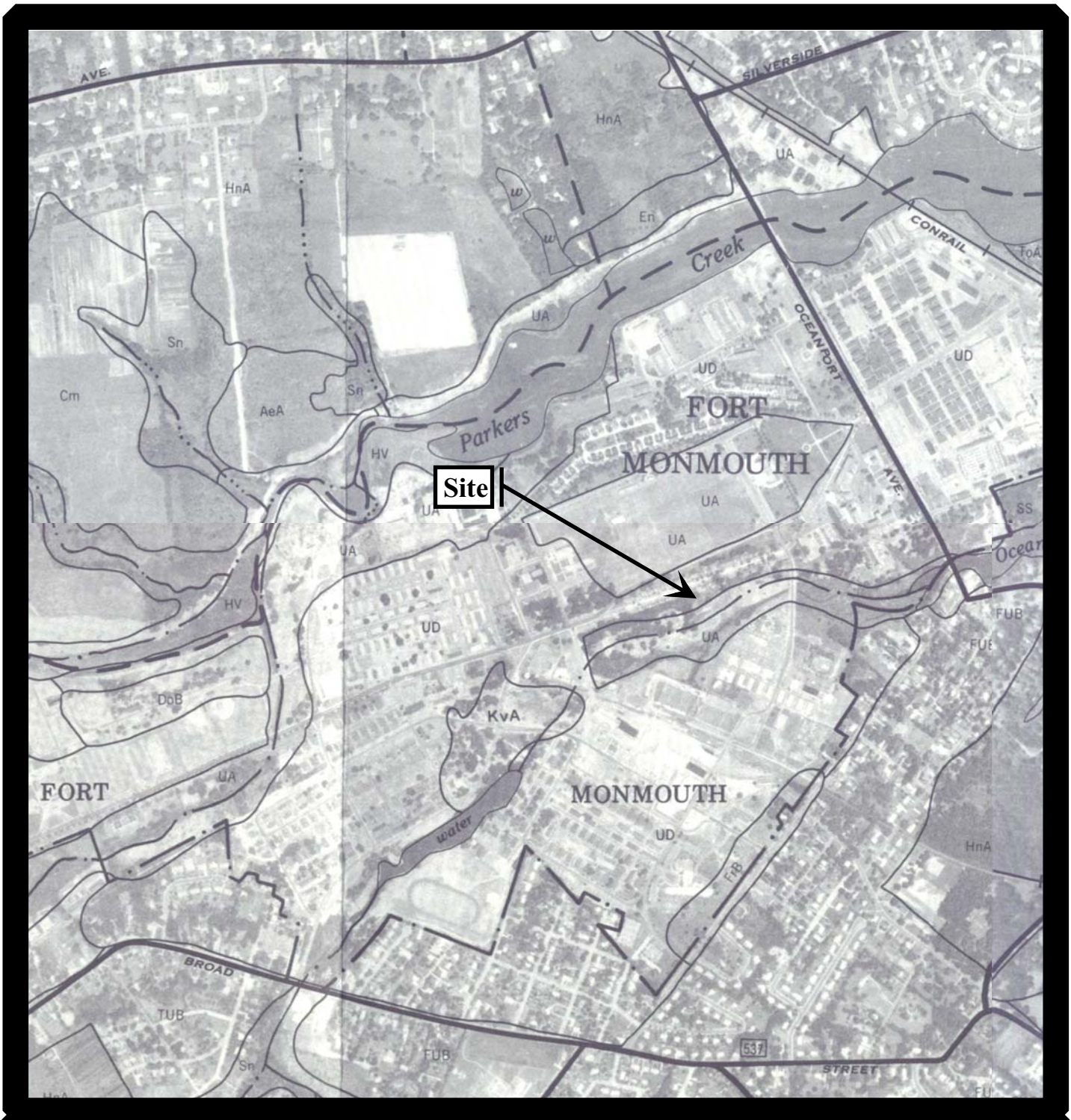
Bristol, Pennsylvania, 19007
(215)-788-7844



Fort Monmouth
M-12/M-14 Landfill Site

FIGURE 2-5

Soil Map of Monmouth County, New Jersey

US Department of Agriculture
Soil Conservation Service
Soil Survey of Monmouth County, NJ
April 1989

Versar INC.

N

SALTZMAN AVENUE

GOSSELIN AVENUE

HUSKY BROOK

M-14

M-12

M-12

PHYLLIS AVENUE

1 2 3 4 5 6 7 8 9 10 11

334 255 253 251 249 247 245 243 241 239 237 235 233 331 336 335 333 332 250 248 246 244 242 258 256 254 252

T-908 S-906 T-921 T-905 S-909 T-919 975

CB HYD POST FLAG MH LAMP

ROAD (PAVED)		WOODED AREA	
ROAD/TRAILS (UNPAVED)		TREE/BUSH	
FENCE	—x—	LIGHT POLE	
BUILDING		UTILITY POLE	
APPROXIMATE BOUNDARY		BROOK/CREEK	
BASE BOUNDARY		MARSHY AREA	

NOTES:

SEDIMENT BORING SAMPLE LOCATION — 3

REV.	REVISIONS	APPROVED	DATE	DRAWN BY

TITLE:

FIGURE 3-1
M-12/M-14 LANDFILL SITE
BORING LOCATION MAP
FORT MONMOUTH, NEW JERSEY

DRAWN BY: JMM	DATE DRAWN: 23 DEC 00
CHECKED BY:	DATE CHECKED:
APPROVED BY:	DATE APPROVED:
	DRAWING No.: M-12/M-14 FIG 3-1
	FILE No.: M-12/M-14 FIG. 3-1
	SCALE: 1" = 40'
	SHEET OF REV.: A

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TABLES

Table 3-1
M-12/M-14 Landfill Site
Sediment Sample Summary

Boring ID	Sample Depth (in bgs)[1]	Field Sample Location ID	Laboratory Sample ID	Date Collected	Time Collected	Coordinates Northing	Coordinates Easting	Analysis	General Soil Description
B-1	0-6"	M12M14/ 1 0-6"	**5324.01**	4/10/2000	1026	539716.273	621424.35	PCBs[2] (SW-846 Method 8082)	Black Fine Silty Sand w/Small Angulars & Some Organic Material
	6"-12"	M12M14/ 1 6-12"	**5324.02**	4/10/2000	1028				
	18"-24"	M12M14/ 1 18-24"	**5324.03**	4/10/2000	1030				
B-2	0-6"	M12M14/ 2 0-6"	**5324.04**	4/10/2000	1035	539673.409	621326.374	PCBs (SW-846 Method 8082)	Black Fine Sandy Silt w/Some Organic Material
	6"-12"	M12M14/ 2 6-12"	**5324.05**	4/10/2000	1038				
B-3	0-6"	M12M14/ 3 0-6"	**5324.06**	4/10/2000	1043	539640.457	621257.069	PCBs (SW-846 Method 8082)	Dark Brown to Black Fine Sandy Silt
	6"-12"	M12M14/ 3 6-12"	**5324.07**	4/10/2000	1045				
B-4	0-6"	M12M14/ 4 0-6"	**5324.08**	4/10/2000	1048	539596.634	621170.467	PCBs (SW-846 Method 8082)	Black, Fine Sandy Silt
	6"-12"	M12M14/ 4 6-12"	**5324.09**	4/10/2000	1050				
	18"-24"	M12M14/ 4 18-24"	**5324.10**	4/10/2000	1052				
B-5	0-6"	M12M14/ 5 0-6"	**5324.11**	4/10/2000	1100	539503.198	621015.723	PCBs (SW-846 Method 8082)	Black, Fine Sandy Silt
	6"-12"	M12M14/ 5 6-12"	**5324.12**	4/10/2000	1104				
B-6	0-6"	M12M14/ 6 0-6"	**5324.13**	4/10/2000	1114	539427.065	620908.660	PCBs (SW-846 Method 8082)	Brown Fine Sand to Green Clay and Green/Black Sandy Clay to Fine, Black Sandy Silt
	6"-12"	M12M14/ 6 6-12"	**5324.14**	4/10/2000	1116				
	18"-24"	M12M14/ 6 18-24"	**5324.15**	4/10/2000	1118				
B-7	0-6"	M12M14/ 7 0-6"	**5324.16**	4/10/2000	1121	539261.96[3]	620777.203[3]	PCBs (SW-846 Method 8082)	Brown w/Black Bands Fine Sand
	6"-12"	M12M14/ 7 6-12"	**5324.17**	4/10/2000	1123				
B-8	0-6"	M12M14/ 8 0-6"	**5324.18**	4/10/2000	1125	539243.786	620640.559	PCBs (SW-846 Method 8082)	Brown Fine Sand to Fine, Brown w/Black Bands Clayey Sand w/Some Organic Material
	6"-12"	M12M14/ 8 6-12"	**5324.19**	4/10/2000	1127				
B-9	0-6"	M12M14/ 9 0-6"	**5324.20**	4/10/2000	1144	539204.359	620341.923	PCBs (SW-846 Method 8082)	Black, Fine Sand w/Some Organic Material to Brown, Fine Sand
	6"-12"	M12M14/ 9 6-12"	**5324.21**	4/10/2000	1146				
B-10	0-6"	M12M14/ 10 0-6"	**5324.22**	4/10/2000	1154	539198.962	620219.296	PCBs (SW-846 Method 8082)	Fine, Brown Sand to Green w/Black Sand Bands Clay
	6"-12"	M12M14/ 10 6-12"	**5324.23**	4/10/2000	1156				
B-11	0-6"	M12M14/ 11 0-6"	**5324.24**	4/10/2000	1158	539170.975	620048.219	PCBs (SW-846 Method 8082)	Fine, Brown Sand to Green w/Black Sand Bands Clay
	6"-12"	M12M14/ 11 6-12"	**5324.25**	4/10/2000	1200				

[1] bgs = below ground surface
[2] PCBs = Polychlorinated Biphenyls
[3] At Convergence

Table 4-1
PCB Sample Results Summary
M-12/M-14 Landfill Site

Boring ID	Sample Depth (bgs)	Field Sample Location ID	Laboratory Sample ID	Date Collected	Analytical Results[5]	MDL[6]
Total PCBs ER-L[1]					**0.023**	
Total PCBs ER-M[2]					**0.180**	
Arochlor 1254 LEL[3]					**0.060**	
Arochlor 1254 SEL[4]					**34**	
B-1	0-6"	M12M14/ 1 0-6"	5324.01	4/10/2000	ND	0.0224
	6"-12"	M12M14/ 1 6-12"	5324.02	4/10/2000	ND	0.0268
	18"-24"	M12M14/ 1 18-24"	5324.03	4/10/2000	ND	0.0196
B-2	0-6"	M12M14/ 2 0-6"	5324.04	4/10/2000	ND	0.0236
	6"-12"	M12M14/ 2 6-12"	5324.05	4/10/2000	ND	0.0202
B-3	0-6"	M12M14/ 3 0-6"	5324.06	4/10/2000	ND	0.0199
	6"-12"	M12M14/ 3 6-12"	5324.07	4/10/2000	ND	0.0211
B-4	0-6"	M12M14/ 4 0-6"	5324.08	4/10/2000	ND	0.0173
	6"-12"	M12M14/ 4 6-12"	5324.09	4/10/2000	ND	0.0187
	18"-24"	M12M14/ 4 18-24"	5324.10	4/10/2000	ND	0.0196
B-5	0-6"	M12M14/ 5 0-6"	5324.11	4/10/2000	ND	0.0200
	6"-12"	M12M14/ 5 6-12"	5324.12	4/10/2000	ND	0.0177
B-6	0-6"	M12M14/ 6 0-6"	5324.13	4/10/2000	ND	0.0177
	6"-12"	M12M14/ 6 6-12"	5324.14	4/10/2000	ND	0.0194
	18"-24"	M12M14/ 6 18-24"	5324.15	4/10/2000	ND	0.0177
B-7	0-6"	M12M14/ 7 0-6"	5324.16	4/10/2000	ND	0.0188
	6"-12"	M12M14/ 7 6-12"	5324.17	4/10/2000	ND	0.0129
B-8	0-6"	M12M14/ 8 0-6"	5324.18	4/10/2000	ND	0.0194
	6"-12"	M12M14/ 8 6-12"	5324.19	4/10/2000	ND	0.0209
B-9	0-6"	M12M14/ 9 0-6"	5324.20	4/10/2000	ND	0.0181
	6"-12"	M12M14/ 9 6-12"	5324.21	4/10/2000	ND	0.0198
B-10	0-6"	M12M14/ 10 0-6"	5324.22	4/10/2000	ND	0.0189
	6"-12"	M12M14/ 10 6-12"	5324.23	4/10/2000	ND	0.0209
B-11	0-6"	M12M14/ 11 0-6"	5324.24	4/10/2000	ND	0.0121
	6"-12"	M12M14/ 11 6-12"	5324.25	4/10/2000	ND	0.0696
Duplicate	0-6"	M12M14/ 9 0-6"	5324.26	4/10/2000	0.279	0.0191
	6"-12"	M12M14/ 9 6-12"	5324.27	4/10/2000	ND	0.0189

Notes:
[1]NJDEP Guidance For Sediment Quality Evaluations, November 1998 (ER-L) - Effects Range-Low
[2]NJDEP Guidance For Sediment Quality Evaluations, November 1998 (ER-M) - Effects Range-Medium
[3]NJDEP Guidance For Sediment Quality Evaluations, November 1998 (LEL) - Lowest Effects Level
[4]NJDEP Guidance For Sediment Quality Evaluations, November 1998 (SEL) - Severe Effects Level
[5]All Results in milligrams per kilogram (mg/kg)
[6]Method Detection Limit (mg/kg) representing Total PCBs
ND = Analyte Not Detected in Sample
Exceedances of the NJDEP Guidances are shaded and printed in **bold-faced** type
PCBs = Polychlorinated Biphenyls
N/A = Not Applicable

APPENDICES

Appendix A

Site Photographic Log

M14 Landfill Site

M12 Landfill Site

Appendix B

Sediment Sampling Plan for Nine Former Landfill Sites (TVS, March 2000)

State of New Jersey
Department of Environmental Protection
Christine Todd Whitman
Governor
Robert C. Shinn, Jr.
Commissioner

Mr. Joseph Fallon
Directorate of Public Works
Headquarters, U.S. Army Garrison Fort Monmouth
Fort Monmouth, NJ 07703 - 5101

APR 0 3 2000

Re: Sediment Sampling Plan
Sites M-2, M-3, M-4, M-5, M-8, M-12, M-14, M-18 and CW-3A
Fort Monmouth Main Post/Charles Wood
Tinton Falls, Monmouth County

Dear Mr. Fallon:

The NJDEP has reviewed the March 29, 2000 Sediment sampling plan for the nine former landfill sites referenced above and we accept the plan as submitted.

The referenced document, developed with NJDEP using appropriate technical guidance documents and requirements, is specifically designed to determine if PCBs have impacted adjacent surface waters.

There are a few brief comments which we have previously discussed, but I wanted to note here as a reminder for you in this investigation.

- The NJDEP requires PCB method 8082 to be utilized.
- Approved sample preservation methods must be used if volatile compounds are to be investigated or reported on.
- Some discussion regarding the sediment criteria utilized along with a discussion on the application to the sample location and water body must be provided in the final report.
- Sampling must be performed on downgradient samples first.

If you should have any questions or comments, please do not hesitate to contact me at (609) 633-7232 or via E-mail.

Sincerely,

Ian R. Curtis, Case Manager
Bureau of Case Management
ICURTIS@DEP.STATE.NJ.US

FTMMTH65IRC.DOC

DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY GARRRISON FORT MONMOUTH
FORT MONMOUTH, NEW JERSEY 07703-5101

REPLY TO
ATTENTION OF

Directorate of Public Works

March 29, 2000

State of New Jersey
Department of Environmental Protection
Division of Responsible Party Site Remediation
Bureau of Case Management
401 East State Street
ATTN: Ian Curtis
P. O. Box 028
Trenton, NJ 08625-0028

Re: Sediment Sampling Plan for Nine Former Landfill Sites
(i.e. M-2, M-3, M-4, M-5, M-8, M-12, M-14, M-18 & CW-3A)
Main Post and Charles Wood Area, Fort Monmouth, New Jersey

Dear Mr. Curtis:

Submitted for your review and approval, please find a copy of the above referenced sampling plan. Said plan should enable the Directorate of Public Works to ascertain whether polychlorinated biphenyls are present within stream sediments bordering the nine referenced landfills. Future site work will be based upon the findings of this sampling initiative.

Should you have any questions or require any additional information regarding this plan, please contact the undersigned at the following telephone number: (732) 532-6223.

Sincerely,

Joseph M. Fallon

Joseph M. Fallon, CHMM
Environmental Protection Specialist
Directorate of Public Works

Encl.

United States Army
Directorate of Public Works
Fort Monmouth, New Jersey

Installation Restoration Program
Sediment Sampling Plan for
Nine Former Landfill Sites

March 2000

SITE INVESTIGATION PLAN

Installation Restoration Program
Sediment Sampling Plan for Nine Former Landfill Sites

PREPARED FOR:

JOSEPH FALLON
PROJECT MANAGER
Directorate of Public Works
BUILDING 173
FORT MONMOUTH, NJ 07703
(732)-532-6223

PREPARED BY:

TECOM-VINNELL SERVICES (TVS)
ENVIRONMENTAL OFFICE
BUILDING 173
FORT MONMOUTH, NJ 07703

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1.0 SAMPLING ACTIVITIES

1.1 OVERVIEW

This report provides details for a proposed sediment sampling plan as prepared by TECOM-Vinnell Services (TVS) on the behalf of the U.S. Army Fort Monmouth, Directorate of Public Works (DPW), Fort Monmouth, New Jersey. The purpose of this sampling initiative is to ascertain whether Polychlorinated Biphenyls (PCBs) are present within stream sediments which border nine former landfill sites (i.e. M-2, M-3, M-4, M-5, M-8, M-12, M-14, M-18 and CW-3A). The streams associated with this investigation include Mill Creek, Lafetra Creek, Parkers Creek, Husky Brook, and an unnamed tributary of Wampum Brook (see attachments 1 & 2). The data generated from this study will be used in conjunction with other previously collected data involving surface soils, subsurface soils, ground water and surface water. As part of the larger, ongoing remedial investigation at these nine landfill sites, PCBs were identified within subsurface soils at landfill sites M-2 and M-8. The Final Site Investigation (SI) Report, Fort Monmouth, New Jersey, Main Post and Charles Wood Areas (December 1995) identifies electronic components as one of the waste types being disposed of within the subject landfills. Said components (i.e. electrical ballasts) typically contained small quantities of insulating oil which may or may not have contained PCBs. Based upon the potential presence of electronic components at the other seven landfill sites, PCBs may also exist within subsurface soils at these locations. As part of previously conducted sampling initiatives, the DPW has been able to document that the PCBs identified at sites M-2 and M-8 have not impacted site ground water or surface water. Furthermore, PCBs have not been identified within site ground water or surface water at the other landfill sites. The overall goal of the proposed sampling plan is to document that the presence of PCBs at sites M-2 and M-8 have not impacted the nearby stream sediments.

This investigation will be conducted by TVS personnel in accordance with the specifications required for collecting sediment samples as determined by the New Jersey Department of Environmental Protection (NJDEP) Field Sampling Procedures Manual (May 1992) and the NJDEP Guidance For Sediment Quality Evaluations (November 1998).

1.2 SITE DESCRIPTION

Mill Creek is located along the northern side of the M-2 landfill (approximate distance 1,400 feet) and along the western side of the M-4 landfill (approximate distance 360 feet) and the M-5 landfill (approximate distance 570 feet). Lafetra Creek runs along the northern side of the M-3 landfill (approximate distance 1,200 feet), joining with Mill Creek to form Parkers Creek. Parkers Creek surrounds the M-8 landfill (approximate distance 1,500 feet) on the western, northern, and eastern sides. It then runs along the western side of the M-18 landfill (approximate distance 700 feet). Husky Brook runs along the northern side of the M-12 landfill, eventually running between the M-12 and M-14 landfills (combined approximate distance 1,700 feet) before flowing into Oceanport Creek. An unnamed tributary of Wampum Brook is located along the northern side of the CW-3A landfill (approximate distance 600 feet). Stream banks along the landfills vary from heavily vegetated with trees and bramble to simply grass. A stream bank restoration project is currently underway at the landfill sites located on the Main Post. The project entails stabilizing the stream banks through a combination of hard (rip-rap) and soft (vegetative plantings) engineering practices. All sites vary in steepness and have various access points. The streams flow constantly even in drought conditions and all but the unnamed tributary of Wampum Brook are tidally influenced. Currents and depth vary with tide.

1.3 HEALTH AND SAFETY

Before sampling activities commence, potential site hazards (physical, chemical and biological) will be evaluated by the TVS Health and Safety Office. A site specific Health and Safety Plan shall be prepared accordingly.

2.0 SITE INVESTIGATION ACTIVITIES

2.1 CONTACTS AND PERSONNEL

The following is a listing of all contacts and personnel involved in the investigation. All analyses are to be performed and reported by U.S. Army Fort Monmouth Environmental Laboratory, NJDEP- Certification # 13461. All sampling will be performed under the direct supervision of a NJDEP trained sample technician according to the methods described in the NJDEP Field Sampling Procedures Manual (1992) and as defined in this sampling plan.

The following parties are participants in this investigation:

- Environmental Protection Specialist: Joseph Fallon, CHMM
  Employer: U.S. Army, Fort Monmouth Phone Number: (732) 532-6223
- Field Technician: Corey McCormack
  Employer: TECOM-Vinnell Services (TVS) Phone Number: (732) 532-0989
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
  Contact Person: Daniel Wright - Phone Number: (732) 532-4359
  Employer: TECOM-Vinnell Services
  NJDEP Certification No.: 13461
- Field Technician Supervisor: Mark Laura
  Employer: TECOM-Vinnell Services (TVS) Phone Number: (732) 532-0989
- Health and Safety Personnel: Bruce Wadlington, Chandra Jennings, and John Wierbowski. Employer: TVS - Phone Number: (732) 532-1706

2.2 SAMPLING PROCEDURES AND PROTOCOL

During the investigation, all samples will be collected with proper attention to quality assurance protocols and in accordance with the guidelines set forth by the New Jersey Department of Environmental Protection (NJDEP) Field Sampling Procedures Manual (May, 1992), the Technical Requirements for Site Remediation (NJAC 7:26E, June, 1993) and the NJDEP Guidance for Sediment Quality Evaluations (November 1998).

2.2.1 SITE ACTIVITES

Site activities shall include recording field conditions and other relevant observations, sampling sediments, plotting sample locations by usc of our Global Positioning Systcm (GPS), decontamination of equipment, and preservation and storage of samples.

2.2.2 SEDIMENT SAMPLING

Sample locations will be determined, sampled, and recorded in the following way:

1. Samples will be taken from clearly discernable depositional areas in and along the streams. In the event that no clear depositional areas can be located, a sample will be taken from the best possible stream bed point at the rate of 1 sample for every 100 feet.
2. Samples will be taken at a depth of 0-6 inches for surface deposits and 6-12 inches for subsurface deposits in each sampling event. Based upon the individual thickness of each depositional area, an 18-24 inch deep sample will also be taken if the desired depth is obtainable.
3. Sampling will commence from downstream, working upstream. Care will be taken to minimize disturbance of sediments and washing of samples as collected.
4. Tide, weather, recent activity, and notable observations will be recorded.
5. A boring log shall be created to note any layers, particle sizes, and defining aspects to each boring.
6. Sampling will be conducted using a hand core sediment sampler.
7. Samples for PCBs analysis will be collected into new, pre-cleaned, 4oz.clear glass jars with Teflon lined caps. All samples will be stored in a cooler at 4 degrees Celsius.
8. After each sampling event, equipment will be decontaminated as stated in section 2.3.
9. Each sample location will be plotted using our GPS.

2.2.3 QA/QC

Quality control samples are required to verify that the sample collection and handling process has not affected the quality of the sediment samples. All field quality control samples will be prepared exactly as regular investigation samples with regard to volume and containers. The following quality control samples will be collected for each batch of samples:

- Field duplicate daily or one every 20 samples; homogenized before splitting.

2.3 EQUIPMENT DECONTAMINATION

Decontamination will be done after every sampling event by the following procedure:

1. Alconox and water wash
2. Water rinse
3. Deionized water rinse
4. Air dry

Appendix C

Boring Logs

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-1

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0				
	5324.01	1	SILTY SAND, Fine. Black.	1026
4				
			SILTY SAND, Fine. Black. Some Organic Material.	
8	5324.02	2		1028
12			SILTY SAND, Fine. Black. Sm. Angulars. Black.	
16				
20	5342.03	3		1030
24				

04-21-2000 X:\MTECH5\LANDFI~1\M12M14-1.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-2

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0	5324.04	1	SANDY SILT, Fine. Black.	1035
4	5324.05	2	SANDY SILT, Fine. Black. Some Organic Material.	1038
8				
12				
16				
20				
24				

04-18-2000 X:\MTECH5\LANDFI~1\M12M14-2.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-3

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0	5324.06	1	SANDY SILT, Fine. Dk. Brown/ Black.	1043
8	5324.07	2	SANDY SILT, Fine. Black.	1045

0
4
8
12
16
20
24

04-18-2000 X:\MTECH5\LANDFI-1\M12M14-3.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-4

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0				
	5324.08	1	SANDY SILT, Fine. Black.	1048
4				
	5324.09	2	SANDY SILT, Fine. Black.	1050
8				
12			SANDY SILT, Fine. Black.	
16				
	5324.10	3		1052
20				
24				

04-18-2000 X:\MTECH5\LANDFI~1\M12M14~4.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-5

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0	5324.11	1	SANDY SILT, Fine. Black.	1100
4	5324.12	2	SANDY SILT, Fine. Black.	1104
8				
12				
16				
20				
24				

04-18-2000 X:\MTECH5\LANDFI~1\M12M14-5.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-6

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0			SAND, Fine. Brown.	
			CLAY. Green.	
	5324.13	1		1114
4				
			SANDY CLAY. Green w/ Black.	
8				
	5324.14	2		1116
			SANDY SILT, Fine. Black.	
12				
16				
20				
	5324.15	3		1118
24				

04-18-2000 X:\MTECH5\LANDFI~1\M12M14-6.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-7

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0	5324.16	1	SAND, Fine. Brown.	1121
4				
8	5324.17	2	SAND, Fine. Brown w/ Black Bands.	1123
12				
16				
20				
24				

04-18-2000 X:\MTECH5\LANDFI~1\M12M14-7.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-8

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0			SAND, Fine. Brown.	
4	5324.18	1	CLAYEY SAND, Fine. Brown w/ Black Bands. Some Organic Material.	1125
8	5324.19	2		1127
12				
16				
20				
24				

04-18-2000 X:\MTECH5\LANDFI~1\M12M14-8.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-9

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0	5324.20	1	SAND, Fine. Black. Some Organic Material.	1144
4				
8	5324.21	2	SAND, Fine. Brown.	1146
12				
16				
20				
24				

04-18-2000 X:\MTECH5\LANDFI~1\M12M14~9.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-10

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0	5324.22	1	SAND, Fine. Brown.	1154
4				
8	5324.23	2	CLAY. Green w/ Black SAND Bands	1156
12				
16				
20				
24				

04-18-2000 X:\MTECH5\LANDFI~1\M12M14-N.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-11

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0				
	5324.24	1	SAND, Fine. Brown.	1158
4				
			CLAY. Green w/ Black SAND Bands	
8	5324.25	2		1200
12				
16				
20				
24				

04-18-2000 X:\MTECH5\LANDFI~1\M12M14-T.EOR

Appendix D

Sediment Sampling Laboratory Data Sheets

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS
PHONE: (732) 532-6224 FAX: (732) 532-6263
WET-CHEM - METALS - ORGANICS - FIELD SAMPLING
CERTIFICATIONS: NJDEP #13461, NYSDOH #11699

ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Stream Sediments

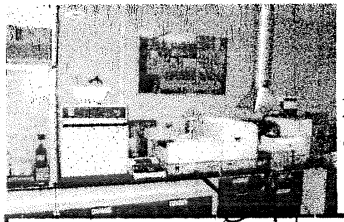
M12/M14 Landfill

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
M12 M14 / 1 0-6"	5324.01	Sediment	10-Apr-00 10:26	04/10/00
M12 M14 / 1 6-12"	5324.02	Sediment	10-Apr-00 10:28	04/10/00
M12 M14 / 1 18-24"	5324.03	Sediment	10-Apr-00 10:30	04/10/00
M12 M14 / 2 0-6"	5324.04	Sediment	10-Apr-00 10:35	04/10/00
M12 M14 / 2 6-12"	5324.05	Sediment	10-Apr-00 10:38	04/10/00
M12 M14 / 3 0-6"	5324.06	Sediment	10-Apr-00 10:43	04/10/00
M12 M14 / 3 6-12"	5324.07	Sediment	10-Apr-00 10:45	04/10/00
M12 M14 / 4 0-6"	5324.08	Sediment	10-Apr-00 10:48	04/10/00
M12 M14 / 4 6-12"	5324.09	Sediment	10-Apr-00 10:50	04/10/00
M12 M14 / 4 18-24"	5324.10	Sediment	10-Apr-00 10:52	04/10/00
M12 M14 / 5 0-6"	5324.11	Sediment	10-Apr-00 11:00	04/10/00
M12 M14 / 5 6-12"	5324.12	Sediment	10-Apr-00 11:04	04/10/00
M12 M14 / 6 0-6"	5324.13	Sediment	10-Apr-00 11:14	04/10/00
M12 M14 / 6 6-12"	5324.14	Sediment	10-Apr-00 11:16	04/10/00
M12 M14 / 6 18-24"	5324.15	Sediment	10-Apr-00 11:18	04/10/00
M12 M14 / 7 0-6"	5324.16	Sediment	10-Apr-00 11:21	04/10/00
M12 M14 / 7 6-12"	5324.17	Sediment	10-Apr-00 11:23	04/10/00
M12 M14 / 8 0-6"	5324.18	Sediment	10-Apr-00 11:25	04/10/00
M12 M14 / 8 6-12"	5324.19	Sediment	10-Apr-00 11:27	04/10/00
M12 M14 / 9 0-6"	5324.20	Sediment	10-Apr-00 11:44	04/10/00
M12 M14 / 9 6-12"	5324.21	Sediment	10-Apr-00 11:46	04/10/00
M12 M14 / 10 0-6"	5324.22	Sediment	10-Apr-00 11:54	04/10/00
M12 M14 / 10 6-12"	5324.23	Sediment	10-Apr-00 11:56	04/10/00
M12 M14 / 11 0-6"	5324.24	Sediment	10-Apr-00 11:58	04/10/00
M12 M14 / 11 6-12"	5324.25	Sediment	10-Apr-00 12:00	04/10/00
DUP. 0-6"	5324.26	Sediment	10-Apr-00	04/10/00
DUP. 6-12"	5324.27	Sediment	10-Apr-00	04/10/00

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
PCB's, %SOLIDS

5-15-00
Daniel Wright/Date
Laboratory Director

CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: J. Fallon
Phone #: X2 (0223
( )DERA ( )OMA ( )Other:_____

Project No:
Location: M12/M14 Landfill
Stream Sediments

Samplers Name / Company: Corey McCormack, TUS

Analysis Parameters: PCB's

Comments: 4°C

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Remarks / Preservation Method
5324.01	M12 M14 1 0-6"	4/10/00	1026	Sed	1	
.02	" 1 6-12"		1028			* Fuel smell. *
.03	" 1 18-24"		1030			
.04	M12 M14 2 0-6"		1035			
.05	" 2 6-12"		1038			
.06	M12 M14 3 0-6"		1043			
.07	" 3 6-12"		1045			
.08	M12 M14 4 0-6"		1048			
.09	" 4 6-12"		1050			
.10	M12 M14 4 18-24"		1052			
.11	M12 M14 5 0-6"		1100			
.12	" 5 6-12"		1104			
.13	M12 M14 6 0-6"		1114			
.14	" 6 6-12"		1116			

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Corey McCormack	4/10/00 1340	J. Allegra			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, ( )Reduced, (X)Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, (X)Rush 10 Days, ( )ASAP Verbal ___Hrs.

Remarks:
Tide: Low

print legibly

Coc.xls3/20/00

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: J. Hall OL
Phone #: x21223
( )DERA ( )OMA ( )Other:_____

Project No:
Location: M12/M14 Landfill Stream Sediments cont

Samplers Name / Company: Corey McCormack, TVS

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: PCB's								Comments: Remarks / Preservation Method
53241.15	M12 M14 6 18-24"	4/10/00	1118	Sed	1	✓								4°C
.16	M12 M14 7 0-6"		1121			✓								
.17	" 7 6-12"		1123			✓								
.18	M12 M14 8 0-6"		1125			✓								
.19	" 8 6-12"		1127			✓								
.20	M12 M14 9 0-6"		1144			✓								
.21	" 9 6-12"		1146			✓								
.22	M12 M14 10 0-6"		1154			✓								
.23	" 10 6-12"		1156			✓								
.24	M12 M14 11 0-6"		1158			✓								
.25	" 11 6-12"		1200											
.26	Dupe 0-6"		—			✓								
.27	Dupe 6-12"		—			✓								

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Corey McCormack	4/10/00 1340	J. Wright			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified, (_)EDD
Turnaround time: (_)Standard 3 wks, (X)Rush 10 Days, (_)ASAP Verbal ___Hrs.

Remarks:
Tide: Low

print legibly

Coc.xls3/20/00

Landfill Stream Sediment PCB's Sample Event Site Field Summary for M12/M14

Husky Brook runs along the northern side of the M12 landfill, eventually running between M12 and M14 landfills (approximately 1700 feet total) before flowing out into Oceanport Creek.

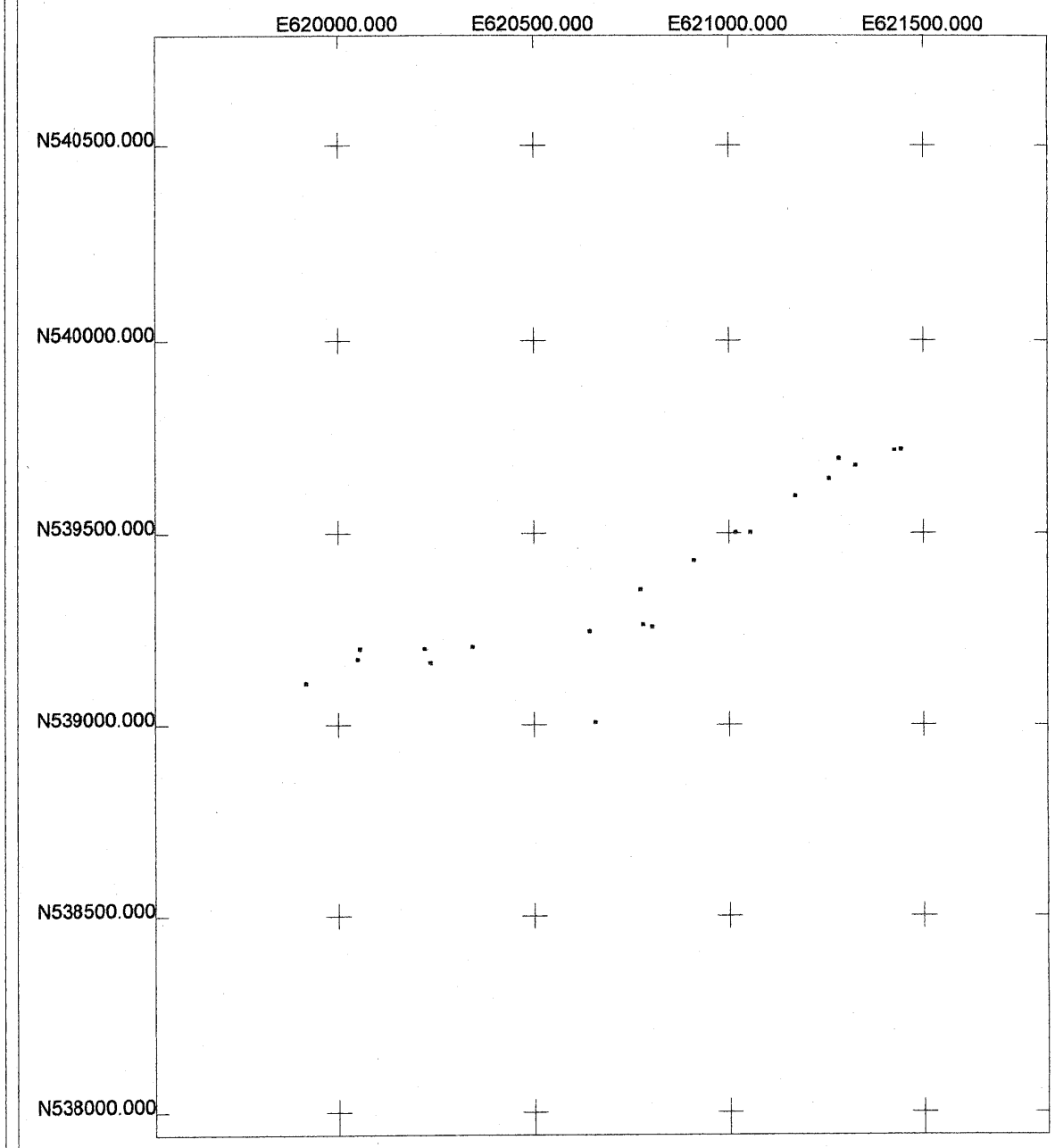
This stream has had all the lower portions of bank on both landfill sides worked on as part of the stream bank restoration project. Previously the banks were just grass covered here, exposed and eroding away into the brook. It currently is covered with large rock and rip-rap. There is little debris in the stream itself in the lower portion.

Further upstream, it is a mixed bank of tree, bramble, and smaller vegetation. There are man made materials and garbage on the banks and in the streambed here. Most materials are old poles, and rail ties. Some lighter restoration work has been done.

Flow is constant, and depth varies with tide. Even at low tide there are pools 3-4 feet deep. Most occur in the lower portion of the brook. The weather at time of sampling was cold, and sunny. There was a rain/snow event a day prior to the sampling. Tide was low.

Depositional areas are scattered here as well. Sampling targeted these areas. When none were available, 1 sample per 100 feet was taken.

GPS



M12 and M14 Landfills Husky Brook Sediment PCBs Samples GPS Map

US State Plane 1983
New Jersey (NY East) 2900
NAD 1983 (Conus)

N

Scale 1:5000
0 600.0
US Survey Feet

m12m14 strm pcbs r04211
04/21/2000
Pathfinder Office
Trimble

M12 AND M14 LANDFILLS HUSKY BROOK STREAM SEDIMENT PCBS SAMPLES COORDINATES & POSITIONS

US STATE PLANE 1983 NJ (NY EAST) 2900 NAD 1983 (CONUS)

(IN US SURVEY FEET)

SAMPLE POINTS

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
1	539716.273	621424.35
2	539673.409	621326.374
3	539640.457	621257.069
4	539596.634	621170.467
5	539503.198	621015.723
6	539427.065	620908.66
7 (AT CONVERGANCE)	539261.96	620777.203
8	539243.786	620640.559
9	539204.359	620341.923
10	539198.962	620219.296
11	539170.975	620048.219

REFERENCE POINTS

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
Murphy Drive Drain to Oceanport Creek	539718.642	621441.09
M14 MW21	539691.296	621282.795
M14 MW19	539351.919	620770.075
CNTR DRAIN PIPE OUTFALL	539198.452	620053.926
Malterer Ave. OUTFALL	539108.356	619916.845
M12 WEST MW26	539162.666	620234.185
CNTR DRAIN OUTFALL	539008.516	620654.182
CNTR DRAIN OUTFALL	539256.093	620800.775
CNTR DRAIN OUTFALL	539503.749	621054.082

PCB's

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : PBLK505
Date Rec'd:
Extraction Date: 4/11/00
Analysis Date: 4/14/00

Analysis: SW-846 Method 8082
Matrix: Sediment
Analyst: T. Frankovich

Location :

Field ID:

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	100.00	0.0022	ND	0.007	53.000	10.00
Arochlor 1221	1	100.00	0.0041	ND	NA	NA	10.00
Arochlor 1232	1	100.00	0.0028	ND	NA	NA	10.00
Arochlor 1242	1	100.00	0.0032	ND	NA	NA	10.00
Arochlor 1248	1	100.00	0.0013	ND	0.030	150.000	10.00
Arochlor 1254	1	100.00	0.0008	ND	0.060	34.000	10.00
Arochlor 1260	1	100.00	0.0007	ND	0.005	24.000	10.00
Total PCB	1	100.00	0.0152	ND	0.070	530.000	10.00

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	PBLK507
	DPW. SELFM-PW-EV	**Date Rec'd:**	
	Bldg. 173	**Extraction Date:**	4/12/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	
Matrix:	Sediment		
Analyst:	T. Frankovich	**Field ID:**	

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	100.00	0.0022	ND	0.007	53.000	10.00
Arochlor 1221	1	100.00	0.0041	ND	NA	NA	10.00
Arochlor 1232	1	100.00	0.0028	ND	NA	NA	10.00
Arochlor 1242	1	100.00	0.0032	ND	NA	NA	10.00
Arochlor 1248	1	100.00	0.0013	ND	0.030	150.000	10.00
Arochlor 1254	1	100.00	0.0008	ND	0.060	34.000	10.00
Arochlor 1260	1	100.00	0.0007	ND	0.005	24.000	10.00
Total PCB	1	100.00	0.0152	ND	0.070	530.000	10.00

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.01
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 1 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**63.71**	**0.0033**	**ND**	**0.007**	**53.000**	**10.64**
Arochlor 1221	**1**	**63.71**	**0.0061**	**ND**	**NA**	**NA**	**10.64**
Arochlor 1232	**1**	**63.71**	**0.0041**	**ND**	**NA**	**NA**	**10.64**
Arochlor 1242	**1**	**63.71**	**0.0047**	**ND**	**NA**	**NA**	**10.64**
Arochlor 1248	**1**	**63.71**	**0.0019**	**ND**	**0.030**	**150.000**	**10.64**
Arochlor 1254	**1**	**63.71**	**0.0012**	**ND**	**0.060**	**34.000**	**10.64**
Arochlor 1260	**1**	**63.71**	**0.0011**	**ND**	**0.005**	**24.000**	**10.64**
Total PCB	**1**	**63.71**	**0.0224**	**ND**	**0.070**	**530.000**	**10.64**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.02
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 1 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	56.76	0.0040	ND	0.007	53.000	9.97
Arochlor 1221	1	56.76	0.0073	ND	NA	NA	9.97
Arochlor 1232	1	56.76	0.0049	ND	NA	NA	9.97
Arochlor 1242	1	56.76	0.0057	ND	NA	NA	9.97
Arochlor 1248	1	56.76	0.0023	ND	0.030	150.000	9.97
Arochlor 1254	1	56.76	0.0014	ND	0.060	34.000	9.97
Arochlor 1260	1	56.76	0.0013	ND	0.005	24.000	9.97
Total PCB	1	56.76	0.0268	ND	0.070	530.000	9.97

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.03
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 1 18-24"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**76.97**	**0.0029**	**ND**	**0.007**	**53.000**	**10.07**
Arochlor 1221	**1**	**76.97**	**0.0053**	**ND**	**NA**	**NA**	**10.07**
Arochlor 1232	**1**	**76.97**	**0.0036**	**ND**	**NA**	**NA**	**10.07**
Arochlor 1242	**1**	**76.97**	**0.0041**	**ND**	**NA**	**NA**	**10.07**
Arochlor 1248	**1**	**76.97**	**0.0017**	**ND**	**0.030**	**150.000**	**10.07**
Arochlor 1254	**1**	**76.97**	**0.0010**	**ND**	**0.060**	**34.000**	**10.07**
Arochlor 1260	**1**	**76.97**	**0.0009**	**ND**	**0.005**	**24.000**	**10.07**
Total PCB	**1**	**76.97**	**0.0196**	**ND**	**0.070**	**530.000**	**10.07**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.04
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 2 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**61.96**	**0.0035**	**ND**	**0.007**	**53.000**	**10.35**
Arochlor 1221	**1**	**61.96**	**0.0064**	**ND**	**NA**	**NA**	**10.35**
Arochlor 1232	**1**	**61.96**	**0.0044**	**ND**	**NA**	**NA**	**10.35**
Arochlor 1242	**1**	**61.96**	**0.0050**	**ND**	**NA**	**NA**	**10.35**
Arochlor 1248	**1**	**61.96**	**0.0020**	**ND**	**0.030**	**150.000**	**10.35**
Arochlor 1254	**1**	**61.96**	**0.0012**	**ND**	**0.060**	**34.000**	**10.35**
Arochlor 1260	**1**	**61.96**	**0.0011**	**ND**	**0.005**	**24.000**	**10.35**
Total PCB	**1**	**61.96**	**0.0236**	**ND**	**0.070**	**530.000**	**10.35**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.05
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 2 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**72.58**	**0.0030**	**ND**	**0.007**	**53.000**	**10.34**
Arochlor 1221	**1**	**72.58**	**0.0055**	**ND**	**NA**	**NA**	**10.34**
Arochlor 1232	**1**	**72.58**	**0.0037**	**ND**	**NA**	**NA**	**10.34**
Arochlor 1242	**1**	**72.58**	**0.0043**	**ND**	**NA**	**NA**	**10.34**
Arochlor 1248	**1**	**72.58**	**0.0017**	**ND**	**0.030**	**150.000**	**10.34**
Arochlor 1254	**1**	**72.58**	**0.0011**	**ND**	**0.060**	**34.000**	**10.34**
Arochlor 1260	**1**	**72.58**	**0.0010**	**ND**	**0.005**	**24.000**	**10.34**
Total PCB	**1**	**72.58**	**0.0202**	**ND**	**0.070**	**530.000**	**10.34**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.06
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 3 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	69.98	0.0029	ND	0.007	53.000	10.89
Arochlor 1221	1	69.98	0.0054	ND	NA	NA	10.89
Arochlor 1232	1	69.98	0.0037	ND	NA	NA	10.89
Arochlor 1242	1	69.98	0.0042	ND	NA	NA	10.89
Arochlor 1248	1	69.98	0.0017	ND	0.030	150.000	10.89
Arochlor 1254	1	69.98	0.0010	ND	0.060	34.000	10.89
Arochlor 1260	1	69.98	0.0009	ND	0.005	24.000	10.89
Total PCB	1	69.98	0.0199	ND	0.070	530.000	10.89

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.07
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 3 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	70.75	0.0031	ND	0.007	53.000	10.16
Arochlor 1221	1	70.75	0.0057	ND	NA	NA	10.16
Arochlor 1232	1	70.75	0.0039	ND	NA	NA	10.16
Arochlor 1242	1	70.75	0.0045	ND	NA	NA	10.16
Arochlor 1248	1	70.75	0.0018	ND	0.030	150.000	10.16
Arochlor 1254	1	70.75	0.0011	ND	0.060	34.000	10.16
Arochlor 1260	1	70.75	0.0010	ND	0.005	24.000	10.16
Total PCB	1	70.75	0.0211	ND	0.070	530.000	10.16

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.08
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 4 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	79.65	0.0026	ND	0.007	53.000	10.99
Arochlor 1221	1	79.65	0.0047	ND	NA	NA	10.99
Arochlor 1232	1	79.65	0.0032	ND	NA	NA	10.99
Arochlor 1242	1	79.65	0.0037	ND	NA	NA	10.99
Arochlor 1248	1	79.65	0.0015	ND	0.030	150.000	10.99
Arochlor 1254	1	79.65	0.0009	ND	0.060	34.000	10.99
Arochlor 1260	1	79.65	0.0008	ND	0.005	24.000	10.99
Total PCB	1	79.65	0.0173	ND	0.070	530.000	10.99

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.09
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 4 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	80.07	0.0028	ND	0.007	53.000	10.12
Arochlor 1221	1	80.07	0.0051	ND	NA	NA	10.12
Arochlor 1232	1	80.07	0.0035	ND	NA	NA	10.12
Arochlor 1242	1	80.07	0.0039	ND	NA	NA	10.12
Arochlor 1248	1	80.07	0.0016	ND	0.030	150.000	10.12
Arochlor 1254	1	80.07	0.0010	ND	0.060	34.000	10.12
Arochlor 1260	1	80.07	0.0009	ND	0.005	24.000	10.12
Total PCB	1	80.07	0.0187	ND	0.070	530.000	10.12

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.10
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 4 18-24"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**72.72**	**0.0029**	**ND**	**0.007**	**53.000**	**10.63**
Arochlor 1221	**1**	**72.72**	**0.0053**	**ND**	**NA**	**NA**	**10.63**
Arochlor 1232	**1**	**72.72**	**0.0036**	**ND**	**NA**	**NA**	**10.63**
Arochlor 1242	**1**	**72.72**	**0.0041**	**ND**	**NA**	**NA**	**10.63**
Arochlor 1248	**1**	**72.72**	**0.0017**	**ND**	**0.030**	**150.000**	**10.63**
Arochlor 1254	**1**	**72.72**	**0.0010**	**ND**	**0.060**	**34.000**	**10.63**
Arochlor 1260	**1**	**72.72**	**0.0009**	**ND**	**0.005**	**24.000**	**10.63**
Total PCB	**1**	**72.72**	**0.0196**	**ND**	**0.070**	**530.000**	**10.63**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.11
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 5 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	75.80	0.0030	ND	0.007	53.000	10.00
Arochlor 1221	1	75.80	0.0054	ND	NA	NA	10.00
Arochlor 1232	1	75.80	0.0037	ND	NA	NA	10.00
Arochlor 1242	1	75.80	0.0042	ND	NA	NA	10.00
Arochlor 1248	1	75.80	0.0017	ND	0.030	150.000	10.00
Arochlor 1254	1	75.80	0.0011	ND	0.060	34.000	10.00
Arochlor 1260	1	75.80	0.0009	ND	0.005	24.000	10.00
Total PCB	1	75.80	0.0200	ND	0.070	530.000	10.00

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.12
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 5 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	80.33	0.0026	ND	0.007	53.000	10.69
Arochlor 1221	1	80.33	0.0048	ND	NA	NA	10.69
Arochlor 1232	1	80.33	0.0033	ND	NA	NA	10.69
Arochlor 1242	1	80.33	0.0037	ND	NA	NA	10.69
Arochlor 1248	1	80.33	0.0015	ND	0.030	150.000	10.69
Arochlor 1254	1	80.33	0.0009	ND	0.060	34.000	10.69
Arochlor 1260	1	80.33	0.0008	ND	0.005	24.000	10.69
Total PCB	1	80.33	0.0177	ND	0.070	530.000	10.69

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.13
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/15/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 6 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**79.58**	**0.0026**	**ND**	**0.007**	**53.000**	**10.77**
Arochlor 1221	**1**	**79.58**	**0.0048**	**ND**	**NA**	**NA**	**10.77**
Arochlor 1232	**1**	**79.58**	**0.0033**	**ND**	**NA**	**NA**	**10.77**
Arochlor 1242	**1**	**79.58**	**0.0037**	**ND**	**NA**	**NA**	**10.77**
Arochlor 1248	**1**	**79.58**	**0.0015**	**ND**	**0.030**	**150.000**	**10.77**
Arochlor 1254	**1**	**79.58**	**0.0009**	**ND**	**0.060**	**34.000**	**10.77**
Arochlor 1260	**1**	**79.58**	**0.0008**	**ND**	**0.005**	**24.000**	**10.77**
Total PCB	**1**	**79.58**	**0.0177**	**ND**	**0.070**	**530.000**	**10.77**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.14
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/15/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 6 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	78.17	0.0029	ND	0.007	53.000	10.00
Arochlor 1221	1	78.17	0.0053	ND	NA	NA	10.00
Arochlor 1232	1	78.17	0.0036	ND	NA	NA	10.00
Arochlor 1242	1	78.17	0.0041	ND	NA	NA	10.00
Arochlor 1248	1	78.17	0.0016	ND	0.030	150.000	10.00
Arochlor 1254	1	78.17	0.0010	ND	0.060	34.000	10.00
Arochlor 1260	1	78.17	0.0009	ND	0.005	24.000	10.00
Total PCB	1	78.17	0.0194	ND	0.070	530.000	10.00

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA – Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.15
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 6 18-24"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**80.39**	**0.0026**	**ND**	**0.007**	**53.000**	**10.67**
Arochlor 1221	**1**	**80.39**	**0.0048**	**ND**	**NA**	**NA**	**10.67**
Arochlor 1232	**1**	**80.39**	**0.0033**	**ND**	**NA**	**NA**	**10.67**
Arochlor 1242	**1**	**80.39**	**0.0037**	**ND**	**NA**	**NA**	**10.67**
Arochlor 1248	**1**	**80.39**	**0.0015**	**ND**	**0.030**	**150.000**	**10.67**
Arochlor 1254	**1**	**80.39**	**0.0009**	**ND**	**0.060**	**34.000**	**10.67**
Arochlor 1260	**1**	**80.39**	**0.0008**	**ND**	**0.005**	**24.000**	**10.67**
Total PCB	**1**	**80.39**	**0.0177**	**ND**	**0.070**	**530.000**	**10.67**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.16
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 7 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	77.96	0.0028	ND	0.007	53.000	10.37
Arochlor 1221	1	77.96	0.0051	ND	NA	NA	10.37
Arochlor 1232	1	77.96	0.0035	ND	NA	NA	10.37
Arochlor 1242	1	77.96	0.0040	ND	NA	NA	10.37
Arochlor 1248	1	77.96	0.0016	ND	0.030	150.000	10.37
Arochlor 1254	1	77.96	0.0010	ND	0.060	34.000	10.37
Arochlor 1260	1	77.96	0.0009	ND	0.005	24.000	10.37
Total PCB	1	77.96	0.0188	ND	0.070	530.000	10.37

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.17
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 7 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	55.35	0.0019	ND	0.007	53.000	10.63
Arochlor 1221	1	55.35	0.0035	ND	NA	NA	10.63
Arochlor 1232	1	55.35	0.0024	ND	NA	NA	10.63
Arochlor 1242	1	55.35	0.0027	ND	NA	NA	10.63
Arochlor 1248	1	55.35	0.0011	ND	0.030	150.000	10.63
Arochlor 1254	1	55.35	0.0007	ND	0.060	34.000	10.63
Arochlor 1260	1	55.35	0.0006	ND	0.005	24.000	10.63
Total PCB	1	55.35	0.0129	ND	0.070	530.000	10.63

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.18
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 8 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	69.72	0.0029	ND	0.007	53.000	11.22
Arochlor 1221	1	69.72	0.0053	ND	NA	NA	11.22
Arochlor 1232	1	69.72	0.0036	ND	NA	NA	11.22
Arochlor 1242	1	69.72	0.0041	ND	NA	NA	11.22
Arochlor 1248	1	69.72	0.0016	ND	0.030	150.000	11.22
Arochlor 1254	1	69.72	0.0010	ND	0.060	34.000	11.22
Arochlor 1260	1	69.72	0.0009	ND	0.005	24.000	11.22
Total PCB	1	69.72	0.0194	ND	0.070	530.000	11.22

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA – Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.19
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 8 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**72.98**	**0.0031**	**ND**	**0.007**	**53.000**	**9.93**
Arochlor 1221	**1**	**72.98**	**0.0057**	**ND**	**NA**	**NA**	**9.93**
Arochlor 1232	**1**	**72.98**	**0.0039**	**ND**	**NA**	**NA**	**9.93**
Arochlor 1242	**1**	**72.98**	**0.0044**	**ND**	**NA**	**NA**	**9.93**
Arochlor 1248	**1**	**72.98**	**0.0018**	**ND**	**0.030**	**150.000**	**9.93**
Arochlor 1254	**1**	**72.98**	**0.0011**	**ND**	**0.060**	**34.000**	**9.93**
Arochlor 1260	**1**	**72.98**	**0.0010**	**ND**	**0.005**	**24.000**	**9.93**
Total PCB	**1**	**72.98**	**0.0209**	**ND**	**0.070**	**530.000**	**9.93**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP. Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.20
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 9 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	78.11	0.0027	ND	0.007	53.000	10.75
Arochlor 1221	1	78.11	0.0049	ND	NA	NA	10.75
Arochlor 1232	1	78.11	0.0033	ND	NA	NA	10.75
Arochlor 1242	1	78.11	0.0038	ND	NA	NA	10.75
Arochlor 1248	1	78.11	0.0015	ND	0.030	150.000	10.75
Arochlor 1254	1	78.11	0.0010	ND	0.060	34.000	10.75
Arochlor 1260	1	78.11	0.0009	ND	0.005	24.000	10.75
Total PCB	1	78.11	0.0181	ND	0.070	530.000	10.75

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.21
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/12/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 9 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**76.29**	**0.0029**	**ND**	**0.007**	**53.000**	**10.02**
Arochlor 1221	**1**	**76.29**	**0.0054**	**ND**	**NA**	**NA**	**10.02**
Arochlor 1232	**1**	**76.29**	**0.0037**	**ND**	**NA**	**NA**	**10.02**
Arochlor 1242	**1**	**76.29**	**0.0042**	**ND**	**NA**	**NA**	**10.02**
Arochlor 1248	**1**	**76.29**	**0.0017**	**ND**	**0.030**	**150.000**	**10.02**
Arochlor 1254	**1**	**76.29**	**0.0010**	**ND**	**0.060**	**34.000**	**10.02**
Arochlor 1260	**1**	**76.29**	**0.0009**	**ND**	**0.005**	**24.000**	**10.02**
Total PCB	**1**	**76.29**	**0.0198**	**ND**	**0.070**	**530.000**	**10.02**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA – Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.22
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/12/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 10 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	79.56	0.0028	ND	0.007	53.000	10.08
Arochlor 1221	1	79.56	0.0051	ND	NA	NA	10.08
Arochlor 1232	1	79.56	0.0035	ND	NA	NA	10.08
Arochlor 1242	1	79.56	0.0040	ND	NA	NA	10.08
Arochlor 1248	1	79.56	0.0016	ND	0.030	150.000	10.08
Arochlor 1254	1	79.56	0.0010	ND	0.060	34.000	10.08
Arochlor 1260	1	79.56	0.0009	ND	0.005	24.000	10.08
Total PCB	1	79.56	0.0189	ND	0.070	530.000	10.08

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.23
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/12/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 10 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**69.70**	**0.0031**	**ND**	**0.007**	**53.000**	**10.43**
Arochlor 1221	**1**	**69.70**	**0.0057**	**ND**	**NA**	**NA**	**10.43**
Arochlor 1232	**1**	**69.70**	**0.0039**	**ND**	**NA**	**NA**	**10.43**
Arochlor 1242	**1**	**69.70**	**0.0044**	**ND**	**NA**	**NA**	**10.43**
Arochlor 1248	**1**	**69.70**	**0.0018**	**ND**	**0.030**	**150.000**	**10.43**
Arochlor 1254	**1**	**69.70**	**0.0011**	**ND**	**0.060**	**34.000**	**10.43**
Arochlor 1260	**1**	**69.70**	**0.0010**	**ND**	**0.005**	**24.000**	**10.43**
Total PCB	**1**	**69.70**	**0.0209**	**ND**	**0.070**	**530.000**	**10.43**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.24
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/12/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 11 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	31.33	0.0018	ND	0.007	53.000	10.02
Arochlor 1221	1	31.33	0.0033	ND	NA	NA	10.02
Arochlor 1232	1	31.33	0.0022	ND	NA	NA	10.02
Arochlor 1242	1	31.33	0.0025	ND	NA	NA	10.02
Arochlor 1248	1	31.33	0.0010	ND	0.030	150.000	10.02
Arochlor 1254	1	31.33	0.0006	ND	0.060	34.000	10.02
Arochlor 1260	1	31.33	0.0006	ND	0.005	24.000	10.02
Total PCB	1	31.33	0.0121	ND	0.070	530.000	10.02

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.25
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/12/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 11 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	21.65	0.0103	ND	0.007	53.000	10.06
Arochlor 1221	1	21.65	0.0189	ND	NA	NA	10.06
Arochlor 1232	1	21.65	0.0129	ND	NA	NA	10.06
Arochlor 1242	1	21.65	0.0147	ND	NA	NA	10.06
Arochlor 1248	1	21.65	0.0059	ND	0.030	150.000	10.06
Arochlor 1254	1	21.65	0.0037	ND	0.060	34.000	10.06
Arochlor 1260	1	21.65	0.0033	ND	0.005	24.000	10.06
Total PCB	1	21.65	0.0696	ND	0.070	530.000	10.06

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.26
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/12/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	Dupe 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	78.54	0.0028	ND	0.007	53.000	10.13
Arochlor 1221	1	78.54	0.0052	ND	NA	NA	10.13
Arochlor 1232	1	78.54	0.0035	ND	NA	NA	10.13
Arochlor 1242	1	78.54	0.0040	ND	NA	NA	10.13
Arochlor 1248	1	78.54	0.0016	ND	0.030	150.000	10.13
Arochlor 1254	1	78.54	0.0010	0.279	0.060	34.000	10.13
Arochlor 1260	1	78.54	0.0009	ND	0.005	24.000	10.13
Total PCB	1	78.54	0.0191	0.279	0.070	530.000	10.13

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.27
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/12/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	Dupe 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**78.45**	**0.0028**	**ND**	**0.007**	**53.000**	**10.20**
Arochlor 1221	**1**	**78.45**	**0.0051**	**ND**	**NA**	**NA**	**10.20**
Arochlor 1232	**1**	**78.45**	**0.0035**	**ND**	**NA**	**NA**	**10.20**
Arochlor 1242	**1**	**78.45**	**0.0040**	**ND**	**NA**	**NA**	**10.20**
Arochlor 1248	**1**	**78.45**	**0.0016**	**ND**	**0.030**	**150.000**	**10.20**
Arochlor 1254	**1**	**78.45**	**0.0010**	**ND**	**0.060**	**34.000**	**10.20**
Arochlor 1260	**1**	**78.45**	**0.0009**	**ND**	**0.005**	**24.000**	**10.20**
Total PCB	**1**	**78.45**	**0.0189**	**ND**	**0.070**	**530.000**	**10.20**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

FINAL

Remedial Investigation Report
And
Sediment Quality Evaluation

M-12/M-14 Landfill Site

U. S. Army Installation Fort Monmouth
Fort Monmouth, New Jersey

Directorate of Public Works

October 15, 2003

Versar INC.
201 Gibraltar Road, Suite 100
Horsham, Pennsylvania 19044

Contract No. DACA51-00-D-0004
Delivery Order No. 17

United States Army
Fort Monmouth, New Jersey

Remedial Investigation Report And Sediment Quality Evaluation for the M-12/M-14 Landfill Site

Fort Monmouth, New Jersey

January 26, 2004

REMEDIAL INVESTIGATION REPORT AND SEDIMENT QUALITY EVALUATION FOR THE M-12/M-14 LANDFILL SITE FORT MONMOUTH, NEW JERSEY

PREPARED FOR:

UNITED STATES ARMY FORT MONMOUTH
DIRECTORATE OF PUBLIC WORKS
BUILDING 167
FORT MONMOUTH, NJ 07703

PREPARED BY:

201 GIBRALTAR ROAD, SUITE 100
HORSHAM, PA 19044

January 26, 2004

VERSAR PROJECT NO. 4936.117

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EXECUTIVE SUMMARY

VERSAR, Inc. (VERSAR) has been contracted by the United States (U.S.) Army Installation, Fort Monmouth (Fort Monmouth), Directorate of Public Works (DPW), Fort Monmouth, New Jersey, to prepare a Remedial Investigation Report (RIR) for data collected during recent sediment sampling events at the M-12/M-14 Landfill Sites (Site). This report describes the remedial investigation activities conducted at the Site on April 10, 2000.

The Site is located on the Main Post Area of Fort Monmouth on the north and south side of Husky Brook, west of Murphy Drive, and occupies approximately 9.0 acres. The Site is comprised of both the M-12 and the M-14 landfills. The M-12 landfill consists of two separate areas, a northeast area and a southwest area. According to the Roy F. Weston (WESTON) report, *Site Investigation, Fort Monmouth, New Jersey, Main Post and Charles Wood Areas, Site Investigation Report (December 1995)*, both landfills were historically used for the disposal of domestic and industrial wastes. In the 1995 Site Investigation (SI), WESTON conducted a geophysical survey, groundwater sampling and tidal monitoring at each landfill. In addition, surface water samples were obtained from the portion of Husky Brook that is adjacent to the M-14 landfill. WESTON recommended that a long-term groundwater monitoring program be developed and implemented at the M-12 and M-14, but provided no recommendations related to Site-specific sediment quality. A long-term surface water monitoring program was also recommended for M-14.

Other studies conducted at similar Main Post Landfill sites (M-2 and M-8) found polychlorinated biphenyl (PCB) -containing materials (e.g., electrical ballasts) disposed of in each landfill. In addition, PCBs were detected in soil and/or groundwater at both the M-2 and M-8 Landfill sites. Therefore, assuming that other landfills on the Main Post had received similar waste materials, the DPW initiated a sediment sampling investigation in the second quarter of 2000 to evaluate potential impacts to stream sediments in creeks and/or brooks running adjacent to the Main Post and Charles Wood (CW-3A only) landfill sites. The M-12/M-14 Landfill Site was included in the sediment sampling program to supplement the WESTON findings related to soil, surface water and groundwater matrices.

To determine potential PCB-related impacts to sediments in Husky Brook, the DPW obtained 25 sediment samples on April 10, 2000, including two duplicate samples for quality assurance/quality control (QA/QC), from the surface and near-surface sediments of Husky Brook. The samples were obtained along the 1,700-foot portion of Husky Brook that flows through the M-12/M-14 Site. All 25 sediment samples were analyzed for PCBs and compared to the sediment sampling guidance concentrations defined in the New Jersey Department of Environmental Protection (NJDEP) *Guidance for Sediment Quality Evaluations (November 1998).* The analytical data is summarized in table form in this RIR. VERSAR developed this RIR based on the evaluation of these sediment data.

Data presented in Section 3.0 of this RIR indicate that there was one anomalous detection of PCBs in a duplicate sample but that no PCBs were detected in any of the 25 samples obtained from Husky Brook. Based on NJDEP guidance criteria, the results indicate that there are no PCB-related impacts to sediments in Husky Brook, which flows through the M-12/M-14 Landfill Site.

Based on the results of this sediment quality evaluation, no PCBs were detected above the NJDEP guidance criteria for sediment quality in any sample, and no potential exists for long-term adverse benthic effects in Husky Brook associated with the M-12/M-14 Landfill Site. Therefore, No Further Action is recommended for the M-12/M-14 Landfill Site related to potential PCB impacts to the sediments of Husky Brook.

1.0 INTRODUCTION

VERSAR has been contracted by the U.S. Army Installation, Fort Monmouth, DPW, Fort Monmouth, New Jersey to prepare an RIR and sediment quality evaluation for the Site located at the Fort Monmouth Main Post Area. This report addresses the remedial investigation activities performed at the Site on April 10, 2000.

1.1 Objectives

Other studies conducted at similar Main Post Landfill sites (M-2 and M-8) found PCB-containing materials (e.g., electrical ballasts) disposed of in each landfill. In addition, PCBs were detected in soil and/or groundwater at both the M-2 and M-8 Landfill sites. Therefore, assuming that other landfills on the Main Post had received similar waste materials, the DPW initiated a sediment sampling investigation in the second quarter of 2000 to evaluate potential impacts to stream sediments in creeks and/or brooks running adjacent to the Main Post and Charles Wood (CW-3A only) landfill sites. The M-12/M-14 Landfill Site was included in the sediment sampling program to supplement the earlier WESTON findings related to the soil, surface water and groundwater matrices.

The objective of this RIR is to determine potential PCB-related impacts to stream sediments in Husky Brook, which flows through the M-12/M-14 Landfill Site. The remedial investigation was conducted in accordance with New Jersey Administrative Code (NJAC) 7:26E - *Technical Requirements for Site Remediation* (February 2003) and NJDEP *Guidance for Sediment Quality Evaluations* (November 1998).

The remedial investigation encompassed the following:

- Obtaining surface and near-surface sediment samples approximately every 100 feet along the bottom of Husky Brook, which flows through the M-12/M-14 Landfill Site.
- Analyzing the samples for PCBs by United States Environmental Protection Agency (USEPA) Method 8082.
- Comparing the analytical results to the screening level criteria defined in the NJDEP *Guidance for Sediment Quality Evaluations* (November 1998).

1.2 Report Organization

This report is organized to minimize repetition. **Section 2.0** provides background information and a general description of the M-12/M-14 Landfill Site located at the Fort Monmouth Main Post area. **Section 3.0** describes and summarizes the sampling procedure and activities. **Section 4.0** presents analytical results and compares those results with NJDEP guidance criteria. **Section 5.0** provides a summary of the findings of the remedial investigation, and requests a No Further Action determination from the NJDEP.

2.0 SITE BACKGROUND AND ENVIRONMENTAL SETTING

The following sections describe the Site background and environmental setting of the area surrounding Fort Monmouth and the M-12/M-14 Landfill Site. Included is a description of the Site location, background, current conditions and environmental setting.

2.1 Site Location and Description

Fort Monmouth is located in the central-eastern portion of New Jersey in Monmouth County, approximately 45 miles south of New York City and 70 miles northeast of Philadelphia (**Figure 2-1**). In addition to the Main Post, the installation includes two subposts, the Charles Wood Area and the Evans Area. The Main Post encompasses approximately 630 acres and is generally bounded by State Highway 35, Parkers Creek, Lafetra Creek, the New Jersey Transit Railroad and a residential area to the south. The post was established in 1918 during World War I (WWI) as an Army Signal Corps training center. The Main Post currently provides administrative, training, and housing support functions, as well as providing many of the community facilities for Fort Monmouth. The primary mission of Fort Monmouth is to provide command, administrative, and logistical support for Headquarters, U.S. Army Communications and Electronics Command (CECOM). CECOM is a major subordinate command of the U.S. Army Materiel Command (AMC) and is the host tenant at Fort Monmouth.

The M-12/M-14 Landfill Site is located on the north and south sides of Husky Brook, west of Murphy Drive, in the Main Post Area (**Figure 2-2**). The approximate area of the M-12/M-14 Landfill Site is 389,300 feet^2 (9.0 acres). The M-12 landfill consists of two areas, a northeast area and a southwest area. Husky Brook flows along the northern boundary of the M-14 landfill and eventually between both the M-12 and M-14 landfills, for a distance of approximately 1,700 feet. It ultimately flows into Oceanport Creek. The bank of Husky Brook contains trees, bramble and small vegetation upstream and large rocks downstream. Portions of Husky Brook have been repaired/restored as part of a streambank Landfill project.

The various Landfill Sites on the Main Post are identified on **Figure 2-3**. The map is provided to identify:

- the relative location of each of the former landfill sites due to the similarity of past site uses, the types debris deposited at these locations, and the nature of the contaminants identified in soil, groundwater and/or sediment samples during the present and former investigations; and
- the proximity and interrelatedness of the adjacent surface water bodies.

2.2 Site Background

The WESTON report, *Site Investigation, Fort Monmouth, New Jersey, Main Post and Charles Wood Areas, Site Investigation Report* (December 1995), summarized surface

water sampling events that have been conducted since February 1986 for samples collected in Husky Brook. These sampling events were part of a former New Jersey Pollutant Discharge Elimination System (NJPDES) Permit and were obtained in that portion of Husky Brook that flows along the northern border of the M-14 landfill. From these sampling events, a report prepared by WESTON in 1993 (*Investigation of Suspected Waste Sites at Fort Monmouth, New Jersey*) indicates that no compounds were detected above NJDEP surface-water criteria.

The WESTON SI Report (WESTON, 1995) summarizes the results of a geophysical survey for determining landfill boundaries, groundwater sampling and tidal monitoring. In addition, surface-water samples were obtained in that portion of Husky Brook flowing along the northern boundary of the M-14 landfill. The surface water samples were sampled for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, PCBs and TAL metals. According to the WESTON SI report, VOCs, SVOCs, pesticides and PCBs were not detected above laboratory method detection limits (MDLs) in the samples. For the TAL metals analysis, no metals were detected at concentrations above NJDEP surface water criteria. The WESTON SI report recommended the implementation of a long-term groundwater monitoring program due to the historical Site use as a landfill. The present investigation was undertaken to further expand the WESTON SI report and assess the potential PCB-related impacts to stream sediments based on past Site use.

2.3 Current Conditions

VERSAR conducted a site walk on December 11, 2000 to assess current conditions at the M-12/M-14 Landfill Site. The M-12 site consists of two areas separated by a tributary to Husky Brook, which is bounded by trees and shrubs. The western M-12 area was recently backfilled and graded with black fill material. There was no vegetation present at the time of the Site walk, with the exception of areas along Husky Brook on the north side of the site, which was bounded with trees. The eastern portion of the M-12 site was an open field of grass.

M-14, located on the north side of Husky Brook, consists of an open field with some trees. This area was landscaped, with the grass cut and the trees pruned. On the eastern side of the Site is a playground. Site photographs are provided in **Appendix A**.

2.4 Environmental Setting

The following is a description of the geological/hydrogeological setting of the area surrounding the M-12/M-14 Landfill Site. Included is a description of the regional geology and hydrogeology of the area surrounding Fort Monmouth, as well as descriptions of the local geology and hydrogeology of the M-12/M-14 area.

2.4.1 Regional Geology

Monmouth County lies within the New Jersey Section of the Atlantic Coastal Plain physiographic province. The M-12/M-14 Landfill Site is located in what may be referred to as the Outer Coastal Plain subprovince, or the Outer Lowlands. The geologic map of New Jersey is provided as **Figure 2-4**.

In general, New Jersey Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, sand and gravel. These formations typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile and were deposited on Precambrian and lower Paleozoic rocks (Zapecza, 1989). These sediments, predominantly derived from deltaic, shallow marine, and continental shelf environments, date from Cretaceous through the Quaternary Periods. The mineralogy ranges from quartz to glauconite.

The formations record several major transgressive/regressive cycles and contain units, which are generally thicker to the southeast and reflect a deeper water environment. More than 20 regional geologic units are present within the sediments of the Coastal Plain. Regressive, upward coarsening deposits are usually aquifers (e.g., Englishtown and Kirkwood Formations, and the Cohansey Sand), while the transgressive deposits act as confining units (e.g., the Merchantville, Marshalltown and Navesink Formations). The individual thickness for these units varies greatly (e.g., from several feet to several hundred feet). The Coastal Plain deposits thicken to the southeast from the Fall Line (e.g., a boundary zone between older, resistant rocks and younger, softer plain sediments) to greater than 6,500 feet in Cape May County (Brown and Zapecza, 1990).

Based on the regional geologic map (Jablonski, 1968), the Cretaceous age Red Bank and Tinton Sands outcrop at the Main Post Area. The Red Bank Sand conformably overlies the Navesink Formation and dips to the southeast at 35 feet per mile. The upper member (Shrewsbury) of the Red Bank Sand is a yellowish-gray to reddish brown clayey, medium-to-coarse-grained sand that contains abundant rock fragments, minor mica and glauconite (Jablonski). The lower member (Sandy Hook) is a dark gray to black, medium-to-fine grained sand with abundant clay, mica and glauconite.

The Tinton Sand conformably overlies the Red Bank Sand and ranges from a clayey medium to very coarse-grained feldspathic-quartz and glauconite-sand to a glauconitic-coarse sand. The color varies from dark yellowish orange or light brown to moderate brown and from light olive to grayish olive. Glauconite may constitute 60 to 80 percent of the sand fraction in the upper part of the unit (Minard, 1969). The upper part of the Tinton is often highly oxidized and iron oxide encrusted (Minard, 1969).

The Kirkwood Formation (part of the Kirkwood-Cohansey system) crops out southeast of the Main Post and dips to the southeast at a slope of 20 feet per mile (Jablonski, 1968). The Kirkwood Formation consists of alternating layers of sand and clay. The upper unit is a light gray to yellowish-brown, fine-grained quartz sand with quartz nodules and small pebbles. The lower unit is a brown silt in Monmouth County (Jablonski, 1968).

2.4.2 Regional Hydrogeology

Fort Monmouth lies in the Atlantic and Eastern Gulf Coastal Plain groundwater region (Meisler et al., 1988). This groundwater region is underlain by undeformed, unconsolidated to semi-consolidated sedimentary deposits. The chemistry of the water near the surface is variable with low dissolved solids and high iron concentrations. The water chemistry in areas underlain by glauconitic sediments (such as Red Bank and Tinton Sands) is dominated by aluminum, calcium, magnesium, manganese and iron. The sediments in the area of Fort Monmouth were deposited in fluvia-deltaic to nearshore environments.

The water table aquifer in the Main Post area is identified as part of the "composite confining units," or minor aquifers. The minor aquifers include the Navesink formation, Red Bank Sand, Tinton Sand, Hornerstown Sand, Vincentown Formation, Manasquan Formation, Shark River Formation, Piney Point Formation and the basal clay of the Kirkwood Formation.

Well records indicate that wells installed in the Red Bank and Tinton Sands produce 2 to 25 gallons per minute (gpm). Water in these upper hydrogeologic units is typically encountered at shallow depths below ground surface (2 to 9 feet bgs). However, domestic wells are generally screened deeper in these upper hydrogeologic units. The shallow water table conditions in the Tinton and Red Bank Sands, and the similar composition of these sands within the Kirkwood Formation, suggest that the Tinton-Red Bank-Kirkwood sequence forms a single, laterally continuous aquifer. Water in this water-table aquifer flows east toward the Atlantic Ocean. Local topography tends to deflect the flow toward local depressions.

As stated in the SI Report (WESTON, 1995), NJAC 7:9-6, *Groundwater Quality Standards* (GWQS) establishes groundwater quality criteria for different classes of groundwater. Class II-A, which is defined as all groundwater that is not classified as one of the other special classes, is the appropriate class for groundwater at Fort Monmouth. The primary designated use for Class II-A groundwater is potable water; secondary uses include agricultural and industrial water.

Shallow groundwater is locally influenced within the Main Post Area by the following factors:

- Tidal influence (based on proximity to the Atlantic Ocean, rivers and tributaries)
- Topography
- Nature of the fill material within the Main Post Area
- Presence of clay and silt lenses in the natural overburden deposits
- Local groundwater recharge areas (e.g., streams, lakes)

Due to the fluvial nature of the overburden deposits (e.g., sand and clay lenses), shallow groundwater flow direction is best determined on a case-by-case basis. The groundwater

flow in the vicinity of the M-12/M-14 Landfill Site is assumed to be to the north for the M-12 landfill, in the direction of Husky Brook, and south for the M-14 landfill, also towards Husky Brook.

2.4.3 Local Geology/Hydrogeology

As presented in the WESTON SI, the field logs from monitoring well installations indicate that the lithology at M-12/M-14 consists of a thin soil cover (0.3 feet) underlain by fill material. The components of the fill materials observed in the borings consisted of organic debris and coal fragments intermixed with a moderate to poorly sorted olive-green-brown silty medium-fine-grained sand with little clay. Groundwater saturation was observed at approximately 2 feet bgs across the site. Water-level elevation data collected during the WESTON SI indicate that local groundwater flow is west toward Husky Brook.

2.4.4 Soils

According to the U.S. Department of Agriculture (USDA), Soil Conservation Service, Monmouth County Soil Survey, the majority of the Main Post area is covered by urban land (**Figure 2-5**). The soil survey described urban land as areas where concrete, asphalt, buildings, shopping centers, airports or other impervious surfaces cover 80 percent or more of the surface. In addition, the survey indicated that the natural subsurface soils have largely been replaced with artificial or foreign fill materials (developed land with disturbed soils). The following soil series and classification units are mapped in the Main Post Area:

- DoB Downer sandy loam (with 2 to 5 percent slopes);
- FrB Freehold sandy loam (with 2 to 5 percent slopes);
- FUB Freehold sandy loam/urban land complex (with 0 to 10 percent slopes);
- HV Humaquepts, frequently flooded;
- KvA Kresson loam (with 0 to 5 percent slopes);
- UA Udorthents, smoothed; and
- UD Udorthents – urban land complex (with 0 to 3 percent slopes).

The Downer series soils are well-drained soils that are found on uplands and terraces. The soils are formed in acid, silty coastal plain sediments. The Freehold soils are also well drained and are formed in acid, loamy, coastal plain sediments that, by volume, are 1 to 10 percent glauconite and are found on uplands. The Humaquepts soils are somewhat poorly- to very poorly- drained soils that are formed in stratified, sandy, or loamy sediments of fluvial origins. The Humaquepts soils are located on the floodplain and are subject to flooding several times each year. The Kresson loam is a nearly level to gently sloping soil and is somewhat poorly drained. The soil is found on low divides and in depressions. The Udorthents soils have been altered by excavation or filling activities. In filled areas, these soils consist of loamy material that is more than 20 inches thick. The filled areas include floodplain, tidal marshes and areas with moderately, well drained to very poorly drained soils. Some Udorthent soils contain concrete, asphalt, metal and

glass. The soils in the vicinity of the M-12/M-14 Landfill Site are classified as UA to UD, Udorthents, smoothed to Udorthents, urban land complex.

2.4.5 Topography and Surface Drainage

Over the last 80 years, the natural topography of Fort Monmouth has been altered by excavation and filling activities by the military. The M-12/M-14 Landfill Site is located on the floodplain of Husky Brook. The USGS topographic map (**Figure 2-1**) shows that the land surface of the Site is relatively flat at an elevation of less than 20 feet above mean sea level (amsl).

Surface water bodies from the western part of the Main Post flows into the Lafetra Creek to the north or into the Mill Creek to the south. The USGS topographic map (**Figure 2-1**) shows the Lafetra Creek as Parkers Creek Branch and Mill Creek as Wampum. Both Mill and Lafetra Creek originate off-post. Mill Creek flows along the southern boundary of the Main Post, turning north just past the Auto Craft Shop. Mill Creek is channelized and flows past the north side of the M-2 Landfill. Lafetra Creek forms the northern boundary of the Main Post and joins Mill Creek to form Parkers Creek. Parkers Creek flows eastward along the northern boundary and joins Oceanport Creek east of the post. Most of Parkers Creek, Lafetra Creek and Mill Creek are tidally influenced.

The U.S Fish and Wildlife Service (FWS) National Wetland Inventory Long Branch quadrangle maps indicate the presence of wetlands at the Main Post. Parkers and Oceanport Creeks are classified as estuarine intertidal aquatic beds. The area of Parkers Creek and the part of Oceanport Creek/Husky Brook are classified as estuarine intertidal emergent wetlands. Lafetra Creek and Mill Creek are classified as riverine lower perennial open water/unknown bottom.

3.0 SEDIMENT SAMPLING ACTIVITIES

Fort Monmouth DPW conducted sediment sampling in Husky Brook to evaluate potential PCB-related impacts to stream sediments associated with the M-12/M-14 Landfill Site. On April 10, 2000, 11 borings were installed approximately every 100 feet along the bottom of Husky Brook, as shown in **Figure 3-1: M-12/M-14 Boring Location Map.** The locations extended from downstream at Boring B-1 near Murphy Drive to upstream at Boring B-11, and were sampled accordingly in that order (see chain-of-custody records, **Appendix D**). The sediment sampling was conducted in accordance with the *Installation Restoration Program Sediment Sampling Plan for Nine Former Landfill Sites* (TVS, March 2000) presented in **Appendix B**. The Sediment Sampling Plan (SSP) was approved by the NJDEP on April 3, 2000.

Twenty-five sediment samples were collected, including two duplicate samples for QA/QC, from 11 borings using a Wildco Sediment Sampler. The samples were obtained along the 1,700-foot portion of Husky Brook that flows through the Site. Sample depths ranged from surface (0 to 6 inches) to near-surface (6 inches to 12 inches below grade) at each boring location, with the exception of Borings B-1, B-4 and B-6, which were also sampled at a depth of 18 inches to 24 inches below grade. The samples consisted of black to brown fine sandy silt to green/black clay and sandy clay with black bands, some organic material and small angulars. Boring logs are provided in **Appendix C**.

Sampling equipment was thoroughly decontaminated before and after each use, in accordance with the SSP. The sediment samples were collected using a Wildco Sampler and immediately placed in laboratory-supplied bottleware. The sample containers were labeled, sealed, packed in ice and transported to the Fort Monmouth Environmental Testing Laboratory (FMETL), New Jersey Certification Number NJDEP 13461, under proper chain-of-custody procedures. The samples were analyzed by FMETL on April 10, 2000 for PCBs utilizing USEPA Method 8082. Copies of the chain-of-custody for the laboratory analysis can be found in **Appendix D**. A summary of the borings, including sample IDs, sample collection date/time, sample depths, northing/easting coordinates, analysis and general soil descriptions is provided in **Table 3-1: Sediment Sample Summary**.

4.0 SITE CHEMICAL CHARACTERIZATION

On April 10, 2000, DPW collected 25 sediment samples along the bottom of Husky Brook to evaluate potential PCB-related impacts to stream sediments from the adjacent M-12/M-14 Landfill Site. Eleven borings were installed at the approximate rate of one per 100 feet along the bottom of the brook. Twenty-five samples were collected from 11 borings at depths ranging from surface (0 to 6 inches) to near-surface (6 inches to 12 inches below grade) at each boring location with the exception of Borings B-1, B-4 and B-6, which were also sampled at a depth of 18 inches to 24 inches below grade. Samples were identified in the field using the following nomenclature: M-12 M-14/1 0-6", M-12 M-14/1 6"-12" to M-12 M-14/11 0-6", M-12 M-14/11 6"-12". The samples were analyzed for PCBs utilizing USEPA Method 8082.

4.1 Chemical Characterization

The sediment laboratory analytical data were compared to the established screening level criteria, as presented in the *NJDEP Guidance for Sediment Quality Evaluations* (November 1998). This evaluation included at least two samples from each boring to assess the sampling data and to identify potential contaminants of concern. For marine/estuarine sediment screenings, the guidelines define two guidance concentrations for Total PCBs, an Effects Range-Low (ER-L) and an Effects Range-Medium (ER-M). The ER-L (0.023 mg/kg Total PCBs) represents the concentration at which adverse benthic effects are found in approximately 10% of studies. The ER-M (0.180 mg/kg Total PCBs) represents the concentration at which a greater than 50% incidence of adverse effects to sensitive species and/or life stages is likely to occur. The ER-L and ER-M are not regulatory cleanup standards. An exceedence indicates a potential risk to the benthic community and helps determine the need for further investigations (e.g., toxicity testing, tissue bioassays, etc.). However, an exceedence of the ER-L/ER-M criteria does not necessarily mandate further investigations if the sediments proximal to the Site have similar contaminant concentration ranges to upgradient sediments. As stated previously, the samples were collected beginning with the downstream location (B-1) and proceeding to the upstream location (B-11). Therefore, the upgradient sediments are most closely represented by the laboratory data for location B-11 (see **Table 4-1**). No PCBs were detected in sediment samples collected at this location.

Based on the *NJDEP Guidance for Sediment Quality Evaluations* (November 1998), the Lowest Effects Levels (LEL) and the Severe Effects Levels (SEL) are to be used as guidelines for individual Arochlors. Arochlor 1254 is the only Arochlor found at the Landfill Sites shown on **Figure 2-3**. The LEL indicates concentrations at which adverse benthic impacts may begin to occur (level tolerated by most benthic organisms). The SEL is a contamination level that indicates severe impacts to the benthic community in most cases studied. Both the LEL and the SEL are derived from freshwater sediment screening criteria; however, they are used in conjunction with the marine/estuarine ER-L and ER-M values for screening purposes. The ER-L and ER-M apply to Total PCBs, whereas the LEL and SEL can be used for screening purposes for individual Arochlors.

In the case of non-polar organic compounds, such as PCBs, it may be necessary to modify the SEL to create a Site-specific SEL (SSEL) based on the Total Organic Carbon (TOC) fraction present in the sample. The TOC fraction is used to determine if the samples were collected in depositional zones, evidenced by a higher percentage of fine-grained particles. Depositional zones are generally the areas of highest potential contamination and are targeted during Site sampling events. To calculate a SSEL, the SEL is multiplied by the TOC fraction. If the TOC of the samples is not measured during sampling, as is the case at the M-12/M-14 Site, a default value of 1% is used. In this instance, each SEL is multiplied by 0.01 to derive the SSEL for comparison purposes. At M-12/M-14, no Arochlors were detected. However, at other Fort Monmouth Landfill Sites, the only Arochlor detected in the sediments was Arochlor 1254. The LEL, SEL and SSEL for Arochlor 1254 are shown below.

Polychlorinated Biphenyl	LEL (mg/kg, dry weight)	SEL (mg/kg organic carbon, dry weight)	SSEL (mg/kg)
Arochlor 1254	0.060	34	0.34

mg/kg=milligrams per kilogram

The USEPA, Region II, and the NJDEP Bureau of Environmental Evaluation and Risk Assessment/Environmental Toxicology and Risk Assessment (BEERA/ETRA) have discontinued the SSEL approach for general screening purposes except in cases of borderline screening exceedances and/or a weight of professional evidence suggesting that the SSEL is appropriate. The SSEL approach is discussed here for completeness, but was not otherwise used to formulate Site-related environmental risk decisions or conclusions.

The results of the PCB laboratory analysis indicated one detection above the laboratory MDL in the duplicate sample of M12M14/9 0-6". This detection is likely to be an anomalous result because PCBs were not detected in M12M14/9 0-6". Additionally, the result appears to be an isolated occurrence because no other upgradient landfill sites (M-3, M-4 and M-5) have presented similar PCB exceedances.

This sample result exceeds both the NJDEP Effects Range – Low (ER-L) and Effects Range – Medium (ER-M) guidance concentrations for Total PCBs (0.023 mg/kg and 0.180 mg/kg, respectively). The ER-L and ER-M represent the concentrations at which adverse benthic effects are found in approximately 10% and 50% of studies, respectively. This sample also exceeds the Arochlor 1254 (the only Arochlor detected at the Site) LEL of 0.060 mg/kg, the concentration at which adverse benthic impacts may begin to occur (the level tolerated by most benthic organisms). The PCB detection did not exceed the SSEL for Arochlor 1254 (0.34 mg/kg). As such, this result, if not anomalous, is unlikely to result in long-term adverse benthic effects in Husky Brook.

Due to the presence of only one potentially anomalous result that did not exceed the SSEL for Arochlor 1254, no potential exists for long-term adverse benthic effects in Husky Brook associated with the M-12/M-14 Landfill Site.

The sample results are summarized in **Table 4-1: PCB Sample Results Summary – M-12/M-14 Landfill Site**. The laboratory data sheets are available in **Appendix D**.

4.2 QA/QC

In order to verify the reliability of the analytical results, Versar reviewed the holding times for each sample and the results of the analysis of two field duplicate samples. All samples were analyzed by the FMETL within the prescribed holding time requirements for each analytical method.

Two field duplicate samples were collected during the Site sampling events to verify the consistency of the entire sampling and analysis procedure. The results for the two duplicate samples were close to those obtained for the original samples. The relative percent difference (RPD) was calculated for each duplicate sample. The RPD measures variability introduced by both the laboratory and field operations. The RPD for the duplicate samples was 175.6%. This RPD exceeds the established limit of 50% for laboratory duplicate samples. However, this is due to low sample concentrations and a correspondingly low MDL used by the laboratory and is not indicative of poor precision because the differences noted may be attributed to analytical sensitivity. Also, the comparison of one very small number with another very small number will result in a high RPD.

5.0 CONCLUSIONS

Based on the results of this sediment quality evaluation, no PCBs were detected above the NJDEP guidance criteria for sediment quality in any sample, and no potential exists for long-term adverse benthic effects in Husky Brook associated with the M-12/M-14 Landfill Site. Therefore, No Further Action is recommended for the M-12/M-14 Landfill Site related to potential PCB impacts to the sediments of Husky Brook.

6.0 REFERENCES

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FIGURES

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GOSSELIN AVENUE

258 256 333 245 243 247 334 255 253 251 249

M-14

M-12

M-12

HUSKY BROOK

RAILROAD

T-908

S-906

T-921

T-905

S-909

T-919

975

551

POST

FLAG

LAMP

MH

CB

HYD

ROAD (PAVED)		WOODED AREA	
ROAD/TRAILS (UNPAVED)		TREE/BUSH	
FENCE	—X—	LIGHT POLE	
BUILDING		UTILITY POLE	
APPROXIMATE BOUNDARY		BROOK/CREEK	
BASE BOUNDARY		MARSHY AREA	

NOTES:

REV.	REVISIONS	APPROVED	DATE	DRAWN BY

TITLE:

FIGURE 2-2
M-12/M-14 LANDFILL SITE
SITE LAYOUT
FORT MONMOUTH, NEW JERSEY

DRAWN BY: JMM	DATE DRAWN: 23 DEC 00
CHECKED BY:	DATE CHECKED:
APPROVED BY:	DATE APPROVED:
	DRAWING No.: M-12/M-14 FIG 2-2
	FILE No.: M-12/M-14 FIG. 2-2
	SCALE: 1" = 100'
	SHEET OF REV.: A

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BRISTOL, PA 19007
(215) 788-7844

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Geologic Map of New Jersey

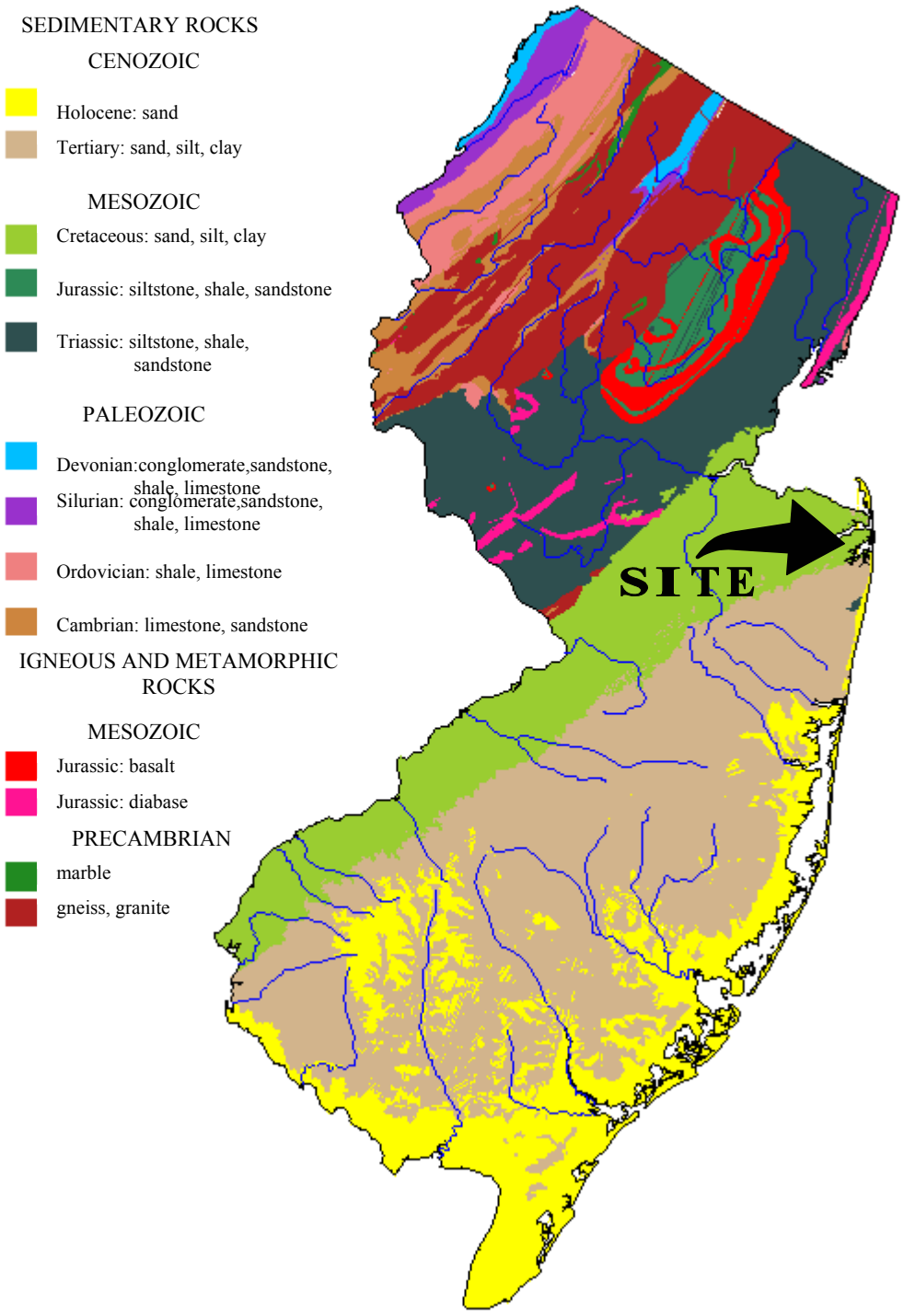
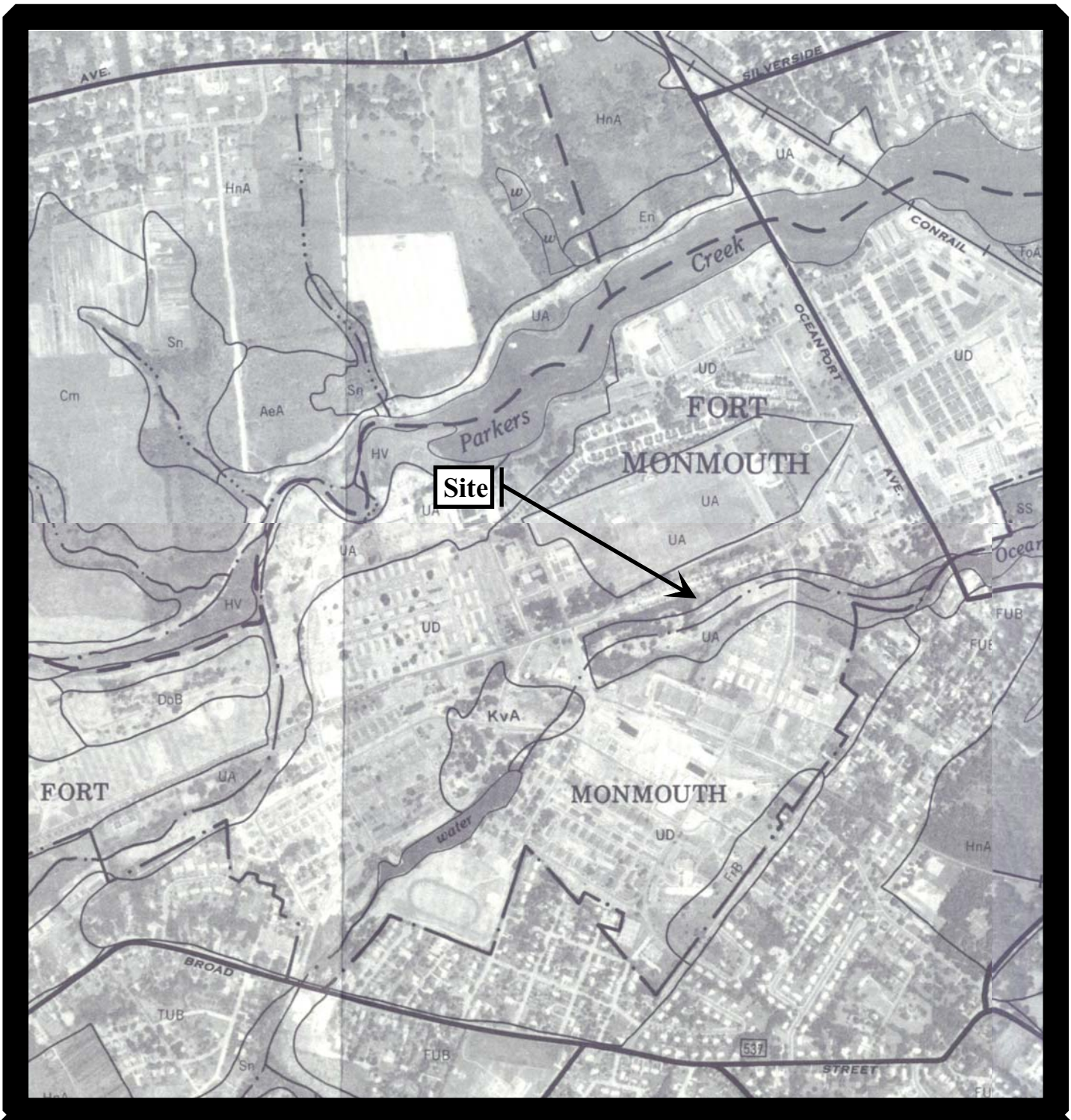


FIGURE 2-4
Geological Map of New Jersey
M-12/M-14 Landfill Site
Fort Monmouth, New Jersey

Source: New Jersey Gelolgic Survey, 1994, *Geologic Map of New Jersey*.

Versar INC.
2558 Pearl Buck Road, Suite 1
Bristol, Pennsylvania, 19007
(215)-788-7844



Fort Monmouth
M-12/M-14 Landfill Site

FIGURE 2-5

Soil Map of Monmouth County, New Jersey

US Department of Agriculture
Soil Conservation Service
Soil Survey of Monmouth County, NJ
April 1989

Versar INC.

N

SALTZMAN AVENUE

GOSSELIN AVENUE

HUSKY BROOK

M-14

M-12

M-12

PHYLLIS AVENUE

1 2 3 4 5 6 7 8 9 10 11

334 255 253 251 249 247 245 243 241 239 237 235 233 331 336 335 333 332 250 248 246 244 242 258 256 254 252

T-908 S-906 T-921 T-905 S-909 T-919 975 551

POST FLAG HYD CB MH LAMP

ROAD (PAVED)		WOODED AREA	
ROAD/TRAILS (UNPAVED)		TREE/BUSH	
FENCE	—x—	LIGHT POLE	
BUILDING		UTILITY POLE	
APPROXIMATE BOUNDARY		BROOK/CREEK	
BASE BOUNDARY		MARSHY AREA	

NOTES:

SEDIMENT BORING SAMPLE LOCATION — 3

REV.	REVISIONS	APPROVED	DATE	DRAWN BY

TITLE:

FIGURE 3-1
M-12/M-14 LANDFILL SITE
BORING LOCATION MAP
FORT MONMOUTH, NEW JERSEY

DRAWN BY: JMM	DATE DRAWN: 23 DEC 00
CHECKED BY:	DATE CHECKED:
APPROVED BY:	DATE APPROVED:
	DRAWING No.: M-12/M-14 FIG 3-1
	FILE No.: M-12/M-14 FIG. 3-1
	SCALE: 1" = 40'
	SHEET OF REV.: A

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TABLES

Table 3-1
M-12/M-14 Landfill Site
Sediment Sample Summary

Boring ID	Sample Depth (in bgs)[1]	Field Sample Location ID	Laboratory Sample ID	Date Collected	Time Collected	Coordinates Northing	Coordinates Easting	Analysis	General Soil Description
B-1	0-6"	M12M14/ 1 0-6"	**5324.01**	4/10/2000	1026	539716.273	621424.35	PCBs[2] (SW-846 Method 8082)	Black Fine Silty Sand w/Small Angulars & Some Organic Material
	6"-12"	M12M14/ 1 6-12"	**5324.02**	4/10/2000	1028				
	18"-24"	M12M14/ 1 18-24"	**5324.03**	4/10/2000	1030				
B-2	0-6"	M12M14/ 2 0-6"	**5324.04**	4/10/2000	1035	539673.409	621326.374	PCBs (SW-846 Method 8082)	Black Fine Sandy Silt w/Some Organic Material
	6"-12"	M12M14/ 2 6-12"	**5324.05**	4/10/2000	1038				
B-3	0-6"	M12M14/ 3 0-6"	**5324.06**	4/10/2000	1043	539640.457	621257.069	PCBs (SW-846 Method 8082)	Dark Brown to Black Fine Sandy Silt
	6"-12"	M12M14/ 3 6-12"	**5324.07**	4/10/2000	1045				
B-4	0-6"	M12M14/ 4 0-6"	**5324.08**	4/10/2000	1048	539596.634	621170.467	PCBs (SW-846 Method 8082)	Black, Fine Sandy Silt
	6"-12"	M12M14/ 4 6-12"	**5324.09**	4/10/2000	1050				
	18"-24"	M12M14/ 4 18-24"	**5324.10**	4/10/2000	1052				
B-5	0-6"	M12M14/ 5 0-6"	**5324.11**	4/10/2000	1100	539503.198	621015.723	PCBs (SW-846 Method 8082)	Black, Fine Sandy Silt
	6"-12"	M12M14/ 5 6-12"	**5324.12**	4/10/2000	1104				
B-6	0-6"	M12M14/ 6 0-6"	**5324.13**	4/10/2000	1114	539427.065	620908.660	PCBs (SW-846 Method 8082)	Brown Fine Sand to Green Clay and Green/Black Sandy Clay to Fine, Black Sandy Silt
	6"-12"	M12M14/ 6 6-12"	**5324.14**	4/10/2000	1116				
	18"-24"	M12M14/ 6 18-24"	**5324.15**	4/10/2000	1118				
B-7	0-6"	M12M14/ 7 0-6"	**5324.16**	4/10/2000	1121	539261.96[3]	620777.203[3]	PCBs (SW-846 Method 8082)	Brown w/Black Bands Fine Sand
	6"-12"	M12M14/ 7 6-12"	**5324.17**	4/10/2000	1123				
B-8	0-6"	M12M14/ 8 0-6"	**5324.18**	4/10/2000	1125	539243.786	620640.559	PCBs (SW-846 Method 8082)	Brown Fine Sand to Fine, Brown w/Black Bands Clayey Sand w/Some Organic Material
	6"-12"	M12M14/ 8 6-12"	**5324.19**	4/10/2000	1127				
B-9	0-6"	M12M14/ 9 0-6"	**5324.20**	4/10/2000	1144	539204.359	620341.923	PCBs (SW-846 Method 8082)	Black, Fine Sand w/Some Organic Material to Brown, Fine Sand
	6"-12"	M12M14/ 9 6-12"	**5324.21**	4/10/2000	1146				
B-10	0-6"	M12M14/ 10 0-6"	**5324.22**	4/10/2000	1154	539198.962	620219.296	PCBs (SW-846 Method 8082)	Fine, Brown Sand to Green w/Black Sand Bands Clay
	6"-12"	M12M14/ 10 6-12"	**5324.23**	4/10/2000	1156				
B-11	0-6"	M12M14/ 11 0-6"	**5324.24**	4/10/2000	1158	539170.975	620048.219	PCBs (SW-846 Method 8082)	Fine, Brown Sand to Green w/Black Sand Bands Clay
	6"-12"	M12M14/ 11 6-12"	**5324.25**	4/10/2000	1200				

[1] bgs = below ground surface
[2] PCBs = Polychlorinated Biphenyls
[3] At Convergence

Table 4-1
PCB Sample Results Summary
M-12/M-14 Landfill Site

Boring ID	Sample Depth (bgs)	Field Sample Location ID	Laboratory Sample ID	Date Collected	Analytical Results[5]	MDL[6]
Total PCBs ER-L[1]					**0.023**	
Total PCBs ER-M[2]					**0.180**	
Arochlor 1254 LEL[3]					**0.060**	
Arochlor 1254 SEL[4]					**34**	
B-1	0-6"	M12M14/ 1 0-6"	5324.01	4/10/2000	ND	0.0224
	6"-12"	M12M14/ 1 6-12"	5324.02	4/10/2000	ND	0.0268
	18"-24"	M12M14/ 1 18-24"	5324.03	4/10/2000	ND	0.0196
B-2	0-6"	M12M14/ 2 0-6"	5324.04	4/10/2000	ND	0.0236
	6"-12"	M12M14/ 2 6-12"	5324.05	4/10/2000	ND	0.0202
B-3	0-6"	M12M14/ 3 0-6"	5324.06	4/10/2000	ND	0.0199
	6"-12"	M12M14/ 3 6-12"	5324.07	4/10/2000	ND	0.0211
B-4	0-6"	M12M14/ 4 0-6"	5324.08	4/10/2000	ND	0.0173
	6"-12"	M12M14/ 4 6-12"	5324.09	4/10/2000	ND	0.0187
	18"-24"	M12M14/ 4 18-24"	5324.10	4/10/2000	ND	0.0196
B-5	0-6"	M12M14/ 5 0-6"	5324.11	4/10/2000	ND	0.0200
	6"-12"	M12M14/ 5 6-12"	5324.12	4/10/2000	ND	0.0177
B-6	0-6"	M12M14/ 6 0-6"	5324.13	4/10/2000	ND	0.0177
	6"-12"	M12M14/ 6 6-12"	5324.14	4/10/2000	ND	0.0194
	18"-24"	M12M14/ 6 18-24"	5324.15	4/10/2000	ND	0.0177
B-7	0-6"	M12M14/ 7 0-6"	5324.16	4/10/2000	ND	0.0188
	6"-12"	M12M14/ 7 6-12"	5324.17	4/10/2000	ND	0.0129
B-8	0-6"	M12M14/ 8 0-6"	5324.18	4/10/2000	ND	0.0194
	6"-12"	M12M14/ 8 6-12"	5324.19	4/10/2000	ND	0.0209
B-9	0-6"	M12M14/ 9 0-6"	5324.20	4/10/2000	ND	0.0181
	6"-12"	M12M14/ 9 6-12"	5324.21	4/10/2000	ND	0.0198
B-10	0-6"	M12M14/ 10 0-6"	5324.22	4/10/2000	ND	0.0189
	6"-12"	M12M14/ 10 6-12"	5324.23	4/10/2000	ND	0.0209
B-11	0-6"	M12M14/ 11 0-6"	5324.24	4/10/2000	ND	0.0121
	6"-12"	M12M14/ 11 6-12"	5324.25	4/10/2000	ND	0.0696
Duplicate	0-6"	M12M14/ 9 0-6"	5324.26	4/10/2000	0.279	0.0191
	6"-12"	M12M14/ 9 6-12"	5324.27	4/10/2000	ND	0.0189

Notes:
[1]NJDEP Guidance For Sediment Quality Evaluations, November 1998 (ER-L) - Effects Range-Low
[2]NJDEP Guidance For Sediment Quality Evaluations, November 1998 (ER-M) - Effects Range-Medium
[3]NJDEP Guidance For Sediment Quality Evaluations, November 1998 (LEL) - Lowest Effects Level
[4]NJDEP Guidance For Sediment Quality Evaluations, November 1998 (SEL) - Severe Effects Level
[5]All Results in milligrams per kilogram (mg/kg)
[6]Method Detection Limit (mg/kg) representing Total PCBs
ND = Analyte Not Detected in Sample
Exceedances of the NJDEP Guidances are shaded and printed in **bold-faced** type
PCBs = Polychlorinated Biphenyls
N/A = Not Applicable

APPENDICES

Appendix A

Site Photographic Log

M14 Landfill Site

M12 Landfill Site

Appendix B

Sediment Sampling Plan for Nine Former Landfill Sites (TVS, March 2000)

State of New Jersey
Department of Environmental Protection
Christine Todd Whitman
Governor
Robert C. Shinn, Jr.
Commissioner

Mr. Joseph Fallon
Directorate of Public Works
Headquarters, U.S. Army Garrison Fort Monmouth
Fort Monmouth, NJ 07703 - 5101

APR 0 3 2000

Re: Sediment Sampling Plan
Sites M-2, M-3, M-4, M-5, M-8, M-12, M-14, M-18 and CW-3A
Fort Monmouth Main Post/Charles Wood
Tinton Falls, Monmouth County

Dear Mr. Fallon:

The NJDEP has reviewed the March 29, 2000 Sediment sampling plan for the nine former landfill sites referenced above and we accept the plan as submitted.

The referenced document, developed with NJDEP using appropriate technical guidance documents and requirements, is specifically designed to determine if PCBs have impacted adjacent surface waters.

There are a few brief comments which we have previously discussed, but I wanted to note here as a reminder for you in this investigation.

- The NJDEP requires PCB method 8082 to be utilized.
- Approved sample preservation methods must be used if volatile compounds are to be investigated or reported on.
- Some discussion regarding the sediment criteria utilized along with a discussion on the application to the sample location and water body must be provided in the final report.
- Sampling must be performed on downgradient samples first.

If you should have any questions or comments, please do not hesitate to contact me at (609) 633-7232 or via E-mail.

Sincerely,

Ian R. Curtis, Case Manager
Bureau of Case Management
ICURTIS@DEP.STATE.NJ.US

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DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY GARRRISON FORT MONMOUTH
FORT MONMOUTH, NEW JERSEY 07703-5101

REPLY TO
ATTENTION OF

Directorate of Public Works

March 29, 2000

State of New Jersey
Department of Environmental Protection
Division of Responsible Party Site Remediation
Bureau of Case Management
401 East State Street
ATTN: Ian Curtis
P. O. Box 028
Trenton, NJ 08625-0028

Re: Sediment Sampling Plan for Nine Former Landfill Sites
(i.e. M-2, M-3, M-4, M-5, M-8, M-12, M-14, M-18 & CW-3A)
Main Post and Charles Wood Area, Fort Monmouth, New Jersey

Dear Mr. Curtis:

Submitted for your review and approval, please find a copy of the above referenced sampling plan. Said plan should enable the Directorate of Public Works to ascertain whether polychlorinated biphenyls are present within stream sediments bordering the nine referenced landfills. Future site work will be based upon the findings of this sampling initiative.

Should you have any questions or require any additional information regarding this plan, please contact the undersigned at the following telephone number: (732) 532-6223.

Sincerely,

Joseph M. Fallon

Joseph M. Fallon, CHMM
Environmental Protection Specialist
Directorate of Public Works

Encl.

United States Army
Directorate of Public Works
Fort Monmouth, New Jersey

Installation Restoration Program
Sediment Sampling Plan for
Nine Former Landfill Sites

March 2000

SITE INVESTIGATION PLAN

Installation Restoration Program
Sediment Sampling Plan for Nine Former Landfill Sites

PREPARED FOR:

JOSEPH FALLON
PROJECT MANAGER
Directorate of Public Works
BUILDING 173
FORT MONMOUTH, NJ 07703
(732)-532-6223

PREPARED BY:

TECOM-VINNELL SERVICES (TVS)
ENVIRONMENTAL OFFICE
BUILDING 173
FORT MONMOUTH, NJ 07703

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1.0 SAMPLING ACTIVITIES

1.1 OVERVIEW

This report provides details for a proposed sediment sampling plan as prepared by TECOM-Vinnell Services (TVS) on the behalf of the U.S. Army Fort Monmouth, Directorate of Public Works (DPW), Fort Monmouth, New Jersey. The purpose of this sampling initiative is to ascertain whether Polychlorinated Biphenyls (PCBs) are present within stream sediments which border nine former landfill sites (i.e. M-2, M-3, M-4, M-5, M-8, M-12, M-14, M-18 and CW-3A). The streams associated with this investigation include Mill Creek, Lafetra Creek, Parkers Creek, Husky Brook, and an unnamed tributary of Wampum Brook (see attachments 1 & 2). The data generated from this study will be used in conjunction with other previously collected data involving surface soils, subsurface soils, ground water and surface water. As part of the larger, ongoing remedial investigation at these nine landfill sites, PCBs were identified within subsurface soils at landfill sites M-2 and M-8. The Final Site Investigation (SI) Report, Fort Monmouth, New Jersey, Main Post and Charles Wood Areas (December 1995) identifies electronic components as one of the waste types being disposed of within the subject landfills. Said components (i.e. electrical ballasts) typically contained small quantities of insulating oil which may or may not have contained PCBs. Based upon the potential presence of electronic components at the other seven landfill sites, PCBs may also exist within subsurface soils at these locations. As part of previously conducted sampling initiatives, the DPW has been able to document that the PCBs identified at sites M-2 and M-8 have not impacted site ground water or surface water. Furthermore, PCBs have not been identified within site ground water or surface water at the other landfill sites. The overall goal of the proposed sampling plan is to document that the presence of PCBs at sites M-2 and M-8 have not impacted the nearby stream sediments.

This investigation will be conducted by TVS personnel in accordance with the specifications required for collecting sediment samples as determined by the New Jersey Department of Environmental Protection (NJDEP) Field Sampling Procedures Manual (May 1992) and the NJDEP Guidance For Sediment Quality Evaluations (November 1998).

1.2 SITE DESCRIPTION

Mill Creek is located along the northern side of the M-2 landfill (approximate distance 1,400 feet) and along the western side of the M-4 landfill (approximate distance 360 feet) and the M-5 landfill (approximate distance 570 feet). Lafetra Creek runs along the northern side of the M-3 landfill (approximate distance 1,200 feet), joining with Mill Creek to form Parkers Creek. Parkers Creek surrounds the M-8 landfill (approximate distance 1,500 feet) on the western, northern, and eastern sides. It then runs along the western side of the M-18 landfill (approximate distance 700 feet). Husky Brook runs along the northern side of the M-12 landfill, eventually running between the M-12 and M-14 landfills (combined approximate distance 1,700 feet) before flowing into Oceanport Creek. An unnamed tributary of Wampum Brook is located along the northern side of the CW-3A landfill (approximate distance 600 feet). Stream banks along the landfills vary from heavily vegetated with trees and bramble to simply grass. A stream bank restoration project is currently underway at the landfill sites located on the Main Post. The project entails stabilizing the stream banks through a combination of hard (rip-rap) and soft (vegetative plantings) engineering practices. All sites vary in steepness and have various access points. The streams flow constantly even in drought conditions and all but the unnamed tributary of Wampum Brook are tidally influenced. Currents and depth vary with tide.

1.3 HEALTH AND SAFETY

Before sampling activities commence, potential site hazards (physical, chemical and biological) will be evaluated by the TVS Health and Safety Office. A site specific Health and Safety Plan shall be prepared accordingly.

2.0 SITE INVESTIGATION ACTIVITIES

2.1 CONTACTS AND PERSONNEL

The following is a listing of all contacts and personnel involved in the investigation. All analyses are to be performed and reported by U.S. Army Fort Monmouth Environmental Laboratory, NJDEP- Certification # 13461. All sampling will be performed under the direct supervision of a NJDEP trained sample technician according to the methods described in the NJDEP Field Sampling Procedures Manual (1992) and as defined in this sampling plan.

The following parties are participants in this investigation:

- Environmental Protection Specialist: Joseph Fallon, CHMM
  Employer: U.S. Army, Fort Monmouth Phone Number: (732) 532-6223
- Field Technician: Corey McCormack
  Employer: TECOM-Vinnell Services (TVS) Phone Number: (732) 532-0989
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
  Contact Person: Daniel Wright - Phone Number: (732) 532-4359
  Employer: TECOM-Vinnell Services
  NJDEP Certification No.: 13461
- Field Technician Supervisor: Mark Laura
  Employer: TECOM-Vinnell Services (TVS) Phone Number: (732) 532-0989
- Health and Safety Personnel: Bruce Wadlington, Chandra Jennings, and John Wierbowski. Employer: TVS - Phone Number: (732) 532-1706

2.2 SAMPLING PROCEDURES AND PROTOCOL

During the investigation, all samples will be collected with proper attention to quality assurance protocols and in accordance with the guidelines set forth by the New Jersey Department of Environmental Protection (NJDEP) Field Sampling Procedures Manual (May, 1992), the Technical Requirements for Site Remediation (NJAC 7:26E, June, 1993) and the NJDEP Guidance for Sediment Quality Evaluations (November 1998).

2.2.1 SITE ACTIVITES

Site activities shall include recording field conditions and other relevant observations, sampling sediments, plotting sample locations by usc of our Global Positioning Systcm (GPS), decontamination of equipment, and preservation and storage of samples.

2.2.2 SEDIMENT SAMPLING

Sample locations will be determined, sampled, and recorded in the following way:

1. Samples will be taken from clearly discernable depositional areas in and along the streams. In the event that no clear depositional areas can be located, a sample will be taken from the best possible stream bed point at the rate of 1 sample for every 100 feet.
2. Samples will be taken at a depth of 0-6 inches for surface deposits and 6-12 inches for subsurface deposits in each sampling event. Based upon the individual thickness of each depositional area, an 18-24 inch deep sample will also be taken if the desired depth is obtainable.
3. Sampling will commence from downstream, working upstream. Care will be taken to minimize disturbance of sediments and washing of samples as collected.
4. Tide, weather, recent activity, and notable observations will be recorded.
5. A boring log shall be created to note any layers, particle sizes, and defining aspects to each boring.
6. Sampling will be conducted using a hand core sediment sampler.
7. Samples for PCBs analysis will be collected into new, pre-cleaned, 4oz.clear glass jars with Teflon lined caps. All samples will be stored in a cooler at 4 degrees Celsius.
8. After each sampling event, equipment will be decontaminated as stated in section 2.3.
9. Each sample location will be plotted using our GPS.

2.2.3 QA/QC

Quality control samples are required to verify that the sample collection and handling process has not affected the quality of the sediment samples. All field quality control samples will be prepared exactly as regular investigation samples with regard to volume and containers. The following quality control samples will be collected for each batch of samples:

- Field duplicate daily or one every 20 samples; homogenized before splitting.

2.3 EQUIPMENT DECONTAMINATION

Decontamination will be done after every sampling event by the following procedure:

1. Alconox and water wash
2. Water rinse
3. Deionized water rinse
4. Air dry

Appendix C

Boring Logs

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-1

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON
M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0				
	5324.01	1	SILTY SAND, Fine. Black.	1026
4				
			SILTY SAND, Fine. Black. Some Organic Material.	
8	5324.02	2		1028
12			SILTY SAND, Fine. Black. Sm. Angulars. Black.	
16				
20	5342.03	3		1030
24				

04-21-2000 X:\MTECH5\LANDFI~1\M12M14-1.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-2

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0	5324.04	1	SANDY SILT, Fine. Black.	1035
4	5324.05	2	SANDY SILT, Fine. Black. Some Organic Material.	1038
8				
12				
16				
20				
24				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-3

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0	5324.06	1	SANDY SILT, Fine. Dk. Brown/ Black.	1043
8	5324.07	2	SANDY SILT, Fine. Black.	1045

0
4
8
12
16
20
24

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-4

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0				
	5324.08	1	SANDY SILT, Fine. Black.	1048
4				
	5324.09	2	SANDY SILT, Fine. Black.	1050
8				
12			SANDY SILT, Fine. Black.	
16				
	5324.10	3		1052
20				
24				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-5

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0	5324.11	1	SANDY SILT, Fine. Black.	1100
4	5324.12	2	SANDY SILT, Fine. Black.	1104
8				
12				
16				
20				
24				

04-18-2000 X:\MTECH5\LANDFI~1\M12M14-5.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-6

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0			SAND, Fine. Brown.	
			CLAY. Green.	
	5324.13	1		1114
4				
			SANDY CLAY. Green w/ Black.	
8				
	5324.14	2		1116
			SANDY SILT, Fine. Black.	
12				
16				
20				
	5324.15	3		1118
24				

04-18-2000 X:\MTECH5\LANDFI~1\M12M14-6.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-7

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0	5324.16	1	SAND, Fine. Brown.	1121
4				
8	5324.17	2	SAND, Fine. Brown w/ Black Bands.	1123
12				
16				
20				
24				

04-18-2000 X:\MTECH5\LANDFI~1\M12M14-7.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-8

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0			SAND, Fine. Brown.	
4	5324.18	1	CLAYEY SAND, Fine. Brown w/ Black Bands. Some Organic Material.	1125
8	5324.19	2		1127
12				
16				
20				
24				

04-18-2000 X:\MTECH5\LANDFI~1\M12M14-8.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-9

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0	5324.20	1	SAND, Fine. Black. Some Organic Material.	1144
4				
8	5324.21	2	SAND, Fine. Brown.	1146
12				
16				
20				
24				

04-18-2000 X:\MTECH5\LANDFI~1\M12M14~9.BOR

U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-10

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0	5324.22	1	SAND, Fine. Brown.	1154
4				
8	5324.23	2	CLAY. Green w/ Black SAND Bands	1156
12				
16				
20				
24				

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U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING B-11

US ARMY
FT. MONMOUTH N.J.
SELFM-PW-EV
JOSEPH FALLON

M12/M14 Landfill Sediments

DATE COMPLETED : 04/10/00
SAMPLE DEVICE : WILDCO SEDIMENT SAMPLER
SAMPLER : COREY MCCORMACK
CONTRACTOR : TVS-PWS-07 ENV.
LOCATON : M12/M14

Depth in INCHES	Lab No.	Samples	DESCRIPTION	TIME
0				
	5324.24	1	SAND, Fine. Brown.	1158
4				
			CLAY. Green w/ Black SAND Bands	
8	5324.25	2		1200
12				
16				
20				
24				

04-18-2000 X:\MTECH5\LANDFI~1\M12M14-T.EOR

Appendix D

Sediment Sampling Laboratory Data Sheets

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS
PHONE: (732) 532-6224 FAX: (732) 532-6263
WET-CHEM - METALS - ORGANICS - FIELD SAMPLING
CERTIFICATIONS: NJDEP #13461, NYSDOH #11699

ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Stream Sediments

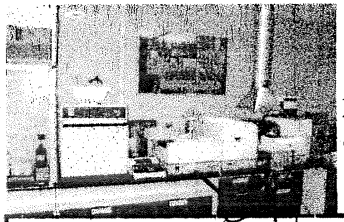
M12/M14 Landfill

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
M12 M14 / 1 0-6"	5324.01	Sediment	10-Apr-00 10:26	04/10/00
M12 M14 / 1 6-12"	5324.02	Sediment	10-Apr-00 10:28	04/10/00
M12 M14 / 1 18-24"	5324.03	Sediment	10-Apr-00 10:30	04/10/00
M12 M14 / 2 0-6"	5324.04	Sediment	10-Apr-00 10:35	04/10/00
M12 M14 / 2 6-12"	5324.05	Sediment	10-Apr-00 10:38	04/10/00
M12 M14 / 3 0-6"	5324.06	Sediment	10-Apr-00 10:43	04/10/00
M12 M14 / 3 6-12"	5324.07	Sediment	10-Apr-00 10:45	04/10/00
M12 M14 / 4 0-6"	5324.08	Sediment	10-Apr-00 10:48	04/10/00
M12 M14 / 4 6-12"	5324.09	Sediment	10-Apr-00 10:50	04/10/00
M12 M14 / 4 18-24"	5324.10	Sediment	10-Apr-00 10:52	04/10/00
M12 M14 / 5 0-6"	5324.11	Sediment	10-Apr-00 11:00	04/10/00
M12 M14 / 5 6-12"	5324.12	Sediment	10-Apr-00 11:04	04/10/00
M12 M14 / 6 0-6"	5324.13	Sediment	10-Apr-00 11:14	04/10/00
M12 M14 / 6 6-12"	5324.14	Sediment	10-Apr-00 11:16	04/10/00
M12 M14 / 6 18-24"	5324.15	Sediment	10-Apr-00 11:18	04/10/00
M12 M14 / 7 0-6"	5324.16	Sediment	10-Apr-00 11:21	04/10/00
M12 M14 / 7 6-12"	5324.17	Sediment	10-Apr-00 11:23	04/10/00
M12 M14 / 8 0-6"	5324.18	Sediment	10-Apr-00 11:25	04/10/00
M12 M14 / 8 6-12"	5324.19	Sediment	10-Apr-00 11:27	04/10/00
M12 M14 / 9 0-6"	5324.20	Sediment	10-Apr-00 11:44	04/10/00
M12 M14 / 9 6-12"	5324.21	Sediment	10-Apr-00 11:46	04/10/00
M12 M14 / 10 0-6"	5324.22	Sediment	10-Apr-00 11:54	04/10/00
M12 M14 / 10 6-12"	5324.23	Sediment	10-Apr-00 11:56	04/10/00
M12 M14 / 11 0-6"	5324.24	Sediment	10-Apr-00 11:58	04/10/00
M12 M14 / 11 6-12"	5324.25	Sediment	10-Apr-00 12:00	04/10/00
DUP. 0-6"	5324.26	Sediment	10-Apr-00	04/10/00
DUP. 6-12"	5324.27	Sediment	10-Apr-00	04/10/00

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
PCB's, %SOLIDS

5-15-00
Daniel Wright/Date
Laboratory Director

CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: J. Fallon
Phone #: X2 (0223
( )DERA ( )OMA ( )Other:_____

Project No:
Location: M12/M14 Landfill
Stream Sediments

Samplers Name / Company: Corey McCormack, TUS

Analysis Parameters: PCB's

Comments: 4°C

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Remarks / Preservation Method
5324.01	M12 M14 1 0-6"	4/10/00	1026	Sed	1	
.02	" 1 6-12"		1028			* Fuel smell. *
.03	" 1 18-24"		1030			
.04	M12 M14 2 0-6"		1035			
.05	" 2 6-12"		1038			
.06	M12 M14 3 0-6"		1043			
.07	" 3 6-12"		1045			
.08	M12 M14 4 0-6"		1048			
.09	" 4 6-12"		1050			
.10	M12 M14 4 18-24"		1052			
.11	M12 M14 5 0-6"		1100			
.12	" 5 6-12"		1104			
.13	M12 M14 6 0-6"		1114			
.14	" 6 6-12"		1116			

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Corey McCormack	4/10/00 1340	J. Allegra			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, ( )Reduced, (X)Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, (X)Rush 10 Days, ( )ASAP Verbal ___Hrs.

Remarks:
Tide: Low

print legibly

Coc.xls3/20/00

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: J. Hall OL
Phone #: x21223
( )DERA ( )OMA ( )Other:_____

Project No:
Location: M12/M14 Landfill Stream Sediments cont

Samplers Name / Company: Corey McCormack, TVS

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: PCB's								Comments: Remarks / Preservation Method
53241.15	M12 M14 6 18-24"	4/10/00	1118	Sed	1	✓								4°C
.16	M12 M14 7 0-6"		1121			✓								
.17	" 7 6-12"		1123			✓								
.18	M12 M14 8 0-6"		1125			✓								
.19	" 8 6-12"		1127			✓								
.20	M12 M14 9 0-6"		1144			✓								
.21	" 9 6-12"		1146			✓								
.22	M12 M14 10 0-6"		1154			✓								
.23	" 10 6-12"		1156			✓								
.24	M12 M14 11 0-6"		1158			✓								
.25	" 11 6-12"		1200											
.26	Dupe 0-6"		—			✓								
.27	Dupe 6-12"		—			✓								

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Corey McCormack	4/10/00 1340	J. Wright			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified, (_)EDD
Turnaround time: (_)Standard 3 wks, (X)Rush 10 Days, (_)ASAP Verbal ___Hrs.

Remarks:
Tide: Low

print legibly

Coc.xls3/20/00

Landfill Stream Sediment PCB's Sample Event Site Field Summary for M12/M14

Husky Brook runs along the northern side of the M12 landfill, eventually running between M12 and M14 landfills (approximately 1700 feet total) before flowing out into Oceanport Creek.

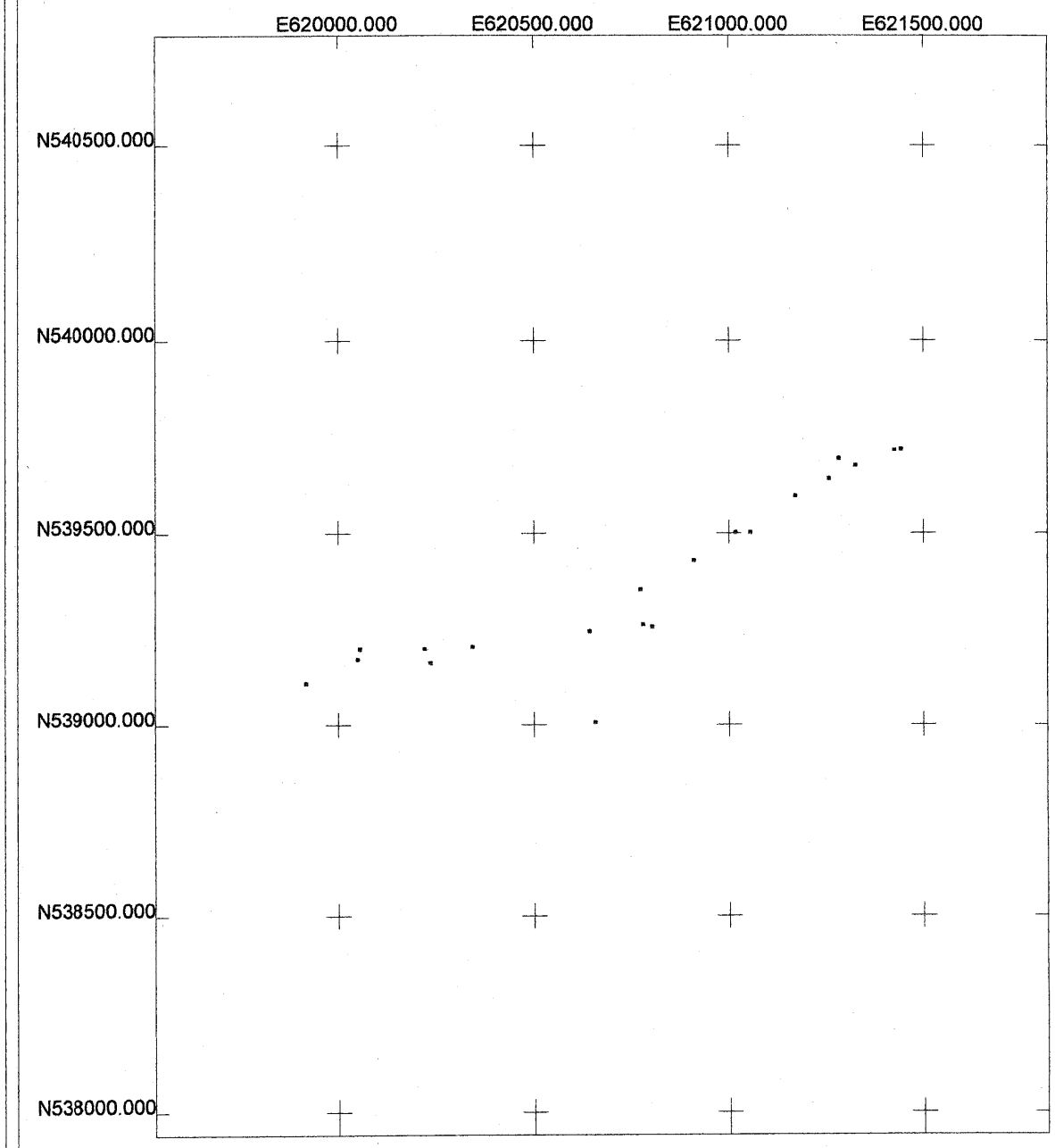
This stream has had all the lower portions of bank on both landfill sides worked on as part of the stream bank restoration project. Previously the banks were just grass covered here, exposed and eroding away into the brook. It currently is covered with large rock and rip-rap. There is little debris in the stream itself in the lower portion.

Further upstream, it is a mixed bank of tree, bramble, and smaller vegetation. There are man made materials and garbage on the banks and in the streambed here. Most materials are old poles, and rail ties. Some lighter restoration work has been done.

Flow is constant, and depth varies with tide. Even at low tide there are pools 3-4 feet deep. Most occur in the lower portion of the brook. The weather at time of sampling was cold, and sunny. There was a rain/snow event a day prior to the sampling. Tide was low.

Depositional areas are scattered here as well. Sampling targeted these areas. When none were available, 1 sample per 100 feet was taken.

GPS



M12 and M14 Landfills Husky Brook Sediment PCBs Samples GPS Map

US State Plane 1983
New Jersey (NY East) 2900
NAD 1983 (Conus)

N

Scale 1:5000
0 600.0
US Survey Feet

m12m14 strm pcbs r04211
04/21/2000
Pathfinder Office
Trimble

M12 AND M14 LANDFILLS HUSKY BROOK STREAM SEDIMENT PCBS SAMPLES COORDINATES & POSITIONS

US STATE PLANE 1983 NJ (NY EAST) 2900 NAD 1983 (CONUS)

(IN US SURVEY FEET)

SAMPLE POINTS

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
1	539716.273	621424.35
2	539673.409	621326.374
3	539640.457	621257.069
4	539596.634	621170.467
5	539503.198	621015.723
6	539427.065	620908.66
7 (AT CONVERGANCE)	539261.96	620777.203
8	539243.786	620640.559
9	539204.359	620341.923
10	539198.962	620219.296
11	539170.975	620048.219

REFERENCE POINTS

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
Murphy Drive Drain to Oceanport Creek	539718.642	621441.09
M14 MW21	539691.296	621282.795
M14 MW19	539351.919	620770.075
CNTR DRAIN PIPE OUTFALL	539198.452	620053.926
Malterer Ave. OUTFALL	539108.356	619916.845
M12 WEST MW26	539162.666	620234.185
CNTR DRAIN OUTFALL	539008.516	620654.182
CNTR DRAIN OUTFALL	539256.093	620800.775
CNTR DRAIN OUTFALL	539503.749	621054.082

PCB's

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : PBLK505
Date Rec'd:
Extraction Date: 4/11/00
Analysis Date: 4/14/00

Analysis: SW-846 Method 8082
Matrix: Sediment
Analyst: T. Frankovich

Location :

Field ID:

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	100.00	0.0022	ND	0.007	53.000	10.00
Arochlor 1221	1	100.00	0.0041	ND	NA	NA	10.00
Arochlor 1232	1	100.00	0.0028	ND	NA	NA	10.00
Arochlor 1242	1	100.00	0.0032	ND	NA	NA	10.00
Arochlor 1248	1	100.00	0.0013	ND	0.030	150.000	10.00
Arochlor 1254	1	100.00	0.0008	ND	0.060	34.000	10.00
Arochlor 1260	1	100.00	0.0007	ND	0.005	24.000	10.00
Total PCB	1	100.00	0.0152	ND	0.070	530.000	10.00

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	PBLK507
	DPW. SELFM-PW-EV	**Date Rec'd:**	
	Bldg. 173	**Extraction Date:**	4/12/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	
Matrix:	Sediment		
Analyst:	T. Frankovich	**Field ID:**	

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	100.00	0.0022	ND	0.007	53.000	10.00
Arochlor 1221	1	100.00	0.0041	ND	NA	NA	10.00
Arochlor 1232	1	100.00	0.0028	ND	NA	NA	10.00
Arochlor 1242	1	100.00	0.0032	ND	NA	NA	10.00
Arochlor 1248	1	100.00	0.0013	ND	0.030	150.000	10.00
Arochlor 1254	1	100.00	0.0008	ND	0.060	34.000	10.00
Arochlor 1260	1	100.00	0.0007	ND	0.005	24.000	10.00
Total PCB	1	100.00	0.0152	ND	0.070	530.000	10.00

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.01
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 1 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**63.71**	**0.0033**	**ND**	**0.007**	**53.000**	**10.64**
Arochlor 1221	**1**	**63.71**	**0.0061**	**ND**	**NA**	**NA**	**10.64**
Arochlor 1232	**1**	**63.71**	**0.0041**	**ND**	**NA**	**NA**	**10.64**
Arochlor 1242	**1**	**63.71**	**0.0047**	**ND**	**NA**	**NA**	**10.64**
Arochlor 1248	**1**	**63.71**	**0.0019**	**ND**	**0.030**	**150.000**	**10.64**
Arochlor 1254	**1**	**63.71**	**0.0012**	**ND**	**0.060**	**34.000**	**10.64**
Arochlor 1260	**1**	**63.71**	**0.0011**	**ND**	**0.005**	**24.000**	**10.64**
Total PCB	**1**	**63.71**	**0.0224**	**ND**	**0.070**	**530.000**	**10.64**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.02
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 1 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	56.76	0.0040	ND	0.007	53.000	9.97
Arochlor 1221	1	56.76	0.0073	ND	NA	NA	9.97
Arochlor 1232	1	56.76	0.0049	ND	NA	NA	9.97
Arochlor 1242	1	56.76	0.0057	ND	NA	NA	9.97
Arochlor 1248	1	56.76	0.0023	ND	0.030	150.000	9.97
Arochlor 1254	1	56.76	0.0014	ND	0.060	34.000	9.97
Arochlor 1260	1	56.76	0.0013	ND	0.005	24.000	9.97
Total PCB	1	56.76	0.0268	ND	0.070	530.000	9.97

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.03
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 1 18-24"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**76.97**	**0.0029**	**ND**	**0.007**	**53.000**	**10.07**
Arochlor 1221	**1**	**76.97**	**0.0053**	**ND**	**NA**	**NA**	**10.07**
Arochlor 1232	**1**	**76.97**	**0.0036**	**ND**	**NA**	**NA**	**10.07**
Arochlor 1242	**1**	**76.97**	**0.0041**	**ND**	**NA**	**NA**	**10.07**
Arochlor 1248	**1**	**76.97**	**0.0017**	**ND**	**0.030**	**150.000**	**10.07**
Arochlor 1254	**1**	**76.97**	**0.0010**	**ND**	**0.060**	**34.000**	**10.07**
Arochlor 1260	**1**	**76.97**	**0.0009**	**ND**	**0.005**	**24.000**	**10.07**
Total PCB	**1**	**76.97**	**0.0196**	**ND**	**0.070**	**530.000**	**10.07**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.04
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 2 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**61.96**	**0.0035**	**ND**	**0.007**	**53.000**	**10.35**
Arochlor 1221	**1**	**61.96**	**0.0064**	**ND**	**NA**	**NA**	**10.35**
Arochlor 1232	**1**	**61.96**	**0.0044**	**ND**	**NA**	**NA**	**10.35**
Arochlor 1242	**1**	**61.96**	**0.0050**	**ND**	**NA**	**NA**	**10.35**
Arochlor 1248	**1**	**61.96**	**0.0020**	**ND**	**0.030**	**150.000**	**10.35**
Arochlor 1254	**1**	**61.96**	**0.0012**	**ND**	**0.060**	**34.000**	**10.35**
Arochlor 1260	**1**	**61.96**	**0.0011**	**ND**	**0.005**	**24.000**	**10.35**
Total PCB	**1**	**61.96**	**0.0236**	**ND**	**0.070**	**530.000**	**10.35**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.05
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 2 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**72.58**	**0.0030**	**ND**	**0.007**	**53.000**	**10.34**
Arochlor 1221	**1**	**72.58**	**0.0055**	**ND**	**NA**	**NA**	**10.34**
Arochlor 1232	**1**	**72.58**	**0.0037**	**ND**	**NA**	**NA**	**10.34**
Arochlor 1242	**1**	**72.58**	**0.0043**	**ND**	**NA**	**NA**	**10.34**
Arochlor 1248	**1**	**72.58**	**0.0017**	**ND**	**0.030**	**150.000**	**10.34**
Arochlor 1254	**1**	**72.58**	**0.0011**	**ND**	**0.060**	**34.000**	**10.34**
Arochlor 1260	**1**	**72.58**	**0.0010**	**ND**	**0.005**	**24.000**	**10.34**
Total PCB	**1**	**72.58**	**0.0202**	**ND**	**0.070**	**530.000**	**10.34**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.06
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 3 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	69.98	0.0029	ND	0.007	53.000	10.89
Arochlor 1221	1	69.98	0.0054	ND	NA	NA	10.89
Arochlor 1232	1	69.98	0.0037	ND	NA	NA	10.89
Arochlor 1242	1	69.98	0.0042	ND	NA	NA	10.89
Arochlor 1248	1	69.98	0.0017	ND	0.030	150.000	10.89
Arochlor 1254	1	69.98	0.0010	ND	0.060	34.000	10.89
Arochlor 1260	1	69.98	0.0009	ND	0.005	24.000	10.89
Total PCB	1	69.98	0.0199	ND	0.070	530.000	10.89

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.07
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 3 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	70.75	0.0031	ND	0.007	53.000	10.16
Arochlor 1221	1	70.75	0.0057	ND	NA	NA	10.16
Arochlor 1232	1	70.75	0.0039	ND	NA	NA	10.16
Arochlor 1242	1	70.75	0.0045	ND	NA	NA	10.16
Arochlor 1248	1	70.75	0.0018	ND	0.030	150.000	10.16
Arochlor 1254	1	70.75	0.0011	ND	0.060	34.000	10.16
Arochlor 1260	1	70.75	0.0010	ND	0.005	24.000	10.16
Total PCB	1	70.75	0.0211	ND	0.070	530.000	10.16

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.08
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 4 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	79.65	0.0026	ND	0.007	53.000	10.99
Arochlor 1221	1	79.65	0.0047	ND	NA	NA	10.99
Arochlor 1232	1	79.65	0.0032	ND	NA	NA	10.99
Arochlor 1242	1	79.65	0.0037	ND	NA	NA	10.99
Arochlor 1248	1	79.65	0.0015	ND	0.030	150.000	10.99
Arochlor 1254	1	79.65	0.0009	ND	0.060	34.000	10.99
Arochlor 1260	1	79.65	0.0008	ND	0.005	24.000	10.99
Total PCB	1	79.65	0.0173	ND	0.070	530.000	10.99

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.09
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 4 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	80.07	0.0028	ND	0.007	53.000	10.12
Arochlor 1221	1	80.07	0.0051	ND	NA	NA	10.12
Arochlor 1232	1	80.07	0.0035	ND	NA	NA	10.12
Arochlor 1242	1	80.07	0.0039	ND	NA	NA	10.12
Arochlor 1248	1	80.07	0.0016	ND	0.030	150.000	10.12
Arochlor 1254	1	80.07	0.0010	ND	0.060	34.000	10.12
Arochlor 1260	1	80.07	0.0009	ND	0.005	24.000	10.12
Total PCB	1	80.07	0.0187	ND	0.070	530.000	10.12

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.10
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 4 18-24"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**72.72**	**0.0029**	**ND**	**0.007**	**53.000**	**10.63**
Arochlor 1221	**1**	**72.72**	**0.0053**	**ND**	**NA**	**NA**	**10.63**
Arochlor 1232	**1**	**72.72**	**0.0036**	**ND**	**NA**	**NA**	**10.63**
Arochlor 1242	**1**	**72.72**	**0.0041**	**ND**	**NA**	**NA**	**10.63**
Arochlor 1248	**1**	**72.72**	**0.0017**	**ND**	**0.030**	**150.000**	**10.63**
Arochlor 1254	**1**	**72.72**	**0.0010**	**ND**	**0.060**	**34.000**	**10.63**
Arochlor 1260	**1**	**72.72**	**0.0009**	**ND**	**0.005**	**24.000**	**10.63**
Total PCB	**1**	**72.72**	**0.0196**	**ND**	**0.070**	**530.000**	**10.63**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.11
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 5 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	75.80	0.0030	ND	0.007	53.000	10.00
Arochlor 1221	1	75.80	0.0054	ND	NA	NA	10.00
Arochlor 1232	1	75.80	0.0037	ND	NA	NA	10.00
Arochlor 1242	1	75.80	0.0042	ND	NA	NA	10.00
Arochlor 1248	1	75.80	0.0017	ND	0.030	150.000	10.00
Arochlor 1254	1	75.80	0.0011	ND	0.060	34.000	10.00
Arochlor 1260	1	75.80	0.0009	ND	0.005	24.000	10.00
Total PCB	1	75.80	0.0200	ND	0.070	530.000	10.00

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.12
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/14/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 5 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	80.33	0.0026	ND	0.007	53.000	10.69
Arochlor 1221	1	80.33	0.0048	ND	NA	NA	10.69
Arochlor 1232	1	80.33	0.0033	ND	NA	NA	10.69
Arochlor 1242	1	80.33	0.0037	ND	NA	NA	10.69
Arochlor 1248	1	80.33	0.0015	ND	0.030	150.000	10.69
Arochlor 1254	1	80.33	0.0009	ND	0.060	34.000	10.69
Arochlor 1260	1	80.33	0.0008	ND	0.005	24.000	10.69
Total PCB	1	80.33	0.0177	ND	0.070	530.000	10.69

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.13
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/15/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 6 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**79.58**	**0.0026**	**ND**	**0.007**	**53.000**	**10.77**
Arochlor 1221	**1**	**79.58**	**0.0048**	**ND**	**NA**	**NA**	**10.77**
Arochlor 1232	**1**	**79.58**	**0.0033**	**ND**	**NA**	**NA**	**10.77**
Arochlor 1242	**1**	**79.58**	**0.0037**	**ND**	**NA**	**NA**	**10.77**
Arochlor 1248	**1**	**79.58**	**0.0015**	**ND**	**0.030**	**150.000**	**10.77**
Arochlor 1254	**1**	**79.58**	**0.0009**	**ND**	**0.060**	**34.000**	**10.77**
Arochlor 1260	**1**	**79.58**	**0.0008**	**ND**	**0.005**	**24.000**	**10.77**
Total PCB	**1**	**79.58**	**0.0177**	**ND**	**0.070**	**530.000**	**10.77**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.14
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/15/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 6 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	78.17	0.0029	ND	0.007	53.000	10.00
Arochlor 1221	1	78.17	0.0053	ND	NA	NA	10.00
Arochlor 1232	1	78.17	0.0036	ND	NA	NA	10.00
Arochlor 1242	1	78.17	0.0041	ND	NA	NA	10.00
Arochlor 1248	1	78.17	0.0016	ND	0.030	150.000	10.00
Arochlor 1254	1	78.17	0.0010	ND	0.060	34.000	10.00
Arochlor 1260	1	78.17	0.0009	ND	0.005	24.000	10.00
Total PCB	1	78.17	0.0194	ND	0.070	530.000	10.00

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA – Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.15
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 6 18-24"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**80.39**	**0.0026**	**ND**	**0.007**	**53.000**	**10.67**
Arochlor 1221	**1**	**80.39**	**0.0048**	**ND**	**NA**	**NA**	**10.67**
Arochlor 1232	**1**	**80.39**	**0.0033**	**ND**	**NA**	**NA**	**10.67**
Arochlor 1242	**1**	**80.39**	**0.0037**	**ND**	**NA**	**NA**	**10.67**
Arochlor 1248	**1**	**80.39**	**0.0015**	**ND**	**0.030**	**150.000**	**10.67**
Arochlor 1254	**1**	**80.39**	**0.0009**	**ND**	**0.060**	**34.000**	**10.67**
Arochlor 1260	**1**	**80.39**	**0.0008**	**ND**	**0.005**	**24.000**	**10.67**
Total PCB	**1**	**80.39**	**0.0177**	**ND**	**0.070**	**530.000**	**10.67**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.16
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 7 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	77.96	0.0028	ND	0.007	53.000	10.37
Arochlor 1221	1	77.96	0.0051	ND	NA	NA	10.37
Arochlor 1232	1	77.96	0.0035	ND	NA	NA	10.37
Arochlor 1242	1	77.96	0.0040	ND	NA	NA	10.37
Arochlor 1248	1	77.96	0.0016	ND	0.030	150.000	10.37
Arochlor 1254	1	77.96	0.0010	ND	0.060	34.000	10.37
Arochlor 1260	1	77.96	0.0009	ND	0.005	24.000	10.37
Total PCB	1	77.96	0.0188	ND	0.070	530.000	10.37

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.17
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 7 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	55.35	0.0019	ND	0.007	53.000	10.63
Arochlor 1221	1	55.35	0.0035	ND	NA	NA	10.63
Arochlor 1232	1	55.35	0.0024	ND	NA	NA	10.63
Arochlor 1242	1	55.35	0.0027	ND	NA	NA	10.63
Arochlor 1248	1	55.35	0.0011	ND	0.030	150.000	10.63
Arochlor 1254	1	55.35	0.0007	ND	0.060	34.000	10.63
Arochlor 1260	1	55.35	0.0006	ND	0.005	24.000	10.63
Total PCB	1	55.35	0.0129	ND	0.070	530.000	10.63

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.18
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 8 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	69.72	0.0029	ND	0.007	53.000	11.22
Arochlor 1221	1	69.72	0.0053	ND	NA	NA	11.22
Arochlor 1232	1	69.72	0.0036	ND	NA	NA	11.22
Arochlor 1242	1	69.72	0.0041	ND	NA	NA	11.22
Arochlor 1248	1	69.72	0.0016	ND	0.030	150.000	11.22
Arochlor 1254	1	69.72	0.0010	ND	0.060	34.000	11.22
Arochlor 1260	1	69.72	0.0009	ND	0.005	24.000	11.22
Total PCB	1	69.72	0.0194	ND	0.070	530.000	11.22

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA – Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.19
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 8 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**72.98**	**0.0031**	**ND**	**0.007**	**53.000**	**9.93**
Arochlor 1221	**1**	**72.98**	**0.0057**	**ND**	**NA**	**NA**	**9.93**
Arochlor 1232	**1**	**72.98**	**0.0039**	**ND**	**NA**	**NA**	**9.93**
Arochlor 1242	**1**	**72.98**	**0.0044**	**ND**	**NA**	**NA**	**9.93**
Arochlor 1248	**1**	**72.98**	**0.0018**	**ND**	**0.030**	**150.000**	**9.93**
Arochlor 1254	**1**	**72.98**	**0.0011**	**ND**	**0.060**	**34.000**	**9.93**
Arochlor 1260	**1**	**72.98**	**0.0010**	**ND**	**0.005**	**24.000**	**9.93**
Total PCB	**1**	**72.98**	**0.0209**	**ND**	**0.070**	**530.000**	**9.93**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP. Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.20
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/11/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 9 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	78.11	0.0027	ND	0.007	53.000	10.75
Arochlor 1221	1	78.11	0.0049	ND	NA	NA	10.75
Arochlor 1232	1	78.11	0.0033	ND	NA	NA	10.75
Arochlor 1242	1	78.11	0.0038	ND	NA	NA	10.75
Arochlor 1248	1	78.11	0.0015	ND	0.030	150.000	10.75
Arochlor 1254	1	78.11	0.0010	ND	0.060	34.000	10.75
Arochlor 1260	1	78.11	0.0009	ND	0.005	24.000	10.75
Total PCB	1	78.11	0.0181	ND	0.070	530.000	10.75

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.21
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/12/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 9 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**76.29**	**0.0029**	**ND**	**0.007**	**53.000**	**10.02**
Arochlor 1221	**1**	**76.29**	**0.0054**	**ND**	**NA**	**NA**	**10.02**
Arochlor 1232	**1**	**76.29**	**0.0037**	**ND**	**NA**	**NA**	**10.02**
Arochlor 1242	**1**	**76.29**	**0.0042**	**ND**	**NA**	**NA**	**10.02**
Arochlor 1248	**1**	**76.29**	**0.0017**	**ND**	**0.030**	**150.000**	**10.02**
Arochlor 1254	**1**	**76.29**	**0.0010**	**ND**	**0.060**	**34.000**	**10.02**
Arochlor 1260	**1**	**76.29**	**0.0009**	**ND**	**0.005**	**24.000**	**10.02**
Total PCB	**1**	**76.29**	**0.0198**	**ND**	**0.070**	**530.000**	**10.02**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA – Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.22
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/12/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 10 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	79.56	0.0028	ND	0.007	53.000	10.08
Arochlor 1221	1	79.56	0.0051	ND	NA	NA	10.08
Arochlor 1232	1	79.56	0.0035	ND	NA	NA	10.08
Arochlor 1242	1	79.56	0.0040	ND	NA	NA	10.08
Arochlor 1248	1	79.56	0.0016	ND	0.030	150.000	10.08
Arochlor 1254	1	79.56	0.0010	ND	0.060	34.000	10.08
Arochlor 1260	1	79.56	0.0009	ND	0.005	24.000	10.08
Total PCB	1	79.56	0.0189	ND	0.070	530.000	10.08

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.23
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/12/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 10 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**69.70**	**0.0031**	**ND**	**0.007**	**53.000**	**10.43**
Arochlor 1221	**1**	**69.70**	**0.0057**	**ND**	**NA**	**NA**	**10.43**
Arochlor 1232	**1**	**69.70**	**0.0039**	**ND**	**NA**	**NA**	**10.43**
Arochlor 1242	**1**	**69.70**	**0.0044**	**ND**	**NA**	**NA**	**10.43**
Arochlor 1248	**1**	**69.70**	**0.0018**	**ND**	**0.030**	**150.000**	**10.43**
Arochlor 1254	**1**	**69.70**	**0.0011**	**ND**	**0.060**	**34.000**	**10.43**
Arochlor 1260	**1**	**69.70**	**0.0010**	**ND**	**0.005**	**24.000**	**10.43**
Total PCB	**1**	**69.70**	**0.0209**	**ND**	**0.070**	**530.000**	**10.43**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.24
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/12/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 11 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	31.33	0.0018	ND	0.007	53.000	10.02
Arochlor 1221	1	31.33	0.0033	ND	NA	NA	10.02
Arochlor 1232	1	31.33	0.0022	ND	NA	NA	10.02
Arochlor 1242	1	31.33	0.0025	ND	NA	NA	10.02
Arochlor 1248	1	31.33	0.0010	ND	0.030	150.000	10.02
Arochlor 1254	1	31.33	0.0006	ND	0.060	34.000	10.02
Arochlor 1260	1	31.33	0.0006	ND	0.005	24.000	10.02
Total PCB	1	31.33	0.0121	ND	0.070	530.000	10.02

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.25
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/12/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	M12M14 11 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	21.65	0.0103	ND	0.007	53.000	10.06
Arochlor 1221	1	21.65	0.0189	ND	NA	NA	10.06
Arochlor 1232	1	21.65	0.0129	ND	NA	NA	10.06
Arochlor 1242	1	21.65	0.0147	ND	NA	NA	10.06
Arochlor 1248	1	21.65	0.0059	ND	0.030	150.000	10.06
Arochlor 1254	1	21.65	0.0037	ND	0.060	34.000	10.06
Arochlor 1260	1	21.65	0.0033	ND	0.005	24.000	10.06
Total PCB	1	21.65	0.0696	ND	0.070	530.000	10.06

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.26
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/12/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	Dupe 0-6"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	1	78.54	0.0028	ND	0.007	53.000	10.13
Arochlor 1221	1	78.54	0.0052	ND	NA	NA	10.13
Arochlor 1232	1	78.54	0.0035	ND	NA	NA	10.13
Arochlor 1242	1	78.54	0.0040	ND	NA	NA	10.13
Arochlor 1248	1	78.54	0.0016	ND	0.030	150.000	10.13
Arochlor 1254	1	78.54	0.0010	0.279	0.060	34.000	10.13
Arochlor 1260	1	78.54	0.0009	ND	0.005	24.000	10.13
Total PCB	1	78.54	0.0191	0.279	0.070	530.000	10.13

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	5324.27
	DPW. SELFM-PW-EV	**Date Rec'd:**	4/10/00
	Bldg. 173	**Extraction Date:**	4/12/00
	Ft. Monmouth, NJ 07703	**Analysis Date:**	4/17/00
Analysis:	SW-846 Method 8082	**Location :**	M12/M14 Landfill
Matrix:	Sediment		Stream Sediments
Analyst:	T. Frankovich	**Field ID:**	Dupe 6-12"

Pesticide/PCB	Dilution Factor	% Solid	MDL (mg/kg)	Result (mg/kg)	Lowest Effects Level (LEL)*	Severe Effects Level (SEL)*	Weight (g)
Arochlor 1016	**1**	**78.45**	**0.0028**	**ND**	**0.007**	**53.000**	**10.20**
Arochlor 1221	**1**	**78.45**	**0.0051**	**ND**	**NA**	**NA**	**10.20**
Arochlor 1232	**1**	**78.45**	**0.0035**	**ND**	**NA**	**NA**	**10.20**
Arochlor 1242	**1**	**78.45**	**0.0040**	**ND**	**NA**	**NA**	**10.20**
Arochlor 1248	**1**	**78.45**	**0.0016**	**ND**	**0.030**	**150.000**	**10.20**
Arochlor 1254	**1**	**78.45**	**0.0010**	**ND**	**0.060**	**34.000**	**10.20**
Arochlor 1260	**1**	**78.45**	**0.0009**	**ND**	**0.005**	**24.000**	**10.20**
Total PCB	**1**	**78.45**	**0.0189**	**ND**	**0.070**	**530.000**	**10.20**

* NJDEP Guidance For Sediment Quality Evaluations, November 1998

ND = Not Detected
MDL = Method Detection Limit
NA = Not Applicable

Column-Primary: Rtx-5 30m/.32mmID/.25um
Column-Confirmation: Rtx-1701 30m/.32mmID/.25um

United States Army
Fort Monmouth, New Jersey

M-14 Landfill (FTMM-12)

Classification Exception Area

U.S. Army Garrison Fort Monmouth, Main Post
Fort Monmouth, New Jersey

Prepared by

BRINKERHOFF
ENVIRONMENTAL SERVICES, INC.
1913 Atlantic Avenue, Suite R5
Manasquan, New Jersey 08736
732-223-2225

Brinkerhoff Project No. 09BR116

June 2011

New Jersey Department of Environmental Protection
Site Remediation Program

CLASSIFICATION EXCEPTION AREA / WELL RESTRICTION AREA (CEA/WRA) PERMIT FACT SHEET

☒ Non-LSRP (Existing Cases) ☐ LSRP ☐ Subsurface Evaluator

Date Stamp (For Department use only)

SECTION A. CASE INFORMATION

Case Name: Landfill M-14 (FTMM-14) Fort Monmouth, New Jersey

Case ID/Case Number: _____ Preferred ID (PI Number): _____

CEA Component Information

1. **Contaminant(s):** This CEA/WRA applies only to the contaminants above the applicable numeric values established by Ground Water Quality Standards (GWQS), N.J.A.C. 7:9C, listed in the table below. List below the maximum value for all contaminants included in Exhibit A using any well or sampling point used to establish the CEA.

Contaminant	Concentration [1]	GWQS [2]	SWQS [3]	GWSL [4]
Lead	9.32	5	N/A	N/A

Notes: [1] Maximum concentration in Micrograms Per Liter
[2] New Jersey Ground Water Quality Standards, N.J.A.C. 7:9C
[3] Surface Water Quality Standards, N.J.A.C. 7:9B - Applicable only where contaminants in the CEA may discharge to a surface water body.
[4] Ground Water Screening Levels from most current NJDEP Vapor Intrusion Guidance

☐ If attaching an Addendum to list additional contaminants and associated information.

☒ **Exhibit A: Monitor Well/Sampling Point Data** – Per N.J.A.C 7:26E-8.3(b) submit a copy of a table that includes the most recent 24 months of ground water sampling.

2. **CEA Boundaries:**
Lot(s) and Block(s) included in the areal extent of the Classification Exception Area:

Year of tax map used: 2005

Block(s)	Lot(s)	Check if off-site
Oceanport 110	1	☐
		☐
		☐
		☐
		☐

Block(s)	Lot(s)	Check if off-site
		☐
		☐
		☐
		☐
		☐

☐ If attaching an Addendum to list additional Blocks/Lots and associated information.

☒ **Exhibit B: Site Location Maps** – USGS Quadrangle Map and Tax Lot and Block Map (N.J.A.C. 7:26E-8.3(b)3i and ii)

☒ **Exhibit C: Site Map(s) and Cross Section** – Including actual/predicted contaminant isopleths, ground water flow direction, CEA boundary, monitor well/sampling point/boring locations/IDs, area(s) of concern. N.J.A.C 7:26E-8.3(b)3iii through v.

Insert NAICS responsible for area(s) of concern, if known: _____

Narrative description of proposed CEA:

Due to lead exceedances, the horizontal extent of the CEA is defined by the Site monitoring well network. The vertical extent of the CEA includes the shallow part of the aquifer beneath the Site and it extends from the water table to approximately 18 feet bgs, which represents the total depth of the contaminated wells at the Site.

Name of the affected Geologic Formation/Unit: Navesink Hornerstown

Direction of ground water flow: S-SE

Ground Water Classification: II-A

Vertical Depth of CEA (ft bgs and msl)	Horizontal Extent of CEA (acres or square ft)
~18 ft bgs (~2 ft msl)	59,580 square feet (2.10 acres)

☒ **Exhibit D: Vertical Contaminant Data** – A table, for the most recent 24 months of data, for each sampling point used to establish the CEA, or the subset of wells indicated in N.J.A.C 7:26E-8.3(b)3iii, iv and v, that includes the following:

Depth (in feet bgs and msl elevation) to:

Water Table	Approximate Bottom of Plume[5]	Top of Plume[6]	Thickness of Clean Water Lens[6]

Notes: [5] Approximate maximum depth of contamination based on data included in Remedial Investigation Report (RIR);
[6] Required only if plume is known to be below the water table based on vertical profiling or monitor well data in RIR.

Exhibit E: Fate and Transport Description and Model Documentation

☐ Historic Fill exemption

☒ All information required pursuant to N.J.A.C. 7:26E-8.3(b)2 and applicable guidance is included.

3. Projected Term of CEA: Based on modeling/calculations in Exhibit E

Proposed Duration in Years: Indeterminate

SECTION B. CURRENT AND PROJECTED GROUND WATER USE DOCUMENTATION

☒ **Exhibit F: Well Search Results** – Include most recent well search per N.J.A.C. 7:26E-1.17.

Check each item where, pursuant to N.J.A.C. 7:26E-8.3(b)4, written documentation was obtained regarding future ground water use for a 25-year planning horizon based on:

☒ Municipal master plans

☒ Zoning plans

☒ Local water purveyor plans and planning data pertaining to the existence of water lines and proposed future installation of water lines

☒ Local planning officials

☒ County and local boards of health

☒ Local and/or county ordinances restricting installation of potable wells

SECTION C. WELL RESTRICTION INFORMATION

For Class II-A ground water and pursuant to the GWQS at N.J.A.C. 7:9C-1.6(d), where ground water quality data indicate contaminants exceed the values listed in the Primary Drinking Water Regulations, the Department shall restrict, or require the restriction of, potable ground water uses within any CEA. Therefore, the CEA established for this site is also a Well Restriction Area, the extent of which coincides with the boundaries of the CEA.
Well Restrictions set within the boundaries of the CEA:

☒ Double Case Wells

☒ Sample Potable Wells

☒ Evaluate Production Wells

☐ Other

SECTION D. PUBLIC NOTIFICATION REQUIREMENTS

Notify Department that letters were sent per N.J.A.C. 7:26E-8.3(b)5 (check all applicable categories):

- ☒ Municipal and county clerk(s)
- ☒ Local, county or regional health department(s)
- ☒ Designated County Environmental Health Act agency (if applicable)
- ☒ County Planning Board
- ☐ Pinelands Commission (if applicable)
- ☐ Owners of real property overlying CEA foot print

☐ **Exhibit G: List of Names and Addresses** – Include all persons notified pursuant to N.J.A.C. 7:26E-8.3(b) based on the proposed CEA extent.

Property Owner Name	Property Owner Address	Date Property Owner was notified	Property was evaluated for vapor impacts ☒ if "Yes"
			☐
			☐
			☐
			☐
			☐
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			☐
			☐

SECTION E. NON-LSRP SITE REMEDIATION PROFESSIONAL STATEMENT

First Name: _____ Last Name: _____

Phone Number: _____ Ext: _____ Fax: _____

Mailing Address: _____

City/Town: _____ State: _____ Zip Code: _____

Email Address: _____

I believe that the information contained herein, and including all attached documents, is true, accurate and complete.

Signature: _____ Date: _____

Name/Title: _____ **No Changes Since Last Submittal** ☐

Company Name: _____

Completed forms should be sent to:

Bureau of Case Assignment & Initial Notice
New Jersey Department of Environmental Protection
Site Remediation Program
401 East State Street
PO Box 420
Mail Code 401-05
Trenton, NJ 08625

Exhibit A

Monitoring Well/Sampling Point Data

EXHIBIT A

1.0 INTRODUCTION

This report discusses current ground water conditions and presents a ground water Classification Exception Area (CEA) for the Fort Monmouth M-14 Landfill, known as the FTMM-14 area (hereinafter referred to as the Site).

The work recently completed consisted of reviewing the most recent ground water sample collection (4th Quarter 2009 through 3rd Quarter 2010) to select the constituents of potential concern (COPCs) at the Site [the constituents with concentrations greater than the New Jersey Department of Environmental Protection (NJDEP) Ground Water Quality Standards (GWQS)].

Brinkerhoff Environmental Services, Inc. (Brinkerhoff) completed this work in accordance with current NJDEP guidelines, specifically the procedures described in the *Final Guidance on Designation of CEAs* and the *Technical Requirements for Site Remediation* (*Technical Requirements*), New Jersey Administrative Code. (N.J.A.C) 7:26E-8.4, last amended on November 4, 2009.

The following sections of this report provide the information required to define the CEA for the Site. Included are the following:

- A description of subsurface stratigraphic and hydrogeologic conditions on-site;
- A description of the ground water quality at the Site;
- A list of COPCs at the Site known to be present at concentrations greater than the NJDEP GWQS;
- A determination of the horizontal and vertical extent of the CEA;
- A determination of the duration of the CEA;
- A written and mapped description of the CEA, including electronic and paper copies of the map of the CEA compatible with the NJDEP Geographic Information Systems (GIS North American Datum [NAD] 83);
- An evaluation of the area encompassed by the CEA to determine if the area is a ground water use area as defined by NJDEP; and
- Notification to the appropriate agencies of the intent to establish the CEA.

2.0 BACKGROUND

2.1 Site Setting and History

The M-14 Landfill is one of the Main Post areas of concern (AOCs) at the Fort Monmouth United States (U.S.) Army installation located in the Borough of Oceanport, Monmouth County, New Jersey. Landfill operations at the site began circa 1960. The types of materials reportedly disposed at the landfill have been reported to include construction debris, scrap metal, asbestos-containing materials, vegetative waste, unwashed containers which previously held hazardous materials/wastes, outdated photographic chemicals, small quantities of outdated drugs, sludge from the sewage treatment plant, soot and boiler scale, incinerator ash, oil spill debris, oil filters, batteries, fluorescent tubes, and electronic components.

2.2 Monitoring Well/Sampling Point Data

The Fort Monmouth DPW sampled ground water monitoring wells at the M-14 Landfill from the 4th Quarter of 2008 through the 3rd Quarter of 2010. All ground water samples were analyzed for TAL Metals.

Six metals (antimony, arsenic, beryllium, cadmium, lead, and thallium) were detected in ground water at the Site during the last eight sampling events at concentrations exceeding NJDEP GWQS. These metals and their concentrations are presented on Table A-1 located within this exhibit.

Metals are known to migrate slowly and not degrade. Metals in ground water throughout Fort Monmouth were evaluated using statistical analyses and published literature information (Brinkerhoff, 2011 *Background Metals Evaluation*). It was concluded that the metals in ground water are likely a combination of a natural dissolved component along with input from sample turbidity. Due to the interference from sample turbidity, exceedances of the GWQS by actual dissolved-phase metals are not certain.

The presence of arsenic, antimony, beryllium, cadmium, and thallium at the Site is attributed to naturally occurring background conditions. Therefore, they are not considered COPCs, and are not included in the CEA application.

Due to its common industrial use, the source of lead is less certain, and therefore remains a COPC and is included in this CEA. Based on the findings of Brinkerhoff's *Background Metals Evaluation*, modeling of the metals is not practical, and the CEA time-frame is therefore indeterminate. (Refer to the Background Metals Evaluation prepared by Brinkerhoff in 2011 for more information.)

2.3 Regional Geology and Hydrogeology

Fort Monmouth is located in the central-eastern portion of New Jersey in Monmouth County, approximately 45 miles south of New York City, 70 miles northeast of Philadelphia, and 40 miles north of Trenton. The Atlantic Ocean is approximately 3 miles to the east. Fort Monmouth falls within the boroughs of Eatontown, Oceanport, and Tinton Falls. The areas surrounding Fort Monmouth are characterized by a mixture of residential, commercial, and light industrial uses. Fort Monmouth occupies approximately 1,126 acres and is currently comprised of two operational areas: the Main Post and the Charles Wood Area. The two areas are located about 2 miles from one another.

Previous geologic investigations prepared for the Site have described the underlying shallow unconsolidated deposits below ground surface (bgs) as "predominantly derived from deltaic, shallow marine, and continental shelf environments", consisting of "clay, silt, sand, and gravel" (DPW Environmental Office 1997). The Soil Survey of Monmouth County classified most of the soil on the Main Post as urban land (developed land with disturbed soils) and labeled the soil as Udorthent soils, which are soils altered by excavating or filling. The small portion of the Main Post, which is otherwise classified, includes a mixture of soil types (loam, clay, sandy loam, etc.) and has low to moderate permeability and is poorly-to-well-drained. The Site is underlain by the Navesink formation and the Hornerstown sand, a class II-A aquifer.

Table A - 1
Contaminant Isoconcentration Summary Table
M-14 Landfill, Fort Monmouth, NJ
4th Quarter 2008

Notes:	Well ID	Date Collected	Antimony	Arsenic	Beryllium	Cadmium	Lead	Thallium
			NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
			6	*3*	*1*	*4*	*5*	*2*
	M14MW19	10/30/2008	ND	ND	0.112 ER	ND	2.73 ER	ND
D	M14MW19	10/30/2008	ND	ND	ND	ND	2.01 ER	ND
	M14MW20	10/30/2008	ND	3.27 ER	ND	ND	ND	ND
	M14MW21	10/30/2008	ND	ND	ND	ND	ND	ND
	M14MW22	10/30/2008	2.93 ER	ND	ND	ND	ND	ND
	M14MW23	10/30/2008	ND	4.85 ER	1.09	15.3	ND	ND
	M14MW24	10/30/2008	ND	ND	ND	1.63 ER	ND	4.02 ER

Notes:
Concentrations reported in µg/L
ND - Non-Detect
NA - Not Analyzed for parameter
D - Duplicate Sample
ER - Estimated Result between Reporting Limit and Method Detection Limit for metals

Table A - 1
Contaminant Isoconcentration Summary Table
M-14 Landfill, Fort Monmouth, NJ
1st Quarter 2009

Notes:	Well ID	Date Collected	Antimony	Arsenic	Beryllium	Cadmium	Lead	Thallium
			NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
			6	*3*	*1*	*4*	*5*	*2*
	M14MW19	3/31/2009	12	32.4	ND	ND	6.67	ND
	M14MW20	3/31/2009	9.38 ER	54.2	ND	ND	5.46	ND
D	M14MW20	3/31/2009	8.68 ER	47.5	ND	ND	ND	ND
	M14MW21	3/31/2009	9.71 ER	47.3	ND	ND	ND	ND
	M14MW22	3/31/2009	21.8	52.1	ND	ND	9.96	ND
	M14MW23	3/31/2009	17.7	74	0.332 ER	1.90 ER	ND	ND
	M14MW24	3/31/2009	23.1	95.6	ND	1.05 ER	ND	ND

Notes:
Concentrations reported in µg/L
ND - Non-Detect
NA - Not Analyzed for parameter
D - Duplicate Sample
ER - Estimated Result between Reporting Limit and Method Detection Limit for metals

Table A - 1
Contaminant Isoconcentration Summary Table
M-14 Landfill, Fort Monmouth, NJ
2nd Quarter 2009

Notes:	Well ID	Date Collected	Antimony	Arsenic	Beryllium	Cadmium	Lead	Thallium
			NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
			6	*3*	*1*	*4*	*5*	*2*
D	M14MW19	6/17/2009	1.67 ER	16.3	ND	0.227 ER	6.79	ND
	M14MW19	6/17/2009	3.05 ER	14.6	ND	ND	3.97 ER	ND
	M14MW20	6/17/2009	1.88 ER	24.6	ND	0.621 ER	1.79 ER	ND
	M14MW21	6/17/2009	ND	21.7	ND	0.332 ER	ND	ND
	M14MW22	6/17/2009	4.92 ER	28.1	ND	0.743 ER	ND	ND
	M14MW23	6/17/2009	ND	29.5	0.182 ER	0.502 ER	1.30 ER	ND
	M14MW24	6/17/2009	4.81 ER	21.3	0.103 ER	0.891 ER	5.41	ND

Notes:
Concentrations reported in µg/L
ND - Non-Detect
NA - Not Analyzed for parameter
D - Duplicate Sample
ER - Estimated Result between Reporting Limit and Method Detection Limit for metals

Table A - 1
Contaminant Isoconcentration Summary Table
M-14 Landfill, Fort Monmouth, NJ
3rd Quarter 2009

Notes	Well ID	Date Collected	Antimony	Arsenic	Beryllium	Cadmium	Lead	Thallium
			NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
			6	*3*	*1*	*4*	*5*	*2*
D	M14MW19	9/10/2009	ND	9.69	ND	1.08 ER	4.72 ER	ND
	M14MW19	9/10/2009	ND	11.2	ND	0.573 ER	ND	ND
	M14MW20	9/10/2009	ND	22.7	ND	ND	ND	ND
	M14MW21	9/10/2009	ND	17.8	ND	ND	ND	ND
	M14MW22	9/10/2009	ND	22.7	ND	1.21 ER	ND	ND
	M14MW23	9/10/2009	ND	23	ND	ND	ND	ND
	M14MW24	9/10/2009	6.59 ER	30.9	ND	ND	ND	ND

Notes:
Concentrations reported in µg/L
ND - Non-Detect
NA - Not Analyzed for parameter
D - Duplicate Sample
ER - Estimated Result between Reporting Limit and Method Detection Limit for metals

Table A - 1
Contaminant Isoconcentration Summary Table
M-14 Landfill, Fort Monmouth, NJ
4th Quarter 2009

Notes:	Well ID	Date Collected	Antimony	Arsenic	Beryllium	Cadmium	Lead	Thallium
			NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
			6	*3*	*1*	*4*	*5*	*2*
D	M14MW19	11/20/2009	ND	0.68 ER	ND	ND	3.11 ER	ND
	M14MW19	11/20/2009	ND	1.03 ER	ND	ND	ND	ND
	M14MW20	11/20/2009	ND	1.92 ER	ND	ND	2.93 ER	ND
	M14MW21	11/20/2009	ND	0.75 ER	ND	ND	ND	ND
	M14MW22	11/20/2009	ND	0.97 ER	ND	0.521 ER	2.41 ER	ND
	M14MW23	11/20/2009	ND	2.60 ER	ND	5.82	ND	ND
	M14MW24	9/10/2009	4.90 ER	3.41 ER	ND	ND	ND	ND

Notes:
Concentrations reported in µg/L
ND - Non-Detect
NA - Not Analyzed for parameter
D - Duplicate Sample
ER - Estimated Result between Reporting Limit and Method Detection Limit for metals

Table A - 1
Contaminant Isoconcentration Summary Table
M-14 Landfill, Fort Monmouth, NJ
1st Quarter 2010

Notes:	Well ID	Date Collected	Antimony	Arsenic	Beryllium	Cadmium	Lead	Thallium
			NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
			6	*3*	*1*	*4*	*5*	*2*
LF	M14MW19	3/31/2010	4.94 ER	0.890 ER	0.047 ER	ND	3.65 ER	ND
LF	M14MW20	3/31/2010	6.67 ER	ND	ND	ND	ND	ND
LF	M14MW21	3/31/2010	12.2	1.04 ER	ND	0.622 ER	ND	ND
LF	M14MW22	3/31/2010	14.3	ND	ND	ND	ND	1.74 ER
LF	M14MW23	3/31/2010	9.93 ER	2.85 ER	0.056 ER	ND	4.22 ER	ND
LF	M14MW24	3/31/2010	6.94 ER	ND	ND	ND	ND	ND
LF, D	M14MW24	3/31/2010	13.9	0.900 ER	ND	0.713 ER	ND	ND

Notes:
Concentrations reported in µg/L
LF - Monitor Wells Sampled using Low-Flow Method
ND - Non-Detect
NA - Not Analyzed for parameter
D - Duplicate Sample
ER - Estimated Result between Reporting Limit and Method Detection Limit for metals

Table A - 1
Contaminant Isoconcentration Summary Table
M-14 Landfill, Fort Monmouth, NJ
2nd Quarter 2010

Notes:	Well ID	Date Collected	Antimony	Arsenic	Beryllium	Cadmium	Lead	Thallium
			NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
			6	*3*	*1*	*4*	*5*	*2*
LF, D	M14MW19	6/4/2010	8.64 ER	ND	0.086 ER	0.527 ER	ND	ND
LF, D	M14MW19	6/4/2010	ND	ND	0.108 ER	ND	ND	ND
LF, D	M14MW20	6/7/2010	7.12 ER	ND	0.058 ER	ND	ND	ND
LF	M14MW20	6/7/2010	4.97 ER	ND	0.065 ER	ND	ND	ND
LF	M14MW21	6/7/2010	6.50 ER	ND	0.065 ER	ND	ND	ND
LF	M14MW22	6/7/2010	ND	ND	0.052 ER	ND	ND	ND
LF	M14MW23	6/7/2010	8.43 ER	5.01	0.069 ER	ND	ND	ND
LF	M14MW24	6/7/2010	13.2	4.74 ER	0.135 ER	0.624 ER	ND	ND

Notes:
Concentrations reported in µg/L
LF - Monitor Wells Sampled using Low-Flow Method
ND - Non-Detect
NA - Not Analyzed for parameter
D - Duplicate Sample
ER - Estimated Result between Reporting Limit and Method Detection Limit for metals

Table A - 1
Contaminant Isoconcentration Summary Table
M-14 Landfill, Fort Monmouth, NJ
3rd Quarter 2010

Notes:	Well ID	Date Collected	Antimony	Arsenic	Beryllium	Cadmium	Lead	Thallium
			NJDEP GWQS	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*	*NJDEP GWQS*
			6	*3*	*1*	*4*	*5*	*2*
LF, D	M14MW19	8/26/2010	4.91 ER	1.49 ER	ND	ND	ND	ND
LF	M14MW19	8/26/2010	ND	1.83 ER	ND	0.663 ER	ND	ND
LF	M14MW20	8/26/2010	ND	1.75 ER	ND	ND	ND	ND
LF	M14MW21	8/26/2010	ND	ND	ND	ND	ND	ND
LF	M14MW22	8/27/2010	22.5	1.71 ER	0.324 ER	145	9.32	ND
LF	M14MW23	8/26/2010	16.7	3.49 ER	ND	9.73	3.02 ER	ND
LF, D	M14MW24	8/27/2010	12.8	1.63 ER	ND	ND	ND	ND
LF	M14MW24	8/27/2010	13.5	1.58 ER	ND	ND	ND	ND
LF	M14MW25	8/27/2010	ND	10.25	ND	ND	ND	ND

Notes:
Concentrations reported in µg/L
LF - Monitor Wells Sampled using Low-Flow Method
ND - Non-Detect
NA - Not Analyzed for parameter
D - Duplicate Sample
ER - Estimated Result between Reporting Limit and Method Detection Limit for metals

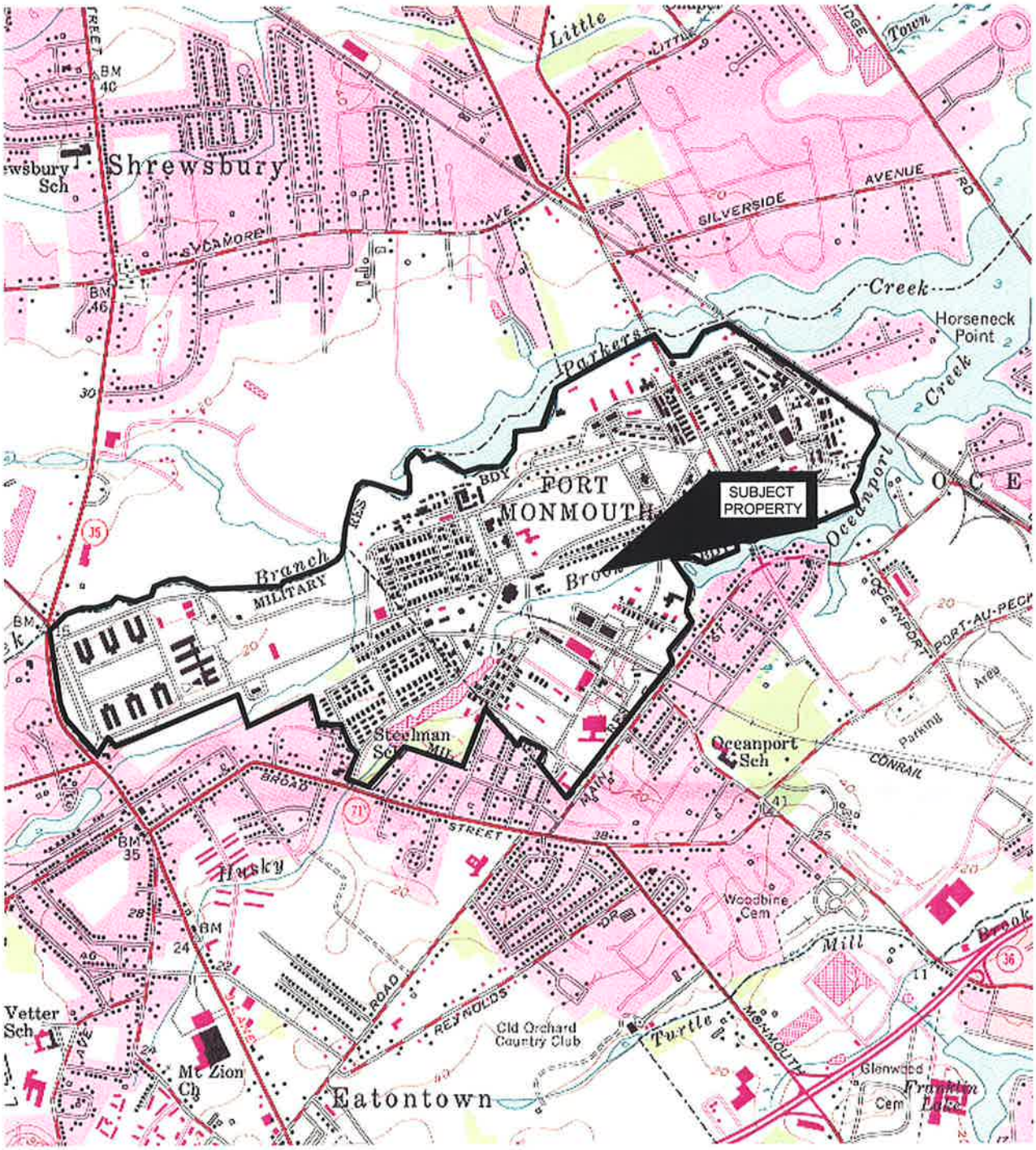
Exhibit B

Site Location Maps

EXHIBIT B

1.0 SITE LOCATION MAPS

The M-14 Landfill is located in the Borough of Oceanport (Block 110, Lot 1), Monmouth County, New Jersey. Pursuant to N.J.A.C. 7:26E-8.3(b)3i and ii, Brinkerhoff provided a United States Geological Survey (USGS) Quadrangle Map (Figure B-1) and a Tax Map with Block and Lot (Figure B-2).



0′ 1000′ 2000′

SCALE: 1"=2000′

LONG BRANCH, N. J.
40073-C8-TF-024

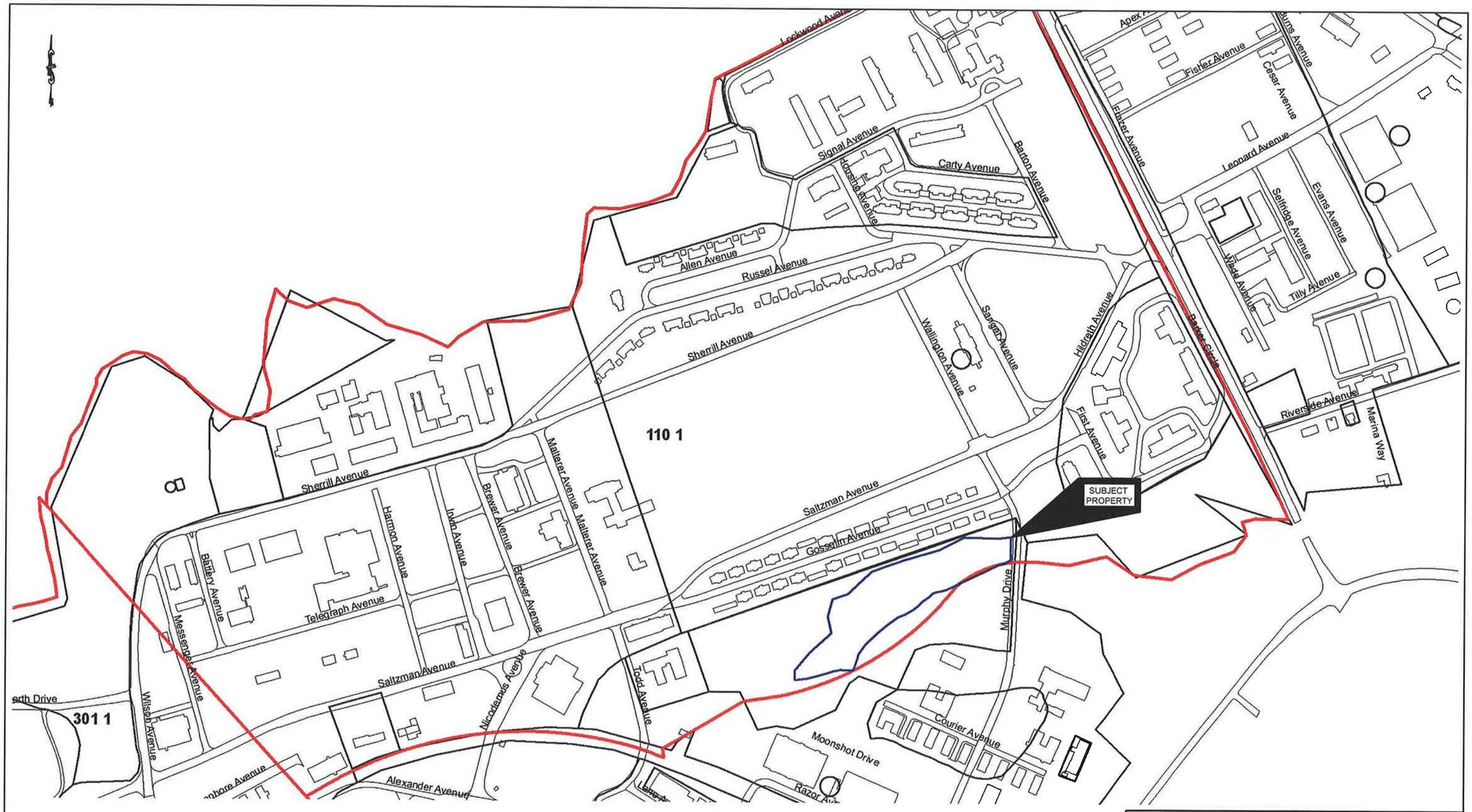
1954
PHOTOREVISED 1981
DMA 6164 I SE-SERIES V822

QUADRANGLE LOCATION

BRINKERHOFF
ENVIRONMENTAL SERVICES, INC.

FIGURE B-1
U.S.G.S. TOPOGRAPHIC LONG BRANCH, NJ QUAD
US ARMY FORT MONMOUTH
MAIN POST - M-14 AREA
FORT MONMOUTH, NEW JERSEY

DATE: 6/2/11	JOB NO.: 09BR116	SCALE: 1" = 2000′



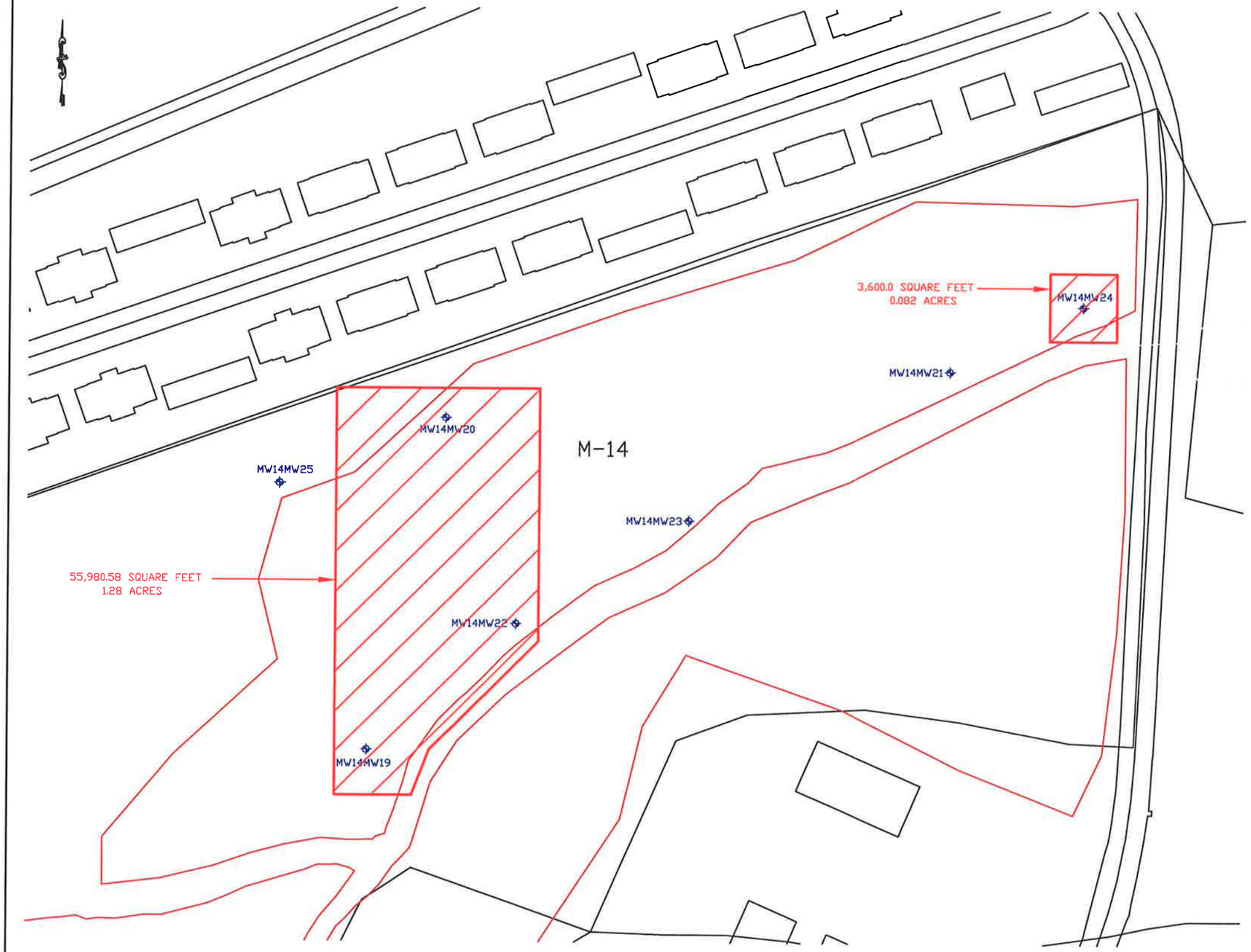
BRINKERHOFF
ENVIRONMENTAL SERVICES, INC.

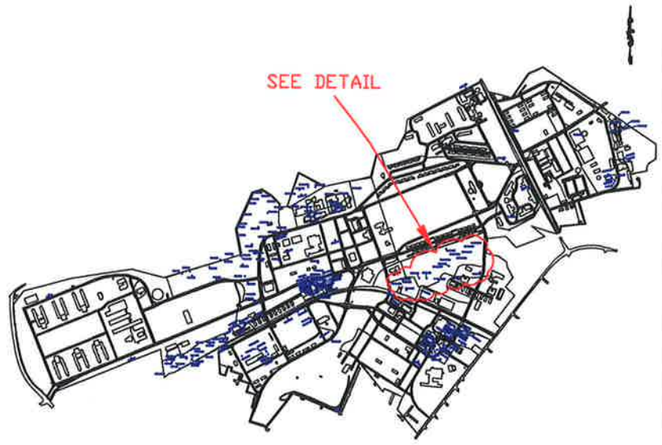
FIGURE B-2 - TAX MAP
US ARMY FORT MONMOUTH
MAIN POST - M-14 AREA
BLOCK 110, LOT 1
FORT MONMOUTH, NEW JERSEY

DATE: 6/2/11	JOB NO.: 09BR116	SCALE: 1" = 400'

Exhibit C

Site Map and Cross Section





KEY MAP

0′ 1250′ 2500′

SCALE: 1"=2500′

GENERALIZED
CROSS SECTION

LEGEND

– CEA BOUNDARY 59,580.58 SQUARE FEET, 2.10 ACRES

– MONITORING WELL LOCATION

M14MW20

0′ 50′ 100′

SCALE: 1"=100′

BRINKERHOFF
ENVIRONMENTAL SERVICES, INC.

FIGURE C-1
CEA BOUNDARY MAP
MAIN POST – AREA M-14
US ARMY FORT MONMOUTH
FORT MONMOUTH, NEW JERSEY

DATE:	JOB NO.:	SCALE:
5/31/11	09BR116	AS SHOWN

EXHIBIT C

1.0 CLASSIFICATION EXCEPTION AREA (CEA) BASIS

The NJDEP requires that the CEA application specify the constituents that will require an exception to the NJDEP's GWQS. These are constituents necessitating the institution of a CEA because they are either currently detected or are anticipated to be detected in the future at concentrations exceeding applicable NJDEP GWQS.

As indicated in Exhibit A, the presence of arsenic, antimony, beryllium, cadmium, and thallium at the Site is attributed to naturally occurring background conditions. They are therefore not considered COPCs, and are not included in the CEA application.

Due to its common industrial use, the source of lead is less certain, and therefore it remains a COPC and is included in this CEA.

2.0 EXTENT OF THE CLASSIFICATION EXCEPTION AREA (CEA)

The horizontal extent of the CEA encompasses the area illustrated on Figure C – 1.

The horizontal extent of the CEA is defined by the Site monitoring well network, as exceedances of the GWQS for lead were identified for multiple wells during recent sampling events.

The CEA at the M-14 Landfill is based on the area outlined by ground water monitoring wells M14MW19, M14MW20, M14MW22, and M14MW24, encompassing an area of approximately 59,580 square feet or 2.1 acres.

The vertical extent of the Site CEA includes the shallow part of the aquifer beneath the Site and it extends from the water table to approximately 18 feet bgs, which represents the total depth of the contaminated wells at the Site.

Exhibit D

Vertical Contaminant Data

EXHIBIT D

1.0 VERTICAL CONTAMINANT DATA

Pursuant to N.J.A.C 7:26E-8.3(b)3 iii, iv, and v, Brinkerhoff Environmental Services, Inc. has provided vertical contaminant data for the Site in Table D-1. The vertical extent of the Site CEA includes the shallow part of the aquifer beneath the Site, and it extends from the water table to approximately 18 feet bgs, which represents the total depth of the contaminated wells at the Site.

There is no known clean water lens as contamination is believed to be at water table elevation.

Table D - 1
Vertical Contaminant Data
M-14 Landfill
Fort Monmouth, New Jersey
9/29/2010

Well ID	Water Table		Approximate Bottom of		Top of Plume		Thickness of Clean Water	
	Feet bgs	Feet msl	Feet bgs	Feet msl	Feet bgs	Feet msl	Feet bgs	Feet msl
M14MW19	7.69	0.74	15.00	-6.57	7.69	0.74	N/A	N/A
M14MW20	7.13	0.92	14.50	-6.45	7.13	0.92	N/A	N/A
M14MW21	6.49	2	16.00	-7.51	6.49	2	N/A	N/A
M14MW22	7.1	0.71	18.00	-10.19	7.1	0.71	N/A	N/A
M14MW23	6.56	1.06	18.00	-10.38	6.56	1.06	N/A	N/A
M14MW24	7.09	1.35	18.00	-9.56	7.09	1.35	N/A	N/A
M14MW25	6.31	1.04	20.00	-12.65	6.31	1.04	N/A	N/A

bgs - below ground surface
msl - mean sea level elevation

Exhibit E

Fate and Transport Description and Model Documentation

EXHIBIT E

1.0 Duration of Classification Exception Area (CEA)

Metals are known to migrate slowly and not degrade. Metals in ground water throughout Fort Monmouth were evaluated using statistical analyses and published literature information (Brinkerhoff, 2011 Background Metals Evaluation). It was concluded that the metals in ground water are likely a combination of a natural, dissolved component along with input from sample turbidity. Due to the interference from sample turbidity, exceedances of the GWQS by actual dissolved-phase metals are not certain, and modeling of the fate and transport is not practical. The CEA time-frame is therefore indeterminate.

As indicated in Exhibit A, The presence of arsenic, antimony, beryllium, cadmium, and thallium at the Site is attributed to naturally-occurring background conditions. Therefore, they are not considered COPCs, and are not included in the CEA application.

Due to common industrial use, the source of lead is less certain, and therefore remains a COPC and is included in this CEA.

Future sampling should aim to reduce the input from sample turbidity, and thus better represent the actual concentrations of dissolved-phase lead. Upon completion of each sampling event, the data should be compared to the GWQS. Lead concentrations laboratory-determined to be in compliance with the GWQS should be removed from further consideration.

2.0 Written and Mapped Description of the CEA

N.J.A.C. 7:26E-6.2(a)17 requires submittal of a map of the CEA compatible with the NJDEP's Geographic Information Systems both as a paper hard copy and electronically by means of a computer disk. Exhibit C, Figure C-1, with supporting written documentation provided above, represents a paper copy, and an electronic copy of the map of the CEA, as a shape file, is provided along with Metadata as Attachment I to this submittal.

3.0 References

Brinkerhoff. 2010. MODFLOW Groundwater Modeling - US Army, Fort Monmouth, Main Post and Charles Wood Areas.

Brinkerhoff. 2011. Background Metals Evaluation - US Army, Fort Monmouth, Main Post and Charles Wood Areas.

Directorate of Public Works Environmental Office. 1997. Installation Action Plan for Defense Environmental Restoration Project Sites - Fort Monmouth, New Jersey - FTM-079.pdf.

Newell, W. L., Powars, D.S., Owens, J.P., Stanford, S.D., and Stone, B.D. 2000, Surficial Geologic Map of Central and Southern New Jersey. U.S. Geological Survey, Miscellaneous Geologic Investigations Series, Map I 2540 D, 3 sheets, Scale: 1:100.000.

Pfafflin, J. R. and E. Ziegler. 2006. Encyclopedia of Environmental Science and Engineering. CRC Press. Taylor and Francis Group. Boca Raton, Florida.

United States Department of the Interior Geological Survey. 1982. Physical Properties of Rocks. Reston, Virginia. Open-File Report 82-166.

United States Environmental Protection Agency. 1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water - Part II. (Revised 1985). EPA/600/6-85/002b.

Zapecza, O. S., 1989, Hydrogeologic Framework of the New Jersey Coastal Plain: U. S. Geological Survey Professional Paper 1404-B, 49 p., 24 pl.

Attachment I

Diskette METADATA

Diskette Metadata

Site Name: Fort Monmouth – M-14 Landfill

Case Name: FTMM-14

CSL ID # N/A

Lead Program ID: N/A

Lead Program (Letter Abbreviation)

Street Address of Facility

Municipality: Oceanport

County: Monmouth

Start Date: September 2010

Duration: Indeterminate

Contaminants: Lead

CEA Depth: Approximately 18 feet below ground surface.

Engineering controls: NA

Map Metadata ID Information

Description: Site plan showing CEA boundary.

Abstract: Includes base map and the CEA boundary.

Purpose/Brief Description: Fulfill CEA requirements.

Supplemental Information: None.

Currentness Reference: Based upon current information, September 2010

Map Metadata Data Quality Information

Attribute Accuracy: Monitoring wells have surveyed coordinates. Base map accuracy visually consistent with site observations.

Quantitative Attribute Accuracy Assessment

Completeness Report: Base map provided by client's GIS department. Monitoring wells were surveyed.

Lineage: Manually digitized

Source Scale Denominator

Type of Source Media: Paper Maps

Source Currentness Reference

Process Date: May 2011

Map Metadata Spatial Data Organization

Direct Spatial Reference Method: Vector

Map Metadata Spatial Reference

Grid Coordinate System: NJ State Plane feet

Horizontal Datum Name: NAD83

Map Metadata Attribute Information

Attribute Label

Map Metadata Reference Information

Metadata Date: May 2011

Metadata Contact: Brinkerhoff Environmental Services, Inc.

Map Metadata Citation Information

Originator: Brinkerhoff Environmental Services, Inc.

Title: FTMM-14

Author's Notes: Variable in Time.

Map Metadata Contact Information

Contact Person Primary: Gary G. DiMartinis, LSRP

Contact Organization: Brinkerhoff Environmental Services, Inc.

Contact Address: 1913 Atlantic Avenue, Suite R5, Manasquan, New Jersey 08736

Contact Voice Telephone: 732-223-2225

United States Army
Fort Monmouth, New Jersey

M-14 Landfill (FTMM-14)
Remedial Investigation Report Addendum
(2nd Quarter 2001 through 3rd Quarter 2010)

U.S. Army Garrison Fort Monmouth, Main Post
Fort Monmouth, New Jersey

Prepared by

U.S. Army, Office of the Assistant Chief of Staff for Installation Management

Fort Monmouth, New Jersey

October 2012

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EXECUTIVE SUMMARY

This Remedial Investigation Report Addendum (RIRA) documents the remedial activities conducted by the Army to investigate soil, ground water, surface water, and sediment conditions at the M-14 Landfill, located in the Main Post Area of Fort Monmouth, New Jersey. This RIRA details remedial investigation activities conducted from the 2nd Quarter 2001 - 3rd Quarter 2010.

The M-14 Landfill is approximately 6.9 acres and is bordered by Murphy Drive to the east, Husky Brook and the M-12 Landfill to the south, and residential properties to the north and west. The M-14 Landfill was in use from 1965-1966 for disposal of building demolition debris.

In 1993, a background investigation was conducted by Roy F. Weston, Inc. (Weston) for 45 sites identified by Fort Monmouth and the New Jersey Department of Environmental Protection (NJDEP). Weston's findings were detailed in a report entitled: *Investigation of Suspected Hazardous Waste Sites at Fort Monmouth, New Jersey* (1993). In the report, Weston recommended additional remedial investigation for the M-14 Landfill. In 1995, Weston conducted additional site investigation activities at 22 sites, including the M-14 Landfill – detailing their findings in a *Site Investigation Report* (December 1995). Initial field investigation activities included near-surface soil sampling, sediment sampling, surface water sampling, installation of monitoring wells, and ground water sampling. Based on the findings of Weston's 1995 SIR, the Army implemented a long-term ground water monitoring program. Seven ground water monitoring wells (M-14MW18, M-14MW19, M-14MW20, M-14MW21, M-14MW22, M-14MW23, and M-14MW24) currently comprise the quarterly ground water monitoring program.

Versar, Incorporated (Versar) prepared a *Remedial Investigation Report and Sediment Quality Evaluation for the M-14 Landfill* (October 2003) and a *Remedial Investigation Report for Near-Surface Soils* (March 2004), which summarized sampling activities conducted by the Army to characterize Husky Brook sediments and near-surface landfill soil, respectively. In August 2005, Versar prepared a *Remedial Investigation Report* (RIR), detailing remedial investigation activities conducted at the M-14 Landfill from 2nd Quarter 1997 – 1st Quarter 2001.

From December 28, 1998 to May 13, 2010, the Army characterized near-surface landfill soil via advancement of 203 soil borings across the M-14 Landfill. In December 2008, the Army conducted landfill boundary delineation activities to refine the dimensions of the M-14 Landfill. The landfill boundary delineation study involved advancement of test pits and soil borings. Near-surface soil concentrations of arsenic, lead, and six semi-volatile organic compounds [benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene] exceeded NJDEP Non-Residential Direct Contact Soil Remediation Standards (NRDCSRS). Arsenic and lead are not considered M-14 Landfill contaminants of concern (COCs) because they are naturally-occurring within Fort Monmouth soils.

During the current reporting period (2nd Quarter 2001 – 3rd Quarter 2010), ground water sampling was conducted quarterly. For the last eight ground water sampling quarters (4th Quarter 2008 – 3rd Quarter 2010), only metals (antimony, arsenic, beryllium, cadmium, lead, nickel, and thallium) exceeded NJDEP Ground Water Quality Standards (GWQS). Metals are not considered COCs at the M-14 Landfill because they are naturally-occurring within Fort Monmouth soils. Metal detections in general, and lead specifically, are the direct result of acid leaching of suspended solids in ground water samples. In addition, due to the extremely slow migration rates of metals in ground water, they pose little potential for migration. Since no COCs exceed NJDEP GWQS in M-14 Landfill ground water monitoring wells, a Classification Exception Area is not proposed.

During the current reporting period, surface water samples collected at the nearest upstream sampling point (SS-19) from the M-14 Landfill exceeded NJDEP SWQS for arsenic, bromodichloromethane, and lead. Surface water samples collected at the nearest downstream sampling point (SS-09) from the M-14 Landfill exceeded NJDEP SWQS for arsenic and lead. Metals are not considered COCs in Husky Brook because they are naturally-occurring within Fort Monmouth sediments. The detection of metals in surface water is due to a combination of a natural, dissolved component along with input from sample turbidity. Bromodichloromethane was detected during the June 2010 stream sampling event at stream sampling point SS-19. This is considered and isolated detection and is the first time bromodichloromethane has been detected at SS-09 since surface water sampling began at Husky Brook in 3rd Quarter 1996. Thus, bromodichloromethane is not considered a COC at the M-14 Landfill.

Future plans include collection of quarterly ground water and surface water samples until closure of Fort Monmouth in September 2011. At that time, future sampling will be evaluated and discussed with NJDEP. The Army plans to prepare a Remedial Action Selection Report (RASR)/Feasibility Study (FS) as the next report submittal, which will include a final closure plan for the M-14 Landfill.

1.0 INTRODUCTION

This Remedial Investigation Report Addendum (RIRA) documents the remedial investigation activities conducted by the Army from the 2nd Quarter 2001 – 3rd Quarter 2010 to investigate soil, ground water, surface water, and sediment conditions at the M-14 Landfill.

1.1 Objectives

The objective of this RIRA is to document the site investigation activities conducted at the M-14 Landfill during the current reporting period of the 2nd Quarter 2001 – 3rd Quarter 2010. Natural attenuation with a long-term ground water monitoring program was implemented by the Army as a remedial action (RA) for the M-14 Landfill, based on recommendations in Weston's SIR (December 1995) and subsequent remedial investigation reports prepared by Versar, including: *RIR and Sediment Quality Evaluation for the M-14 Landfill* (October 2003), *RIR for Near-Surface Soils* (March 2004), and RIR (August 2005). Copies of the above-referenced reports are provided in Appendix A. All remedial activities were conducted in accordance with the NJDEP's *Technical Requirements for Site Remediation* (*Technical Requirements*), New Jersey Administrative Code (N.J.A.C.) 7:26E *et seq*.

The RIR and subsequent preparation of this RIRA encompassed the following:

- Conducting quarterly ground water and surface water sampling and documenting the results to evaluate the effectiveness of the RA.
- Comparing the results of ground water and surface water sampling to the appropriate NJDEP GWQS and SWQS.
- Characterizing near-surface landfill soil and Husky Brook sediments.
- Identifying and discussing recommendations for the RA.
- Documenting remedial activities as required by the *Technical Requirements*.

1.2 Report Organization

Section 2.0 discusses the site history and background information for the M-14 Landfill. Section 3.0 summarizes the remedial activities conducted. Section 4.0 discusses ground water and surface water monitoring and sampling activities. Section 5.0 presents the laboratory analytical results of soil, ground water, and surface water sampling. Sections 6.0 and 7.0 discuss the Background Metals Evaluation and receptor evaluation, respectively. Section 8.0 discusses the effectiveness of the RA and provides recommendations for the M-14 Landfill. Section 9.0 is the reference section.

2.0 SITE BACKGROUND

The following sections describe the site background of the M-14 Landfill. Included is a description of the site location, site history, background investigations, and previous technical reports.

2.1 Site Location and Description

Fort Monmouth is located in the central-eastern portion of New Jersey in Monmouth County (Figure 2-1). The M-14 Landfill is approximately 6.9 acres and is bordered by Murphy Drive to the east, Husky Brook and the M-12 Landfill to the south, and residential properties to the north and west (Figure 2-2). The M-14 Landfill was in use from 1965-1966 for disposal of building demolition debris. Since 1966, there has been growth and stabilization of vegetation (grass, trees, and bushes) along the surface and boundaries of the landfill. General utilities servicing M-14 Landfill are depicted on Figure 2-3. Wetlands present on the Main Post are depicted on Figure 2-4.

2.2 Environmental Setting

This section summarizes the description of the geological and hydrogeological setting of the area surrounding Fort Monmouth and the Main Post area as presented in Versar, Inc.'s August 2005 RIR (Appendix A).

2.2.1 Geology

Monmouth County lies within the New Jersey Section of the Atlantic Coastal Plain physiographic province. The M-14 Landfill is located in the Outer Coastal Plain sub-province, or the Outer Lowlands.

In general, New Jersey Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, sand, and gravel. These formations typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile and were deposited on Precambrian and lower Paleozoic rocks. These sediments, predominantly derived from deltaic, shallow marine, and continental shelf environments, date from Cretaceous through the Quaternary periods. The mineralogy ranges from quartz to glauconite.

As presented in the Site Investigation Report - Main Post and Charles Wood Areas, Fort Monmouth, New Jersey, prepared by Weston (Weston 1995), several natural and anthropogenic factors contribute to the wide range in concentrations of metals found in soils, which further impact the concentration of metals in ground water. Soils derived from the glauconitic sands contain abundant aluminum, calcium, potassium, iron, magnesium, and manganese (among others), which are likely to be present at elevated concentrations in the ground water, particularly when sediments are entrained in the collected ground water samples.

2.2.2 Hydrogeology

The water table aquifer on the Main Post is identified as part of the "Navesink-Hornerstown Confining Units," or minor aquifers. The minor aquifers include the Navesink formation, Red Bank Sand, Tinton Sand, Hornerstown Sand, Vincentown Formation, Manasquan Formation, Shark River Formation, Piney Point Formation and the basal clay of the Kirkwood Formation. These geologic formations comprise a "Composite Confining Bed" for the Wenonah Mount Laurel Aquifer (Zapecza, 1984).

Wells installed in the Red Bank and Tinton Sands produce approximately 2-25 gallons per minute (gpm) (Jablonski, 1968). Groundwater is typically encountered at the Main Post and in the surrounding areas at shallow depths below ground surface (2-9 feet bgs). Water in the surficial aquifer generally flows east towards the Atlantic Ocean.

Additionally, Brinkerhoff prepared a *MODFLOW Ground Water Modeling Report*, dated June 10, 2010, which is included as Appendix B. In this report, Brinkerhoff developed and refined site-wide ground water models for both the Main Post and the Charles Wood areas of Fort Monmouth (Brinkerhoff 2010).

2.3 Site History and Background Investigations

In 1993, the Army contracted Weston to conduct a background investigation for 45 sites identified by Fort Monmouth and the NJDEP. Weston's findings were detailed in a report entitled: *Investigation of Suspected Hazardous Waste Sites at Fort Monmouth, New Jersey* (1993). In the report, Weston recommended that additional remedial investigation be conducted for the M-14 Landfill. In 1995, Weston conducted additional site investigation activities at 22 sites, including the M-14 Landfill – detailing their findings in a *Site Investigation Report* (December 1995). Initial field investigation activities at the M-14 Landfill included near surface soil sampling, sediment sampling, surface water sampling, installation of monitoring wells, and ground water sampling.

Based on the findings of the Weston's 1995 SIR, the Army implemented of a long-term ground water monitoring program at the M-14 Landfill. Seven ground water monitoring wells (M-14MW18, M-14MW19, M-14MW20, M-14MW21, M-14MW22, M-14MW23, and M-14MW24) currently comprise the quarterly ground water monitoring program.

Versar Incorporated (Versar) prepared a *Remedial Investigation Report and Sediment Quality Evaluation for the M-14 Landfill* (October 2003) and a *Remedial Investigation Report for Near-Surface Soils* (March 2004), which summarized sampling activities conducted by the Army to characterize Husky Brook sediments and near-surface landfill soil, respectively. In August 2005, Versar prepared a *Remedial Investigation Report* (RIR), detailing remedial investigation activities conducted at the M-14 Landfill from 2nd Quarter 1997 – 1st Quarter 2001.

Copies of the above-referenced reports are provided in Appendix A. The following sections summarize previous remedial investigation activities conducted at the M-14 Landfill.

2.3.1 October 2003 Sediment Quality Evaluation

Studies conducted at other Main Post landfills (e.g. M-2 Landfill and M-8 Landfill) indicated that disposal of PCB-containing materials (e.g., electrical ballasts) occurred. PCBs were detected in soil and/or ground water samples collected at both the M-2 and M-8 Landfills. Based on these observations, in the second quarter of 2000, the Army conducted a sediment sampling investigation to evaluate potential impacts to stream sediments in creeks and/or brooks adjacent to Main Post and Charles Wood Area landfills.

On April 10, 2000, to determine potential PCB-related impacts to sediments in Husky Brook, the Army collected 25 surface and near-surface sediment samples from Husky Brook. The samples were collected along the 1,700-foot portion of Husky Brook that bisects the M-12 and M-14 Landfills. Sample depths ranged from surface (0-6 inches) to near-surface (6-12 inches and 18-24 inches). All 25 sediment samples were analyzed for PCBs and compared to sediment sampling guidance concentrations as defined in the NJDEP's *Guidance for Sediment Quality Evaluations* (NJDEP 1998).

With the exception of one anomalous duplicate sample detection of the PCB Arcolor 1254, no PCBs were detected in any of the 25 sediment samples collected from Husky Brook. Based on NJDEP's guidance criteria, PCBs are not impacting sediments in Husky Brook. In addition, no potential exists for long-term, adverse, benthic effects in Husky Brook associated with the M-12 and M-14 Landfills. A No Further Action (NFA) determination for Husky Brook sediments was recommended for the M-12/M-14 Landfills.

Additional details regarding the October 2003 sediment quality evaluation is provided in Versar's *Remedial Investigation Report and Sediment Quality Evaluation for the M-14 Landfill* (Appendix A).

2.3.2 March 2004 Near-Surface Soil Evaluation

To evaluate if the existing soil cover at the M-14 Landfill complies with the Solid Waste Disposal Act of 1965, the Army characterized near-surface landfill soils via installation and sampling of 119 soil borings. From December 1998-January 1999, the Army advanced soil borings and collected soil samples using a 2-inch Geoprobe® Macrocore sampler to a maximum depth of two feet below ground surface (bgs). All sampling activities were conducted in accordance with *Fort Monmouth Standard Sampling Operating Procedures* (DPW 1997) and the NJDEP *Field Sampling and Procedures Manual*. A total of 238 soil samples were collected from the 119 borings and analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, poly-chlorinated biphenyls (PCBs) and total analyte list (TAL) metals. The locations of the borings were established in a grid-like pattern within the

previously designated boundaries of the M-14 Landfill. The *Remedial Investigation Report for Near-Surface Soils* (Versar, March 2004) provides a detailed explanation of the soil sampling activities conducted at the M-14 Landfill (Appendix A).

SVOCs, pesticides, and metals were detected in surface soil samples at concentrations exceeding the NJDEP's Residential Direct Contact Soil Cleanup Criteria (RDCSCC). VOCs and PCBs were detected at concentrations in compliance with the NJDEP's Residential Direct Contact Soil Cleanup Criteria (RDCSCC).

However, given the inactive and undisturbed state of the landfill, the lack of groundwater use at or hydraulically downgradient of the M-14 Landfill, and low COC concentrations in shallow surface soils, No Further Action is recommended for near-surface soils at the M-14 Landfill.

To address near-surface soil samples that do not meet applicable NJDEP soil remediation standards at the M-14 Landfill, the Army proposes to implement landfill capping as an engineering control. A cap that allows for proper drainage and facilitates growth of vegetation is recommended to be implemented. Should areas of significant surface contamination be encountered during the landfill capping activities, then "hot spot" removals shall be undertaken as outlined in the November 17, 2010 NJDEP Regulatory Requirements. This proposed capping action is an appropriate and prudent measure that will provide an ample physical barrier to direct contact by persons and wildlife that may traverse the area and undertake reasonably expected activities. The Army plans to prepare a formal Landfill Closure Plan with the above-referenced recommendations for submittal to NJDEP for review and approval.

2.3.3 November 2004 Reduction of Ground Water Analysis

In November 2004, based on results of long-term ground water monitoring data, the Army requested a reduction in ground water analysis for samples collected from M-14 Landfill monitoring wells. No SVOCs, pesticides, and PCBs were detected at concentrations exceeding NJDEP GWQS in any M-14 Landfill monitoring well since 2001. On November 16, 2004, in an email correspondence to the Army, the NJDEP approved the reduction of ground water sample analysis to VOCs and TAL metals only (Appendix A).

2.3.4 August 2005 Remedial Investigation Report

Following Weston's December 1995 SIR, the Army continued quarterly ground water sampling at the M-14 Landfill, as detailed in Versar's August 2005 RIR (Appendix A).

Sixteen rounds of ground water samples were collected from June 1997 - January 2001 and analyzed for VOCs, SVOCs, pesticides, PCBs, and TAL metals. Ground water samples collected from two additional rounds of sampling using low-flow methodology were analyzed for TAL metals. Ground water concentrations of SVOCs, pesticides, or PCBs were laboratory-determined to be in compliance with NJDEP GWQS. One VOC, *tert*-butyl-alcohol (TBA), was

detected at concentrations exceeding NJDEP GWQS in one well (M-14MW20) during one round of ground water sampling (1st Quarter 1998). TBA was detected at a concentration of 101.37 µg/L, exceeding the NJDEP GWQS of 100 µg/L. This TBA detection was considered an isolated event as TBA concentrations for all subsequent ground water sampling events at M-14MW20 have been ND. Twelve metals were detected in ground water samples collected from M-14 Landfill monitoring wells at concentrations exceeding NJDEP GWQS.

Based on the results of ground water sampling conducted from June 1997 - January 2001, Versar concluded that no COCs exist in ground water at the M-14 Landfill. NFA was recommended for ground water.

2.3.5 July 2007 NJDEP Correspondence Letter

On July 25, 2007, the NJDEP sent the Army a correspondence letter (Appendix A), which commented on the following M-14 Landfill reports prepared by Versar:

- August 12, 2005 *RIR for M-14 Landfill*
- March 17, 2004 *RIR for Near Surface Soils, M-14 Landfill*
- October 15, 2003 *RIR and Sediment Quality Evaluation, M-12/M-14 Landfill*

The NJDEP's July 25, 2007 comments are summarized in the following sections.

M-12 and M-14 Landfills Recognized as One Site

NJDEP considers the M-12 and M-14 landfills one site, separated by Husky Brook, which bisects the two landfills. NJDEP further stated that the Army has recognized these sites as one site with regards to the sediment quality evaluation and, to a lesser extent, the surface water evaluation. Additionally, NJDEP stated that the soil and ground water sampling results from both landfills are similar, and the respective RIRs have concluded that shallow ground water beneath both landfills flows towards Husky Brook.

Work Plan Submittal

The NJDEP stated that the Army should submit a comprehensive investigation work plan for the NJDEP's review and approval prior to initiating any of the additional sampling requested in the July 25, 2007 NJDEP correspondence letter. A Work Plan was recommended to ensure that the NJDEP and the Army are in agreement on all details prior to commencement of sampling.

Landfill Boundary Delineation

Based on a review of aerial photographs, NJDEP identified potential disposal areas outside the known boundaries of the M-12 and M-14 Landfills. As such, NJDEP requested that the Army

review and revisit the delineation of all landfill areas at Fort Monmouth, including the M-12 and M-14 Landfills. NJDEP further stated that conducting test pits to verify geophysical results of landfill boundaries would be good practice, and verifying landfill boundaries prior to closing and transfer of Fort Monmouth would be in the Army's best interest.

Surface Soils

According to NJDEP, results of surface soil sampling indicated soil in the 0 to 12-inch interval contains SVOCs and metals at concentrations exceeding NJDEP RDCSCC throughout the M-12 Landfill and in two distinct areas of the M-14 Landfill. Therefore, these surface soils have the potential for direct contact, and a remedial action would be required to minimize or eliminate that potential. Depending on the location and extent of the soil contamination exceeding the RDCSCC, targeted soil excavations may be feasible. At a minimum, engineering controls such as additional soil cover, fencing, and warning signs would be required, in conjunction with a deed notice.

NJDEP further stated that in Versar's March 17, 2004 *RIR for Near-Surface Soils*, compliance averaging of soil sample results was done incorrectly in several cases. Also, averaging was applied to arsenic and several polyaromatic hydrocarbons (PAHs), which the NJDEP does not allow because the health-based Soil Cleanup Criteria (SCC) is less than the RDCSCC.

Surface Water and Sediments

NJDEP required a Baseline Ecological Evaluation (BEE) to determine whether receptors, especially within Husky Brook, have been impacted by the M-12 and M-14 Landfills.

NJDEP recommended collection and analysis of sediment samples for TCL+30 and TAL metals. Sampling locations would include one upstream, one downstream, and two locations along the landfills - at least one on each side of the tributary that splits the M-12 Landfill, and one from the tributary that bisects the M-12 Landfill.

NJDEP noted that surface water sample location SS-12, which is in Husky Brook Pond and was used as an upstream sampling point, should be used in the future as an upstream sampling point for both the M-12 and M-14 Landfills.

NJDEP also recommended, based on the presence of measurable VOCs in surface water samples, additional surface water samples should be collected along Husky Brook in conjunction with the recommended sediment sampling. The NJDEP recommended using passive diffusion bags (PDBs) to collect surface water samples for VOC analysis. The PDBs were recommended to be deployed in the sediments to monitor shallow ground water discharging to Husky Brook. In addition, NJDEP requested that the Army evaluate any Army-owned properties upstream of the M-12 and M-14 Landfills that could be the source of the VOC concentrations detected in surface water samples collected from Husky Brook.

Ground Water

Based on the following concerns and deficiencies, NJDEP stated that a NFA could not be issued for ground water:

- Upgradient monitoring wells must be installed and sampled at each landfill to provide data for remedial decision making. Samples from the upgradient wells should be analyzed for TAL metals only.

- An additional round of ground water samples must be collected from all M-12 and M-14 Landfill monitoring wells to provide data for remedial decision making because the existing wells at both landfills may not have been sampled since 2001.

- Approximately four wells, including an upgradient well, should be installed in the western portion of the M-14 Landfill. Ground water samples collected from these wells should be analyzed for TCL+30 and TAL metals.

- Paper copies of all sampling documentation (e.g. ground water field parameters and low-flow sampling sheets) must be submitted with summary tables in future reports.

2.3.6 August 2008 Landfill Delineation Project

On August 1, 2008, to confirm the boundaries of nine solid waste landfills at Fort Monmouth, including the M-14 Landfill, the Army submitted a proposal to the NJDEP to conduct a landfill delineation study involving advancement of test pits and soil borings. The NJDEP reviewed and approved the Army's proposed study in a letter dated August 19, 2008 (NJDEP 2008) (Appendix A).

Details of the M-14 Landfill delineation project are included in Section 3.1 of this RIRA.

2.3.7 February 2009 Regulatory Approach to Fort Monmouth Landfills

In a February 24, 2009 correspondence from NJDEP (Appendix A), the NJDEP outlined its requirements for Fort Monmouth landfills:

- NJDEP stated that surface soils on all the landfills contain contaminants at concentrations exceeding New Jersey Soil Remediation Standards (SRS), and some of these contaminants appear to be associated with specific waste materials such as PCBs. PCBs have not been detected in M-14 Landfill surface soils.

- NJDEP stated that in locations where SRSs are exceeded, the NJDEP would accept placement of an additional one-foot-thick clean soil cover to eliminate direct contact.

Existing areas of exposed waste deposits must either be removed or properly re-graded and covered with 1-2 feet of clean soil cover. The NJDEP also stated that it would verify that the NJDEP Division of Solid and Hazardous Waste (DSHW) would accept one additional foot of soil cover as a final cover for the landfills.

- NJDEP DSHW requires evaluation of the landfills for methane gas generation and installation of passive or active gas venting systems as necessary. NJDEP stated that Fort Monmouth must perform a methane gas evaluation for each landfill or present existing documentation and data that conclusively show absence of subsurface methane gas at each landfill. In addition, deed notices would be required for all landfills due to the documented presence of waste deposits, even if NFA status was achieved.

2.3.8 2010 Sanitary Landfill Minor Disruption Approval

In September 2010, NJDEP granted approval of a Sanitary Landfill Minor Disruption Permit (Permit No. LCB100002) for conducting remedial investigation activities at the nine Fort Monmouth landfills (Appendix A). The minor disruption activities approved by the NJDEP include soil borings, soil sampling, test pits, installation of piezometers and monitoring wells, injection of chemical and biological oxidation agents to enhance ground water remediation, and methane gas surveys. The approval was granted with a five-year expiration date.

2.3.9 2010 NJDEP Regulatory Requirements for Landfills

In a letter dated November 2010, NJDEP provided Appendix 1 of *NJDEP Regulatory Approach – Fort Monmouth Landfills* (Appendix A). The letter indicates that the NJDEP Solid and Hazardous Waste Program (SHWP) determined that NJDEP SRP will assume the lead regulatory role for Fort Monmouth. Appendix 1 provides a summary and discussion of all NJDEP regulatory requirements for the Fort Monmouth Landfills including surface water, sediment, landfill cover/near-surface soils, methane gas, deed notices, and operation and maintenance.

2.3.10 2010 Aerial Photograph Analysis

In 2010, the Army conducted an analysis of historical aerial photographs for Main Post landfills (Appendix A).

<u>May 2, 1957 Aerial Photograph</u>

A 1957 aerial photograph of Fort Monmouth reveals that additional buildings were constructed on the eastern side of the Main Post, as well as an oval running track towards the southern-central portion of the Main Post. An incinerator is depicted in the southeast corner of the Main Post boundary near Main Street. In the photograph, the M-3, M-4, M-5, and M-8 Landfills are visible on the northeastern portion of the Main Post. A small magazine area is noted on the figure, located slightly north of the current M-2 Landfill area on the southwestern section of the

Main Post. The surrounding area appears to be more developed, with less open space and additional residential housing.

May 13, 1963 Aerial Photograph

Changes in this aerial photograph are primarily noted for the M-3, M4, M-5, and M-8 Landfills, which consolidate all of the landfills into one area labeled "Site 1." An L-shaped wall appears to divide the M-8 and M-5 Landfills. Possible construction debris and light-toned surface are noted in the northwest portion of the M-5 Landfill. The M-2 Landfill is labeled as "Site 2 Poss Landfill". A small fill area is depicted behind the Gosselin housing area within the vicinity of the current M-14 Landfill.

December 6, 1969 Aerial Photograph

The 1969 photograph of Fort Monmouth shows several new buildings that still remain today: the theater (Building 1215), bowling alley (Building 689), and Buildings 361, 362, and 363. The "Site 1" area that encompasses the M-3, M-4, M-5, and M-8 landfills shows a defined boundary for the M-8 Landfill and is now labeled as a landfill. Three new fill areas have been noted on the figure: (1) an area located within a small section of the current M-18 Landfill; (2) an additional fill area in the western portion of the M-12 Landfill; and (3) a small fill area located south of the 750 area.

March 13, 1974 Aerial Photograph

The 1974 photograph of Fort Monmouth reveals minor changes to the installation. The figure depicts the Main Post from the M-2 and M-3 Landfills to Oceanport Avenue. The M-2, M-3, M-8, M-12, M-14, and M-18 Landfills seem to be undisturbed and vegetated.

3.0 REMEDIAL ACTIVITIES

Based on information requested by NJDEP in their correspondence letters, the findings detailed in Versar's October 2003 *RIR and Sediment Quality Evaluation for the M-14 Landfill*, March 2004 *RIR for Near-Surface Soils*, August 2005 RIR, and previous work conducted by Weston in 1995, the Army conducted additional RI activities at the M-14 Landfill, including landfill boundary delineation activities and installation of monitoring wells.

3.1 Landfill Boundary and Near-Surface Soil Delineation Activities

In accordance with the NJDEP's August 19, 2008 approval letter, in December 2008, the Army conducted landfill boundary delineation activities to refine the dimensions of the M-14 Landfill. The landfill boundary delineation study involved advancement of test pits and soil borings. Test pits and trenches were advanced around the known perimeter of the M-14 Landfill boundary at 31 locations (Figure 3-1). Trench logs and photographic documentation logs are provided in Appendix C. The landfill boundary delineation activities resulted in minor expansion of northern boundary of the M-14 Landfill (Figure 3-1).

In addition to conducing test pits, the Army collected soil samples to define the boundaries of M-14 Landfill and to characterize near-surface soil quality conditions between the landfill (non-residential) and single-family structures (residential area) to the north. From December 28, 1998 to May 13, 2010, in accordance to the NJDEP's *Technical Requirements* (N.J.A.C. 7:26:E), the Army characterized the near-surface soils via advancement of 203 soil borings across the M-14 Landfill (Appendix C). All soil samples were analyzed for SVOCs, VOCs, pesticides, PCBs, and TAL metals. All soil sampling activities, including waste disposal, were conducted in accordance with applicable Fort Monmouth Standard Operating Procedures (Appendix D), which comply with the most current version of the NJDEP's *Field Sampling and Procedures Manual*.

Using a two-inch Geoprobe® Macrocore sampler, 518 soil samples were collected from the 203 soil borings. The soil boring locations were established in a grid-like pattern within the previously designated boundaries of the M-14 Landfill. Each soil sample, except those collected for VOC analysis, were collected between 0-12 inches bgs. Soil samples collected for VOC analysis were collected from 12-24 inches bgs since surface soils do not retain volatile constituents over time. Laboratory analyses of the soil samples collected were conducted by the Fort Monmouth Environmental Testing Laboratory (FMETL), a New Jersey certified laboratory. A summary of the soil sample collection information and analyses performed is provided in Appendix C.

Results of the December 28, 1998 - May 13, 2010 soil sampling program are discussed in Section 5.1 of this RIRA.

3.2 Monitoring Well Installation Activities

In accordance with the NJDEP's July 25, 2007 correspondence letter, during the current reporting period (2nd Quarter 2001 - 3rd Quarter 2010), the Army installed an upgradient monitoring well along the western border of the M-14 Landfill. Monitoring well M-14MW18 was installed in July 2010. Ground water samples collected from monitoring well M-14MW18 were analyzed for TCL+30 and TAL metals. Ground water sampling results are discussed in Section 5.2. The monitoring well log, permit, and record are provided in Appendix E.

Seven ground water monitoring wells (M14-MW18, M14-MW19, M14-MW20, M14-MW21, M14-MW22, M14-MW23, and M14-MW24) currently comprise the quarterly ground water monitoring program. The locations of all seven monitoring wells at M-14 Landfill are presented in Figure 3-2.

4.0 MONITORING AND SAMPLING ACTIVITIES

As part of the Long Term Monitoring (LTM) program implemented at the M-14 Landfill, quarterly ground water monitoring and surface water sampling was conducted from the 2nd Quarter 2001 - 3rd Quarter 2010. Ground water samples were collected from seven monitoring wells (M-14MW18, M-14MW19, M-14MW20, M-14MW21, M-14MW22, M-14MW23, and M-14MW24). Static depth-to-water was measured to determine ground water elevations for all seven monitoring wells for each ground water monitoring event.

Surface water samples were collected from 15 locations (SS-03, SS-05, SS-09, SS-11, SS-12, SS-13, SS-14, SS-15, SS-19, SS-21, SS-22, SS-24, SS-26, SS-27 and SS-28) across Fort Monmouth's Main Post. The nearest upstream sampling point from the M-14 Landfill is SS-19. The nearest downstream sampling point from the M-14 Landfill is SS-9.

Sampling was conducted by the Army in accordance with the established protocols as described in the Fort Monmouth SOPs and the NJDEP's most recent *Field Sampling and Procedures Manual*. Applicable Fort Monmouth SOPs are provided in Appendix D.

In November 2004, based on results of long-term ground water monitoring data, the Army requested a reduction in ground water analysis for samples collected from M-14 Landfill monitoring wells. On November 16, 2004, in an email correspondence to the Army, the NJDEP approved the reduction of ground water sample analysis to VOCs and TAL metals only (Appendix A).

Refer to Appendix F for ground water details and Appendix G for surface water details. Laboratory analyses of the samples were conducted at the FMETL, a New Jersey-certified laboratory (Certification No. 13461).

4.1 Ground Water Monitoring

During each round of the ground water sampling, depth-to-water measurements were collected at each monitoring well and recorded with an accuracy of 0.01 foot. Depth-to-ground water measurements for the last eight quarters of ground water sampling are presented in Table 4-1. During the current reporting period, separate phase product was not observed in any of the seven M-14 Landfill monitoring wells.

Ground water contour maps were generated for the 1st Quarter 2010 through the 3rd Quarter 2010 (Figures 4-1 through 4-3). Ground water was encountered at the M-14 Landfill at depths ranging from 5.84 feet to 7.66 feet bgs, grading towards Husky Brook. Starting in 2010, depth-to-water measurements were collected for the entire Main Post in lieu of site-specific measurements in order to provide a more accurate representation of ground water elevation. Depth-to-water measurements are summarized quarterly in Appendix F. NJDEP Contour Map Reporting Forms are also presented in Appendix F for each quarterly sampling event.

The contour maps indicate that shallow ground water underlying the M-14 Landfill consistently flows towards Husky Brook. Significant variations in ground water flow conditions were not observed during the current monitoring period.

4.2 Ground Water Sampling

Quarterly ground water sampling of the seven M-14 Landfill monitoring wells was conducted by the Fort Monmouth DPW.

Sampling equipment was decontaminated before and after each use. Following collection, the ground water samples were placed in laboratory-supplied bottleware. Sample containers were labeled, sealed, packed in ice, and transported to the FMETL under proper chain-of-custody procedures.

Appendix F includes all associated ground water data, tables and figures for each sampling event. Appendix F also includes ground water elevation summaries and ground water contour maps. Depth-to-water measurements were collected on a post-wide basis starting with the 1st Quarter 2010. Considering the much larger number of data points, post-wide data are considered to be better representations of ground water conditions. Contour Map Reporting Forms, Isoconcentration Maps, Isoconcentration Summaries, and full laboratory analytical data are also provided in Appendix F. Analytical results are discussed in Section 5.2.

4.3 Surface Water Sampling

During the current reporting period, surface water sampling was conducted by the Fort Monmouth DPW as part of the base-wide surface water sampling program. A total of 105 surface water samples were collected in seven rounds of sampling from 15 locations (SS-03, SS-05, SS-09, SS-11, SS-12, SS-13, SS-14, SS-15, SS-19, SS-21, SS-22, SS-24, SS-26, SS-27 and SS-28). A Surface Water Sample Location Map is provided as Figure 4-4. The samples were analyzed by the FMETL. The results of these analyses are discussed in Section 5.3.

Sampling equipment was decontaminated before and after each use. Surface water samples were collected and placed in laboratory-supplied bottleware. Sample containers were labeled, sealed, packed in ice, and transported to the FMETL under proper chain-of-custody procedures.

All surface water sampling data along with supporting data are presented in Appendix G, including copies of the chain-of-custody forms, laboratory analytical data, a summary of surface water sampling activities for Surface Water (Rounds 1 through 56) for all sampling points, sampling rounds, sample identifications, stream sampling locations, collection/analysis dates, analytical parameters, and analytical methods.

4.4 Types of Waste Generated and Disposal Methods

The waste types generated by the sampling activities included polyethylene tubing, Teflon® bailers, mason string, and personal protective equipment (PPE). The tubing, bailers, string, PPE, purge water, and decontamination solutions were properly disposed offsite.

5.0 SITE ANALYTICAL RESULTS

This section includes a summary discussion of the chemical characterization of the M-14 Landfill based on soil sampling and the seven most recent quarterly rounds of ground water and surface water samples collected and analyzed during the current reporting period.

5.1 Landfill Boundary and Near-Surface Soil Sampling Activities

From December 23, 1998 to May 13, 2010, 518 soil samples were collected from 203 soil borings at the M-14 Landfill. Soil analytical results were compared to the NJDEP's November 4, 2009 Soil Remediation Standards (N.J.A.C. 7:26D), as per Attachment 1 of NJDEP's November 2010 Letter: *Regulatory Approach to Fort Monmouth Landfills*. Soil analytical data tables for the M-14 Landfill are provided in Appendix C.

VOCs

No VOCs exceeded NJDEP NRDCSRS.

SVOCs

The following SVOCs were detected at concentrations exceeding NJDEP NRDCSRS in at least one soil sample: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene).

Benzo(a)anthracene was detected at concentrations exceeding the NJDEP NRDCSRS of 2.0 mg/kg in six soil samples. Concentrations ranged from 2.4 mg/kg at B-8 (6-12") and B-114 (6-12") to 27.0 mg/kg at B-60 (6-12").

Benzo(a)pyrene was detected at concentrations exceeding the NJDEP NRDCSRS of 0.2 mg/kg in twenty soil samples. Concentrations ranged from 0.24 mg/kg at B-11 (6-12") and B-43 (6-12") to 26 mg/kg at B-60 (6-12").

Benzo(b)fluoranthene was detected at concentrations exceeding the NJDEP NRDCSRS of 2.0 mg/kg in six soil samples. Concentrations ranged from 2.0 mg/kg at B-112 (6-12") to 23.0 mg/kg at B-60 (6-12").

Benzo(k)fluoranthene was detected at concentrations exceeding the NDJEP NRDCSRS of 23.0 mg/kg in soil sample B-60 (6-12") at a concentration of 25 mg/kg.

Dibenz(a,h)anthracene was detected at concentrations exceeding the NJDEP NRDCSRS of 0.2 mg/kg in seven soil samples. Concentrations ranged from 0.21 mg/kg at B-25 (6-12") to 2.05 mg/kg at D-05 (0-6").

Indeno(1,2,3-cd)pyrene was detected at concentrations exceeding the NJDEP NRDCSRS of 2.0 mg/kg in three soil samples. Concentrations ranged from 4.1 mg/kg at D-05 (0-6") to 13 mg/kg at B-60 (6-12").

Metals

Two metals (arsenic and lead) were detected at concentrations exceeding NJDEP NRDCSRS in at least one soil sample. These analytical results are summarized in Tables 5-1 through 5-7.

Arsenic was detected at concentrations exceeding NJDEP NRDCSRS of 19 mg/kg in 58 soil samples. Concentrations ranged from 19.2 mg/kg at C-11 (0-6") to 168 mg/kg at B-28 (6-12").

Lead was detected at concentrations exceeding the NJDEP NRDCSRS of 800 mg/kg in one soil sample D-37 (0-6") at a concentration of 946 mg/kg.

5.1.1 Soil Summary

No VOCs, pesticides, or PCBs were detected at concentrations greater than NRDCSRS. Thus, VOCs, pesticides and PCBs are not considered soil COCs at the M-14 Landfill. Although arsenic and lead concentrations exceeded NJDEP NRDCSRS, these metals are not considered COCs because they are naturally-occurring within Fort Monmouth soils. Refer to the Background Metals Evaluation provided in Section 6.0 of this RIRA for additional details regarding naturally-occurring metals in Fort Monmouth soils.

The six SVOCs [benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene] are considered soil COCs for M-14 Landfill as they exceed both the NJDEP NRDCSRS and Maximum Background Concentrations (MBC) established for soils at the Main Post.

- ***Benzo(a)anthracene*** is considered a COC because it was detected at concentrations greater than the MBC of 0.65 mg/kg in six of the six samples where benzo(a)anthracene exceeded NJDEP NRDCSRS (2 mg/kg).
- ***Benzo(a)pyrene*** is considered a COC because it was detected at concentrations greater than the MBC of 0.6 mg/kg in 10 of the 21 samples where benzo(a)pyrene exceeded NJDEP NRDCSRS (0.2 mg/kg).
- ***Benzo(b)fluoranthene*** is considered a COC because it was detected at concentrations exceeding the MBC of 0.9 mg/kg in six samples where benzo(b)fluoranthene exceeded NJDEP NRDCSRS.
- ***Benzo(k)fluoranthene*** was detected in only one sample at a concentration greater than the NJDEP NRDCSRS and the MBC of 0.43 mg/kg. Due to the infrequency and

magnitude of exceedance in soil samples, benzo(k)fluoranthene is not considered to be a COC.

- ***Dibenz(a,h)anthracene*** is considered a COC because it was detected at concentrations greater than the MBC of 0.079 mg/kg in seven samples where dibenz(a,h)anthracene exceeded NJDEP NRDCSRS.
- ***Indeno(1,2,3-cd)pyrene*** is considered a COC because it was detected at concentrations greater than the MBC of 0.46 mg/kg in three samples where indeno(1,2,3-cd)pyrene exceeded NJDEP NRDCSRS.

5.1.2 Quality Assurance/Quality Control - Soil

Quality assurance/quality control (QA/QC) samples including samples duplicates, field blanks and trip blanks, were collected in accordance with the version of the NJDEP *Field Sampling Procedures Manual* in effect at the time sampling was conducted.

5.2 Ground Water Sampling Results

Analytical results from each of the seven monitoring wells at the M-14 Landfill for are summarized in Tables 5-1 through 5-7. Ground water summary tables include detected analytical results and are divided by monitoring well numbers and sampling date. The characterization of ground water quality at the M-14 Landfill consists of quarterly ground water sampling events conducted from 2nd Quarter 2001 – 3rd Quarter 2010. Ground water analytical results are compared to NJDEP GWQS and are presented in three different tabs reflecting changes to NJDEP GWQS. The first set of data is compared against the January 7, 1993 criteria; the next is when a criterion change occurred on November 7, 2005, followed by another criterion change on July 27, 2007.

The results in the ground water summary tables include analyte detections including exceedances of NJDEP GWQS, which are bolded and shaded. Detections are presented in the ground water sampling result summary tables as follows:

- Xylenes are reported as total xylenes (the sum of *o*-xylene and *m,p*-xylenes).
- TICs are added and reported as a total concentration for the sum of TICs detected for VOCs and SVOCs.
- Duplicate samples are included after the respective primary sample.
- Low flow sampling method results are identified as "LF."
- A "J" value is a concentration exceeding the method detection limit (MDL) but less than the reporting limit (RL) for VOCs, SVOCs, and pesticides/PCBs.
- Estimated Results (ER) are concentrations exceeding the MDL and less than the RL for metals.

- A "B" value is a compound detected in the sample and its associated blank sample.
- Sample suites that were discontinued are recorded in the footnotes along with a date of NJDEP Case Manager approval.

If a particular sample suite or analyte was not detected in a monitoring well, the suite/analyte is not presented in the monitoring well summary table.

5.2.1 VOCs

Throughout the current reporting period, no VOCs were detected in ground water samples at concentrations exceeding NJDEP GWQS.

5.2.2 VO TICs

Throughout the current reporting period, no VOC TIC concentrations were detected in ground water samples in excess of the NJDEP GWQS of 100 µg/L for individual compounds or 500 µg/L for total TIC concentrations.

5.2.3 SVOCs

Throughout the current reporting period, no SVOCs were detected in ground water samples at concentrations exceeding NJDEP GWQS.

5.2.4 SVO TICs

Throughout the current reporting period, no SVO TIC concentrations were detected in ground water samples in excess of the NJDEP GWQS of 100 µg/L for individual compounds or 500 µg/L for total TIC concentrations.

5.2.5 Pesticides and PCBs

Throughout the current reporting period, no pesticides or PCBs were detected at concentrations exceeding NJDEP GWQS.

5.2.6 Metals

During the last eight quarterly sampling events conducted from October 2008 to August 2010, eight metals were detected in ground water samples at concentrations exceeding NJDEP GWQS.

Antimony was detected at concentrations exceeding the NJDEP GWQS of 6.0 µg/L at six monitoring wells. Concentrations ranged from 6.5 µg/L (Low-flow #4 – round 55) in M-14MW21 to 23.1 µg/L (sampling round 38) in M-14MW24.

Arsenic was detected at concentrations exceeding the NJDEP GWQS of 3.0 µg/L at seven monitoring wells. Concentrations ranged from 3.27 µg/L (sampling round 49) in M-14MW24 to 95.6 µg/L (sampling round 38) in M-14MW24.

Beryllium was detected at a concentration exceeding the NJDEP GWQS of 1.0 µg/L in only one round of sampling (1.09 µg/L in sampling round 38) at one monitoring well (M-14MW23).

Cadmium was detected at concentrations exceeding the NJDEP GWQS of 4.0 µg/L at two monitoring wells. Concentrations ranged from 5.82 µg/L (sampling round 42) in M-14MW23 to 145 µg/L (sampling round 56) in M-14MW22.

Lead was detected at concentrations exceeding the NJDEP GWQS of 5.0 µg/L at four monitoring wells. Concentrations ranged from 5.41 µg/L (sampling round 39) in M-14MW24 to 9.96 µg/L (sampling round 50) in M-14MW22.

Nickel was detected at a concentration exceeding the NJDEP GWQS of 100.0 µg/L in only one round of sampling conducted at one monitoring well. Nickel was detected at 205 µg/L (sampling round 56) in M-14MW22.

Selenium was detected at concentrations exceeding the NJDEP GWQS of 40.0 µg/L in five rounds of sampling conducted at six monitoring wells. Concentrations ranged from 41.2 µg/L (sampling round 55) in M-14MW19 to 119 µg/L (sampling round 44) in M-14MW24.

Thallium was detected at a concentration exceeding the NJDEP GWQS of 2.0 µg/L in one round of sampling at one monitoring well. Thallium was detected at 4.02 µg/L (sampling round 37) in M-14MW24.

5.2.7 Ground Water Summary

Figure 5-1 (Ground Water Contaminants of Concern Distribution Map) depicts all analytes that exceeded NJDEP GWQS for the eight most recent ground water sampling events. Only metals (antimony, arsenic, beryllium, cadmium, lead, nickel, and thallium) were detected at concentrations exceeding NJDEP GWQS.

5.2.8 Ground Water – QA/QC

Quality assurance and quality control (QA/QC) samples were collected in accordance with the current version of the NJDEP's *Field Sampling Procedures Manual* in effect at the time sampling was conducted. All ground water samples were analyzed by the FMETL within the prescribed holding time requirements for the analytical method. Ground water QA/QC sample results are provided in the relevant lab packages in Appendix F.

M-14 Ground Water Data Validation

Tetra Tech EM Inc. (Tetra Tech) conducted data validation for the M-14 Landfill. Data was evaluated for the following criteria: data completeness; sample preservation, receipt, and holding times; gas chromatography and mass spectrometry (GC/MS) instrument performance checks; initial and continuing calibration; calibration verification; field, trip, and laboratory blanks; inductively coupled plasma – interference check sample (ICP-ICS); system monitoring compounds (surrogates); matrix spike/matrix spike duplicates (MS/MSDs); laboratory duplicate sample analysis; ICP serial dilution; field duplicates; laboratory control samples (LCSs); dilution; re-extraction and reanalysis; internal standards; target analyte identification; analyte quantitation; and reported detection limits. Data validation packages are provided in their respective appendices.

- Tetra Tech conducted data validation of the analytical results for six groundwater samples, one field duplicate, one rinsate blank, and one trip blank that were collected at the M-14 Landfill on November 20, 2009 as part of the fourth quarter 2009 long-term monitoring project. Tetra Tech concluded the overall quality of this data package was acceptable. All data can be used as qualified.

- Tetra Tech conducted data validation of the analytical results for six groundwater samples, two field duplicates, two field blanks, and two trip blanks that were collected at the M-14 Landfill on June 4 and 7, 2010 as part of the second quarter 2010 long-term monitoring project. Tetra Tech concluded the overall quality of this data package was acceptable. All data can be used as qualified.

5.3 Surface Water Sampling Results

Quarterly surface water samples were collected at 15 locations during the current sampling period (Surface Water Sampling Rounds 50 through 56). The nearest upstream sampling point from the M-14 Landfill is SS-19. The nearest downstream sampling point from the M-14 Landfill is SS-09. Results for surface water samples from inception of LTM are summarized in Appendix G. Surface water summary tables include detected analytical results for the surface water sample locations and are divided by surface water sample numbers and sampling dates.

From March 2009 through September 2010, seven quarterly surface water sampling events were conducted. Surface water sampling results from the base-wide sampling program were compared to NJDEP Freshwater SWQS. Concentrations of VOCs, metals, and wet chemistry exceeding NJDEP Freshwater SWQS are summarized in Appendix G. Surface water contaminant distributions with time are presented in Appendix G. The results of the current surface water sampling events are discussed below.

The results in the surface water summary tables include analyte detections as well as

exceedances of the NJDEP Freshwater SWQS, which are bolded and shaded. VOCs, metals, and wet chemistry parameters are presented as required to summarize results for detected parameters. Detections are presented in the surface water sampling result summary tables as follows:

- Xylenes are reported as total xylenes (the sum of *o*-xylene and *m,p*-xylenes).
- TICs are added and reported as a total concentration for the sum of TICs detected for VOCs.
- Duplicate samples are included after the respective primary sample.
- A "J" value is a concentration exceeding the MDL but less than the RL for VOCs.
- Estimated Results "ER" are concentrations exceeding the MDL and less than the RL for metals.
- A "B" value is a compound detected in the sample and its associated field blank sample.
- If a particular sample suite or analyte was not detected in a surface water sample location, the suite/analyte is not presented in the summary table.

5.3.1 VOCs

During surface water sampling events conducted during the current reporting period, four VOCs (bromodichloromethane, PCE, TCE, and vinyl chloride) were detected at concentrations exceeding SWQS.

Appendix G includes a summary of the analytical results which exceeded NJDEP SWQS during the current reporting period.

5.3.2 TICs

During the current reporting period, VO TICs were periodically detected at seven of the 15 surface water sampling locations. For comparison purposes, concentrations were compared to the GWQS as there are no SWQS for VO TICs.

Surface water TICs did not exceed either the NJDEP GWQS of 100 µg/L for an individual compound or 500 µg/L for total TIC concentrations during this reporting period. Appendix G includes a summary of the analytical results for the surface water TICs during this reporting period.

5.3.3 Metals

Antimony, arsenic, lead, and mercury were detected at concentrations that exceeded their respective NJDEP SWQS.

5.3.4 Pesticides and PCBs

Pesticides and PCBs were not analyzed in surface water samples collected during the current reporting period.

5.3.5 Surface Water Summary

During surface water sampling events conducted during the current reporting period, four VOCs (bromodichloromethane, PCE, TCE, and vinyl chloride) were detected at concentrations exceeding SWQS. Antimony, arsenic, lead, and mercury were detected at concentrations exceeding NJDEP SWQS.

During the current reporting period, surface water samples collected at the nearest upstream sampling point (SS-19) from the M-14 Landfill exceeded NJDEP SWQS for arsenic, bromodichloromethane, and lead. Surface water samples collected at the nearest downstream sampling point (SS-09) from the M-14 Landfill exceeded NJDEP SWQS for arsenic and lead.

5.3.6 Surface Water – QA/QC

To verify the reliability of surface water analytical results, Brinkerhoff reviewed the holding times for each sample and the results of the analyses of nine method blanks, seven trip blanks, seven field blanks, and seven field duplicate samples for the surface water samples. The discussion below is based upon QA/QC for the VOC surface water samples. Samples were analyzed by the FMETL within the prescribed holding time requirements for the analytical method.

Method Blanks

Laboratory method blanks accompanied each set of surface water samples for each surface water sampling event. These method blanks consisted of laboratory-deionized water that is processed identically to the samples and analyzed with the sample batch. A total of nine VOC method blanks were analyzed with the base wide surface water samples.

No COCs were detected in the method blank samples.

Trip Blanks

Seven trip blanks were included as part of the base-wide surface water sampling program to document that VOCs were not introduced into the samples during the handling process. The trip blanks were prepared by the FMETL and consisted of sample bottles filled with laboratory-deionized water. The trip blanks remained with the sample bottles in coolers and were returned to the laboratory for analyses along with the surface water samples.

Methylene chloride was detected in one of the seven trip blanks at a concentration of 15.28 µg/L, which exceeds the NJDEP Freshwater SWQS of 2.5 µg/L, but is in compliance with the saline SWQS of 310 µg/L. Methylene chloride is a common laboratory contaminant.

Field Blanks

During each day's sampling activities, one field blank sample was collected to document equipment decontamination procedures. A total of seven field blanks were collected during the base-wide surface water sampling program. The field blanks were collected by pouring deionized water supplied by the laboratory over the equipment used for daily sampling activities. The water was collected in clean laboratory-supplied containers and submitted for analysis along with the surface water samples.

Methylene chloride was detected in one of the seven trip blanks at a concentration of 2.18 µg/L, which is in compliance with the NJDEP Freshwater SWQS of 2.5 µg/L. Methylene chloride is a common laboratory contaminant.

Duplicate Samples

Seven field duplicate samples were also collected during the base-wide surface water sampling events to verify the consistency of the entire sampling and analytical procedures. The results for the duplicate samples were similar to those collected for the original samples. The RPDs for the duplicate sample analyses ranged from 0 to 21.51 percent; however, the average RPD for the seven duplicates was 13.65 percent. Based upon average RPDs, the QA/QC sampling results indicate a high level of precision.

Surface Water Data Validation

Tetra Tech conducted data validation for the Main Post Surface Water Sampling. Data was evaluated for the following criteria: data completeness, sample preservation, receipt and holding times, GC/MS instrument performance checks, initial and continuing calibration, calibration verification, field, trip, and laboratory blanks, ICP-ICS, system monitoring compounds (surrogates), MS/MSDs, laboratory duplicate sample analysis, ICP serial dilution, field duplicates, LCSs, dilution, reextraction and reanalysis, internal standards, target analyte identification, analyte quantitation, and reported detection limits. Data validation packages are provided in Appendix G.

- Tetra Tech conducted data validation of the analytical results for fifteen surface water samples, one field duplicate, one field blank, and one trip blank that were collected at from stream sampling points (abbreviated to "SS" in the sample designations) on December 7, 2009. The overall quality of this data package was acceptable. Rejection of data was not required for this data package. The VOC data were qualified due to minor

calibration irregularities and results less than the laboratory RLs but greater than the MDLs. Metals results were qualified for calibration verification irregularities, blank contamination, a result greater than the linear range of the instrument, and results less than the laboratory RLs but greater than the MDLs. All data can be used as qualified.

- Tetra Tech conducted data validation of the analytical results for 15 surface water samples, one field duplicate, one trip blank, and one field blank, that were collected on June 22, 2010 as part of the 2nd Quarter 2010 LTM project. Tetra Tech concluded that the overall quality of the data was acceptable. No analytical results were rejected. All data can be used as qualified.

6.0 BACKGROUND METALS EVALUATION

Historically, ground water samples from monitoring wells throughout Fort Monmouth's Main Post and the Charles Wood Area have periodically displayed concentrations of metals that exceed NJDEP GWQS. Some of the metals have been retained as COCs while characterization has continued. However, it has long been believed that the metal detections represent materials derived from the native soil as a background condition in the local region.

Brinkerhoff Environmental Services (2011) noted the likelihood that metal results reflected the presence of high turbidity in samples (see Appendix H). In addition, the analysis of glauconitic clay (see Appendix H) indicates that the clay contains a metal fingerprint that mirrors that found in turbid ground water samples, suggesting the fines from the native clays are the source of the turbidity and that the metals are derived from acid extraction of the metals on those fines when subjected to the preservatives added to the sample vials.

The Army has conducted additional analysis of available data and concludes that the metals heretofore designated as COCs in ground water are, in fact, native materials associated with clay fines in the samples. The following describes the approach taken and the conclusions drawn from the results of the analyses.

6.1 Evaluation Approach

In the past, each site at Fort Monmouth has been evaluated on its own merits with respect to COCs and risk. However, it has become very clear that the apparent metals issue is ubiquitous and would benefit from a base-wide analysis. Pursuant to that, a review was made of all historical groundwater sampling data to help put metal results in perspective. In the Brinkerhoff background analysis (2011), it was concluded that there were no sources for any of the metals observed in ground water, with the possible exception of lead. Because there were potential sources of lead present at Fort Monmouth (but not specifically associated with any individual site), Brinkerhoff chose not to rule out the possibility that some of the metals found in ground water could be the direct result of a release. At the same time, Brinkerhoff found a direct correlation between arsenic concentrations and lead concentrations, despite there being no potential source of arsenic releases. The obvious implication of that finding is that lead, as well as arsenic, arises from its presence in native soil. As a consequence, the Army has focused its analysis primarily on lead.

The review focused on the following areas:

- Nature of apparent sources
- Relationship of metals levels to turbidity
- Extreme variability in field duplicate results
- History of atypical spikes

6.1.1 Nature of Apparent Sources

A review of monitoring data over the life of the environmental restoration program at Fort Monmouth reveals that virtually every monitoring well at one time or another has had a metal concentration that has exceeded NJDEP GWQS. Given the diverse nature of activities and the location of the monitoring wells, this suggests a common factor across sites other than the activities that might have resulted in releases. Specific to lead contamination, sites with heating oil tanks and lime pits are unlikely sources of a release. Not only is lead not present as an additive in heating oil, but the characteristics of the lime pit should reduce the solubility of lead, not increase it. Lead is mobilized by acidity, not by basic conditions.

When the review is expanded to all metals, there is a consistent pattern of observations despite the nature of the Army's activities as seen in Table 6-1. Moreover, the metals observed (antimony – Sb; arsenic – As; beryllium – Be, cadmium – Cd, chromium – Cr; lead – Pb; and nickel – Ni) are all present in glauconitic clay. Metal observations in ground water are consistent, despite the disparate nature of the Army's activities at the sites being monitored.

Table 6-1
Metal Observations in Ground Water Are Consistent, Despite the Disparate Nature of the Army's Activities At the Sites Being Monitored

Site	Release Type	Location	Other COCs	Metals > NJGWQS (Bkgd)
FTMM-14, M-14 Landfill	Landfill	Main Base, Central		Sb, As, Be, Cd, Pb, Th
FTMM-03, Landfill M-3	Landfill	Main Base, North Central	VOC	Sb, As, Cd, Pb
Building 750	Heating Oil USTs	Main Base. South Central		Sb, As, Be, Cd, Cr, Pb, Ni
FTMM-18, 54, 55, 62	Landfill, USTs, Fuel area	Main Base, North Central	Benzene	Sb, As, Be, Cd, Pb
FTMM-25, Landfill CW-3A	Landfill	Charles Wood, South		Sb, As, Be, Cd, Cr, Pb
FTMM-28, Pesticide Spill Location	Pesticide Spill, USTs Fuel Area	Charles Wood, Central		As, Pb, Cd, Sb, Sl, Th
FTMM-04, Landfill M-4	Landfill	Main Base, West Central		Sb, As, Be, Cd, Pb, Th
FTMM-12, M-12 Landfill	Landfill	Main Base, Central		Sb, As, Be, Cd, Pb, Th
FTMM-66, Building	Heating Oil	Main Base,	Methyl	Sb, As, Cd, Pb

Site	Release Type	Location	Other COCs	Metals > NJGWQS (Bkgd)
866	AST	South Central	Napthalene, Benzene, BEHP	
FTMM-58, Building 2567	Active Gas Station	Charles Wood, East Central	Tert Butyl Alcohol	Sb, As, Pb
FTMM-56, Buildings 80-166	Heating Oil UST	Main Base, East	Chlordane, DDD, DDE	Sb, As, Be, Cd, Pb, Th
FTMM-22, Building CW-1	Lime Pit	Charles Wood, West	TCE	Sb, As, Pb
FTMM-57, Building 108	Heating Oil UST	Main Base, East		Sb, AS, Pb

6.1.2 Relationship of Metal Levels to Turbidity

Brinkerhoff Environmental Services' *Report on Background Metals* (2011) notes in Section 4.2 that there has been a historic problem with turbid samples and the subsequent dissolution of metals from native soil by the nitric acid preservative used on samples intended for metals analysis. In a background study of the glauconite-rich soil at Fort Monmouth, researchers noted concentrations of 16 mg/kg lead (March 9, 2011 letter from U.S. Army to Larry Quinn). Turbidity is exacerbated by purge techniques in formations with fine soil particles, but can also be a problem with low-flow sampling as noted in Tetra Tech's January 2010 Data Validation Report in which some field duplicates had RPDs for metals that exceeded QC criteria (e.g., 80MW03 on 2/24/2010).

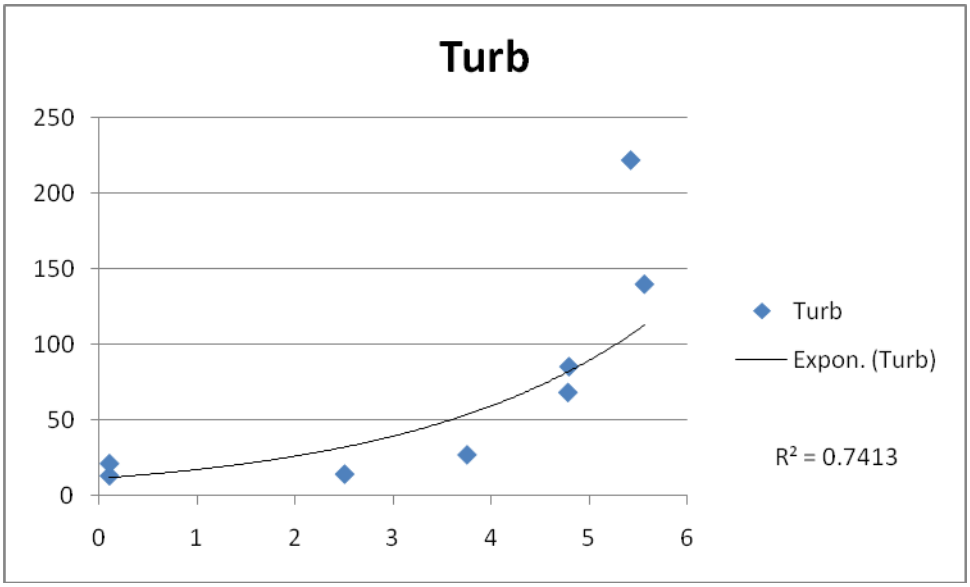
Turbidity data have not been reported for most historic samples. However, turbidity has been measured since implementation of low-flow sampling techniques in 2010. In general, samples should have turbidity < 5 units for a sample to yield results representative of dissolved metals. The data presented in Table 6-2 summarize turbidity levels for samples taken from various sites at Fort Monmouth in 2010. Clearly, turbidity remains a problem, despite the use of low-flow sampling. Occurrence of turbidity in excess of 5 NTU in 2010 samples have continued despite the use of low-flow sampling techniques. Turbidity data for FTMM-28 in the second quarter sampling of 2010 were as follows: MW-01 – 4.48 NTU; MW02 – 38 NTU; MW-03 – 6.14 NTU; and MW-34 – 10.2 NTU. The turbidity data for FTMM-28 for the third quarter of 2010 were as follows: MW-01 – 9.36 NTU; MW02 – 18.3 NTU; MW-03 – 4.12 NTU; and MW-34 – 9.81 NTU.

Table 6-2
Occurrence of Turbidity In Excess of 5 JTU in 2010 Samples Have Continued, Despite Use of Low Flow Sampling Techniques

Site	Turbidity (NTU) **Bold XX** – Value is in excess of 5 NTU										
	MW01	MW02	MW03	MW04	MW05	MW06	MW07	MW08	MW09	MW10	MW11
FTMM-57 (Q2)	**9.16**	**10.3**	4.16	**37.4**							
FTMM-03 (Q1)				0.28	**15.6**	4.64	**7.63**	4.83	**12.4**	**10.8**	2.28
FTMM-03 (Q2)				3.61	**11.7**	**10.3**	**6.02**	**11.5**	**7.54**	2.13	1.82
FTMM-18/54/55/62 (Q2)	2.14	**16.8**	1.67	**11.3**		**6.17**	**34.5**	**13.3**			
FTMM-04 (Q1)							3.65	**36.6**	**7.68**	1.43	
FTMM-04 (Q2)							2.81	**24.3**	**6.17**	2.7	
FTMM-66 (Q2, RW wells)	**14.4**	**222**	13.3	**140**	**85.5**	**68.4**	**21.4**	**27.2**			
FTMM-58 (Q1)	**38.1**	**11.5**	**8.67**	**22**	**9.4**	**21.6**	**6.88**				
FTMM-58 (Q2)	0.58	**6.17**	**10.2**	**5.54**	**35.7**	**16.8**	**8.17**				
Well	MW16	MW17	MW18	MW19	MW20	MW21	MW22	MW23	MW24	MW25	MW26
FTMM-12	3.06	**5.65**	1.2	0.75	0.33	4.34	2.05	**5.61**	3.36	**5.22**	**9.72**

When the turbidity is high, there is a direct correlation between turbidity and lead concentrations as is evident from the data from Site FTMM-66 samples collected in May 2010 (Figure 6-1).

Figure 6-1
There is a Direct Correlation Between Turbidity and Lead Concentrations at FTMM-66 Using Low Flow Sampling Techniques



As one would expect, the introduction of low-flow sampling techniques has reduced metal concentrations reported in ground water samples at Fort Monmouth. A comparison of lead concentrations prior to and after implementation of the low-flow techniques is provided in Table 6-3. As is evident, lead concentrations decreased when low flow sampling was implemented. However, as presented in Table 6-2, turbidity issues are still present with low flow sampling and can still cause an apparent elevation in lead levels.

Table 6-3
There Has Been a Clear Reduction in Lead with Use of Low Flow Sampling Techniques, Despite Continued Presence of High Turbidity

Site	Lead Concentration (ug/L) Pre-Low Ave/Low Flow Ave										
	MW01	MW02	MW03	MW04	MW05	MW06	MW07	MW08	MW09	MW10	MW11
FTMM-57 (10/08 to 8/10)	16./6.9	9/4.2	5.4/3.7	8.6/4.7		7.6/6.0					
FTMM-03 (12/08 to 9/10)				ND/1.9	ND/ 4.4	ND/3.7	48/3.3	ND/6.4	ND/3.3	ND/6.2	ND/3.3
Bldg 750 (10/08 to 8/10)	0.9/ND	61/6.5	6.7/ND	1.9/ND							
FTMM-18/54/55/62 283 wells (10/08 to 9/10)					8.1/ND	3.9/ND					
FTMM-18/54/55/62 290 and 296 wells (10/08 to 9/10)	10.7/ND	5.6/1.2	15/3.8*	4.5/4.5	5.7/7.2	5.2/4.5	5/ND	9.2/6			
FTMM-25 (10/08 to 7/10)	5.9/ND	7.2/3.4	8.2/2.4	9/3.5							
FTMM-04							3.5/ND	12/ND	4/ND	6.7/ND	

Site	Lead Concentration (ug/L) Pre-Low Ave/Low Flow Ave										
	MW01	MW02	MW03	MW04	MW05	MW06	MW07	MW08	MW09	MW10	MW11
(10/8 to 7/10)											
FTMM-66 (12/8 to 8/10)	5.1/3.7	2.9/1.5	5.2/6.1	ND/ND	28/2.8						
FTMM-58 (11/08 to 9/10)	ND/ND	3.4/ND	1.5/ND	2.2/5.5	30/9.2	1.9/ND					
FTMM-56 (2/09 to 8/10)	3.8/4.7	2.9/ND	5.2/ND	ND/2.8	19/3.6						
FTMM-56 Well 166 (2/09 to 8/10)	7.3/3.4										
Well	MW16	MW17	MW18	MW19	MW20	MW21	MW22	MW23	MW24	MW25	MW26
FTMM-12 (10/8 to 9/10)	10/2.6	4.4/3.2	5.7/5.3	9.8/ND	4.1/4.9	2.9/ND	7.7/6.6	2.9/4.1	4.7/ND	2.1/ND	5.6/2.8
FTMM-12 14MW wells (10/8 to 9/10)				3.7/3.7	1.9/ND	ND/ND	6.2/9.2	1.3/3.6	5.4/ND		

- Average does not include the 1060 value reported in 1/2010 that was an outlier

6.1.3 Extreme Variability in Metal Content of Field Duplicate Samples

In accordance with standard quality control/quality assurance protocol, field duplicate samples were collected throughout the performance of monitoring work at Fort Monmouth. Pursuant to the Quality Assurance Project Plan for Fort Monmouth, whenever samples are found to have a

relative percent difference (RPD) of greater than 25% for metals, the data quality is suspect. An examination of the RPD values for ground water samples at Fort Monmouth reveals that a significant number of the duplicates collected from wells across the installation have RPD values well in excess of 25%.

Table 6-4
A Significant Percentage of the Field Duplicates Collected at Fort Monmouth Yielded RPD for Lead in Excess of the Quality Control/Quality Assurance Threshold Value of 25%

Site	Well	Date	Lead Concentration (ug/L)		RPD (%)
			Sample #1	Sample #2	
FTMM-57	MW01	11/2000	8.14	15.6	63
		5/2001	4.2	5.33	24
		10/2008	30.8	20.9	38
	MW04	5/2000	ND	67.2	194
		9/2001	2.45	3.65	39
		12/2001	5.03	5.18	2.9
		2/2009	1.71	9.74	140
		6/2009	25.1	22.7	10
		8/2009	5.26	4.04	26
		11/2009	2.98	3.55	17
FTMM-22	MW26	8/1998	ND	149	197
		8/1999	ND	2.89	97
		2/2001	1.47	2.06	33
	MW31	5/2001	10.7	2.65	52
		11/2001	18.3	1.91	32
	MW38	11/2002	6.11	ND	144
	MW281	3/1999	6.22	4.98	22
		5/2000	33.1	ND	188
		11/2001	ND	2.05	69
	MW282	6/1998	5.5	3.9	169
		8/2000	66.6	ND	118
FTMM-03	MW04	6/2010	ND	3.68	85
FTMM-18/54/55/62	290MW01	9/2010	2.48	ND	85
	296MW01	8/2000	3.69	4.43	18
		11/2000	ND	63.3	194
		5/2001	4.07	6.89	51
		3/2009	7.06	5.9	18
		5/2009	ND	9.32	161
	296MW06	8/2001	17	1.34	171
	296MW07	2/2001	3.15	2.76	13

Site	Well	Date	Lead Concentration (ug/L)		RPD (%)
			Sample #1	Sample #2	
FTMM-25	MW01	8/1999	ND	4.16	122
		11/1999	3.82	3.55	7
		10/4/2000	ND	2.12	72
		10/16/2000	ND	231	198
		5/2002	6.54	1.93	109
		8/2003	3.82	ND	117
	MW02	4/2001	1.89	1.6	17
	MW03	1/1998	16	ND	176
		4/2003	2.65	2.18	19
		10/2005	ND	5.56	139
		7/2009	9.51	ND	162
		1/2010	ND	4.86	132
	MW04	4/2010	3.14	2.82	11
		7/2010	2.53	5.46	73
FTMM-12	14MW19	6/2009	6.79	3.97	52
		9/2009	4.72	ND	130
		11/2009	3.11	ND	103
FTMM-66	80MW01	11/2001	19.7	3.08	146
	166MW01	3/2000	4.21	2.93	36
		10/2000	16.4	36.5	76
		4/2001	31	6.44	131
		8/2001	15.9	15.2	5

The presence of turbidity is the most common cause of poor RPD performance when metals are the analyte. Simply put, suspended solids that cause turbidity in water samples are heterogeneous by nature and when the sample is split, there is no way to divide them evenly so that both samples obtain the same amount of solids, let alone an evenly divided sampling of the different solid particle types that may be present. A single particle of mineral origin can have sufficient metal content to dramatically affect the RPD.

6.1.4 Occurrence of Atypical Spikes

Metals generally move slowly in ground water, both because of the slow velocity of the water itself and because of interactions with the soil that retard their movement. As such, time frames are sufficient for dispersion and diffusion to give rise to classic Gaussian plumes that display first order concentration gradients. When samples collected in sequential quarters differ in concentration by more than an order of magnitude, it suggests that at least one of the two values does not represent dissolved metal content and is more likely to be the result of acid extraction from suspended solids in the sample. Atypical spikes noted in historic monitoring results are presented in Table 6-5.

Table 6-5
Historical Data from Fort Monmouth Show Rapid Increases and Decreases in Lead Concentrations That Cannot Be Attributed to Dissolved Metals

Site	Well	Date	Lead Concentration (ug/L)		
			Preceding	Spike	Succeeding
FTMM-57	MW01	3-9/1999	90	125	11.2
		5-10/2002	6.91	28.3	4.88
		8/2008 – 6/2009	2.45	30.6 and 16.1	2.9
	MW02	7-8/1993		137	ND
		6/1997-3/1998	4.2	17	ND
		2-9/2003	ND	15.4	2.87
	MW03	6/1997-3/1998	4.2	17	ND
		2-9/2003	ND	15.4	2.87
	MW04	4-11/1997	24	122	35
		5-11/1998	34.4	99 and 163	7.18
		8-11/2000	13.2	143	1.26
FTMM-22	MW38	11/2000-2/2001		90.8	ND
	MW40	9/2002-2/2003	ND	13.2	ND
Bldg 750	MW01	4/1993-11/1994	ND	23	3.2
		9/1997-3/1998	3.3	12	5
		5-12/1998	ND	14	5.2
		5-11/2000	ND	31.2	ND
		2-8/2004	ND	20.5	ND
	MW02	11/1996-2/1997		23.8	ND
		5-12/1998	ND	69	ND
		12/1998-7/1999	ND	111 and 612	7.84
		5/2000-2/2001	15.7	114 and 68.4	ND
		5-11/2002	5.41	44.8	9.25
		11/2004-4/2005	7	59.2	ND
		8/2008-	ND	232	2.03

Site	Well	Date	Lead Concentration (ug/L)		
			Preceding	Spike	Succeeding
		3/2009			
	MW03	12/1998-6/1999	ND	17.3	ND
		10/1999-5/2000	ND	19.4	ND
		1-7/2005	ND	22.7	ND
	MW04	11/8-30/1994		201	4.7
		2-8/2001	ND	66.7	2.92
		1-7/2005	ND	33.4	ND
FTMM-18/54/55/62	296MW01	3-8/2000	ND	20.5	4.06
	296MW02	11/1997-5/1998	30	836	16.5
		3-8/2000	6.3	28.3	7.74
		5-12/2002	1.5	177	ND
		2-8/2005	17.3	52	ND
		5-11/2009	ND	36.1	2.73
		11/2009-5/2010	2.73	1060	ND
	296MW04	12/2001-5/2002	5.54	31.4	9.93
	296MW06	5-8/2001	2.18	17	1.34
		11/2003-5/2004	ND	31.8	ND
	296MW07	8/2001-3/2002	5.69	18.2	3.36
		11/2003-5/2004	ND	17.9	ND
		7/2004-2/2005	ND	14.5	ND
	296MW08	5-12/2001	13.1	80.6	16
FTMM-25	MW01	1-3/1998	ND	16	ND
	MW02	10/2001-5/2002	2.37	34.1	1.29
	MW03	8/1999-2/2000	ND	1010	ND
		5-8/2000	2.35	26.5	1.7
	MW04	5-8/2000	ND	104	ND
		10/2000-4/2001	ND	32.4	ND

Site	Well	Date	Lead Concentration (ug/L)		
			Preceding	Spike	Succeeding
		1-7/2002	1.73	23	7.4
		10/2003-5/2004	6.06	86.6	ND
FTMM-04	MW08	7/2009-1/2010	ND	31.1	ND
FTMM-12	14MW22	10/2008-6/2009	ND	9.96	ND
		6-9/2010	ND	9.23	
FTMM-66	80MW01	6-11/1998	3.3	10.4	2.86
		3-8/2000	3.67	10.4	2.86
		2-8/2005	ND	18.3	6.5
	80MW04	2-8/2005	ND	19.4	ND
	80MW05	1-12/2002	13.4	47.2 and 70.1	4.31
		2-8/2009	ND	28.4	ND
	166MW01	8/1997-2/1998	1.6	15	ND
		6-11/1998	2.3	12.4	4.23
		3-8/2000	2.93	17.3	5.12
		3-9/2003	1.62	10.2	3.43
FTMM-58	MW02	4-1993-3/1994	ND	260	ND
		8/1997-3/1998	ND	20	8
FTMM-56	80MW05	2-8/2009	ND	28.4	ND
	166MW01	6-11/2009	ND	7.25	ND

6.2 Conclusion of Base-Wide Evaluation of Metals As Contaminants of Concern

The only consistent explanation for lead findings to date (and other metals as well) is that fine particles of glauconitic clay are suspended in many of the samples and yield metals when contacted with the acid preservative used for ground water samples. The applicability of each of these factors to individual sites at Fort Monmouth is summarized in Table 6-6.

Table 6-6
All Sites with Historic Lead Occurrences Have One or More Clear Markers Suggesting Turbidity is the Source of the Lead

Site and Use	Most Recent Lead Con Range in ug/L (date)	Percent of Low Flow Samples with Turbidity > 5 NTU	Affect of Low Flow (Ave Post/Pre)*	% of RPD** > 25 (Maximum RPD)*	# Atypical Spikes (Max Value in ug/L)
FTMM-12, M-14 Landfill	ND-9.23 (9/9/2010)			60% (194)	2 (9.96)
FTMM-03, Landfill M-3	ND-8.37 (9/7/2010)	50% (Q1) 62.5% (Q2)	0.59	100% (85)	
Building 750 – Heating Oil UST	ND (8/18/2010)		0.13		18 (612)
FTMM-18, 54, 55, 62 Landfill, USTs, and Fuel Area	ND-8.89 (9/29/2010)	71.4%	0.17 (#283) 0.48 (#290/6)	62.5% (194)	14 (1060)
FTMM-25, Landfill CW-3A	ND-4 (7/26/2010)		0.34	71.4% (198)	7 (110)
FTMM-04, Landfill M-4	ND (7/21/2010)	50% (Q1) 50% (Q2)	0.15	50% (73)	1 (31.1)
FTMM-12, M-12 Landfill	ND-9.23 (9/9/2010)	36.3%	0.56 1 (#14MW)	100% (130)	
FTMM-66, Building 866, Heating Oil AST	ND-7.09 (8/5/2010)	100%	0.36	80% (146)	10 (70.1)
FTMM-58, Building 2567, Gas Station	ND (1/16/2004)	100% (Q1) 87.4% (Q2)	0.47		2 (260)
FTMM-56, Buildings 80-166, Heating	ND-6.43 (8/31/2010)		0.41		2 (28.4)

Site and Use	Most Recent Lead Con Range in ug/L (date)	Percent of Low Flow Samples with Turbidity > 5 NTU	Affect of Low Flow (Ave Post/Pre)*	% of RPD** > 25 (Maximum RPD)*	# Atypical Spikes (Max Value in ug/L)
Oil UST					
FTMM-22, Building CW-1, Lime Pit	ND-2.45 (8/24/2010)			91% (197)	2 (90.8)
FTMM-57, Building 108, Heating Oil UST	ND-6.91 (8/19/2010)	75%	0.55	70% (197)	11 (163)

*Based on setting ND samples at 1 ug/kg
**If both duplicates were ND or if one was ND and the other <2 ug/L, the duplicate was not evaluated

Given the weight of evidence, the Army has concluded that metal detections in general, and lead specifically, are the direct result of acid leaching of suspended solids in ground water samples. Therefore, metals are not considered COCs. This is further supported by the location of the Wenonah Mount Laurel aquifer, which is approximately 125 feet bgs - too deep to be affected by the presence of these metals near ground surface. In addition, the sensitive receptor survey (Appendix I) indicated no domestic or irrigation wells are close enough to be adversely impacted by COC migration.

7.0 RECEPTOR EVALUATION

7.1 Sensitive Receptor and Well Search

A visual and documentary search of sensitive populations was performed by the Army and their subcontractor to identify potentially sensitive populations within 200 feet of Fort Monmouth's boundaries. The identification of said populations is in accordance with NJDEP statutory requirements. The Receptor Evaluation Report, NJDEP Sensitive Receptor Survey Form, and Sensitive Receptor Survey figure are provided in Appendix I.

Although the identified populations are within 200 feet of Fort Monmouth's boundaries, all of the environmentally-impacted locations are an appreciable distance from the fence line and in all cases exceed the 200-foot buffer established by NJDEP. In addition, site-specific utility maps were reviewed to identify any preferential pathways which could affect site contamination plumes. These maps are provided in Appendix I.

In addition to the sensitive receptors, the Army has included all identified off-site wells within 2,000 feet of Fort Monmouth's perimeter. No production wells were identified within 2,000 feet of Fort Monmouth's boundaries. The majority of off-site wells are monitoring wells associated with various remedial activities. A ground water model has been developed for Fort Monmouth, with the overall ground water flow pattern for the Main Post being easterly with a localized northeasterly component. Fort Monmouth is bounded by surface water bodies to the east and northeast. Domestic and/or irrigation wells to the east or northeast of the Main Post would not be impacted by activities conducted on the Fort Monmouth property.

Surface water bodies interact with ground water at Fort Monmouth. The interaction takes place in three basic ways: streams gain water from inflow of ground water through the streambed, streams lose water to ground water by outflow through the streambed, or both, gaining in some reaches and losing in other reaches. When ground water discharges into a surface water body, the elevation of the ground water table in the vicinity of the surface water body must be higher than the elevation of the stream water surface. Conversely, for surface water to seep to ground water, the elevation of the water table in the vicinity of the stream must be lower than the elevation of the stream water surface. The surface water bodies at Fort Monmouth (Oceanport and Parkers Creeks) may be gaining or losing depending upon the tidal cycle. Throughout the entire tidal cycle however, net results are that ground water inflows into the creeks, albeit at low flow rates. Figures depicting the surface water features, wetland areas, and stream bank stabilization areas in the vicinity of the Site are included in Appendix I.

7.2 Vapor Intrusion (VI) Investigation

The Army evaluated the requirements for a VI investigation in accordance with the NJDEP's Vapor Intrusion (VI) Guidance and *Technical Requirements*. As detailed in the NJDEP VI Guidance, three-stage assessment criteria were utilized to determine the applicability of VI

regulations. Site-specific ground water data from the seven most recent quarterly ground water sampling events were compared to the NJDEP generic VI screening levels.

Concentrations of COCs in ground water do not exceed the generic ground water screening levels (GWSL) presented in the NJDEP VI Guidance within 100 feet (specific to chlorinated solvents) of nearby buildings. According to the decision flow chart for VI, no investigation is required for the M-14 Landfill.

7.3 Baseline Ecological Evaluation (BEE)

Shaw Environmental, Inc. was contracted by the Army to conduct a Baseline Ecological Evaluation (BEE) for Fort Monmouth's Main Post and Charles Wood Areas. Sampling of multiple media was conducted in 2010. The final BEE was submitted in May 2011 and will be updated once comments are resolved with NJDEP.

7.4 Public Notification

In accordance with the Public Notification requirements in the *Technical Requirements* at N.J.A.C. 7:26E-1.4, the Army submitted a request to the NJDEP Site Remediation Program (SRP) dated June 17, 2010 to conduct an *Alternative Public Notification Plan*. This request was approved by the NJDEP in correspondence dated June 24, 2010. Copies of said correspondence are provided in Appendix I.

The *Alternative Public Notification Plan* includes newspaper advertisements being placed in local and county newspapers through the Asbury Park Press and The Link, all public notification documents being sent to the Municipal Clerk for each municipality in which the contaminated site is located, and to the local designated health official. The FTMM also established a local document repository for all reports produced regarding the site remediation areas of concern (AOCs) at Fort Monmouth. The repository is located at the Monmouth County Library in Shrewsbury, New Jersey where all reports are available for public review. All of these reports are also available online at http://www.pica.army.mil/FtMonmouth.

The Fort conducted two Open Houses in January of 2008 and January of 2009, during which times figures and data regarding all of the Fort's site remediation AOCs were on display. Fort environmental personnel were available to answer questions from the public. The Fort will conduct a third Open House should the need arise.

The Fort also operates a Restoration Advisory Board (RAB) which holds quarterly public meetings held by RAB members who are public citizens, not elected officials, selected from the surrounding towns. They review and comment on technical documents and plans relating to ongoing environmental investigations and restoration activities at the Fort. Members serve as liaisons with the community and are available to meet with community members and groups. The meetings are open to the public and notification of all meetings is provided in local

newspapers as well as by mail to all interested parties. All environmental projects subject to the *Technical Requirements* are presented to the RAB via this public forum. Examples of the media release and Affidavit are provided in Appendix I.

8.0 REMEDIAL ACTION PROGRESS

8.1 Costs of Remediation Incurred to Date

The total costs to date for the implementation of the remedial actions performed at the M-14 Landfill are approximately $X,XXX,XXX (Refer to Appendix J). This includes the Preliminary Assessment (PA) phase, SI, Remedial Investigation/Feasibility Study, LTM, and reporting (including RIRs and RIRAs).

8.2 Ground Water Conclusions

During the current reporting period (2nd Quarter 2001 – 3rd Quarter 2010), ground water sampling was conducted quarterly. For the last eight ground water sampling quarters (4th Quarter 2008 – 3rd Quarter 2010), only metals (antimony, arsenic, beryllium, cadmium, lead, nickel, and thallium) exceeded NJDEP GWQS. Metal detections in general, and lead specifically, are the direct result of acid leaching of suspended solids in ground water samples as discussed in depth in Section 6.0. Therefore, metals are not considered COCs at the M-14 Landfill. In addition, due to the extremely slow migration rates of metals in ground water, they pose little potential for migration. Since no COCs exceed NJDEP GWQS in M-14 Landfill ground water monitoring wells, a Classification Exception Area is not proposed.

8.3 Surface Water Conclusions

During the current reporting period, surface water samples collected at the nearest upstream sampling point (SS-19) from the M-14 Landfill exceeded NJDEP SWQS for arsenic, bromodichloromethane, and lead. Surface water samples collected at the nearest downstream sampling point (SS-09) from the M-14 Landfill exceeded NJDEP SWQS for arsenic and lead. As discussed in depth in Section 6.0, metal detections in general, and lead specifically, are the direct result of acid leaching of suspended solids in water samples. Thus, metals are not considered COCs at the M-14 Landfill.

Bromodichloromethane was detected during the June 2010 stream sampling event at stream sampling point SS-19. This is considered an isolated detection and is the first time bromodichloromethane has been detected at SS-09 since surface water sampling began at Husky Brook in 3rd Quarter 1996. Thus, bromodichloromethane is not considered a COC.

8.4 Soil Conclusions

SVOCs and metals were detected in M-14 Landfill surface soil samples at concentrations exceeding the NJDEP's NRDCSRS. Metals are naturally-occurring within Fort Monmouth soils, as detailed in Section 6.0 and Appendix H. VOCs and PCBs were detected at concentrations in compliance with the NJDEP NRDCSRS. Given the inactive and undisturbed state of the landfill, the lack of groundwater use at or hydraulically downgradient of the M-14 Landfill, and low COC

concentrations in shallow surface soils, No Further Action is recommended for the near-surface soils at the M-14 Landfill.

To address M-14 Landfill near-surface soil samples that do not meet NJDEP soil remediation standards, the Army plans to prepare a Remedial Action Selection Report (RASR)/Feasibility Study (FS) that will include a final closure plan for the M-14 Landfill.

8.5 Sediment Conclusions

With the exception of one anomalous duplicate sample detection of the PCB Arcolor 1254, no PCBs were detected in any of the 25 sediment samples collected from Husky Brook as detailed in Versar's October 2003 *RIR and Sediment Quality Evaluation for the M-14 Landfill*. Based on NJDEP's guidance criteria, PCBs are not impacting sediments in Husky Brook. In addition, no potential exists for long-term, adverse, benthic effects in Husky Brook associated with the M-12 and M-14 Landfills. NFA is warranted for Husky Brook sediments adjacent to the M-12 and M-14 Landfills.

8.6 Recommendations

The following actions are planned:

- Prepare a Remedial Action Selection Report (RASR)/Feasibility Study (FS) that will include a final closure plan for the M-12 Landfill.
- Continue quarterly ground water and surface water sampling until closure of Fort Monmouth in September 2011. At that time, future sampling will be evaluated and discussed with NJDEP.

8.7 RA Schedule

The table/Gant Chart provided in Appendix J is a schedule summary for remedial activities at the M-14 Landfill from the PA phase through the end of the current reporting period and estimated into the future. This table/Gantt chart includes actual costs and schedules to date and estimated/anticipated costs and schedule projected for future activities.

- ~~*The Army will prepare a Remedial Action Selection Report (RASR)/Feasibility Study (FS) which will include a final closure plan for the M-14 Landfill.*~~
- ~~*No further action is proposed for ground water at the M-14 Landfill. Since no COCs exceed NJDEP GWQS in site ground water monitoring wells, a Classification Exception Area is not*~~

~~*required.*~~

- ~~*Discontinue the ground water sampling program at the M-14 Landfill since no COCs exceed NJDEP GWQS in site ground water monitoring wells.*~~
- ~~*No further action is proposed for Husky Brook surface water at the M-14 Landfill.*~~
- ~~*No further action is proposed for M-14 Landfill near-surface soils.*~~
- ~~*No further action is proposed for Husky Brook sediments at the M-14 Landfill.*~~

~~*8.5 Sampling Program*~~

~~*The following tables provide a summary of the recommended future ground water and surface water sampling program at the M-14 Landfill.*~~

9.0 REFERENCES

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FIGURES

TABLES

APPENDIX A

Electronic Documents Library

APPENDIX B

MODFLOW Ground Water Modeling Report

Brinkerhoff Environmental Services, Inc.

June 2010

APPENDIX C

Landfill Boundary Delineation and Near-Surface Soil Information

APPENDIX D

Monitoring Well Logs and Records

APPENDIX E

Fort Monmouth Standard Operating Procedures

Item 1:	Decontamination Procedures for Field Equipment, Revised April 14, 2008
Item 2	Field Sampling, Revised March 29, 2010
Item 3:	Geoprobe® Sampling Methods, Revised, March 29, 2010
Item 4:	Monitoring Well Sampling for IRP Sites at Fort Monmouth, Revised April 17, 2008
Item 5:	Low Flow Monitor Well Sampling, Revised October 13, 2010

APPENDIX F

Ground Water Monitoring and Sampling Information

APPENDIX G

Surface Water Monitoring and Sampling Information

APPENDIX H

Background Metals Evaluation

APPENDIX I

Receptor Evaluation and Public Notification

Item 1:	***Offsite Receptor Evaluation Report for Fort Monmouth, Main Post and Charles Wood Area,* Tetra Tech, Inc., November 2, 2010**
Item 2:	**Sensitive Receptor Survey Figure**
Item 3:	**Utility Map**
Item 4:	**Well Search**
Item 5:	**Vapor Intrusion Investigation**
Item 6:	**Public Notification Documents**

APPENDIX J

Costs

Schedule

Gantt Chart

TABLE 2
Landfill Delineation Project
Cover Material Summary
M-14 LANDFILL

Boring #	Clean Cover (inches BGS)	Notes
1	30	Sand, silty sand to 30"
2	30	Sand, silty sand to 30".
3	30	Sand, silty sand to 30"
4	30	Sand, silty sand to 30"
5	30	Sand, silty sand to 30"
6	30	Sand, silty sand to 30"
7	30	Sand, silty sand to 30". Cement at 30"
8	38	Turf 0-4". Sandy silt with gravel to 38"
9	38	Turf 0-4". Silty clay and sand to 38"
10	38	Turf 0-4". Silty sand to 38"
11	40	Turf 0-4". Silty sand, silty caly, native soils appearance to 40"
12	40	Turf 0-4". Silty sand, native soils appearance to 40"
13	40	Turf 0-4". Silty sand with pea gravels, sand to 40"
14	40	Turf 0-4". Silty sand, native soils appearance to 40"
15	40	Turf 0-4". Silty sand to 40".
16	40	Turf 0-4". Silty sand with pea gravels, sand to 40"
17	30	Turf 0-6". Silty sand to 26". Cement to 30".
18	38	Turf 0-3". Loamy silt and sand, silty sand/clay to 38"
19	40	Turf, silty sand to 40".
20	38	Turf, silty sand to 38"
21	38	Turf 0-3". Silty sand to 38". Cement at 38".
22	38	Turf, silty sand to 38".
23	38	Turf 0-6". Silty sand to 38".
24	38	Turf 0-6". Silty sand with gravel to 38".
25	38	Turf 0-5". Silty sand with gravel to 38".
26	27	Turf 0-5". Silty sand with gravel to 27", then cement mixed with plastic debris.
27	27	Turf 0-5". Silty sand to 27".
28	33	Turf 0-5". Silty sand to 33".
29	37	Turf 0-5". Silty sand to 37".
30	36	Turf 0-5". Silty sand/clay to 36".
31	36	Turf 0-5". Silty sand to 36"
32	36	Turf 0-5". Silty sand to 36"
33	36	Turf 0-5". Silty sand to 36"
34	31	Turf 0-5". Silty sand to 31"
35	31	Turf 0-5". Silty sand to 31"
36	38	Turf 0-5". Silty sand with small gravel to 38".
37	40	Turf 0-5". Silty sand to 40".
38	30	Turf 0-5". Silty sand to 30".
39	30	Turf 0-4". Silty sand and clay to 30".
40	32	Turf 0-4". Silty sand to 32".
41	30	Turf 0-4". Silty sand to 30".
42	30	Turf 0-4". Silty sand to 30".
43	30	Turf 0-4". Silty sand to 30".
44	30	Turf 0-4". Silty sand to 30".
45	30	Turf 0-4". Silty sand to 30". Cement and glass at 30".
46	30	Turf 0-4". Silty/clayey sand to 30".
47	30	Turf 0-4". Silty/clayey sand to 30".
48	10	Turf 0-4". Silty sand to 10". Cinders 10-?"

TABLE 2
Landfill Delineation Project
Cover Material Summary
M-14 LANDFILL

Boring #	Clean Cover (inches BGS)	Notes
49	25	Turf 0-4". Silty sand to 10". Cinders at 25-?"
50	38	Turf 0-4". Silty sand to 38".
51	25	Turf 0-4". Silty sand to 25". Cinders 25-38"
52	16	Turf 0-4". Silty sand to 16". Cinders 16-36"
53	18	Turf 0-4". Silty sand to 16". Cinders 18-38"
54	38	Turf 0-4". Silty sand to 38".
55	25	Turf 0-4". Silty sand to 25". Cinders 25-36"
56	18	Turf 0-4". Silty sand to 18". Cinders 18-33"
57	19	Turf 0-4". Silty sand to 18". Cinders 19-33"
58	35	Turf 0-4". Silty sand to 35". Coal at 35".
59	35	Turf 0-4". Silty sand to 35". Coal at 35".
60	26	Turf 0-4". Silty sand to 26". Cinders at 26".
61	26	Turf 0-4". Silty sand to 26". Cinders at 26".
62	30	Turf 0-4". Silty sand to 30".
63	27	Turf 0-4". Silty sand to 27". Cinders at 27".
64	27	Turf 0-4". Silty sand to 27". Cinders at 27".
65	29	Turf 0-4". Silty sand to 29". Cinders at 29".
66	29	Turf 0-4". Silty sand to 29". Cinders at 29".
67	29	Turf 0-4". Silty sand to 29". Cinders at 29".
68	6	Mulch (play area) 0-6". Silty clay and sand with mixed cinders throughout.
69	6	Mulch (play area) 0-6". Silty clay and sand with mixed cinders throughout.
70	6	Mulch (play area) 0-6". Silty clay and sand with mixed cinders throughout.
71	6	Mulch (play area) 0-6". Silty clay and sand with mixed cinders throughout.
72	20	Turf 0-4". Silty sand to 20". Cinders at 20".
73	38	Mulch (playground) 0-6". Silty sand to 38".
74	38	Mulch (playground) 0-6". Silty sand to 38".
75	18	Turf 0-6". Silty sand to 18". Cinders at 18-22". Silty sand 22-40"
76	30	Turf 0-6". Silty sand to 30". Cinders at 30-33". Silty sand 33-40"
77	38	Turf 0-6". Silty sand to 38".
78	6	Turf 0-6". Silty sand with clay and <5% coal fragments to 40".
79	6	Turf 0-6". Silty sand with clay and <5% coal fragments to 40".
80	20	Silty sand to 20". Coal and cinders 20-23". Sand 23-36".
81	20	Turf 0-4". Silty clay to 20". Sandy silt with coal and cinders at 20-30". Sand at 30- 40".
82	44	Turf 0-6". Silty clay, sand to 44".
83	40	Turf 0-4". Sand, silty clay to 40".
84	40	Turf and silty sand to 22". Clayey silt and sand with gravel to 40".
85	22	Turf, silty sand and clay to 22". Clayey silt and sand with <1% coal fragments at 22".
86	22	Turf, silty sand and clay to 22". Clayey silt and sand with <1% coal fragments at 22".
87	20	Turf and sand to 20". Cinders at 20-28". Sand 28-38".
88	18	Turf 0-4". Sand to 18". Cinders at 18".
89	31	Sand and clay to 31".
90	36	Turf, sand and clay to 36".
91	27	Turf, sand, clayey sand to 27". Wood, clapboard and cinders at 27-30".
92	29	Turf, clayey sand to 29". Wood at 29-31". Clayey sand at 31-36". Cinders at 36".
93	24	Turf and clayey sand to 24" Cinders at 24-41". Concrete at 41".
94	14	Turf, clayey sand to 14". Cinders at 14".
95	44	Turf, clayey sand and clay to 44".
96	46	Turf, Silty sand, claeyey silt to 46".

TABLE 2
Landfill Delineation Project
Cover Material Summary
M-14 LANDFILL

Boring #	Clean Cover (inches BGS)	Notes
97	46	Turf, silty sand to 46".
98	46	Turf, silty sand, silty clay to 46".
99	29	Turf, sandy silt to 29". Cinders and cement to 40".
100	27	Turf, silty sand to 27". Cinders at 27".
101	25	Turf, silty sand, sand to 25". Cinders at 25".
102	46	Turf, silty sand with quartz gravel throughout (native) to 46".
103	46	Turf, silty sand with quartz gravel throughout (native) to 46".
104	42	Turf, silty sand, sand , clayey silt to 42".
105	22	Turf, silty sand, silty clay to 22". Cinders 22-26". Silty clay to 47"
106	36	Turf, silty sand, clayey silt to 36". Cinders at 36".
107	20	Turf, silty sand, sand to 20". Cinders at 20".
108	46	Turf, silty sand (native) to 36". Quartz gravel at 36".
109	47	Native soils appearance throughout (silty sand, clay, sand to 47").
110	47	Native soils appearance throughout (silty sand, clay, sand to 47").
111	47	Native soils appearance throughout (silty sand, clay, sand to 47").
112	40	Native soils appearance throughout (silty sand, clay, sand to 40").
113	12	Turf, silty sand to 12". Cinders at 12". Sand and silt at 18".
114	24	Turf 0-6". Silty clay, sand to 24".
115	16	Turf 0-6". Sand and silt to 16". Cinders 16-19". Sandy silt 19-24".
116	16	Turf 0-6". Sand and silt to 16". Cinders 16-19". Sandy silt 19-24".
117	18	Turf 0-6". Sand and silt to 18". Sand 18-24".
118	24	Turf 0-6". Sandy silt, sand to 24".
119	24	Turf 0-6". Sandy silt, sand to 24".
T-3	18	Refuse found at 18".
T-3A	30	Section of telephone pole found.
T-3B	36	Concrete and lumber found at 36".
T-4	48	Log found at 48"
T-4B	24	Metal and a log found at 24".
T-6	78	Shoes, household items found at 6.5 feet.
T-7	36	Ash, garbage and particle board.
T-7A	36	Ash found.
T-7B	36	Ash and styrofoam cup.
T-7C	24	Ash and a bottle found.
T-12	24	Ash and broken glass.
T-12A	18	Ash and various metal pieces.
AVERAGE	**30.6**	NA

NOTES:

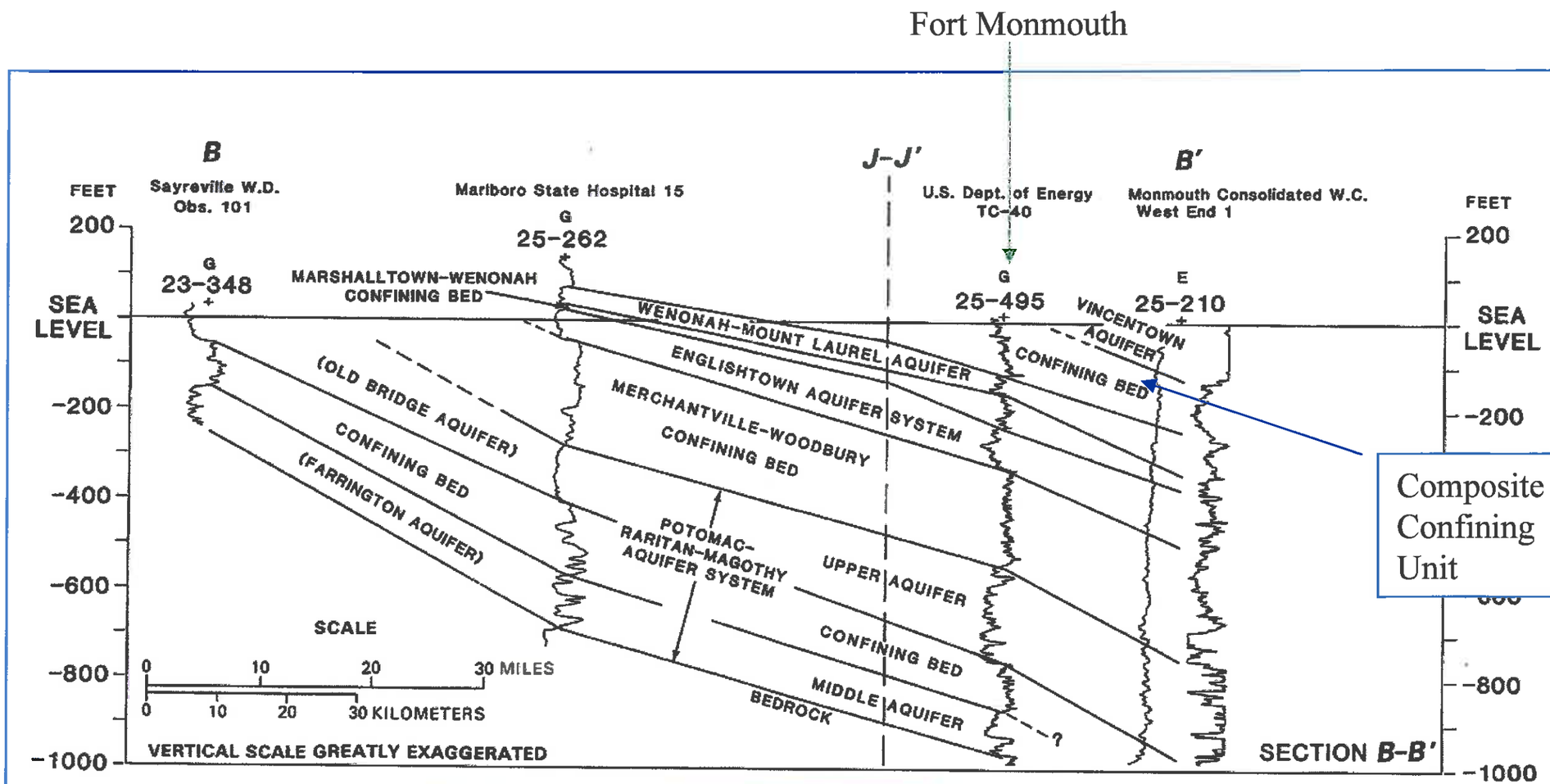
1. BGS means Below Ground Surface.

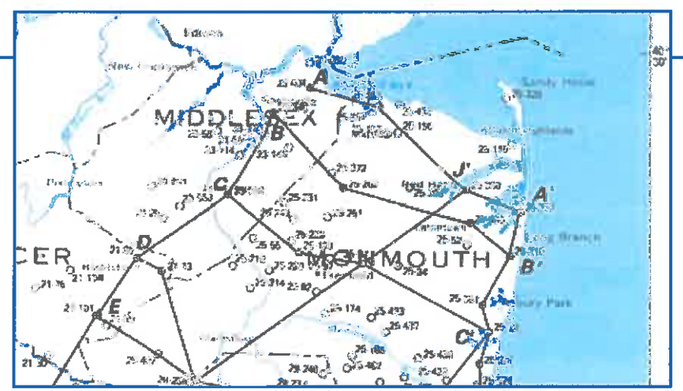
2. Information Sources:

a. Remedial Investigation Report for Near-Surface Soils, M-14 Landfill Site, Appendix E, Volume 1of 2, March 17, 2004

b. Landfill Delineation Project Logs, H. Hornung, 09-10/08 ("T" locations).

3. "T" identifies trenches dug at perimeter of landfill.





Source: Zapecza, O. 1989. *Hydrogeologic Framework of the New Jersey Coastal Plain.* USGS Professional Paper 1404-B. U.S. Government Printing Office, Washington, DC.

FIGURE 6-1

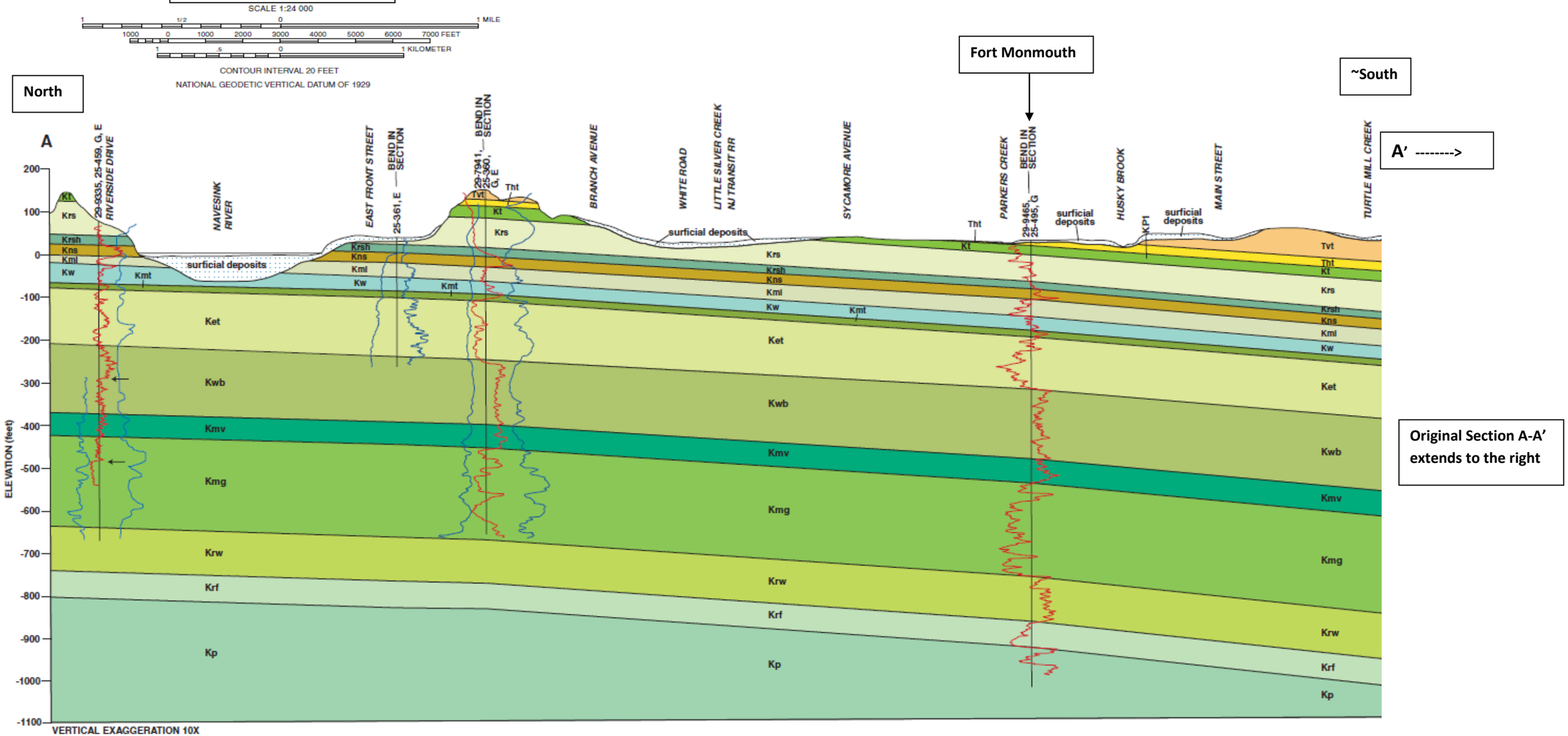
Regional Geologic Cross-Section
Site 1122 – Main Post
Fort Monmouth, New Jersey

Versar INC.
2558 Pearl Buck Road, Suite 1
Bristol, PA 19007
(215) 788-7844

BEDROCK GEOLOGY OF THE LONG BRANCH QUADRANGLE MONMOUTH COUNTY, NEW JERSEY

by
Scott D. Stanford and Peter J. Sugarman
2010

Excerpt of Cross-Section A-A'



Original Section A-A' extends to the right

Description of Geologic Units Shown on Cross-Section A-A'

Tvt VINCENTOWN FORMATION—Glauconitic (5-20%) silty medium-to-coarse quartz sand, some fine-to-medium sand, some very coarse sand to very fine pebbles; yellow, reddish-yellow, olive-yellow, olive-brown; unstratified to weakly horizontally stratified. Coarse sands are locally iron-cemented into beds and masses as much as 10 feet thick. Lowermost 10-20 feet of the formation is silty fine-to-medium sand, with more glauconite than upsection. Total thickness of formation is 180 feet. Late Paleocene in age, based on foraminifera (Olsson and Wise, 1987; Miller and others, 2006) and calcareous nannofossils (Sugarman and others, 1991). Unconformably overlies the Hornerstown Formation.

Tht HORNERSTOWN FORMATION—Glauconite (>50%) clay and silty clay; olive, dark green, black where unweathered, olive-brown with brown to reddish-brown mottles where weathered; unstratified. Glauconite occurs primarily in soft grains of fine-to-medium sand size. Thickness is 25 to 30 feet. Early Paleocene in age, based on foraminifera (Olsson and others, 1997; Landman and others, 2004; Miller and others, 2006) and calcareous nannofossils (Sugarman and others, 1991; Miller and others, 2006). Unconformably overlies the Tinton Formation.

Kt TINTON FORMATION—Glauconitic (5-30%) silty medium-to-coarse and fine-to-medium quartz sand; reddish-brown, reddish-yellow, yellowish-brown where weathered, grayish-brown, brown, olive-brown where unweathered; unstratified to weakly horizontally stratified. Commonly iron-cemented into beds and masses as much as 15 feet thick. Uppermost 4-6 feet, just below contact with Hornerstown Formation, is a brown to olive-gray glauconitic clayey-silty fine sand to fine-sandy silt-clay ("New Egypt Formation" of Landman and others, 2004). Total thickness of Tinton is 30 to 40 feet. Late Cretaceous (late Maestrichtian) in age based on foraminifera, nannofossils, and ammonites (Landman and others, 2004) and strontium-isotope ratios (Sugarman and others, 1995). Overlies the Shrewsbury Member of the Red Bank Formation. Contact with Shrewsbury is not exposed in the Long Branch quadrangle. It is gradational over several feet in the Sandy Hook quadrangle, north of the Long Branch quadrangle (Minard, 1969), but may be unconformable in the Marlboro quadrangle, west of the Long Branch quadrangle (Sugarman and Owens, 1996).

Krs RED BANK FORMATION, SHREWSBURY MEMBER—Fine-to-medium quartz sand, minor medium-to-coarse sand, slightly silty, glauconitic (<5%), and micaceous; reddish-yellow, yellow where weathered, light gray and gray where unweathered; unstratified to weakly horizontally bedded; locally iron-cemented. As much as 100 feet thick. Late Cretaceous (late Maestrichtian) in age based on fossils in the underlying Sandy Hook Member; the Shrewsbury Member is unfossiliferous. Grades downward within 2-3 feet to the Red Bank Formation, Sandy Hook Member. On geophysical well logs, transition to Sandy Hook Member is marked by increased gamma-ray intensity and decreased resistance.

Krsh RED BANK FORMATION, SANDY HOOK MEMBER—Fine-sandy clayey silt, micaceous, slightly glauconitic (<5%); brown to yellowish-brown where weathered, dark gray, olive-gray where unweathered; unstratified. Calcareous brachiopod, pelecypod, and gastropod fossils are common. As much as 20 feet thick. Late Cretaceous (late Maestrichtian) in age based on calcareous nannofossils (Sugarman and Owens, 1996), foraminifera (Olsson, 1964; Olsson and Wise, 1987; Owens and others, 1977), and strontium-isotope ratios (Sugarman and others, 1995). Grades downward within 2-3 feet into the Navesink Formation. On geophysical well logs, transition to Navesink is marked by increased gamma-ray intensity and slightly decreased resistance.

Kns NAVESINK FORMATION—Glauconitic (20-50%) clayey-silty fine-to-medium quartz sand to fine-sandy clayey silt; dark gray, gray, grayish-brown, olive-gray where unweathered, brown to yellowish-brown where weathered; unstratified. Glauconite occurs chiefly in soft grains of fine-to-medium sand size. Calcareous brachiopod, pelecypod, and gastropod fossils are common. Late Cretaceous (late Maestrichtian) in age based on calcareous nannofossils and foraminifera (Olsson, 1964; Miller and others, 2006), macrofossils (Sohl, 1977), and strontium-isotope ratios (Sugarman and others, 1995). Unconformably overlies the Mount Laurel Formation. Contact with Mount Laurel is commonly marked by a sharp peak in gamma-ray intensity on geophysical well logs, with reduced intensity in the Mount Laurel.

Description of Geologic Units Shown on Cross-Section A-A' (cont.)

Kml MOUNT LAUREL FORMATION—Glauconitic (3-15%) fine-to-medium quartz sand, minor medium-to-coarse sand, with thin interbeds of clay and silt; yellowish-brown where weathered, olive-gray to olive-brown where unweathered. Sand is unstratified to horizontally bedded to cross-bedded. As much as 50 feet thick in the southern part of the quadrangle; thins to 20 feet to the north. In subsurface only, covered by surficial deposits in the Navesink River estuary and by overlying Coastal Plain formations elsewhere. Late Cretaceous (late Campanian) in age, based on calcareous nannofossils and strontium-isotope ratios (Sugarman and others, 1991; Miller and others, 2006). Grades downward into the Wenonah Formation. On geophysical well logs, transition to Wenonah is generally marked by slightly decreased resistance and increased gamma-ray intensity.

Kw WENONAH FORMATION—Silty fine-to-very-fine quartz sand to fine-sandy clayey silt, micaceous, slightly glauconitic (<5%); yellow, very pale brown where weathered, gray to pale-olive where unweathered; unstratified. As much as 40 feet thick. In subsurface only, covered by surficial deposits in the Navesink River estuary and by overlying Coastal Plain formations elsewhere. Late Cretaceous (late Campanian) in age based on pollen (Wolfe, 1976) and ammonites (Kennedy and Cobban, 1994). Grades downward into the Marshalltown Formation. On geophysical well logs, transition to Marshalltown is marked by increased gamma-ray intensity.

Kmt MARSHALLTOWN FORMATION—Glauconitic (20-50%), slightly micaceous, silty-clayey fine-to-medium quartz sand, to fine-sandy clayey silt; olive-gray to olive-brown; unstratified. Thickness is 15 to 20 feet. In subsurface only. Late Cretaceous (middle Campanian) in age based on calcareous nannofossils, foraminifera, mollusks, and strontium-isotope ratios (Sugarman and others, 1995). Unconformably overlies the Englishtown Formation. On geophysical well logs, contact with Englishtown is marked by decreased gamma-ray intensity and slightly increased resistance.

Ket ENGLISHTOWN FORMATION—Fine-to-medium quartz sand, minor medium-to-coarse sand, with thin interbeds of clay and silt; micaceous and lignitic, with a trace (<1%) of glauconite; white and light gray where weathered, dark gray where unweathered. Sand is unstratified to horizontally bedded to cross-bedded. In subsurface only. As much as 140 feet thick in the eastern part of the quadrangle, thins to 110 feet thick in the west. In the Asbury Park quadrangle to the south of the Long Branch quadrangle, and farther southwest in northern Ocean County, the Englishtown is divided into an upper and lower member based on the presence of a clay-silt facies in the middle of the formation that is distinctive on gamma-ray logs (Nichols, 1977; Sugarman and Owens, 1994; Miller and others, 2006). This facies is not well marked on gamma-ray logs in the Long Branch quadrangle (wells 29-9335, 29-7941, 29-9465, 29-6173, 29-23948, and 29-48307) and so the members are not mapped here. Late Cretaceous (middle to late Campanian) in age, based on pollen (Wolfe, 1976), ostracodes (Gohn, 1992), calcareous nannofossils, and strontium-isotope ratios (Miller and others, 2006). Grades downward into the Woodbury Formation. On geophysical well logs, transition to Woodbury is marked by increased gamma-ray intensity and decreased resistance.

Kwb WOODBURY FORMATION—Clay, silty clay, with minor thin beds of very fine quartz sand, slightly micaceous and lignitic; dark gray and black where unweathered, yellowish-brown to brown where weathered; unstratified. In subsurface only. As much as 240 feet thick in the eastern part of the quadrangle, thins to 160 feet thick in the central and western parts of the quadrangle. Late Cretaceous (early to middle Campanian) based on pollen (Wolfe, 1976), ostracodes (Gohn, 1992), and calcareous nannofossils (Miller and others, 2006). Grades downward into the Merchantville Formation. On geophysical well logs, transition to the Merchantville is marked by slightly increased gamma-ray intensity.

Description of Geologic Units Shown on Cross-Section A-A' (cont.)

Kmv MERCHANTVILLE FORMATION—Glauconitic (20-50%) clayey silt to sandy clayey silt, slightly micaceous; olive, dark gray, black where unweathered, olive-brown to yellowish-brown where weathered; unstratified. Thickness is 40 to 60 feet. In subsurface only. Late Cretaceous (early Campanian to Santonian) in age based on ammonites (Owens and others, 1977) and calcareous nannofossils (Miller and others, 2006). The Cheesequake Formation, a glauconitic clayey silt underlying the Merchantville, is mapped in outcrop in northern Monmouth and eastern Middlesex counties (Sugarman and Owens, 1996; Sugarman and others, 2005; Stanford and Sugarman, 2008) and in the subsurface both west and south of the Long Branch quadrangle (Sugarman and Owens, 1994, 1996). Because it is lithically similar to the Merchantville and cannot be easily distinguished from it on geophysical logs, it is not mapped separately here. If present, it is included here within the Merchantville, or uppermost Magothy Formation.

Kmg MAGOTHY FORMATION—Fine-to-medium quartz sand, some very-fine-to-fine sand and minor medium-to-coarse sand, micaceous, lignitic, and pyrite-bearing in places, with thin interbeds of silt and clay; white to yellow where weathered, light gray to gray where unweathered. Sand is cross-bedded to laminated. As much as 220 feet thick. In subsurface only. Late Cretaceous (Turonian-Santonian) in age, based on pollen (Christopher, 1979, 1982; Miller and others, 2006). Unconformably overlies the Raritan Formation, Woodbridge Clay member. On geophysical well logs, contact with the Woodbridge is marked by increased gamma-ray intensity.

In its outcrop area in eastern Middlesex County the Magothy is divided into 5 members. From bottom to top they include: South Amboy Fire Clay, Old Bridge Sand, Amboy Stoneware Clay, Morgan beds, and Cliffwood beds (Sugarman and others, 2005). The Old Bridge is a thick sand, the other members are interbedded clay-silt and fine sand. These members may extend downdip in the subsurface (Miller and others, 2006). Geophysical well logs in the Long Branch quadrangle (wells 29-21612, 29-23948, 29-21510, 29-9335, 29-7941, 29-9465, and 29-6173) show generally higher gamma-ray intensity and lower resistivity in the uppermost 50 feet of the formation, and again in the lowermost 30-40 feet, than in the middle 100-120 feet. The upper fine-grained beds may correspond to the Amboy Stoneware Clay and Morgan and Cliffwood beds, and the lower fine-grained beds may correspond to the South Amboy Fire Clay. The middle sand may correspond to the Old Bridge Sand.

Krw RARITAN FORMATION, WOODBRIDGE CLAY MEMBER—Clay and silt, micaceous, lignitic, and pyrite-bearing; gray and black where unweathered, white to brown where weathered; with minor thin interbeds and laminas of white, yellow, and light gray very-fine-to-fine quartz sand. As much as 110 feet thick. In subsurface only, penetrated by wells 29-9465 and 29-1921. The driller's log for well 29-2366 in Eatontown reports "weathered bedrock", with no further information, beneath the Magothy Formation, at a depth of 875-891 feet. This depth is anomalously shallow for the basement surface, suggesting that the material may be weathered clay of either the Woodbridge or South Amboy Fire Clay member of the Magothy. The Woodbridge is Late Cretaceous (late Cenomanian) in age based on pollen (Christopher, 1979) and ammonites (Cobban and Kennedy, 1990). Grades downward into the Raritan Formation, Farrington Sand member. Transition to the Farrington is marked by decreased gamma-ray intensity on geophysical well logs.

Krf RARITAN FORMATION, FARRINGTON SAND MEMBER—Fine-to-coarse quartz sand, some coarse-to-very-coarse sand, minor beds of clay and silt; white and yellow where weathered, gray where unweathered. Sands are horizontally bedded to cross-bedded. As much as 60 feet thick. In subsurface only, penetrated in well 29-9465. Late Cretaceous (Cenomanian) in age based on pollen (Christopher, 1979). Unconformably overlies the Potomac Formation. Contact with Potomac is marked by increased gamma-ray intensity on geophysical well logs.

Description of Geologic Units Shown on Cross-Section A-A' (cont.)

Kp POTOMAC FORMATION—Fine-to-medium quartz sand, some coarse-to-very-coarse sand, with beds of clay and silt; white, red, yellow where weathered, gray where unweathered. Sands are horizontally bedded to cross-bedded, clays are in beds as much as 8 feet thick. More than 90 feet thick, full thickness not penetrated in the Long Branch quadrangle. In subsurface only, partially penetrated in well 29-9465. Late Cretaceous (Albian-Cenomanian) based on pollen (Sugarman and Owens, 1996; Miller and others, 2006), which indicates that the Potomac in this area corresponds to the Potomac Formation, unit 3, of Doyle and Robbins (1977).

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **09/29/08**
LANDFILL: **M 14** EXCAVATION ID: **1**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

NATURAL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-8' BGS all natural material. One green bottle found at 2' BGS.**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**):539794.98** X COORDINATE (EASTING):**621437.08**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539805.59** X COORDINATE (EASTING):**621438.02**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **1, 2, 3 8:52 9.29.08**

NOTES**: Does not seem to be part of the landfill, only 1 bottle found.**
Map color code = green

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **09/29/08**
LANDFILL: **M 14** EXCAVATION ID: **2**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

NATURAL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-8' BGS all natural material, GW at 3' BGS.**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**):539839.79** X COORDINATE (EASTING):**621406.19**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539837.83** X COORDINATE (EASTING):**621395.96**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **4, 5 9:45**

NOTES**: No odor or staining present.**
Map color code = green

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **09/29/08**
LANDFILL: **M 14** EXCAVATION ID: **3**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-3.5' BGS soil. Concrete found 3.5' BGS. Refusal with excavator because of a log at 1.5' BGS.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539785.82** X COORDINATE (EASTING):**621290.96**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539782.34** X COORDINATE (EASTING):**621280.79**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **6, 7 11:28**

NOTES**: Moved excavation 10' North (M14-3A) looks like fill material as opposed to landfill material.**
Map color code = red

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **09/29/08**
LANDFILL: **M 14** EXCAVATION ID: **3A**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-2.5' BGS soil. Red bricks and a section of telephone pole found 2.5' BGS. Soil appeared black and stained.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539796.25** X COORDINATE (EASTING):**621284.98**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539792.96** X COORDINATE (EASTING):**621276.15**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **8 13:30**

NOTES**: No readings above BG. Moved 10' North to excavate M14-3B.**
Map color code = red

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **09/29/08**
LANDFILL: **M 14** EXCAVATION ID: **3B**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-3' BGS soil. Concrete and lumber found at 3' BGS.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539809.79** X COORDINATE (EASTING):**621280.17**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539806.1** X COORDINATE (EASTING):**621270.63**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **9 14:09**

NOTES**: Moved 10' North to excavate M14-3C. Concrete debris may be from construction of Gosselin Housing and not landfill. No odors observed.**
Map color code = red

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **09/29/08**
LANDFILL: **M 14** EXCAVATION ID: **3C**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-3.5' BGS soil. Concrete found at 3.5' BGS.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539820.29** X COORDINATE (EASTING):**621275.28**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539817.20** X COORDINATE (EASTING):**621265.43**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **10 14:33**

NOTES**: Moved 10' North to excavate M14-3D. Concrete debris may be from construction of Gosselin Housing and not landfill. No odors observed.**
Map color code = red

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **09/29/08**
LANDFILL: **M 14** EXCAVATION ID: **3D**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-3.5' BGS soil. Concrete found at 3.5' BGS.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539834.0** X COORDINATE (EASTING):**621269.20**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539828.94** X COORDINATE (EASTING):**621259.80**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **11 15:21**

NOTES**: Concrete debris may be from construction of Gosselin housing and not landfill. No odors observed.**
Map color code = red

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **09/29/08**
LANDFILL: **M 14** EXCAVATION ID: **3E**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-2.5' BGS soil. Concrete slab found 2.5' BGS, appears to be part of a building that was demolished.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539844.35** X COORDINATE (EASTING):**621263.25**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539841.13** X COORDINATE (EASTING):**621255.50**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **12 15:42**

NOTES**: Map color code = red**

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **09/29/08**
LANDFILL: **M 14** EXCAVATION ID: **4**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-2' BGS soil. A 4' long log was found 2' BGS, concrete and brick found at 4.5' BGS. No odors noticed.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**):539743.85** X COORDINATE (EASTING):**621169.39**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539739.03** X COORDINATE (EASTING):**621157.66**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **1 9:40**

NOTES**: Move 10' North to excavation 4A.**
Map color code = red

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **09/30/08**
LANDFILL: **M 14** EXCAVATION ID: **4A**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-3.5' BGS soil. Concrete found at 3.5' BGS.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539756.71** X COORDINATE (EASTING):**621166.81**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539751.85** X COORDINATE (EASTING):**621157.11**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **2 10:11**

NOTES**: No MiniRae VOC readings above background. Move 10' North to excavation 4B.**
Map color code = red

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **09/30/08**
LANDFILL: **M 14** EXCAVATION ID: **4B**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-2' BGS soil. Metal and a 3' long log found at 2' BGS, concrete found at 4' BGS.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539766.26** X COORDINATE (EASTING):**621161.44**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539764.22** X COORDINATE (EASTING):**621152.49**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **3 10:48**

NOTES**: No MiniRae VOC readins above BG. Move 10' North to excavation 4C. Map color code = red**

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **09/30/08**
LANDFILL: **M 14** EXCAVATION ID: **4C**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-5' BGS soil. Concrete pieces found at 5' BGS.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539779.33** X COORDINATE (EASTING):**621160.47**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539775.66** X COORDINATE (EASTING):**621149.21**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **4 11:25**

NOTES**: No VOC readings on MiniRae above BG. Moved 10' North to location 4D. Map color code = red**

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **09/30/08**
LANDFILL: **M 14** EXCAVATION ID: **4D**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 3.5' BGS encountered two red bricks.**

NATURAL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-3.5' BGS soil. From 3.5'-8' BGS no landfill material found.**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**):539790.61** X COORDINATE (EASTING):**621156.60**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539788.33** X COORDINATE (EASTING):**621147.3**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **6 13:41**

NOTES**: No VOC readings above BG on MiniRae.**
Map color code = green

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **09/30/08**
LANDFILL: **M 14** EXCAVATION ID: **5**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: Brick and concrete found 4' BGS.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539711.07** X COORDINATE (EASTING):**621079.11**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539707.35** X COORDINATE (EASTING):**621068.92**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **7 14:23**

NOTES**: Did not step out 10' to North because it is assumed that the same concrete and brick will be found that was observed in excavations M14-3 and M14-4.**
Map color code = red

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **09/30/08**
LANDFILL: **M 14** EXCAVATION ID: **6**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-6.5' BGS soil. At 6.5' BGS found leather shoe parts, china plates with gold trim, bottles, copper wire, and ash.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539687.81** X COORDINATE (EASTING):**621012.76**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539684.56** X COORDINATE (EASTING):**621001.38**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **8, 9, 10 14:57, 14:58, 14:58**

NOTES**: Move 25 feet North and 7 feet East to delineate because basketball court and utilities are in the way of it at 10' (M14-6A). Noticed bubbling in the GW in the excavation VOC reading = 0, LEL =3, CO=0, 0_2 = 20.9. H_2S=0. All LEL readings have been 0 to this point. This appears to be actual landfill material and not just fill.**
Map color code = red

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **09/30/08**
LANDFILL: **M 14** EXCAVATION ID: **6A**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-5.5' BGS soil. At 5.5' BGS found brown bottles, plastic, broom handle, and ash.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539718.05** X COORDINATE (EASTING):**621020.44**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539715.79** X COORDINATE (EASTING):**621010.11**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **11 15:31, 12 15:31**

NOTES**: No readings above BG on MiniRae, observed bubbling in GW in excavation. This appears to be landfill material.**
Map color code = red

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **10/01/08**
LANDFILL: **M 14** EXCAVATION ID: **6B**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-5'BGS soil. At 5' BGS found ash, glass, and lumber.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539733.47** X COORDINATE (EASTING):**621014.97**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539729.69** X COORDINATE (EASTING):**621003.36**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **1 and 2 10:51**

NOTES**: VOC reading of 0.9 units on fill material. Move 10' North to location M14 -6C. This appears to be landfill material.**
Map color code = red

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **10/01/08**
LANDFILL: **M 14** EXCAVATION ID: **6C**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

NATURAL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: One piece of terra cotta pipe was found at 2' BGS and concrete refusal was found at 6' BGS. No landfill material was observed.**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**):539746.3** X COORDINATE (EASTING):**621008.67**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539742.54** X COORDINATE (EASTING):**620998.07**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **3 and 4 11:31**

NOTES**: No readings above BG on MiniRae.**
Map color code = green

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **10/01/08**
LANDFILL: **M 14** EXCAVATION ID: **7**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-3' BGS soil. At 3' BGS encountered landfill ash, gray and black burnt garbage, and 2 pieces of particle board.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539649.56** X COORDINATE (EASTING):**620906.28**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539645.39** X COORDINATE (EASTING):**620897.98**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **5, 6 14:36 14:37**

NOTES**: LEL reads at 3 units all other readings BG. Move 15' north and 10' west to location 7A because of paver patio and utilities.**
Map color code = red

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **10/01/08**
LANDFILL: **M 14** EXCAVATION ID: **7A**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-3' BGS soil. Landfill ash found at 3' BGS.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539659.17** X COORDINATE (EASTING):**620881.09**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539655.83** X COORDINATE (EASTING):**620871.62**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **7 15:04**

NOTES**: No readings above BG on MiniRae. Move 20' North to location 7B. Map color code = red**

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **10/01/08**
LANDFILL: **M 14** EXCAVATION ID: **7B**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-3' BGS encountered soil. 3' BGS found landfill ash and Styrofoam coffee cup.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539683.5** X COORDINATE (EASTING):**620873.42**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539681.12** X COORDINATE (EASTING):**620864.05**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **8 and 9 15:40**

NOTES**: Move 10' North to location 7C.**
Map color code = red

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **10/02/08**
LANDFILL: **M 14** EXCAVATION ID: **7C**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-2' BGS encountered soil. Ash and a bottle found at 2' BGS.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539698.28** X COORDINATE (EASTING):**620870.41**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539694.83** X COORDINATE (EASTING):**620860.52**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **1 and 2**

NOTES**: Received a reading of 0.7 units of VOC on MiniRae. Cannot move further north due to utilities and the back yard of Gosselin residents.**
Map color code = red

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **10/02/08**
LANDFILL: **M 14** EXCAVATION ID: **8**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

NATURAL MATERIAL PRESENT: YES X NO
DESCRIBE**: 0-6' BGS encountered sand and clay. At 6' BGS an abandoned terra cotta pipe was found. The Plumbers stated that it was from the storm drain gutters from the Gosselin housing. The pipe is no longer in use. The excavation filled with water not allowing us to get to 8' BGS.**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**):539610.09** X COORDINATE (EASTING):**620775.2**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539606.19** X COORDINATE (EASTING):**620766.37**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **3 and 4 9:53 and 9:54**

NOTES**: No staining or odors present.**
Map color code = green

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **10/02/08**
LANDFILL: **M 14** EXCAVATION ID: **9**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

NATURAL MATERIAL PRESENT: YES X NO
DESCRIBE**: 0-8' BGS encountered orange sand and clay.**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539582.49** X COORDINATE (EASTING):**620698.69**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539578.2** X COORDINATE (EASTING):**620692.15**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **5 10:46**

NOTES**: No staining, odors or MiniRae readings above BG.**
Map color = green

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **10/02/08**
LANDFILL: **M 14** EXCAVATION ID: **10**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

NATURAL MATERIAL PRESENT: YES X NO
DESCRIBE**: 0-8' BGS encountered orange sand and clay.**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**):539514.24** X COORDINATE (EASTING):**620668.94**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539503.09** X COORDINATE (EASTING):**620669.97**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **6 and 7 11:14**

NOTES**: No staining, odors or MiniRae readings above BG.**
Map color code = green

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **10/02/08**
LANDFILL: **M 14** EXCAVATION ID: **11**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

NATURAL MATERIAL PRESENT: YES X NO
DESCRIBE**: 0-8' BGS encountered tight, tan and orange, silty sand.**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539445.23** X COORDINATE (EASTING):**620692.07**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539432.43** X COORDINATE (EASTING):**620690.36**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **8 and 9 13:37**

NOTES**: No staining, odors or reading above BG on MiniRae.**
Map color code = green

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **10/02/08**
LANDFILL: **M 14** EXCAVATION ID: **12**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-2' BGS encountered soil. At 2' BGS there was a 6" layer of ash and broken glass. After the 6" layer, it went back to natural material.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539319.22** X COORDINATE (EASTING):**620634.85**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539310.95** X COORDINATE (EASTING):**620627.52**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **10 14:03**

NOTES**: Move 25 feet North to location M14-12 A**
Map color code = red

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **10/02/08**
LANDFILL: **M 14** EXCAVATION ID: **12A**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES **X** NO
DESCRIBE**: 0-1.5' BGS encountered soil. At 1.5' BGS a 4" layer of landfill material was found. It included ash, nails and a metal bracket with bolts.**

NATURAL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539337.63** X COORDINATE (EASTING):**620613.95**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539332.14** X COORDINATE (EASTING):**620607.50**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **11 14:31**

NOTES**: Move 10' North to location M14-12 B**
Map color code = red

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **10/02/08**
LANDFILL: **M 14** EXCAVATION ID: **12B**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

NATURAL MATERIAL PRESENT: YES X NO
DESCRIBE**: 0-8' BGS encountered orange and tan sand.**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539352.73** X COORDINATE (EASTING):**620605.36**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539347.47** X COORDINATE (EASTING):**620596.67**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **12 14:59**

NOTES**: No readings on the MiniRae above BG.**
Map color code = green

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **10/02/08**
LANDFILL: **M 14** EXCAVATION ID: **13**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

NATURAL MATERIAL PRESENT: YES X NO
DESCRIBE**: 0-8' BGS encountered orange and tan sand.**

GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**): 539274.414** X COORDINATE (EASTING):**620533.491**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539268.964** X COORDINATE (EASTING):**620525.211**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **13 15:32**

NOTES**: No odors, staining or MiniRae readings above BG.**
Map color code = green

SUBSURFACE EVALUATOR SIGNATURE:_____

LANDFILL DELINEATION PROJECT LOG

SUBSURFACE EVALUATOR: Harold Hornung
EQUIPMENT OPERATOR: **Ed Crawley**
DATE: **10/02/08**
LANDFILL: **M 14** EXCAVATION ID: **14**

EXCAVATION DESCRIPTION

LANDFILL MATERIAL PRESENT: YES NO **X**
DESCRIBE**:**

NATURAL MATERIAL PRESENT: YES X NO
DESCRIBE**: 0-8' BGS encountered orange and tan sand.**
GPS POSITIONS
BEGINNING OF EXCAVATION
Y COORDINATE (NORTHING**):539302.74** X COORDINATE (EASTING):**620415.05**

END OF EXCAVATION
Y COORDINATE (NORTHING):**539295.58** X COORDINATE (EASTING):**620412.55**

EXCAVATION PHOTOGRAPHED: YES **X** NO

PHOTOGRAPH INDENTIFICATION: **2, 3 11:19 11:20**

NOTES**: No odors, staining or MiniRae readings above BG.**
Map color code = green

SUBSURFACE EVALUATOR SIGNATURE:_____

Table 4.2-13
Fort Monmouth - Main Post
Summary of Detected Compounds
In Soils at Site M-15

COMPOUND	METHOD DETECTION LIMIT (mg/kg)	RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA (mg/kg)	MAXIMUM BACKGROUND CONCENTRATION (mg/kg)	ANALYTICAL RESULTS SAMPLE DATE	
				SS01-A01 11/29/94	SS02-A01 11/29/94
SVOCs (mg/kg) - Sample Interval (6"to 12" bgs)					
Anthracene	0.152	10,000	0.1 J	0.041 J	ND
Phenathrene	0.165	NLE	0.39	0.37 J	0.17 J
Fluoranthene	0.198	2300	0.46	0.53	0.36 J
Pyrene	0.178	1700	1.5	0.72	0.43
Benzo(a)anthracene	0.162	0.9	0.65	0.31 J	0.18 J
Chrysene	0.145	0.9	0.65	0.33 J	0.23 J
bis(2-Ethylhexyl)phthalate	0.32	49	0.19 J	.069 J	.077 J
Benzo(b)fluoranthene	0.188	0.9	0.9	0.45	0.35 J
Benzo(k)fluoranthene	0.205	0.9	0.43	0.13 J	0.110 J
Benzo(a)pyrene	0.162	0.66	0.6	0.27 J	0.200 J
Indeno(1,2,3-cd)pyrene	0.234	0.9	0.46	0.16 J	0.120 J
Dibenzo(a,h)anthracene	0.198	0.66	0.079 J B	.041 J	ND
Benzo(g,h,i)perylene	0.224	NLE	0.64 B	0.16 J	0.11 J
PESTICIDES AND PCBs (mg/kg) Sample Interval (0" to 6" bgs)					
4,4'-DDE	0.0038	2	0.096 P	**6.6 CD**	1.0 CD
4,4'-DDT	0.0037	2	.110 D	**7.9 CD**	1.0 CD
METALS TOTAL (mg/kg) Sample Interval (0" to 6"bgs)					
Aluminum	3.9	NLE	15200	5300	5030
Arsenic	0.35	20	22.9	8.3	8.9
Barium	0.17	700	32.3	68.4	101
Beryllium	0.1	1	2	0.6	0.69
Calcium	2.2	NLE	921	815	1860
Cadmium	0.86	1	0.116[1]	**2.9**	**4.5**
Cobalt	0.71	NLE	2.5	6.1	7.8
Chromium	1.6	500	269	109	95.5
Copper	2.2	600	8	34	66.5
Iron	0.58	NLE	55800	33400	37700
Lead	0.49	400[2]	25.9[1]	**5340**	**6130**
Magnesium	9.6	NLE	7230	1560	1600
Manganese	0.18	NLE	90.7	159	187
Nickel	1.4	250	8.4	8.3	6.9
Potassium	(12.3-25.8)	NLE	15400	2990	2770
Sodium	3.8	NLE	51.6	23.4	33.1
Silver	0.54	110	1.1	1.4	1.5
Selenium	0.36	63	1.9	0.45	2.1
Vanadium	0.53	370	94.1	27.5	25.9
Zinc	0.41	1500	81.4	**7750**	**12800**

Compounds exceeding NJDEP soil cleanup criteria are noted by bold numbers.
bgs - Below Ground Surface
J - Indicates that the concentration value was estimated due to detection at or near the detection limits
C- Pesticide identification was confirmed by GC/MS
P - The percent difference between the results from two GC columns is greater than 25%,the lower of the two values is reported
B - Compound was observed in the sample and associated laboratory blank.
D - surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis
ND - Indicates that the compound was not detected at or below the quantification limits
NLE - No Level Established
Note:MDL's for metal analysis is actually the highest detection limit with potassium given as a range due to high variability
[1] Monmouth County maximum background concentration.
[2] NJDEP criteria are referenced in the Site Remediation News, Winter 1995.

addition, compounds that exceed the SCC are subsequently compared to the impact to groundwater SCC because there were no monitor wells installed at the site.

SVOCs

Three SVOCs were detected above laboratory quantitation limits in site soils, but were well below NJDEP SCC. In addition, all other detected compounds with established SCC were found in concentrations below their respective criteria. The detected compounds did not exceed the impact to groundwater SCC.

Pesticides/PCBs

Two pesticides (4,4'-DDE and 4,4'-DDT) were detected in concentrations above NJDEP SCC and background in SS-01. The concentrations of 4,4'-DDE and 4,4'-DDT were well below the respective impact to groundwater criteria (Figure 4.2-24). Pesticides were not detected above criteria in SS-02. PCBs were not detected in site surface soil samples.

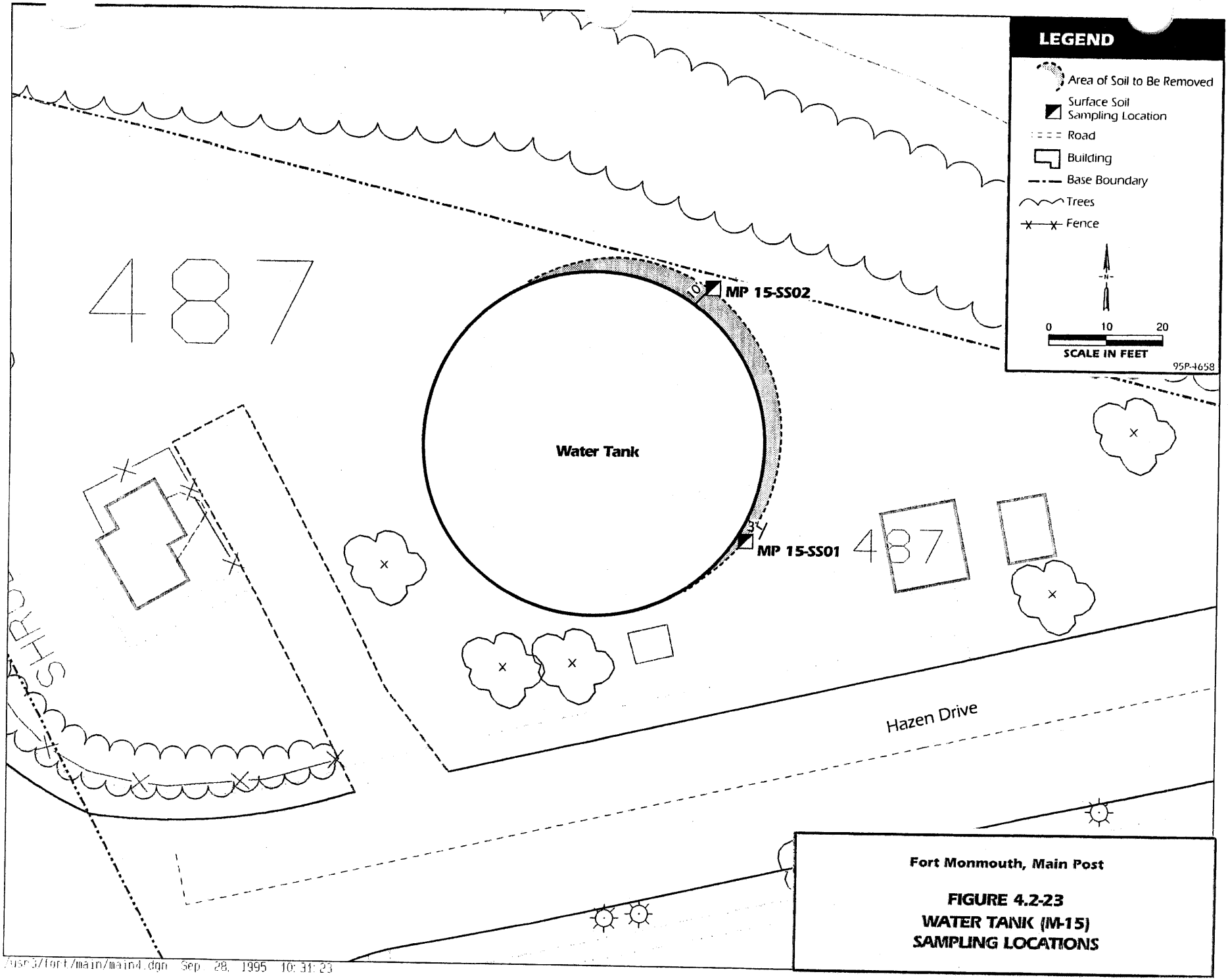
Metals

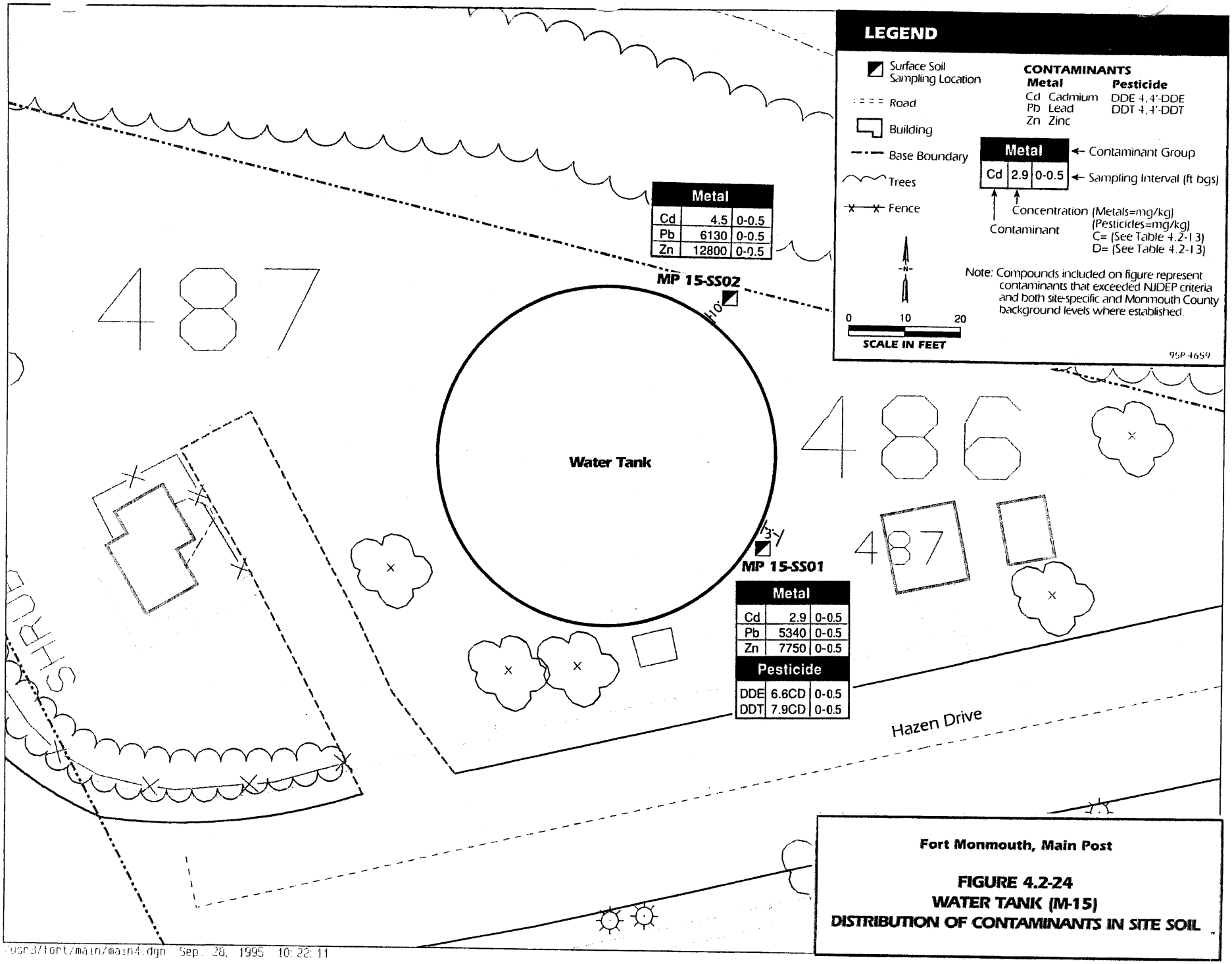
As indicated in Table 4.2-13, of the 20 metals detected in site soil, 3 (cadmium, lead, and zinc) were found in concentrations exceeding the NJDEP SCC. In addition, these metals were found in concentrations greater than those determined for site-specific and Monmouth County maximum background at the Main Post. Figure 4.2-24 presents the locations of compounds detected above the SCC and the established maximum background concentrations at the Main Post.

4.2.10.5 Recommendations

Two pesticide compounds and three metals, cadmium, zinc, and lead, were detected in surface soil at levels that exceeded NJDEP SCC and maximum background.

DPW has submitted the necessary documentation to Headquarters, Army Materiel Command/Army Environmental Center (HQAMC/AEC) to obtain the proper funding to remediate the site in FY 1996. Depending on funding availability, the affected soil will be excavated and disposed of in accordance with the applicable regulations. The area of contamination encompasses the perimeter of the tank, about 10 feet at the widest point. The depth of contamination is assumed to be 6 inches. Excavation will be performed in conjunction with confirmatory soil sampling to ensure that NJDEP SCC are achieved. It is estimated that 13 yd^3 of soil will be excavated, assuming that soil is excavated to a depth of 6 inches. NJDEP will be requested to send a representative to observe the excavation.


LEGEND
Area of Soil to Be Removed
Surface Soil Sampling Location
Road
Building
Base Boundary
Trees
Fence
N
0
10
20
SCALE IN FEET
95P-4658
487
MP 15-SS02
Water Tank
MP 15-SS01
487
Hazen Drive
SHAW
Fort Monmouth, Main Post
FIGURE 4.2-23
WATER TANK (M-15)
SAMPLING LOCATIONS
/usr3/fort/main/main4.dgn Sep 28, 1995 10:31:23


LEGEND
Surface Soil Sampling Location
Road
Building
Base Boundary
Trees
Fence
CONTAMINANTS
Metal
Cd Cadmium
Pb Lead
Zn Zinc
Pesticide
DDE 4,4'-DDE
DDT 4,4'-DDT
Metal
Cd 2.9 0-0.5
Contaminant Group
Sampling Interval (ft bgs)
Concentration (Metals=mg/kg) (Pesticides=mg/kg)
C= (See Table 4.2-13)
D= (See Table 4.2-13)
Contaminant
Note: Compounds included on figure represent contaminants that exceeded NJDEP criteria and both site-specific and Monmouth County background levels where established.
N
0 10 20
SCALE IN FEET
95P-4659
Metal
Cd 4.5 0-0.5
Pb 6130 0-0.5
Zn 12800 0-0.5
MP 15-SS02
Water Tank
MP 15-SS01
Metal
Cd 2.9 0-0.5
Pb 5340 0-0.5
Zn 7750 0-0.5
Pesticide
DDE 6.6CD 0-0.5
DDT 7.9CD 0-0.5
487
486
487
Hazen Drive
SHPDU
Fort Monmouth, Main Post
FIGURE 4.2-24
WATER TANK (M-15)
DISTRIBUTION OF CONTAMINANTS IN SITE SOIL
usgs3/fort/main/main4.dgn Sep. 28, 1995 10:22:11

Site M-16

4.2.11 Former Pesticide Storage Building (M-16)

4.2.11.1 Site Location

The former Pesticide Storage Building (M-16) was misidentified as Building 167 in the IA. The building actually used for pesticide storage was Building S-498, which is located on the south-side of Riverside Avenue, north of the marina (Figure 4.2-25). The approximate area of site M-16 is 1,400 ft^2 (0.03 acre).

4.2.11.2 Site History

Building S-498 was built in 1939. According to long-term Fort Monmouth employees, this building was used as a pesticide control shop in the 1940s and 1950s, before this function was moved to Building T-65. Building S-498 is currently used for miscellaneous storage. During the 1993 site visit, workers were bricking in the windows. The front of the building has a tile floor and was most likely used for office space. The back wing of the building has a cement floor with a centrally located floor drain. The southeast corner of the floor has sunk 2 to 3 inches, breaking away from the foundation and creating a crack in the area of the door. The cracks and floor drain could have allowed the release of spilled pesticides. Pesticide mixing reportedly took place inside the building with rinse water dumped in a sink that went to the sanitary sewer.

4.2.11.3 Sampling Effort

Four soil samples were collected from 6 to 12 inches bgs from areas that are not paved south of the building and analyzed for TCL +30 parameters (Figure 4.2-25). Soil samples were collected from two discrete intervals in the monitor well boring and analyzed for TCL +30 parameters and TAL metals. TAL metal analysis was not proposed in the CDAP but samples were collected at SB-01. One monitor well (MW-22) was south of Building S-498. Two rounds of groundwater samples from the monitor well were analyzed for TCL +30 parameters. In addition, an attempt was made to determine whether the floor drain discharges to the sanitary sewer at Building S-498. However, because the original floor in the building was reconstructed as a result of past

flooding problems, the original drainage line was no longer accessible and, consequently, could not be traced from Building S-498 to the sanitary sewer.

4.2.11.4 Hydrogeologic Interpretation

The lithologic log from MW-22 indicates that the lithology consists of a thin (0.4 ft) soil cover with crushed asphalt (to 2 ft bgs) underlain by interbedded green-brown fine-coarse sandy clay and fine-coarse sand with little clay.

Saturation was observed at 1 ft bgs. Monitor well MW-22 was screened in the saturated zone and was completed to a depth of 14.5 ft bgs. The site-specific groundwater flow direction is estimated to be south toward Oceanport Creek (Figure 4.2-26).

4.2.11.5 Soil Sampling Results

One shallow soil boring (SB-01) was installed in the MW-22 borehole to a depth of 6 ft bgs. Soil samples were collected in the borehole from two discrete intervals, i.e., 0 to 2 ft bgs and 2 to 4 ft bgs. In addition, four surface soil samples were collected from the 0 to 0.5 ft bgs interval. Soil samples were sampled for the analytical parameters listed in Table 3.6-1. The analytical results for site soils are listed in Appendix D. Table 4.2-14 compares detected compounds with the NJDEP SCC, and then compares the results to the subsequent site-specific and Monmouth County maximum background levels, where appropriate.

VOCs

VOCs were not detected in site soils.

SVOCs

Three SVOCs were detected slightly above laboratory quantitation limits in site soils. The compounds were detected well below their respective NJDEP SCC. In addition, SVOCs

Table 4.2-14 (1 of 2)
Fort Monmouth - Main Post
Summary of Detected Compounds
In Soil at Site M-16

COMPOUND	METHOD DETECTION LIMIT (mg/kg)	RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA (mg/kg)	MAXIMUM BACKGROUND CONCENTRATION (mg/kg)	ANALYTICAL RESULTS					
				SB01-A01 12/15/94 (0-2 ft bgs)	SB01-A02 12/15/94 (2-4 ft bgs)	SS01-A01 11/29/94 (1)	SS02-A01 11/29/94 (1)	SS03-A01 11/29/94 (1)	SS04-A01 11/29/94 (1)
SVOCs (mg/kg)									
bis(2-ethylhexyl)phthalate	0.32	49	0.19J	ND	0.23J	0.084 J	1.1 J	0.26 J	0.64
Phenathrene	0.165	NLE	0.39	0.140 J	ND	ND	ND	0.045 J	ND
Di-n-octylphthalate	0.185	1100	ND	ND	ND	0.845	1.1 J	0.26 J	0.64
Fluoranthene	0.198	2300	0.46	0.330 J	ND	0.046 J	ND	0.1 J	0.073 J
Pyrene	0.178	1700	1.5	0.220 J	ND	0.060 J	ND	0.14 J	0.096 J
Benzo(a)anthracene	0.162	0.9	0.65	0.092 J	ND	ND	ND	0.069 J	0.039 J
Chrysene	0.145	9	0.65	0.150 J	ND	ND	ND	0.063 J	0.043 J
Benzo(b)fluoranthene	0.188	0.9	0.9	0.150 J	ND	ND	ND	0.12 J	0.065 J
Benzo(k)fluoranthene	0.205	0.9	0.43	0.069 J	ND	ND	ND	ND	ND
Benzo(a)pyrene	0.162	0.66	0.6	0.084 J	0.43	ND	ND	0.575	0.046 J
Indeno(1,2,3-cd)pyrene	0.234	0.9	0.46	0.067 J	ND	ND	ND	0.049 J	0.04 J
Benzo(g,h,i)perylene	0.224	NLE	0.64 B	0.063 J	ND	ND	ND	ND	ND
PESTICIDES AND PCBs (mg/kg)									
Aldrin	0.0021	0.04	ND	ND	ND	ND	**0.17 C**	ND	ND
gamma-BHC (Lindane)	0.0021	0.52	ND	ND	ND	0.0034	0.17	0.0059	ND
Heptachlor	0.0021	0.15	ND	ND	ND	ND	**2.5 CD**	0.0099	ND
Dieldrin	0.0042	0.042	ND	**0.12**	ND	0.017	**2.0 CD**	**0.21 D**	**0.37 C**
4,4'-DDE	0.0037	2	0.091 D	1 C	0.1	0.35 CD	**3.5 CD**	0.48 CD	0.57 CD
4,4'-DDD	0.0037	3	0.0096 P	1.5 C	0.2	0.13 D	ND	0.22 D	1.7 CD
4,4'-DDT	0.00037	2	0.11 D	.71 C	0.072	1.1 CD	**23 CD**	**2.0 C D**	1.6 CD
Endrin Ketone	0.0037	NLE	ND	ND	ND	ND	0.092	ND	ND
alpha-Chlordane	0.0018	NLE	ND	0.042	0.0096	0.05	11 CD	0.2 D	0.86 CD
gamma-Chlordane	0.0018	NLE	ND	0.033 P	0.0088 P	0.05	13 CD	0.2 D	0.92 CD

Note: See page (2 of 2) for Table 4.2-14 Text, etc.

Table 4.2-14 (2 of 2)
Fort Monmouth - Main Post
Summary of Detected Compounds
In Soil at Site M-16

COMPOUND	METHOD DETECTION LIMIT (mg/kg)	RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA (mg/kg)	MAXIMUM BACKGROUND CONCENTRATION (mg/kg)	ANALYTICAL RESULTS					
				SB01-A01 12/15/94 (0-2 ft bgs)	SB01-A02 12/15/94 (2-4 ft bgs)	SS01-A01 11/29/94 (1)	SS02-A01 11/29/94 (1)	SS03-A01 11/29/94 (1)	SS04-A01 11/29/94 (1)
METALS TOTAL (mg/kg)									
Aluminum	3.9	NLE	15200	6840	11900	NA	NA	NA	NA
Arsenic	0.35	20	22.9	8.8	16	NA	NA	NA	NA
Barium	0.17	700	32.3	36.3	29.7	NA	NA	NA	NA
Beryllium	0.1	1	2	0.84	0.8	NA	NA	NA	NA
Calcium	2.2	NLE	921	1500	1200	NA	NA	NA	NA
Cobalt	0.7	NLE	2.5	5.0	2.8	NA	NA	NA	NA
Chromium	1.6	500	269	54.6	59.5	NA	NA	NA	NA
Copper	2.2	600	8	24.2	11.7	NA	NA	NA	NA
Iron	0.58	NLE	55800	21300	36200	NA	NA	NA	NA
Lead	0.4	400[3]	25.9[2]	35.3	16.3	NA	NA	NA	NA
Magnesium	9.6	NLE	7230	1670	2340	NA	NA	NA	NA
Manganese	0.18	NLE	90.7	74.5	37.7	NA	NA	NA	NA
Nickel	1.4	250	8.4	8.0	5.4	NA	NA	NA	NA
Potassium	(12.3-25.8)	NLE	15400	2990	3660	NA	NA	NA	NA
Sodium	3.8	NLE	51.6	283	232	NA	NA	NA	NA
Selenium	0.3	63	1.9	0.67	0.96	NA	NA	NA	NA
Vanadium	0.53	370	94.1	37.6	43.5	NA	NA	NA	NA
Zinc	0.41	1500	81.4	93	42.1	NA	NA	NA	NA

Compounds exceeding NJDEP cleanup criteria are noted by bold numbers.
J - Indicates that the concentration value was estimated due to detection at or near the detection limits
C- Pesticide identification was confirmed by GC/MS
D - Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis.
P - The percent difference between the results from two GC columns is greater than 25%,the lower of the two values is reported
B - Compound was observed in the sample and associated laboratory blank
NA- Not Analyzed - Not Proposed ; NLE - No Levels Established
ND - Indicates that the compound was not detected at or below the quantification limits
ft bgs. - feet below ground surface.
[1] - VOC's/SVOC's were collected from sample interval 6" to 12" bgs; Pesticide/PCB's were collected from sample interval 0.0" to 6" bgs.
Note: Metal analysis was not proposed or analyzed at surface soil locations. Metals analysis was not proposed at SB-01,but was analyzed.
Note: MDL's for metal analysis are actually the highest detection limit with potassium given as a range due to high variability.
[2] Monmouth County maximum background concentration.
[3] NJDEP criteria are referenced in the Site Remediation News, Winter 1995.

detected below laboratory quantitation limits were found in levels well below their respective criteria where established.

Pesticides/PCBs

A total of 10 pesticide compounds were detected above laboratory quantitation limits in site soil. Five pesticides (dieldrin, heptachlor, aldrin, 4,4'-DDE, and 4,4'-DDT) were found in concentrations exceeding the NJDEP SCC. Dieldrin was detected in soil boring SB-01 (0 to 2 ft bgs) and in surface soil samples SS-01 through SS-04. Heptachlor, aldrin, 4,4'-DDE, and 4,4'-DDT were detected at or above criteria in SS-01, SS-02, SS-03, and SS-04. None of the pesticides were detected above their respective impact to groundwater criteria. PCBs were not detected in site soil (Figure 4.2-27).

Metals

As indicated in Table 4.2-14, no metals were detected in concentrations above either the NJDEP SCC or established maximum background concentrations at the Main Post.

4.2.11.6 Groundwater Sampling Results

Monitor well MW-22 was sampled for the analytical parameters listed in Table 3.8-1. The compounds detected in groundwater samples from the individual sampling rounds, with the corresponding sample identifications, are listed in Appendix D. Table 4.2-15 compares the average concentrations of the detected compounds from the February and March sampling rounds with the NJDEP GWQC, and then compares the results to the subsequent site-specific and Monmouth County maximum background concentrations, where appropriate.

VOCs

VOCs were not detected in MW-22 from either sampling round.

Table 4.2-15
Fort Monmouth -Main Post
Summary of Average Concentrations of Detected Compounds in Groundwater
Site M-16

COMPOUND	METHOD DETECTION LIMIT	NJDEP GW QUALITY CRITERIA (µg/L)	MAXIMUM BACKGROUND CONCENTRATION (µg/L)	ANALYTICAL RESULTS (µg/L) SAMPLING DATE		
				MW22A01 2/17/95	MW22A02 3/9/95	MW22A02 (avg)
SVOCs (µg/L)						
bis-(2-Ethylhexyl)phthalate	9.7	30*	5 J	ND	1J	0.5 J

Compounds detected above NJDEP standards are noted by bold numbers.
GW - Ground water
NJDEP groundwater quality criteria consist of the higher number between the PQL or the STANDARD.
*PQL - Practical Quantitation Limit was used as the NJDEP groundwater quality criteria
J - Indicates that the concentration value was estimated due to detection at or near the quantification limits
ND - Indicates that the compound was not detected at or below the quantification limits

SVOCs

SVOCs were not detected above laboratory quantitation limits in MW-22 from either sampling round. The SVOC bis(2-ethylhexyl) phthalate was detected below the laboratory quantitation limit and well below the NJDEP GWQC.

Pesticides/PCBs

Pesticides/PCBs were not detected in MW-22 from either sampling round.

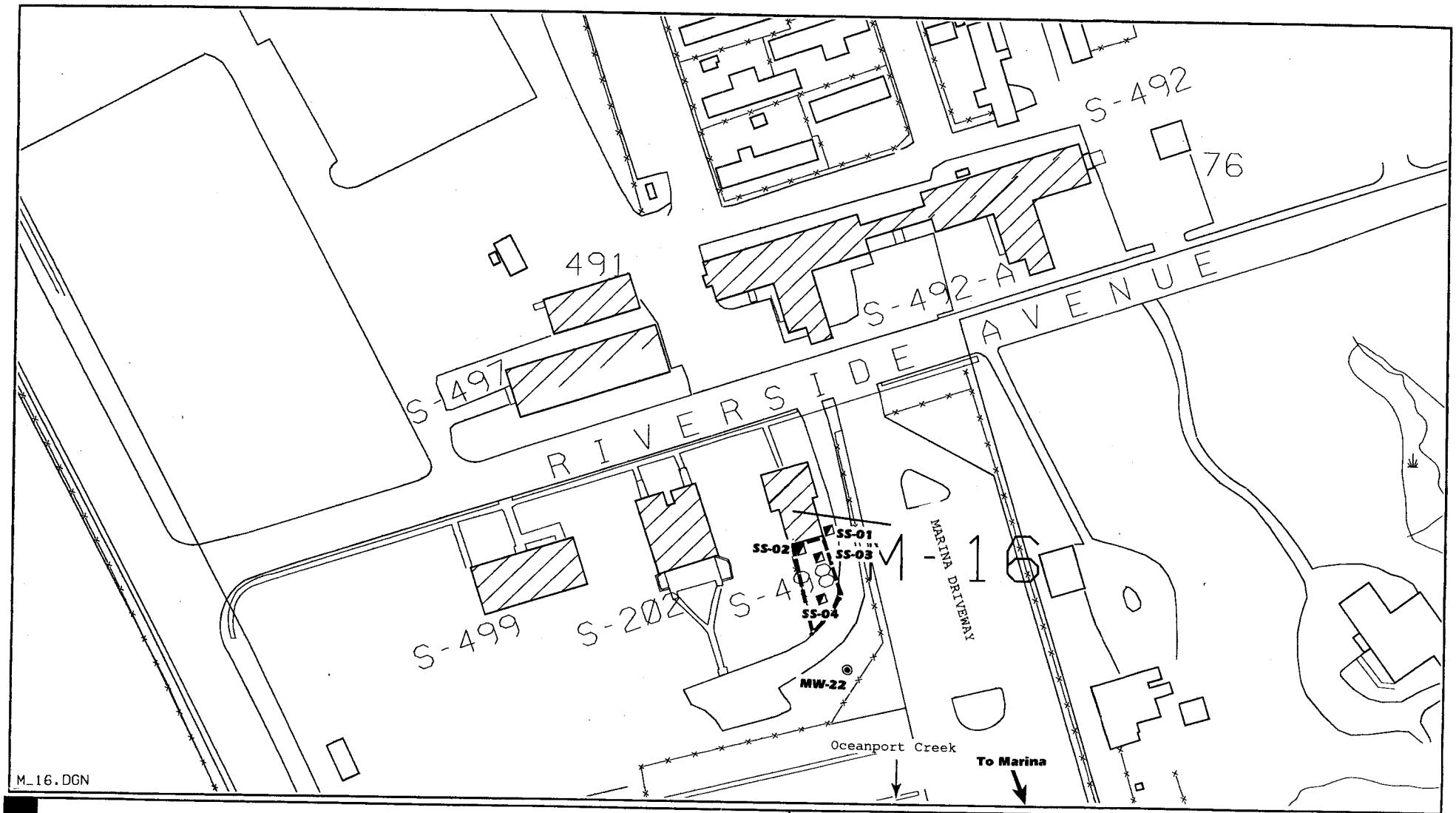
4.2.11.7 Recommendations

Pesticide compounds were detected at four surface soil sampling locations and in one soil boring sample (0 to 2-foot interval) in concentrations above NJDEP criteria and background.

No compounds of concern were detected in the groundwater above NJDEP criteria.

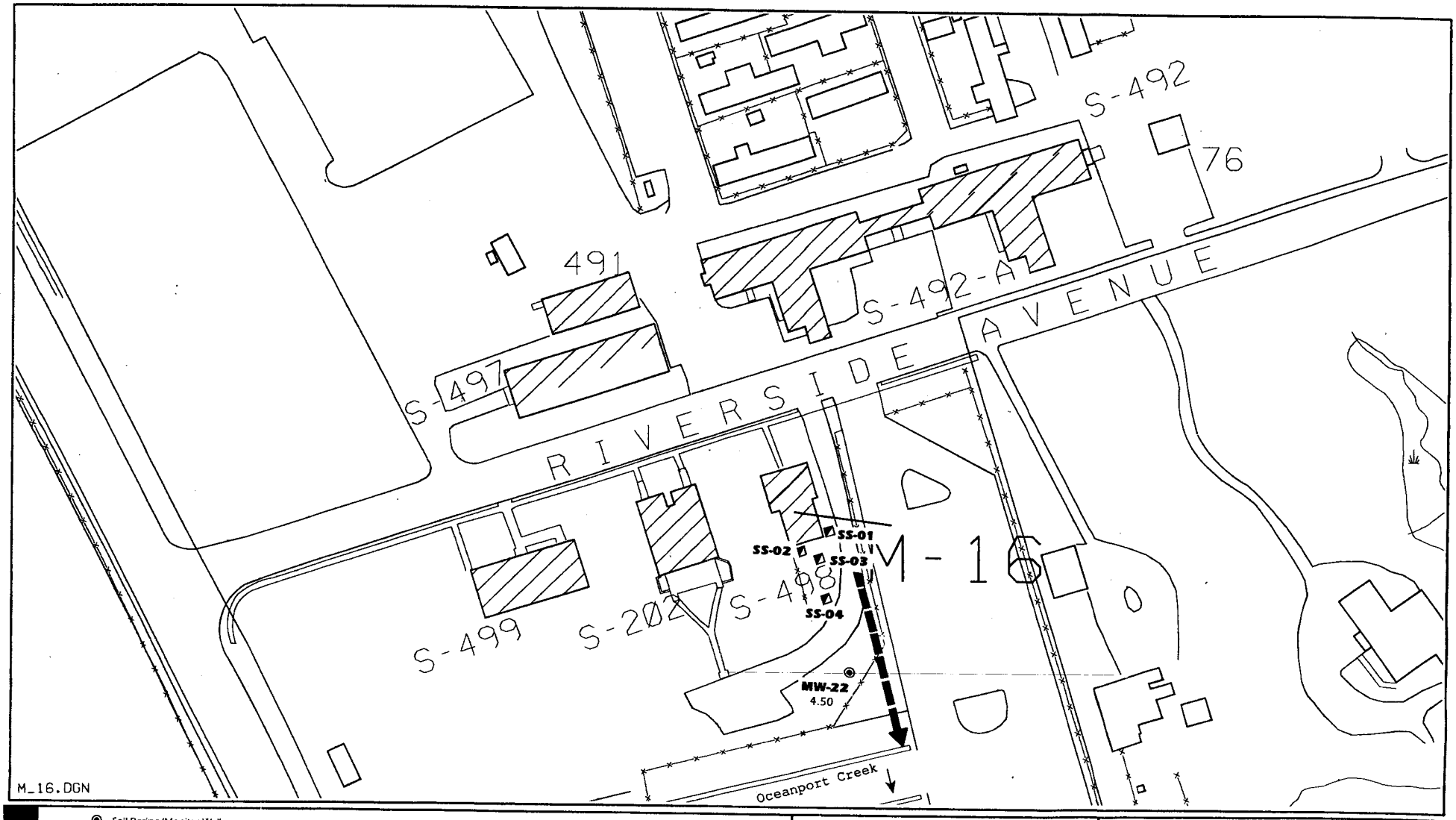
DPW has submitted the necessary documentation to HQAMC/AEC to obtain the proper funding to remediate the site in FY 1996. Depending on funding availability, the affected soil will be excavated and disposed of in accordance with the applicable regulations. The area of contamination is approximately 50 feet by 20 feet. The depth of contamination is assumed to be 12 inches. Excavation will be conducted in conjunction with confirmatory soil sampling to ensure that NJDEP SCC are achieved. It is estimated that 56 yd^3 of soil will be excavated, assuming that soil will be excavated to a depth of 12 inches. NJDEP will be requested to send a representative to observe the excavation.

The site monitor well will be properly abandoned due to the nondetection of compounds of concern in groundwater. The remedial activities proposed will remediate potential source areas of pesticides detected in soil.



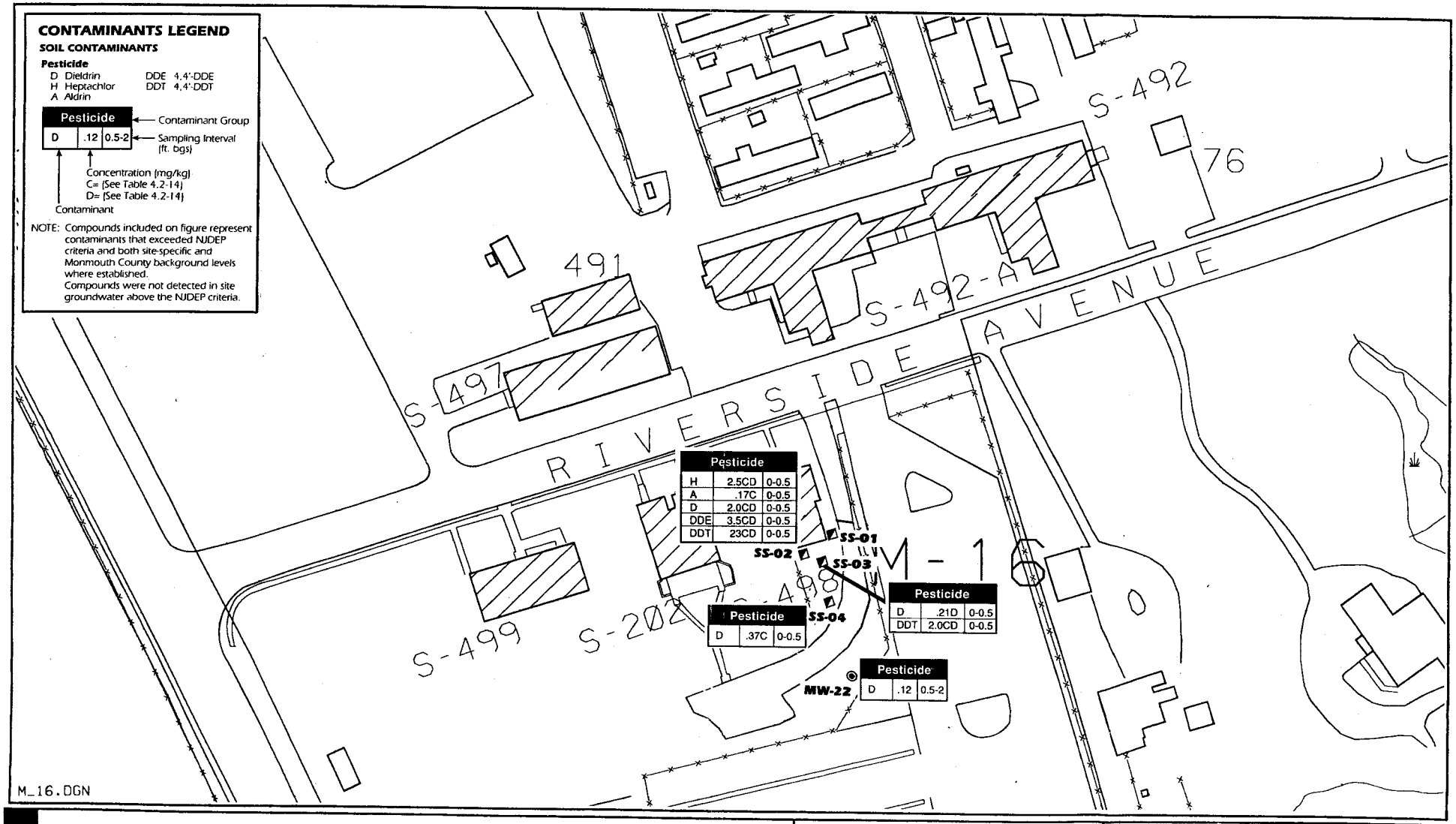
Fort Monmouth, Main Post

FIGURE 4.2-25
FORMER PESTICIDE STORAGE BUILDING (M-16)
SAMPLING LOCATIONS



Fort Monmouth, Main Post

FIGURE 4.2-26
FORMER PESTICIDE STORAGE BUILDING (M-16)
APPROXIMATE GROUNDWATER FLOW DIRECTIONS
(Groundwater Elevations Recorded from March 1995 Sampling Round)



Fort Monmouth, Main Post

FIGURE 4.2-27
FORMER PESTICIDE STORAGE BUILDING (M-16)
DISTRIBUTION OF CONTAMINANTS IN SITE SOIL

Site M-18

4.2.12 Former Training Area (M-18)

4.2.12.1 Site Location

The Army Signal School Training Area (M-18) is located in the northern part of the Main Post, between Parkers Creek to the north and Buildings 283, T-294, T-293, S-289, and S-145 to the south (Figure 4.2-28). The approximate area of site M-18 is 177,300 ft^2 (4.1 acres).

4.2.12.2 Site History

The Army Signal School Training Area has been used for military training exercises since 1919. Diesel and gasoline generators used to support these field exercises were reported in the IA to have been used 150 meters from Lafetra Creek, although the location shown in Figure 7 of the IA is closer to Parkers Creek. The IA reports that numerous fuel spills occurred in the generator area. A riot control agent was also used in this area for troop protective mask training for a limited period of time. During the 1993 site inspection, military training area exercises were being conducted in the M-18 area. Part of the area is paved. Based on the presence of concrete at the surface, there is a suspected debris disposal area used for the disposal of building rubble in the area north of Building 289.

4.2.12.3 Sampling Effort

GPR and electromagnetic (EM) surveys were conducted to investigate the extent of debris disposal north of Building 289. Nine soil borings in a grid pattern were drilled in this area (Figure 4.2-28). The original scope of work included the installation of 12 soil borings. However, because of difficult drilling locations in marshy areas, the borings were repositioned and fewer borings were installed. Soil samples were analyzed for VOCs and TPHs and were collected from either 6 to 12 inches or 12 to 18 inches below the bottom of the asphalt (to avoid bias from the asphalt that covers about half of this area) and either from intervals with visible staining or from just above the water table. If staining was observed, samples were collected for SVOC analysis. If staining or high HNu, organic vapor analyzer (OVA), or organic vapor monitor (OVM) readings were recorded, a sample was collected for TCL +30 parameters and

TAL metals. Due to soil staining and elevated PID readings at SB-06, TCL +30 parameters and TAL metals were sampled. No evidence of contamination was present at the other soil sampling locations. Monitor wells were installed in two of the borings (MW-24 and MW-25), and two rounds of groundwater samples were collected for TCL +30 parameters, TAL metals, and TPHs. In addition, two rounds of groundwater samples were collected from previously installed monitor well MW-3.

4.2.12.4 Geophysical Results

The EM survey conducted at site M-18 reveals apparent background conductivities in the range of 25 to 40 mS/m, which are represented by the green to yellow color contour intervals as shown in Figure 4.2-29. These conductivities are indicative of silty soils. High conductivity readings exist toward the north and perimeter of the site (70 + mS/m). This is probably due to marsh deposits and partially to cultural features such as the chainlink fence surrounding the site.

Anomalous conductivity signatures located at 0N to 60S/65E to 95E contain both high conductivity and low conductivity (positive and negative) readings. This may be indicative of buried metallic objects or abrupt changes in subsurface materials.

The in-phase component reveals a strong discrete anomaly located at approximately 0N to 10S/80E to 100E (represented by the blue color contours). This anomaly is adjacent to the quadrature anomalies. Also, discrete in-phase anomalies located within grid coordinates 0N to 60N/170E to 250E are indicative of buried metallic objects (Figure 4.2-30). The strongest of these point source anomalies is located at 15N to 25N/180E to 195E. Other discrete anomalies indicative of buried metallic objects are located at 50N/350E, 30N/360E, and on the east side of the fence at 60N/415E.

The GPR survey at site M-18 revealed anomalous radar signatures (including a hyperbolic diffraction pattern) located at 0N to 10S/100E. Figure 4.2-30A shows this anomaly, which coincides with the EM anomaly in Figure 4.2-30 and may be indicative of an underground storage tank (UST) or UST component (i.e., foundation) at a depth of approximately 5 or 6 ft

bgs. The 100E line traverse on Figure 4.2-30A indicates that the suspected UST is approximately 4 feet in length. Figure 4.2-30A reveals that the three areas contain chaotic reflectors, which are indicative of coarse-grained or disturbed subsoil. The areas, centrally located at grid coordinates 50N/250E, 10N/250E, and 50N/350E, coincide with EM anomalies and may contain buried metallic objects. The radar profiles also reveal low amplitude chaotic reflectors, indicative of coarse-grained soils in the area that encompasses low apparent conductivity at the western portion of the site (green contour interval), as shown in Figure 4.2-29.

Although the geophysical survey results indicated areas that may contain buried ferrous material and fill, these areas are within the suspected boundary of the landfill. Monitor wells and soil borings were appropriately located to evaluate subsurface conditions downgradient and within the landfill boundaries.

4.2.12.5 Hydrogeologic Interpretation

Lithologic logs from SB-01 through SB-07 and MW-24 and MW-25 indicate that the lithology consists of fill intermixed with a poorly sorted gray-olive-brown silty fine-coarse-grained sand with trace amounts of clay. The manmade components of the filled materials observed in the borings consisted of asphalt, wood fragments, and roof shingles.

Saturation was observed in monitor wells MW-24 and MW-25 at approximately 6 ft bgs. Both monitor wells were screened across the water table and were completed to 15 ft bgs. Local groundwater flows toward and discharges into Parkers Creek (Figure 4.2-31), as indicated by water-level measurements from site monitor wells and land surface topography. Monitor wells MW-24 and MW-25 are positioned downgradient of the M-18 area.

4.2.12.6 Soil Sampling Results

A total of nine shallow soil borings (Figure 4.2-32) were completed at selected locations at site M-18 to depths ranging from 2 to 10 ft bgs. Two soil borings (SB-24 and SB-25) were completed at the new monitor wells (MW-24 and MW-25) locations. Locations were selected

for seven of the borings based on the results of the geophysical surveys. Soil samples were collected from two discrete intervals (1 to 1.5 ft bgs and 2 to 10 ft bgs, depending on the depth to water), and based on field observations, were sampled for the analytical parameters listed in Table 3.6-1. The analytical results for soils at specific sampling intervals are listed in Appendix D. Tables 4.2-16 and 4.2-17 compare the detected compounds with the NJDEP SCC, and then compare the results with the subsequent site-specific and Monmouth County maximum background levels, where appropriate. Stained soil was observed below ground surface, but in the 0 to 2-ft bgs sampling interval at boring SB-06. In accordance with the work plan, samples were also taken for BNAs (SVOCs), pesticides/PCBs, and metals analysis at this location.

VOCs

VOCs were not detected above the laboratory quantitation limit in site soils. VOCs detected below quantitation limits were well below their respective criteria (Table 4.2-16).

SVOCs

A total of 13 SVOCs were detected above laboratory quantitation limits in SB-06. Four of the compounds [benzo(a)anthracene, chrysene, benzo(k)fluoranthene, and ideno(1,2,3-cd)pyrene] were detected in concentrations above laboratory quantitation limits and above the NJDEP SCC at SB-06 in the 2- to 5-ft bgs sampling interval. In addition, two compounds [benzo(b)fluoranthene and benzo(a)pyrene], detected below laboratory quantitation limits in SB-06, were also found in concentrations exceeding the NJDEP SCC from the 2- to 5-ft bgs sampling interval. All other detected SVOCs were found in concentrations below the established criteria. All six of the compounds that exceeded the NJDEP criteria also exceeded the site and Monmouth County background. Although the SVOCs were found in concentrations above NJDEP SCC and maximum background in SB-06, the concentrations were well below the impact to groundwater SCC. Monitor wells downgradient of this location did not detect these particular SVOCs. Figure 4.2-32 presents the locations of the compounds detected above the NJDEP SCC and the established maximum background levels at the Main Post.

Table 4.2-16
Fort Monmouth - Main Post
Summary of Detected Compounds
in Soils from Site M-18
(VOC's and TPH only)

COMPOUND	METHOD DETECTION LIMIT (mg/kg)	RESIDENTAL DIRECT CONTACT SOIL CLEANUP CRITERIA (mg/kg)	MAXIMUM BACKGROUND CONCENTRATION (mg/kg)	ANALYTICAL RESULTS							
				SB01-A01 1/12/95 1-1.5 ft bgs	SB01-A02 1/12/95 2 ft bgs	SB02-A01 1/12/95 1-1.5 ft bgs	SB02-A02 1/12/95 4-6 ft bgs	SB03-A01 1/12/95 1-1.5 ft bgs	SB03-A02 1/12/95 4-7.5 ft bgs	SB04-A01 1/11/95 1-1.5 ft bg	SB04-A02 1/11/95 4-6 ft bgs
VOC's (mg/kg)											
Ethylbenzene	0.0031	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	0.0027	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	0.0038	410	ND	ND	ND	ND	ND	ND	ND	ND	ND
TPH (mg/kg)	26.8	NLE	NA	367	84.9	188	612	6330*	1100*	ND	ND

COMPOUND	METHOD DETECTION LIMIT (mg/kg)	RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA (mg/kg)	MAXIMUM BACKGROUND CONCENTRATION (mg/kg)	ANALYTICAL RESULTS								
				SB05-A01 1/11/95 1-1.5 ft bgs	SB05-A02 1/11/95 2-5 ft bgs	SB06-A01 1/11/95 1-1.5 ft bgs	SB06-A02 1/11/95 2-5 ft bgs	SB07-A01 1/12/95 1-1.5 ft bgs	SB24-A01 1/12/95 1-1.5 ft bgs	SB24-A02 1/12/95 2-4 ft bgs	SB25-A01 1/13/95 1-1.5 ft bgs	SB25-A02 1/13/95 2-4 ft bgs
VOC's (mg/kg)												
Ethylbenzene	0.0031	1000	ND	ND	ND	ND	0.002 J	ND	ND	ND	ND	ND
Toluene	0.0027	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002 J
Xylene	0.0038	410	ND	ND	ND	ND	0.013 J	ND	ND	ND	ND	0.006 J
TPH (mg/kg)	26.8	NLE	NA	117	ND	221	2300*	29.9	695	993	311	2500*

Compounds exceeding NJDEP soil cleanup criteria are noted by bold numbers.
ND - Indicates that the compound was not detected at or below the quantification limits
J - Indicates that the concentration value was estimated due to detection at or near the detection limits
NA- Not Analyzed
*Quantification limit was increased during analysis for the associated sample
ft bgs. - feet below ground surface.

Table 4.2-17
Fort Monmouth - Main Post
Summary of Detected Compounds in
Soils from Site M-18 Sample SB06-A02

COMPOUND	METHOD DETECTION LIMIT (mg/kg)	RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA (mg/kg)	MAXIMUM BACKGROUND CONCENTRATION (mg/kg)	ANALYTICAL RESULTS SB06-A02 1/11/95 2-5 ft bgs
SVOCs (mg/kg)				
Naphthalene	0.277	230	ND	1.2
2-Methylnaphthalene	0.287	NLE	ND	0.18 J
Acenaphthene	0.221	3400	0.1 J	52
Dibenzofuran	0.215	NLE	0.06 J	31
Fluorene	0.208	2300	0.074 J	40
Phenanthrene	0.165	NLE	0.39	140
Anthracene	0.152	10000	0.10 J	16
Carbazole	0.145	NLE	ND	4.8 J
Fluoranthene	0.198	2300	0.46	46
Pyrene	0.178	1700	1.5	48
Butylbenzylphthalate	0.175	1100	ND	0.45 J
Benzo(a)anthracene	0.162	0.9	0.65	**11**
Chrysene	0.145	9	0.65	**10**
bis(2-Ethylhexyl)phthalate	0.32	49	0.19 J	0.17 J
Benzo(b)fluoranthene	0.188	0.9	0.9	**7.6 J**
Benzo(k)fluoranthene	0.205	0.9	0.43	**2.3**
Benzo(a)pyrene	0.162	0.66	0.6	**3.8 J**
Indeno(1,2,3-cd)pyrene	0.234	0.9	0.46	**2.1**
Dibenzo(a,h)anthracene	0.198	0.66	0.079 J B	0.45 J
Benzo(g,h,i)perylene	0.224	NLE	0.079 J B	1.5
TPH (mg/kg)	26.8	NLE	NA	2300
PESTICIDES AND PCBs (mg/kg)				
Heptachlor epoxide	0.0021	NLE	ND	0.030 P
4,4'-DDE	0.0037	2	0.096 P	0.11
4,4'-DDD	0.0037	3	0.096 P	0.46 UX
4,4"-DDT	0.0037	2	0.11 D	0.032
alpha-Chlordane	0.0021	NLE	ND	0.0078
gamma-Chlordane	0.0021	NLE	ND	0.02 P
METALS TOTAL (mg/kg)				
Aluminum	3.9	NLE	15200	6130
Arsenic	0.35	20	22.9	5.8
Barium	0.17	700	32.3	31
Calcium	2.2	NLE	921	11100
Cobalt	0.71	NLE	2.5	6.3
Chromium	1.60	500	269	35.3
Copper	2.2	600	8	218
Iron	0.58	NLE	55800	17700
Lead	0.4	400[2]	25.9[1]	127
Magnesium	9.6	NLE	7230	3380
Manganese	0.18	NLE	90.7	168
Mercury	0.49	14	ND	0.61
Nickel	1.4	250	8.4	12.6
Potassium	(12.3-25.8)	NLE	15400	2190
Sodium	3.8	NLE	51.6	181
Selenium	0.3	63	1.9	0.78
Vanadium	0.53	370	94.1	27.3
Zinc	0.41	1500	81.4	72.6

Compounds exceeding NJDEP cleanup criteria are noted by bold numbers.
ft bgs - Feet below ground surface
NLE - No Level Established
ND - Indicates that the compound was not detected at or below the quantification limits
J - Indicates that the concentration value was estimated due to detection at or near the detection limits
B - Compound was observed in the samples and associated laboratory blank
NA- Not Analyzed
C- Pesticide identification was confirmed by GC/MS
P - The percent difference between the results from two GC columns is greater than 25%,the lower of the two values is reported
U - Compound was not detected at or above the reporting limit.
X - Other specific flags may be required to properly qualify the result.

[1] Monmouth County maximum background concentration.

[2] NJDEP criteria are referenced in the Site Remediation News, Winter 1995.

Pesticides/PCBs

Five pesticides were detected in concentrations above laboratory quantitation limits in SB-06 from the 2- to 5-ft bgs sampling interval. However, all pesticide compounds were detected below the NJDEP SCC. PCBs were analyzed for but were not detected in any of the boring locations.

Metals

As indicated in Table 4.2-17, metals detected in SB-06 were found in concentrations below the NJDEP SCC.

Total Petroleum Hydrocarbons (TPHs)

TPH concentrations were detected above laboratory quantitation limits in one or both sampling intervals in all but soil boring SB-04 in concentrations ranging from 29.9 milligrams per kilogram (mg/kg) to 6,330 mg/kg.

4.2.12.7 Groundwater Sampling Results

Monitor wells at site M-18 were sampled for the analytical parameters listed in Table 3.8-1. The compounds detected in groundwater samples from the individual sampling rounds, with the corresponding sample identifications, are listed in Appendix D. The existing monitor well, MW-3, was sampled in May 1995. Table 4.2-18 compares the average concentrations from the February and March sampling rounds with the NJDEP GWQC, and then compares the results to the subsequent site-specific and Monmouth County maximum background, where appropriate.

VOCs

Acetone was the only VOC detected in site groundwater samples. Acetone was detected in concentrations below the NJDEP GWQC in groundwater samples collected from MW-24 and

Table 4.2-18
Fort Monmouth - Main Post
Summary of Average Concentrations of Detected Compounds in Groundwater - Site M-18

COMPOUND	METHOD DETECTION LIMIT (µg/L)	NJDEP GROUNDWATER QUALITY CRITERIA (µg/L)	MAXIMUM BACKGROUND CONCENTRATION (µg/L)	ANALYTICAL RESULTS (µg/L) SAMPLING DATE		
				MW24 2/17/95, 3/10/95 (avg.)	MW25 2/17/95, 3/10/95 (avg.)	MW03 5/10/95, 5/27/95 (avg.)
VOC's (µg/L)						
Acetone	6.9	700	ND	10 J	12.5	ND
SVOCs (µg/L)						
4-Methylphenol	12.9	NLE	ND	3.5J	ND	ND
PETROLEUM HYDROCARBONS (µg/L)						
Petroleum Hydrocarbons	0.26	NLE	NA	1.12	0.43	ND
PESTICIDES/PCBs (µg/L)						
4,4'-DDD	0.97	0.1	0.050 JP	**0.145P**	ND	ND
METALS TOTAL (µg/L)						
Aluminum	24.0	200	121000	**5615**	**4103**	**8310**
Arsenic	1.9	8*	89.3	**16.8**	**11.4**	4.8
Barium	1.7	2000	699	267	92.9	13.7
Beryllium	0.9	20*	7[1]	1.65	0.53	0.6
Calcium	10.4	NLE	45400	747000	169000	5470
Cadmium	2.8	4	9.5	2.775	3.625	ND
Cobalt	2.3	NLE	18.3	1.975	1.825	4.1
Chromium	2.9	100	191	48.15	23.2	54.2
Copper	1.9	1000	730[1]	8.45	2.6	2.9
Iron	6.4	300	431000	**40000**	**28620**	**39950**
Potassium	685	NLE	137000	19200	29900	10735
Magnesium	18.3	NLE	62700	49750	69050	6145
Manganese	1.8	50	480[1]	**712**	**940**	38.3
Sodium	30.5	50000	197000[1]	42000	**363500**	**55950**
Nickel	10.8	100	187	6.75	8.35	7.3
Lead	1.1	10*	22.7	**34.7**	**11.2**	8.2
Selenium	1.5	50	29.6	1.575	ND	ND
Vanadium	2.3	NLE	108	29.15	24.85	44.8
Zinc	3.8	5000	233	90.75	33.55	88.9

Compounds exceding NJDEP groundwater quality criteria are noted by bold numbers.
NJDEP groundwater quality criteria consist of the higher number between the PQL or STANDARD
*PQL - Practical Quantitation Limit -was used as the NJDEP groundwater quality criteria
NLE - No Level Established
ND - Indicates that the compound was not detected at noted quantification limit
NA - Not analyzed
J - Indicates that the concentration value was estimated due to detection at or near the quantification limits
P - The percent difference between the results from two GC columns is greater than 25%, the lower of the two values is reported.
[1] - Monmouth County maximum background concentration.

MW-25. The source of the acetone is not known, however, acetone is a common laboratory contaminant.

SVOCs

One SVOC (4-methylphenol) was detected in MW-24 below the laboratory quantitation limit. SVOCs were not detected in MW-25 or MW-3.

Pesticides/PCBs

One pesticide (4,4'-DDD) was detected in a concentration that slightly exceeds the NJDEP GWQC in MW-24. 4,4'-DDD was detected in concentrations above the criteria in MW-24 from both sampling rounds. PCB compounds were not detected in site monitor wells from either sampling round (Figure 4.2-32).

Metals

As indicated in Table 4.2-18, of the 19 metals detected in site groundwater, only 6 (aluminum, arsenic, iron, manganese, sodium, and lead) were found in concentrations exceeding the NJDEP GWQC. In addition, manganese in MW-24 and MW-25, lead in MW-24, and sodium in MW-25 were found in concentrations greater than those determined for site-specific and Monmouth County maximum background at the Main Post. Lead was not detected in the filtered sample. However, aluminum and arsenic were found in concentrations below both maximum background levels where established. Although iron was detected in concentrations greater than the regional maximum background, iron was detected well below the site-specific background levels in the Main Post and is not a compound of concern. Sodium in MW-3 was found in a concentration greater than the site-specific background, but was well below the Monmouth County level. The elevated sodium levels in MW-25 may be caused by saline water intrusion from the Parkers Creek estuary. Sodium is not a compound of concern (Figure 4.2-32). As discussed in Subsection 4.1, groundwater flowing through glauconitic formations contains abundant

manganese. In addition, manganese is a common metal found in tidally influenced environments. Therefore, manganese is not identified as a compound of concern.

TPHs

TPH concentrations were detected just above the laboratory quantitation limit in MW-24 and MW-25 from both the February and March sampling rounds.

4.2.12.8 Recommendations

The geophysical surveys identified several anomalies indicative of buried waste and fill material within the suspected boundaries of the site M-18 area. One anomaly was indicative of a UST or storage tank component. The geophysical results indicate that soil borings and monitor wells were appropriately located to evaluate subsurface conditions downgradient and within landfill boundaries.

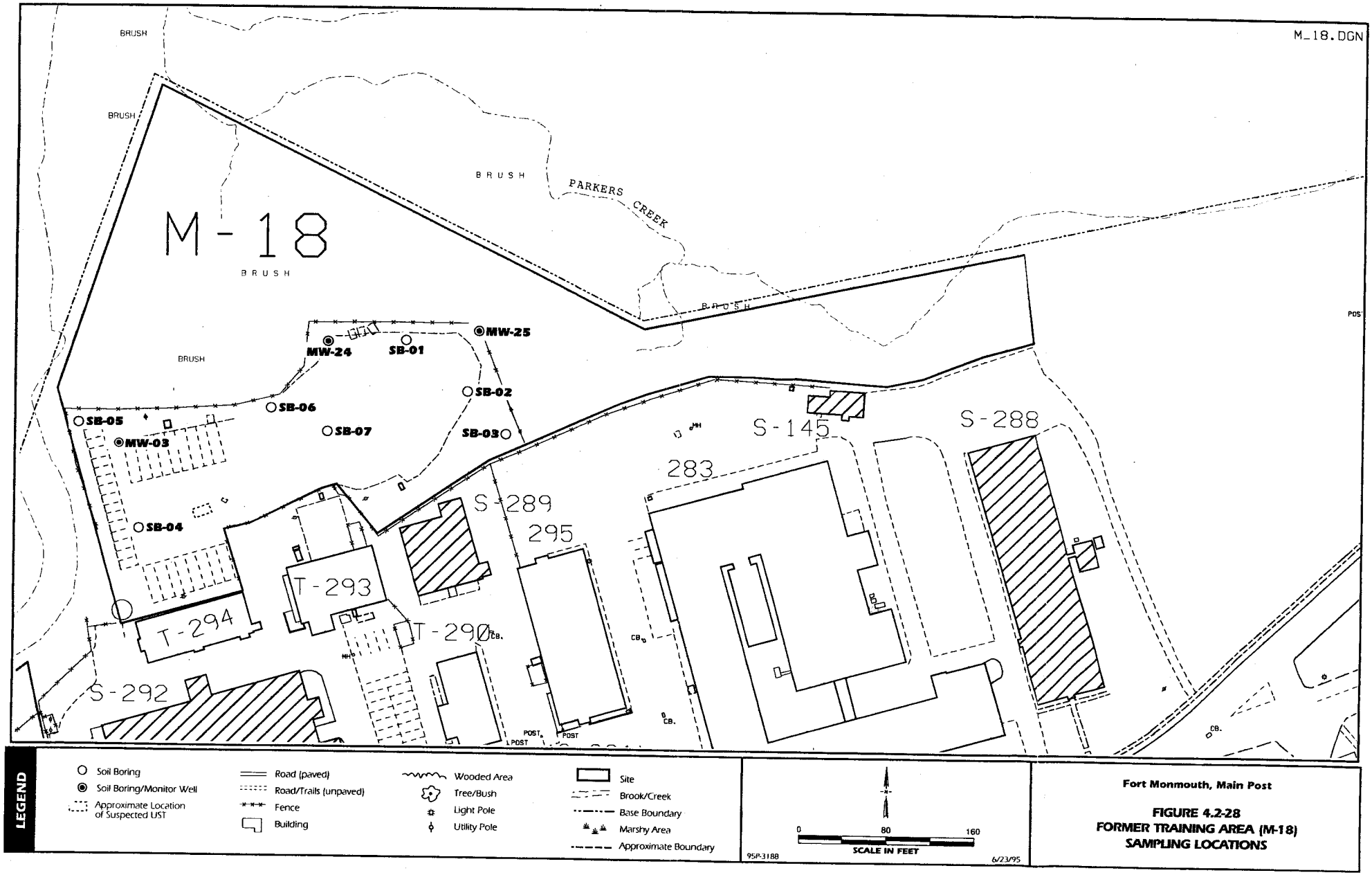
The soil sampling results indicated that six SVOCs were detected at SB-06 in concentrations that exceeded the NJDEP criteria and established background concentrations.

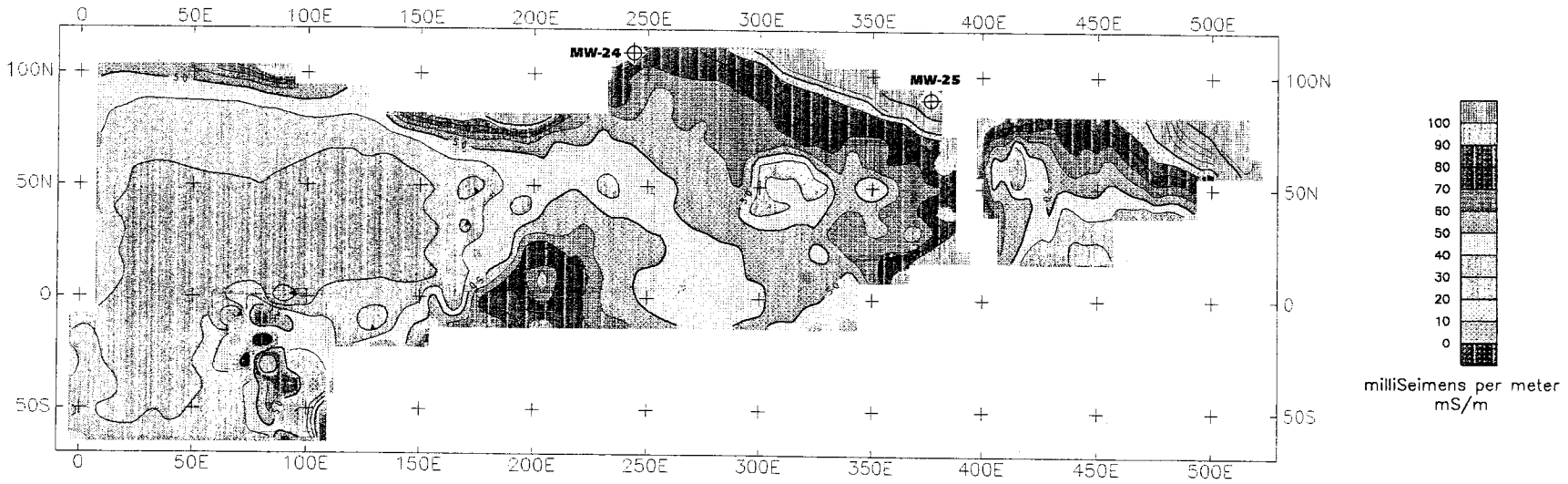
The groundwater sampling results indicate that 4,4-DDD was detected at a concentration just above the NJDEP GWQC in one well (MW-24) from both sampling rounds. Lead was detected in one location above NJDEP GWQC and background. TPH concentrations were also detected just above laboratory quantitation limits in MW-24 and MW-25 in both sampling rounds.

Trenching will be performed at the suspected UST or UST component location to confirm the geophysical results and to excavate if necessary. A PID will be used to conduct field screening during the excavation. The excavation will be performed in conjunction with confirmatory sampling, in accordance with the *Technical Requirements for Site Remediation* (NJDEP, 1993), if a UST is encountered to ensure that NJDEP SCC are achieved. NJDEP will be requested to send a representative to observe the excavation.

Additionally, soil at soil boring SB-06 will be excavated. If it is determined that the suspected UST is the source of contamination at SB-06, this location will be remediated in conjunction with the UST. Confirmatory sampling will also be conducted.

DPW proposes that a long-term groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells. Compounds of concern identified in the first two rounds of sampling would be targeted for the monitoring program.


M_18.DGN
BRUSH
BRUSH
BRUSH
PARKERS CREEK
M-18
BRUSH
BRUSH
MW-25
MW-24
SB-01
SB-02
SB-06
SB-05
SB-07
SB-03
MW-03
SB-04
S-145
S-288
283
S-289
295
T-293
T-294
T-290
S-292
CB.
POST
POST
POS
LEGEND
Soil Boring
Soil Boring/Monitor Well
Approximate Location of Suspected UST
Road (paved)
Road/Trails (unpaved)
Fence
Building
Wooded Area
Tree/Bush
Light Pole
Utility Pole
Site
Brook/Creek
Base Boundary
Marshy Area
Approximate Boundary
0
80
160
SCALE IN FEET
95P-3188
6/23/95
Fort Monmouth, Main Post
FIGURE 4.2-28
FORMER TRAINING AREA (M-18)
SAMPLING LOCATIONS



LEGEND

Monitor Well

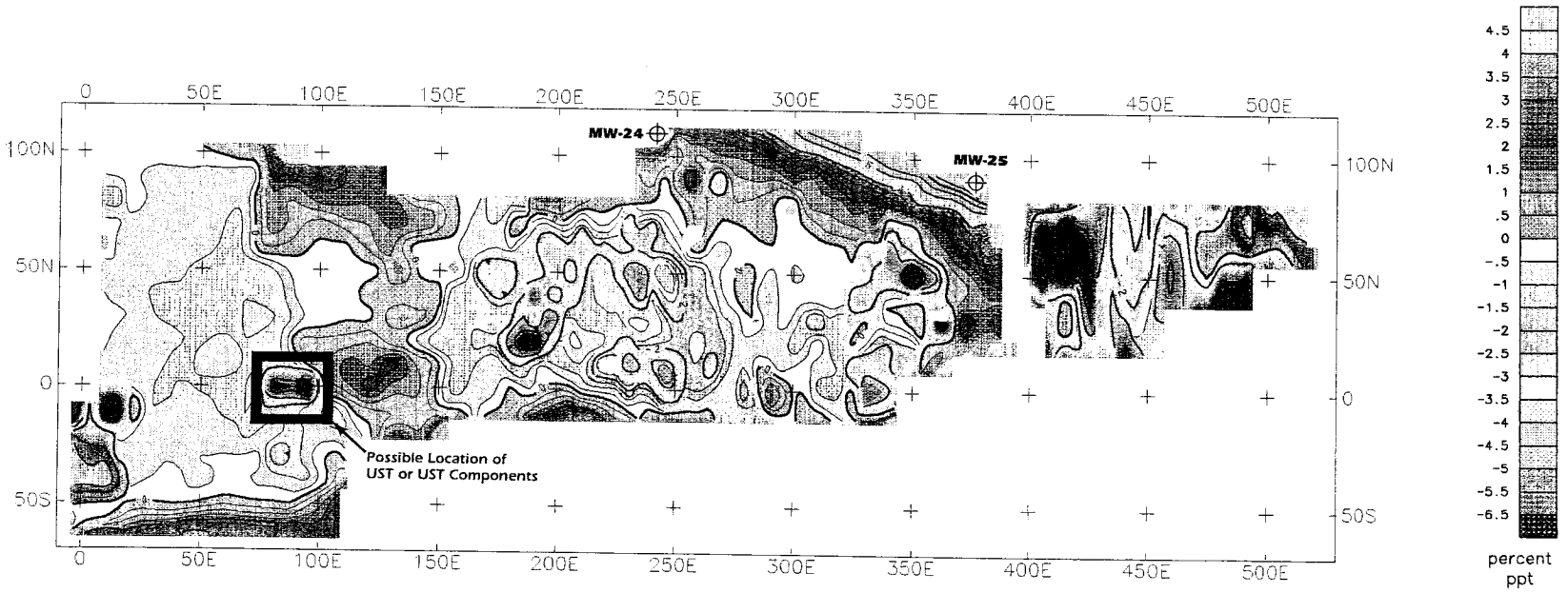
0 25 50 75 100

SCALE IN FEET

Fort Monmouth, Main Post Site M-18

FIGURE 4.2-29
ELECTROMAGNETIC SURVEY
QUADRATURE COMPONENT – SITE M-18

95P-3241 6/27/95



LEGEND

Monitor Well

0 25 50 75 100

SCALE IN FEET

Fort Monmouth, Main Post Site M-18

FIGURE 4.2-30
ELECTROMAGNETIC SURVEY
IN PHASE COMPONENT – SITE M-18

95P-3242 6/27/95

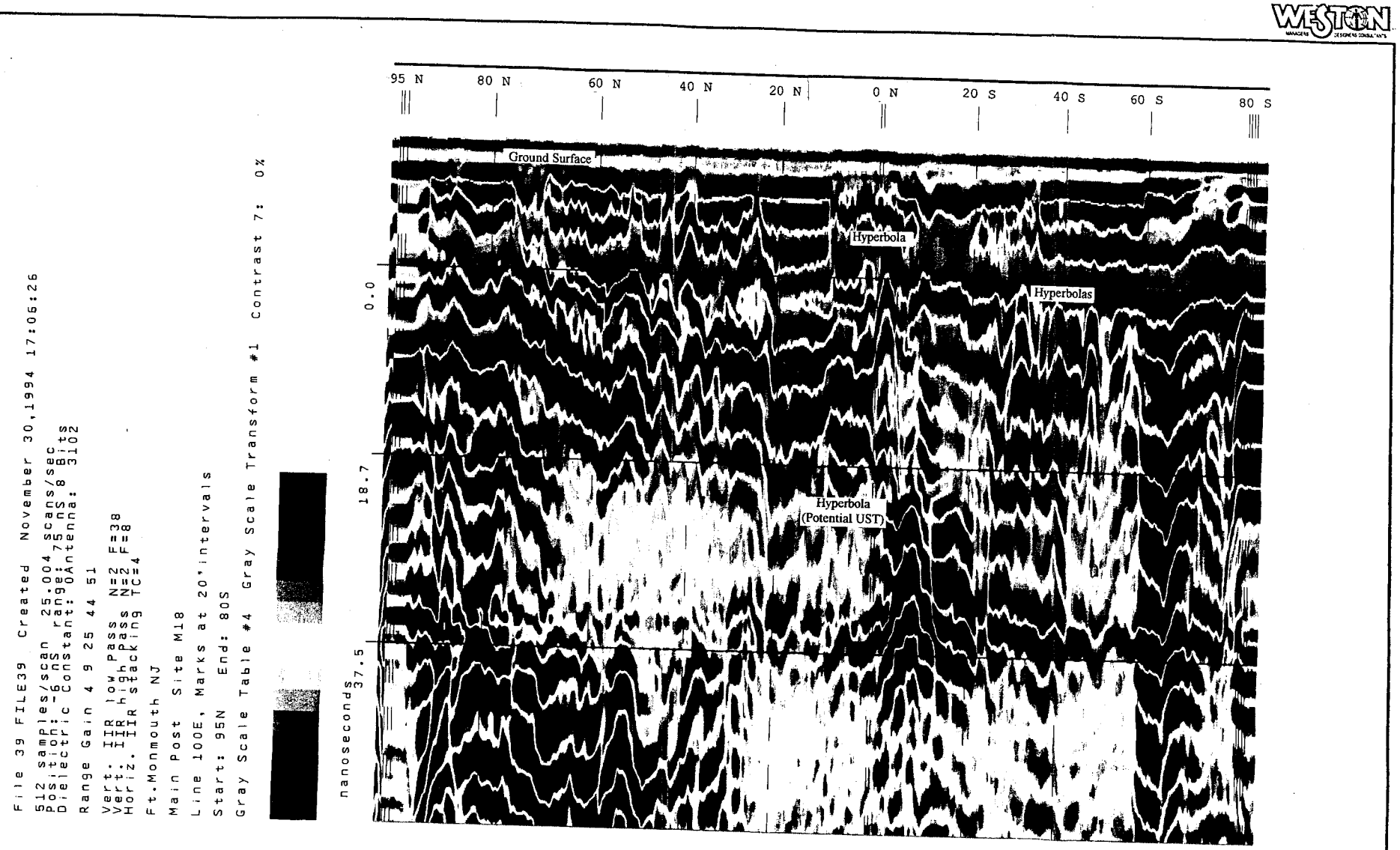
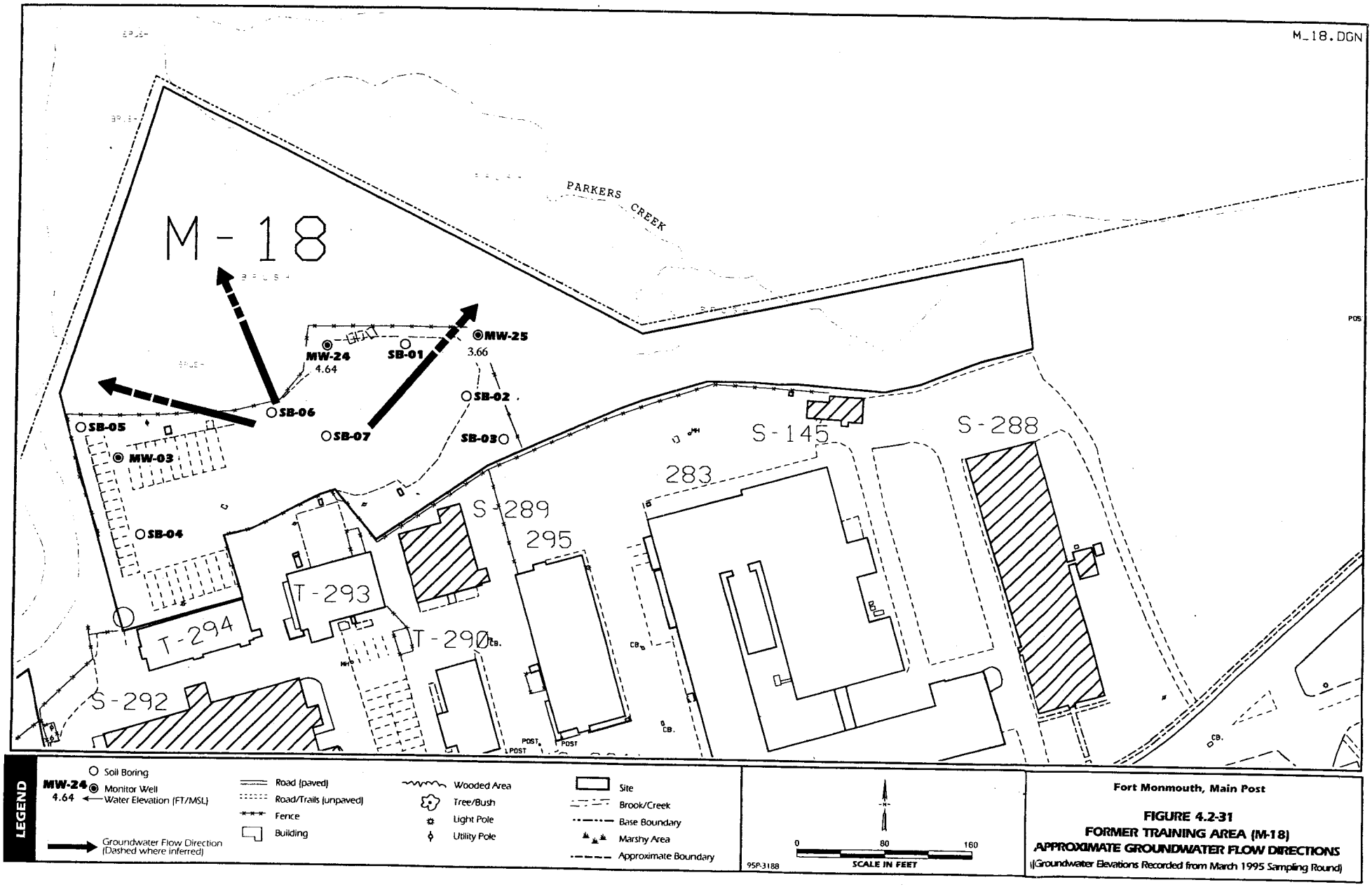
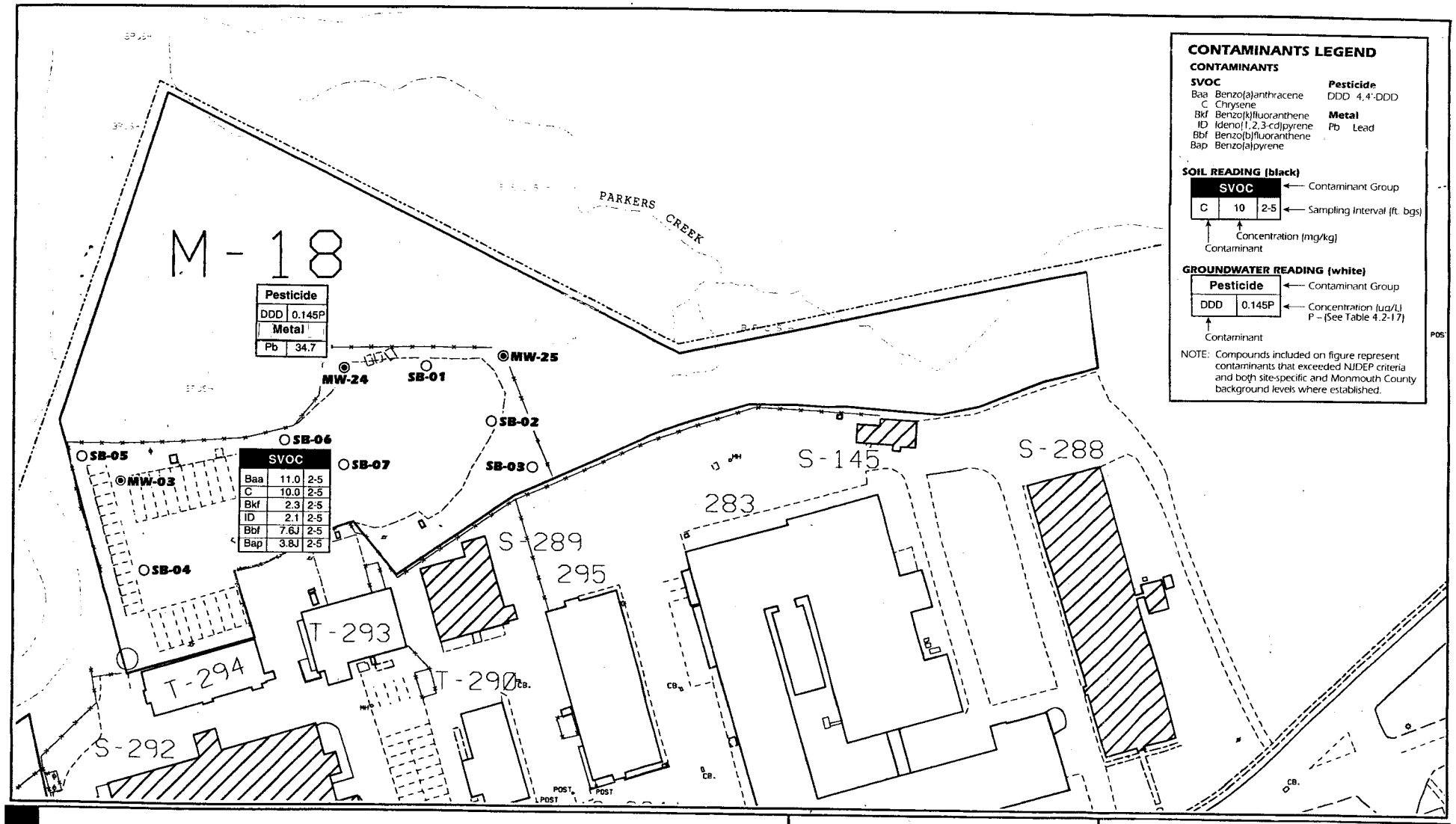


FIGURE 4.2-30A RADAR PROFILE DEPICTING POTENTIAL UST AT SITE M-18


M_18.DGN
M-18
PARKERS CREEK
MW-24
4.64
SB-01
MW-25
3.66
SB-02
SB-03
SB-05
SB-06
SB-07
MW-03
SB-04
S-145
S-288
283
S-289
295
T-293
T-294
T-290
S-292
POST
CB.
LEGEND
Soil Boring
MW-24 Monitor Well
4.64 Water Elevation (FT/MSL)
Groundwater Flow Direction (Dashed where inferred)
Road (paved)
Road/Trails (unpaved)
Fence
Building
Wooded Area
Tree/Bush
Light Pole
Utility Pole
Site
Brook/Creek
Base Boundary
Marshy Area
Approximate Boundary
95P-3188
0
80
160
SCALE IN FEET
Fort Monmouth, Main Post
FIGURE 4.2-31
FORMER TRAINING AREA (M-18)
APPROXIMATE GROUNDWATER FLOW DIRECTIONS
(Groundwater Elevations Recorded from March 1995 Sampling Round)


M-18
PARKERS CREEK
Pesticide
DDD 0.145P
Metal
Pb 34.7
MW-24
SB-01
MW-25
SB-02
SB-03
SB-04
SB-05
SB-06
SB-07
MW-03
SVOC
Baa 11.0 2-5
C 10.0 2-5
Bkf 2.3 2-5
ID 2.1 2-5
Bbf 7.6J 2-5
Bap 3.8J 2-5
S-145
S-288
283
S-289
295
T-293
T-294
T-290
S-292
CONTAMINANTS LEGEND
CONTAMINANTS
SVOC
Baa Benzo(a)anthracene
C Chrysene
Bkf Benzo(k)fluoranthene
ID Ideno(1,2,3-cd)pyrene
Bbf Benzo(b)fluoranthene
Bap Benzo(a)pyrene
Pesticide
DDD 4,4'-DDD
Metal
Pb Lead
SOIL READING (black)
SVOC
C 10 2-5
Contaminant Group
Sampling Interval (ft. bgs)
Concentration (mg/kg)
Contaminant
GROUNDWATER READING (white)
Pesticide
DDD 0.145P
Contaminant Group
Concentration (ug/L)
P – (See Table 4.2-17)
Contaminant
NOTE: Compounds included on figure represent contaminants that exceeded NJDEP criteria and both site-specific and Monmouth County background levels where established.
LEGEND
Soil Boring
Soil Boring/Monitor Well
Road (paved)
Road/Trails (unpaved)
Fence
Building
Wooded Area
Tree/Bush
Light Pole
Utility Pole
Site
Brook/Creek
Base Boundary
Marshy Area
Approximate Boundary
0 80 160
SCALE IN FEET
95P-3188
5/23/95
Fort Monmouth, Main Post
FIGURE 4.2-32
FORMER TRAINING AREA (M-18)
DISTRIBUTION OF CONTAMINANTS IN
SITE SOIL AND GROUNDWATER

Site AOC-3

4.2.13 Former Main Post Sanitary Treatment Plant (AOC-3)

4.2.13.1 Site Location

The former Sanitary Treatment Plant (STP, AOC-3) was located on Parkers Creek north of Sherrill Avenue, between Buildings S-292 to the east and S-697 to the west (Figure 4.2-33). The approximate area of site AOC-3 is 96,000 ft^2 (2.2 acres).

4.2.13.2 Site History

This site was identified by the NJDEP as an area of concern (AOC) in the 8 June 1990 letter. The Main Post STP was built in 1941 to handle 700,000 gallons of sewage per day. As described in the IA, this STP consisted of a bar screen and grit chamber, comminutor, primary and secondary settling tanks, a mixing and aeration tank, and a baffled contact chlorination tank. Effluent from the STP was discharged to Parkers Creek. Sludge was treated in a three-stage anaerobic digester and discharged to underdrained sandbeds for drying. According to the IA and DEH employees, sludge was transported to the Charles Wood golf course and to landfills. This STP was closed on 3 September 1975 when the Main Post sewer system was connected to the Northeast Monmouth County Regional Sewerage Authority (NMCRSA) system. In 1981, all sludges and supernatant liquids were removed from the STP and the facility was cleaned and disinfected. The removal contractor was Modern Transportation Co. of Kearny, New Jersey. The physical facility was demolished in 1983. At present, this area is flat and grass covered.

4.2.13.3 Sampling Effort

Sediments from one location in the Parkers Creek outfall area were analyzed for TCL +30 parameters, TAL metals, and cyanide. Two soil borings were completed in the area of the former sludge-drying beds to identify the original land surface and collect soil samples from an interval just below the original surface for TCL +30 parameters, TAL metals, and cyanide (Figure 4.2-33).

4.2.13.4 Soil Sampling Results

Borings were drilled to depths of 12 ft bgs (depth where saturation was encountered). Samples were collected from one sampling interval (6 to 9.5 ft bgs) and were analyzed for the parameters listed in Table 3.6-1. The analytical results for site soils at specific sampling intervals, with the corresponding sample identifications, are listed in Appendix D. Table 4.2-19 compares the compounds detected in site soils with the NJDEP Residential Direct Contact SCC, and then compares the results to the subsequent site-specific and Monmouth County maximum background concentrations, where appropriate. In addition, compounds were also compared to the impact to groundwater SCC because no monitor wells were installed at the site.

VOCs

VOCs were not detected in site soils from either boring location.

SVOCs

SVOCs were not detected above laboratory quantitation limits in site soils. SVOCs detected below laboratory quantitation limits were found in concentrations well below their respective criteria.

Pesticides/PCBs

Of the six pesticides detected in site soil, none were detected above the NJDEP SCC or the impact to groundwater SCC (Table 4.2-19).

One PCB (Aroclor-1248) was detected in SB-02 above the laboratory quantitation limit. However, Aroclor-1248 was found in a concentration below both the NJDEP residential direct contact and impact to groundwater SCC.

Table 4.2-19
Fort Monmouth - Main Post
Summary of Detected Compounds
In Soils at Site AOC - 3

COMPOUND	METHOD DETECTION LIMIT (mg/kg)	RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA (mg/kg)	MAXIMUM BACKGROUND CONCENTRATION (mg/kg)	ANALYTICAL RESULTS	
				SB01-A02 12/14/94 (6-9.5 ftbgs)	SB02-A02 12/14/94 (6-9.5 ft bgs)
SVOCs (mg/kg)					
Phenanthrene	0.165	NLE	0.39	0.09 J	ND
Fluoranthene	0.198	2300	0.46	0.11 J	ND
Pyrene	0.178	1700	1.5	0.15 J	ND
Benzo(a)anthracene	0.162	0.9	0.65	0.077 J	ND
Chrysene	0.145	9	0.65	0.099 J	ND
bis(2-Ethylhexyl)phthalate	0.32	49	0.19 J	0.057 J	0.053 J
Benzo(b)fluoranthene	0.188	0.9	0.9	0.077 J	ND
Benzo(a)pyrene	0.162	0.66	0.6	0.055 J	ND
Indeno(1,2,3-cd)pyrene	0.234	0.9	0.46	0.046 J	ND
Benzo(g,h,i)perylene	0.224	NLE	0.64 B	0.049 J	ND
PESTICIDES AND PCBs (mg/kg)					
4,4'-DDE	0.0037	2	0.096 P	0.044	0.022
4,4'-DDD	0.0037	3	0.096 P	0.024	0.016
4,4'-DDT	0.0037	2	0.11 D	0.035 P	0.085
alpha-Chlordane	0.0017	NLE	ND	ND	0.0052
gamma-Chlordane	0.0017	NLE	ND	ND	0.0035 P
Aroclor-1248	0.036	0.49	ND	ND	0.2 P
METALS TOTAL (mg/kg)					
Aluminum	3.9	NLE	15200	3000	4020
Arsenic	0.35	20	22.9	2.8	4.2
Barium	0.17	700	32.3	14.4	12.5
Beryllium	0.10	1	2	0.34	0.63
Calcium	2.2	NLE	921	310	226
Cobalt	0.86	NLE	2.5	0.72	1.5
Chromium	0.71	500	269	39.9	61
Copper	2.2	600	8	1.9	1.7
Iron	0.58	NLE	55800	15000	21700
Lead	0.40	**400**[2]	25.9[1]	8.3	11.5
Magnesium	9.6	NLE	7230	690	1490
Manganese	0.18	NLE	90.7	13.8	15.6
Nickel	1.4	250	8.4	1.9	3
Potassium	(12.3-25.8)	NLE	15400	1760	4240
Sodium	3.8	NLE	51.6	17.4	18.6
Selenium	0.3	63	1.9	ND	ND
Vanadium	0.53	370	94.1	28	32.9
Zinc	0.41	1500	81.4	19.1	30.8

Compounds exceeding NJDEP soil cleanup criteria are noted by bold numbers.
NLE - No Level Established
ND - Indicates that the compound was not detected at or below the quantification limits
J - Indicates that the concentration value was estimated due to detection at or near the detection limits
P - The percent difference between the results from two GC columns is greater than 25%,the lower of the two values is reported
D - Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis
ft bgs. - feet below ground surface.
Note: MDL's for metal analysis is actually the highest detection limit with potassium given as a range due to high variability.

[1] Monmouth County maximum background concentration.

[2] NJDEP criteria are referenced in the Site Remediation News, Winter 1995.

Metals

As indicated in Table 4.2-19 all of the metals detected in site soil were found in concentrations below the NJDEP SCC.

Cyanide

Cyanide was not detected in site soils from either soil boring.

4.2.13.5 Sediment Sampling Results

Sample location M8SD-1 appears to be tidally influenced, and based on conductivity results and field observations, was determined to be saltwater.

One sediment sample, M8SD-1, was collected at AOC-3 (Figure 4.2-33). Table 4.2-20 presents a comparison of detected sediment concentrations at sampling location M8SD-1 to marine/ estuarine sediment criteria (Long et al., 1995), and maximum detected background concentrations.

VOCs

2-Butanone was the only VOC detected above the laboratory quantitation limit in a site sediment sample. 2-Butanone is a common laboratory contaminant.

SVOCs

Two SVOCs were detected below the laboratory quantitation limit in site sediment from location M8SD1.

Pesticides/PCBs

Pesticides/PCBs were analyzed for but were not detected in the site sediment sample.

Table 4.2-20
Fort Monmouth - Main Post
Summary of Detected Compounds in Sediment
Site AOC-3

COMPOUND	METHOD DETECTION LIMIT (mg/kg)	MARINE/ESTUARINE BIOLOGICAL EFFECTS LEVEL (ERL)[a] (mg/kg)	MAXIMUM DETECTED BACKGROUND CONCENTRATION	ANALYTICAL RESULTS M8SD-1 12/1/94
VOC's (mg/kg)				
2-Butanone	0.0041	NLE	0.1	0.02
SVOCs (mg/kg)				
Di-n-butylphthalate	0.215	NLE	0.26 JB	0.68 J
2,2'-oxybis(1-Chloropropane)	0.231	NLE	ND	0.061 J
PAHs (mg/kg)				
Benzo(a)pyrene	0.162	0.43	1.2	0.079 J
METALS TOTAL (mg/kg)				
Aluminum	18.1	NLE	9060	8830
Arsenic	2.5	8.2	14.5	**13.2**
Barium	1.4	NLE	87.6	13
Beryllium	1.0	NLE	3.2	1.4
Calcium	8.1	NLE	3180	1290
Chromium	4.3	81	88.1	74
Cobalt	1.9	NLE	119	5.5
Copper	1.6	34	48.4	3.1
Iron	3.2	NLE	61900	40300
Lead	9.9	46.7	64.1	6.5
Magnesium	25.8	NLE	3280	3670
Manganese	1.4	NLE	70.2	51.7
Nickel	8.7	20.9	131	14
Potassium	555	NLE	10200	6640
Selenium	0.56	NLE	1.7	0.42
Sodium	10.4	NLE	189	3090
Vanadium	2.0	NLE	49.1	39.3
Zinc	1.9	150	162	68.8

Compounds detected above NJDEP Sediment Guidance are noted by bold numbers.

[a] - Value from Long et al. (1995).

ND - Compound was not detected at or above the quantification limit.

NLE - No Level Established

B - Compound was found in the sample and associated laboratory blank

J - Concentration was estimated due to detection at or below the quantification limit

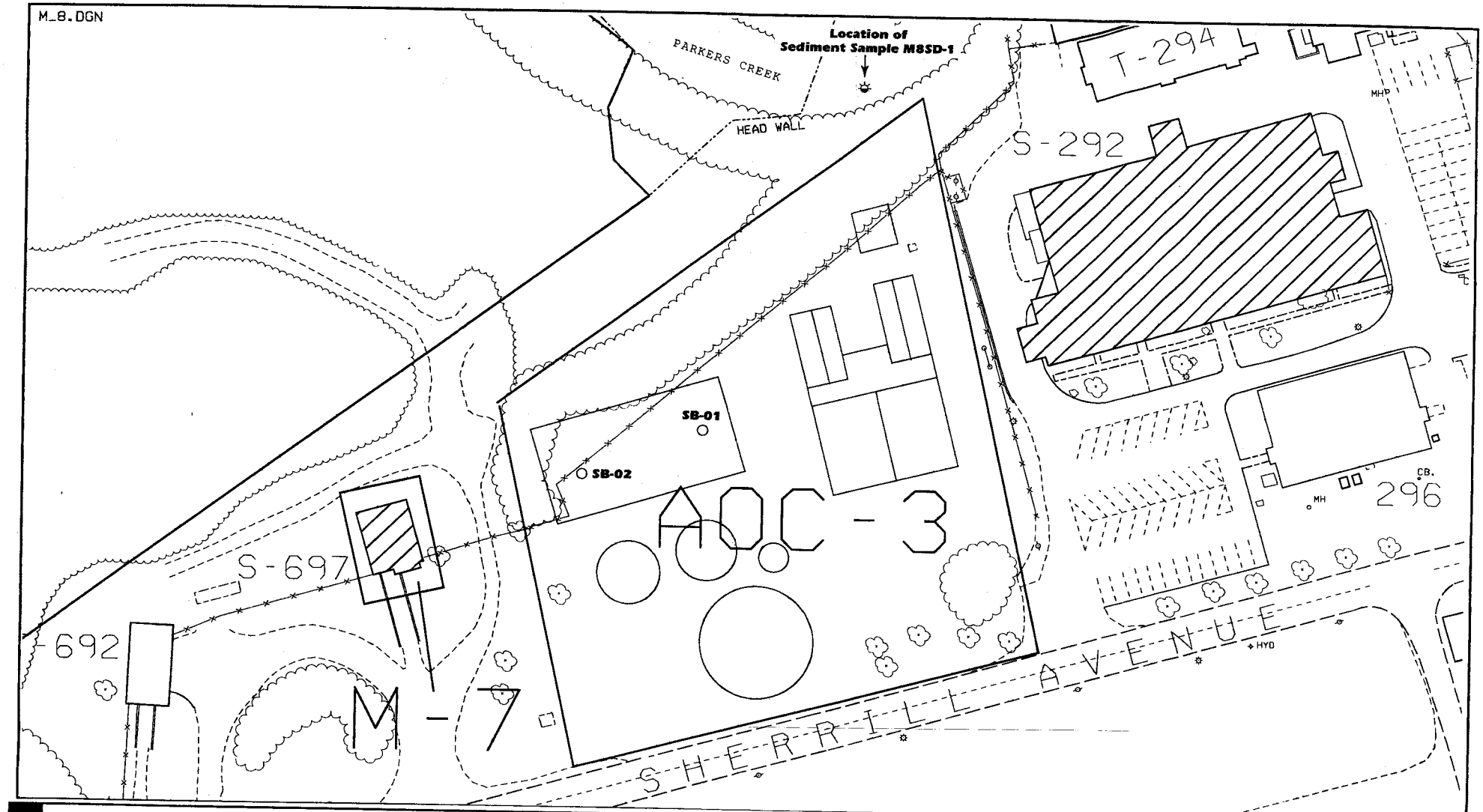
Metals

As indicated in Table 4.2-20, of the 18 metals detected above laboratory quantitation limits, only one (arsenic) was found in a concentration slightly exceeding the established criteria. However, the concentration of arsenic was found at a level below the maximum detected background concentration.

4.2.13.6 Recommendations

The results of the soil and sediment sampling indicated that compounds of concern were not detected above the NJDEP criteria and established background concentrations.

No further action will be taken.


M_8.DGN
Location of
Sediment Sample M8SD-1
PARKERS CREEK
HEAD WALL
T-294
S-292
MHP
SB-01
SB-02
AOC-3
S-697
692
M-7
CB.
MH
296
HYD
SHERRILL AVENUE
LEGEND
Soil Boring Location
Sediment Sampling Location
Road (paved)
Road/Trails (unpaved)
Fence
Building
Wooded Area
Tree/Bush
Light Pole
Utility Pole
Site
Brook/Creek
Base Boundary
Marshy Area
Approximate Boundary
0
100
200
SCALE IN FEET
95P-3189
6/23/95
Fort Monmouth, Main Post
FIGURE 4.2-33
FORMER SANITARY TREATMENT PLANT (AOC-3)
SOIL AND SEDIMENT SAMPLING LOCATIONS

Former Sanitary Treatment Plant (STP)

Former Sanitary Treatment Plant (STP)

4.2.14 Pre-1941 Sanitary Treatment Plant (STP)

4.2.14.1 Site Location

The pre-1941 STP for the Main Post was located on Parkers Creek in an area north of Allen Avenue in approximately the same location as current Building 259 (Figure 4.2-34). The approximate area of the STP is 130,000 ft^2 (2.9 acres).

4.2.14.2 Site History

This STP is shown on a 1935 Fort Monmouth map. The date of construction and period of operation are unknown, although the STP presumably operated until the Main Post STP (AOC-3) came on line in 1941.

4.2.14.3 Sampling Effort

The former STP is presented in Figure 4.2-34. Sediment coring was conducted at the former outfall and a sample was collected for TAL metals analysis.

4.2.14.4 Sediment Sample Results

Sediment at the STP was determined to be saltwater based on conductivity results and field observations. Therefore, detected concentrations of contaminants in the STP sediment were compared to marine/estuarine biological effects levels (Long et al., 1995) (Table 4.2-21).

One sediment sample, STPSD-1, was collected at the former STP (Figure 4.2-34).

Metals

As indicated in Table 4.2-21, of the 21 metals detected above laboratory quantitation limits, nine (arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc) were found in concentrations exceeding their respective established criteria. In addition, arsenic, cadmium,

Table 4.2-21
Fort Monmouth - Main Post
Summary of Detected Compounds in Sediments
Site - Pre-1941 Sanitary Treatment Plant

COMPOUND	METHOD DETECTION LIMIT (mg/kg)	MARINE/ESTUARINE BIOLOGICAL EFFECTS LEVEL (ERL)[a] (mg/kg)	MAXIMUM DETECTED BACKGROUND CONCENTRATION	ANALYTICAL RESULTS STPSD-1 12/1/94
METALS TOTAL (mg/kg)				
Aluminum	18.1	NLE	9060	9240
Arsenic	2.5	8.2	14.5	**24.2**
Barium	1.4	NLE	87.6	27.6
Beryllium	1.0	NLE	3.2	1.3
Cadmium	2.3	1.2	ND	**4.2**
Calcium	8.1	NLE	3180	1010
Chromium	4.3	81	88.1	**93.5**
Cobalt	1.9	NLE	119	13.5
Copper	1.6	34	48.4	**35.2**
Iron	3.2	NLE	61900	49200
Lead	9.9	46.7	64.1	**59**
Magnesium	25.8	NLE	3280	3390
Manganese	1.4	NLE	70.2	39.5
Mercury	0.32	0.15	1.7	**0.57**
Nickel	8.7	20.9	131	**26.5**
Potassium	555	NLE	10200	6760
Selenium	0.56	NLE	1.7	0.88
Silver	2.1	1	ND	**5.2**
Sodium	10.4	NLE	189	2330
Vanadium	2.0	NLE	49.1	49.5
Zinc	1.9	150	162	**386**

Compounds detected above NJDEP Sediment Guidance are noted by bold numbers.

[a] - Value from Long et al. (1995).

ND - Compound was not detected at or above the quantification limit.

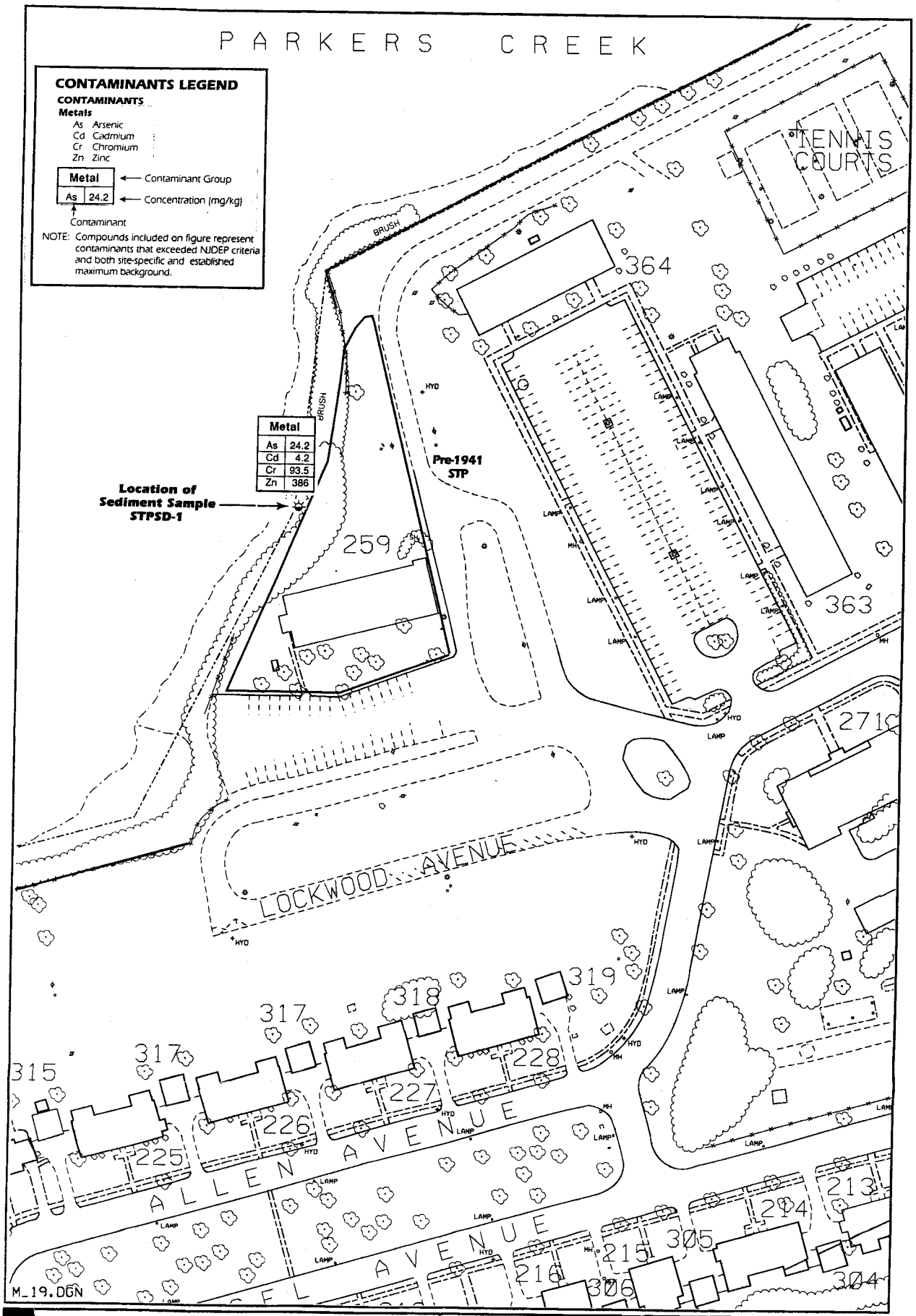
NLE - No Level Established

chromium, and zinc were found in concentrations slightly exceeding their respective background concentrations. However, copper, lead, mercury, and nickel were found in concentrations below their respective maximum background levels.

4.2.14.5 Recommendations

Nine metals were detected above NJDEP criteria in the sediment sample collected at the outfall area. In addition, four metals (arsenic, cadmium, chromium, and zinc) exceeded their respective maximum background concentrations. The other five metals were detected below established background concentrations.

Although four metals were detected in sediment at levels exceeding NJDEP criteria and background, in the worst case the criteria were exceeded by a factor of three. Since the samples was taken at the outfall of the STP, the results are believed to be the worst case and the area of contamination is probably small. Access to this portion of Lafetra Creek is restricted although the stream is on the property boundary. The STP has not been used since 1941, and, presumably, the local ecology has reached an equilibrium. Therefore, since remediation would disrupt the ecology of the site, no further action will be taken.



LEGEND

- Sediment Sampling Location
- Road (paved)
- Road/Trails (unpaved)
- Fence
- Building
- Wooded Area
- Tree/Bush
- Light Pole
- Utility Pole
- Site
- Brook/Creek
- Base Boundary
- Marshy Area

0 80 160
SCALE IN FEET

2017-0585

Fort Monmouth, Main Post

FIGURE 4.2-34
PRE-1941 SANITARY TREATMENT PLANT
(Distribution of Contaminants in Site Sediment)

Main Post
PCB Transformers

Main Post
PCB Transformers

4.2.15 PCB Transformers

4.2.15.1 Site Location

During the 1993 investigation (WESTON, 1993) all locations where PCB transformers had formerly been located were inspected for evidence of spills. Eight sites were identified where a PCB transformer was either formerly located over soil and thus evidence of a spill could not be determined visually, or was formerly located on concrete and there was discoloration in the concrete. These locations are listed in Table 3.5-1. Figure 4.2-35 presents the Main Post transformer site sample locations.

4.2.15.2 Site History

All PCB transformers (contain greater than 500 ppm PCBs) have been removed from Fort Monmouth. However, the former locations of these transformers were not previously investigated for spilled PCBs.

4.2.15.3 Sampling Effort

As discussed in Subsection 3.5, soil samples were taken below pole-mounted transformers and on four sides of an outdoor pad-mounted transformer. Concrete samples were taken from stained areas on outdoor concrete pads or in interior vaults with concrete floors. All samples were analyzed for PCBs.

4.2.15.4 PCB Sampling Results

The results of the PCB transformer sampling are presented in Table 4.2-22. Four of the eight transformers sampled at the Main Post area were found to have PCBs in soil or concrete above applicable cleanup criteria.

All other transformers sampled in the Main Post either had results below detection limits, or had detectable levels of PCBs below applicable cleanup criteria.

Table 4.2-22
Results of Transformer Site Sampling on Main Post

Location (Building No.)	Sample ID	Method Detection Limit (mg/kg)	Medium	NJDEP Cleanup Criteria (mg/kg)	Total PCBs (mg/kg)
292	MPT5-TR01	0.24	Soil	0.49	**0.68**
686	MPT6-TR01	0.045	Soil	0.49	0.18
718	MPT4-TR01	0.051	Soil	0.49	0.06
1002	MPT7-CC01	2000*	Concrete	0.055	**8400**
1004	MPT8-TR01	0.45	Soil	0.49	ND
1208	MPT2-CC01	2000*	Concrete	0.055	**19000**
1209	MPT1-CC01	400*	Concrete	0.055	**1500**
1220	MPT3-TR01	0.045	Soil	0.49	ND
1220	MPT3-TR02	0.041	Soil	0.49	ND
1220	MPT3-TR03	0.047	Soil	0.49	0.06
1220	MPT3-TR04	0.045	Soil	0.49	0.09
1220	MPT3-CC01	0.04	Concrete	0.055	ND

Compounds exceeding NJDEP cleanup criteria are noted by bold numbers
ND - Indicates that the compound was not detected at the quantification limit.
* = Method detection limit unit exceeded the NJDEP criteria.

The following transformer sites had PCBs in soil or concrete above applicable cleanup standards:

- MP-062 (Building 292).
- Indoor transformer vault in Building 1002.
- Indoor transformer vault in Building 1208.
- Indoor transformer vault in Building 1209.

PCBs were detected in soils above applicable soil standards in the soil beneath transformer MP-062, which was a pole-mounted transformer on the northwest side of Building 292. The sample beneath the transformer contained PCBs above the NJDEP SCC.

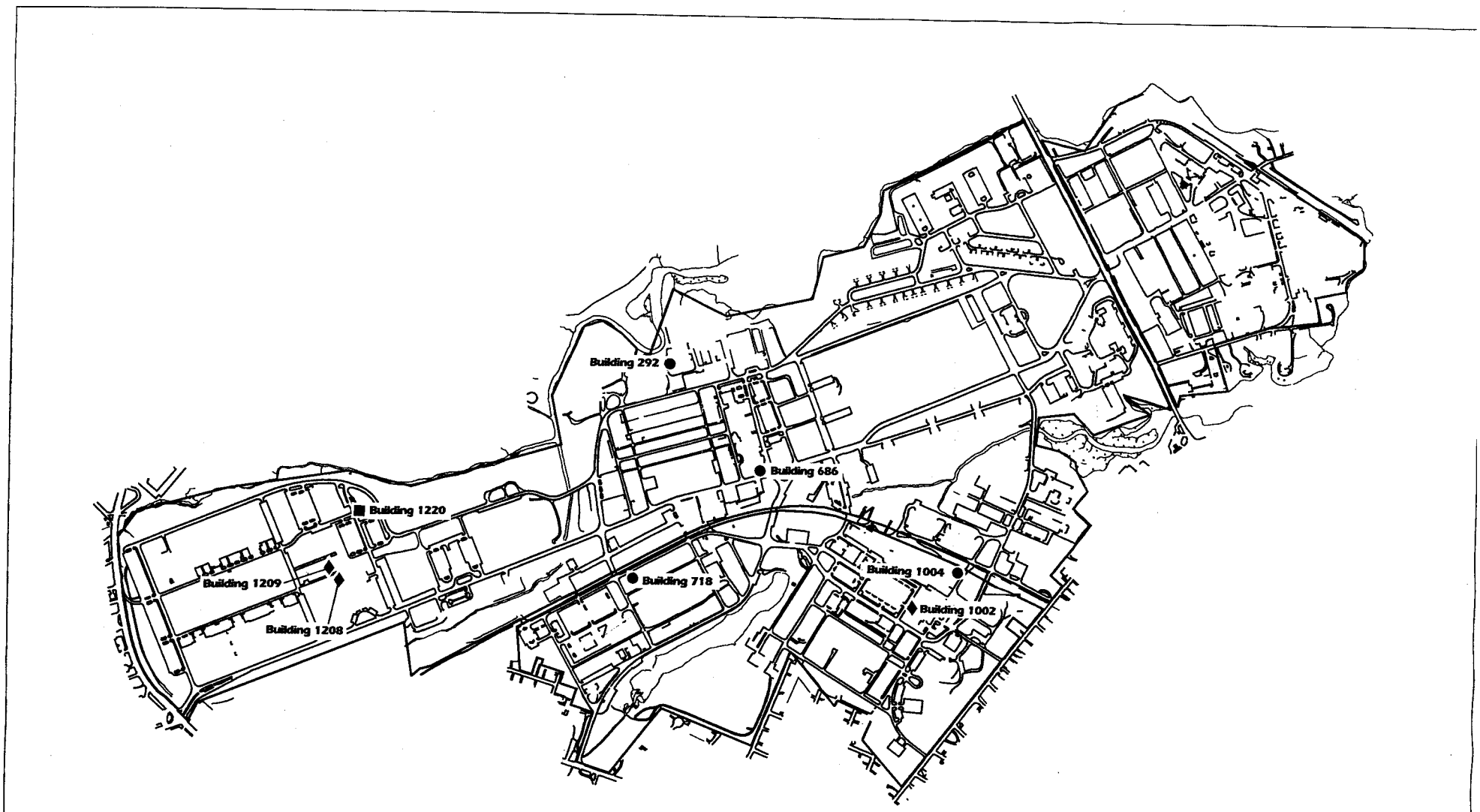
The concrete samples from visibly stained areas in the indoor transformer vaults in Buildings 1002, 1208, and 1209 each contained PCBs above the proposed indoor surface cleanup criteria of 0.055 mg/kg.

4.2.15.5 Recommendations

PCB levels in stained concrete were found to exceed NJDEP guidance levels in indoor vaults at Buildings 1002, 1208, and 1209. PCBs were also detected above applicable soil standards in the soil beneath transformer MP-062 on the northwest side of Building 292.

Since the indoor vaults are normally locked and are accessible by a very limited number of facility personnel, and the stained concrete cannot be removed without significantly disrupting electrical service, remedial work will be performed when the transformers are removed from service and the stained areas are made accessible. A warning sign will be posted, and workers entering the vaults will be trained to take precautions to prevent contamination.

Because the concentration of PCBs is only slightly above the SCC, additional sampling will be conducted beneath the former location of transformer MP-062 to determine the vertical and horizontal extent of PCBs in soil. The soil sampling will be performed in accordance with the NJDEP *Technical Requirements for Site Remediation* (NJDEP, 1993). Personal protective clothing will be worn accordingly.



Fort Monmouth, Main Post

FIGURE 4.2-35
MAIN POST TRANSFORMER SITE
SAMPLE LOCATIONS

Charles Wood
Background Samples

4.3 CHARLES WOOD

This subsection presents a description of each Charles Wood site and presents the rationale for the sampling activities. The sites and the sampling effort are summarized in Table 4.3-1. Additional historical information on each site may be obtained from the *Investigation of Suspected Waste Sites at Fort Monmouth, New Jersey*, 1993.

The following subsections summarize the results of the sampling program that was implemented to characterize site conditions as specified in the report titled, *Site Investigation, Chemical Data Acquisition Plan (CDAP).* Although the field investigation was generally conducted in accordance with the CDAP, minor changes were made. These changes are summarized in Table 4.3-2. A total of 19 soil borings and 16 monitor wells were installed and 3 sediment and 2 surface-water samples were collected in the Charles Wood area. Soil and groundwater samples were collected from the borings and monitor wells and were analyzed for compounds determined to be characteristic of the wastes associated with each area, i.e., TCL and TAL analytes (see Tables 3.6-1 and 3.8-1). Appendix D presents the results of the Charles Wood sampling activities. Detailed information regarding the specific sampling protocols for each site is provided in the following subsections. In addition to the results of groundwater and soil analyses, the lithologic descriptions and water-level information are used to provide a hydrogeologic interpretation of the site where appropriate.

Figure 4.3-1 shows the location of the nine Charles Wood sites discussed in this subsection.

4.3.1 Background Samples

The locations of background sampling locations were selected in areas believed to be unaffected by past base activities. They were identified in the report *The Investigation of Suspected Hazardous Waste Sites at Fort Monmouth, New Jersey* (WESTON, 1993), which was approved by NJDEP. The purpose of the collection of background characterization data was to identify levels of chemicals that are naturally occurring.

Table 4.3-1

Site Investigation Summary — Charles Wood

Site Number	Site	Description	Potential Waste/ Contaminants	Past Samples and Analyses	Investigation Activities
CHARLES WOOD AREA					
CW-1	Wastewater treatment (lime pit)	4-m^3 tank containing limestone for neutralizing liquid waste from Bldg. 2700. Sludge removal periodically. Acid/base drains not currently used. Pit discharge to sewage system. Limestone was replaced in 1992; contractor took limestone off-site. Built with bldg. around 1952.	Solvents and metals.	Analyzed old limestone. Sludge analyzed; found organics and metals.	Installed 4 soil boring/monitor wells, 1 on each side of pit. Collected soil samples (2 to 3 per boring) from 7 to 9 ft. Analyzed for TCL +30/TAL. Sampled groundwater for same parameters.
CW-2	Wastewater treatment (lime pit)	Same as CW-1.	Solvents and metals.	Analyzed old limestone.	Same as CW-1.
CW-3, AOC-4	Landfill	Operated during 1940s. Site identified in IA now used for storage of contractor equipment and debris. Site was cleared in mid-1995.	Administrative waste and wood.	None.	Work postponed. Trenching is planned to evaluate subsurface conditions.
CW-3A	Landfill	Site in west was used for leaves and small debris, and by off-site dumpers. 1969 aerial photo shows disturbed soil at west site. One partially buried drum found. May have been used for demolition debris.	Unknown.	None.	Used geophysics (magnetics, EM-31, and GPR) to evaluate possible subsurface disposal near Pulse Power Building.
CW-4	Range (small arms)	Bldg. 2537. Indoor range. Cleaned and repainted in 1989. Has metal and sand bullet trap and filtered ventilation system. 3-ft diameter bare area to north of building with spent shells and bullet debris. Appears to be clean sand in back of building.	Lead.	None.	Collected 2 soil samples: 1 soil boring and 1 surface soil. Analyzed for TCL +30/TAL/TPH.
CW-5, AOC-3	Heavy metals	Former treatment plant. Discharged to stream. Sludge removed from sludge drying bed and plant cleaned, disinfected, and dismantled.	Heavy metals and cyanide.	Sludge analyzed in 1981 — no heavy metals.	Sampled sludge (see CW-9) for metals. Installed 2 soil borings in area of sludge drying beds. Sampled sediment at outfall. Analyzed for TCL +30/TAL/CN.

Table 4.3-1

Site Investigation Summary — Charles Wood (Continued)

Site Number	Site	Description	Potential Waste/ Contaminants	Past Samples and Analyses	Investigation Activities
CW-6	Pesticide Storage Building T-2044	Pesticides no longer stored in CW area. Use pesticide contractor. Pesticides were stored in steel igloo on concrete base. Was mixed outside of igloo and Bldg. T-2044.	Pesticides and herbicides.	Soil sampled in 1989 for pesticides. High levels of chlordane (up to 595 mg/kg) and trace amounts of others detected.	2 soil borings and installation of MW by Bldg. T-2044. Sampled soil, new well, and existing well MW-1 for TCL +30. Surface soil sample by ditch (TCL +30/TAL).
CW-9, AOC-3	Sludge dump	Sludge was placed on golf course. Sludge temporarily stored south of Bldg. T-2044. Currently has dark gray soil that had been removed near Hole 1.	Heavy metals.	None.	Installed 2 MWs for TCL +30/TAL. 9 surface soil samples for TAL, 1 soil boring for TCL +30/TAL.
AOC-7	Former hazardous waste storage area	Bldg. 2500 area. Has been used as storage area since 1961. Used as temporary hazardous waste storage area in 1987. Security guard overcome by fumes in 1987. Currently open field, no evidence of contamination.	Solvents, oil, and metals.	None.	Installed 6 soil borings. Analyzed for TCL +30.
PCB Transformers	Buildings	Several transformers in this area. All transformers were tested in 1990 for PCBs. Those with PCBs > 500 ppm were removed or remediated.	PCBs.	Transformers sampled — several >500 ppm. See transformer list.	Sampled PCB transformer locations.

Table 4.3-2

Differences Between Proposed and Actual Work at Charles Wood

Site	Differences
CW-1, CW-2	In accordance with work plan, only one sample was taken per soil boring instead of three because no contamination was detected during field efforts.
CW-3	Site had not been cleared prior to field effort; therefore, no investigation was conducted.
CW-4	Because contaminated soil had not been excavated prior to the field effort, one soil boring was installed instead of three surface soil samples.
CW-6, CW-9	The location of the monitor well was moved from site CW-6 to CW-9 because there was an existing well near the proposed location at CW-6. The existing monitor well at CW-6 was sampled. Surface soil sample SS-01 was analyzed for TAL metals, which was not originally proposed in the CDAP.

A total of five background soil borings, which were converted into monitor wells, were installed and two separate soil intervals were sampled from each boring. Two rounds of groundwater samples were collected from each location. Soil and groundwater samples were analyzed for the parameters listed in Tables 3.6-1 and 3.8-1. Background monitor wells were labeled as "B" wells, i.e., MW-06B. Charles Wood background locations are shown in Figure 4.3-2 and are labeled B-6, B-7, etc. Monitor well MW-06B was installed at background location B-6 and a similar practice was followed at the other background locations. Two background surface-water and sediment samples were also collected (Figure 4.3-2).

4.3.1.1 Hydrogeologic Interpretation

The five background monitor wells installed at the Charles Wood area were installed to depths ranging from 14 ft bgs to 15 ft bgs. Total depths were determined during drilling activities and were based on the depth where groundwater was encountered. The lithology and depth to groundwater varied between background locations, and this information is presented on the lithologic logs in Appendix A.

4.3.1.2 Soil Sampling Results

Soil samples were collected from two discrete intervals: 0 to 2 ft bgs and 2 ft bgs to depth to groundwater. Soil boring depths varied between the background locations, depending on the depth where water was encountered. The analytical results for background soil at specific sampling intervals are presented in Appendix D. Table 4.1-7 summarizes the maximum concentrations detected in background soil at Charles Wood.

VOCs

VOCs were not detected in Charles Wood background soil.

SVOCs

A total 10 SVOCs were detected below laboratory quantitation limits in background soil at the Charles Wood area (Table 4.1-7).

Pesticides/PCBs

Two pesticides (4,4'-DDE and 4,4'-DDT) were detected above the laboratory quantitation limit in background soil at the Charles Wood area.

Metals

As indicated in Table 4.1-7, 19 metals were detected in background soil at the Charles Wood area.

Cyanide

Cyanide was not detected in background soil at the Charles Wood area.

4.3.1.3 Groundwater Sampling Results

Two rounds of groundwater sampling were conducted at Charles Wood. The analytical results for groundwater samples from the individual sampling rounds are listed in Appendix D. Table 4.1-7 summarizes the maximum background concentrations detected in background water at Charles Wood.

VOCs

VOCs were not detected in Charles Wood background groundwater.

SVOCs

Two SVOCs were detected in background groundwater at Charles Wood (Table 4.1-7).

Pesticides/PCBs

Pesticides/PCBs were not detected in background groundwater at Charles Wood.

Metals

As indicated in Table 4.1-7, 19 total metals were detected in background groundwater at Charles Wood.

4.3.1.4 Surface-Water Sampling Results

Two upgradient surface-water samples, SS-B3 and SS-B4, were selected as background at Charles Wood (Figure 4.3-2). Contaminants detected in background surface water and corresponding sample identifications are presented in Appendix D. Table 4.1-9 summarizes the maximum detected concentrations in total and soluble background surface water at Charles Wood.

VOCs

VOCs were not detected in total background surface water. Soluble background surface-water samples at Charles Wood were analyzed for VOCs.

SVOCs

One SVOC, bis(2-ethylhexyl) phthalate, was detected below laboratory quantitation limits in background surface water (total) at Charles Wood. SVOCs were not analyzed for in soluble background surface-water samples at Charles Wood.

Metals

In total background surface water, 13 metals were detected above laboratory quantitation limits at Charles Wood. Similarly, 11 metals in soluble background surface water were detected above laboratory quantitation limits.

4.3.1.5 Sediment Sampling Results

Two upgradient sediment samples, SS-B3 and SS-B4, were selected as background at Charles Wood (Figure 4.3-2). Contaminants detected in background sediment and corresponding sample identifications are presented in Appendix D. Table 4.1-9 summarizes the maximum detected concentrations in background sediment at Charles Wood.

VOCs

VOCs were not detected in background sediment at Charles Wood.

SVOCs

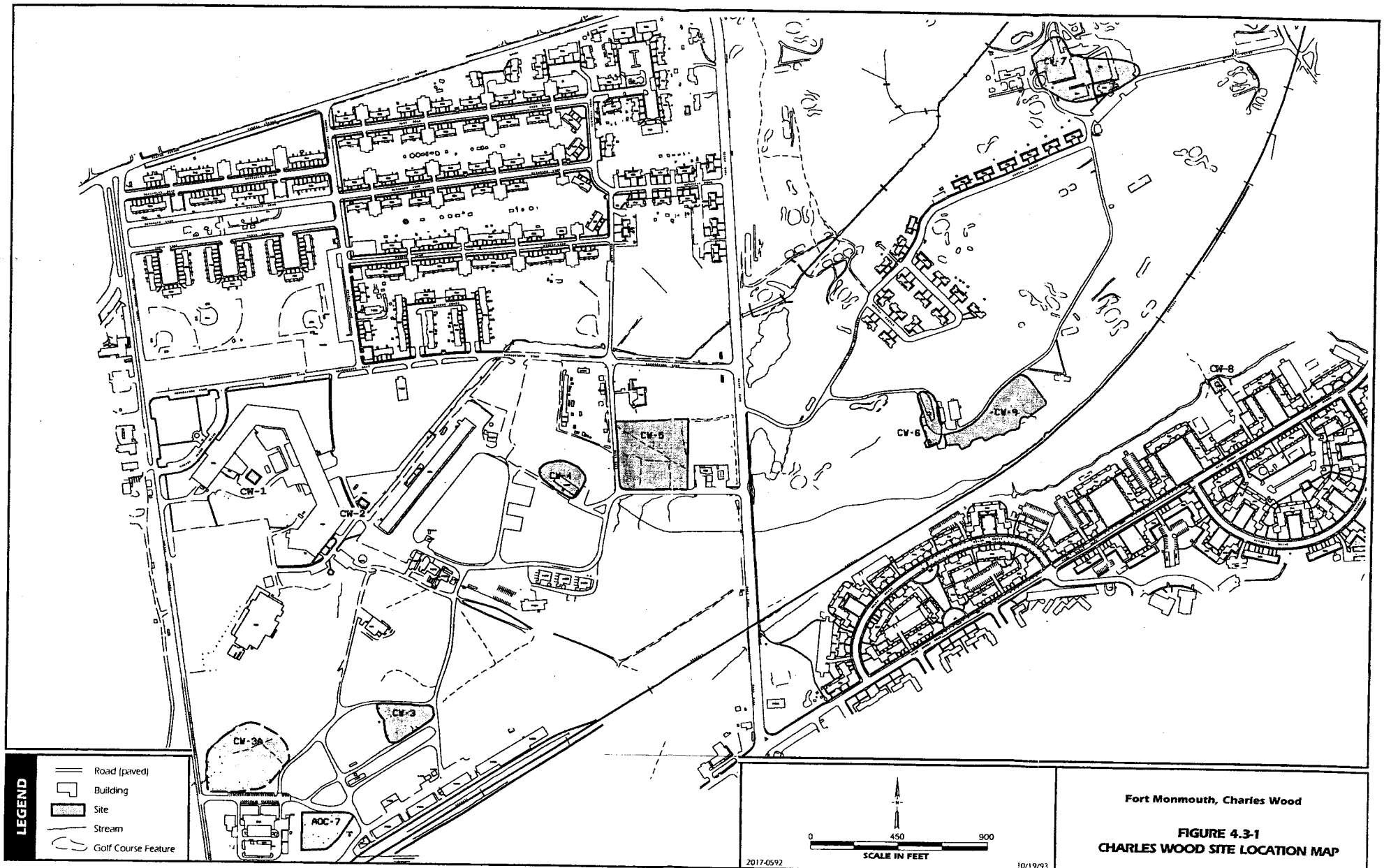
Bis(2-ethylhexyl) phthalate and di-n-butyl phthalate were detected below the laboratory quantitation limits in Charles Wood sediment. Six PAHs were detected below laboratory quantitation limits in Charles Wood sediment.

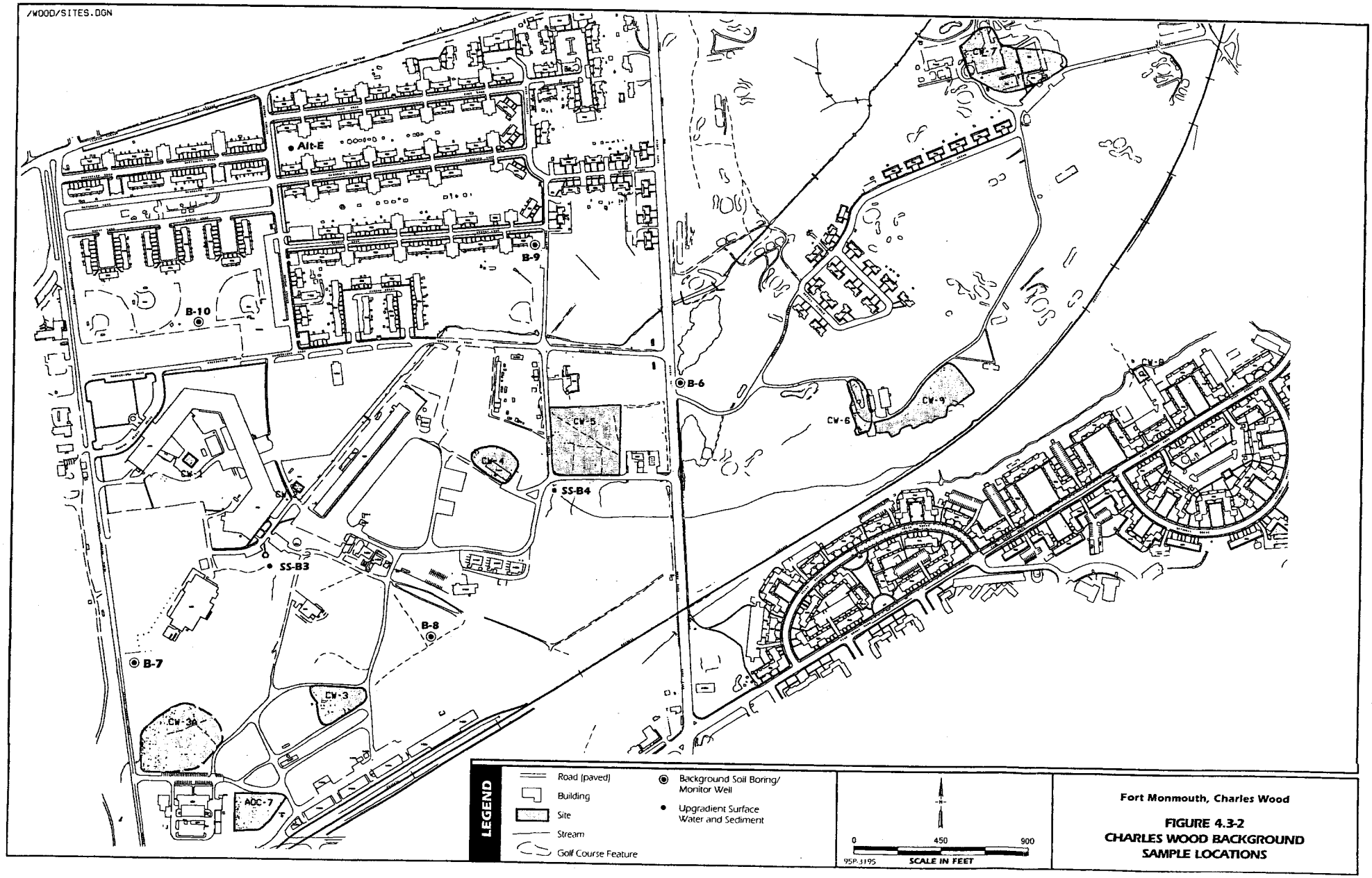
Pesticides

Three pesticides (4,4′-DDD, 4,4′-DDE, and 4,4′-DDT) were detected in Charles Wood background sediment.

Metals

A total of 17 metals were detected in background sediment at Charles Wood above laboratory quantitation limits.


CW-1
CW-2
CW-3
CW-3A
CW-4
CW-5
CW-6
CW-7
CW-8
CW-9
AOC-7
LEGEND
Road (paved)
Building
Site
Stream
Golf Course Feature
0
450
900
SCALE IN FEET
2017-0592
10/19/93
Fort Monmouth, Charles Wood
FIGURE 4.3-1
CHARLES WOOD SITE LOCATION MAP



Fort Monmouth, Charles Wood

FIGURE 4.3-2
CHARLES WOOD BACKGROUND SAMPLE LOCATIONS

Site CW-1

4.3.2 Wastewater Treatment Lime Pit 1 (CW-1)

4.3.2.1 Site Location

Wastewater Treatment Lime Pit 1 (CW-1) is located in the central area of the Hexagon Building (Building 2,700) at Charles Wood just east of the west wing of the building (Figure 4.3-3). The approximate area of CW-1 is 2,960 ft^2 (0.07 acre).

4.3.2.2 Site History

This lime pit (CW-1) was built concurrently with the Hexagon Building; construction was completed in 1952. This is one of two 4-cubic-meter (m^3) acid neutralization pits that contain limestone chips; the other pit (CW-2) is discussed in Subsection 4.3.3. Liquid wastes from the north and west wings of the Hexagon Building passed through this pit before being discharged to the sanitary sewer. Chemical wastes of up to 150 m^3 per day were generated from the shops and laboratories of the Hexagon Building; this waste output was reduced to 115 m^3 per day in June 1978 (USATHAMA, 1980). According to the IA, a licensed waste hauler was hired to dispose of concentrated wastes, such as etching solutions and organic solvents.

Each neutralization pit has a concrete floor and concrete block and mortar walls, and measures 7 ft by 13 ft wide by 8 ft high. The cover is constructed of concrete with a steel access panel. Several wooden baffles divide the pit into sections.

In October 1992, the pit was cleaned out, inspected, and the limestone chips replaced. A vacuum truck was used to remove the sludge and stones from the pit, after which the pit was rinsed with water. All sludge, stones, and rinse water were placed in drums and disposed of as a hazardous waste. At present, laboratory wastes are managed under the installation hazardous waste program, which forbids the discharge of these wastes to the sewer.

4.3.2.3 Sampling Effort

The elevated concentrations of halogenated hydrocarbons (HHCs) found in samples collected during the 1992 cleanout indicates the possibility that solvents were discharged into the lime pits. Neither concrete nor concrete block is an effective barrier to the migration of halogenated solvents. Halogenated solvents may have migrated from the lime pit into surrounding soils and possibly into groundwater. To investigate this potential, a monitor well was proposed for construction on each side of the lime pit (MW-26 through MW-29, shown in Figure 4.3-3); however, the proposed monitor well locations were slightly adjusted to avoid the buried conduit and underground water and acid lines. The wells were positioned accordingly to investigate the potential of halogenated solvent migration from the lime pit into the surrounding soil and groundwater. Continuous split-spoon samples were screened with an HNu or OVM. According to the CDAP, if any VOCs were detected, soil samples were to be collected from 7 to 9 ft bgs, from the interval with the highest instrument readings, and from just above the water table; otherwise, one sample was to be collected from 7 to 9 ft bgs from each boring. Because no elevated OVM readings were recorded, soil samples were collected from the 7 to 9 ft bgs interval only. Soil samples were analyzed for TCL +30 parameters and TAL metals. Two rounds of groundwater sampling were conducted from each well and analyzed for TCL +30 parameters and TAL metals.

4.3.2.4 Hydrogeologic Interpretation

Lithologic logs from monitor well locations MW-26 through MW-29 indicate that the lithology consists of a thin soil cover (0.3 ft) underlain by a well sorted olive-orange-brown medium-coarse-grained quartz sand.

Groundwater saturation was observed at approximately 7.5 ft bgs at all well locations. The four monitor wells were screened across the water table and were completed to 15 ft bgs at each location. Water-level elevation data, measured on 6 March 1995, prior to the March 1995 sampling round, indicate that the local groundwater flow direction is northeast, toward the Hexagon Research and Development Building. Based on groundwater elevation measurements,

monitor wells MW-28 and MW-29 are downgradient of the area under investigation (Figure 4.3-4).

4.3.2.5 Soil Sampling Results

Four soil samples, one in each monitor well borehole, were collected between 7 and 9 ft bgs and were analyzed for the parameters listed in Table 3.6-1. The analytical results for site soils, with the corresponding sample identifications, are listed in Appendix D. Table 4.3-3 compares the detected compounds with the NJDEP SCC, and then compares the results with the subsequent site-specific and Monmouth County maximum background limits.

VOCs

VOCs were not detected in site soil.

SVOCs

One SVOC (di-n-butyl phthalate) was detected above laboratory quantitation limits in site soil. However, the concentration of this compound was less than the NJDEP SCC and the maximum site-specific background.

Pesticides/PCBs

Pesticides were not detected above laboratory quantitation limits in site soil. PCBs were not detected in site soil.

Metals

As indicated in Table 4.3-4, all of the metals detected in site soil were found in concentrations below the NJDEP SCC, where established.

Table 4.3-3
Fort Monmouth - Charles Wood
Summary of Detected Compounds
In Soils at Site CW-1

COMPOUND	METHOD DETECTION LIMIT (mg/kg)	RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA (mg/kg)	MAXIMUM BACKGROUND CONCENTRATION (mg/kg)	ANALYTICAL RESULTS			
				SB26-A02 12/19/94 (7-9 ft bgs)	SB27-A02 12/19/94 (7-9 ft bgs)	SB28-A02 12/19/94 (7-9 ft bgs)	SB29-A02 12/19/94 (7-9 ft bgs)
SVOC's (mg/kg)							
Benzo(b)fluoranthene	0.188	0.9	0.078 J	ND	ND	ND	0.070 J
Benzo(a)pyrene	0.162	0.66	ND	ND	ND	ND	0.073 J
bis(2-Ethylhexyl)phthalate	0.32	49	0.17 J	0.075 J	0.090 J	ND	ND
Di-n-butylphthalate	0.215	5700	2.0 B	0.081	0.086	0.077	0.130
PESTICIDES/PCBs (mg/kg)							
4,4'-DDE	0.0037	2	0.071	0.0038 J	ND	ND	ND
METALS TOTAL (mg/kg)							
Aluminum	3.9	NLE	15700	4070	5120	4850	4010
Arsenic	0.35	20	31.6	4.1	4.5	5.6	2.2
Barium	0.17	700	26	3.4	4.4	4.2	2.7
Beryllium	0.10	1	1.7	0.41	0.45	0.84	0.33
Calcium	2.2	NLE	653	236	283	229	669
Cobalt	0.71	NLE	4.5	ND	0.73	0.86	ND
Chromium	1.6	500	128	52.2	71.7	59.7	46.4
Copper	2.2	600	7.27[1]	1.8	2	1.1	1.2
Iron	0.58	NLE	45500	10800	14500	12900	9440
Lead	0.40	400[2]	15.1[1]	3.9	5.9	2	3.3
Potassium	(12.3-25.8)	NLE	10600	2700	3540	3660	2700
Magnesium	9.6	NLE	3960	960	1310	1310	943
Manganese	0.18	NLE	120[1]	7.2	10.6	8	5.4
Mercury	0.49	14	ND	ND	ND	0.21	ND
Sodium	3.8	NLE	56.8	33.4	29.7	20.4	15.5
Nickel	1.4	250	8.3	1.5	3.1	2.7	1.4
Vanadium	0.53	370	59.6	28.8	42.4	31.8	26.7
Zinc	0.41	1500	55.6	12.8	16.2	15.2	11.7

Compounds detected above NJDEP standards are noted by bold numbers
NLE - No Level Estabished
ND - Indicates that the compound was not detected at or below the quantification limits
ft bgs - Feet below ground surface
J - Indicates that the concentration value was estimated due to detection at or near the quatification limits
B- Compound was observed in the sample and associated laboratory blank.
Note: MDL's for metal analysis is actually the highest detection limit with potassium given as a range due to high variability.

[1] Monmouth County maximum background concentration.

[2] NJDEP criteria are referenced in the Site Remediation News, Winter 1995.

Table 4.3-4
Fort Monmouth - Charles Wood
Summary of Average Concentrations of Detected Compounds in Groundwater - Site CW-1

COMPOUND	METHOD DETECTION LIMIT (µg/L)	NJDEP GROUNDWATER QUALITY CRITERIA (µg/L)	MAXIMUM BACKGROUND CONCENTRATION (µg/L)	ANALYTICAL RESULTS (µg/L) SAMPLING DATE			
				MW-26 2/21/95, 3/14/95 (avg.)	MW-27 2/21/95, 3/14/95 (avg.)	MW-28 2/21/95, 3/14/95 (avg.)	MW-29 2/21/95, 3/14/95 (avg.)
VOC's (µg/L)							
1,2-Dichloroethene (total)	4.4	10	ND	ND	ND	ND	**235**
Trichloroethene (TCE)	2.0**	1	ND	ND	ND	**35.5**	**885**
Tetrachloroethene (PCE)[1]	4.0**	1*	ND	**4.5J**	ND	ND	ND
SVOCs (µg/L)							
1,2,4 Trichlorobenzene	9.6**	9	ND	ND	ND	ND	4J
bis-(2Ethylhexyl)phthalate	9.7	30*	600	3.75J	2J	1.5J	3J
Di-n-butyl phthalate	6.5	900	ND	ND	5.25J	ND	ND
METALS TOTAL (µg/L)							
Aluminum	24	200	8210	**3857.5**	**5695**	**3815**	**2370**
Arsenic	1.9	8*	25.1	4.375	4.7	4	1.625
Barium	1.7	2000	400[2]	98.7	127	53.05	50.8
Beryllium	0.9	20*	7[2]	ND	0.72	ND	ND
Calcium	10.4	NLE	8700	25350	24100	15050	28350
Cadmium	2.8	4	6[2]	ND	2.1	ND	ND
Cobalt	2.3	NLE	30.6	9.6	14.5	6.95	4.8
Chromium	2.9	100	49.6	40.575	55.55	28.15	19.7
Copper	1.9	1000	730[2]	4.525	5.675	2.675	ND
Iron	6.4	300	27000[2]	**7796.65**	**11295**	**6185**	**4555**
Potassium	685	NLE	10000[2]	12450	12950	12900	11000
Magnesium	18.3	NLE	25000[2]	9155	13650	4080	5520
Manganese	1.8	50	480[2]	**91.15**	**125**	46.35	**70.55**
Sodium	30.5	50000	197000[2]	**64550**	**71700**	18100	29400
Nickel	10.8	100	48.3	19.8	20.95	8.75	10.1
Lead	1.1	10*	<100[2]	3.9	8.3	3.15	1.425
Vanadium	2.3	NLE	28.9	29.175	36.075	23.9	15.6
Zinc	3.8	5000	133	35.75	29.25	24.85	22.6

[1] - Same compound as listed by NJDEP Tetrachloroethylene

Compounds exceding NJDEP groundwater quality criteria are noted by bold numbers.

NJDEP groundwater quality criteria consist of the higher number between the PQL or STANDARD

*PQL - Practical Quantitation Limit -was used as the NJDEP groundwater quality criteria

ND - Indicates that the compound was not detected at the quantification limit

J - Indicates that the concentration value was estimated due to detection at or near the quantification limits

NLE - No Level Established

** - Method detection limit exceeds the NJDEP groundwater quality criteria

[2] - Monmouth County maximum background concentration

4.3.2.6 Groundwater Sampling Results

Monitor wells at site CW-1 were sampled for the analytical parameters listed in Table 3.8-1. The analytical results for the individual sampling rounds are listed in Appendix D. Table 4.3-4 compares the average concentrations of the detected compounds from the February and March sampling rounds with the NJDEP GWQC, and then compares the results with the subsequent site-specific and Monmouth County maximum background concentrations, where appropriate. Figure 4.3-5 presents the locations of the compounds detected above both NJDEP criteria and maximum background.

VOCs

Three VOCs (tetrachloroethene, trichloroethene, and 1,2-dichloroethene) were detected in site groundwater in concentrations exceeding the NJDEP GWQC. Tetrachloroethene was detected below the laboratory quantitation limit in MW-26 in the March sampling round only; however, the concentration exceeded the NJDEP GWQC. Trichloroethene was detected in MW-28 and MW-29 in both sampling rounds. 1,2-Dichloroethene (total) was detected in MW-29 only in both sampling rounds. VOCs were not detected in MW-27. Figure 4.3-5 presents the locations of the averaged concentration of compounds detected above the NJDEP GWQC and the maximum background levels established at Charles Wood.

SVOCs

SVOCs were not detected in the site monitor wells above laboratory quantitation limits and the NJDEP GWQC from either sampling round.

Pesticides/PCBs

Pesticides/PCBs were not detected in the site monitor wells from either sampling round.

Metals

As indicated in Table 4.3-4, of the 18 metals detected in site groundwater, 4 metals (aluminum, iron, manganese, and sodium) were found in concentrations exceeding the NJDEP GWQC; however, aluminum, iron, and manganese were detected in concentrations below the site-specific and Monmouth County maximum background levels. Although sodium was detected in concentrations greater than the site-specific background level, sodium was found in concentrations well below the Monmouth County maximum background level.

4.3.2.7 Recommendations

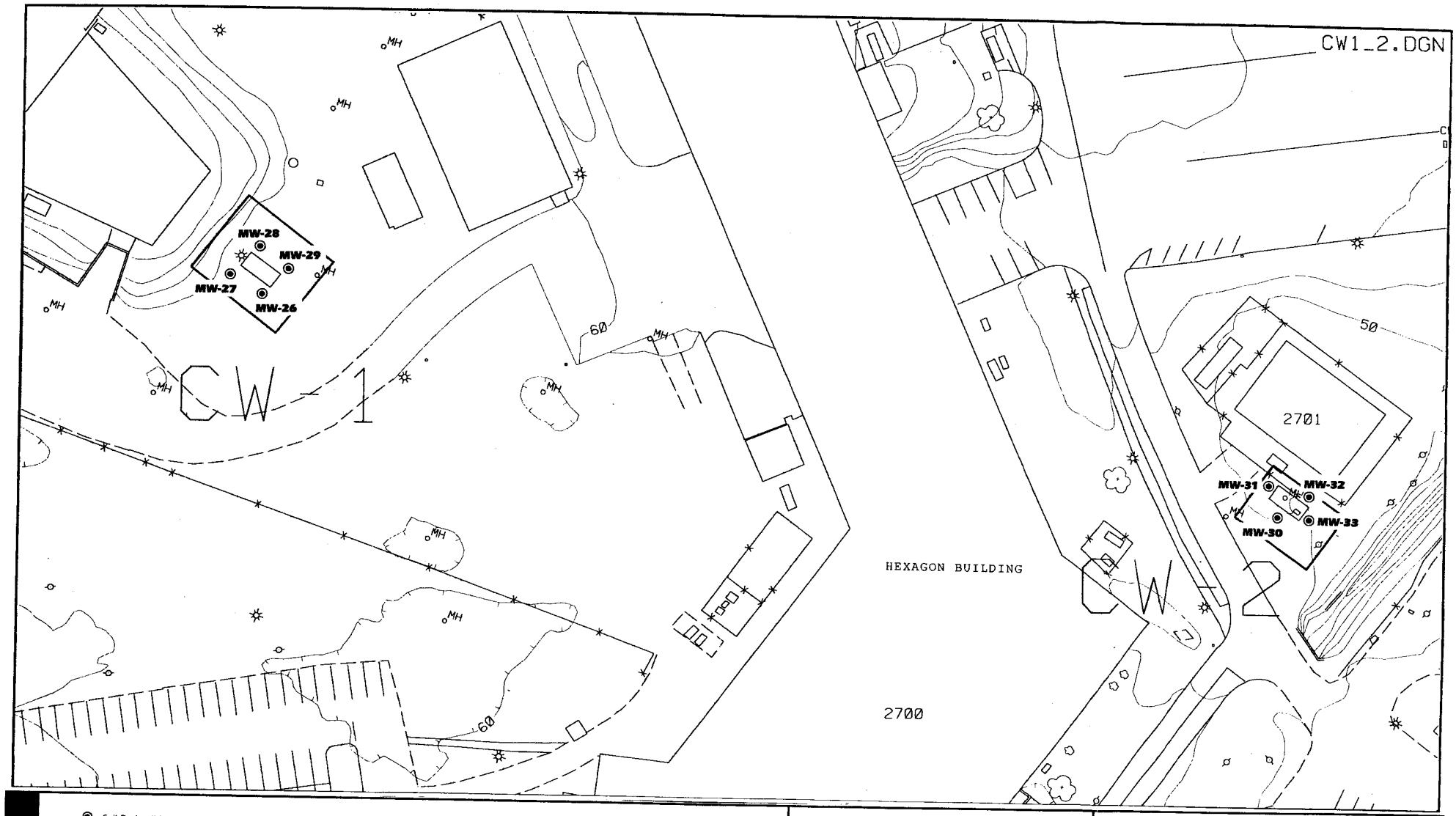
The soil sample results indicate that compounds of concern were either not detected or were below laboratory quantitation limits and NJDEP criteria.

The groundwater sampling results indicate that TCE, PCE, and 1,2-dichlorobenzene were detected in the groundwater downgradient of the site at levels that exceeded the NJDEP criteria.

Although NJDEP groundwater criteria were exceeded by three VOCs at this site, immediate remedial action is not required. The probable source of contamination has been eliminated since chemicals are not being disposed of in the pit. The pit was cleaned in October 1992 and the limestone sludge was removed and disposed of as a hazardous waste. Hazardous waste is currently collected for proper disposal off-site and waste is no longer disposed of in the pit. The groundwater is believed to flow toward the headwaters of Wampum Brook, and the shallow groundwater probably flows into Wampum Brook. There is no use of groundwater between the source and Wampum Brook. Surface-water samples were taken in Wampum Brook in the Charles Wood area and Mill Creek (as Wampum Brook is called further to the east) for use as background samples. No VOCs were detected in these samples, therefore, there is no immediate threat to human health.

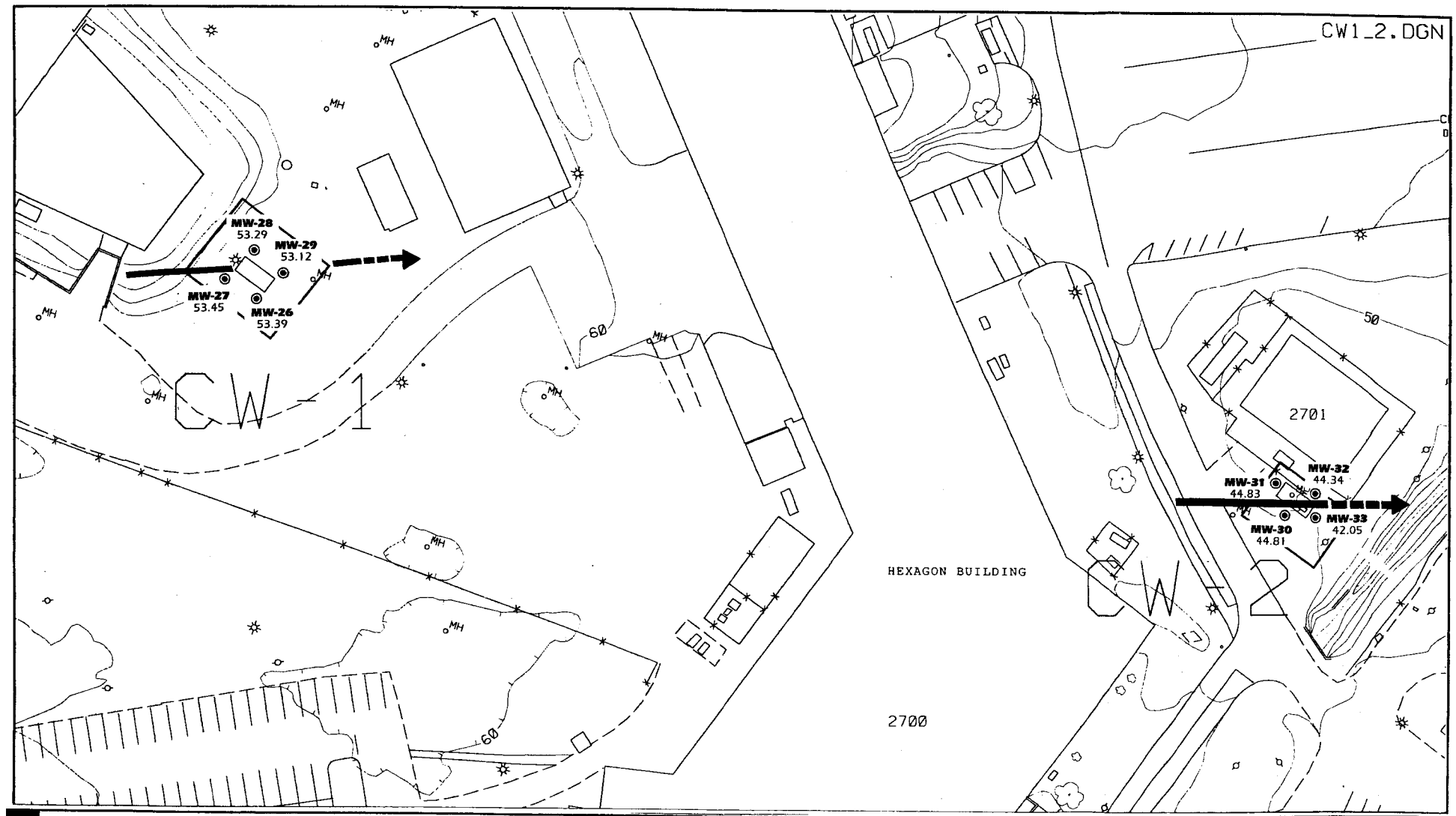
The extent of VOC concentrations in groundwater will be investigated by soil-gas survey techniques. The soil-gas survey will be performed on an established grid pattern to estimate the

lateral extent of VOCs in the vicinity of the neutralization pit. The results of the soil-gas survey will be used to locate two additional monitor wells at the downgradient edge of the plume. DPW proposes that a long-term groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells and the two newly installed monitor wells. Compounds of concern identified in the first two rounds of sampling would be targeted for the monitoring program.



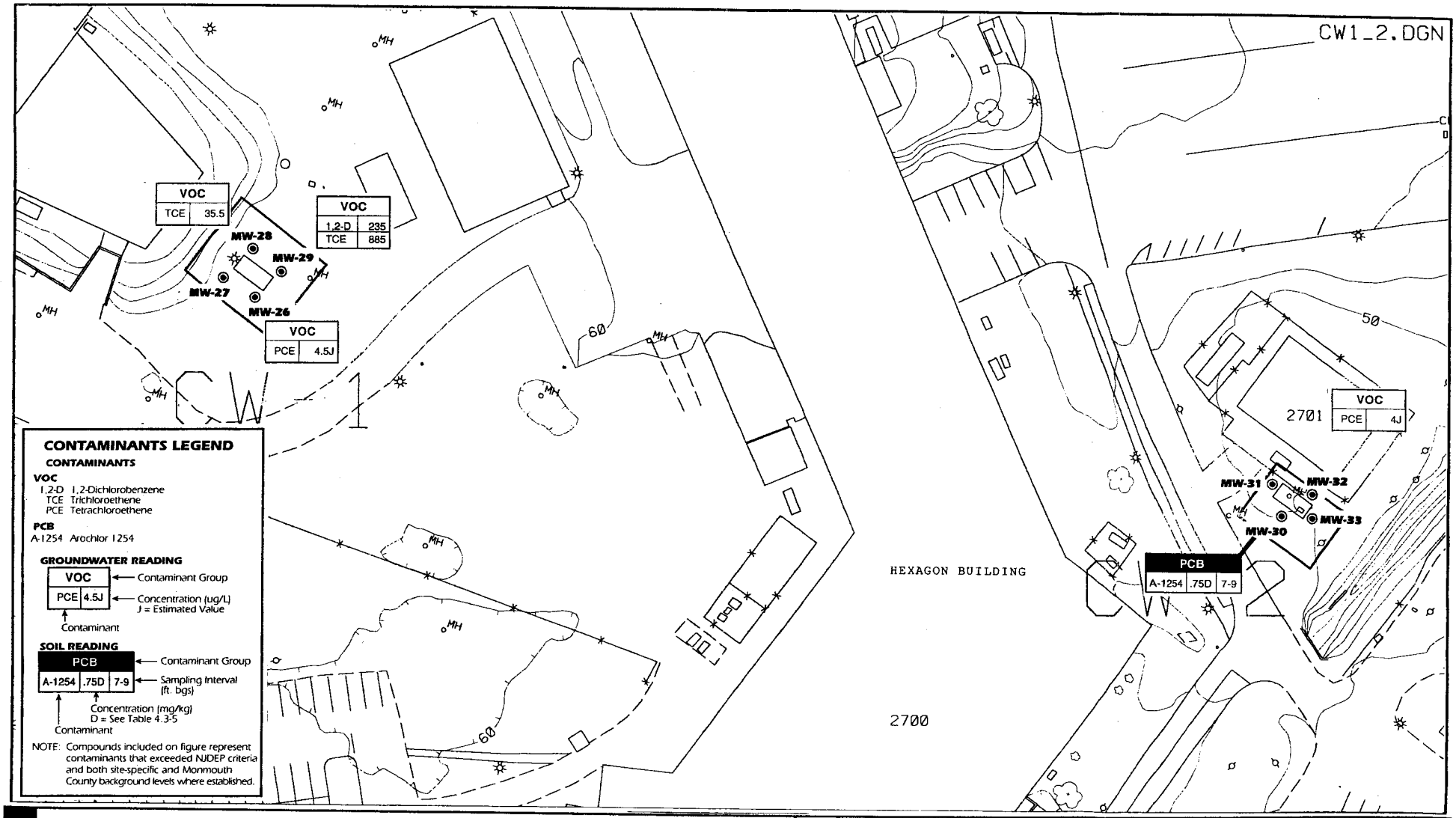
Fort Monmouth, Main Post

FIGURE 4.3-3
ACID NEUTRALIZATION LIME PITS (CW-1 AND CW-2) SAMPLING LOCATIONS



Fort Monmouth, Charles Wood

FIGURE 4.3-4
ACID NEUTRALIZATION LIME PITS (CW-1 AND CW-2)
APPROXIMATE GROUNDWATER FLOW DIRECTIONS
(Groundwater Elevations Recorded from March 1995 Sampling Round)



Fort Monmouth, Charles Wood

FIGURE 4.3-5
ACID NEUTRALIZATION LIME PITS (CW-1 AND CW-2)
DISTRIBUTION OF CONTAMINANTS IN SITE SOIL AND GROUNDWATER

Site CW-2

FTMM-23

4.3.3 Wastewater Treatment Lime Pit 2 (CW-2)

4.3.3.1 Site Location

Wastewater Treatment Lime Pit 2 (CW-2) is located southeast of the Hexagon Building (Building 2700) at Charles Wood near an electrical substation (Figure 4.3-3). The approximate area of site CW-2 is 1,751 ft^2 (0.04 acre).

4.3.3.2 Site History

Like Lime Pit 1, Lime Pit 2 (CW-2) was built concurrently with the Hexagon Building; construction was completed in 1952. Liquid wastes from the east and south wings of the Hexagon Building passed through this pit before being discharged to the sanitary sewer. Additional details, including the estimated quantities of wastes discharged through the lime pits, pit construction, and cleanout and replacement of the limestone, were discussed in Subsection 4.3.2.2.

Unlike Lime Pit 1, during cleanout this pit was found to have received sewage. A dye test was conducted and revealed that toilets from the guard shack and a bathroom for the handicapped near the east entrance were mistakenly connected to this pit. The plumbing has been rerouted to discharge the wastewater from the toilets directly to the sanitary sewer.

In October 1992, the pit was cleaned out, inspected, and the limestone chips replaced. A vacuum truck was used to remove the sludge and stones from the pit, after which the pit was rinsed with water. All sludge, stones, and rinse water were placed in drums and disposed of as a hazardous waste. At present, laboratory wastes are managed under the installation hazardous waste program, which forbids the discharge of these wastes to the sewer.

4.3.3.3 Sampling Effort

As in the case of Lime Pit 1, the elevated concentrations of HHCs in sludge, rinse, and grab samples suggest the possibility that solvents were discharged into the lime pits and that they may

have migrated from the lime pits into surrounding soils and possibly into groundwater. To investigate this potential, a monitor well was constructed on each side of the lime pit (MW-30 through MW-33, shown in Figure 4.3-3). Continuous split-spoon samples were screened with an HNu or OVM. According to the CDAP, if any VOCs were detected, soil samples were to be collected from 7- to 9-ft bgs (near the base of the neutralization pit), from the interval with the highest instrument readings, and from just above the water table; otherwise, one sample was to be collected from the 7- to 9-ft interval of each boring. Because no elevated OVM readings were recorded during borehole activities, one sample from the 7- to 9-ft bgs interval was collected for the required parameters. Soil samples were analyzed for TCL +30 parameters and TAL metals. Two rounds of groundwater samples were collected from each well and analyzed for TCL +30 parameters and TAL metals.

4.3.3.4 Hydrogeologic Interpretation

Lithologic logs from site monitor wells MW-30 and MW-31 indicate that the lithology consists of a thin soil cover (0.3 ft) underlain by fill material and reworked natural sediments. The components of the manmade materials consisted of quartz gravel and concrete, wood fragments, and pieces of old electrical conduit. The reworked natural sediments consisted of an interbedded green-gray silty fine-grained sand and green-gray fine-grained sandy silt. Lithologic logs from MW-32 and MW-33 indicate that the lithology consists of a thin soil cover (0.3 ft) underlain by shallow fill material and probable natural sediments. The filled material consisted of concrete fragments (to 2 ft bgs). The probable natural sediments consisted of an interbedded olive-gray moderately sorted silty fine-grained sand and a green moderately sorted very micaceous fine-grained sandy silt.

Groundwater saturation was observed between 1 and 8 ft bgs. The four monitor wells were screened across the water table and total depths ranged from 15 to 16 ft bgs. Water-level elevation data, measured on 6 March 1995, prior to the March 1995 sampling round, indicate that local groundwater flow is eastward (Figure 4.3-4). Based on groundwater elevation measurements, monitor wells MW-32 and MW-33 are downgradient of the former lime pit.

4.3.3.5 Soil Sampling Results

Four soil samples, one in each monitor well borehole, were collected and analyzed for the parameters listed in Table 3.6-1. Samples were collected between 7 and 9 ft bgs. The compounds detected in site soils, with the corresponding sample identifications, are listed in Appendix D. Table 4.3-5 compares site soil quality with the NJDEP SCC, and then compares the results with the subsequent site-specific and Monmouth County maximum background levels, where appropriate.

VOCs

Two VOCs (methylene chloride and 2-butanone) were detected in concentrations above laboratory quantitation limits. Methylene chloride and 2-butanone are common laboratory contaminants. Both compounds were detected in concentrations well below the NJDEP SCC.

SVOCs

Eight SVOCs were detected above laboratory quantitation limits in soil borings, but in concentrations below the NJDEP SCC. All SVOCs detected below quantitation limits were found in concentrations below the NJDEP SCC where established.

Pesticides/PCBs

Three pesticides (4,4'-DDE, 4,4'-DDD, and 4,4'-DDT) were detected in concentrations above laboratory quantitation limits, but were well below the NJDEP SCC.

One PCB (Aroclor-1254) in SB-30 was detected slightly above the laboratory quantitation limit as well as the NJDEP SCC (Figure 4.3-5). However, the PCB compound was not detected in groundwater samples from the corresponding well location, MW-30. PCBs were not detected in SB-31, SB-32, and SB-33.

Table 4.3-5
Fort Monmouth - Charles Wood
Summary of Detected Compounds
in Soils from Site CW-2

COMPOUND	METHOD DETECTION LIMIT (mg/kg)	RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA (mg/kg)	MAXIMUM BACKGROUND CONCENTRATION (mg/kg)	ANALYTICAL RESULTS			
				SB30-A02 12/16/94 (7-9 ft bgs)	SB31-A02 12/16/94 (7-9 ft bgs)	SB32-A02 12/16/94 (7-9 ft bgs)	SB33-A02 12/16/94 (7-9 ft bgs)
VOC's (mg/kg)							
Methylene Chloride	0.0027	49	ND	0.088	0.086	0.017	ND
2-Butanone	0.0041	1000	ND	ND	0.012 J	0.008 J	ND
SVOCs (mg/kg)							
Napthalene	0.277	230	ND	0.15 J	ND	ND	ND
2-Methylnaphthalene	0.287	NLE	ND	0.1 J	ND	ND	ND
Acenaphthene	0.221	3400	ND	0.17 J	ND	ND	ND
Dibenzofuran	0.215	NLE	ND	0.093 J	ND	ND	ND
Fluorene	0.208	2300	ND	0.21 J	ND	ND	ND
Phenanthrene	0.165	NLE	ND	1.3	ND	ND	0.075 J
Anthracene	0.152	10000	ND	0.33 J	ND	ND	ND
Carbazole	0.145	NLE	ND	0.18 J	ND	ND	ND
Fluoranthene	0.198	2300	0.042 J	1.5	ND	ND	0.073 J
Pyrene	0.178	1700	0.048 J	1.1	ND	ND	0.067 J
Benzo(a)anthracene	0.162	0.9	0.046 J	0.69	ND	ND	ND
Chrysene	0.145	9	0.083 J	0.71	ND	ND	0.043 J
bis(2-Ethylhexyl)phthalate	0.32	49	0.170 J	0.16 J	0.1 J	0.059 J	ND
Benzo(b)fluoranthene	0.188	0.9	0.078 J	0.79	ND	ND	ND
Benzo(k)fluoranthene	0.205	0.9	0.041 J	0.28 J	ND	ND	ND
Benzo(a)pyrene	0.162	0.66	0.047 J	0.62	0.13 J	0.053 J	0.094 J
Indeno(1,2,3-cd)pyrene	0.234	0.9	ND	0.37 J	ND	ND	ND
Benzo(g,h,i)perylene	0.224	NLE	0.042 J	0.35 J	ND	ND	ND
Dibenzo(a,h)anthracene	0.198	0.66	ND	.089 J	ND	ND	ND
PESTICIDES (mg/kg)							
Aroclor-1254	0.039	0.49	ND	**0.75 D**	ND	ND	ND
4,4'-DDE	0.0037	2	0.071	0.0035 JP	0.0035 J	ND	0.0083 P
4,4'-DDD	0.0037	3	ND	0.012 P	0.0098	0.0073	0.26
4,4'-DDT	0.0037	2	0.053	0.062 P	0.0058	ND	0.046
METALS TOTAL (mg/kg)							
Aluminum	3.9	NLE	15700	6450	5430	2920	7310
Arsenic	0.35	20	31.6	5.7	8.5	2.6	15.7
Barium	0.17	700	26	36.2	58.6	23.6	326
Beryllium	0.1	1	1.7	0.58	0.51	0.28	**1.5**
Calcium	2.2	NLE	653	655	976	502	1270
Cadmium	0.86	1	ND	ND	ND	ND	0.9
Cobalt	0.71	NLE	4.5	0.95	4.2	0.91	5.9
Chromium	1.6	500	128	69.9	48.6	32.2	56.5
Copper	2.2	600	7.27[1]	2.7	2.9	2.7	5.5
Iron	0.58	NLE	45500	20400	19200	11100	17600
Lead	0.4	400[2]	15.1[1]	8.1	7.5	3.1	5.6
Magnesium	9.6	NLE	3960	1720	1270	776	1880
Manganese	0.18	NLE	120[1]	25.1	24.8	12.5	35.1
Nickel	1.4	250	8.3	4.9	11.2	2.6	23.2
Potassium	(12.3-25.8)	NLE	10600	4210	2610	1980	3350
Selenium	0.3	63	0.85	0.29	0.7	0.2	4.2
Vanadium	0.53	370	59.6	36.6	29.1	19.4	23.6
Zinc	0.41	1500	55.6	27.8	44.2	19.3	63.9

Compounds exceeding NJDEP soil cleanup criteria are noted by bold numbers.
J- Indicates that the concentration value was estimated due to detection at or near the quantification limit
P- The percent difference between the results from two GC cloumns is greater than 25% the lower of the two values is reported
ND - Indicates that the compound was not detected at or below the quantification limits
NLE- No Level Established
ft bgs. - feet below ground surface.
Note: MDL's for metal analysis is actually the highest detection limit with potassium given as a range due to high variability.
[1] Monmouth County maximum background concentrations.
[2] NJDEP criteria are referenced in Site Remediation News, Winter 1995.
D - Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis.

Metals

As indicated in Table 4.3-5, of the 18 metals detected in site soil, only beryllium in SB-33 was found at a concentration slightly exceeding the NJDEP SCC. Although beryllium was detected in a concentration greater than the established Monmouth County background level, the metal was detected below the site-specific background level.

4.3.3.6 Groundwater Sampling Results

Monitor wells at site CW-2 were sampled for the analytical parameters listed in Table 3.8-1. The analytical results for groundwater samples from the individual sampling rounds are listed in Appendix D. Table 4.3-6 compares the average concentrations of the detected compounds from the February and March sampling rounds with the NJDEP GWQC, and then compares the results with the site-specific and Monmouth County maximum background levels, where appropriate.

VOCs

Tetrachloroethene was the only VOC detected in site groundwater. The compound was detected in a concentration that was below the quantitation limit but slightly exceeding the NJDEP GWQC from the March sampling round only in MW-32 (Figure 4.3-5). Tetrachloroethene was not detected in MW-32 in the February sampling round.

SVOCs

One SVOC (di-n-butyl phthalate) was detected above the laboratory quantitation limit in MW-31 from the March sampling round. Di-n-butyl phthalate was detected well below the NJDEP GWQC. SVOCs detected below the laboratory quantitation limit were also detected below the NJDEP GWQC.

Table 4.3-6
Fort Monmouth - Charles Wood
Summary of Average Concentrations of Detected Compounds in Groundwater - Site CW-2

COMPOUND	METHOD DETECTION LIMIT (µg/L)	NJDEP GROUNDWATER QUALITY CRITERIA (µg/L)	MAXIMUM BACKGROUND CONCENTRATION (µg/L)	ANALYTICAL RESULTS (µg/L) SAMPLING DATE			
				MW30 2/21/95, 3/14/9 (avg.)	MW31 2/21/95, 3/14/9 (avg.)	MW32 2/21/95, 3/14/95 (avg.)	MW33 2/21/95, 3/14/95 (avg.)
VOC's (µg/L)							
Tetrachloroethene (PCE)[1]	2.7**	1*	ND	ND	ND	**4J**	ND
SVOCs (µg/L)							
1,2,4 Trichlorobenzene	9.6**	9	ND	ND	5J	ND	ND
bis-(2ethylhexyl)phthalate	9.7	30*	600	2J	ND	1.5 J	1.5 J
Di-n-butylphthalate	6.5	900	ND	4J	5.5	4J	4J
METALS TOTAL (µg/L)							
Aluminum	24	200	8210	129	17.65	**447.5**	**676**
Arsenic	1.9	8*	25.1	ND	ND	ND	1.5
Barium	1.7	2000	400[1]	233.5	180.5	211	234
Calcium	10.4	NLE	8700	63600	36050	46250	51250
Cobalt	2.3	NLE	30.6	ND	ND	ND	2.9
Chromium	2.9	100	49.6	ND	ND	ND	2.15
Copper	1.9	1000	730[1]	3.8	2.15	2	11.9
Iron	6.4	300	27000[1]	**45750**	**36350**	**48950**	**54450**
Potassium	685	NLE	4630	9980	8710	9580	8455
Magnesium	18.3	NLE	25000[1]	7045	4775	5595	6100
Manganese	1.8	50	480[1]	**365**	**222.5**	**268.5**	**273**
Sodium	30.5	50000	36400	17100	10325	11800	14350
Nickel	10.8	100	48.3	10.65	ND	11.75	2.7
Lead	1.1	10*	<100[1]	ND	ND	0.7	3.3
Vanadium	2.3	NLE	28.9	ND	ND	3.05	5.15
Zinc	3.8	5000	133	5.7	3.9	13.85	25.6

[1] Same compound as listed by NJDEP Tetrachloroethylene

Compounds exceeding NJDEP groundwater quality criteria are noted by bold numbers.

*PQL - Practical Quantitation Limit -was used as the NJDEP groundwater quality criteria

NLE - No Level Established

J - Indicates that the concentration value was estimated due to detection at or near the quantitation limits

ND - Indicates that the compound was not detected at or below the quantitation limit

** Method detection limit exceeded NJDEP groundwater quality criteria

[1] - Monmouth County maximum background concentrations.

Pesticides/PCBs

Pesticides/PCBs were not detected in the site monitor wells from either sampling round.

Metals

As indicated in Table 4.3-6, of the 16 metals detected in site groundwater, 3 metals (aluminum, iron, and manganese) were found in concentrations exceeding the NJDEP GWQC. In addition, iron was detected in concentrations greater than those determined for site-specific and Monmouth County maximum background at Charles Wood. The presence of iron in exceedence of the NJDEP GWQC may be attributable to the high concentrations of iron present in natural soil found in Monmouth County. Therefore, iron is not identified as a compounds of concern. Although manganese was detected in concentrations above the site-specific background level in MW-30, MW-32, and MW-33, manganese was found in concentrations below the Monmouth County background level. Aluminum was found in concentrations below both the site-specific and Monmouth County maximum background levels.

4.3.3.7 Recommendations

The results of the soil sampling indicate that one PCB compound (Aroclor-1254) was detected in SB-30 at a concentration slightly above the NJDEP SCC. PCB compounds were not detected in the other three soil borings. In addition, PCBs were not detected in groundwater samples in the corresponding well location, MW-30.

Groundwater sampling results indicate that PCE was detected in the groundwater in one of the four wells (MW-32) in one of the two sampling rounds at levels slightly exceeding the NJDEP GWQC.

Although NJDEP groundwater criteria were exceeded by one VOC at this site, immediate remedial action is not required. The source of contamination has been eliminated since chemicals are not being disposed of in the pit. The pit was cleaned in October 1992 and the limestone

sludge was removed and disposed of as a hazardous waste. Hazardous waste is currently collected for proper disposal off-site and waste is no longer disposed of in the pit. Shallow groundwater flows toward and discharges to the headwaters of Wampum Brook, as indicated by water-level measurements from site monitor wells. There are no known uses of groundwater at or downgradient of the site. Surface-water samples were taken in Wampum Brook in the Charles Wood area and Mill Creek (as Wampum Brook is called further to the east) for use as background samples. No VOCs were detected in these samples, therefore, there is no immediate threat to human health.

The extent of PCE concentrations in groundwater will be investigated by soil-gas survey techniques. The soil-gas survey will be performed on an established grid pattern to estimate the lateral extent of VOCs in the vicinity of the neutralization pit. The results of the soil-gas survey will be used to locate two additional monitor wells if necessary. DPW proposes that a long-term groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells and from the two newly installed monitor wells. Compounds of concern identified in the first two rounds of sampling would be targeted for the monitoring program. When the additional monitor wells are installed, soil samples will be collected for PCB analysis because of the detection of PCBs in a soil sample collected from SB-30.

Site CW-3

4.3.4 Landfill 3 (CW-3)

4.3.4.1 Site Location

Landfill 3 is located in the southeastern part of Charles Wood (Figure 4.3-6) and has been designated a construction area. The approximate area of Landfill 3 is 39,758 ft^2 (0.91 acre).

4.3.4.2 Site History

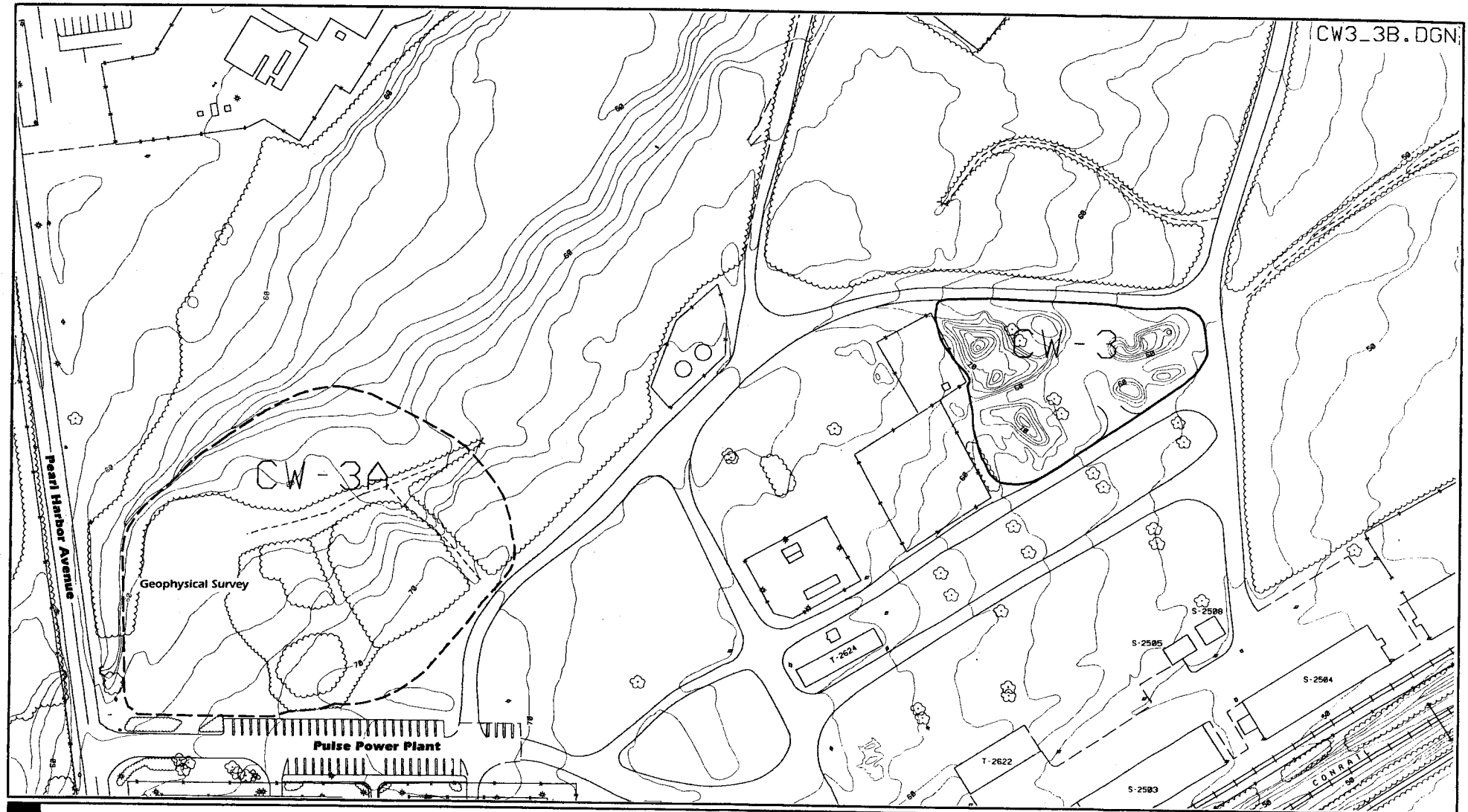
According to the IA, the Army Air Force used this area to dispose of administrative-type wastes and wood in the 1940s. Beginning in 1951, the aerial photographs show a cleared area used for storage. In 1981 and 1986, this area was relatively clear. During the 1993 site visit, the CW-3 area was being used as a construction rubble dump. Material observed included soil piles, brush, concrete, wood demolition debris, wood pallets, metal, and PVC pipe. There is no evidence of a subsurface landfill, and long-term Fort Monmouth employees said that this area was not used as a landfill.

4.3.4.3 Sampling Effort

Landfill 3 is shown in Figure 4.3-6. During the field investigation activities conducted between November 1994 and January 1995 at Fort Monmouth, construction rubble was present at site CW-3. The proposed sampling activities included collecting surface soil samples for TCL +30 parameters and TAL metal analysis if any evidence of soil staining was observed following the removal of the rubble. In addition, if high levels of chemical constituents were found in soils, monitor wells would be installed and sampled twice for TCL +30 parameters and TAL metals. Field sampling activities were postponed until the rubble could be removed. In June 1995, the construction rubble was removed. Exploratory trenches are planned to determine if any subsurface debris or soil staining is evident. However, because the area is believed to not have been used as a landfill, it is not anticipated that subsurface debris and soil staining will be found.

4.3.4.4 Recommendations

Investigation activities were not conducted as part of this investigation because of construction rubble that was present at the site during the field effort, which prohibited sample collection as planned. The rubble was removed and properly disposed of in June 1995 and exploratory trenches are planned to determine if any subsurface debris or soil staining is present. Field screening will be performed during excavation using a PID. NJDEP will be requested to send a representative to observe the investigation. In the absence of any elevated PID readings or evidence of subsurface debris, the excavation will be backfilled and no further action will be taken. If contamination is identified, then sampling will be conducted in accordance with the *Technical Requirements for Site Remediation* (NJDEP, 1993). Soil sample analytes will be collected and analyzed for the full range of contaminants.



Fort Monmouth, Charles Wood

FIGURE 4.3-6
LANDFILLS 3 (CW-3) AND 3A (CW-3A)

Site CW-3A

4.3.5 Debris Site (CW-3A)

4.3.5.1 Site Location

Debris Site CW-3A is located west of the CW-3 area, north of Pulse Power, Building 2707 (Figure 4.3-6). The approximate area of site CW-3A is 116,000 ft^2 (2.6 acres).

4.3.5.2 Site History

According to long-term Fort Monmouth employees, the area north of Pulse Power was used as a disposal area. The 1957 aerial photograph shows the CW-3A area with bare ground. According to *Fort Monmouth History and Place Names, 1917-1959*, 90 buildings at Charles Wood were razed in late 1955 and during 1956. It is possible that the demolition debris from these buildings was placed in this area. In the 1974 aerial photo, a steel igloo is visible on this area. By 1986, the western part of this area had not revegetated. During the 1993 site visit, some small debris was observed in the woods.

4.3.5.3 Sampling Effort

Site CW-3A is also presented in Figure 4.3-6. Surface geophysics were conducted in this area because it was not known if subsurface disposal had occurred in this area and in accessible cleared areas to the southeast in the construction areas. Magnetic and electromagnetic (EM-31) measurements were collected on 10-ft centers. GPR was also used to assess the degree of subsurface soil disturbance.

4.3.5.4 Geophysical Results

The geophysical investigation at Charles Wood site CW-3A utilized EM, MAG, and GPR methods to characterize the site. Prior to the investigation, a site walk revealed numerous metallic objects on the surface in the form of pipes, sheet metal, metal cans, and concrete, as well as nonmetallic objects such as asphalt and construction debris. The debris was noted and considered during data interpretation.

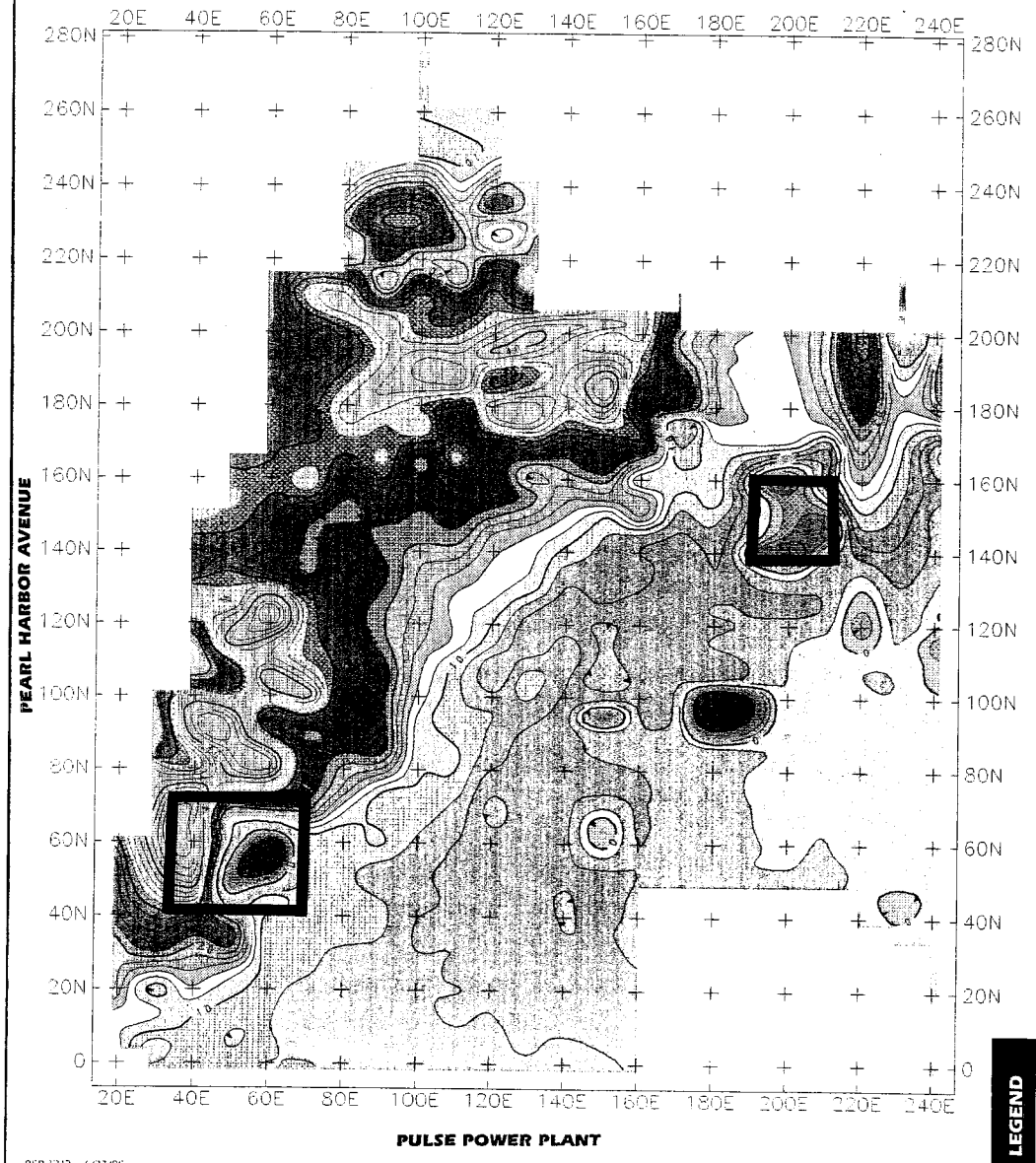
The EM survey revealed prominent anomalous signatures not attributed to surface debris at grid coordinates 40N to 70N/40E to 70E and 140N to 160N/190E to 210E. These anomalies are shown on the EM quadrature and in-phase contour plots, Figures 4.3-7 and 4.3-8, respectively, as either violet or blue contour intervals (high and low conductivity, respectively). These two EM anomalies are confirmed by the magnetometer survey as being ferrous material. As shown on the total magnetic field and magnetic gradient contour plots, Figures 4.3-9 and 4.3-10, respectively, these anomalies are represented as a high and low pair or magnetic dipole with violet and blue contour intervals. Other subtle anomalies exist throughout the area, as depicted on the EM in-phase plot in Figure 4.3-8, which may indicate metallic debris. However, the size and magnitude of these EM signals are negligible. Also, the EM quadrature plot (Figure 4.3-7) shows high apparent conductivity, represented by the violet contour interval, along the north and western borders of the site. This higher conductivity may be due to a subsurface change in lithology.

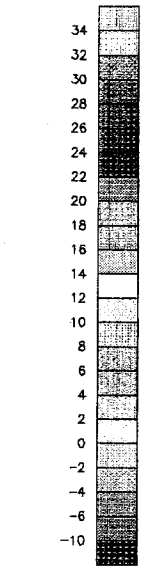
The GPR survey at CW-3A revealed chaotic reflectors within grid coordinates 40N to 70N/40E to 70E, confirming the EM and MAG anomalies at a depth of approximately 2 to 3 ft bgs. These chaotic reflectors are indicative of buried metallic debris and are shown on the GPR profile along 60N in Figure 4.3-10A.

4.3.5.5 Recommendations

Geophysical surveys indicated two areas where subsurface metallic debris may be present.

Exploratory trenching will be performed to investigate areas where subsurface metallic debris may be present. Field screening will be conducted with a PID during the excavation. NJDEP will be requested to send a representative to observe the excavation. In the absence of elevated PID readings or evidence of subsurface debris, the excavation will be backfilled and no further action will be taken. If contamination is identified, then sampling will be conducted in accordance with the *Technical Requirements for Site Remediation* (NJDEP, 1993). Soil sample analytes will be collected and analyzed for the full range of contaminants.





millimhos per meter
(mmhos/m)

LEGEND

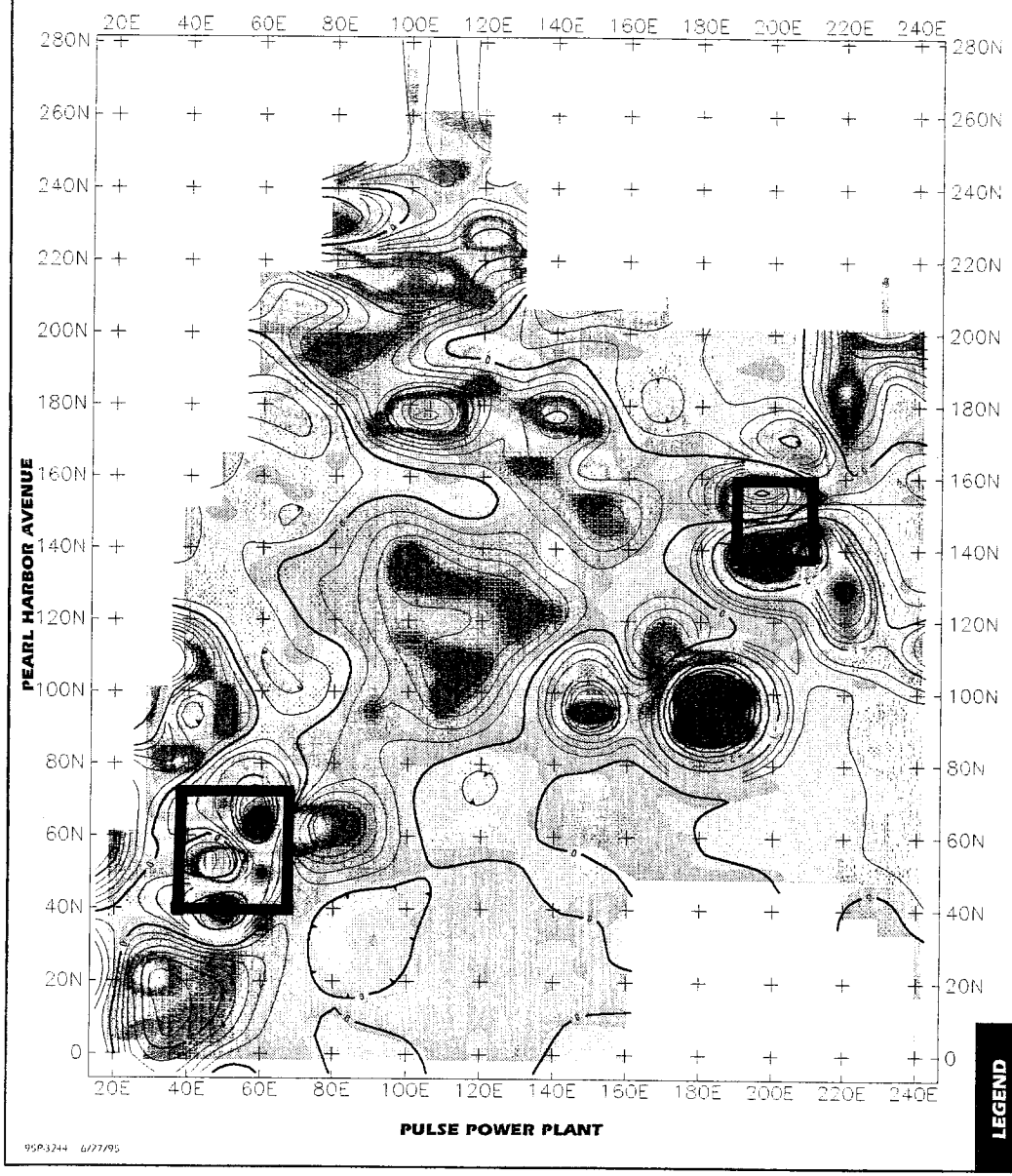
Subsurface Metallic Debris

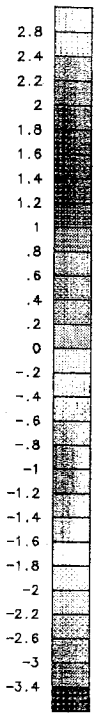
0 25 50 75
SCALE IN FEET

95P-3243 6/27/95

Fort Monmouth, Charles Wood Site CW-3A

FIGURE 4.3-7
ELECTROMAGNETIC SURVEY
QUADRATURE COMPONENT – SITE CW-3A





LEGEND

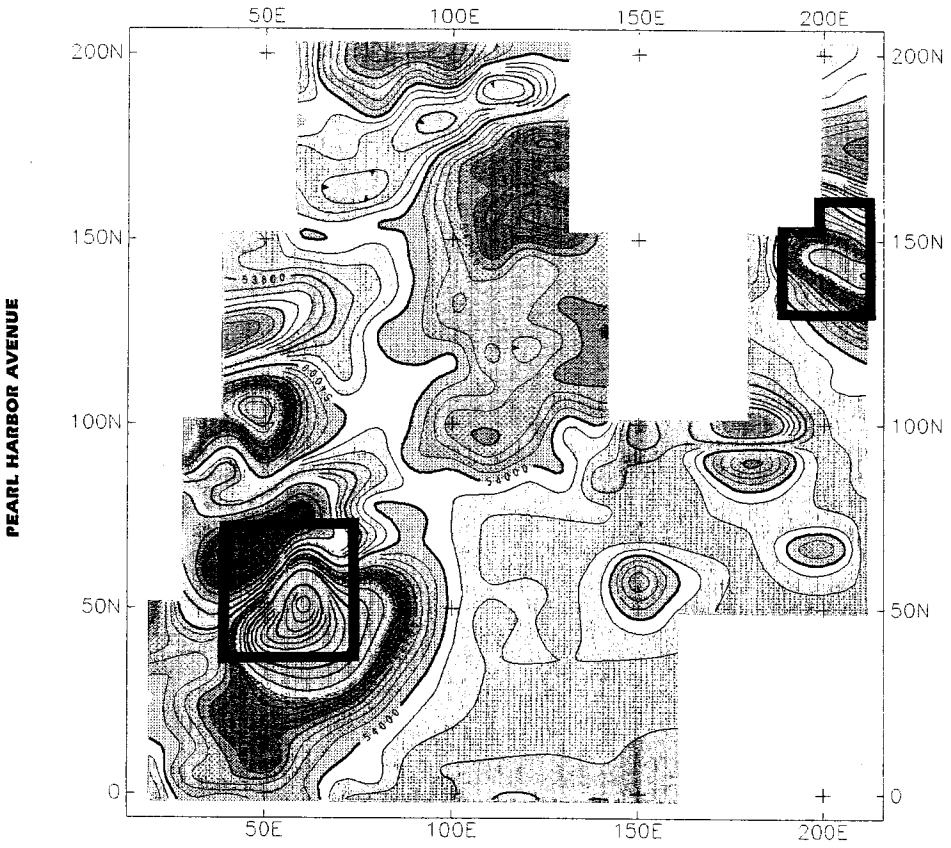
Subsurface Metallic Debris

0 25 50 75

SCALE IN FEET

Fort Monmouth, Charles Wood Site CW-3A

FIGURE 4.3-8
ELECTROMAGNETIC SURVEY
IN PHASE COMPONENT – SITE CW-3A



LEGEND

Subsurface Metallic Debris

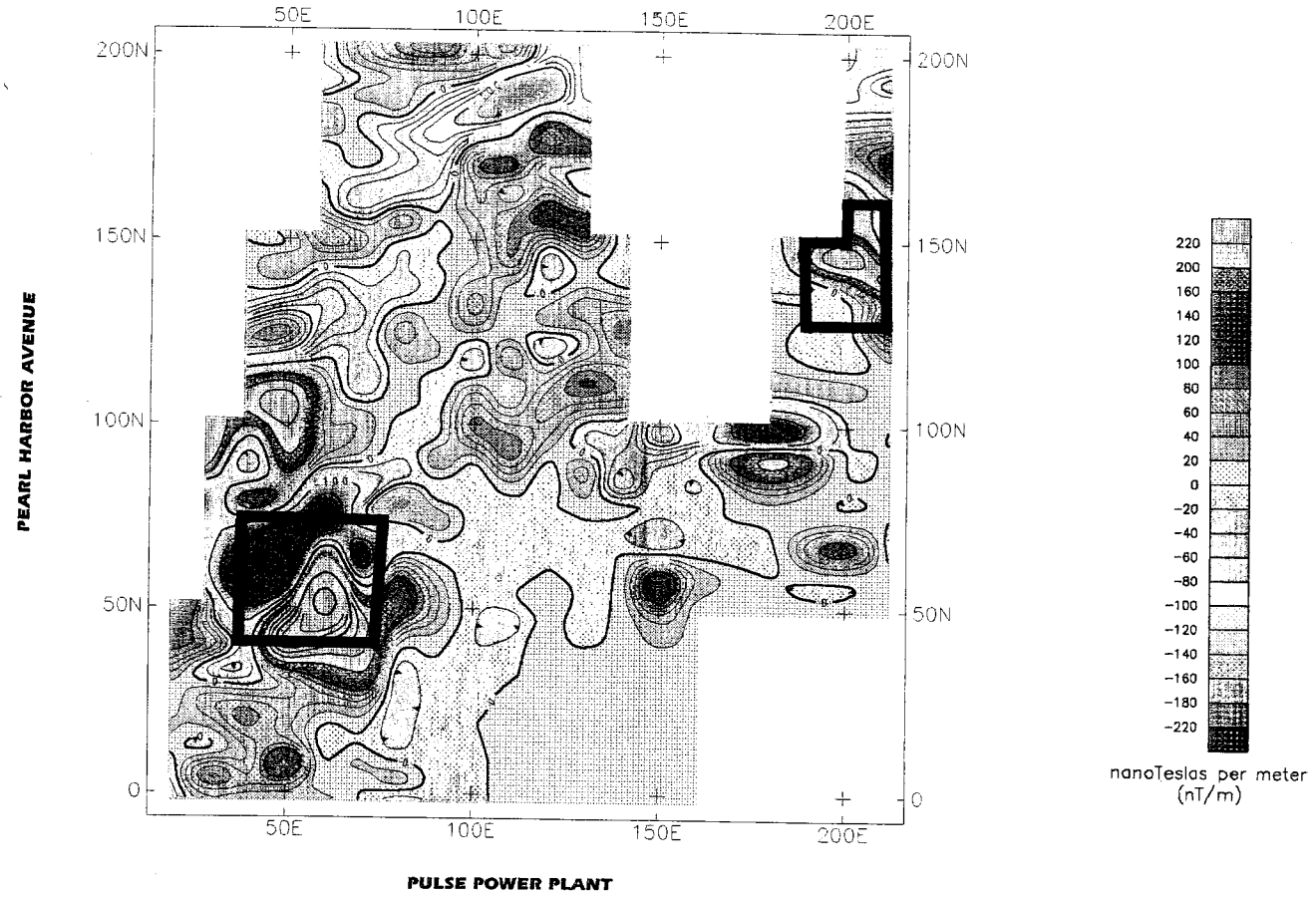
0 25 50 75

SCALE IN FEET

Fort Monmouth, Charles Wood Site CW-3A

FIGURE 4.3-9
MAGNETOMETER SURVEY
TOTAL MAGNETIC FIELD – SITE CW-3A

95P-3245 6/27/95



Fort Monmouth, Charles Wood Site CW-3A

FIGURE 4.3-10
MAGNETOMETER SURVEY
MAGNETIC GRADIENT – SITE CW-3A

95P-3246 6/27/95

FIGURE 4.3-10A RADAR PROFILES SHOWING SUBSURFACE ANOMALY AT SITE CW-3A

Site CW-4

4.3.6 Range (Small Arms) (CW-4)

4.3.6.1 Site Location

The small arms firing range is a one-story building (Building T-2537) located in the central portion of the Charles Wood area (Figure 4.3-11). The approximate area of site CW-4 is 32,000 ft^2 (0.7 acre). The range is used for indoor firing of small arms. The small arms are fired into a metal baffle that deflects the rounds down into a sand pit. Currently, the sand is sifted and spent rounds and shell-casings are disposed of off-site. The firing range area is ventilated by a blower through a filter. The filter currently used is a Flanders Filters Model No. 0-00J-C-11-00-CL-12-00-GGF. It has an efficiency of 95%, based on a di-octyl-phthalate (DOP) test. A manufacturer's representative stated that he believes this filter would be close to 100% efficient in removing the likely particulates generated in a firing range.

Spend rounds are visible at the surface of a bare patch of soil about 3 ft in diameter northeast of the building. A pile of sand is on the northwest side of the building.

4.3.6.2 Site History

Interviews with facility personnel indicate that the interior of the building is cleaned periodically. The building is currently in use.

4.3.6.3 Sampling Effort

The CW-4 site is presented in Figure 4.3-11. The facility personnel intend to excavate the soil at the bare patch until spent rounds and shell casings are no longer visible. Because contaminated soil had not been excavated prior to the field effort, one soil boring was installed in place of two of the three surface soil samples proposed in the CDAP. The soil boring was drilled near the debris pile to a depth of 8 ft bgs, where saturation was noted at approximately 6.1 ft bgs. The lithology consisted of an orange-brown sand with trace silt. The soil sample from soil boring SB-01 was collected at a depth of 4 to 6 ft bgs and analyzed for TCL +30 parameters, TAL metals, and TPHs. One surface soil sample was collected from the bottom of

the sand pile (sample SS-01) using a scoop to dig 6 inches below the bottom of the pile in one location. No firing debris was observed. Surface soil boring SS-01 was analyzed for TAL metals only.

4.3.6.4 Soil Sampling Results

Two soil samples were collected, one sample (SB-01) from the 2- to 6-ft bgs sampling interval in the soil boring at the debris pile, and one sample (SS-01) from the 0 to 0.5-ft bgs interval from the sand pile in the rear of the building. The samples were analyzed for the parameters listed in Table 3.6-1. The analytical results for site soils are listed in Appendix D. Table 4.3-7 compares the detected compound concentrations with the NJDEP SCC, and then compares the results with the subsequent site-specific and Monmouth County maximum background concentrations. In addition, the results were also compared with the impact to groundwater SCC because no monitor wells were installed at this site.

VOCs

VOCs were not detected in site soil.

SVOCs

SVOCs were not detected in site soil.

TPHs

Petroleum hydrocarbons were not detected in site soil.

Pesticides/PCBs

Pesticides/PCBs were not detected in site soil.

Table 4.3-7
Fort Monmouth - Charles Wood
Summary of Detected Compounds
In Soils from Site CW-4

COMPOUND	METHOD DETECTION LIMIT (mg/kg)	RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA (mg/kg)	MAXIMUM BACKGROUND CONCENTRATION (mg/kg)	ANALYTICAL RESULTS	
				SB01-A02 12/21/94 (4-6 ft bgs)	SS01-A01 11/30/95 (0-0.5 ft bgs)
METALS (mg/kg)					
Aluminum	3.9	NLE	15700	5030	687
Arsenic	0.35	20	31.6	1.5	7.8
Antimony	0.3	14	ND	ND	2.5
Barium	0.17	700	26	2.7	17.7
Beryllium	0.1	1	1.7	0.47	0.76
Calcium	2.2	NLE	653	302	699
Chromium	1.6	500	128	63.5	58.3
Cobalt	0.71	NLE	4.5	ND	0.62
Copper	2.2	600	7.27[1]	379	3.2
Iron	0.58	NLE	45500	11500	19700
Lead	0.4	400[2]	15.1[1]	**1440**	8.9
Magnesium	9.6	NLE	3960	1320	1450
Manganese	0.18	NLE	120[1]	8.8	26.2
Nickel	1.4	250	8.3	1.5	2.3
Potassium	(12.3-25.8)	NLE	10600	3490	2720
Silver	0.54	110	0.26[1]	ND	0.76
Selenium	0.3	63	0.85	ND	0.33
Sodium	3.8	NLE	50000	ND	16
Vanadium	0.53	370	59.6	20.6	37.3
Zinc	0.41	1500	55.6	42.6	24.6

Compound exceeding NJDEP soil cleanup criteria are noted by bold numbers.

ND - Indicates that the compound was not detected at or below the quantification limits

NLE - No Level Established

Note: MDL's for metal anaysis is actually the highest detection limit with potassium given as a range due to high variability.

[1] Monmouth County maximum background concentrations.

[2] NJDEP criteria are referenced in Site Remediation News, Winter 1995.

Metals

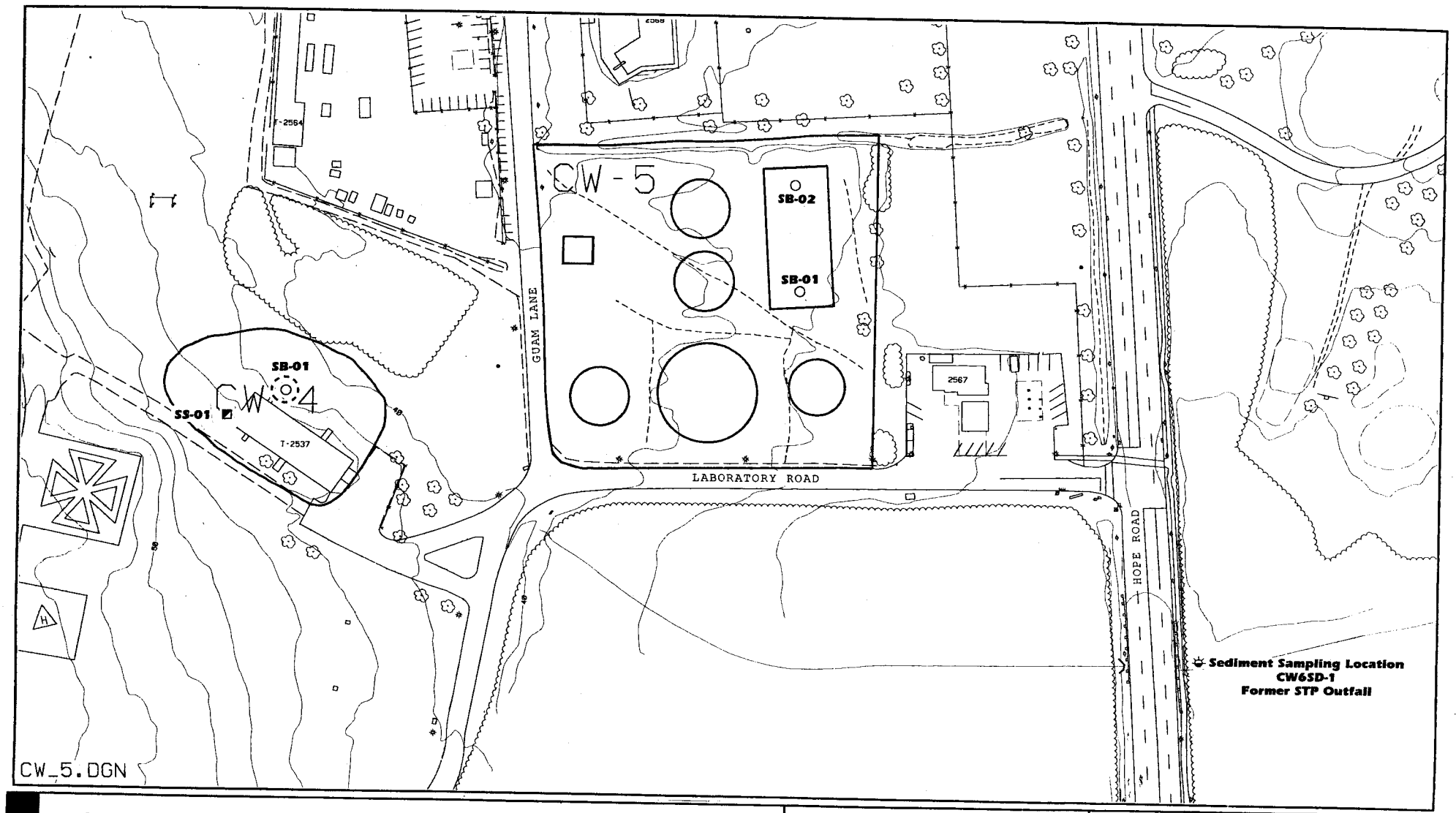
As indicated in Table 4.3-7, of the 20 metals detected in site soil, only lead was found in a concentration exceeding the NJDEP SCC. In addition, lead was detected in a concentration in SB-01 greater than the site-specific and Monmouth County maximum background levels for Charles Wood. The presence of lead in exceedance of criteria in the soil is reflective of the site's use for disposal of spent rounds. Figure 4.3-12 shows the locations of the compounds detected above the NJDEP SCC and above the established background levels for Charles Wood.

4.3.6.5 Recommendations

Soil sampling results indicate that only lead was detected at a concentration exceeding the NJDEP SCC at the spent round disposal area.

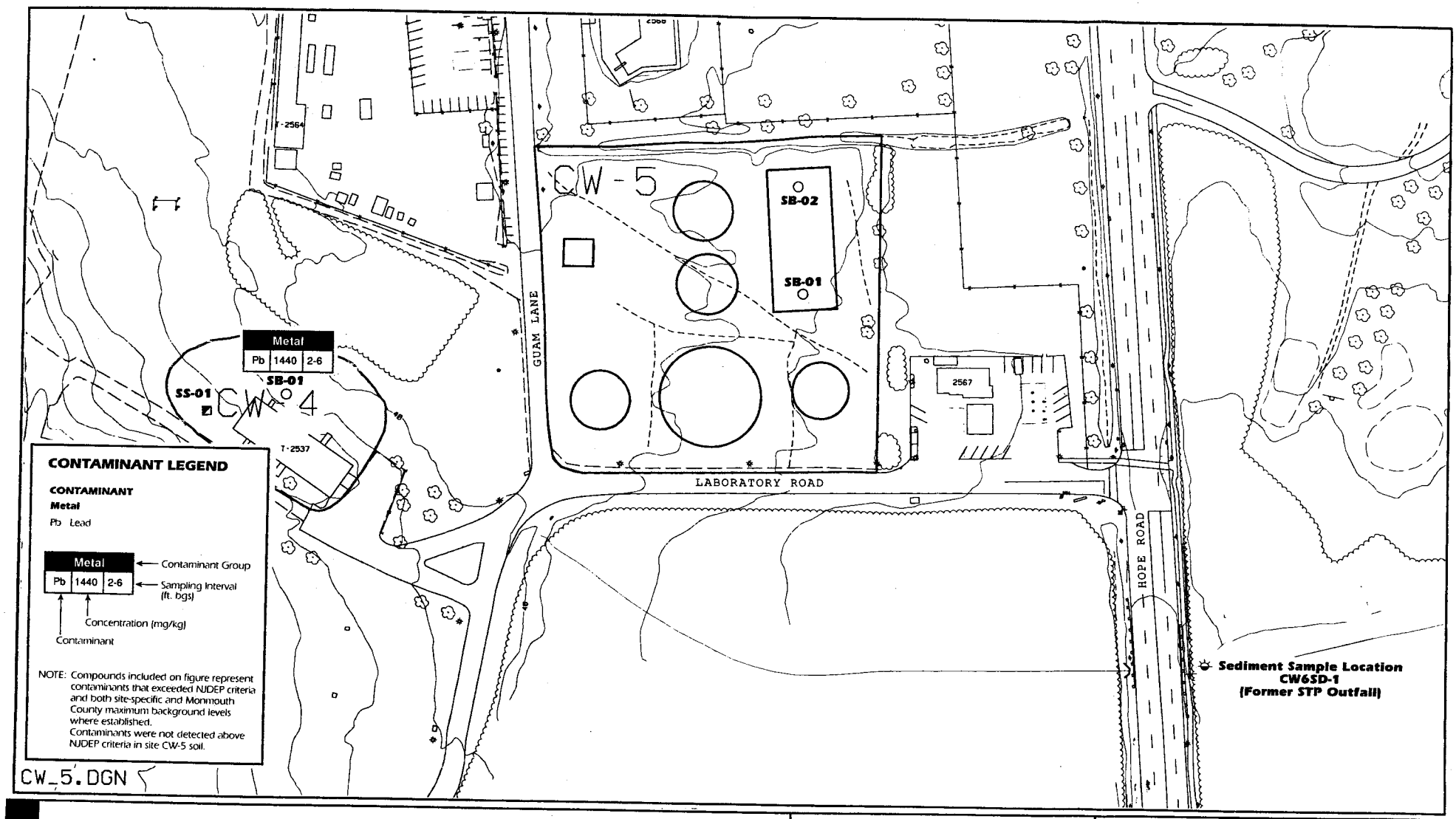
DPW has submitted the necessary documentation to HQAMC/AEC to obtain the proper funding to remediate the site in FY 1996. Depending on funding availability, the affected soil will be removed and confirmation samples will be collected at the base of the excavation.

The contaminated soil will be removed and disposed of in accordance with applicable regulations. The area of contamination is approximately 8 feet in diameter. The estimated depth of excavation is assumed to be 7 feet. Excavation will be performed in conjunction with confirmatory sampling to ensure that NJDEP SCC are achieved. It is estimated that 17 yd^3 of soil will be excavated, assuming that soil is excavated to a depth of 7 feet. NJDEP will be requested to send a representative to observe the excavation.



Fort Monmouth, Main Post

FIGURE 4.3-11
SMALL ARMS RANGE (CW-4) AND FORMER SANITARY TREATMENT PLANT (CW-5) SAMPLING LOCATIONS



Fort Monmouth, Charles Wood

FIGURE 4.3-12
SMALL ARMS RANGE (CW-4) AND FORMER SANITARY TREATMENT PLANT (CW-5) DISTRIBUTION OF CONTAMINANTS IN SITE SOILS

Site CW-5

4.3.7 Former Sanitary Treatment Plant (CW-5)

4.3.7.1 Site Location

The former STP at Charles Wood was located in the southwest corner of the area bounded by Hope Road to the east, Corregidor Road to the north, Guam Lane to the west, and Laboratory Road to the south (Figure 4.3-11). The approximate area of the STP was 134,080 ft^2 (3.1 acres).

4.3.7.2 Site History

The Charles Wood STP was built in 1942 to handle 800,000 gallons of sewage per day. As described in the IA, this STP consisted of a grit chamber screen, comminutor, primary and secondary settling tanks, biofilters, and a baffled contact chlorination tank. Sludge was treated in two anaerobic digesters and discharged to underdrained sand beds for final drying. Supernatant liquid from digester sludge and drainage from the sand beds were recycled through the STP for additional treatment. The chlorinated effluent was discharged to a tributary of Wampum Brook on the east side of Hope Road. Sludge went to the golf course and to landfills. This STP was closed on 29 October 1975 when the Charles Wood sewer system was connected to the NMCRSA system. In 1981, all sludges and supernatant liquids were removed from the STP, and the facility was cleaned and disinfected. The removal contractor was Modern Transportation Co. of Kearny, New Jersey. Mercury used in the distributor seal on the biofilter was removed and disposed of by the Directorate of Logistics. The physical facility was demolished in 1983. In 1993, a youth center was constructed on this site.

4.3.7.3 Sampling Effort

The CW-5 site is presented in Figure 4.3-11. One sediment sample from the outfall area east of Hope Road was collected and analyzed for TCL +30 parameters, TAL metals, and cyanide. Two soil borings were completed and soil samples collected in an effort to evaluate the impact of the former sludge-drying beds on soil quality in the original land surface. Soil borings SB-01 and SB-02 were completed to 8- and 6-ft bgs, respectively. Saturation was observed between 5.5- and 7-ft bgs. The lithology consisted of a yellow-brown gravelly sand fill underdrain by a

greenish-gray silty sand. Soil boring samples were analyzed for TCL +30 parameters, TAL metals, and cyanides.

4.3.7.4 Soil Sampling Results

Two soil samples, one in each borehole, were collected from the 6- to 8-ft bgs sampling interval and were analyzed for the parameters listed in Table 3.6-1. The analytical results for site soils are listed in Appendix D. Table 4.3-8 compares the detected compounds with the NJDEP SCC, and then compares the results with the site-specific and Monmouth County maximum background levels. In addition, the detected compounds were also compared with the impact to groundwater SCC because no monitor wells were installed at this site.

VOCs

One VOC (2-butanone) was detected in SB-01. The concentration was detected well below both applicable SCC (residential and impact to groundwater) and background. 2-Butanone is a common laboratory contaminant.

SVOCs

One SVOC was detected above the laboratory quantitation limit in site soil in SB-01, but below the NJDEP SCC and background. In addition, all compounds detected below quantitation limits were also detected well below both SCCs.

Pesticides/PCBs

Five pesticides and two PCBs were detected in concentrations above laboratory quantitation limits in SB-01 and SB-02, but were detected well below both of their respective SCCs and background.

Table 4.3-8
Fort Monmouth - Charles Wood
Summary of Detected Compounds in
Soil from Site CW-5

COMPOUND	METHOD DETECTION LIMIT (mg/kg)	RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA (mg/kg)	MAXIMUM BACKGROUND CONCENTRATION (mg/kg)	ANALYTICAL RESULTS	
				SB01-A02 12/20/94 6-8 ft bgs	SB02-A02 12/20/94 6-8 ft bgs
VOC's (mg/kg)					
2-Butanone	0.0041	1000	ND	0.013	0.01 J
SVOC's (mg/kg)					
Indeno(1,2,3-cd)pyrene	0.234	0.9	ND	0.066 J	ND
Benzo(a)anthracene	0.162	0.9	0.046 J	0.14 J	ND
bis(2-Ethylhexyl)phthalate	0.32	49	0.17 J	0.21	ND
Benzo(b)fluoranthene	0.188	0.9	0.078 J	0.22 J	ND
Benzo(k)fluoranthene	0.205	0.9	0.041 J	0.084 J	ND
Benzo(a)pyrene	0.162	0.66	0.047 J	0.110 J	ND
Chrysene	0.145	9	0.083 J	0.15 J	ND
Fluoranthene	0.198	2300	0.042 J	0.21 J	ND
Phenanthrene	0.165	NLE	ND	0.085 J	ND
Pyrene	0.178	1700	0.048 J	0.25 J	ND
PESTICIDES (mg/kg)					
Aroclor-1254	0.042	0.49	ND	0.17	ND
Aroclor-1260	0.042	0.49	ND	0.15	ND
alpha-Chlordane	0.002	NLE	ND	0.0084 P	ND
gamma-Chlordane	0.002	NLE	ND	0.0092	ND
4,4'-DDE	0.0037	2	0.071	0.21 P	0.0058
4,4'-DDD	0.0037	3	ND	0.087	0.0035 J
4,4'-DDT	0.0037	2	0.053	0.087	ND
METAL TOTAL (mg/kg)					
Aluminum	3.9	NLE	15700	3920	3400
Arsenic	0.35	20	31.6	3.8	1.5
Barium	0.17	700	26	36.2	21
Beryllium	0.1	1	1.7	0.14	0.32
Calcium	2.2	NLE	653	1000	851
Chromium	1.6	500	128	42.2	38.3
Colbalt	0.71	NLE	4.5	1	ND
Copper	2.2	600	7.27[1]	21.5	2
Iron	0.58	NLE	45500	8950	5930
Lead	0.4	400[2]	15.1[1]	20.7	3.3
Magnesium	9.6	NLE	3960	527	717
Manganese	0.18	NLE	120[1]	19.7	7.2
Mercury	0.49	14	ND	0.63	ND
Nickel	1.4	250	8.3	2.7	1.6
Potassium	(12.3-25.8)	NLE	10600	944	1880
Silver	0.54	110	.26[1]	7.4	ND
Sodium	3.8	NLE	56.8	28.9	13.5
Selenium	0.3	63	0.85	0.4	0.35
Thallium	0.36	2	ND	ND	0.33
Vanadium	0.53	370	59.6	20.7	21.4
Zinc	0.41	1500	55.6	40.4	11.4

Compounds exceeding NJDEP soil cleanup criteria are noted by bold numbers.
J - Indicates that the concentration value was estimated due to detection at or near the quantification limits
ND - Indicates that the compound was not detected at or below the quantification limits
NLE - No level established
Note: MDL's for metal analysis is actually the highest detection limit with potassium given as a range due to high variability.
P- The percent difference between the results from two GC columns is greater than 25%, the lower of the two values is reported

[1] Monmouth County maximum background concentrations.

[2] NJDEP criteria are referenced in Site Remediation News, Winter 1995.

Metals

As indicated in Table 4.3-8, all metals detected in site soils were found in concentrations below the NJDEP SCC, where established.

4.3.7.5 Sediment Sampling Results

The STP sediment sampling location was determined to be freshwater because the area is not tidally influenced. One sediment sample, CW6SD-1, was collected at the former outfall of the STP (Figure 4.3-11).

VOCs

VOCs were analyzed for but were not detected in site sediment samples.

SVOCs

One SVOC [bis(2-ethylhexyl) phthalate] was detected above the laboratory quantitation limit from location C6SD1. NJDEP sediment guidance values are not established for this compound. This compound is a common laboratory contaminant.

Pesticides/PCBs

Three pesticide compounds (4,4'-DDD, 4,4'-DDT, and 4,4'-DDE) were detected in concentrations exceeding the NJDEP sediment guidance criteria. However, the concentrations were found in levels below their respective background concentrations. PCBs were not detected in site sediment samples.

Metals

As indicated in Table 4.3-9, no metals were detected in concentrations greater than the NJDEP sediment guidance criteria.

4.3.7.6 Recommendations

Three compounds (4,4′-DDT, 4,4′-DDD, and 4,4′-DDE) were detected in the sediment at levels that were above the NJDEP sediment guidance criteria but below background. Soil results were below the NJDEP SCC and established maximum background.

No further action will be taken.

Table 4.3-9
Fort Monmouth - Charles Wood
Summary of Detected Compounds in Sediment
Site CW-5

COMPOUND	METHOD DETECTION LIMIT (mg/kg)	NJDEP SEDIMENT GUIDANCE * (mg/kg)	MAXIMUM DETECTED BACKGROUND CONCENTRATION (mg/kg)	ANALYTICAL RESULTS GIVEN BY WESTON SAMPLE LOCATION C6SD-1 12/1/94
SVOCs (mg/kg)				
bis-(2-Ethylhexy)phthalate	0.32	NLE	0.23	0.45
Dimethylphthalate	0.145	NLE	ND	0.40 J
Di-n-butylphthalate	0.215	NLE	0.12	0.081 J
Di-n-octyl phthalate	0.185	NLE	ND	0.11 J
PAHs (mg/kg)				
Benzo (a)anthracene	0.162	0.23	0.09	0.079 J
Benzo (b)fluoranthene	0.188	NLE	0.16	0.1 J
Chrysene	0.145	0.4	0.14	0.087
Fluoranthene	0.198	0.6	0.12	0.16 J
Phenanthrene **	0.165	0.225, 0.326	0.079	0.098 J
Pyrene	0.178	0.35	0.41	0.19 J
PESTICIDES/PCBs (mg/kg)				
4,4'-DDD	0.0042	0.002	0.015	**0.005 P**
4,4'-DDE	0.0042	0.002	0.096	**0.0067**
4,4'-DDT **	0.0042	0.003, 0.00183	0.11	**0.0029 JP**
Heptachlor epoxide	0.0021	NLE	ND	0.0042 P
METALS TOTAL (mg/kg)				
Aluminum	6.1	NLE	6660	866
Arsenic	0.35	33	5.8	0.74
Barium	0.48	NLE	45.7	9.6
Calcium	2.7	NLE	2960	509
Chromium	1.5	80	36.9	7.8
Cobalt	0.64	NLE	4.2	1.3
Copper	0.55	70	24.5	7.4
Iron	1.1	NLE	19600	6910
Lead	1.8	35	142	9.3
Magnesium	8.7	NLE	2560	320
Manganese	0.45	NLE	65.1	25.8
Potassium	186	NLE	1700	256
Sodium	3.5	NLE	271	54
Vanadium	0.66	NLE	39.5	5.4
Zinc	0.64	120	126	22.5

Compounds detected above NJDEP Sediment Guidance are bolded.

*- NOAA (1990) ER-L guidance. Values for DDE and DDD are not presented in NJDEP Sediment Quality Evaluations (1991).

** - Standards developed using equilibrium partioning approach in accordance with NJDEP Guidance for Sediment Quality Evaluation (1991). Total organic carbon concentrations of 1% assumed based on organic carbon content detected in adjacent sample.

ND - Compound was not detected at or above the quantification limit.

NLE - No Level Established

J - Concentration was estimated due to detection at or below the quantification limit

P - The percent difference between the results from the two GC columns is greater than 25%, the lower of the two values is reported

Site CW-6

4.3.8 Pesticide Storage Building T-2044 (CW-6)

4.3.8.1 Site Location

Building T-2044 is part of a small complex of buildings in the south-central portion of the Charles Wood area. The complex consists of Building T-2044, Building T-2070, and two metal igloos. The buildings are currently used to store golf course maintenance and landscaping equipment, such as mowers and tractors. The approximate area of site CW-6 is 25,000 ft^2 (0.6 acre).

4.3.8.2 Site History

The golf course maintenance complex may predate the purchase of the golf course by the Army. Pesticides and herbicides were formerly stored and mixed in this area. The IA contains a 1979 inventory of pesticides and herbicides that were used on the golf course and stored in Building T-2044. Some of the pesticides that were present in significant quantities are malathion, floriable sevin, resmithrin, Borocel IV, chlordane, and Dibrom. The IA also discusses a pest control program that was in effect in 1979. The compounds that were used in large quantities include carbaryl (sevin), malathion, chlordane, and diazinon. Some of the herbicides mentioned in the IA include 2,4-D, Dacthal, 2,4,5-T, and sodium arsenite.

The course groundskeeper, who has been part of the grounds crew for 33 years (1960 to 1993), said pesticides and herbicides were kept in a metal igloo and were mixed in two areas marked A and B in Figure 4.3-13. Area A is on a currently grass-covered area south of the igloo. At area A two USTs were excavated and the chlordane-contaminated soil was disposed of in spring 1995. Area B is on pavement near the office door in T-2044. This paved area has a drain that empties into a ditch in the woods immediately behind T-2044. The supervisor said that pesticide containers were not rinsed, but were disposed of to the landfill as is. Prior to 1980, the containers would have been disposed of at a landfill on the Main Post, such as site M-8.

Pesticides and herbicides are not currently stored or mixed on-site. The facility has hired an outside contractor to come in and apply pesticides and herbicides.

4.3.8.3 Sampling Effort

Limited sampling in 1989 determined that NJDEP SCC were exceeded in one soil sample. The sampling report did not clearly identify the location of the sample.

To confirm the existence of contamination and evaluate the effect on groundwater, two soil borings were completed at locations where pesticides mixing was believed to have occurred. These locations are just north of Building T-2044 (SB-02) and just south of the pavement that extends in front of Building T-2044 (SB-34). The borings were advanced to the water table and soil samples were taken at 6 to 12 inches and at 2 feet and analyzed for TCL +30 parameters. One surface soil sample was taken in the runoff ditch that runs into the woods southwest of Building T-2044 (Figure 4.3-13).

One monitor well was installed in these borings (MW-34), shown in Figure 4.3-13, and groundwater samples were collected in two sampling rounds and analyzed for TCL +30 parameters. Furthermore, a pre-existing monitor well (MW-01) was sampled twice for TCL +30 parameters in an effort to further evaluate the nature and extent of contamination on site groundwater quality.

The location of the monitor well proposed in the CDAP (MW-35) at site CW-6 was moved to site CW-9 because an existing monitor well was located near the proposed well location.

4.3.8.4 Hydrogeologic Interpretation

The lithologic logs from MW-34 indicate that the lithology consists of a thin soil cover (0.3 ft) underlain by a brown fine-medium-grained sand with olive-brown sand laminae. Saturation was observed at approximately 4 ft bgs. Monitor well MW-34 was screened across the water table and was drilled to 14.5 ft bgs. Water-level elevation data, measured on 6 March 1995, prior to the March sampling round, indicate that local groundwater flow is east toward site CW-9 (Figure 4.3-14).

The following subsections summarize the soil and groundwater analytical results for site CW-6.

4.3.8.5 Soil Sampling Results

A total of four soil samples were collected: two in the MW-34 borehole, one in SB-02, and one in SS-01. The soil samples were analyzed for the parameters listed in Table 3.6-1. Sample depths of soil borings were 0 to 2 and 2 to 4 ft bgs in SB-34 and 0.5 to 1 ft bgs in SB-02. The surface soil sample was collected from 0 to 0.5 ft bgs. The analytical results for site soils at specific sampling intervals are listed in Appendix D. Table 4.3-10 compares the detected compounds with the NJDEP SCC, and then compares the results with the site-specific and Monmouth County maximum background concentrations, where appropriate.

VOCs

VOCs were not detected in site soil.

SVOCs

SVOCs were not detected above laboratory quantitation limits in site soil.

Pesticides/PCBs

Seven pesticides were detected above laboratory quantitation limits in either SB-34, SB-02, and SS-01 from predominantly the 0- to 2-ft bgs sampling interval. In addition, one compound (dieldrin) was detected in a concentration exceeding the NJDEP SCC and background in SB-34 (0 to 2 ft bgs). Subsequently, dieldrin was not detected in groundwater samples from MW-34. Three of the compounds detected were below the NJDEP SCC and three do not have established criteria. PCBs were not detected in site soil. Figure 4.3-15 presents the locations of compounds detected above maximum background and the NJDEP criteria.

Table 4.3-10
Fort Monmouth - Charles Wood
Summary of Detected Compounds
In Soil at Site CW-6

COMPOUND	METHOD DETECTION LIMIT (mg/kg)	RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA (mg/kg)	MAXIMUM BACKGROUND CONCENTRATION (mg/kg)	ANALYTICAL RESULTS			
				SB34-A01 1/3/95 (0-2 ft bgs)	SB34-A02 1/3/95 (2-4 ft bgs)	SB02-A01 5/10/95 (0.5-1 ft bgs)	SS01-A01 11/30/94 (1)
SVOC's (mg/kg)							
Phenanthrene	0.165	NLE	ND	ND	0.24 J	ND	ND
Fluoranthene	0.198	2300	0.042 J	0.049 J	0.18 J	ND	ND
Pyrene	0.178	1700	0.048 J	0.056 J	0.270 J	ND	ND
Benzo(a)anthracene	0.162	0.9	0.046 J	ND	0.160 J	ND	ND
Chrysene	0.145	9	0.083 J	ND	0.15 J	ND	ND
Benzo(b)fluoranthene	0.188	0.9	0.078 J	ND	0.11 J	ND	ND
Benzo(a)pyrene	0.162	0.66	0.047 J	ND	0.087 J	ND	ND
Indeno(1,2,3-cd)pyrene	0.234	0.9	ND	ND	0.054 J	ND	ND
Benzo(g,h,i)perylene	0.224	NLE	0.042 J	0.057	0.066	ND	ND
PESTICIDES (mg/kg)							
Heptachlor epoxide	0.002	NLE	ND	0.018 P	ND	0.0078 P	0.032 R
Dieldrin	0.0039	0.042	ND	**0.061 DP**	ND	ND	ND
alpha-Chlordane	0.002	NLE	ND	0.14 P	0.0034 P	.07 JD	0.870 CD
gamma-Chlordane	0.002	NLE	ND	0.11 P	0.0027 P	.068 JD	0.800 CD
4,4'-DDE	0.0037	2	0.071	0.074 P	ND	0.34 JCD	0.13
4,4'-DDD	0.0037	3	0.053	0.0095 P	ND	2.9 CD	0.86 C
4,4'-DDT	0.0037	2	ND	0.180 P	.011 P	ND	0.81 C
METALS TOTAL (mg/kg)							
Aluminum	3.9	NLE	15700	NS	NS	NS	5130
Arsenic	0.35	20	31.6	NS	NS	NS	11.6
Barium	0.17	700	26	NS	NS	NS	72.2
Calcium	2.2	NLE	653	NS	NS	NS	4430
Cadmium	0.86	1	0.135[2]	NS	NS	NS	**4.4**
Chromium	1.6	500	128	NS	NS	NS	65.8
Copper	2.2	600	7.27[2]	NS	NS	NS	69.8
Iron	0.58	NLE	45500	NS	NS	NS	10900
Lead	0.4	400[3]	15.1[2]	NS	NS	NS	203
Magnesium	9.6	NLE	3960	NS	NS	NS	1260
Manganese	0.18	NLE	120[2]	NS	NS	NS	78.8
Mercury	0.49	14	ND	NS	NS	NS	6
Potassium	(12.3-25.8)	NLE	10600	NS	NS	NS	1420
Silver	0.54	110	0.26[2]	NS	NS	NS	1.5
Sodium	3.8	NLE	56.8	NS	NS	NS	103
Selenium	0.3	63	0.85	NS	NS	NS	0.7
Vanadium	0.53	370	59.6	NS	NS	NS	21.8
Zinc	0.41	1500	55.6	NS	NS	NS	463

Compounds exceeding NJDEP soil cleanup criteria are bolded
NA - Not Analyzed; NS - Not Sampled
ND - Compound was not detected at or below the quantification limits
J - Indicates that the concentration value was estimated due to detection at or near the quantification limits
NLE - No Level Established
C - Pesticide identification was confirmed by GC/MS
D - Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis
P - The percent difference between the results from two GC columns is greater than 25%, the lower of the two values is reported
R - Data rejected, URS The Data Validator

Note: MDL's for metal anaysis is actually the highest detection limit with potassium given as a range due to high variability.

Note: Metals were analyzed (SS-01), but were not proposed in the scope of work.

(1) - VOC/SVOC's were collected from 6" to 12" bgs, pesticides and metals were collected from 0"-6" bgs.

[2] Monmouth County maximum background concentrations.

[3] NJDEP criteria are referenced in Site Remediation News, Winter 1995.

Metals

As indicated in Table 4.3-10, of the 18 metals detected in site soils, only cadmium was found in a concentration exceeding the NJDEP SCC in SS-01. In addition, cadmium was detected in a concentration greater than that determined for site-specific and Monmouth County maximum background at Charles Wood. However, in accordance with the NJDEP *Cleanup Standards for Contaminated Sites* (NJDEP, 1992), the arithmetic mean of cadmium was calculated from the 10 surface soil samples at sites CW-6 and CW-9, since the samples were collected within the same sampling interval (0 to 6 inches). The arithmetic mean or concentration was then compared with the NJDEP SCC and established background. The arithmetic mean (1 mg/kg) was found at a level equal to the NJDEP SCC (1 mg/kg). However, sites CW-06 and CW-09 are located on a golf course. *A Summary of Selected Soil Constituents and Contaminants at Background Locations in New Jersey*, 1993, provides a separate background concentration level for cadmium in golf course areas. When comparing the arithmetic mean of the analytical results at the two sites with the arithmetic mean for cadmium on golf courses in Table 9 of that document (2.26 mg/kg), the analytical result is found in a concentration below established background. Cadmium is reported in higher concentrations on golf courses due to the direct application of fertilizers, herbicides, and pesticides (Field et al., 1993). Therefore, cadmium is not considered a compounds of concern. Although metals were sampled for in surface soil location SS-01, a metals analysis was not proposed in the original scope of work.

4.3.8.6 Groundwater Sampling Results

Monitor wells MW-34 and MW-1 were sampled for the analytical parameters listed in Table 3.8-1. The analytical results for groundwater samples from the individual sampling rounds are listed in Appendix D. Table 4.3-11 compares the average concentrations of the detected compounds from the February and March sampling rounds with the NJDEP GWQC, and then compares the results with the subsequent site-specific and Monmouth County maximum background concentrations, where appropriate.

Table 4.3-11
Fort Monmouth - Charles Wood
Summary of Average Concentrations of Detected Compounds in Groundwater - Site CW-6

COMPOUND	METHOD DETECTION LIMIT (µg/L)	NJDEP GROUNDWATER QUALITY CRITERIA (µg/L)	MAXIMUM BACKGROUND CONCENTRATION (µg/L)	ANALYTICAL RESULTS (µg/L) SAMPLING DATE	
				MW34 2/10/95, 3/13/95 (avg.)	MW01 5/10/95, 5/27/95 (avg.)
VOC (µg/L)					
Benzene	2.4**	1*	ND	ND	**8**
Ethylbenzene	3.1	700	ND	ND	1J
Xylene (total)	3.8	40	ND	ND	2J
Pesticide and PCB's (µg/L)					
4,4'-DDD	0.097	0.1	ND	ND	0.086J
gamma-chlordane	0.046	NLE	ND	ND	.035JP
alpha-chlordane	0.046	NLE	ND	ND	0.0545

Compounds exceeding NJDEP groundwater quality criteria are noted by bold numbers.

NJDEP groundwater quality criteria consist of the higher number between the PQL or STANDARD

*PQL - Practical Quantitation Limit -was used as the NJDEP groundwater quality criteria

ND - Indicates that the compound was not detected

J - Indicates that the concentration value was estimated due to detection at or near the detection limits

** - Method detection limit exceeded NJDEP groundwater quality criteria

P - Percent difference between the results from the GC columns is greater than 25%, the lower of the two values is reported

VOCs

One VOC (benzene) was detected above the laboratory quantitation limit in MW-1 from the February sampling round only. In addition, benzene was found in a concentration exceeding the NJDEP GWQC. Figure 4.3-15 presents the locations of the compounds detected above both background and criteria.

SVOCs

SVOCs were not detected above laboratory quantitation limits in site monitor wells MW-34 and MW-1 from either sampling round. In addition, SVOCs were detected below the NJDEP GWQC.

Pesticides/PCBs

One pesticide (alpha-chlordane) was detected in a concentration slightly above the laboratory quantitation limit in MW-1; however, NJDEP GWQCs are not established for alpha-chlordane. PCBs were not detected in site monitor wells from either sampling round.

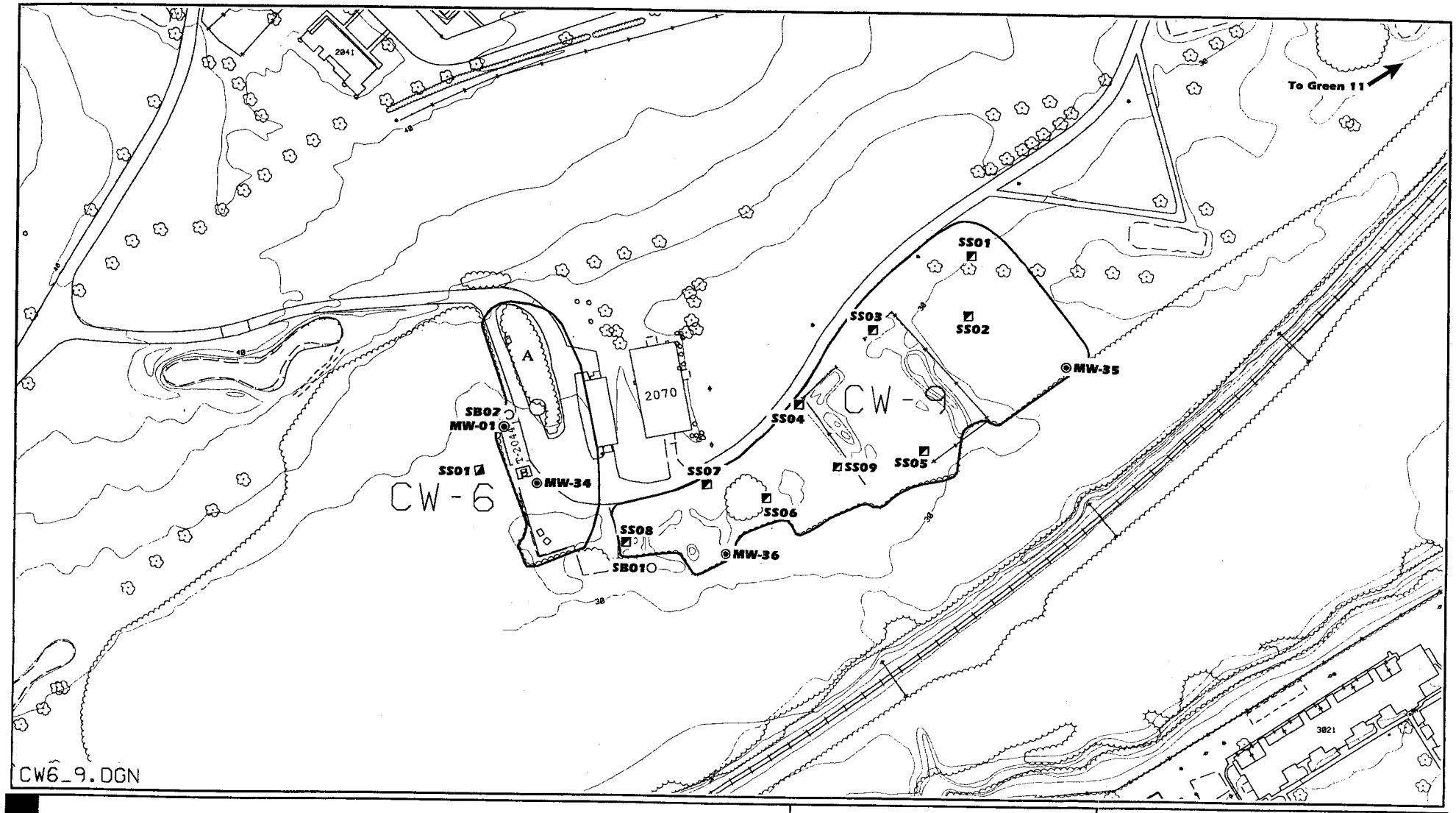
4.3.8.7 Recommendations

The pesticide dieldrin and the metal cadmium were detected in the soil at two different locations, each at levels that exceeded NJDEP SCC and background. However, the average concentrations of dieldrin and cadmium in surface soil samples at CW-6 and CW-9 did not exceed the NJDEP SCC. Cadmium is typically present at elevated levels at golf courses. Groundwater samples indicated that benzene was detected in the existing monitor well (MW-1), which is attributed to a previously removed UST. Benzene was not detected in downgradient wells. Pesticides were not detected in any groundwater samples above NJDEP criteria.

NJDEP groundwater criteria were exceeded for one VOC, but the measured value was just slightly above the GWQC. Therefore, no immediate remedial action is necessary.

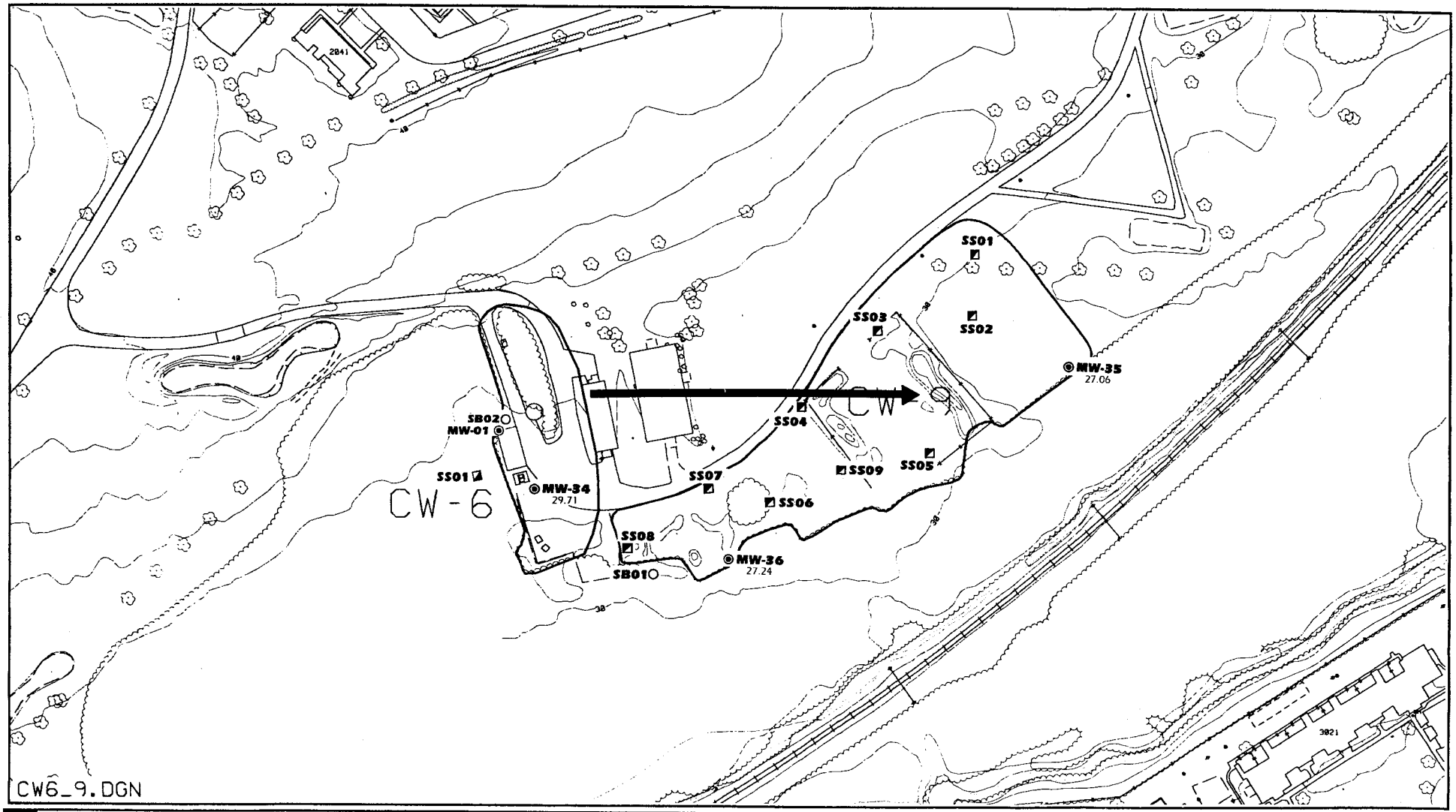
DPW proposes that a long-term groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further

evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells. Compounds of concern identified in the first two rounds of sampling would be targeted for the monitoring program.



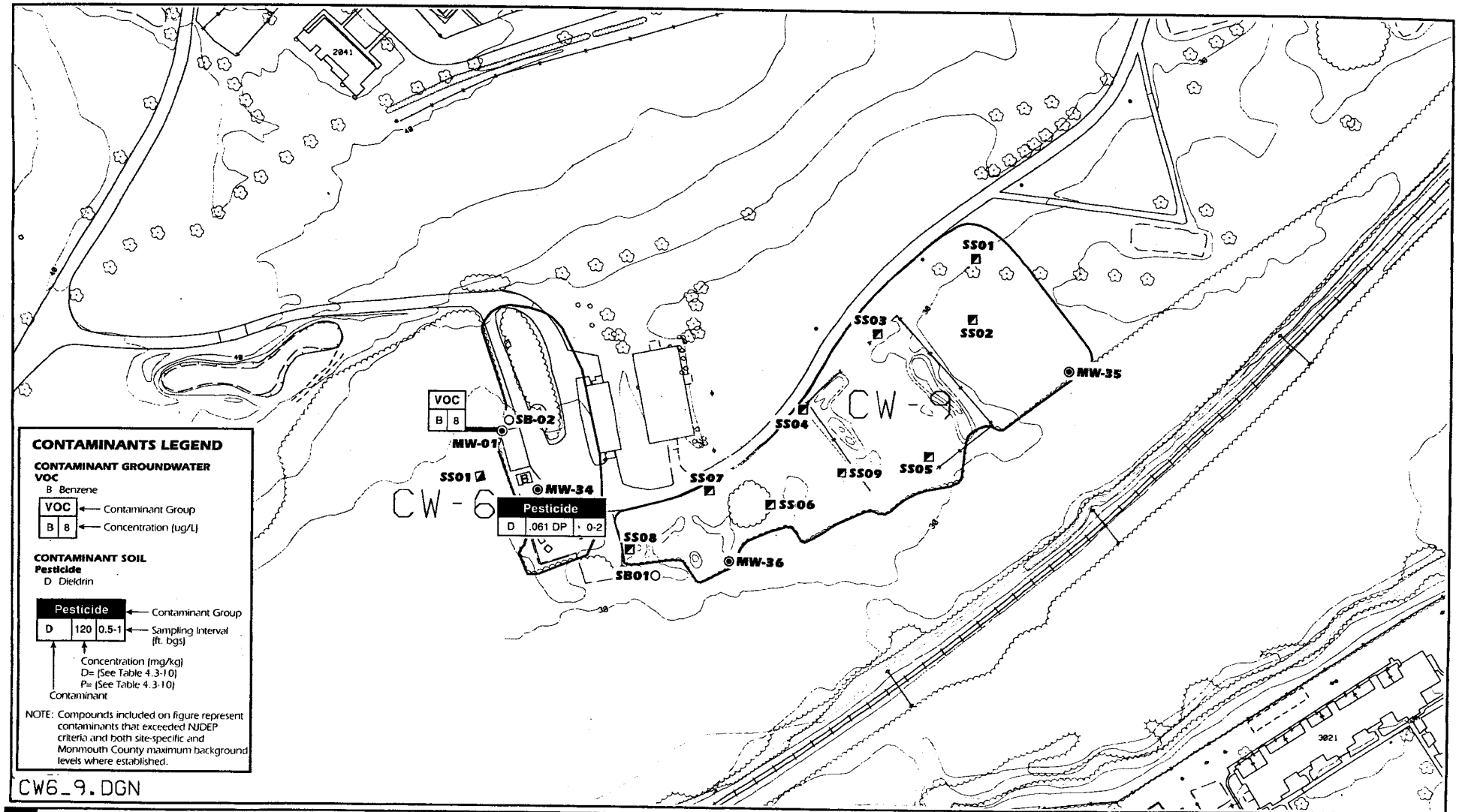
Fort Monmouth, Charles Wood

FIGURE 4.3-13
PESTICIDE STORAGE BUILDING (CW-6)
AND SLUDGE DUMP (CW-9)
SAMPLING LOCATIONS



Fort Monmouth, Charles Wood

FIGURE 4.3-14
PESTICIDE STORAGE BUILDING (CW-6)
AND SLUDGE DUMP (CW-9)
APPROXIMATE GROUNDWATER FLOW DIRECTIONS
(Groundwater Elevations Recorded from March 1995 Sampling Round)


2041
3021
CW-6
CW-9
SB-02
MW-01
MW-34
MW-35
MW-36
SB01
SS01
SS02
SS03
SS04
SS05
SS06
SS07
SS08
SS09
VOC
B 8
Pesticide
D .061 DP 0-2
CONTAMINANTS LEGEND
CONTAMINANT GROUNDWATER
VOC
B Benzene
VOC
B 8
Contaminant Group
Concentration (ug/L)
CONTAMINANT SOIL
Pesticide
D Dieldrin
Pesticide
D 120 0.5-1
Contaminant Group
Sampling Interval (ft. bgs)
Concentration (mg/kg)
D= (See Table 4.3-10)
P= (See Table 4.3-10)
Contaminant
NOTE: Compounds included on figure represent contaminants that exceeded NJDEP criteria and both site-specific and Monmouth County maximum background levels where established.
CW6_9.DGN
LEGEND
Soil Boring
Monitor Well
Surface Soil Sampling Location
Road (paved)
Road/Trails (unpaved)
Fence
Building
Wooded Area
Tree/Bush
Light Pole
Utility Pole
Site
Brook/Creek
Base Boundary
Marshy Area
Approximate Boundary
0
100
200
SCALE IN FEET
95P:3187
6/23/95
Fort Monmouth, Charles Wood
FIGURE 4.3-15
PESTICIDE STORAGE BUILDING (CW-6)
AND SLUDGE DUMP (CW-9)
DISTRIBUTION OF CONTAMINANTS IN SITE SOIL

Site CW-9

4.3.9 Sludge Dump (CW-9)

4.3.9.1 Site Location

The sludge dump (CW-9) as identified in the IA is located in the southern part of Charles Wood, south and southeast of Building 2070 and west of green 11 and tee 12 of the golf course (Figure 4.3-13). The approximate area of site CW-9 is 79,933 ft^2 (1.8 acres).

4.3.9.2 Site History

Since the 1940s, sludge generated at the STPs has been stored in this area before being used as a soil conditioner and fertilizer on the golf course. Sludge piles are visible in the 1957, 1961, 1974, and 1981 aerial photographs. During the 1993 site visit, a pile of sludge removed from fairway 1 on the golf course was observed south of Building 2070. According to long-term Fort Monmouth employees, at least three other fairways (8, 10, and 11) have 4 to 5 inches of sludge over the native sand; sludge may have been used to fill in low areas.

4.3.9.3 Sampling Effort

Two monitor wells were installed (MW-35 and MW-36), one soil sample from soil boring SB-01 and nine from surface soil locations SS-01 through SS-09 were collected, and two rounds of groundwater sampling were conducted in an effort to evaluate the impact of past site activities on soil and groundwater quality. Monitor wells MW-35 and MW-36 and soil boring SB-01 were analyzed for TCL +30 parameters and TAL metals. Surface soil locations SS-01 through SS-09 were analyzed for TAL metals only. The sampling locations are presented in Figure 4.3-13. MW-35 was relocated from site CW-6 because an existing monitor well was located at the proposed well location. The monitor well (MW-35) was then relocated to a downgradient location at CW-9 to monitor groundwater quality downgradient of the area under investigation.

4.3.9.4 Hydrogeologic Interpretation

Lithologic logs from MW-35 and MW-36 indicate that the lithology consists of a thin soil cover (0.3 ft) underlain by an orange-olive-brown predominantly medium-grained quartz sand with silt laminae. Saturation was observed at 4 ft bgs. Monitor wells were screened across the water table, with total depths of 14.5 and 14 ft bgs in MW-35 and MW-36, respectively. Water-level elevation data, measured on 6 March 1995, prior to the March 1995 sampling round, indicate that the local groundwater flow direction is east (Figure 4.3-14). Based on groundwater elevation measurements, monitor wells MW-35 and MW-36 are downgradient of the area under investigation.

4.3.9.5 Soil Sampling Results

One soil sample was collected from the 2- to 4-ft bgs sampling interval in a boring installed to a depth of 6 ft bgs. One sample from each surface soil location was collected from the 0- to 0.5-ft bgs interval. The soil samples collected were analyzed for the parameters listed in Table 3.6-1. The analytical results for site soil are listed in Appendix D. Tables 4.3-12 and 4.3-13 compare the compounds detected with the NJDEP SCC, and then compare the results with the subsequent site-specific and Monmouth County maximum background concentrations, where appropriate.

VOCs

VOCs were not detected in site soil.

SVOCs

SVOCs were not detected above laboratory quantitation limits in site soil.

Table 4.3-12
Fort Monmouth - Charles Wood
Summary of Detected Compounds in Soil from Boring Location SB-01
Site CW-9

COMPOUND	METHOD DETECTION LIMIT (mg/kg)	RESIDENTAL DIRECT CONTACT SOIL CLEANUP CRITERIA (mg/kg)	MAXIMUM BACKGROUND CONCENTRATION (mg/kg)	ANALYTICAL RESULTS SB01-A02 1/4/95 (2-4 ft bgs)
SVOCs (mg/kg)				
Di-n-butylphthalate	0.215	5700	ND	0.076
PESTICIDES (mg/kg)				
4,4'-DDE	0.0037	2	0.071	0.0076 P
4,4'-DDT	0.0037	2	0.053	0.008 P
METALS TOTAL (mg/kg)				
Aluminum	3.9	NLE	15700	3830
Arsenic	0.35	20	31.6	2.6
Barium	0.17	700	26	6.6
Beryllium	0.1	1	1.7	0.39
Calcium	2.2	NLE	653	366
Cobalt	0.71	NLE	4.5	1
Chromium	1.6	500	128	44
Copper	2.2	600	7.27[1]	2.3
Iron	0.58	NLE	45500	9720
Lead	0.4	400[2]	15.1[1]	3.9
Magnesium	9.6	NLE	3960	698
Manganese	0.18	NLE	120[1]	11.9
Mercury	0.49	14	ND	0.12
Nickel	1.4	250	8.3	2.8
Potassium	(12.3-25.8)	NLE	10600	1480
Sodium	3.8	NLE	56.8	21.4
Vanadium	0.53	370	59.6	27.4
Zinc	0.41	1500	55.6	12.8

Compounds exceeding NJDEP soil cleanup criteria are noted by bold numbers.
ND - Compound was not detected at or below the quantification limits
NLE - No Level Established
P- the percent difference between the results from the two GC columns is greater than 25%, the lower of the two values is reported
Note: MDL's for metal analysis is actually the highest detection limit with potassium given as a range due to high variability.

[1] Monmouth County maximum background concentrations.

[2] NJDEP criteria are referenced in Site Remediation News, Winter 1995.

Table 4.3-13
Fort Monmouth - Charles Wood
Summary of Detected Compounds in Soil from Surface Locations
Site CW-9

COMPOUND	METHOD DETECTION LIMIT (mg/kg)	RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA (mg/kg)	MAXIMUM BACKGROUND CONCENTRATION (mg/kg)	ANALYTICAL RESULTS 11/30/94								
				SS01-A01	SS02-A01	SS03-A01	SS04-A01	SS05-A01	SS06-A01	SS07-A01	SS08-A01	SS09-A01
METALS TOTAL (mg/kg) Sample Interval :0"-6" ft bgs												
Aluminum	3.9	NLE	15700	7350	5730	3600	4380	6930	5450	3910	4070	7700
Arsenic	0.35	20	31.6	13.6	12.1	6.9	6.3	15.6	9.3	10.5	7.2	7.7
Barium	0.17	700	26	23.4	28.9	65.4	51.2	32.5	33	40.7	19.2	40.8
Beryllium	0.1	1	1.7	0.73	0.68	0.57	0.55	0.9	0.72	0.58	0.56	1
Calcium	2.2	NLE	653	2680	2650	1960	19600	3570	3610	4370	1630	3440
Cadmium	0.86	1	0.135[1]	ND	ND	ND	ND	ND	ND	**2.6**	ND	ND
Cobalt	0.71	NLE	4.5	ND	ND	ND	1.3	1.9	1.7	ND	ND	1.8
Chromium	1.6	500	128	56.7	57.2	24.9	28.3	60.5	46.9	164	56.2	70
Copper	2.2	600	7.27[1]	9.6	10.3	5	17.7	8.8	11.1	17.4	9	9.6
Iron	0.58	NLE	45500	20600	18200	10800	12200	22200	17900	9880	11300	25600
Lead	0.49	400[2]	15.1[1]	19.9	30.1	13.5	56.8	27.4	17	82.3	35.5	20.1
Magnesium	9.6	NLE	3960	1910	2010	815	2260	2280	1720	1620	893	2590
Manganese	0.18	NLE	120[1]	85.1	46.8	22.3	106	59.2	56	140	37	69.5
Mercury	0.49	14	ND	0.2	0.23	ND	ND	0.14	ND	7.9	0.69	ND
Nickel	1.4	250	8.3	6	3.3	ND	5.7	6.9	4.9	4.3	2.4	5.8
Potassium	(12.3-25.8)	NLE	10600	1600	2620	1460	2060	3950	3180	1720	1250	5130
Silver	0.54	110	0.26[1]	2.5	2.8	ND	ND	0.77	0.71	1.2	3.3	1.3
Sodium	3.8	NLE	56.8	35.6	33.9	77.4	118	49.7	49.7	40.6	34.5	60.9
Selenium	0.30	63	0.85	0.56	0.62	0.75	0.28	0.63	0.41	0.57	0.6	0.48
Vanadium	0.53	370	59.6	45.7	34	15.7	22.9	33.1	30.3	15.6	29.3	32
Zinc	0.41	1500	55.6	53.7	61.2	25.8	92.5	47.8	62.3	77	36	48.1

Compounds exceeding NJDEP soil cleanup criteria are noted by bold numbers.
ND - Compound was not detected at or below the quantitation limits
NLE - No Level Established
Note: MDL's for metal analysis is actually the highest detection limit with potassium given as a range due to high variability.
[1] Monmouth County maximum background concentrations.
[2] NJDEP criteria are referenced in Site Remediation News, Winter 1995.
Note: Metals detected in a duplicate sample from SS-01 were detected below the NJDEP SCC.

Pesticides/PCBs

Two pesticides (4,4'-DDE and 4,4'-DDT) were detected above laboratory quantitation limits in SB-01. Both compounds were detected well below their respective SCCs. PCBs were not detected in site soil.

Metals

As indicated in Tables 4.3-12 and 4.3-13, of the 21 metals detected in site soil, only beryllium and cadmium were found in concentrations equal to or greater than the NJDEP SCC. In addition, cadmium was detected in SS-07 at a concentration (Table 4.3-13) greater than the site-specific and Monmouth County maximum background levels established at Charles Wood. However, in accordance with NJDEP *Cleanup Standards for Contaminated Sites* (NJDEP, 1992), the concentration of cadmium at sites CW-06 and CW-09 were averaged and then compared to the NJDEP SCC and established background. The average concentration of cadmium was found to be equal to the SCC when compared with the soil sampling results in the area. Cadmium was not considered to be of a high concentration (see "Metals" in Subsection 4.3.8.5). Cadmium was not detected at any other surface soil location. Although beryllium was found in a concentration greater than the Monmouth County maximum background level, beryllium was detected in a concentration below the site-specific level. Beryllium was found at only one location (SS-09) at a concentration equal to the NJDEP SCC. The concentration of beryllium was also averaged and when compared to the NJDEP SCC, was found at a concentration below the NJDEP SCC and maximum background.

4.3.9.6 Groundwater Sampling Results

Monitor wells at site CW-9 were sampled for the analytical parameters listed in Table 3.8-1. Table 4.3-14 compares the average concentrations of the detected compounds from the February and March sampling rounds with the NJDEP GWQC, and then compares the results with the subsequent site-specific and Monmouth County maximum background levels, where appropriate.

Table 4.3-14
Fort Monmouth - Charles Wood
Summary of Average Concentrations of Detected Compounds in Groundwater - Site CW-9

COMPOUND	METHOD DETECTION LIMIT (µg/L)	NJDEP GROUNDWATER QUALITY CRITERIA (µg/L)	MAXIMUM BACKGROUND CONCENTRATION (µg/L)	ANALYTICAL RESULTS (µg/L) SAMPLING DATE	
				MW35 2/20/95, 3/13/95 (avg.)	MW36 2/20/95, 3/13/95 (avg.)
SVOCs (µg/L)					
bis-(2ethylhexyl)phthalate	9.7	30*	600	ND	4 J
METALS TOTAL (µg/L)					
Aluminum	24	200	8210	**226**	**575**
Barium	1.7	2000	400[1]	37.25	31.3
Beryllium	0.9	20*	2.8	0.175	ND
Calcium	10.4	NLE	8700	23400	35050
Cobalt	2.3	NLE	30.6	2.45	2.85
Chromium	2.9	100	49.6	ND	5.7
Iron	6.4	300	27000[1]	104.2	**1250**
Lead	1.1	10*	<100[1]	ND	2
Magnesium	18.3	NLE	25000[1]	5875	7835
Manganese	1.8	50	480[1]	40.1	**217**
Nickel	10.8	100	48.3	5.65	5.65
Potassium	685	NLE	10000[1]	2035	4000
Sodium	30.5	50000	197000[1]	4480	5900
Vanadium	2.3	NLE	28.9	ND	3.85
Zinc	3.8	5000	133	26.75	27

Compounds exceding NJDEP groundwater quality criteria are noted by bold numbers.

NJDEP groundwater quality criteria consist of the higher number between the PQL or STANDARD

*PQL - Practical Quantitation Limit -was used as the NJDEP groundwater quality criteria

ND - Indicates that the compound was not detected

J - Indicates that the concentration value was estimated due to detection at or near the detection limits

[1] - Monmouth County maximum background concentration.

VOCs

VOCs were not detected in site monitor wells from either sampling round.

SVOCs

SVOCs were not detected above laboratory quantitation limits in site monitor wells from either sampling round.

Pesticides/PCBs

Pesticides/PCBs were not detected in site monitor wells from either sampling round.

Metals

As indicated in Table 4.3-14, of the 15 metals detected in site groundwater, only 3 (aluminum, iron, and magnesium) were found in concentrations exceeding the NJDEP GWQC; however, all three metals were detected in concentrations below the site-specific and Monmouth County maximum background levels.

4.3.9.7 Recommendations

The average concentrations of cadmium and beryllium in surface soil samples at CW-6 and CW-9 do not exceed the NJDEP SCC. Cadmium is typically present at elevated levels at golf courses. No compounds of concern were detected in site groundwater above NJDEP criteria.

No further action will be taken.

Site AOC-7

4.3.10 Former Hazardous Waste Storage Area (AOC-7)

4.3.10.1 Site Location

NJDEP identified this site as an area of concern (AOC) (NJDEP, 1990). A temporary hazardous waste storage area was located in an approximately 1-acre fenced site to the east of Building 2708 (Figure 4.3-16). The site is currently a grassy field surrounded by a 7-ft high fence. A former gas station (Building T-2500) is located to the east of the site. The approximate area of site AOC-7 is 41,000 ft^2 (0.9 acre).

4.3.10.2 Site History

Reviews of aerial photographs from 1961 to 1986 show that this site was a fenced storage area. The 1961 photographs show that the fenced area extended about 50 feet farther to the west than it does today. This western area is now part of the fenced area around Building 2708, which is part of the Pulse Power Laboratory. Large rectangular objects are visible next to the fence on all four sides. These may be cargo or truck vans. The 1969 photograph is similar, but there are three irregular groups of objects at the northwest corner of the lot. The 1974 photograph is similar, except there are five circular igloos along the west fence. In 1986, the site is smaller because the Pulse Power Laboratory is in the western portion of the site. There are objects that appear to be drums along the fence on the south and southeast of the site. The objects are densely packed in a 10- to 20-ft band next to the fence. There are additional objects along the north fence and possibly along the west fence. Personnel interviews indicate that the site was used for a 6-month period in 1987 for temporary storage of hazardous waste (in drums). As part of a program to remove all improperly labeled drums from Fort Monmouth, the facility collected the drums and staged them at this site.

The drums were stored on wood pallets, generally along the fence line. The pallets were not usually stored on a plastic ground cover. Clean Venture, Inc. sampled the drums, labeled them, completed manifests, and arranged for disposal. For the most part, the drums contained solvents, degreasers, and oils. The drums were screened for external radiation and none was detected. Clean Venture did not characterize the drums to the extent of identifying specific compounds,

but some of the solvents that were used at Fort Monmouth at that time are 1,1,2-trichloroethane, 1,1,1-trichloroethane, and benzene.

The only known release of material during the operation occurred on 7 October 1987. A pallet of 5-gallon containers of malathion, a pesticide, was picked up at Sandy Hook. The containers were deteriorated, so the pallet was placed on a plastic ground cover. During the night, the top popped off one of the containers. A security guard became temporarily nauseated from the fumes. The next day the containers were repacked in a drum. The quantity of material that was released is considered small, and it is believed that little, if any, material was spilled on the ground.

4.3.10.3 Sampling Effort

Six soil borings were completed and soil samples collected in an effort to identify the nature and extent of past site activities on soil quality. Soil borings were drilled to groundwater and the soil cuttings were screened with a photoionization detector (PID). Since no elevated PID readings were recorded, soil samples were collected from the interval just above the water table. The total depths of the borings varied from 12 to 14 ft bgs. Lithologic logs from the site borings indicate that the lithology consists of a thin soil cover (0.3 ft) underlain by coarsening downward olive-brown silty medium-grained sand to olive-brown medium-grained sand sequence. The locations of the soil borings were biased toward the fence line, as shown in Figure 4.3-16, because an examination of aerial photographs showed that materials were stored next to the fence. Soil samples were analyzed for TCL +30 parameters and TAL metals.

4.3.10.4 Soil Sampling Results

Six soil samples, one from each boring, were collected from intervals ranging from 8 to 14 ft bgs. Site soil samples were analyzed for the parameters listed in Table 3.6-1. Table 4.3-15 compares the detected compounds in site soil with the NJDEP SCC, and then compares the results with the site-specific and Monmouth County maximum background levels, where

Table 4.3-15
Fort Monmouth - Charles Wood
Summary of Detected Compounds in
Soil from Site AOC- 7 (CW-7)

COMPOUND	METHOD DETECTION LIMIT (mg/kg)	RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA (mg/kg)	MAXIMUM BACKGROUND CONCENTRATION (mg/kg)	ANALYTICAL RESULTS					
				SB01-A02 12/21/95 (10-12 ft bgs)	SB02-A02 12/21/95 (10-12 ft bgs)	SB03-A02 12/21/95 (6-8 ft bgs)	SB04-A02 12/21/95 (8-10 ft bgs)	SB05-A02 12/21/95 (8-10 ft bgs)	SB06-A03 12/21/95 (12-14 ft bgs)
VOC's (mg/kg)									
2 - Butanone	0.0041	1000	ND	ND	0.002 J	ND	ND	ND	ND
SVOCs (mg/kg)									
bis(2-Ethylhexyl)phthalate	0.32	49	0.17 J	0.075 J	ND	0.34 J	ND	ND	ND
PESTICIDES (mg/kg)									
4,4'-DDT	0.0037	2	0.053	ND	ND	0.004	ND	ND	ND
METALS TOTAL (mg/kg)									
Aluminum	3.9	NLE	15700	3650	4340	3820	5170	3490	3610
Arsenic	0.35	20	31.6	8.6	1.7	8.4	12.7	2.8	5.9
Barium	0.17	700	26	2.5	4.5	4.5	6.2	3.6	2.4
Beryllium	0.1	1	1.7	0.31	0.29	0.28	0.45	0.3	0.26
Calcium	2.2	NLE	653	69	91.9	134	275	63.9	43.7
Cobalt	0.7	NLE	4.5	ND	0.94	0.68	ND	ND	ND
Chromium	1.6	500	128	61.1	61.6	73.6	83.4	64.7	61.1
Copper	2.2	600	7.27[1]	1.6	1.6	1.8	2.2	1.4	1.3
Iron	0.58	NLE	45500	10800	12400	11100	15900	11400	11000
Lead	0.4	400[2]	15.1[1]	6.3	6.9	4.5	8.5	6.3	4.9
Magnesium	9.6	NLE	3960	694	852	602	919	720	766
Manganese	0.18	NLE	120[1]	3.6	8.2	12.7	11.3	2.8	1.8
Nickel	1.4	250	8.3	1.8	2.6	1.9	2.1	1.6	1.3
Potassium	(12.3-25.8)	NLE	10600	2060	2360	1740	2570	2200	2280
Sodium	3.8	NLE	56.8	18.8	12	11.7	13.8	14.7	11.5
Selenium	0.3	63	0.85	0.26	0.2	ND	0.3	0.26	ND
Zinc	0.41	1500	55.6	8.9	12	10.5	15.8	9	9.1

Compounds exceeding NJDEP soil cleanup criteria are noted by bold numbers.
J - Indicates that the concentration value was estimated due to detection at or near the quantification limits
NLE - No Level Established
ND - Indicates that the compound was not detected at or below the quantification limits
[1] Monmouth County maximum background concentrations.
[2] NJDEP criteria are referenced in Site Remediation News, Winter 1995.

appropriate. In addition, the results were compared with the impact to groundwater SCC because no monitor wells were installed at the site.

VOCs

VOCs were not detected above laboratory quantitation limits in site soil.

SVOCs

SVOCs were not detected above laboratory quantitation limits in site soil.

Pesticides/PCBs

One pesticide (4,4'-DDT) was detected above the laboratory quantitation limit in SB-02; however, 4,4'-DDT was detected in a concentration well below both the NJDEP residential direct contact SCCs and impact to groundwater SCC. PCBs were not detected in site soil from any boring location.

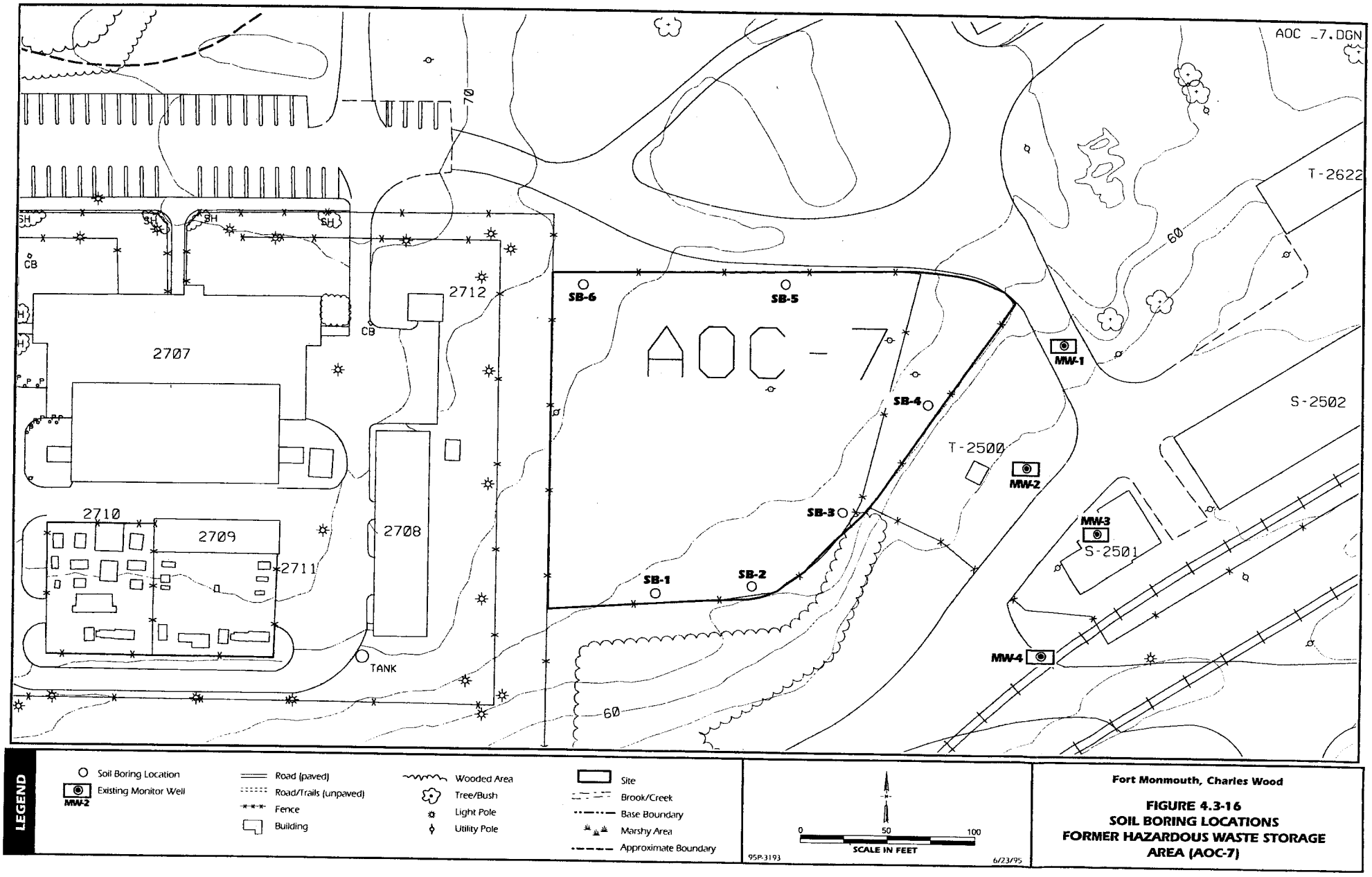
Metals

As indicated in Table 4.3-15, all metals detected in site soil were found in concentrations below the NJDEP SCC.

4.3.10.5 Recommendations

No compounds of concern were detected at this site at levels that exceeded NJDEP criteria.

No further action will be taken.


AOC _7.DGN
AOC - 7
SB-1
SB-2
SB-3
SB-4
SB-5
SB-6
MW-1
MW-2
MW-3
MW-4
2707
2708
2709
2710
2711
2712
T-2500
T-2622
S-2501
S-2502
TANK
CB
SH
70
60
LEGEND
Soil Boring Location
Existing Monitor Well
MW-2
Road (paved)
Road/Trails (unpaved)
Fence
Building
Wooded Area
Tree/Bush
Light Pole
Utility Pole
Site
Brook/Creek
Base Boundary
Marshy Area
Approximate Boundary
0
50
100
SCALE IN FEET
95P-3193
6/23/95
Fort Monmouth, Charles Wood
FIGURE 4.3-16
SOIL BORING LOCATIONS
FORMER HAZARDOUS WASTE STORAGE
AREA (AOC-7)

Charles Wood
PCB Transformers

4.3.11 PCB Transformers

4.3.11.1 Site Location

During the 1993 investigation (WESTON, 1993), all locations where PCB transformers had formerly been located were inspected for evidence of spills. Three sites were identified where a PCB transformer was either formerly located over soil and thus evidence of a spill could not be determined visually, or formerly located on concrete and there was discoloration in the concrete. These locations are listed in Table 3.5-1 and identified in Figure 4.3-17.

4.3.11.2 Site History

All PCB transformers (contain greater than 500 ppm PCBs) have been removed from Fort Monmouth; however, the former locations of these transformers were not previously investigated for spilled PCBs. The concrete pad outside Building 2000 was removed between the time of the 1993 investigation and the current field effort.

4.3.11.3 Sampling Effort

As discussed in Subsection 3.5, soil samples were taken from below pole-mounted transformers. Because the concrete pad near Building 2000 had been removed, four soil samples were taken downgradient of the former pad location, as indicated in Figure 4.3-18.

4.3.11.4 PCB Sampling Results

The results of the PCB transformer sampling are presented in Table 4.3-16. One of the four transformer sites sampled at the Charles Wood area was found to have PCBs in soil or concrete above NJDEP SCC.

PCBs were detected in four discrete soil samples above NJDEP SCC. The soil samples were collected downslope of the former location of transformer CW035, which was an exterior pad transformer northeast of Building 2000. This pad had been removed prior to sampling.

Table 4.3-16
Results of Transformer Site Sampling on Charles Wood

Location (Building No.)	Sample ID	Method Detection Limt (mg/kg)	Medium	NJDEP Soil Criteria (mg/kg)	Total PCBs (mg/kg)
2000	CW07-TR01	23*	Soil	0.49	**100**
2000	CW07-TR02	4.4*	Soil	0.49	**27**
2000	CW07-TR03	4.4*	Soil	0.49	**26**
2000	CW07-TR04	.91*	Soil	0.49	**6**
2018	CW07-TR05	4.5*	Soil	0.49	ND
2018	CW07-TR06	0.47	Soil	0.49	ND
2276	CWAE-TR01	0.21	Soil	0.49	ND

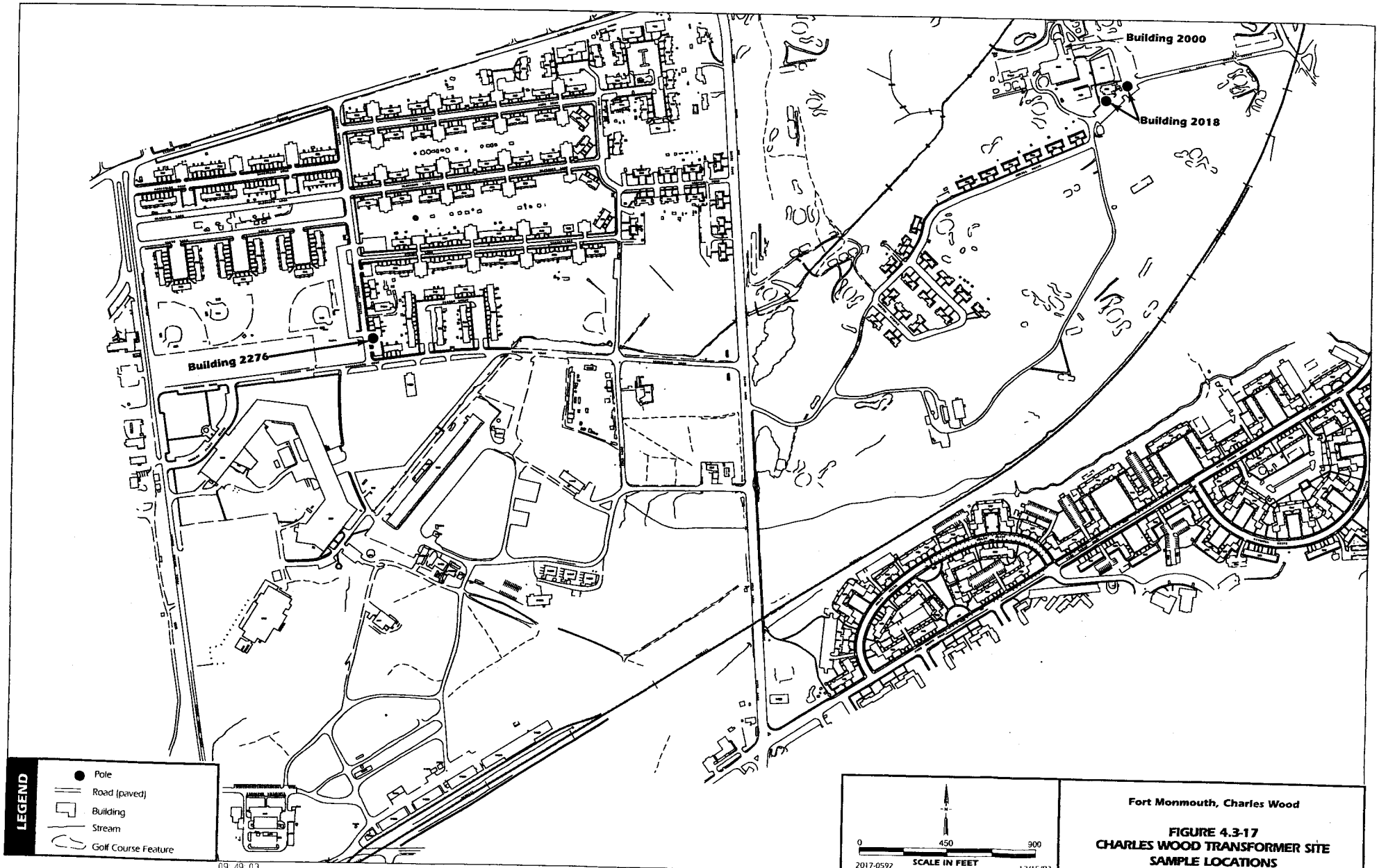
Compounds exceeding NJDEP cleanup criteria are noted by bold numbers
ND - Indicates that the compound was not detected at the quantification limit.
* = Method Detection Limit exceeded NJDEP criteria.

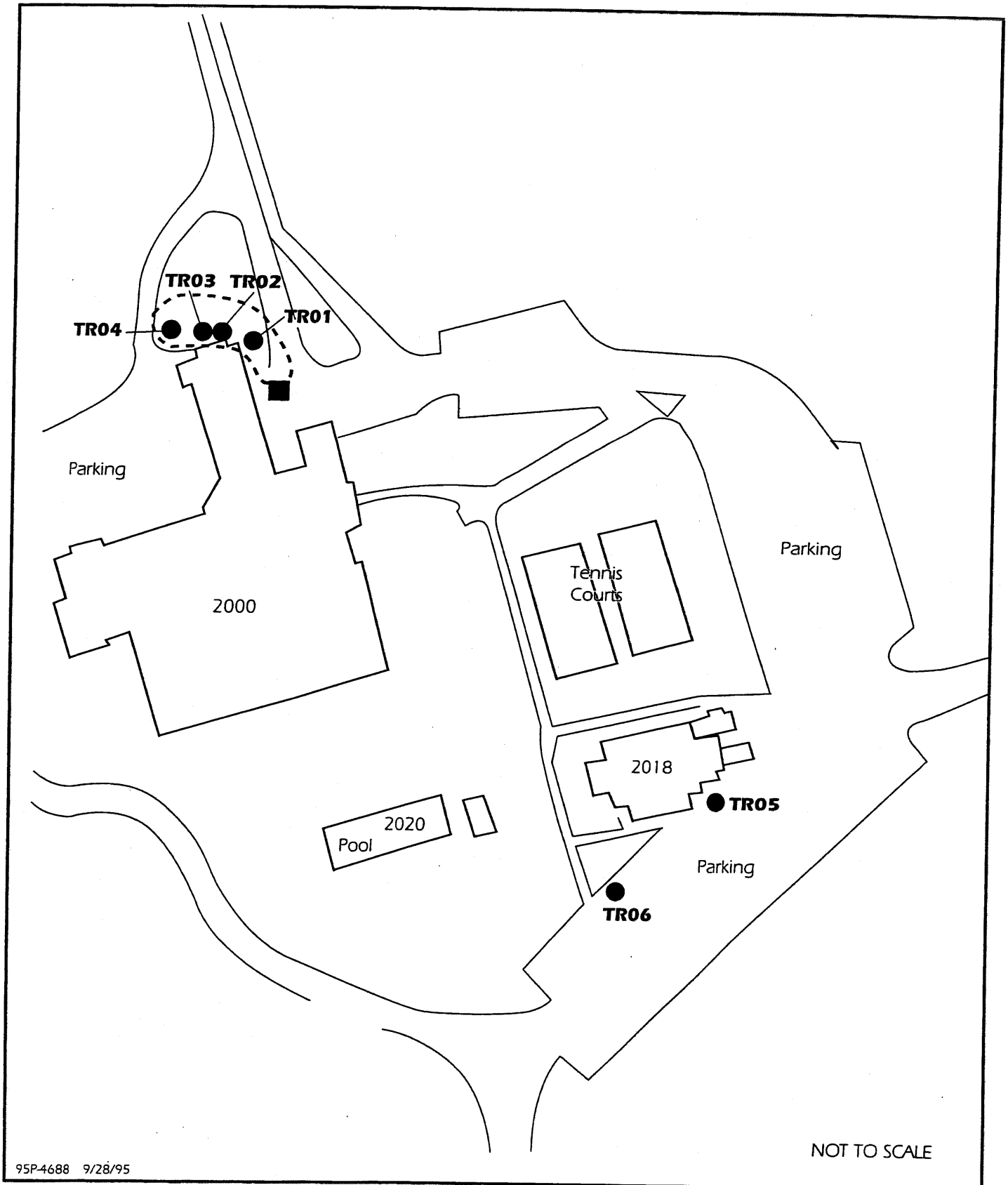
All other transformers sampled in the Charles Wood area either had results below detection limits, or had detectable levels of PCBs below applicable cleanup criteria.

4.3.11.5 Recommendations

PCBs were detected above the NJDEP criteria in each of the four soil samples collected downgradient of the former transformer location northeast of Building 2000 (transformer CW-035). PCBs were not detected above NJDEP criteria in samples collected from the other three sampling locations.

Additional samples will be taken to further delineate the extent of contamination and the contaminated soil will be removed and disposed of in accordance with applicable regulations. The depth of contamination is assumed to be 6 inches. Excavation will be performed in conjunction with confirmatory soil sampling to ensure that NJDEP SCC are achieved.


Building 2000
Building 2018
Building 2276
LEGEND
Pole
Road (paved)
Building
Stream
Golf Course Feature
09:49:03
0
450
900
SCALE IN FEET
2017-0592
12/15/93
Fort Monmouth, Charles Wood
FIGURE 4.3-17
CHARLES WOOD TRANSFORMER SITE
SAMPLE LOCATIONS



LEGEND

- Sampling Location
- Former Transformer Pad
- Soil Remediation Boundary

Fort Monmouth, Charles Wood

FIGURE 4.3-18
EXTENT OF REMEDIATION AT TRANSFORMER SITE – BUILDING 2000

SECTION 5
DATA QUALITY

SECTION 5

DATA QUALITY

5.1 INTRODUCTION

Quality assurance/quality control (QA/QC) procedures were incorporated into the Fort Monmouth site investigation program to ensure collection of quality data for each area of the site investigated. Additionally, such QA/QC procedures were employed to ensure that all information, data, and resulting decisions of the site investigation are technically sound, statistically valid (accurate and precise), properly documented, and ensure the completeness of the data. The mechanism for employing the project QA/QC procedures was the CDAP. Procedures in the CDAP facilitated identifying and monitoring the proper sample collection, handling, and laboratory protocols to be used during the site investigation.

Chemical analyses were conducted to determine the type and concentration of contaminants present in the various media at the site and to provide environmental data, as was discussed in Section 2 of this report. Overall, analyses or tests were chosen based on the compounds produced or used within the specific area or the environmental data needed.

The analytical methods that were used for sample analysis are listed in Table 5.1-1. Information on sample containers, preservation, and holding times is presented in Table 5.1-2.

All analytical work completed for the site investigation was performed or administered by WESTON's Environmental Metrics Division. WESTON's Gulf Coast Laboratory, located in University Park, IL, performed all analytical analyses. This laboratory is certified by NJDEP (certification number 54669).

Table 5.1-1

Analytical Methods for Sample Analysis

Matrix	Parameter*
Sediment	TCL Volatiles TCL Semivolatiles TCL Pesticides/PCBs TAL Metals Cyanide
Surface Water	TCL Volatiles TCL Semivolatiles TCL Pesticides/PCBs TAL Metals (Filtered) TAL Metals (Unfiltered) Cyanide
Soil	TCL Volatiles TCL Semivolatiles TCL Pesticides/PCBs TCL Pesticides PCBs (SW 8080) TAL Metals Cyanide TPH (EPA 418.1)
Concrete	PCBs (SW 8080)
Groundwater	TCL Volatiles TCL Semivolatiles TCL Pesticides/PCBs TAL Metals (Unfiltered) TAL Metals (Filtered) Cyanide TPH (EPA 418.1) Sulfate (EPA 375.4) Ammonia (EPA 350.2)

* All analytical methods derived from *Test Methods for Evaluation of Solid Waste,* SW-846, Third Edition, 1992; EPA CLP Document Nos. OLM01.8 and ILM02.1; "Methods for Chemical Analysis of Water and Waste," EPA 600/4-79-020.

Table 5.1-2

Summary of Sample Containers, Volume, Preservation, and Maximum Holding Times

Parameter	Sample Container	Container Volume	Preservation	Maximum Holding Time
Nonaqueous				
Cyanide	Flint glass bottle, black phenolic cap, polyethylene liner	4, 8, 16, or 32 oz	4°C until analysis	12 days
Metals	Flint glass bottle, black phenolic cap, polyethylene liner	4, 8, 16, or 32 oz	4°C until analysis	180 days except for Hg, which is 26 days
Pesticides/PCBs	Amber glass, Teflon-lined cap	1,000 mL	Cool, 4°C, dark	Extraction must be started within 14 days. Analysis - 40 days from VTSR.
Semivolatile Organics	Amber glass, Teflon-lined cap	1,000 mL	Cool, 4°C, dark	Extraction must be started within 14 days. Analysis - 40 days from VTSR.
Sulfates	Plastic, glass	100 mL	Cool, 4°C	28 days
TPH	Glass	4 oz	Cool, 4°C	28 days; gasoline in soil, 7 days
Volatile Organics	Glass, polypropylene cap, white teflon liner	120 mL	Cool, 4°C	10 days
Aqueous				
Cyanide	Plastic bottle, plastic cap, plastic liner	1,000 mL	0.6 g ascorbic acid if residual Cl_2, NaOH to pH>12, cool, 4°C until analysis. $CaCO_3$ in presence of sulfide.	12 days
Metals	Plastic bottle, plastic cap, plastic liner	1,000 mL	HNO_3 to pH<2	180 days
Pesticide/PCBs	Amber glass, Teflon-lined cap	1,000 mL	Cool, 4°C, dark	Extraction aqueous continuous liquid-liquid extraction must be started within 7 days. Analysis - 40 days from VTSR.

Table 5.1-2
Summary of Sample Containers, Volume, Preservation, and Maximum Holding Time
(Continued)

Parameter	Sample Container	Container Volume	Preservation	Maximum Holding Time
Semivolatile Organics	Amber glass, Teflon-lined cap	1,000 mL	Cool, 4°C, dark	Extraction aqueous continuous liquid-liquid extraction must be started within 7 days. Analysis - 40 days from VTSR.
Sulfates	Plastic, glass	100 mL	Cool, 4°C	28 days
TPH	Glass	1 liter	Cool, 4°C	7 days
Volatile Organics	Glass, black phenolic plastic screw cap, Teflon-lined septum	40 mL	Cool, 4°C, dark, 0.08% $Na_2S_2O_3$ if residual Cl_2	10 days

TPH - Total Petroleum Hydrocarbons
VTSR - Validated time of sample receipt (at the laboratory)

5.2 QUALITY CONTROL PROCEDURES

To meet the QA/QC objectives of the project, the field work and laboratory analyses followed the standardized methods or procedures that were described in the CDAP and are summarized in the subsections that follow.

5.2.1 Field and Laboratory Quality Control Samples

Standard analytical QC checks instituted by field and laboratory personnel included (but were not limited to):

- Field/rinsate blanks — Samples prepared using analyte-free water supplied by the laboratory or purchased from commercial sources that certify the quality of the water. Field/rinsate blanks were routed through decontaminated sampling equipment prior to collection. Preservatives or additives were added as required, and the blank sample was then sealed. The field/rinsate blank was shipped with real samples collected for the same parameter group. During field sampling, a field/rinsate blank was collected and analyzed from each group of water or soil/solid samples for every 10 samples received daily.

- Trip blanks — Volatile organic sample containers prepared in the laboratory using analyte-free water. The trip blanks accompanied the field samples during transport to the site; during collection, packaging, and transport to the laboratory; and during analysis, and were contained in the same type of sample container as those used in the specific sampling effort. One trip blank sample was included with each shipment of aqueous samples designated for VOC analysis.

- Duplicate samples — Samples collected from the same sampling location at the same time. Soil duplicates were homogenized (with the exception of VOC samples). At least one duplicate sample was analyzed from each group of samples of a similar matrix type for every 20 samples received.

- Matrix spike/matrix spike duplicate (MS/MSD) — Samples in which compounds are added before extraction and analysis. The recoveries for spiked compounds can be used to assess how well the method used for analysis recovers target compounds (i.e., a measure of matrix interference in the sample). When reviewed in conjunction with other QC data, MS/MSDs may indicate reanalysis using a more appropriate method. At least one spiked sample analysis was performed on each group of samples of a similar matrix type and concentration for each batch of samples or for every 20 samples received, whichever was more frequent.

- Surrogate spiking — Samples in which surrogate compounds are added before sample preparation for organics analysis. The review for spiked surrogate compounds can be used to assess method accuracy for each sample matrix.

5.2.2 Field Activities

The accuracy of field measurements obtained from site instruments was maintained on-site by appropriate calibration procedures, as described in detail in the CDAP.

The field investigation procedures used to perform the site investigation were presented in the Fort Monmouth CDAP. The field procedures included:

- Surface and subsurface soil sampling.
- Installation of monitor wells.
- Groundwater sampling.
- Monitor well casing elevation surveying.
- Surface-water and sediment sampling.
- Concrete pad sampling.
- Ancillary field activities, such as decontamination, field measurements, and fluids management.

Sample identification and documentation procedures were followed in the field as specified in the CDAP, including:

- Sample containers were labeled with the appropriate information.
- The sample was entered into the chain-of-custody record.
- A unique sample code was assigned to each sample collected.
- Signed custody seals were applied on opposite sides of the container lid.
- Samples were shipped to WESTON's laboratories as environmental samples and complied with all DOT requirements for such shipment.

A bound field notebook was maintained by the Field Team Leader at the site to record daily activities, including sample collection and tracking information. Quantitative field data, such as water-level measurements, were recorded in bound field notebooks. Qualitative or descriptive field data (such as soil textures) obtained from soil borings and monitor wells were recorded in the field in field notebooks, reduced using a standardized lithologic coding system.

5.2.3 Laboratory Activities

5.2.3.1 Laboratory Equipment Quality Control

The reliability and credibility of laboratory analytical instruments and QA of analytical results were ensured by documented calibration procedures and QC samples (such as method blanks and method spikes). A review of the calibration procedures and the calibration frequencies that are standard operating procedures (SOPs) employed by WESTON's Environmental Metrics Division is provided in the CDAP. The following instruments were used to analyze environmental samples:

- Gas chromatograph (GC).
- Gas chromatograph/mass spectrometer (GC/MS).
- Atomic absorption spectrophotometer: furnace (AA).
- Inductively coupled plasma spectrometer (ICP).
- Cold vapor mercury analyzer: flameless AA.
- Spectrophotometer.

Certain TCL VOCs, such as methylene chloride, acetone, 2-butanone, and toluene, are commonly detected as laboratory contaminants. In order to ensure that the data reported are not biased by potential laboratory contamination, certain QA procedures, including reagent blank analysis, were taken. Assessment of the reagent blanks is discussed in Subsection 5.3.2.

5.2.3.2 Laboratory Data

In addition to the data collected in the field and recorded on the chain-of-custody forms, data describing the processing of samples were accumulated in the laboratory and recorded in laboratory notebooks.

Data reduction was performed by the individual analysts and consisted of calculating concentrations in samples from the raw data obtained from the measuring instruments. The complexity of the data reduction was dependent on the specific analytical method and the number of discrete operations (e.g., extractions, dilutions, and concentrations) involved in obtaining a sample that could be measured.

System reviews were performed at all levels. The individual analyst constantly reviewed the quality of data through calibration checks, QC sample results, and performance evaluation (PE) samples. The Section Manager and/or the Analytical Project Manager reviewed data for consistency and reasonableness with other generated data and to determine if program requirements had been satisfied. Selected hard copy output of data (e.g., chromatograms, spectra, etc.) was reviewed to ensure that results were interpreted correctly. The Quality Assurance Officer independently conducted a review of selected projects to determine if laboratory and client QA/QC requirements had been met. The final routine review was performed by the Laboratory Manager prior to reporting the results to the client.

5.3 DATA QUALITY

5.3.1 Data Reporting

Laboratory reports contain final results, methods of analysis, levels of detection, surrogate recovery data, and method blank data. In addition, special analytical problems and/or any modifications of referenced methods were noted.

5.3.2 Data Validation/Usability Review

Separate from the laboratory's internal data review/data validation, an independent review of the final analytical data packages was performed to validate results and to determine usability. The validation was performed by URS Consultants, Inc. (URS) as a subcontractor to Malcolm Pirnie, Inc.

The data validation was performed in accordance with U.S. Environmental Protection Agency (EPA) *Region II Modifications to the National Functional Guidelines for Organic Data Review, Multimedia, Multiconcentration* (January 1992) and *Region II Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analysis* (January 1992). For non-CLP procedures, the data were validated following the intent of the National Functional Guidelines.

5.3.3 Results of Data Validation/Usability Review

Malcolm Pirnie issued a Data Validation Report (June 1995) that gave the results of their validation. URS performed data validation services on 84 environmental samples. The matrix type and number of samples were as follows:

Matrix	No. of Samples
Groundwater	33
Surface water	5
Sediment	6
Surface soil	10
Soil boring	24
Transformer soil	4
Concrete	2

URS reported that a majority of the analytical results were usable as reported, despite minor deviations from EPA CLP criteria, which do not jeopardize the chemical representativeness of the data.

There were several instances, however, where compounds or whole fractions were rejected by URS based on deviations from CLP methodologies and/or data validation criteria.

Sample ID	Compound or Fraction
B9-SB01-A02	Acetone
B9-SB01-C02	Acetone
MPA3-SB01-A02	Acetone
MP08-SD01-A01	Semivolatiles, pesticides/PCBs
MP16-SS01-A01	Dieldrin
CW06-SS01-A01	Heptachlor epoxide
MP02-MW01-A01	Total and dissolved aluminum, chromium, and iron

The results for these samples are provided in this report, but are flagged in the Results summary tables. The Data Validation Report includes a discussion of the data quality and completeness.

5.3.4 Results of Field and Trip Blanks

During the Fort Monmouth site investigation, field/rinsate blanks and trip blanks were submitted for analysis (numbers of samples are shown in Tables 5.3-1 and 5.3-2), as discussed in Section 3 of this report. The results of the analyses of the field/rinsate blanks were used to assess the efficiency of the equipment decontamination procedures in preventing cross-contamination between samples, and to determine if the compounds detected in the characterization samples were attributable to the sampling equipment or to the site. The results of trip blank analyses were used to determine if compounds detected in samples analyzed for volatile organics were introduced during shipment or from containers and were not attributable to the site. A discussion of the difference between the samples contracted in the scope of work and the actual effort is included in Section 4.

A summary of the compounds detected in field/rinsate blanks is provided in Table 5.3-3. Inorganics, VOCs, and SVOCs were each detected in at least one field/rinsate blank collected during field activities. All of the organic compounds detected are common laboratory contaminants and were likely introduced into the samples during laboratory analysis.

Table 5.3-1
Main Post Samples Collected

MEDIA/PARAMETER	INVESTIGATION SAMPLES		QA/QC SAMPLES *		TOTAL SAMPLES	
	Scope of Work	Taken	Scope of Work	Taken	Scope of Work	Taken
Surface and shallow soil						
TCL VOA	4	4	1	2	5	6
TCL BNA	4	6	1	0	5	6
TCL pesticide/PCB	6	6	1	0	7	6
TCL PCB	8	8	1	0	9	8
TAL Metals	2	2	1	0	3	2
Soil Borings						
TCL VOA	38	31	2	2	40	33
TCL BNA	26	15	1	1	27	16
Pesticide/PCB	15	15	1	1	16	16
TAL Metal	13	16	1	1	14	17
TAL Cyanide	12	11	1	1	13	12
TPH	24	15	2	0	26	15
Sediment						
TCL VOA	3	3	1	3	4	6
TCL BNA	3	3	1	1	4	4
Pesticide/PCB	3	3	1	1	4	4
TAL Metal	4	6	1	1	5	7
TAL Cyanide	3	4	1	1	4	5
Concrete						
TCL PCB	6	4	1	1	7	5
Surface Water						
TCL VOA	8	8	1	1	9	9
TCL BNA	8	8	1	1	9	9
Pesticide/PCB	8	8	1	1	9	9
TAL Metal (Total)	8	8	1	1	9	9
TAL Metals (Dissolved)	8	8	1	1	9	9
TAL Cyanide	8	8	1	1	9	9
Groundwater						
TCL VOA	60	60	25	38	85	98
TCL BNA	60	60	9	16	69	76
Pesticide/PCB	60	60	9	16	69	76
TAL Metal (Total)	58	56	9	15	67	71
TAL Metals (Dissolved)	58	56	9	15	67	71
TAL Cyanide	52	52	9	10	61	62
Sulfate	12	12	2	4	14	15
Ammonia	8	8	2	4	10	13
TPH	6	6	2	5	8	11

* QA/QC samples are trip blanks, field blanks, and duplicates.

Table 5.3-2
Charles Wood Samples Collected

MEDIA/PARAMETER	INVESTIGATION SAMPLES			QA/QC SAMPLES *			TOTAL SAMPLES		
	Scope of Work	Taken	Analyzed	Scope of Work	Taken	Analyzed	Scope of Work	Taken	Analyzed
Surface and shallow soil									
TCL VOA	1	1	1	1	2	2	2	3	3
TCL BNA	1	1	1	1	0	0	2	1	1
TCL pesticide/PCB	1	1	1	1	0	0	2	1	1
TCL PCB	6	7	7	1	1	1	7	8	8
TAL Metals	13	11	11	1	1	1	14	12	12
Soil Borings									
TCL VOA	52	32	32	3	1	1	55	33	33
TCL BNA	52	31	31	3	1	1	55	32	32
Pesticide/PCB	52	31	31	3	1	1	55	32	32
TAL Metal	48	31	31	3	2	2	51	33	33
TAL Cyanide	12	12	12	1	1	1	13	13	13
TPH	0	1	1	0	0	0	0	1	1
Sediment									
TCL VOA	3	3	3	1	0	0	4	3	3
TCL BNA	3	3	3	1	0	0	4	3	3
Pesticide/PCB	3	3	3	1	0	0	4	3	3
TAL Metal	3	4	4	1	0	0	4	4	4
TAL Cyanide	3	3	3	1	0	0	4	3	3
Concrete									
TCL PCB	1	0	0	1	0	0	2	0	0
Surface Water									
TCL VOA	2	2	2	1	0	0	3	2	2
TCL BNA	2	2	2	1	0	0	3	2	2
Pesticide/PCB	2	2	2	1	0	0	3	2	2
TAL Metal (Total)	2	2	2	1	0	0	3	2	2
TAL Metals (Dissolved)	2	2	2	1	0	0	3	2	2
TAL Cyanide	2	2	2	1	0	0	3	2	2
Groundwater									
TCL VOA	38	34	34	22	25	25	60	59	59
TCL BNA	38	34	34	6	6	6	44	40	40
Pesticide/PCB	38	34	34	6	6	6	44	40	40
TAL Metal (Total)	34	30	30	6	4	4	40	34	34
TAL Metals (Dissolved)	34	30	30	6	4	4	40	34	34
TAL Cyanide	10	10	10	2	2	2	12	12	12

* QA/QC samples are trip blanks, field blanks, and duplicates.

Table 5.3-3
Summary of Field/Rinsate and Trip Blanks (µg/l)

Sample ID	Inorganics	VOC's	SVOC's	Pesticides/ PCBs
Trip Blanks				
CW01-SB26-D02	N/A	ND	N/A	N/A
CW01-SB31-D02	N/A	ND	N/A	N/A
CW02-SB31-D02	N/A	ND	N/A	N/A
CW02-SB33-D02	N/A	ND	N/A	N/A
CW05-SB01-D02	N/A	ND	N/A	N/A
CW06-SB34-D02	N/A	ND	N/A	N/A
CW09-SB01-D02	silver (.93), aluminum (3830), arsenic (2.6), barium (6.6), beryllium (.39), calcium (366), cobalt (1.0), chromium (44), copper (2.3), iron (9720), mercury (.12), manganese (11.9), lead (3.9), vanadium (27.4), zinc (12.8), sodium (21.4), nickel (2.8), potassium (1480)	ND	N/A	N/A
CWA7-SB04-D02	N/A	ND	N/A	N/A
MPA-SB01-D02	N/A	ND	N/A	N/A
MPA-SB02-D02	N/A	ND	N/A	N/A
MP18-SB07-D01	N/A	ND	N/A	N/A
MP18-SB25-D02	N/A	acetone (30), chloroform (3J)	N/A	N/A
B3-SB01-D03	N/A	ND	N/A	N/A
B4-SB01-D01	N/A	ND	N/A	N/A
B5-SB01-D02	N/A	ND	N/A	N/A
B9-SB01-D02	N/A	acetone (8,300,000), benzene (6J)	N/A	N/A
B10-SB01-D02	N/A	acetone (22)	N/A	N/A
CW09-SS01-D01	N/A	ND	N/A	N/A
MP16-SS01-D01	N/A	ND	N/A	N/A
MP08-SD01-D01	N/A	ND	N/A	N/A
CW01-MW26-D02	N/A	ND	N/A	N/A
CW01-MW29-D01	N/A	acetone (20), 2-butanone (36)	N/A	N/A
CW06-MW01-D02	N/A	ND	N/A	N/A
CW06-MW34-D01	N/A	2-butanone (30)	N/A	N/A
MP04-MW07-D01	N/A	acetone (13), 2-butanone (27)	N/A	N/A
MP05-MW11-D02	ND	ND	ND	ND
MP08-MW12-D02	ND	ND	ND	ND
MP08-MW15-D01	ND	acetone (20), 2-butanone (37)	ND	ND
MP14-MW20-D02	ND	ND	ND	ND
B3-MW03B-D01	N/A	2-butanone (15)	ND	ND
B3-MW03B-D02	N/A	ND	ND	ND
B10-MW10B-D01	N/A	2-butanone (14)	ND	ND
B10-MW10B-D02	N/A	ND	ND	ND

Table 5.3-3
Summary of Field/Rinsate and Trip Blanks (µg/l)
(continued)

Sample ID	Inorganics	VOC's	SVOC's	Pesticides/ PCBs
Field/Rinsate Blanks				
CW01-SB31-E02	N/A	ND	N/A	N/A
CW09-SB01-E02 SOL	N/A	acetone (5200), chloroform (3J)	N/A	N/A
MPA-SB01-E02	N/A	acetone (240 B), chloroform (6J)	N/A	N/A
B9-SB01-E02	N/A	acetone (130)	N/A	N/A
CW09-SS01-E01	N/A	ND	N/A	N/A
MP16-SS01-E01	N/A	ND	N/A	N/A
MP08-SD01-E01	N/A	ND	N/A	N/A
CW01-MW26-E02	aluminum (20.2), calcium (105), iron (12.0), potassium (67.9), magnesium (34.3), sodium (132), lead (2.6)	ND	N/A	N/A
CW01-MW26-E02 SOL	aluminum (18.4), calcium (115), iron (16.8), potassium (119), magnesium (47.6), sodium (156), lead (1.5), antimony (13.2)	N/A	N/A	N/A
CW01-MW29-E01	calcium (113), sodium (321)	ND	N/A	N/A
CW01-MW29-E01 SOL	calcium (72.3), sodium (137), nickel (12.9)	ND	N/A	N/A
CW06-MW01-E02	N/A	N/A	N/A	N/A
CW09-MW35-E01	aluminum (231), barium (40.8), calcium (21100), cobalt (4.0), iron (85.8), potassium (2090), magnesium (5580), manganese (43.9), sodium (7230), nickel (10.8), zinc (60.7)	acetone (12), 2-butanone (25)	ND	ND
CW09-MW35-E01 SOL	calcium (191), iron (3.8), potassium (82.5), sodium (654), vanadium (2.8), zinc (2.6)	N/A	N/A	N/A
MP04-MW07-E01	aluminum (18.1), barium (.81), calcium (57.4), iron (62.7), sodium (116), zinc (3.8)	acetone (10), 2-butanone (27)	ND	ND
MP04-MW07-E01 SOL	beryllium (.31), calcium (82.6), iron (4.3), potassium (68.8), sodium (81.4), zinc (2.4)	N/A	N/A	N/A
MP05-MW11-E02	calcium (289), potassium (737), sodium (165)	chloroform (33)	ND	ND
MP05-MW11-E02 SOL	sodium (147), calcium (55.4)	N/A	N/A	N/A
MP08-MW12-E02	aluminum (27), calcium (109), iron (13.2), sodium (87.3), vanadium (3.0), copper (2.1)	ND	bis (2-Ethylhexyl) phthalate (2J)	ND
MP08-MW12-E02 SOL	calcium (95.7), iron (7.4), sodium (120), zinc (4.1)	N/A	N/A	N/A
MP08-MW15-E01	calcium (107), sodium (140), nickel (11.4)	2-butanone (38)	bis (2-Ethylhexyl) phthalate (3JB)	ND
MP08-MW15-E01 SOL	calcium (57.1), sodium (156)	N/A	N/A	N/A
MP14-MW20-E02	calcium (103), iron (9.6), sodium (56.3), lead (1.5), zinc (3.9)	ND	ND	ND
MP14-MW20-E02 SOL	barium (1.2), calcium (102), iron (9.2), sodium (142), zinc (4.2)	N/A	N/A	N/A
MP18-MW03-E01	aluminum(33.2), barium(.92), calcium(65.6), cobalt(2.2), chromium(2.2), iron(19.3), manganese(1.1),sodium(101),			

Table 5.3-3
Summary of Field/Rinsate and Trip Blanks (µg/l)
(continued)

Sample ID	Inorganics	VOC's	SVOC's	Pesticides/ PCBs
MP18-MW03-E01 SOL	aluminum(20.5), calcium(45.4), cobalt(2.2), chromium(4.1), iron(13.1), manganese(.72), sodium(94.1)			
MP18-MW24-E01	alumnium (25), calcium (282), iron (13.4), magnesium (20), sodium (160), antimony (21)	2-butanone (21)	ND	ND
MP18-MW24-E01 SOL	alumnium (28.4), calcium (161), copper (2.7), iron (13.5), magnesium (23.9), sodium(118)	N/A	N/A	N/A
MP18-MW24-E02	alumnium (20), calcium (460), copper (5.4), iron (24.5), sodium (75.8)	ND	bis (2-Ethylhexyl) pthalate (140)	ND
MP18-MW24-E02 SOL	calcium (106), copper (4), iron (15.7), sodium (97.2)	N/A	N/A	N/A
B3-MW03B-E01	aluminum (26.2), barium (1.0), calcium (123), iron (16.5), sodium (820), zinc (2.0)	2-butanone (17)	ND	ND
B3-MW03B-E01 SOL	aluminum (173), barium (113), calcium (25400), cobalt (7.3), iron (109), potassium (13200), magnesium (5790), manganese (90.1), sodium (20800), nickel (61.5), antimony (16.7), zinc (27)	N/A	N/A	N/A
B3-MW03B-E02	aluminum(27.1), calcium(368), iron(10.1), magnesium(46), sodium(296)	1,1,1-trichloroethane (8J)	ND	ND
B3-MW03B-E02 SOL	aluminum (17.2), calcium (163), iron (9.3), magnesium (61.3), sodium (179)	N/A	N/A	N/A
B10-MW10B-E01	calcium (33.6), manganese (2.7), sodium (95)	2-butanone (15)	ND	ND
B10-MW10B-E01 SOL	calcium (111), sodium (70.4)	N/A	N/A	N/A
B10-MW10B-E02	calcium (141), iron (9.3), magnesium (24), sodium (170), zinc (6.5)	ND	diethylphthalate (2JB)	ND
B10-MW10B-E02 SOL	calcium (130), iron (9.8), zinc (6.4), sodium (231)	N/A	N/A	N/A

Note: Numbers in () represent the concentration.
N/A - Not Applicable/No Sample
ND - Not Detected

Additionally, the low contaminant concentrations detected in the field blanks indicate that significant cross-contamination between samples did not occur. VOCs were detected in several of the trip blanks submitted for laboratory analysis. All of the VOCs detected are common laboratory contaminants and, similar to the field/rinsate blanks, were likely introduced into the samples during laboratory analysis. A summary of the analytical results for trip blanks is provided in Table 5.3-3.

5.3.5 Duplicates

Duplicate samples for groundwater, surface water, sediment, and soil were collected following the protocols in the *Site Investigation Fort Monmouth, NJ, Main Post and Charles Wood Areas, Chemical Data Acquisition Plan* (WESTON, December 1994) and are discussed in the subsections that follow. The degree of variation between the sample values (not including values below the quantitation limit) is presented in Table 5.3-4 by media.

5.3.5.1 Groundwater

Of the groundwater duplicate results, 70% were within 10% of the routine sample value and only 16% were not within 20% of the routine sample value. These data indicate reasonable agreement among the groundwater results. Groundwater sample results generally exhibit slight variation due to the homogeneous characteristics of liquid samples.

5.3.5.2 Surface Water

Of the surface-water duplicate results, 63% were within 10% of the routine sample and only 1 sample result was not within 20% of the routine sample. These data indicate reasonable agreement among the surface-water results. Surface-water sample results generally exhibit little variation due to the homogeneous characteristics of liquid samples.

Table 5.3-4
Duplicate Sample Data Within Given Ranges of Percent Variation

Medium	Variation in Duplicate Results										
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	>100
Soil Borings and Surface Soils	31	11	7	4	1	3	7	7	1		3
Sediment	9	7		2							
Surface Water	12	6					1				
Groundwater	106	20	12	5	1	3		1	1	1	1

5.3.5.3 Sediments

Of the sediment duplicate results, 50% were within 10% of the routine sample and only 11% were not within 30% of the routine sample. These data indicate reasonable agreement among the sediment sample results. Sediment sample results tend to show more variation due to the heterogeneity of solid samples.

5.3.5.4 Soils

Of the soil duplicate results, 41% (surface soil and soil boring samples) were within 10% of the routine sample and 35% were not within 30% of the routine sample. These data indicate reasonable agreement among the soil sample results. Soil sample results tend to show more variation, in general, due to the nonhomogeneous nature of solid samples.

5.4 TENTATIVELY IDENTIFIED COMPOUNDS (TICs)

Tentatively identified compounds (TICs) were identified for volatile and semivolatile analyses. The sum of all TICs for every sample is provided in the data tables in Appendix D. In general, the sum of the TICs was small, less than 1 mg/kg for most solids and less than 600 µg/L for water. Significant amounts of TICs occurred in the sediment samples and the soil boring samples. The highest concentration of TICs for any sediment sample was 72 mg/kg, and the highest concentration for any soil sample was 18 mg/kg, both for semivolatile samples. By comparison, the proposed NJDEP cleanup criteria have a limit for total organics of 10,000 mg/kg. The highest concentration of volatile TICs for any solid sample was 1.1 mg/kg. By comparison, the proposed NJDEP limit for total volatile compounds is 1,000 mg/kg. Therefore, the concentration of TICs in solid samples will have no impact on whether it is less than the NJDEP cleanup criteria.

5.5 COMPARISON OF ANALYTICAL DETECTION LIMITS AND REMEDIATION STANDARDS

For certain compounds, the analytical method detection limits exceeded the NJDEP remediation standards. The compounds for which this occurred, along with the most stringent NJDEP remediation standard values and laboratory detection limits, are presented in Table 5.5-1.

The laboratory performed the analysis using the EPA Contract Laboratory Program (CLP) Statement of Work, "Organics Analysis, Multimedia, Multiconcentration," and "Inorganics Analysis, Multimedia, Multiconcentration," for TCL/TAL analyses as specified in the report *Investigation of Suspected Hazardous Waste Sites at Fort Monmouth, New Jersey*, and as approved by NJDEP in a letter dated 20 April 1994. The detection limits are generally in accordance with the method standards.

The detection limits for many surface-water analyses, including VOCs, SVOCs, and pesticides/PCBs, exceeded the most stringent NJDEP criteria. However, additional sampling is proposed at all surface-water sites.

For groundwater, 19 compounds, including VOCs, SVOCs, and pesticides, exceeded the NJDEP criteria. However, additional sampling is proposed for all monitor wells.

Only one compound exceeded NJDEP criteria in soil samples; i.e., toxaphene. Toxaphene was not present in significant quantities in the 1979 inventory of pesticides contained in the IA. Remedial action or additional sampling is proposed for the two pesticide storage areas, i.e., M-16 at the Main Post and CW-6 at Charles Wood.

For sediment, 13 compounds exceeded NJDEP criteria, including SVOCs, pesticides/PCBs, and 2 metals. Because sediment samples were taken at former locations of STP outfalls (STP had not been operating for at least 20 years), metals are the compounds that are of most concern. The detection limit of mercury was generally only slightly above the NJDEP criteria. The detection limit for antimony was generally close to the regulatory limit. Antimony is not believed to have been used in significant quantities at Fort Monmouth because the major activities have been training and research in electronics.

Table 5.5-1
COMPOUNDS FOR WHICH THE ANALYTICAL DETECTION LIMIT EXCEEDS NJDEP REMEDIATION STANDARDS

COMPOUND	NJDEP STANDARD	METHOD DETECTION LIMIT
SURFACE WATER (µg/L)		
1,2-Dichloroethane	0.291	2.4
2,4,6-Trichlorophenol	2.14	5.6
2,4-Dinitrotoluene	0.11	5.8
3,3'-Dichlorobenzidine	0.0386	2.8
4,4'-DDE	0.000588	0.1
4,4'-DDT	0.000588	0.1
Aldrin	0.000135	0.05
alpha-BHC	0.00391	0.05
alph-Chlordane	0.000277	0.05
Aroclor-1016	0.000244	1
Aroclor-1221	0.000244	2
Aroclor-1232	0.000244	1
Aroclor-1242	0.000244	1
Aroclor-1248	0.000244	1
Aroclor-1254	0.000244	1
Aroclor-1260	0.000244	1
Benzene	0.15	3.3
Benzo(a)anthracene	0.0028	4.9
Benzo(a)pyrene	0.0028	4.9
Benzo(b)fluoranthene	0.0028	5.7
Benzo(k)fluoranthene	0.0028	6.2
bis(2-Chloroethyl) ether	0.0311	9.7
bis(2-Ethylhexy)phthalate	1.76	9.7
Carbon Tetrachloride	0.363	1.5
Chrysene	0.0028	4.4
cis-1,3-Dichloropropene		3
Dibenz(a,h)anthracene	0.0028	6
Dieldrin	0.0019	0.1
Endosulfan sulfate	0.93	0.1
Endrin	0.0023	0.1
gamma-Chlordane		0.05
Heptachlor	0.000208	0.05
Heptachlor epoxide	0.000103	0.05
Hexachlorobenzene	0.000748	5.5
Hexachloroethane	2.73	5.3
Indeno(1,2,3-cd)pyrene	0.0028	7.1
Methoxychlor	0.03	0.5
Methylene Chloride	2.49	2.7
Toxaphene	0.0002	5
Vinyl Chloride	0.083	7.9
GOUNDWATER (µg/L)		
1,1,2,2-Tetrachloroethene	2	4.2
1,1,2-Trichloroethane	3	4.3

Table 5.5-1
(Continued)

1,2,4-Trichlorobenzene	9	9.6
1,2-Dichloroethane	0.3	2.4
1,2-Dichloropropane	0.5	1.7
Aldrin	0.002	0.05
alpha-BHC	0.006	0.05
Benzene	0.2	3.3
Bromodichloromethane	0.3	2
cis-1,3-Dichloropropene	0.2	3
Dieldrin	0.002	0.1
Hexachlorobutadiene	1	4.6
Methylene Chloride	2	2.7
Pentachlorophenol	0.3	4
Toxaphene	0.03	5
trans-1,3-Dichloropropene	0.2	2.4
SOIL (mg/kg)		
Toxaphene	0.1	210
SEDIMENT (mg/kg)		
2-Methylnaphthalene	65	580
Acenaphthene	150	580
Anthracene	85	580
Dibenzo (a,h) anthracene	60	580
Mercury	0.15	0.13
Antimony	2	5.4
2-BHC	0.394	2.9
Heptachlor	0.148	2.9
Endrin	0.0654	5.9
4,4' DDT	1.83	5.9
alpha-Chlordane	0.5	2.9
gamma-Chlordane	0.5	2.9
Aroclor	38.7	59

SECTION 6
CONCLUSIONS AND RECOMMENDATIONS

SECTION 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 MAIN POST

The conclusions and recommendations discussed in the following subsections are for the Main Post area of Fort Monmouth, and are based on the results of the site investigation activities. These conclusions and recommendations are also presented with the site-specific discussions in Section 4 and are summarized in Table 6.1-1.

6.1.1 Landfill 2 (M-2)

Investigation activities performed at site M-2 included the following:

- Sampling of two surface-water locations.
- Installation and sampling of three monitor wells.
- Tidal monitoring.

6.1.1.1 Conclusions

The surface-water sampling results indicate that two VOCs were detected at the two surface-water locations at concentrations greater than NJDEP surface-water criteria, and above maximum background concentrations. In addition, soluble lead was detected at a concentration greater than NJDEP criteria and the maximum background concentrations. Because the site formerly had a New Jersey Pollutant Discharge Elimination System (NJPDES) permit (permit No. 0057274), surface water has been sampled since 1985. The results from the current round of surface-water sampling for VOCs are less than the maximum results from previous rounds.

Chlorobenzene was detected in the groundwater at concentrations exceeding the NJDEP GWQC and background in both downgradient monitor wells from both sampling rounds and in the upgradient well during one sampling round.

Table 6.1-1

Main Post Site Summary and Recommendations

Site	Compounds that Exceed NJDEP Criteria and Maximum Background	Recommendations
M-2 Landfill	Groundwater: Chlorobenzene in 3 wells Surface water: Tetrachloroethene Trichloroethene	Conduct groundwater and surface-water monitoring on a long-term basis.
M-3 Landfill	Groundwater: Chlorobenzene (low value) in 1 well Lead in 1 sample Surface water: None	Conduct groundwater and surface-water monitoring on a long-term basis. Excavate partially exposed drum and conduct confirmatory sampling.
M-4 Landfill	Groundwater: DDT (low value) in 1 well	Conduct groundwater monitoring on a long-term basis.
M-5 Landfill	Groundwater: Tetrachloroethene in 1 well	Conduct groundwater monitoring and sampling of surface-water location SS-6 on a long-term basis.
M-8 Landfill	Groundwater: Tetrachloroethene in 1 well Benzene in 1 well Chlorobenzene in 2 wells	Conduct groundwater monitoring and sampling of surface-water location SS-7 on a long-term basis.
M-12 Landfill	Groundwater: None	Conduct groundwater monitoring on a long-term basis.
M-14 Landfill	Groundwater: None Surface water: None	Conduct groundwater and surface-water monitoring on a long-term basis.
M-15 Water Tank	Soil: DDT DDE Lead Cadmium Zinc	Excavate contaminated soil and perform confirmatory sampling.
M-16 Former Pesticide Bldg.	Soil: Aldrin in 1 sample Dieldrin in 4 samples Heptachlor in 1 sample DDE in 1 sample DDT in 2 samples Groundwater: None	Excavate contaminated soil and perform confirmatory sampling. Abandon site monitor well.
M-18 Former Training Area	Soil: Chrysene (all SVOCs in 1 sample) Benzo(a)anthracene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Groundwater: DDD in 1 well Lead in 1 well	Locate and excavate possible UST and any contaminated soil and perform confirmatory sampling. Excavate stained soil at SB-06 and conduct confirmatory sampling. Conduct groundwater monitoring on a long-term basis.

Table 6.1-1

Main Post Site Summary and Recommendations (Continued)

Site	Compounds that Exceed NJDEP Criteria and Maximum Background	Recommendations
AOC-3 Former Sewage Treatment Plant	Soil: None Sediment: None	No further action.
Pre-1941 Treatment Plant	Sediment: Arsenic Cadmium Chromium Zinc	No further action.
PCB Transformers	Soil: Building 292 Concrete: Buildings 1002, 1208, 1209	Remediate stained concrete when transformers are removed. Conduct confirmatory sampling. Sample soil at Bldg. 292 to determine extent of contamination.

The results of the tidal monitoring indicate that there is no apparent relationship between the changing creek levels and the water levels in upgradient monitor well MW-1; however, a direct relationship was observed between changing creek levels and the water levels in downgradient monitor wells MW-2 and MW-3. Conductivity and salinity results indicate the presence of freshwater in the creek at site M-2. Freshwater was indicated at monitor wells MW-1 and MW-3. A moderate to high specific conductance was measured at monitor well MW-2, which is unexplained.

6.1.1.2 Recommendations

Although groundwater sample results at site M-2 exceeded NJDEP criteria for one VOC, and surface-water results were slightly exceeded by two VOCs, immediate remedial action is not required for several reasons. Immediate remedial action is usually based on an immediate threat to human health. Shallow groundwater flows toward Mill Creek, as indicated by water-level measurements in site monitor wells, and there are no known uses of groundwater at or downgradient of the site. Although there is slight VOC contamination in Mill Creek, there is no use of this water for human consumption. In fact, Mill Creek becomes saline immediately downgradient of site M-2. Therefore, the groundwater and surface waters are not used for drinking water.

In addition, surface-water sampling has been performed at this site since 1986, and since the landfill has not been used for decades, the concentrations of VOCs seem, at worst, to be stable and possibly decreasing. Presumably, since no material is being added to the source (the landfill), natural degradation will decrease groundwater and surface-water contamination levels in the future. Although downgradient surface-water samples were not taken during this round, previous sampling at site M-8 indicated that NJDEP surface-water criteria were not exceeded for VOCs. Therefore, the only portion of Mill Creek for which NJDEP surface-water criteria are exceeded is the portion between sites M-2 and M-8. All of this portion is on Fort Monmouth property and, therefore, access to it is restricted.

Since the existing monitor wells and surface-water sampling locations are adequately placed to monitor downgradient groundwater and surface water, the Fort Monmouth Directorate of Public Works (DPW) proposes that a long-term surface-water and groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells, and surface-water samples would be collected from points yet to be determined. Compounds of concern identified in the first two rounds of sampling would be targeted for the monitoring program.

6.1.2 Landfill 3 (M-3)

Investigation activities performed at site M-3 included the following:

- Geophysical surveys.
- Installation and sampling of three monitor wells.
- Sampling of three surface-water locations.

6.1.2.1 Conclusions

The geophysical surveys indicate that the extent of the identified waste material is within the suspected boundaries of the landfill. Site monitor wells have been installed in appropriate locations to monitor groundwater quality upgradient and downgradient of the waste material. In an isolated area of the site the GPR results indicated hyperbolic radar signatures typical of a buried drum or drums. A partially exposed drum was also observed at this location.

Groundwater quality results indicate that chlorobenzene was detected in one downgradient well below laboratory quantitation limits, but just above NJDEP GWQC and background from one sampling round. Lead was also detected at levels above NJDEP GWQC and background.

The surface-water quality results indicate that no organic or inorganic concentrations exceeded both NJDEP surface-water criteria and the maximum background concentration. Because the site formerly had an NJPDES permit, surface water has been sampled since 1986. The results from

the current round of surface-water sampling for VOCs are less than the maximum results from previous rounds.

6.1.2.2 Recommendations

Although NJDEP groundwater criteria were exceeded for one VOC, immediate remedial action is not required for several reasons. First, the measured value for the VOC was below the quantitation limit and just slightly above the GWQC. In addition, the shallow groundwater flows toward Lafetra Creek, as indicated by water-level measurements in site monitor wells, and there are no known uses of groundwater at or downgradient of the site. Surface-water samples did not exceed NJDEP surface-water criteria. Therefore, there is no immediate threat to human health.

In addition, because surface-water sampling has been performed at this site since 1986, and the landfill has not been used for decades, the concentrations of VOCs seem, at worst, to be stable and possibly decreasing. Presumably, since no material is being added to the source (the landfill), natural degradation will decrease groundwater and surface-water contamination levels in the future.

Since the existing monitor wells and surface-water sampling locations are adequately placed to monitor downgradient groundwater and surface water, DPW proposes that a long-term surface-water and groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells, and surface-water samples would be collected from points yet to be determined. Compounds of concern identified in the first two rounds of sampling would be the targeted for the monitoring program.

The partially exposed drum will be excavated. The area immediately around and under the drum will be investigated for additional drums. Any excavated drums will be examined to determine if hazardous materials were present or still exist. The drum and the excavation will be monitored with a photoionization detector (PID). NJDEP will be requested to send a representative to

monitor the excavation. If there is no indication that the drum contained, or still contains, hazardous materials and elevated readings are not observed on the PID, the excavation will be backfilled and no further action will be taken. If contamination is identified, additional sampling will be conducted in accordance with the *Technical Requirements for Site Remediation* (NJDEP, 1993).

6.1.3 Landfill 4 (M-4)

Investigation activities performed at site M-4 included the following:

- Installation and sampling of three monitor wells.

6.1.3.1 Conclusions

One pesticide compound was detected at a concentration just above the NJDEP GWQC and background in the upgradient well in both the routine and duplicate samples. The pesticide was not detected in downgradient monitor wells, and also was not detected during previous sampling at downgradient location SS-5 (WESTON, 1993).

6.1.3.2 Recommendations

Although NJDEP groundwater criteria were exceeded for one pesticide, no immediate remedial action is required. The measured value of the pesticide was just slightly above the GWQC. Shallow groundwater flows toward Mill Creek, as indicated by water-level measurements in site monitor wells, and there are no known uses of groundwater at or downgradient of the site. No surface-water sampling was performed at this site during this project. The surface water was previously sampled downstream, but was not analyzed for pesticides. Since Mill Creek flows on Fort Monmouth property between sites M-4 and M-8, access to this stream is restricted.

In addition, surface-water sampling has been performed at this site since 1986, and since the landfill has not been used for decades, the concentrations of VOCs seem, at worst, to be stable

and possibly decreasing. Presumably, since no material is being added to the source (the landfill), natural degradation will decrease groundwater and surface-water contamination levels in the future.

Since the existing monitor well locations are adequately placed to monitor downgradient groundwater, DPW proposes that a long-term groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells. Compounds of concern (including pesticides) identified in the first two rounds of sampling would be targeted for the long-term groundwater and surface-water monitoring program.

6.1.4 Landfill 5 (M-5)

Investigation activities performed at site M-5 included the following:

- Installation and sampling of two monitor wells.

6.1.4.1 Conclusions

PCE was detected in the upgradient well in concentrations exceeding NJDEP GWQC and background from both sampling rounds. Because the site formerly had an NJPDES permit, surface water has been sampled since 1986. During previous investigations, PCE was also detected at downgradient surface-water sampling location SS-6 (WESTON, 1993). Surface water was not sampled at site M-5 during this investigation because the maximum VOC concentrations at this site during previous rounds of sampling were less than the maximum concentrations at site M-2, which is upgradient. For site M-2, the results of the current round of surface-water sampling for VOCs are less than the maximum results from previous rounds.

6.1.4.2 Recommendations

Although groundwater sample results exceeded NJDEP criteria for one VOC, immediate remedial action is not required. Shallow groundwater at the site flows toward Mill Creek and Lafetra Creek, and there are no known uses of groundwater at or downgradient of the site. No surface-water sampling was performed at this site during this project. Previous sampling rounds have indicated that some VOC concentrations exceed NJDEP surface-water criteria in Mill Creek adjacent to site M-5. However, previous rounds of sampling have indicated that VOC concentrations do not exceed surface-water criteria at site M-8, which is downgradient of site M-5. Therefore, there is little immediate threat to human health.

In addition, surface-water sampling has been performed at this site since 1986, and since the landfill has not been used for decades, the concentrations of VOCs seem, at worst, to be stable and possibly decreasing. Presumably, since no material is being added to the source (the landfill), natural degradation will decrease groundwater and surface-water contamination levels in the future.

Since the existing monitor wells and surface-water sampling locations are adequately placed to monitor downgradient groundwater and surface water, DPW proposes that a long-term surface-water and groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells and surface-water samples would be collected from points yet to be determined. Compounds of concern identified in the first two rounds of sampling would be targeted for the monitoring program.

6.1.5 Landfill 8 (M-8)

Investigation activities performed at site M-8 included the following:

- Abandonment of previously installed monitor wells and piezometers.
- Installation and sampling of four monitor wells.

- Tidal monitoring.

6.1.5.1 Conclusions

Due to highly turbid conditions and poor water-level recovery of the original monitor wells, all original monitor wells and piezometers were abandoned.

Groundwater sampling results indicate low concentrations of benzene and chlorobenzene were detected in two downgradient monitor wells, and PCE concentrations were detected in the upgradient well (MW-12) exceeding NJDEP GWQC. Additionally, PCE and other VOCs were previously detected at location SS-7, downgradient of site M-8.

Because the site formerly had an NJPDES permit, surface water has been sampled since 1986. However, surface water was not sampled at site M-8 during this investigation because the maximum VOC concentrations at this site during previous rounds of sampling were less than the maximum concentrations at sites M-2 and M-3, which are upstream. The concentrations of VOCs at site M-8 for previous rounds were less than the NJDEP surface-water criteria.

The results of the tidal monitoring indicate that there is no apparent relationship between creek levels and water levels in MW-12 because of its distance from the creek. A poor to moderate relationship was measured between MW-14 and creek levels. A direct relationship was observed between creek levels and MW-13 and MW-15. The conductivity and salinity measurements in Parkers Creek indicate the presence of brackish to salty water at site M-8. Groundwater sampled from MW-12 indicates freshwater. Monitor wells MW-13, MW-14, and MW-15 indicate brackish to salty water in an area of the water-bearing unit close to Parkers Creek.

6.1.5.2 Recommendations

Although groundwater sample results exceeded NJDEP criteria for three VOCs, immediate remedial action is not required. Groundwater flows toward Lafetra Creek, as indicated by water-level measurements in site monitor wells, and there are no known uses of groundwater at or

downgradient of the site. In fact, groundwater at three of the four monitor wells is brackish and unsuitable for drinking. The brackish water is a result of the proximity of the wells to Parkers Creek, and the direct relationship of tidal fluctuations and site groundwater levels. No surface-water sampling was performed at this site during this project. Previous sampling rounds have indicated that VOC concentrations did not exceed NJDEP surface-water criteria in the stream. Therefore, there is little immediate threat to human health.

In addition, surface-water sampling has been performed at this site since 1986, and since the landfill has not been used for decades, the concentrations of VOCs seem, at worst, to be stable and possibly decreasing. Presumably, since no material is being added to the source (the landfill), natural degradation will decrease groundwater and surface-water contamination levels in the future.

Since the existing monitor wells and surface-water sampling locations are adequately placed to monitor downgradient groundwater and surface water, DPW proposes that a long-term surface-water and groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells and surface-water samples would be collected from points yet to be determined. Compounds of concern identified in the first two rounds of sampling would be targeted for the monitoring program.

6.1.6 Landfill 12 (M-12)

Investigation activities performed at site M-12 included the following:

- Geophysical surveys.
- Installation and sampling of three monitor wells.
- Tidal monitoring.

6.1.6.1 Conclusions

The results of the geophysical surveys indicate that the identified fill and buried ferrous material are present within the suspected boundaries of the landfill. Monitor wells are positioned to adequately monitor groundwater downgradient of these areas.

Groundwater sampling results indicate that no compounds of concern exceeded NJDEP GWQC from upgradient and downgradient wells.

The results of the tidal monitoring relate to both sites M-12 and M-14. The data indicate that there is no apparent relationship between creek levels and water levels in MW-19 and MW-20. A poor to moderate relationship was measured between MW-16, MW-17, and MW-18 and creek levels. A direct relationship was observed between creek levels and MW-21. The conductivity and salinity measurements in Husky Brook indicate the presence of brackish to salty water at sites M-12 and M-14. Groundwater sampled from monitor wells at each location indicates freshwater.

6.1.6.2 Recommendations

Although no compounds of concern were identified at site M-12, because of the site's history of being used as a landfill, DPW proposes that a long-term groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a long-term basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells. Contaminants identified in the first two rounds of sampling would be targeted for the monitoring program.

6.1.7 Landfill 14 (M-14)

Investigation activities performed at site M-14 included the following:

- Geophysical surveys.
- Installation and sampling of three monitor wells.

- Sampling of two surface-water locations.
- Tidal monitoring.

6.1.7.1 Conclusions

The results of the geophysical surveys indicate that fill and some metallic debris exist throughout the site; however, a discrete landfill boundary was not identified at site M-14. This may be due in part to the composition of the fill material and the small amount of subsurface metallic material present at the site.

The groundwater and surface-water sampling results indicate that no compounds of concern were detected above NJDEP GWQC and surface-water criteria.

Tidal monitoring was conducted at site M-12 and site M-14 simultaneously. The results of the tidal monitoring are discussed in Subsection 6.1.6.

6.1.7.2 Recommendations

Although no compounds of concern were identified at site M-14, because of the site's history of being used as a landfill, DPW proposes that a long-term surface-water and groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells and surface-water samples would be collected from points yet to be determined. Contaminants identified in the first two rounds of sampling would be targeted for the monitoring program.

6.1.8 Water Tank (M-15)

Investigation activities performed at site M-15 included the following:

- Collection of two surface soil samples near the water tank.

6.1.8.1 Conclusions

Two pesticide compounds and three metals, cadmium, zinc, and lead, were detected in surface soil at levels that exceeded NJDEP residential SCC and maximum background.

6.1.8.2 Recommendations

DPW has submitted the necessary documentation to Headquarters, Army Materiel Command/Army Environmental Center (HQAMC/AEC) to obtain the proper funding to remediate the site in FY 1996. Depending on funding availability, the affected soil will be excavated and disposed of in accordance with the applicable regulations. The area of contamination encompasses the perimeter of the tank, about 10 feet at the widest point. The depth of contamination is assumed to be 6 inches. Excavation will be performed in conjunction with confirmatory soil sampling to ensure that NJDEP SCC are achieved. It is estimated that 13 yd^3 of soil will be excavated, assuming that soil is excavated to a depth of 6 inches. NJDEP will be requested to send a representative to observe the excavation.

6.1.9 Former Pesticide Storage Building (M-16)

Investigation activities performed at site M-16 included the following:

- Collection of four surface soil samples.
- Collection of two soil samples from discrete depth intervals at one soil boring location.
- Installation and sampling of one monitor well.

6.1.9.1 Conclusions

Pesticide compounds were detected at four surface soil sampling locations and in one soil boring sample (0 to 2-foot interval) in concentrations above NJDEP criteria and background.

No compounds of concern were detected in the groundwater above NJDEP criteria.

6.1.9.2 Recommendations

DPW has submitted the necessary documentation to HQAMC/AEC to obtain the proper funding to remediate the site in FY 1996. Depending on funding availability, the affected soil will be excavated and disposed of in accordance with the applicable regulations. The area of contamination is approximately 50 feet by 20 feet. The depth of contamination is assumed to be 12 inches. Excavation will be conducted in conjunction with confirmatory soil sampling to ensure that NJDEP SCC are achieved. It is estimated that 56 yd^3 of soil will be excavated, assuming that soil will be excavated to a depth of 12 inches. NJDEP will be requested to send a representative to observe the excavation.

The site monitor well will be properly abandoned due to the nondetection of compounds of concern in groundwater. The remedial activities proposed will remediate potential source areas of pesticides detected in soil.

6.1.10 Former Training Area (M-18)

Investigation activities performed at site M-18 included the following:

- Geophysical surveys.
- Soil sampling at nine soil boring locations.
- Installation and sampling of two monitor wells.

6.1.10.1 Conclusions

The geophysical surveys identified several anomalies indicative of buried waste and fill material within the suspected boundaries of the site M-18 area. One anomaly was indicative of a UST or storage tank component. The geophysical results indicate that soil borings and monitor wells were appropriately located to evaluate subsurface conditions downgradient and within landfill boundaries.

The soil sampling results indicated that six SVOCs were detected at SB-06 in concentrations that exceeded the NJDEP criteria and established background concentrations.

The groundwater sampling results indicate that 4,4-DDD was detected at a concentration just above the NJDEP GWQC in one well (MW-24) from both sampling rounds. Lead was detected in one location above NJDEP GWQC and background. TPH concentrations were also detected just above laboratory quantitation limits in MW-24 and MW-25 in both sampling rounds.

6.1.10.2 Recommendations

Trenching will be performed at the suspected UST or UST component location to confirm the geophysical results and to excavate if necessary. A PID will be used to conduct field screening during the excavation. The excavation will be performed in conjunction with confirmatory sampling, in accordance with the *Technical Requirements for Site Remediation* (NJDEP, 1993), if a UST is encountered to ensure that NJDEP SCC are achieved. NJDEP will be requested to send a representative to observe the excavation.

Additionally, soil at soil boring SB-06 will be excavated. If it is determined that the suspected UST is the source of contamination at SB-06, this location will be remediated in conjunction with the UST. Confirmatory sampling will also be conducted.

DPW proposes that a long-term groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells. Compounds of concern identified in the first two rounds of sampling would be targeted for the monitoring program.

6.1.11 Former Main Post Sanitary Treatment Plant (AOC-3)

Investigation activities performed at site AOC-3 included the following:

- Collection of two soil samples from two soil boring locations.
- Collection of one sediment sample from one location in the Parkers Creek outfall area.

6.1.11.1 Conclusions

The results of the soil and sediment sampling indicated that compounds of concern were not detected above the NJDEP criteria and established background concentrations.

6.1.11.2 Recommendations

No further action will be taken.

6.1.12 Pre-1941 Sanitary Treatment Plant

Investigation activities performed at the former STP included the following:

- Collection of one sediment sample from the outfall area.

6.1.12.1 Conclusions

Nine metals were detected above NJDEP criteria in the sediment sample collected at the outfall area. In addition, four metals (arsenic, cadmium, chromium, and zinc) exceeded their respective maximum background concentrations. The other five metals were detected below established background concentrations.

6.1.12.2 Recommendations

Although four metals were detected in sediment at levels exceeding NJDEP criteria and background, in the worst case the criteria were exceeded by a factor of three. Since the samples was taken at the outfall of the STP, the results are believed to be the worst case and the area of

contamination is probably small. Access to this portion of Lafetra Creek is restricted although the stream is on the property boundary. The STP has not been used since 1941, and, presumably, the local ecology has reached an equilibrium. Therefore, since remediation would disrupt the ecology of the site, no further action will be taken.

6.1.13 PCB Transformers — Main Post

Investigation activities relative to the former location of PCB transformers included the following:

- Collection of soil and concrete samples for PCB analysis.

6.1.13.1 Conclusions

PCB levels in stained concrete were found to exceed NJDEP guidance levels in indoor vaults at Buildings 1002, 1208, and 1209. PCBs were also detected above applicable soil standards in the soil beneath transformer MP-062 on the northwest side of Building 292.

6.1.13.2 Recommendations

Since the indoor vaults are normally locked and are accessible by a very limited number of facility personnel, and the stained concrete cannot be removed without significantly disrupting electrical service, remedial work will be performed when the transformers are removed from service and the stained areas are made accessible. A warning sign will be posted, and workers entering the vaults will be trained to take precautions to prevent contamination.

Because the concentration of PCBs is only slightly above the SCC, additional sampling will be conducted beneath the former location of transformer MP-062 to determine the vertical and horizontal extent of PCBs in soil. The soil sampling will be performed in accordance with the NJDEP *Technical Requirements for Site Remediation* (NJDEP, 1993).

6.2 CHARLES WOOD

The conclusions and recommendations discussed in the following subsections are for the Charles Wood area of Fort Monmouth, and are based on the results of the site investigation activities.

These conclusions and recommendations are also presented with the site-specific discussions in Section 4 and are summarized in Table 6.2-1.

6.2.1 Wastewater Treatment Lime Pit 1 (CW-1)

Investigation activities performed at site CW-1 included the following:

- Collection of soil samples from four soil borings.
- Installation and sampling of four monitor wells at each of the soil boring locations.

6.2.1.1 Conclusions

The soil sample results indicate that compounds of concern were either not detected or were below laboratory quantitation limits and NJDEP criteria.

The groundwater sampling results indicate that TCE, PCE, and 1,2-dichlorobenzene were detected in the groundwater downgradient of the site at levels that exceeded the NJDEP criteria.

6.2.1.2 Recommendations

Although NJDEP groundwater criteria were exceeded by three VOCs at this site, immediate remedial action is not required. The probable source of contamination has been eliminated since chemicals are not being disposed of in the pit. The pit was cleaned in October 1992 and the limestone sludge was removed and disposed of as a hazardous waste. Hazardous waste is

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Table 6.2-1

Charles Wood Site Summary and Recommendations

Site	Compounds that Exceed NJDEP Criteria and Maximum Background	Recommendations
CW-1 Acid Pit	Soil: None Groundwater: 1,2-Dichloroethene in 1 well Trichloroethene in 2 wells Tetrachloroethene in 1 well	Conduct soil-gas survey. Based on the results of the survey, install and sample two additional monitor wells. Conduct groundwater monitoring on a long-term basis for existing and newly installed monitor wells.
CW-2 Acid Pit	Soil: PCBs in 1 sample Groundwater: Tetrachloroethene in 1 well	Conduct soil-gas survey. Based on the results of the survey, install and sample two additional monitor wells. Collect soil samples for PCBs from monitor well borings. Conduct groundwater monitoring on a long-term basis for existing and newly installed monitor wells.
CW-3	No samples collected.	Facility will perform trenching to investigate site. If there is no indication of subsurface contamination, then no further action will be taken.
CW-3A Debris Site	Geophysics survey	Facility will investigate geophysics anomalies by backhoe trenching. If there is no indication of subsurface contamination, no further action will be taken.
CW-4 Indoor Firing Range	Soil: Lead	The contaminated soil will be excavated and confirmatory sampling will be performed.
CW-5 Former Sewage Treatment Plant	Soil: None Sediment: None	No further action.
CW-6 Pesticide Storage Building	Soil: Cadmium in 1 sample Dieldrin in 1 sample Groundwater: Benzene in 1 sample	Conduct groundwater monitoring on a long-term basis.
CW-9 Sludge Dump	Soil: Cadmium in 1 sample Groundwater: None	No further action.
AOC-7 Former Drum Storage Area	Soil: None	No further action.
PCB Transformers	Soil: Building 2000 (4 samples)	Excavate contaminated soil and conduct confirmatory sampling.

currently collected for proper disposal off-site and waste is no longer disposed of in the pit. Shallow groundwater flows toward and discharges to the headwaters of Wampum Brook, as indicated by water-level measurements in site monitor wells. There are no known uses of groundwater between the acid neutralization pit and Wampum Brook. Surface-water samples were taken in Wampum Brook in the Charles Wood area and Mill Creek (as Wampum Brook is called further to the east) for use as background samples. No VOCs were detected in these samples, therefore, there is no immediate threat to human health.

The extent of VOC concentrations in groundwater will be investigated by soil-gas survey techniques. The soil-gas survey will be performed on an established grid pattern to estimate the lateral extent of VOCs in the vicinity of the neutralization pit. The results of the soil-gas survey will be used to locate two additional monitor wells, if necessary, at the downgradient edge of the plume. DPW proposes that a long-term groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells and the two newly installed monitor wells. Compounds of concern identified in the first two rounds of sampling would be targeted for the monitoring program.

6.2.2 Wastewater Treatment Lime Pit 2 (CW-2)

Investigation activities performed at site CW-2 included the following:

- Collection of soil samples from four soil borings.
- Installation and sampling of four monitor wells at each of the soil boring locations.

6.2.2.1 Conclusions

The results of the soil sampling indicate that one PCB compound (Aroclor-1254) was detected in SB-30 at a concentration slightly above the NJDEP SCC. PCB compounds were not detected

in the other three soil borings. In addition, PCBs were not detected in groundwater samples in the corresponding well location, MW-30.

Groundwater sampling results indicate that PCE was detected in the groundwater in one of the four wells (MW-32) in one of the two sampling rounds at levels slightly exceeding the NJDEP GWQC.

6.2.2.2 Recommendations

Although NJDEP groundwater criteria were exceeded by one VOC at this site, immediate remedial action is not required. The source of contamination has been eliminated since chemicals are not being disposed of in the pit. The pit was cleaned in October 1992 and the limestone sludge was removed and disposed of as a hazardous waste. Hazardous waste is currently collected for proper disposal off-site and waste is no longer disposed of in the pit. Shallow groundwater flows toward and discharges to the headwaters of Wampum Brook, as indicated by water-level measurements in site monitor wells. There are no known uses of groundwater between the acid neutralization pit and Wampum Brook. Surface-water samples were taken in Wampum Brook in the Charles Wood area and Mill Creek (as Wampum Brook is called further to the east) for use as background samples. No VOCs were detected in these samples, therefore, there is no immediate threat to human health.

The extent of PCE concentrations in groundwater will be investigated by soil-gas survey techniques. The soil-gas survey will be performed on an established grid pattern to estimate the lateral extent of VOCs in the vicinity of the neutralization pit. The results of the soil-gas survey will be used to locate two additional monitor wells if necessary. DPW proposes that a long-term groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells and from the two newly installed monitor wells. Compounds of concern identified in the first two rounds of sampling would be targeted for the monitoring program. When the additional monitor wells are

installed, soil samples will be collected for PCB analysis because of the detection of PCBs in a soil sample collected from SB-30.

6.2.3 Landfill 3 (CW-3)

Investigation activities were not conducted as part of this investigation because of construction rubble that was present at the site during the field effort, which prohibited sample collection as planned. The rubble was removed and properly disposed of in June 1995 and exploratory trenches are planned to determine if any subsurface debris or soil staining is present. Field screening will be performed during excavation using a PID. NJDEP will be requested to send a representative to observe the investigation. In the absence of any elevated PID readings or evidence of subsurface debris, the excavation will be backfilled and no further action will be taken. If contamination is identified, then sampling will be conducted in accordance with the *Technical Requirements for Site Remediation* (NJDEP, 1993). Soil sample analytes will be collected and analyzed for the full range of contaminants.

6.2.4 Debris Site (CW-3A)

Investigation activities performed at site CW-3A included only geophysical surveys to evaluate accessible areas for potential subsurface waste.

6.2.4.1 Conclusions

Geophysical surveys indicated two areas where subsurface metallic debris may be present.

6.2.4.2 Recommendations

Exploratory trenching will be performed to investigate areas where subsurface metallic debris may be present. Field screening will be conducted with a PID during the excavation. NJDEP will be requested to send a representative to observe the excavation. In the absence of elevated PID readings or evidence of subsurface debris, the excavation will be backfilled and no further

action will be taken. If contamination is identified, then sampling will be conducted in accordance with the *Technical Requirements for Site Remediation* (NJDEP, 1993). Soil sample analytes will be collected and analyzed for the full range of contaminants.

6.2.5 Range (Small Arms) (CW-4)

Investigation activities performed at site CW-4 included the following:

- Collection of one surface soil sample.
- Collection of one soil boring sample.

6.2.5.1 Conclusions

Soil sampling results indicate that only lead was detected at a concentration exceeding the NJDEP SCC at the spent round disposal area.

6.2.5.2 Recommendations

DPW has submitted the necessary documentation to HQAMC/AEC to obtain the proper funding to remediate the site in FY 1996. Depending on funding availability, the affected soil will be excavated and disposed of in accordance with the applicable regulations.

The contaminated soil will be removed and disposed of in accordance with applicable regulations. The area of contamination is approximately 8 feet in diameter. The estimated depth of excavation is assumed to be 7 feet. Excavation will be performed in conjunction with confirmatory sampling to ensure that NJDEP SCC are achieved. It is estimated that 17 yd^3 of soil will be excavated, assuming that soil is excavated to a depth of 7 feet. NJDEP will be requested to send a representative to observe the excavation.

6.2.6 Former Sanitary Treatment Plant (CW-5)

Investigation activities performed at site CW-5 included the following:

- Collection of one sediment sample from the outfall area east of Hope Road.
- Installation of two soil borings and collection of two soil samples, one from each boring.

6.2.6.1 Conclusions

Three compounds (4,4'-DDT, 4,4'-DDD, and 4,4'-DDE) were detected in the sediment at levels that were above the NJDEP sediment guidance criteria but below background. Soil results were below the NJDEP SCC and established maximum background.

6.2.6.2 Recommendations

No further action will be taken.

6.2.7 Pesticide Storage Building T-2044 (CW-6)

Investigation activities performed at site CW-6 included the following:

- Installation of two soil borings and collection of two samples from SB-34 and one from SB-01.
- Installation and sampling of one monitor well.
- Sampling of existing monitor well MW-1.
- Collection of one surface soil sample from a drainage ditch.

6.2.7.1 Conclusions

The pesticide dieldrin and the metal cadmium were detected in the soil at two different locations, each at levels that exceeded NJDEP SCC and background. However, the average concentrations of dieldrin and cadmium in surface soil samples at CW-6 and CW-9 did not exceed the NJDEP SCC. Cadmium is typically present at elevated levels at golf courses. Groundwater samples indicated that benzene was detected in the existing monitor well (MW-1), which is attributed to a previously removed UST. Benzene was not detected in downgradient wells. Pesticides were not detected in any groundwater samples above NJDEP criteria.

6.2.7.2 Recommendations

NJDEP groundwater criteria were exceeded for one VOC, but the measured value was just slightly above the GWQC. In addition, one pesticide was detected in soils at a level above criteria and background, but was just slightly above the SCC. Therefore, no immediate remedial action is necessary.

DPW proposes that a long-term groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells. Compounds of concern identified in the first two rounds of sampling would be targeted for the monitoring program.

6.2.8 Sludge Dump (CW-9)

Investigation activities performed at site CW-9 included the following:

- Installation and sampling of two monitor wells.
- Collection of one soil sample from a soil boring.
- Collection of nine surface soil samples.

6.2.8.1 Conclusions

The average concentration of cadmium in surface soil samples at CW-6 and CW-9 and beryllium in surface soil location SS-09 at site CW-9 do not exceed the NJDEP SCC. Cadmium is typically present at elevated levels at golf courses. No compounds of concern were detected in site groundwater above NJDEP criteria.

6.2.8.2 Recommendations

No further action will be taken.

6.2.9 Former Hazardous Waste Storage Area (AOC-7)

Investigation activities performed at site AOC-7 included the installation of six soil borings. One soil sample was collected from each boring at depths ranging from 8 to 14 feet.

6.2.9.1 Conclusions

No compounds of concern were detected at this site at levels that exceeded NJDEP criteria.

6.2.9.2 Recommendations

No further action will be taken.

6.2.10 PCB Transformers — Charles Wood

Investigation activities performed at the former PCB transformer locations included the collection of seven surface soil samples for PCB analysis.

6.2.10.1 Conclusions

PCBs were detected above the NJDEP criteria in each of the four soil samples collected downgradient of the former transformer location northeast of Building 2000 (transformer CW-035). PCBs were not detected above NJDEP criteria in samples collected from the other three sampling locations.

6.2.10.2 Recommendations

Additional samples will be taken to further delineate the extent of contamination and the contaminated soil will be removed and disposed of in accordance with applicable regulations. The depth of contamination is assumed to be 6 inches. Excavation will be performed in conjunction with confirmatory soil sampling to ensure that NJDEP SCC are achieved.

ACRONYMS/REFERENCES

LIST OF ACRONYMS

AA	atomic absorption spectrophotometer
ACM	asbestos-containing material
AMC	U.S. Army Materiel Command
AOC	area of concern
ASTM	American Society for Testing and Materials
ATV	all terrain vehicle
AVRADA	U.S. Army Aviation Research and Development Activity
AWQC	ambient water quality criteria
bgs	below ground surface
BNA	base/neutral/acid
BRAC	Base Realignment and Closure Program
CDAP	Chemical Data Acquisition Plan
CECOM	U.S. Army Communications and Electronics Command
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
DCAA	Defense Contract Audit Agency
DENTAC	U.S. Army Dental Activity
DIS	Defense Investigation Services
DOI	U.S. Department of the Interior
DOP	di-octyl-phthalate
DOT	U.S. Department of Transportation
DPW	Directorate of Public Works, Fort Monmouth, New Jersey
DQOs	data quality objectives
EM	electromagnetic
EPA	U.S. Environmental Protection Agency
EqP	equilibrium partitioning
ER-L	Effects Range-Low (NOAA)
FSP	Field Sampling Plan
ft^2	square feet
ft msl	feet above mean sea level
FWS	U.S. Fish and Wildlife Service
GC/MS	gas chromatograph/mass spectrometer
GC	gas chromatograph
GOGO	government-owned, government-operated
gpm	gallons per minute
GPR	ground penetrating radar
GWQC	NJDEP Groundwater Quality Criteria
HHCs	halogenated hydrocarbons
HQAMC/AEC	Headquarters, Army Materiel Command/Army Environmental Center
IA	Installation Assessment
IATA	International Air Transport Association
ICP	inductively coupled plasma spectrometer
ID	inside diameter
ISC	U.S. Army Information Systems Command

LIST OF ACRONYMS
(Continued)

ISMA	U.S. Army Information System Management Agency
kHz	kiloHertz
LABCOM	U.S. Army Laboratory Command
m^3	cubic meter
MAG	magnetometry
MCSS	Monmouth County Soil Survey
MEDDAC	U.S. Army Medical Department Activities
mg/cm^2	milligrams per square centimeter
mg/g	milligrams per gram
mg/kg	milligrams per kilogram
mg/m^3	milligrams per cubic meter
MHz	megaHertz
mS/m	milliSiemens per meter
MS	matrix spike
MSD	matrix spike duplicate
msl	mean sea level
µg/g	microgram per gram
µg/kg	microgram per kilogram
µg/L	microgram per liter
NJAC	New Jersey Administrative Code
NJDEP	New Jersey Department of Environmental Protection
NMCRSA	Northeast Monmouth County Regional Sewerage Authority
NOAA	National Oceanic and Atmospheric Administration
nT	nanoTesla
OVA	organic vapor analyzer
OVM	organic vapor monitor
PAH	polyaromatic hydrocarbon
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
PE	performance evaluation
PID	photoionization detector
ppm	parts per million
ppth	parts per thousand
PQL	practical quantitation levels
PVC	polyvinyl chloride pipe
QA/QC	quality assurance/quality control
QC	quality control
R&D	research and development
SBA	Small Business Administration
SCC	Soil Cleanup Criteria
SHERP	Safety, Health and Emergency Response Plan
SI	site investigation
SIR	Subsurface Interface Radar™

LIST OF ACRONYMS
(Continued)

SOP	standard operating procedure
STP	sanitary treatment plant
SVOC	semivolatile organic compound
TAL	Target Analyte List
TCL	Target Compound List
TIC	tentatively identified compound
TOC	site-specific organic carbon
TPH	total petroleum hydrocarbons
TRI-TAC	Joint Tactical Communications Office
TSCA	Toxic Substances Control Act
URS	URS Consultants, Inc.
USACE	U.S. Army Corps of Engineers
USACHCS	U.S. Army Chaplain Center and School
USAMPS	U.S. Army Military Preparatory School
USATHAMA	U.S. Army Toxic and Hazardous Materials Agency
USC	Unified Soil Classification
UST	underground storage tank
vac	vacuum
VOA	volatile organic analysis
VOC	volatile organic compound
WESTON®	Roy F. Weston, Inc.
yd^3	cubic yard

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APPENDIX A

MAIN POST AND CHARLES WOOD
BOREHOLE LOGS AND WELL COMPLETION SUMMARIES

APPENDIX B

SURVEY DATA

APPENDIX C

WELL DEVELOPMENT LOGS

APPENDIX D

SAMPLING RESULTS

ORGANIC GLOSSARY OF DATA QUALIFIERS AND ABBREVIATIONS

Organic Data Qualifiers

A	TIC is a suspected aldol-condensation product
B	Compound was found in the blank and the sample
C	Pesticide identification was confirmed by GC/MS
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis
E	Concentration exceeds the instrument calibration range and was subsequently diluted
I	Appears on the "results spreadsheet" and "quant reports" to indicate an interference, or it appears on pesticide Form 8 to indicate an instrument blank without a surrogate
J	Result is an estimated value below the reporting limit or a tenatively identified compound (TIC)
NQ	Result was qualitatively confirmed, but not quantified
P	The percent difference between the results from two GC columns is greater than 25%, the lower of the two values is reported
SP	Blank Spike, Blank Spike Duplicate, Matrix Spike or Matrix Spike Duplicate
T	Compound was found in the TCLP extraction blank and the sample
U	Compound was not detected at or above the reporting limit
X	Other specific flags may be required to properly qualify the result
*	QC result was outside the laboratory control limits

Abbreviations

BS	Blank Spike analysis was conducted on reagent grade water or a matrix free from the analyte(s) of interest
BSD	Blank Spike Duplicate
BRL	Below Reporting Limit
Batch	Identifies a specific extraction, digestion or preparation set (equivalent to Prep Batch)
CD	Calculation Factor used by the laboratory's Information Management System (LIMS)
Contract	Contract Laboratory Identification Code
DF	Dilution Factor
DL	Appears in the sample ID to indicate a secondary dilution
LCS/LC	Denotes Laboratory Control Standard
LAB ID	The full 12 character WESTON Laboratory Identification Number (equivalent to RFW#)
MB	Method Blank or (PB) preparation blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Not Applicable
NR	Not Required
NS	Not Spiked
RE	Appears in the sample ID to indicate a Re-analysis
REP	Replicate analysis
Reprep	Sample was reprepared and then reanalyzed
RFW#	The full 12 character WESTON Laboratory Identification Number (equivalent to LAB ID)
RFW Lot	The first 8 characters of the RFW#
RPD	Relative Percent Difference of duplicate analyses
RRF	Relative Response Factor
RT	Retention Time/Retention Time Window
WO#	Work Order No. Weston Code used to define a specific clinet, job phase and task

NOTES:

- One or a combination of these data qualifiers and abbreviations may appear in the analytical report.
- Soil, sediment and sludge results are reported on a dry weight basis except when analyzed for landfill disposal or incineration parameters. All other results on a solid matrix are reported on an "as received" basis unless noted differently.
- Reporting limits are adjusted for preparation sample size, sample dilutions, and sample moisture content if analyzed on a dry weight basis.

INORGANIC GLOSSARY OF DATA QUALIFIERS AND ABBREVIATIONS

Inorganic Data Qualifiers

B	Result is less than the CRDL, but greater than or equal to the instrument detection limit
E	Result is estimated due to interference
M	Analyte concentrations are greater than the CRDL, and the RSD of duplicate injections was greater than 20%
N	Matrix Spike recovery was outside the control limits
S	Result was determined by the Method of Standard Additions (MSA)
T	Analyte was found in the TCLP extraction blank and sample
U	Analyte was not detected at or above the reporting limit
W	Post-digestion spike was outside 85-115% control limits, sample absorbance is less than 50% of spike absorbance
+	MSA correlation coefficient is less than 0.995
*	Duplicate analysis was outside the control limits

Abbreviations

A	Analyzed by flame A.A. direct aspiration
Batch	Identifies a specific extraction, digestion or preparation set (equivalent to Prep Batch)
BS	Blank Spike analysis was conducted on reagent grade water or a matrix free from the analyte(s) of interest
BSD	Blank Spike Duplicate
BRL	Below Reporting Limit
C	Cyanide analyte flag on CLP forms
CCV	Continuing Calibration Verification
CCB	Continuing Calibration Blank
CD	Calculation Factor used by the laboratory's Information Management System (LIMS)
CV	Analyzed by the cold vapor generation method for Mercury
Contract	Contract Laboratory Identification Code
DF	Dilution Factor
F	Analyzed by graphite furnace atomic absorption spectroscopy
ICV	Initial Calibration Verification
ICB	Initial Calibration Blank
LCS/LC	Denotes Laboratory Control Standard
LAB ID	The full 12 character WESTON Laboratory Identification Number (equivalent to RFW#)
MB	Method Blank or (PB) for Preparation Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Not Applicable
NC	Non-calculable precision due to insufficient concentration of analyte present in the sample
NR	Not Required
NS	Not Spiked
P	Analyzed by inductively coupled argon plasma
REP	Replicate analysis
RFW#	The full 12 character WESTON Laboratory Idenficiation number (equivalent to LAB ID)
RFW Lot	The first 8 characters of the RFW#
RPD	Relative Percent Difference of duplicate analyses
X	Result obtained indirectly through calculation based on results from other analyses
WO#	Work Order No. Weston Code used to define a specific clinet, job phase and task

NOTES:

- One or a combination of these data qualifiers and abbreviations may appear in the analytical report.
- Soil, sediment and sludge results are reported on a dry weight basis except when analyzed for landfill disposal or incineration parameters. All other results on a solid matrix are reported on an "as received" basis unless noted differently.
- Reporting limits are adjusted for preparation sample size, sample dilutions, and sample moisture content if analyzed on a dry weight basis.

Revised 12/09/94

MAIN POST

MAIN POST
SEDIMENT VOLATILES

Geographical Location				AOC3		AOC3		AOC3		AOC3	
Sample				MP08-SD01-A01		MP08-SD01-C01		MP08-SD01-D01		MP08-SD01-E01	
Sample Type						Duplicate		Trip Blank		Field Rinsate Blank	
Batch#				9412G921		9412G921		9412G921		9412G921	
Prep#				94GVT028		94GVT028		94GVE348		94GVE348	
RFW#				013		014		016		017	
Sample Depth				0-6"		0-6"		0-6"		0-6"	
Dilution Factor				1.00		1.00		1.00		1.00	
Matrix				soil		soil		water		water	
Units	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg		mg/l		mg/l	
Sampling Date				12/1/94		12/1/94		12/1/94		12/1/94	
Analysis Date				12/6/94		12/6/94		12/9/94		12/9/94	
Analysis	Standard	Standard	MDL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL
	fresh water	salt water		Result		Result		Result		Result	
Chloromethane			0.0073	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
Bromomethane			0.0067	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
Vinyl Chloride			0.0079	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
Chloroethane			0.0091	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
Methylene Chloride			0.0027	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
Acetone			0.0069	0.1 B	0.018	0.14 B	0.017	0.01 U	0.01	0.01 U	0.01
Carbon Disulfide			0.0044	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
1,1-Dichloroethene			0.0049	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
1,1-Dichloroethane			0.003	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
1,2-Dichloroethene (total)			0.0044	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
Chloroform			0.0029	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
1,2-Dichloroethane			0.0024	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
2-Butanone			0.0041	0.02	0.018	0.014 J	0.017	0.01 U	0.01	0.01 U	0.01
1,1,1-Trichloroethane			0.0017	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
Carbon Tetrachloride			0.0015	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
Bromodichloromethane			0.002	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
1,2-Dichloropropane			0.0017	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
cis-1,3-Dichloropropene			0.003	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
Trichloroethene			0.002	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
Dibromochloromethane			0.0024	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
1,1,2-Trichloroethane			0.0043	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
Benzene			0.0033	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
trans-1,3-Dichloropropene			0.0024	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
Bromoform			0.0031	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
4-Methyl-2-pentanone			0.0055	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
2-Hexanone			0.0039	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
Tetrachloroethene			0.004	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
1,1,2,2-Tetrachloroethane			0.0042	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
Toluene			0.0027	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
Chlorobenzene			0.0027	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
Ethylbenzene			0.0031	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
Styrene			0.0038	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
Xylene (total)			0.0038	0.018 U	0.018	0.017 U	0.017	0.01 U	0.01	0.01 U	0.01
Method:TCL Volatiles											

MAIN POST
SEDIMENT VOLATILES (OFFSITE DATA)

Geographical Location				Background SS01		Background SS01		Background SS02	
Sample				SS01-SD02-A01		SS01-SD01-A01DL		SS01-SD02-A01	
Batch#				9412G922		9412G922		9412G922	
Prep#				94GVT028 & 29		94GVT029		94GVT028 & 29	
RFW#				005		005		005	
Sample Depth				0-6"		0-6"		0-6"	
Dilution Factor				1.00		1.00		1.00	
Matrix				soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
Sampling Date				12/1/94		12/1/94		12/1/94	
Analysis Date				12/6/94		12/17/94		12/6/94	
Analysis	Standard	Standard	MDL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL
	fresh water	salt water		Result		Result		Result	
Chloromethane			0.0073	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
Bromomethane			0.0067	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
Vinyl Chloride			0.0079	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
Chloroethane			0.0091	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
Methylene Chloride			0.0027	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
Acetone			0.0069	0.47 B	.074 *	0.17 B	0.035	0.47 B	.074 *
Carbon Disulfide			0.0044	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
1,1-Dichloroethene			0.0049	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
1,1-Dichloroethane			0.003	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
1,2-Dichloroethene (total)			0.0044	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
Chloroform			0.0029	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
1,2-Dichloroethane			0.0024	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
2-Butanone			0.0041	0.1	0.015	0.041	0.035	0.1	0.015
1,1,1-Trichloroethane			0.0017	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
Carbon Tetrachloride			0.0015	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
Bromodichloromethane			0.002	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
1,2-Dichloropropane			0.0017	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
cis-1,3-Dichloropropene			0.003	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
Trichloroethene			0.002	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
Dibromochloromethane			0.0024	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
1,1,2-Trichloroethane			0.0043	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
Benzene			0.0033	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
trans-1,3-Dichloropropene			0.0024	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
Bromoform			0.0031	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
4-Methyl-2-pentanone			0.0055	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
2-Hexanone			0.0039	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
Tetrachloroethene			0.004	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
1,1,2,2-Tetrachloroethane			0.0042	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
Toluene			0.0027	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
Chlorobenzene			0.0027	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
Ethylbenzene			0.0031	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
Styrene			0.0038	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
Xylene (total)			0.0038	0.015 U	0.015	0.035 U	0.035	0.015 U	0.015
Total Est. Conc. of TIC.				.05 *				.05 *	
Dilution Factor				* = 5.00				* = 5.00	
Method:TCL Volatiles									

MAIN POST
SEDIMENT SEMIVOLATILES

Geographical Location				AOC3		AOC3		AOC3	
Sample				MP08-SD01-A01		MP08-SD01-A01RE		MP08-SD01-C01	
Sample Type								Duplicate	
Batch#				9412G921		9412G921		941G9213	
Prep#				94GBO809		94GBO809		94GBO809	
RFW#				013		013RE		014	
Sample Depth				0-6"		0-6"		0-6"	
Dilution Factor				1.00		1.00		1.00	
Matrix				soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
Sampling Date				12/1/94		12/1/94		12/1/94	
Analysis Date				12/22/94		12/22/94		12/22/94	
Analysis	Standard	Standard	MDL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL
	fresh water	salt water		Result		Result		Result	
Phenol			0.234	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
bis(2-Chloroethyl) ether			0.32	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
2-Chlorophenol			0.241	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
1,3-Dichlorobenzene			0.175	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
1,4-Dichlorobenzene			0.158	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
1,2-Dichlorobenzene			0.188	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
2-Methylphenol			0.221	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
2,2'-oxybis(1-Chloropropane)			0.231	0.58 U	0.58	0.57 U	0.57	0.061 J	0.54
4-Methylphenol			0.426	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
N-Nitroso-di-n-propylamine			0.264	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Hexachloroethane			0.175	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Nitrobenzene			0.244	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Isophorone			0.129	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
2-Nitrophenol			0.231	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
2,4-Dimethylphenol			0.158	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
bis(2-Chloroethoxy) methane			0.201	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
2,4-Dichlorophenol			0.145	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
1,2,4-Trichlorobenzene			0.317	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Naphthalene			0.277	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
4-Chloroaniline			0.096	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Hexachlorobutadiene			0.152	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
4-Chloro-3-methylphenol			0.102	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
2-Methylnaphthalene			0.287	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Hexachlorocyclopentadiene			0.119	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
2,4,6-Trichlorophenol			0.185	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
2,4,5-Trichlorophenol			0.155	1.5 U	1.5	1.4 U	1.4	1.4 U	1.4
2-Chloronaphthalene			0.271	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
2-Nitroaniline			0.201	1.5 U	1.5	1.4 U	1.4	1.4 U	1.4
Dimethylphthalate			0.145	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Acenaphthylene			0.198	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
2,6-Dinitrotoluene			0.172	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
3-Nitroaniline			0.172	1.5 U	1.5	1.4 U	1.4	1.4 U	1.4
Acenaphthene			0.221	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
2,4-Dinitrophenol			0.152	1.5 U	1.5	1.4 U	1.4	1.4 U	1.4
4-Nitrophenol			0.248	1.5 U	1.5	1.4 U	1.4	1.4 U	1.4

MAIN POST
SEDIMENT SEMIVOLATILES

Geographical Location				AOC3		AOC3		AOC3	
Sample				MP08-SD01-A01		MP08-SD01-A01RE		MP08-SD01-C01	
Sample Type								Duplicate	
Batch#				9412G921		9412G921		941G9213	
Prep#				94GBO809		94GBO809		94GBO809	
RFW#				013		013RE		014	
Sample Depth				0-6"		0-6"		0-6"	
Dilution Factor				1.00		1.00		1.00	
Matrix				soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
Sampling Date				12/1/94		12/1/94		12/1/94	
Analysis Date				12/22/94		12/22/94		12/22/94	
Analysis	Standard	Standard	MDL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL
	fresh water	salt water		Result		Result		Result	
Dibenzofuran			0.215	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
2,4-Dinitrotoluene			0.191	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Diethylphthalate			0.178	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
4-Chlorophenyl-phenylether			0.231	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Fluorene			0.208	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
4-Nitroaniline			0.211	1.5 U	1.5	1.4 U	1.4	1.4 U	1.4
4,6-Dinitro-2-methylphenol			0.175	1.5 U	1.5	1.4 U	1.4	1.4 U	1.4
N-Nitrosodiphenylamine (1)			0.139	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
4-Bromophenyl-phenylether			0.175	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Hexachlorobenzene			0.182	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Pentachlorophenol			0.132	1.5 U	1.5	1.4 U	1.4	1.4 U	1.4
Phenanthrene	0.225	0.74	0.165	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Anthracene			0.152	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Carbazole			0.145	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Di-n-butylphthalate			0.215	0.098 J	0.58	0.68 J	0.57	0.1 J	0.54
Fluoranthene	0.6	0.6	0.198	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Pyrene	0.35	0.665	0.178	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Butylbenzylphthalate			0.175	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
3,3'-Dichlorobenzidine			0.092	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Benzo(a)anthracene	0.23	0.261	0.162	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Chrysene	0.4	0.984	0.145	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
bis(2-Ethylhexy)phthalate			0.32	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Di-n-octyl phthalate			0.185	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Benzo(b)fluoranthene			0.188	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Benzo(k)fluoranthene			0.205	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Benzo(a)pyrene	0.4	0.43	0.162	0.58 U	0.58	0.57 U	0.57	0.079 J	0.54
Indeno(1,2,3-cd)pyrene			0.234	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Dibenzo(a,h)anthracene			0.198	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Benzo(g,h,i)perylene			0.224	0.58 U	0.58	0.57 U	0.57	0.54 U	0.54
Petroleum hydrocarbons									
Total Est. Conc. of TIC				21.4 J		23.5 J		16.2 J	
Method:TCL Semivolatiles									

MAIN POST
SEDIMENT SEMIVOLATILES (OFFSITE DATA)

Geographical Location				Background SS01		Background SS02	
Sample				SS01-SD01-A01		SS01-SD02-A01	
Batch#				9412G922		9412G922	
Prep#				94GBO809		94GBO809	
RFW#				006		005	
Sample Depth				0-6"		0-6"	
Dilution Factor				1.00		1.00	
Matrix				soil		soil	
Units	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	
Sampling Date				12/2/94		12/2/94	
Analysis Date				12/22/94		12/22/94	
Analysis	Standard	Standard	MDL	Analytical	CRQL	Analytical	CRQL
	fresh water	salt water		Result		Result	
Phenol			0.234	1.1 U	1.1	0.48 U	0.48
bis(2-Chloroethyl) ether			0.32	1.1 U	1.1	0.48 U	0.48
2-Chlorophenol			0.241	1.1 U	1.1	0.48 U	0.48
1,3-Dichlorobenzene			0.175	1.1 U	1.1	0.48 U	0.48
1,4-Dichlorobenzene			0.158	1.1 U	1.1	0.48 U	0.48
1,2-Dichlorobenzene			0.188	1.1 U	1.1	0.48 U	0.48
2-Methylphenol			0.221	1.1 U	1.1	0.48 U	0.48
2,2'-oxybis(1-Chloropropane)			0.231	1.1 U	1.1	0.48 U	0.48
4-Methylphenol			0.426	1.1 U	1.1	0.48 U	0.48
N-Nitroso-di-n-propylamine			0.264	1.1 U	1.1	0.48 U	0.48
Hexachloroethane			0.175	1.1 U	1.1	0.48 U	0.48
Nitrobenzene			0.244	1.1 U	1.1	0.48 U	0.48
Isophorone			0.129	1.1 U	1.1	0.48 U	0.48
2-Nitrophenol			0.231	1.1 U	1.1	0.48 U	0.48
2,4-Dimethylphenol			0.158	1.1 U	1.1	0.48 U	0.48
bis(2-Chloroethoxy) methane			0.201	1.1 U	1.1	0.48 U	0.48
2,4-Dichlorophenol			0.145	1.1 U	1.1	0.48 U	0.48
1,2,4-Trichlorobenzene			0.317	1.1 U	1.1	0.48 U	0.48
Naphthalene			0.277	1.1 U	1.1	0.48 U	0.48
4-Chloroaniline			0.096	1.1 U	1.1	0.48 U	0.48
Hexachlorobutadiene			0.152	1.1 U	1.1	0.48 U	0.48
4-Chloro-3-methylphenol			0.102	1.1 U	1.1	0.48 U	0.48
2-Methylnaphthalene			0.287	1.1 U	1.1	0.48 U	0.48
Hexachlorocyclopentadiene			0.119	1.1 U	1.1	0.48 U	0.48
2,4,6-Trichlorophenol			0.185	1.1 U	1.1	0.48 U	0.48
2,4,5-Trichlorophenol			0.155	2.9 U	2.9	1.2 U	1.2
2-Chloronaphthalene			0.271	1.1 U	1.1	0.48 U	0.48
2-Nitroaniline			0.201	2.9 U	2.9	1.2 U	1.2
Dimethylphthalate			0.145	1.1 U	1.1	0.48 U	0.48
Acenaphthylene			0.198	1.1 U	1.1	0.48 U	0.48
2,6-Dinitrotoluene			0.172	1.1 U	1.1	0.48 U	0.48
3-Nitroaniline			0.172	2.9 U	2.9	1.2 U	1.2
Acenaphthene			0.221	1.1 U	1.1	0.48 U	0.48
2,4-Dinitrophenol			0.152	2.9 U	2.9	1.2 U	1.2
4-Nitrophenol			0.248	2.9 U	2.9	1.2 U	1.2

MAIN POST
SEDIMENT SEMIVOLATILES (OFFSITE DATA)

Geographical Location				Background SS01		Background SS02	
Sample				SS01-SD01-A01		SS01-SD02-A01	
Batch#				9412G922		9412G922	
Prep#				94GBO809		94GBO809	
RFW#				006		005	
Sample Depth				0-6"		0-6"	
Dilution Factor				1.00		1.00	
Matrix				soil		soil	
Units	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	
Sampling Date				12/2/94		12/2/94	
Analysis Date				12/22/94		12/22/94	
Analysis	Standard	Standard	MDL	Analytical	CRQL	Analytical	CRQL
	fresh water	salt water		Result		Result	
Dibenzofuran			0.215	1.1 U	1.1	0.48 U	0.48
2,4-Dinitrotoluene			0.191	1.1 U	1.1	0.48 U	0.48
Diethylphthalate			0.178	1.1 U	1.1	0.48 U	0.48
4-Chlorophenyl-phenylether			0.231	1.1 U	1.1	0.48 U	0.48
Fluorene			0.208	1.1 U	1.1	0.48 U	0.48
4-Nitroaniline			0.211	2.9 U	2.9	1.2 U	1.2
4,6-Dinitro-2-methylphenol			0.175	2.9 U	2.9	1.2 U	1.2
N-Nitrosodiphenylamine (1)			0.139	1.1 U	1.1	0.48 U	0.48
4-Bromophenyl-phenylether			0.175	1.1 U	1.1	0.48 U	0.48
Hexachlorobenzene			0.182	1.1 U	1.1	0.48 U	0.48
Pentachlorophenol			0.132	2.9 U	2.9	1.2 U	1.2
Phenanthrene	0.225	0.74	0.165	1.1 U	1.1	0.39 J	0.48
Anthracene			0.152	1.1 U	1.1	0.061 J	0.48
Carbazole			0.145	1.1 U	1.1	0.051 J	0.48
Di-n-butylphthalate			0.215	0.26 JB	1.1	0.086 JB	0.48
Fluoranthene	0.6	0.6	0.198	0.44 J	1.1	1.5	0.48
Pyrene	0.35	0.665	0.178	0.66 J	1.1	2	0.48
Butylbenzylphthalate			0.175	1.1 U	1.1	0.48 U	0.48
3,3'-Dichlorobenzidine			0.092	1.1 U	1.1	0.48 U	0.48
Benzo(a)anthracene	0.23	0.261	0.162	0.34 J	1.1	1.3	0.48
Chrysene	0.4	0.984	0.145	0.37 J	1.1	0.13 J	0.48
bis(2-Ethylhexy)phthalate			0.32	0.43 J	1.1	0.23 J	0.48
Di-n-octyl phthalate			0.185	1.1 U	1.1	0.48 U	0.48
Benzo(b)fluoranthene			0.188	0.59 J	1.1	1.8	0.48
Benzo(k)fluoranthene			0.205	0.21 J	1.1	0.58	0.48
Benzo(a)pyrene	0.4	0.43	0.162	0.27 J	1.1	1.2	0.48
Indeno(1,2,3-cd)pyrene			0.234	0.19 J	1.1	0.7	0.48
Dibenzo(a,h)anthracene			0.198	1.1 U	1.1	0.12 J	0.48
Benzo(g,h,i)perylene			0.224	0.19 J	1.1	0.67	0.48
Petroleum hydrocarbons							
Total Organic Carbon				5.7	0.10	3.7	0.11
Total Est. Conc. of TIC				71.5		15.9	
Method:TCL Semivolatiles							

MAIN POST
SEDIMENT INORGANICS

Geographical Location			Pre-1941 STP		AOC3		AOC3	
Sample			MPST-SD01-A01		MP08-SD01-A01		MP08-SD01-C01	
Sample Type							Duplicate	
Batch#			9412G921		9412G921		9412G921	
Prep#			94GTS473		94GTS473		94GTS473	
RFW#			015		013		014	
Sample Depth			0-6"		0-6"		0-6"	
Dilution Factor			1.00		1.00		1.00	
Matrix			soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
Sampling Date			12/1/94		12/1/94		12/1/94	
Analysis Date			12/19/94		12/19/94		12/19/94	
Analysis	Standard	Standard	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting
	fresh water	salt water	Result	Limit	Result	Limit	Result	Limit
% Solids			50.4	0.10	56.5	0.10	60.1	0.10
Silver	1	1	5.2	0.97	0.78 U	0.78	0.96 U	0.96
Aluminum			9240	8.3	8830	6.7	8170	8.2
Arsenic	33	8.2	24.2	2.5 *	13.2	1.1 *	14.3	0.87 *
Barium			27.6	0.66	13.0	0.53	12.6	0.65
Beryllium			1.3	0.47	1.4	0.38	1.3	0.46
Calcium			1010	3.8	1290	3.0	1240	3.7
Cadmium	5	1.2	4.2	1.1	0.86 U	0.86	1.0 U	1.0
Cobalt			13.5	0.88	5.5	0.71	4.7	0.86
Chromium	80	81	93.5	2.0	74.0	1.6	66.3	2.0
Copper	70	34	35.2	0.75	3.1	0.61	3.2	0.74
Iron			49200	1.5	40300	1.2	37600	1.4
Mercury	0.15	0.15	0.57	0.20	0.13 U	0.13	0.17 U	0.17
Potassium			6760	256	6640	207	5550	253
Magnesium			3390	11.9	3670	9.7	3070	11.8
Manganese			39.5	0.62	51.7	0.51	46.6	0.62
Sodium			2330	4.8	3090	3.9	2160	4.7
Nickel	30	20.9	26.5	4.0	14.0	3.2	11.8	3.9
Lead	35	46.7	59.0	9.9 **	6.5	2.1 **	5.7	1.7 **
Antimony			6.7 U	6.7	5.4 U	5.4	6.6 U	6.6
Selenium			0.88	0.28	0.42	0.30	0.58	0.25
Thallium			0.34 U	0.34	0.37 U	0.37	0.30 U	0.30
Vanadium			49.5	0.91	39.3	0.73	38.2	0.89
Zinc	120	150	386	0.88	68.8	0.71	57.8	0.86
Cyanide			0.96	0.59	0.81 U	0.81	0.71 U	0.71
Dilution Factor			* = 5.0, ** = 20.0		* = 2.00, ** = 4.00		* = 2.00, ** = 4.00	
Method:TAL Metals, Cyanide								

MAIN POST
SEDIMENT INORGANICS (OFFSITE DATA)

Geographical Location			Background SS01		Background SS02	
Sample			SS01-SD01-A01		SS01-SD02-A01	
Batch#			9412G922		9412G922	
Prep#			94GTS473		94GTS473	
RFW#			006		005	
Sample Depth			0-6"		0-6"	
Dilution Factor			1.00		1.00	
Matrix			soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg	
Sampling Date			12/1/94		12/1/94	
Analysis Date			12/9/94		12/9/94	
Analysis	Standard	Standard	Analytical	Reporting	Analytical	Reporting
	fresh water	salt water	Result	Limit	Result	Limit
% Solids			28.7	0.10	68.1	0.10
Silver	1	1	2.1 U	2.1	0.80 U	0.80
Aluminum			9060	18.1	8200	6.9
Arsenic	33	8.2	13.6	2.0 *	14.5	1.8 *
Barium			87.6	1.4	76.6	0.54
Beryllium			3.2	1.0	1.4	0.39
Calcium			2060	8.1	3180	3.1
Cadmium	5	1.2	2.3 U	2.3	0.88 U	0.88
Cobalt			119	1.9	5.7	0.72
Chromium	80	81	88.1	4.3	85.8	1.6
Copper	70	34	48.4	1.6	5.5	0.62
Iron			26500	3.2	61900	1.2
Mercury	0.15	0.15	1.7	0.32	0.14 U	0.14
Potassium			3410	555	10200	211
Magnesium			1470	25.8	3280	9.8
Manganese			67.4	1.4	70.2	0.52
Sodium			189	10.4	77.5	4.0
Nickel	30	20.9	131	8.7	11.8	3.3
Lead	35	46.7	64.1	5.0 **	21.2	3.6 **
Antimony			14.5 U	14.5	5.5 U	5.5
Selenium			1.7	0.56	0.21	0.20
Thallium			0.68 U	0.68	0.25 U	0.25
Vanadium			49.1	2.0	47.0	0.75
Zinc	120	150	162	1.9	117	0.72
Cyanide			3.1	1.7	0.49 U	0.49
Dilution Factor			* = 2.00, ** = 5.00		* = 5.00, ** = 10.0	
Method:TAL Metals, Cyanide						

MAIN POST
SEDIMENT PESTICIDES/PCBS

Geographical Location			AOC3		AOC3		AOC3	
Sample			MP08-SD01-A01		MP08-SD01-A01RE		MP08-SD01-C01	
Sample Type							Duplicate	
Batch#			9412G921		9412G921		9412G921	
Prep#			94GP1049		95GP0044		94GP1049	
RFW#			013		013RE		014	
Sample Depth			0-6"		0-6"		0-6"	
Dilution Factor			1.00		1.00		1.00	
Matrix			soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
Sampling Date			12/1/94		12/1/94		12/1/94	
Analysis Date			1/11/95		1/17/95		1/11/95	
Analysis	Standard	Standard	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting
	fresh water	salt water	Result	Limit	Result	Limit	Result	Limit
alpha-BHC			0.0029 U	0.0029	0.0029 U	0.0029	0.0028 U	0.0028
beta-BHC			0.0029 U	0.0029	0.0029 U	0.0029	0.0028 U	0.0028
delta-BHC			0.0029 U	0.0029	0.0029 U	0.0029	0.0028 U	0.0028
gamma-BHC (Lindane)			0.0029 U	0.0029	0.0029 U	0.0029	0.0028 U	0.0028
Heptachlor			0.0029 U	0.0029	0.0029 U	0.0029	0.0028 U	0.0028
Aldrin			0.0029 U	0.0029	0.0029 U	0.0029	0.0028 U	0.0028
Heptachlor epoxide			0.0029 U	0.0029	0.0029 U	0.0029	0.0028 U	0.0028
Endosulfan I			0.0029 U	0.0029	0.0029 U	0.0029	0.0028 U	0.0028
Dieldrin			0.0059 U	0.0059	0.0058 U	0.0058	0.0055 U	0.0055
4,4'-DDE	0.002	0.0022	0.0059 U	0.0059	0.0058 U	0.0058	0.0055 U	0.0055
Endrin			0.0059 U	0.0059	0.0058 U	0.0058	0.0055 U	0.0055
Endosulfan II			0.0059 U	0.0059	0.0058 U	0.0058	0.0055 U	0.0055
4,4'-DDD	0.002		0.0059 U	0.0059	0.0058 U	0.0058	0.0055 U	0.0055
Endosulfan sulfate			0.0059 U	0.0059	0.0058 U	0.0058	0.0055 U	0.0055
4,4'-DDT	0.00183	0.00158	0.0059 U	0.0059	0.0058 U	0.0058	0.0055 U	0.0055
Methoxychlor			0.029 U	0.029	0.029 U	0.029	0.028 U	0.028
Endrin ketone			0.0059 U	0.0059	0.0058 U	0.0058	0.0055 U	0.0055
Endrin aldehyde			0.0059 U	0.0059	0.0058 U	0.0058	0.0055 U	0.0055
alpha-Chlordane			0.0029 U	0.0029	0.0029 U	0.0029	0.0028 U	0.0028
gamma-Chlordane			0.0029 U	0.0029	0.0029 U	0.0029	0.0028 U	0.0028
Toxaphene			0.29 U	0.29	0.29 U	0.29	0.28 U	0.28
Aroclor-1016			0.059 U	0.059	0.058 U	0.058	0.055 U	0.055
Aroclor-1221			0.12 U	0.12	0.12 U	0.12	0.11 U	0.11
Aroclor-1232			0.059 U	0.059	0.058 U	0.058	0.055 U	0.055
Aroclor-1242			0.059 U	0.059	0.058 U	0.058	0.055 U	0.055
Aroclor-1248			0.059 U	0.059	0.058 U	0.058	0.055 U	0.055
Aroclor-1254			0.059 U	0.059	0.058 U	0.058	0.055 U	0.055
Aroclor-1260			0.059 U	0.059	0.058 U	0.058	0.055 U	0.055
Method:TCL Pesticides/PCBs								

MAIN POST
SEDIMENT PESTICIDES/PCBS (OFFSITE DATA)

Geographical Location			Background SS01		Background SS02	
Sample			SS01-SD01-A01		SS01-SD02-A01	
Batch#			9412G922		9412G922	
Prep#			94GP1049		94GP1049	
RFW#			006		005	
Sample Depth			0-6"		0-6"	
Dilution Factor			1.00		1.00	
Matrix			soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg	
Sampling Date			12/2/94		12/2/94	
Analysis Date			1/12/95		1/12/95	
Analysis	Standard	Standard	Analytical	Reporting	Analytical	Reporting
	fresh water	salt water	Result	Limit	Result	Limit
alpha-BHC			0.0057 U	0.0057	0.0024 U	0.0024
beta-BHC			0.0057 U	0.0057	0.0024 U	0.0024
delta-BHC			0.0057 U	0.0057	0.0024 U	0.0024
gamma-BHC (Lindane)			0.0057 U	0.0057	0.0024 U	0.0024
Heptachlor			0.0057 U	0.0057	0.0024 U	0.0024
Aldrin			0.0057 U	0.0057	0.0024 U	0.0024
Heptachlor epoxide			0.0057 U	0.0057	0.014 P	0.0024
Endosulfan I			0.0057 U	0.0057	0.0024 J	0.0024
Dieldrin			0.011 U	0.011	0.0049 U	0.0049
4,4'-DDE	0.002	0.0022	0.0092 J	0.011	0.002 JP	0.0049
Endrin			0.011 U	0.011	0.0049 U	0.0049
Endosulfan II			0.011 U	0.011	0.0049 U	0.0049
4,4'-DDD	0.002		0.013	0.011	0.0049 U	0.0049
Endosulfan sulfate			0.011 U	0.011	0.0049 U	0.0049
4,4'-DDT	0.00183	0.00158	0.0057 JP	0.011	0.0024 JP	0.0049
Methoxychlor			0.057 U	0.057	0.024 U	0.024
Endrin ketone			0.011 U	0.011	0.0049 U	0.0049
Endrin aldehyde			0.011 U	0.011	0.0049 U	0.0049
alpha-Chlordane			0.011 P	0.0057	0.0024 P	0.0024
gamma-Chlordane			0.0092 P	0.0057	0.0015 JP	0.0024
Toxaphene			0.57 U	0.57	0.24 U	0.24
Aroclor-1016			0.11 U	0.11	0.049 U	0.049
Aroclor-1221			0.23 U	0.23	0.098 U	0.098
Aroclor-1232			0.11 U	0.11	0.049 U	0.049
Aroclor-1242			0.11 U	0.11	0.049 U	0.049
Aroclor-1248			0.11 U	0.11	0.049 U	0.049
Aroclor-1254			0.11 U	0.11	0.049 U	0.049
Aroclor-1260			0.11 U	0.11	0.049 U	0.049
Method:TCL Pesticides/PCBs						

MAIN POST
SURFACE WATER VOLATILES

Geographical Location				M2		M2		M3		M3		M3		M14		M14	
Sample				MP02-SW01-A01		MP02-SW02-A01		MP06-SW01-A01		MP06-SW01-C01		MP10-SW01-A01		MP14-SW01-A01		MP14-SW02-A01	
Sample Type										Duplicate							
Batch#				9412G921		9412G921		9412G921		9412G921		9412G922		9412G921		9412G921	
Prep#				94GVE343		94GVE343		94GVE343		94GVE343		94GVE348		94GVE348		94GVE343	
RFW#				007		009		003		005		001		018		011	
Dilution Factor				1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix				water		water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date				12/1/94		12/1/94		12/1/94		12/1/94		12/1/94		12/1/94		12/1/94	
Analysis Date				12/7/94		12/7/94		12/7/94		12/7/94		12/9/94		12/9/94		12/7/94	
Analysis	Standard	Standard	MDL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL
	fresh water	salt water		Result		Result		Result		Result		Result		Result		Result	
Chloromethane	5.7		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane	48.4	4000	6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	0.083	525	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane			9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2.49	1600	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone			6.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Disulfide			4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene	4.81		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane			3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)			4.4	3 J	10	2 J	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	5.67	470	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	4 J	10	5 J	10
1,2-Dichloroethane	0.291	99	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone			4.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,1-Trichloroethane	127		1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	0.363	6.31	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	0.266	22	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane			1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene			3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1.09	81	2.0	2 J	10	2 J	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	72.6		2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	13.5		4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	0.15	71	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.193	1700	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4.38	360	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone			5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone			3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	0.388	4.29	4.0	5 J	10	5 J	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	1.72		4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	7440	200000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	22	21000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Ethylbenzene	3030	27900	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene			3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)			3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Method:TCL Volatiles																	

MAIN POST
SURFACE WATER VOLATILES (OFFSITE DATA)

Geographical Location				Background SS01		Background SS02	
Sample				SS01-SW01-A01		SS01-SW02-A01	
Batch#				9412G922		9412G922	
Prep#				94GGVE348		94GGVE348	
RFW#				001		003	
Dilution Factor				1.00		1.00	
Matrix				water		water	
Units	ug/l	ug/l	ug/l	ug/l		ug/l	
Sampling Date				12/1/94		12/1/94	
Analysis Date				12/9/94		12/9/94	
Analysis	Standard	Standard	MDL	Analytical	CRQL	Analytical	CRQL
	fresh water	salt water		Result		Result	
Chloromethane	5.7		7.3	10 U	10	10 U	10
Bromomethane	48.4	4000	6.7	10 U	10	10 U	10
Vinyl Chloride	0.083	525	7.9	10 U	10	10 U	10
Chloroethane			9.1	10 U	10	10 U	10
Methylene Chloride	2.49	1600	2.7	10 U	10	10 U	10
Acetone			6.9	10 U	10	10 U	10
Carbon Disulfide			4.4	10 U	10	10 U	10
1,1-Dichloroethene	4.81		4.9	10 U	10	10 U	10
1,1-Dichloroethane			3.0	10 U	10	10 U	10
1,2-Dichloroethene (total)			4.4	10 U	10	10 U	10
Chloroform	5.67	470	2.9	10 U	10	10 U	10
1,2-Dichloroethane	0.291	99	2.4	10 U	10	10 U	10
2-Butanone			4.1	10 U	10	10 U	10
1,1,1-Trichloroethane	127		1.7	10 U	10	10 U	10
Carbon Tetrachloride	0.363	6.31	1.5	10 U	10	10 U	10
Bromodichloromethane	0.266	22	2.0	10 U	10	10 U	10
1,2-Dichloropropane			1.7	10 U	10	10 U	10
cis-1,3-Dichloropropene			3.0	10 U	10	10 U	10
Trichloroethene	1.09	81	2.0	10 U	10	10 U	10
Dibromochloromethane	72.6		2.4	10 U	10	10 U	10
1,1,2-Trichloroethane	13.5		4.3	10 U	10	10 U	10
Benzene	0.15	71	3.3	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.193	1700	2.4	10 U	10	10 U	10
Bromoform	4.38	360	3.1	10 U	10	10 U	10
4-Methyl-2-pentanone			5.5	10 U	10	10 U	10
2-Hexanone			3.9	10 U	10	10 U	10
Tetrachloroethene	0.388	4.29	4.0	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	1.72		4.2	10 U	10	10 U	10
Toluene	7440	200000	2.7	10 U	10	10 U	10
Chlorobenzene	22	21000	2.7	10 U	10	10 U	10
Ethylbenzene	3030	27900	3.1	10 U	10	10 U	10
Styrene			3.8	10 U	10	10 U	10
Xylene (total)			3.8	10 U	10	10 U	10
Total Est. Conc. of TIC.							
Method:TCL Volatiles							

MAIN POST
SURFACE WATER SEMIVOLATILES

Geographical Location				M2		M2		M3		M3		M3		M14		M14	
Sample				MP02-SW01-A01		MP02-SW02-A01		MP06-SW01-A01		MP06-SW01-C01		MP10-SW01-A01		MP14-SW01-A01		MP14-SW02-A01	
Sample Type										Duplicate							
Batch#				9412G921		9412G921		9412G921		9412G921		9412G922		9412G921		9412G921	
Prep#				94GBO800		94GBO800		94GBO800		94GBO800		94GBO800		94GBO809		94GBO800	
RFW#				007		009		003		005		001		018		011	
Dilution Factor				1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix				water		water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date				12/1/94		12/1/94		12/1/94		12/1/94		12/1/94		12/1/94		12/1/94	
Analysis Date				12/22/94		12/22/94		12/22/94		12/22/94		12/22/94		12/22/94		12/22/94	
Analysis	Standard	Standard	MDL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL
	fresh water	salt water		Result		Result		Result		Result		Result		Result		Result	
Phenol	20900	4600000	7.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
bis(2-Chloroethyl) ether	0.0311	1.4	9.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Chlorophenol	122	402	7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,3-Dichlorobenzene	2620	22200	5.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,4-Dichlorobenzene	343	3159	4.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichlorobenzene	2520	16500	5.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Methylphenol			6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2,2'-oxybis(1-Chloropropane)			7.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methylphenol			12.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
N-Nitroso-di-n-propylamine			8.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Hexachloroethane	2.73	12.4	5.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Nitrobenzene	16	1900	7.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Isophorone	552		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Nitrophenol			7.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2,4-Dimethylphenol			4.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
bis(2-Chloroethoxy) methane			6.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2,4-Dichlorophenol	92.7	794	4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2,4-Trichlorobenzene	30.6	113	9.6	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Naphthalene			8.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Chloroaniline			2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Hexachlorobutadiene	6.94		4.6	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Chloro-3-methylphenol			3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Methylnaphthalene			8.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Hexachlorocyclopentadiene	245	17000	3.6	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2,4,6-Trichlorophenol	2.14	6.53	5.6	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2,4,5-Trichlorophenol	2580	9790	4.7	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25
2-Chloronaphthalene			8.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Nitroaniline			6.1	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25
Dimethyl phthalate	313000	2900000	4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acenaphthylene			6.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2,6-Dinitrotoluene			5.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
3-Nitroaniline			5.2	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25
Acenaphthene			6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2,4-Dinitrophenol	69.7	14000	4.6	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25
4-Nitrophenol			7.5	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25

MAIN POST
SURFACE WATER SEMIVOLATILES

Geographical Location				M2		M2		M3		M3		M3		M14		M14	
Sample				MP02-SW01-A01		MP02-SW02-A01		MP06-SW01-A01		MP06-SW01-C01		MP10-SW01-A01		MP14-SW01-A01		MP14-SW02-A01	
Sample Type										Duplicate							
Batch#				9412G921		9412G921		9412G921		9412G921		9412G922		9412G921		9412G921	
Prep#				94GBO800		94GBO800		94GBO800		94GBO800		94GBO800		94GBO809		94GBO800	
RFW#				007		009		003		005		001		018		011	
Dilution Factor				1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix				water		water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date				12/1/94		12/1/94		12/1/94		12/1/94		12/1/94		12/1/94		12/1/94	
Analysis Date				12/22/94		12/22/94		12/22/94		12/22/94		12/22/94		12/22/94		12/22/94	
Analysis	Standard	Standard	MDL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL
	fresh water	salt water		Result		Result		Result		Result		Result		Result		Result	
Dibenzofuran			6.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2,4-Dinitrotoluene	0.11	9.1	5.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Diethyl phthalate	21200	111000	5.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Chlorophenyl-phenylether			7.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Fluorene	1340		6.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Nitroaniline			6.4	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25
4,6-Dinitro-2-methylphenol			5.3	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25
N-Nitrosodiphenylamine (1)			4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Bromophenyl-phenylether			5.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Hexachlorobenzene	0.000748	0.000775	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Pentachlorophenol	0.282	7.9	4.0	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25	25 U	25
Phenanthrene			5.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Anthracene	9570	108000	4.6	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbazole			4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Di-n-butylphthalate	3530	15700	6.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Fluoranthene	310	393	6.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Pyrene	797	8970	5.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Butylbenzylphthalate	239	416	5.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
3,3'-Dichlorobenzidine	0.0386	0.0767	2.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzo(a)anthracene	0.0028	0.031	4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chrysene	0.0028	0.031	4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
bis(2-Ethylhexy)phthalate	1.76	5.92	9.7	10 U	10	4 J	10	10 U	10	10 U	10	10 U	10	10 U	10	2 J	10
Di-n-octyl phthalate			5.6	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzo(b)fluoranthene	0.0028	0.031	5.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzo(k)fluoranthene	0.0028	0.031	6.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzo(a)pyrene	0.0028	0.031	4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Indeno(1,2,3-cd)pyrene	0.0028	0.031	7.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibenz(a,h)anthracene	0.0028	0.031	6.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzo(g,h,i)perylene			6.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Total Est. Conc. of TIC				11		17		28		3		10		11		2	
Method:TCL Semivolatiles																	

MAIN POST
SURFACE WATER SEMIVOLATILES (OFFSITE DATA)

Geographical Location				Background SS01		Background SS02	
Sample				SS01-SW01-A01		SS01-SW02-A01	
Batch#				9412G921		9412G922	
Prep#				94GBO800		94GBO800	
RFW#				001		003	
Dilution Factor				1.00		1.00	
Matrix				water		water	
Units	ug/l	ug/l	ug/l	ug/l		ug/l	
Sampling Date				12/1/94		12/1/94	
Analysis Date				12/22/94		12/22/94	
Analysis	Standard	Standard	MDL	Analytical	CRQL	Analytical	CRQL
	fresh water	salt water		Result		Result	
Phenol	20900	4600000	7.1	10 U	10	10 U	10
bis(2-Chloroethyl) ether	0.0311	1.4	9.7	10 U	10	10 U	10
2-Chlorophenol	122	402	7.3	10 U	10	10 U	10
1,3-Dichlorobenzene	2620	22200	5.3	10 U	10	10 U	10
1,4-Dichlorobenzene	343	3159	4.8	10 U	10	10 U	10
1,2-Dichlorobenzene	2520	16500	5.7	10 U	10	10 U	10
2-Methylphenol			6.7	10 U	10	10 U	10
2,2'-oxybis(1-Chloropropane)			7.0	10 U	10	10 U	10
4-Methylphenol			12.9	10 U	10	10 U	10
N-Nitroso-di-n-propylamine			8.0	10 U	10	10 U	10
Hexachloroethane	2.73	12.4	5.3	10 U	10	10 U	10
Nitrobenzene	16	1900	7.4	10 U	10	10 U	10
Isophorone	552		3.9	10 U	10	10 U	10
2-Nitrophenol			7.0	10 U	10	10 U	10
2,4-Dimethylphenol			4.8	10 U	10	10 U	10
bis(2-Chloroethoxy) methane			6.1	10 U	10	10 U	10
2,4-Dichlorophenol	92.7	794	4.4	10 U	10	10 U	10
1,2,4-Trichlorobenzene	30.6	113	9.6	10 U	10	10 U	10
Naphthalene			8.4	10 U	10	10 U	10
4-Chloroaniline			2.9	10 U	10	10 U	10
Hexachlorobutadiene	6.94		4.6	10 U	10	10 U	10
4-Chloro-3-methylphenol			3.1	10 U	10	10 U	10
2-Methylnaphthalene			8.7	10 U	10	10 U	10
Hexachlorocyclopentadiene	245	17000	3.6	10 U	10	10 U	10
2,4,6-Trichlorophenol	2.14	6.53	5.6	10 U	10	10 U	10
2,4,5-Trichlorophenol	2580	9790	4.7	25 U	25	25 U	25
2-Chloronaphthalene			8.2	10 U	10	10 U	10
2-Nitroaniline			6.1	25 U	25	25 U	25
Dimethylphthalate	313000	2900000	4.4	10 U	10	10 U	10
Acenaphthylene			6.0	10 U	10	10 U	10
2,6-Dinitrotoluene			5.2	10 U	10	10 U	10
3-Nitroaniline			5.2	25 U	25	25 U	25
Acenaphthene			6.7	10 U	10	10 U	10
2,4-Dinitrophenol	69.7	14000	4.6	25 U	25	25 U	25
4-Nitrophenol			7.5	25 U	25	25 U	25

MAIN POST
SURFACE WATER SEMIVOLATILES (OFFSITE DATA)

Geographical Location				Background SS01		Background SS02	
Sample				SS01-SW01-A01		SS01-SW02-A01	
Batch#				9412G921		9412G922	
Prep#				94GBO800		94GBO800	
RFW#				001		003	
Dilution Factor				1.00		1.00	
Matrix				water		water	
Units	ug/l	ug/l	ug/l	ug/l		ug/l	
Sampling Date				12/1/94		12/1/94	
Analysis Date				12/22/94		12/22/94	
Analysis	Standard	Standard	MDL	Analytical	CRQL	Analytical	CRQL
	fresh water	salt water		Result		Result	
Dibenzofuran			6.5	10 U	10	10 U	10
2,4-Dinitrotoluene	0.11	9.1	5.8	10 U	10	10 U	10
Diethylphthalate	21200	111000	5.4	10 U	10	10 U	10
4-Chlorophenyl-phenylether			7.0	10 U	10	10 U	10
Fluorene	1340		6.3	10 U	10	10 U	10
4-Nitroaniline			6.4	25 U	25	25 U	25
4,6-Dinitro-2-methylphenol			5.3	25 U	25	25 U	25
N-Nitrosodiphenylamine (1)			4.2	10 U	10	10 U	10
4-Bromophenyl-phenylether			5.3	10 U	10	10 U	10
Hexachlorobenzene	0.000748	0.000775	5.5	10 U	10	10 U	10
Pentachlorophenol	0.282	7.9	4.0	25 U	25	25 U	25
Phenanthrene			5.0	10 U	10	10 U	10
Anthracene	9570	108000	4.6	10 U	10	10 U	10
Carbazole			4.4	10 U	10	10 U	10
Di-n-butylphthalate	3530	15700	6.5	10 U	10	10 U	10
Fluoranthene	310	393	6.0	10 U	10	10 U	10
Pyrene	797	8970	5.4	10 U	10	10 U	10
Butylbenzylphthalate	239	416	5.3	10 U	10	10 U	10
3,3'-Dichlorobenzidine	0.0386	0.0767	2.8	10 U	10	10 U	10
Benzo(a)anthracene	0.0028	0.031	4.9	10 U	10	10 U	10
Chrysene	0.0028	0.031	4.4	10 U	10	10 U	10
bis(2-Ethylhexy)phthalate	1.76	5.92	9.7	10 U	10	10 U	10
Di-n-octyl phthalate			5.6	10 U	10	10 U	10
Benzo(b)fluoranthene	0.0028	0.031	5.7	10 U	10	10 U	10
Benzo(k)fluoranthene	0.0028	0.031	6.2	10 U	10	10 U	10
Benzo(a)pyrene	0.0028	0.031	4.9	10 U	10	10 U	10
Indeno(1,2,3-cd)pyrene	0.0028	0.031	7.1	10 U	10	10 U	10
Dibenz(a,h)anthracene	0.0028	0.031	6.0	10 U	10	10 U	10
Benzo(g,h,i)perylene			6.8	10 U	10	10 U	10
Petroleum hydrocarbons				0.26 U	0.26	0.27 U	0.27
Total Est. Conc. of TIC				13		15	
Method:TCL Semivolatiles							

MAIN POST
SURFACE WATER INORGANICS

Geographical Location			M2		M2		M2		M2		M3		M3	
Sample			MP02-SW01-A01		MP02-SW01-A01 SOL		MP02-SW02-A01		MP02-SW02-A01SOL		MP06-SW01-A01		MP06-SW01-A01 SOL	
Sample Type														
Batch#			9412G921		9412G921		9412G921		9412G921		9412G921		9412G921	
Prep#			94GCN260		94GI180		94GCN260		94GI180		94GCN264		94GI180	
RFW#			007		008		009		010		003		004	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water, filtered		water		water, filtered		water		water, filtered	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			12/1/94		12/1/94		12/1/94		12/1/94		12/1/94		12/1/94	
Analysis Date			12/13/94		12/19/94		12/13/94		12/19/94		12/14/94		12/19/94	
Analysis	Standard	Standard	Analytical	MDL	Analytical	MDL	Analytical	MDL	Analytical	MDL	Analytical	MDL	Analytical	MDL
	fresh water	salt water	Result		Result		Result		Result		Result		Result	
Silver	164		3.1 U	3.1	3.1 U	3.1	3.1 U	3.1	3.1 U	3.1	3.1 U	3.1	3.1 U	3.1
Aluminum			258	26.7	26.7 U	26.7	263	26.7	26.7 U	26.7	155	26.7	26.7 U	26.7
Arsenic	0.017	0.136	1.6 U	1.6	1.6 U	1.6	1.6 U	1.6	1.6 U	1.6	1.6 U	1.6	1.6 U	1.6
Barium	2000		42.7	2.1	38.2	2.1	47	2.1	41.8	2.1	32.6	2.1	27.7	2.1
Beryllium			1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5
Calcium			18000	12.0	17700	12.0	19400	12.0	19000	12.0	32100	12.0	30400	12.0
Cadmium	10		3.4 U	3.4	3.4 U	3.4	3.4 U	3.4	3.4 U	3.4	3.4 U	3.4	3.4 U	3.4
Cobalt			4.5	2.8	4.1	2.8	4.8	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8
Chromium	160	3230	6.4 U	6.4	6.4 U	6.4	6.4 U	6.4	6.4 U	6.4	6.4 U	6.4	6.4 U	6.4
Copper			3.1	2.4	4.2	2.4	2.9	2.4	4.9	2.4	2.4 U	2.4	2.4 U	2.4
Iron			2760	4.7	493	4.7	3020	4.7	681	4.7	2850	4.7	412	4.7
Mercury	0.144	0.146	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20 U	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium			2840	821	2860	821	2980	821	3180	821	5630	821	5170	821
Magnesium			2930	38.2	2860	38.2	3170	38.2	3070	38.2	9360	38.2	8840	38.2
Manganese	100		89.9	2.0	86.1	2.0	97.6	2.0	92.8	2.0	101	2.0	94.3	2.0
Sodium			25400	15.4	25200	15.4	27500	15.4	26900	15.4	52800	15.4	49800	15.4
Nickel	516	3900	12.8 U	12.8	14.7	12.8	12.8 U	12.8	12.8 U	12.8	12.8 U	12.8	12.8 U	12.8
Lead	5		3.1	1.6	7.6	1.6	2.3	1.6	1.6 U	1.6	4	1.6	1.6 U	1.6
Antimony	12.2	4300	21.5 U	21.5	21.5 U	21.5	21.5 U	21.5	21.5 U	21.5	21.5 U	21.5	21.5 U	21.5
Selenium	10	71	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90 U	0.90 U	0.90	1.1	0.90	0.90 U	0.90
Thallium	1.7	6.22	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1
Vanadium			2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9
Zinc			29.1	2.8	19.4	2.8	32.9	2.8	21.1	2.8	12.1	2.8	7.8	2.8
Cyanide	5.2	1	10 U	10			10 U	10			10 U	10.0		
Method:TAL Metals, Cyanide														

MAIN POST
SURFACE WATER INORGANICS

Geographical Location			M3		M3		M3		M3		M14		M14	
Sample			MP06-SW01-C01		MP06-SW01-C01 SOL		MP10-SW01-A01		MP10-SW01-A01 SOL		MP14-SW01-A01		MP14-SW01-A01 SOL	
Sample Type			Duplicate		Duplicate									
Batch#			9412G921		9412G921		9412G922		9412G922		9412G921		9412G921	
Prep#			94GCN260		94GI180		94GCN264		94GI186		94GCN260		94GI180	
RFW#			005		006		001		002		018		019	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water, filtered		water		water, filtered		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			12/1/94		12/1/94		12/1/94		12/1/94		12/1/94		12/1/94	
Analysis Date			12/13/94		12/13/94		12/14/94		12/21/94		12/13/94		12/19/94	
Analysis	Standard	Standard	Analytical	MDL	Analytical	MDL	Analytical	MDL	Analytical	MDL	Analytical	MDL	Analytical	MDL
	fresh water	salt water	Result		Result		Result		Result		Result		Result	
Silver	164		3.1 U	3.1	3.1 U	3.1	3.1 U	3.1	3.1 U	3.1	3.1 U	3.1	3.1 U	3.1
Aluminum			179	26.7	26.7 U	26.7	69.0	26.7	26.7 U	26.7	188	26.7	26.7 U	26.7
Arsenic	0.017	0.136	1.6 U	1.6	1.6 U	1.6	1.6 U	1.6	1.6 U	1.6	1.6 U	1.6	1.6 U	1.6
Barium	2000		33.3	2.1	27.6	2.1	34.6	2.1	29.1	2.1	30.0	2.1	27.2	2.1
Beryllium			1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5
Calcium			32100	12.0	30300	12.0	30000	12.0	29400	12.0	16200	12.0	16300	12.0
Cadmium	10		3.4 U	3.4	3.4 U	3.4	3.4 U	3.4	3.4 U	3.4	3.4 U	3.4	3.4 U	3.4
Cobalt			2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8
Chromium	160	3230	6.4 U	6.4	6.4 U	6.4	6.4 U	6.4	6.4 U	6.4	6.4 U	6.4	6.4 U	6.4
Copper			2.4 U	2.4	4.3	2.4	2.4 U	2.4	3.9	2.4	2.9	2.4	5.6	2.4
Iron			2940	4.7	465	4.7	2180	4.7	355	4.7	1920	4.7	839	4.7
Mercury	0.144	0.146	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium			6260	821	5840	821	4320	821	4280	821	4840	821	4240	821
Magnesium			9790	38.2	9030	38.2	5340	38.2	5160	38.2	9770	38.2	9540	38.2
Manganese	100		102	2.0	94.1	2.0	98.7	2.0	96.2	2.0	65.6	2.0	63.6	2.0
Sodium			56500	15.4	52300	15.4	18200	15.4	17700	15.4	70100	15.4	69100	15.4
Nickel	516	3900	12.8 U	12.8	12.8 U	12.8	12.8 U	12.8	12.8 U	12.8	14.2	12.8	12.8 U	12.8
Lead	5		4.8	1.6	1.6 U	1.6	1.6	1.6	1.6 U	1.6	3.4	1.6	3.1	1.6
Antimony	12.2	4300	21.5 U	21.5	21.5 U	21.5	21.5 U	21.5	21.5 U	21.5	21.5 U	21.5	21.5 U	21.5
Selenium	10	71	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90
Thallium	1.7	6.22	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1
Vanadium			2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9
Zinc			12.2	2.8	2.8	2.8	16	2.8	7.9	2.8	23.7	2.8	14.4	2.8
Cyanide	5.2	1	10 U	10			10 U	10			10 U	10		
Method:TAL Metals, Cyanide														

MAIN POST
SURFACE WATER INORGANICS

Geographical Location			M14		M14	
Sample			MP14-SW02-A01		MP14-SW02-A01SOL	
Sample Type						
Batch#			9412G921		9412G921	
Prep#			94GCN260		94GI180	
RFW#			011		012	
Dilution Factor			1.00		1.00	
Matrix			water		water, filtered	
Units	ug/l	ug/l	ug/l		ug/l	
Sampling Date			12/1/94		12/1/94	
Analysis Date			12/13/94		12/19/94	
Analysis	Standard	Standard	Analytical	MDL	Analytical	MDL
	fresh water	salt water	Result		Result	
Silver	164		3.1 U	3.1	3.1 U	3.1
Aluminum			205	26.7	26.7	26.7
Arsenic	0.017	0.136	1.6 U	1.6	1.6 U	1.6
Barium	2000		33.1	2.1	31.2	2.1
Beryllium			1.5 U	1.5	1.5 U	1.5
Calcium			20400	12.0	20300	12.0
Cadmium	10		3.4 U	3.4	3.4 U	3.4
Cobalt			2.8 U	2.8	2.8 U	2.8
Chromium	160	3230	6.4 U	6.4	6.4 U	6.4
Copper			5.3	2.4	4.9	2.4
Iron			2070	4.7	999	4.7
Mercury	0.144	0.146	0.20 U	0.20	0.20 U	0.20
Potassium			8320	821	8220	821
Magnesium			21400	38.2	21600	38.2
Manganese	100		68.4	2.0	66.1	2.0
Sodium			168000	15.4	171000	15.4
Nickel	516	3900	12.8 U	12.8	12.8 U	12.8
Lead	5		2.8	1.6	3.2	1.6
Antimony	12.2	4300	21.5 U	21.5	21.5 U	21.5
Selenium	10	71	0.90 U	0.90	0.90 U	0.90
Thallium	1.7	6.22	1.1 U	1.1	1.1 U	1.1
Vanadium			2.9 U	2.9	2.9 U	2.9
Zinc			23.4	2.8	13.2	2.8
Cyanide	5.2	1	10 U	10		
Method:TAL Metals, Cyanide						

MAIN POST
SURFACE WATER INORGANICS (OFFSITE DATA)

Geographical Location			Background SS01		Background SS01		Background SS02		Background SS02	
Sample			SS01-SW01-A01		SS01-SW01-A01 SOL		SS01-SW02-A01		SS01-SW02-A01 SOL	
Batch#			9412G921		9412G921		9412G922		9412G922	
Prep#			94GCN260		94GI180		94GCN264		94GI186	
RFW#			001		002		003		004	
Dilution Factor			1.00		1.00		1.00		1.00	
Matrix			water		water, filtered		water		water, filtered	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l	
Sampling Date			12/1/94		12/1/94		12/1/94		12/1/94	
Analysis Date			12/13/94		12/19/94		12/14/94		12/21/94	
Analysis	Standard	Standard	Analytical	MDL	Analytical	MDL	Analytical	MDL	Analytical	MDL
	fresh water	salt water	Result		Result		Result		Result	
Silver	164		3.1 U	3.1	3.1 U	3.1	3.1 U	3.1	3.1 U	3.1
Aluminum			388	26.7	26.7 U	26.7	748	26.7	26.7 U	26.7
Arsenic	0.017	0.136	1.6 U	1.6	1.6 U	1.6	2.6	1.6	1.6 U	1.6
Barium	2000		44.7	2.1	39.4	2.1	42.3	2.1	31.3	2.1
Beryllium			1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5
Calcium			17300	12.0	17400	12.0	31600	12.0	30900	12.0
Cadmium	10		3.4 U	3.4	3.4 U	3.4	3.4 U	3.4	3.4 U	3.4
Cobalt			8.1	2.8	4.1	2.8	2.8 U	2.8	2.8 U	2.8
Chromium	160	3230	6.4 U	6.4	6.4 U	6.4	7.5	6.4	6.4 U	6.4
Copper			3.2	2.4	4	2.4	3.1	2.4	3.1	2.4
Iron			3010	4.7	405	4.7	6210	4.7	335	4.7
Mercury	0.144	0.146	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium			2990	821	2670	821	5060	821	4280	821
Magnesium			2880	38.2	2860	38.2	5440	38.2	5120	38.2
Manganese	100		93.3	2.0	90.7	2.0	113	2.0	98.6	2.0
Sodium			26700	15.4	26200	15.4	17600	15.4	17400	15.4
Nickel	516	3900	22.9	12.8	16.1	12.8	12.8	12.8	12.8 U	12.8
Lead	5		2.4	1.6	1.6 U	1.6	10.0	1.6	1.6 U	1.6
Antimony	12.2	4300	21.5 U	21.5	21.5 U	21.5	21.5 U	21.5	21.5 U	21.5
Selenium	10	71	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90
Thallium	1.7	6.22	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1
Vanadium			2.9 U	2.8	2.9 U	2.8	5.8	2.9	2.9 U	2.9
Zinc			35.1	2.9	23.8	2.9	31.8	2.8	8.8	2.8
Cyanide	5.2	1	10 U	10.0			10 U	10		
Method:TAL Metals, Cyanide										

MAIN POST
SURFACE WATER PESTICIDES/PCBS

Geographical Location			M2		M2		M3		M3		M3		M14		M14	
Sample			MP02-SW01-A01		MP02-SW02-A01		MP06-SW01-A02		MP06-SW01-C01		MP10-SW01-A01		MP14-SW01-A01		MP14-SW02-A01	
Sample Type									Duplicate							
Batch#			9412G921		9412G921		9412G921		9412G921		9412G922		9412G921		9412G921	
Prep#			94GP1038		94GP1038		94GP1038		94GP1038		94GP1038		94GP1038		94GP1038	
RFW#			007		009		003		005		001		018		011	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			12/1/94		12/1/94		12/1/94		12/1/94		12/1/94		12/1/94		12/1/94	
Analysis Date			12/16/94		12/16/94		12/16/94		12/16/94		12/16/94		12/16/94		12/16/94	
Analysis	Standard	Standard	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting
	fresh water	salt water	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
alpha-BHC	0.00391	0.0131	0.050 U	0.050	0.050 U	0.050	0.054 U	0.054	0.050 U	0.050	0.054 U	0.054	0.049 U	0.049	0.053 U	0.053
beta-BHC	0.137	0.460	0.050 U	0.050	0.050 U	0.050	0.054 U	0.054	0.050 U	0.050	0.054 U	0.054	0.049 U	0.049	0.053 U	0.053
delta-BHC			0.050 U	0.050	0.050 U	0.050	0.054 U	0.054	0.050 U	0.050	0.054 U	0.054	0.049 U	0.049	0.053 U	0.053
gamma-BHC (Lindane)	0.08	0.16	0.050 U	0.050	0.050 U	0.050	0.054 U	0.054	0.050 U	0.050	0.054 U	0.054	0.049 U	0.049	0.053 U	0.053
Heptachlor	0.000208	0.000214	0.050 U	0.050	0.050 U	0.050	0.054 U	0.054	0.050 U	0.050	0.054 U	0.054	0.049 U	0.049	0.053 U	0.053
Aldrin	0.000135	0.000144	0.050 U	0.050	0.050 U	0.050	0.054 U	0.054	0.050 U	0.050	0.054 U	0.054	0.049 U	0.049	0.053 U	0.053
Heptachlor epoxide	0.000103	0.000106	0.050 U	0.050	0.050 U	0.050	0.054 U	0.054	0.050 U	0.050	0.054 U	0.054	0.049 U	0.049	0.053 U	0.053
Endosulfan I			0.050 U	0.050	0.050 U	0.050	0.054 U	0.054	0.050 U	0.050	0.054 U	0.054	0.049 U	0.049	0.053 U	0.053
Dieldrin	0.000135	0.000144	0.10 U	0.10	0.099 U	0.099	0.11 U	0.11	0.10 U	0.10	0.11 U	0.11	0.098 U	0.098	0.11 U	0.11
4,4'-DDE	0.000588	0.000591	0.10 U	0.10	0.099 U	0.099	0.11 U	0.11	0.10 U	0.10	0.11 U	0.11	0.098 U	0.098	0.11 U	0.11
Endrin	0.0023	0.0023	0.10 U	0.10	0.099 U	0.099	0.11 U	0.11	0.10 U	0.10	0.11 U	0.11	0.098 U	0.098	0.11 U	0.11
Endosulfan II			0.10 U	0.10	0.099 U	0.099	0.11 U	0.11	0.10 U	0.10	0.11 U	0.11	0.098 U	0.098	0.11 U	0.11
4,4'-DDD	0.000832	0.000837	0.10 U	0.10	0.099 U	0.099	0.11 U	0.11	0.10 U	0.10	0.11 U	0.11	0.098 U	0.098	0.11 U	0.11
Endosulfan sulfate	0.93	2.0	0.10 U	0.10	0.099 U	0.099	0.11 U	0.11	0.10 U	0.10	0.11 U	0.11	0.098 U	0.098	0.11 U	0.11
4,4'-DDT	0.000588	0.000591	0.10 U	0.10	0.099 U	0.099	0.11 U	0.11	0.10 U	0.10	0.11 U	0.11	0.098 U	0.098	0.11 U	0.11
Methoxychlor	0.03	0.03	0.50 U	0.50	0.50 U	0.50	0.05 U	0.05	0.50 U	0.50	0.54 U	0.54	0.49 U	0.49	0.53 U	0.53
Endrin ketone			0.10 U	0.10	0.099 U	0.099	0.11 U	0.11	0.10 U	0.10	0.11 U	0.11	0.098 U	0.098	0.11 U	0.11
Endrin aldehyde	0.76	0.81	0.10 U	0.10	0.099 U	0.099	0.11 U	0.11	0.10 U	0.10	0.11 U	0.11	0.098 U	0.098	0.11 U	0.11
alpha-Chlordane	0.000277	0.000283	0.050 U	0.050	0.050 U	0.050	0.054 U	0.054	0.050 U	0.050	0.054 U	0.054	0.049 U	0.049	0.053 U	0.053
gamma-Chlordane			0.050 U	0.050	0.050 U	0.050	0.054 U	0.054	0.050 U	0.050	0.054 U	0.054	0.049 U	0.049	0.053 U	0.053
Toxaphene	0.00073	0.000747	5.0 U	5.0	5.0 U	5.0	5.4 U	5.4	5.0 U	5.0	5.4 U	5.4	4.9 U	4.9	5.3 U	5.3
Aroclor-1016	0.000244	0.000247	1.0 U	1.0	0.99 U	0.10	1.1 U	1.1	1.0 U	1.0	1.1 U	1.1	0.98 U	0.98	1.1 U	1.1
Aroclor-1221	0.000244	0.000247	2.0 U	2.0	2.0 U	2.0	2.2 U	2.2	2.0 U	2.0	2.2 U	2.2	2.0 U	2.0 U	2.1 U	2.1
Aroclor-1232	0.000244	0.000247	1.0 U	1.0	0.99 U	0.10	1.1 U	1.1	1.0 U	1.0	1.1 U	1.1	0.98 U	0.98	1.1 U	1.1
Aroclor-1242	0.000244	0.000247	1.0 U	1.0	0.99 U	0.10	1.1 U	1.1	1.0 U	1.0	1.1 U	1.1	0.98 U	0.98	1.1 U	1.1
Aroclor-1248	0.000244	0.000247	1.0 U	1.0	0.99 U	0.10	1.1 U	1.1	1.0 U	1.0	1.1 U	1.1	0.98 U	0.98	1.1 U	1.1
Aroclor-1254	0.000244	0.000247	1.0 U	1.0	0.99 U	0.10	1.1 U	1.1	1.0 U	1.0	1.1 U	1.1	0.98 U	0.98	1.1 U	1.1
Aroclor-1260	0.000244	0.000247	1.0 U	1.0	0.99 U	0.10	1.1 U	1.1	1.0 U	1.0	1.1 U	1.1	0.98 U	0.98	1.1 U	1.1
Method:TCL Pesticides/PCBs																

MAIN POST
SURFACE WATER PESTICIDES/PCBS (OFFSITE DATA)

Geographical Location			Background SS01		Background SS02	
Sample			SS01-SW01-A01		SS01-SW02-A01	
Batch#			9412G921		9412G922	
Prep#			94GP1038		94GP1038	
RFW#			001		003	
Dilution Factor			1.00		1.00	
Matrix			water		water	
Units	ug/l	ug/l	ug/l		ug/l	
Sampling Date			12/1/94		12/1/94	
Analysis Date			12/16/94		1/17/95	
Analysis	Standard	Standard	Analytical	Reporting	Analytical	Reporting
	fresh water	salt water	Result	Limit	Result	Limit
alpha-BHC	0.00391	0.0131	0.046 U	0.046	0.053 U	0.053
beta-BHC	0.137	0.460	0.046 U	0.046	0.053 U	0.053
delta-BHC			0.046 U	0.046	0.053 U	0.053
gamma-BHC (Lindane)	0.08	0.16	0.046 U	0.046	0.053 U	0.053
Heptachlor	0.000208	0.000214	0.046 U	0.046	0.053 U	0.053
Aldrin	0.000135	0.000144	0.046 U	0.046	0.053 U	0.053
Heptachlor epoxide	0.000103	0.000106	0.046 U	0.046	0.053 U	0.053
Endosulfan I			0.046 U	0.046	0.053 U	0.053
Dieldrin	0.000135	0.000144	0.091 U	0.091	0.11 U	0.11
4,4'-DDE	0.000588	0.000591	0.091 U	0.091	0.11 U	0.11
Endrin	0.0023	0.0023	0.091 U	0.091	0.11 U	0.11
Endosulfan II			0.091 U	0.091	0.11 U	0.11
4,4'-DDD	0.000832	0.000837	0.091 U	0.091	0.11 U	0.11
Endosulfan sulfate	0.93	2.0	0.091 U	0.091	0.11 U	0.11
4,4'-DDT	0.000588	0.000591	0.091 U	0.091	0.11 U	0.11
Methoxychlor	0.03	0.03	0.46 U	0.46	0.53 U	0.53
Endrin ketone			0.091 U	0.091	0.11 U	0.11
Endrin aldehyde	0.76	0.81	0.091 U	0.091	0.11 U	0.11
alpha-Chlordane	0.000277	0.000283	0.046 U	0.046	0.053 U	0.053
gamma-Chlordane			0.046 U	0.046	0.053 U	0.053
Toxaphene	0.00073	0.000747	4.6 U	4.6	5.3 U	5.3
Aroclor-1016	0.000244	0.000247	0.91 U	0.09	1.1 U	1.1
Aroclor-1221	0.000244	0.000247	1.8 U	1.8	2.1 U	2.1
Aroclor-1232	0.000244	0.000247	0.91 U	0.09	1.1 U	1.1
Aroclor-1242	0.000244	0.000247	0.91 U	0.09	1.1 U	1.1
Aroclor-1248	0.000244	0.000247	0.91 U	0.09	1.1 U	1.1
Aroclor-1254	0.000244	0.000247	0.91 U	0.09	1.1 U	1.1
Aroclor-1260	0.000244	0.000247	0.91 U	0.09	1.1 U	1.1
Method:TCL Semivolatiles						

MAIN POST
SURFACE SOIL VOLATILES

Geographical Location			M16		M16		M16		M16		M16		M16	
Sample			MP16-SS01-A01		MP16-SS01-D01		MP16-SS01-E01		MP16-SS02-A01		MP16-SS03-A01		MP16-SS04-A01	
Sample Type					Trip Blank		Field Rinsate Blank							
Batch#			9411G832		9411G832		9411G832		9411G832		9411G832		9411G832	
Prep#			94GVT027		94GVE343		94GVE343		94GVT028		94GVT027		94GVT027	
RFW#			012		016		017		013		015		014	
Sample Depth			0-6"		0-6"		0-6"		0-6"		0-6"		0-6"	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			soil		water		water		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/l		mg/l		mg/kg		mg/kg		mg/kg	
Sampling Date			11/29/94		11/29/94		11/29/94		11/29/94		11/29/94		11/29/94	
Analysis Date			12/5/94		12/6/94		12/6/94		12/6/94		12/5/94		12/5/94	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane	520	0.0073	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
Bromomethane	79	0.0067	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
Vinyl Chloride	2	0.0079	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
Chloroethane		0.0091	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
Methylene Chloride	49	0.0027	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
Acetone	1000	0.0069	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.018 B		0.011 U	0.011	0.012 U	0.012
Carbon Disulfide		0.0044	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
1,1-Dichloroethene	8	0.0049	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
1,1-Dichloroethane	570	0.003	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
1,2-Dichloroethene (total)	79	0.0044	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
Chloroform	19	0.0029	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
1,2-Dichloroethane	6	0.0024	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
2-Butanone	1000	0.0041	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
1,1,1-Trichloroethane	210	0.0017	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
Carbon Tetrachloride	2	0.0015	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
Bromodichloromethane	11	0.002	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
1,2-Dichloropropane	10	0.0017	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
cis-1,3-Dichloropropene	4	0.003	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
Trichloroethene	23	0.002	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
Dibromochloromethane	110	0.0024	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
1,1,2-Trichloroethane	22	0.0043	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
Benzene	3	0.0033	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
trans-1,3-Dichloropropene	4	0.0024	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
Bromoform	86	0.0031	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
4-Methyl-2-pentanone	1000	0.0055	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
2-Hexanone		0.0039	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
Tetrachloroethene	4	0.004	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
1,1,2,2-Tetrachloroethane	34	0.0042	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
Toluene	1000	0.0027	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
Chlorobenzene	37	0.0027	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
Ethylbenzene	1000	0.0031	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
Styrene	23	0.0038	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
Xylene (total)	410	0.0038	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012
Method:TCL Volatiles														

MAIN POST
SURFACE SOIL SEMIVOLATILES

Geographical Location			M15		M15		M16		M16		M16		M16	
Sample			MP15-SS01-A01		MP15-SS02-A01		MP16-SS01-A01		MP16-SS02-A01		MP16-SS03-A01		MP16-SS04-A01	
Batch#			9411G832		9411G832		9411G832		9411G832		9411G832		9411G832	
Prep#			94GB0796		94GB0796		94GB0796		94GB0796		94GB0796		94GB0796	
RFW#			010		011		012		013		015		014	
Sample Depth			0-6"		0-6"		0-6"		0-6"		0-6"		0-6"	
Dilution Factor			1.00		1.00		1.00		25.0		1.00		1.00	
Matrix			soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			11/29/94		11/29/94		11/29/94		11/29/94		11/29/94		11/29/94	
Analysis Date			12/21/94		12/21/94		12/21/94		12/21/94		12/21/94		12/21/94	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	10000	0.234	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
bis(2-Chloroethyl) ether	0.66	0.32	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
2-Chlorophenol	280	0.241	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
1,3-Dichlorobenzene	5100	0.175	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
1,4-Dichlorobenzene	570	0.158	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
1,2-Dichlorobenzene	5100	0.188	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
2-Methylphenol	2800	0.221	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
2,2'-oxybis(1-Chloropropane)		0.231	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
4-Methylphenol	2800	0.426	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
N-Nitroso-di-n-propylamine	0.66	0.264	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
Hexachloroethane	6	0.175	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
Nitrobenzene	28	0.244	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
Isophorone	1100	0.129	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
2-Nitrophenol		0.231	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
2,4-Dimethylphenol	1100	0.158	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
bis(2-Chloroethoxy) methane		0.201	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
2,4-Dichlorophenol	170	0.145	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
1,2,4-Trichlorobenzene	68	0.317	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
Naphthalene	230	0.277	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
4-Chloroaniline	230	0.096	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
Hexachlorobutadiene	1	0.152	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
4-Chloro-3-methylphenol	10000	0.102	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
2-Methylnaphthalene		0.287	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
Hexachlorocyclopentadiene	400	0.119	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
2,4,6-Trichlorophenol	62	0.185	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
2,4,5-Trichlorophenol	5600	0.155	0.96 U	0.96	1 U	1	0.92 U	0.92	25 U	25	0.92 U	0.92	0.94 U	0.94
2-Chloronaphthalene		0.271	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
2-Nitroaniline		0.201	0.96 U	0.96	1 U	1	0.92 U	0.92	25 U	25	0.92 U	0.92	0.94 U	0.94
Dimethylphthalate	10000	0.145	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
Acenaphthylene		0.198	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
2,6-Dinitrotoluene	1	0.172	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
3-Nitroaniline		0.172	0.96 U	0.96	1 U	1	0.92 U	0.92	25 U	25	0.92 U	0.92	0.94 U	0.94
Acenaphthene	3400	0.221	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
2,4-Dinitrophenol	110	0.152	0.96 U	0.96	1 U	1	0.92 U	0.92	25 U	25	0.92 U	0.92	0.94 U	0.94
4-Nitrophenol		0.248	0.96 U	0.96	1 U	1	0.92 U	0.92	25 U	25	0.92 U	0.92	0.94 U	0.94
Dibenzofuran		0.215	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38

MAIN POST
SURFACE SOIL SEMIVOLATILES

Geographical Location			M15		M15		M16		M16		M16		M16	
Sample			MP15-SS01-A01		MP15-SS02-A01		MP16-SS01-A01		MP16-SS02-A01		MP16-SS03-A01		MP16-SS04-A01	
Batch#			9411G832		9411G832		9411G832		9411G832		9411G832		9411G832	
Prep#			94GB0796		94GB0796		94GB0796		94GB0796		94GB0796		94GB0796	
RFW#			010		011		012		013		015		014	
Sample Depth			0-6"		0-6"		0-6"		0-6"		0-6"		0-6"	
Dilution Factor			1.00		1.00		1.00		25.0		1.00		1.00	
Matrix			soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			11/29/94		11/29/94		11/29/94		11/29/94		11/29/94		11/29/94	
Analysis Date			12/21/94		12/21/94		12/21/94		12/21/94		12/21/94		12/21/94	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
2,4-Dinitrotoluene	1	0.191	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
Diethylphthalate	10000	0.178	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
4-Chlorophenyl-phenylether		0.231	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
Fluorene	2300	0.208	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
4-Nitroaniline		0.211	0.96 U	0.96	1 U	1	0.92 U	0.92	25 U	25	0.92 U	0.92	0.94 U	0.94
4,6-Dinitro-2-methylphenol		0.175	0.96 U	0.96	1 U	1	0.92 U	0.92	25 U	25	0.92 U	0.92	0.94 U	0.94
N-Nitrosodiphenylamine (1)	140	0.139	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
4-Bromophenyl-phenylether		0.175	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
Hexachlorobenzene	0.66	0.182	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
Pentachlorophenol	6	0.132	0.96 U	0.96	1 U	1	0.92 U	0.92	25 U	25	0.92 U	0.92	0.94 U	0.94
Phenanthrene		0.165	0.37 J		0.17 J		0.37 U	0.37	9.9 U	9.9	0.045 J		0.38 U	0.38
Anthracene	10000	0.152	0.041 J		0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
Carbazole		0.145	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
Di-n-butylphthalate	5700	0.215	0.1 JB		0.13 JB		0.086 JB		9.9 U	9.9	0.088 JB		0 JB	
Fluoranthene	2300	0.198	0.53		0.36 J		0.046 J		9.9 U	9.9	0.1 J		0.073 J	
Pyrene	1700	0.178	0.72		0.43		0.06 J		9.9 U	9.9	0.14 J		0.096 J	
Butylbenzylphthalate	1100	0.175	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
3,3'-Dichlorobenzidine	2	0.092	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
Benzo(a)anthracene	0.9	0.162	0.31 J		0.18 J		0.37 U	0.37	9.9 U	9.9	0.069 J		0.039 J	
Chrysene	9	0.145	0.33 J		0.23 J		0.37 U	0.37	9.9 U	9.9	0.063 J		0.043 J	
bis(2-Ethylhexy)phthalate	49	0.32	0.069 J		0.077 J		0.084 J		1.1 J		0.26 J		0.64	
Di-n-octyl phthalate	1100	0.185	0.39 U	0.39	0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
Benzo(b)fluoranthene	0.9	0.188	0.45		0.35 J		0.37 U	0.37	9.9 U	9.9	0.12 J		0.065 J	
Benzo(k)fluoranthene	0.9	0.205	0.13 J		0.11 J		0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
Benzo(a)pyrene	0.66	0.162	0.27 J		0.2 J		0.37 U	0.37	9.9 U	9.9	0.057 J		0.046 J	
Indeno(1,2,3-cd)pyrene	0.9	0.234	0.16 J		0.12 J		0.37 U	0.37	9.9 U	9.9	0.049 J		0.04 J	
Dibenzo(a,h)anthracene	0.66	0.198	0.041 J		0.41 U	0.41	0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
Benzo(g,h,i)perylene		0.224	0.16 J		0.11 J		0.37 U	0.37	9.9 U	9.9	0.37 U	0.37	0.38 U	0.38
Method:TCL Semivolatiles														

MAIN POST
SURFACE SOIL INORGANICS

Geographical Location		MP15		MP15	
Sample		MP15-SS01-A01		MP15-SS02-A01	
Batch#		9411G832		9411G832	
Prep#		94GTS468		94GTS468	
RFW#		010		011	
Sample Depth		0-6"		0-6"	
Dilution Factor		1.00		1.00	
Matrix		soil		soil	
Units	mg/kg	mg/kg		mg/kg	
Sampling Date		11/29/94		11/29/94	
Analysis Date		12/6/94		12/6/94	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
% Solids		86.2	0.10	81.3	0.10
Silver	110	1.4	0.56	1.5	0.61
Aluminum		5300	4.8	5030	5.2
Arsenic	20	8.3	0.6 *	8.9	0.38
Barium	700	68.4	0.38	101	0.41
Beryllium	1	0.6	0.27	0.69	0.29
Calcium		815	2.2	1860	2.4
Cadmium	1	2.9	0.51	4.5	0.55
Cobalt		6.1	0.49	7.8	0.53
Chromium		109	0.54	95.5	0.59
Copper	600	34	0.42	66.5	0.45
Iron		33400	0.85	37700	0.92
Mercury	14	0.11 U	0.11	0.12 U	0.12
Potassium		2990	149	2770	160
Magnesium		1560	4.4	1600	4.8
Manganese		159	0.36	187	0.39
Sodium		23.4	2.8	33.1	3
Nickel	250	8.3	2.3	6.9	2.5
Lead	400	5340	4.6	6130	4.9
Antimony	14	3.9 U	3.9	4.2 U	4.2
Selenium	63	0.45	0.17	2.1	0.21
Thallium	2	0.21 U	0.21	0.26 U	0.26
Vanadium	370	27.5	0.53	25.9	0.57
Zinc	1500	7750	0.51	12800	0.55
Dilution Factor		* = 2.00			
Method:TAL Metals					

MAIN POST
SURFACE SOIL PESTICIDES/PCBS

Geographical Location		M15		M15		M15		M15		M16		M16	
Sample		MP15-SS01-A01		MP15-SS01-A01		MP15-SS02-A01		MP15-SS02-A01		MP16-SS01-A01		MP16-SS01-A01	
Batch#		9411G832		9411G832		9411G832		9411G832		9411G832		9411G832	
Prep#		94GP1033		94GP1033		94GP1033		94GP1033		94GP1033		94GP1033	
RFW#		010		010 DL		011		011 DL		012		012 DL	
Sample Depth		0-6"		0-6"		0-6"		0-6"		0-6"		0-6"	
Dilution Factor		10.0		500		1.00		20.0		1.00		20.0	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		11/29/94		11/29/94		11/29/94		11/29/94		11/29/94		11/29/94	
Analysis Date		12/17/94		12/14/94		12/17/94		12/14/94		12/17/94		12/13/94	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
alpha-BHC		0.019 U	0.019	0.95 U	0.95	0.002 U	0.002	0.04 U	0.04	0.0019 U	0.0019	0.037 U	0.037
beta-BHC		0.019 U	0.019	0.95 U	0.95	0.002 U	0.002	0.04 U	0.04	0.0019 U	0.0019	0.037 U	0.037
delta-BHC		0.019 U	0.019	0.95 U	0.95	0.002 U	0.002	0.04 U	0.04	0.0019 U	0.0019	0.037 U	0.037
gamma-BHC (Lindane)	0.52	0.019 U	0.019	0.95 U	0.95	0.002 U	0.002	0.04 U	0.04	0.0034		0.037 U	0.037
Heptachlor	0.15	0.019 U	0.019	0.95 U	0.95	0.002 U	0.002	0.04 U	0.04	0.0019 U	0.0019	0.037 U	0.037
Aldrin	0.04	0.019 U	0.019	0.95 U	0.95	0.002 U	0.002	0.04 U	0.04	0.0019 U	0.0019	0.037 U	0.037
Heptachlor epoxide		0.019 U	0.019	0.95 U	0.95	0.002 U	0.002	0.04 U	0.04	0.0019 U	0.0019	0.037 U	0.037
Endosulfan I	340	0.019 U	0.019	0.95 U	0.95	0.002 U	0.002	0.04 U	0.04	0.0019 U	0.0019	0.037 U	0.037
Dieldrin	0.042	0.038 U	0.038	1.9 U	1.9	0.004 U	0.004	0.081 U	0.081	0.017		0.075 U	0.075
4,4'-DDE	2	3.1 C		6.6 CD		0.32 C		1 CD		0.27 C		.35 CD	
Endrin	17	0.038 U	0.038	1.9 U	1.9	0.004 U	0.004	0.081 U	0.081	0.0037 U	0.0037	0.075 U	0.075
Endosulfan II	340	0.038 U	0.038	1.9 U	1.9	0.004 U	0.004	0.081 U	0.081	0.0037 U	0.0037	0.075 U	0.075
4,4'-DDD	3	0.038 U	0.038	1.9 U	1.9	0.004 U	0.004	0.081 U	0.081	0.078		.13 D	
Endosulfan sulfate		0.038 U	0.038	1.9 U	1.9	0.004 U	0.004	0.081 U	0.081	0.0037 U	0.0037	0.075 U	0.075
4,4'-DDT	2	3.4 C		7.9 CD		0.35 C		1 CD		0.33 C		1.1 CD	
Methoxychlor	280	0.19 U	0.19	9.5 U	9.5	0.02 U	0.02	0.4 U	0.4	0.019 U	0.019	0.37 U	0.37
Endrin ketone		0.038 U	0.038	1.9 U	1.9	0.004 U	0.004	0.081 U	0.081	0.0037 U	0.0037	0.075 U	0.075
Endrin aldehyde		0.038 U	0.038	1.9 U	1.9	0.004 U	0.004	0.081 U	0.081	0.0037 U	0.0037	0.075 U	0.075
alpha-Chlordane		0.019 U	0.019	0.95 U	0.95	0.002 U	0.002	0.04 U	0.04	0.043		.05 D	
gamma-Chlordane		0.019 U	0.019	0.95 U	0.95	0.002 U	0.002	0.04 U	0.04	0.046		.05 D	
Toxaphene	0.1	1.9 U	1.9	95 U	95	0.2 U	0.2	4 U	4	0.19 U	0.19	3.7 U	3.7
Aroclor-1016	0.49	0.38 U	0.38	19 U	19	0.04 U	0.04	0.81 U	0.81	0.037 U	0.037	0.75 U	0.75
Aroclor-1221	0.49	0.76 U	0.76	38 U	38	0.081 U	0.081	1.6 U	1.6	0.075 U	0.075	1.5 U	1.5
Aroclor-1232	0.49	0.38 U	0.38	19 U	19	0.04 U	0.04	0.81 U	0.81	0.037 U	0.037	0.75 U	0.75
Aroclor-1242	0.49	0.38 U	0.38	19 U	19	0.04 U	0.04	0.81 U	0.81	0.037 U	0.037	0.75 U	0.75
Aroclor-1248	0.49	0.38 U	0.38	19 U	19	0.04 U	0.04	0.81 U	0.81	0.037 U	0.037	0.75 U	0.75
Aroclor-1254	0.49	0.38 U	0.38	19 U	19	0.04 U	0.04	0.81 U	0.81	0.037 U	0.037	0.75 U	0.75
Aroclor-1260	0.49	0.38 U	0.38	19 U	19	0.04 U	0.04	0.81 U	0.81	0.037 U	0.037	0.75 U	0.75
Method:Pesticides/PCBs													

MAIN POST
SURFACE SOIL PESTICIDES/PCBS

Geographical Location		M16		M16		M16		M16		M16		M16	
Sample		MP16-SS02-A01		MP16-SS02-A01		MP16-SS03-A01		MP16-SS03-A01		MP16-SS04-A01		MP16-SS04-A01	
Batch#		9411G832		9411G832		9411G832		9411G832		9411G832		9411G832	
Prep#		94GP1033		94GP1033		94GP1033		94GP1033		94GP1033		94GP1033	
RFW#		013		013 DL		015		015 DL		014		014 DL	
Sample Depth		0-6"		0-6"		0-6"		0-6"		0-6"		0-6"	
Dilution Factor		10.0		500		1.00		50.0		2.00		50.0	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		11/29/94		11/29/94		11/29/94		11/29/94		11/29/94		11/29/94	
Analysis Date		12/17/94		12/14/94		12/17/94		12/13/94		12/17/94		12/14/94	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
alpha-BHC		0.02 U	0.02	1 U	1	0.0018 U	0.0018	0.092 U	0.092	0.0038 U	0.0038	0.095 U	0.095
beta-BHC		0.02 U	0.02	1 U	1	0.0018 U	0.0018	0.092 U	0.092	0.0038 U	0.0038	0.095 U	0.095
delta-BHC		0.02 U	0.02	1 U	1	0.0018 U	0.0018	0.092 U	0.092	0.0038 U	0.0038	0.095 U	0.095
gamma-BHC (Lindane)	0.52	0.17		1 U	1	0.0059		0.092 U	0.092	0.0038 U	0.0038	0.095 U	0.095
Heptachlor	0.15	2 C		2.5 CD		0.0099		0.092 U	0.092	0.0038 U	0.0038	0.095 U	0.095
Aldrin	0.04	0.17 C		1 U	1	0.0018 U	0.0018	0.092 U	0.092	0.0038 U	0.0038	0.095 U	0.095
Heptachlor epoxide		0.02 U	0.02	1 U	1	0.0018 U	0.0018	0.092 U	0.092	0.0038 U	0.0038	0.095 U	0.095
Endosulfan I	340	0.02 U	0.02	1 U	1	0.0018 U	0.0018	0.092 U	0.092	0.0038 U	0.0038	0.095 U	0.095
Dieldrin	0.042	1.9 C		2 CD		0.15		.21 D		0.37 C		.37 CD	
4,4'-DDE	2	2 C		3.5 CD		0.11 C		.48 CD		0.46 C		.57 CD	
Endrin	17	0.04 U	0.04	2 U	2	0.0037 U	0.0037	0.18 U	0.18	0.0076 U	0.0076	0.19 U	0.19
Endosulfan II	340	0.04 U	0.04	2 U	2	0.0037 U	0.0037	0.18 U	0.18	0.0076 U	0.0076	0.19 U	0.19
4,4'-DDD	3	0.04 U	0.04	2 U	2	0.13		.22 D		0.68 C		1.6 CD	
Endosulfan sulfate		0.04 U	0.04	2 U	2	0.0037 U	0.0037	0.18 U	0.18	0.0076 U	0.0076	0.19 U	0.19
4,4'-DDT	2	3.3 C		23 CD		0.31 C		2 CD		0.66 C		1.7 CD	
Methoxychlor	280	0.2 U	0.2	10 U	10	0.018 U	0.018	0.92 U	0.92	0.038 U	0.038	0.95 U	0.95
Endrin ketone		0.092		2 U	2	0.0037 U	0.0037	0.18 U	0.18	0.0076 U	0.0076	0.19 U	0.19
Endrin aldehyde		0.04 U	0.04	2 U	2	0.0037 U	0.0037	0.18 U	0.18	0.0076 U	0.0076	0.19 U	0.19
alpha-Chlordane		1.9 C		11 CD		0.18		.2 D		0.45 C		.86 CD	
gamma-Chlordane		2 C		13 CD		0.19		.2 D		0.45 C		.92 CD	
Toxaphene	0.1	2 U	2	100 U	100	0.18 U	0.18	9.2 U	9.2	0.38 U	0.38	9.5 U	9.5
Aroclor-1016	0.49	0.4 U	0.4	20 U	20	0.037 U	0.037	1.8 U	1.8	0.076 U	0.076	1.9 U	1.9
Aroclor-1221	0.49	0.8 U	0.8	40 U	40	0.073 U	0.073	3.7 U	3.7	0.15 U	0.15	3.8 U	3.8
Aroclor-1232	0.49	0.4 U	0.4	20 U	20	0.037 U	0.037	1.8 U	1.8	0.076 U	0.076	1.9 U	1.9
Aroclor-1242	0.49	0.4 U	0.4	20 U	20	0.037 U	0.037	1.8 U	1.8	0.076 U	0.076	1.9 U	1.9
Aroclor-1248	0.49	0.4 U	0.4	20 U	20	0.037 U	0.037	1.8 U	1.8	0.076 U	0.076	1.9 U	1.9
Aroclor-1254	0.49	0.4 U	0.4	20 U	20	0.037 U	0.037	1.8 U	1.8	0.076 U	0.076	1.9 U	1.9
Aroclor-1260	0.49	0.4 U	0.4	20 U	20	0.037 U	0.037	1.8 U	1.8	0.076 U	0.076	1.9 U	1.9
Method:Pesticides/PCBs													

MAIN POST
SOIL BORING VOLATILES

Geographical Location			M-AOC3		M-AOC3		M-AOC3		M-AOC3		M-AOC3		M-AOC3		M-AOC3		M-AOC3		M16	
Sample			MPA3-SB01-A02		MPA3-SB01-C02		MPA3-SB01-D02		MPA3-SB01-E02		MPA3-SB02-A02		MPA3-SB02-D02		MPA3-SB03-E02		MP16-SB01-A01	
Sample Type					Duplicate		Trip Blank		Field Rinsate Blank				Trip Blank		Field Rinsate Blank			
Batch#			9412G130		9412G130		9412G155		9412G130		9412G155		9412G155		9505G825		9412G155	
Prep#			94GVT030 & 31		94GVT030 & 31		94GVB439		94GVB439		94GVT030		94GVB439		95GVC137		94GVT031	
RFW#			001		002		005		003		003		004		007		001	
Sample Depth (bgs)			6 - 9.5'		6 - 9.5'						6 - 9.5'						0 - 2'	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			soil		soil		water		water		soil		water		water		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/l		mg/l		mg/kg		mg/l		mg/l		mg/kg	
Sampling Date			12/14/94		12/14/94		12/15/94		12/14/94		12/15/94		12/15/94		5/10/95		12/15/94	
Analysis Date			12/19/94		12/19/94		12/20/94		12/19/94		12/19/94		12/20/94		5/20/95		12/20/94	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane	520	0.0073	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Bromomethane	79	0.0067	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Vinyl Chloride	2	0.0079	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Chloroethane		0.0091	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Methylene Chloride	49	0.0027	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Acetone	1000	0.0069	0.68 B	.056 *	2 B	110 *	0.01 U	0.01	0.24 B	0.01	0.19 B	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Carbon Disulfide		0.0044	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.076 B	0.012
1,1-Dichloroethene	8	0.0049	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
1,1-Dichloroethane	570	0.003	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
1,2-Dichloroethene (total)	79	0.0044	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Chloroform	19	0.0029	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.006 J	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
1,2-Dichloroethane	6	0.0024	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
2-Butanone	1000	0.0041	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
1,1,1-Trichloroethane	210	0.0017	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Carbon Tetrachloride	2	0.0015	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Bromodichloromethane	11	0.002	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
1,2-Dichloropropane	10	0.0017	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
cis-1,3-Dichloropropene	4	0.003	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Trichloroethene	23	0.002	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Dibromochloromethane	110	0.0024	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
1,1,2-Trichloroethane	22	0.0043	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Benzene	3	0.0033	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
trans-1,3-Dichloropropene	4	0.0024	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Bromoform	86	0.0031	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
4-Methyl-2-pentanone	1000	0.0055	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
2-Hexanone		0.0039	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Tetrachloroethene	4	0.004	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
1,1,2,2-Tetrachloroethane	34	0.0042	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Toluene	1000	0.0027	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Chlorobenzene	37	0.0027	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Ethylbenzene	1000	0.0031	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Styrene	23	0.0038	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Xylene (total)	410	0.0038	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.011 U	0.011	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012
Total Est. Conc. of TIC.			0.009 J		.060 J*													
Dilution Factor			* = 5.0		* = 10.0													
Method:TCL Volatiles																		

MAIN POST
SOIL BORING VOLATILES

Geographical Location			M16		M18		M18		M18		M18		M18		M18		M18	
Sample			MP16-SB01-A02		MP18-SB01-A01		MP18-SB01-A02		MP18-SB02-A01		MP18-SB02-A02		MP18-SB03-A01		MP18-SB03-A02		M18-SB04-A01	
Sample Type																		
Batch#			9412G155		9501G632		9501G632		9501G632		9501G632		9501G632		9501G632		9501G587	
Prep#			94GVT030		95GVT016 & 8		95GVT016 & 9		95GVT008		95GVT016 & 9		95GVT008 & 9		95GVT008		95GVF013	
RFW#			002		003		004		005		006		007		008		003	
Sample Depth (bgs)			2 - 4'		1 - 1.5'		2'		1 - 1.5'		4 - 6'		1 - 1.5'		4 - 7.5'		1 - 1.5'	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			soil		soil		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			12/15/94		1/12/95		1/12/95		1/12/95		1/12/95		1/12/95		1/12/95		1/11/95	
Analysis Date			12/19/94		1/18/95		1/18/95		1/19/95		1/18/95		1/19/95		1/19/95		1/16/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane	520	0.0073	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
Bromomethane	79	0.0067	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
Vinyl Chloride	2	0.0079	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
Chloroethane		0.0091	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
Methylene Chloride	49	0.0027	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
Acetone	1000	0.0069	0.027 B	0.013	0.59 B	.12 *	2.3 B	1.2 *	0.13 B	0.011	0.63 B	.62 *	0.34 B	0.06	0.074 B	0.012	0.011 U	0.011
Carbon Disulfide		0.0044	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
1,1-Dichloroethene	8	0.0049	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
1,1-Dichloroethane	570	0.003	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
1,2-Dichloroethene (total)	79	0.0044	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
Chloroform	19	0.0029	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
1,2-Dichloroethane	6	0.0024	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
2-Butanone	1000	0.0041	0.013 U	0.013	0.039	0.012	0.054 B	12	0.023	0.011	0.14	0.012	0.13	0.012	0.013	0.012	0.011 U	0.011
1,1,1-Trichloroethane	210	0.0017	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
Carbon Tetrachloride	2	0.0015	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
Bromodichloromethane	11	0.002	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
1,2-Dichloropropane	10	0.0017	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
cis-1,3-Dichloropropene	4	0.003	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
Trichloroethene	23	0.002	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
Dibromochloromethane	110	0.0024	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
1,1,2-Trichloroethane	22	0.0043	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
Benzene	3	0.0033	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
trans-1,3-Dichloropropene	4	0.0024	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
Bromoform	86	0.0031	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
4-Methyl-2-pentanone	1000	0.0055	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
2-Hexanone		0.0039	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
Tetrachloroethene	4	0.004	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
1,1,2,2-Tetrachloroethane	34	0.0042	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
Toluene	1000	0.0027	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
Chlorobenzene	37	0.0027	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
Ethylbenzene	1000	0.0031	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
Styrene	23	0.0038	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
Xylene (total)	410	0.0038	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011
Total Est. Conc. of TIC.							.008 J, .6 J *				.009 J, .3 J *		0.068 J		0.06 J			
Dilution Factor					* = 10.00		* = 100				* = 50.0		* = 5.00					
Method:TCL Volatiles																		

MAIN POST
SOIL BORING VOLATILES

Geographical Location			M18		M18		M18		M18		M18		M18		M18		M18	
Sample			M18-SB04-A02		M18-SB05-A01		M18-SB05-A02		M18-SB06-A01		M18-SB06-A02		MP18-SB07-A01		MP18-SB07-D01		MP18-SB24-A01	
Sample Type															Trip Blank			
Batch#			9401G587		9501G587		9501G587		9501G587		9501G587		9501G632		9501G632		9501G632	
Prep#			95GVF013		95GVF014		95GVF013		95GVF013		95GVT008		95GVT008		95GVC008		95GVT009	
RFW#			004		001		002		005		006		009		010		001	
Sample Depth (bgs)			4 - 6'		1 - 1.5'		2 - 5'		1 - 1.5'		2 - 5'		1 - 1.5'				1 - 1.5'	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			soil		soil		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			1/11/95		1/11/95		1/11/95		1/11/95		1/11/95		1/12/95		1/12/95		1/12/95	
Analysis Date			1/16/95		1/17/95		1/16/95		1/16/95		1/18/95		1/19/95		1/23/95		1/19/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane	520	0.0073	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Bromomethane	79	0.0067	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Vinyl Chloride	2	0.0079	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Chloroethane		0.0091	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Methylene Chloride	49	0.0027	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Acetone	1000	0.0069	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.03 B	0.012	0.049 B	0.014	0.24	0.011	0.01 U	0.01	0.012 U	0.012
Carbon Disulfide		0.0044	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
1,1-Dichloroethene	8	0.0049	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
1,1-Dichloroethane	570	0.003	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
1,2-Dichloroethene (total)	79	0.0044	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Chloroform	19	0.0029	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
1,2-Dichloroethane	6	0.0024	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
2-Butanone	1000	0.0041	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.013 J	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
1,1,1-Trichloroethane	210	0.0017	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Carbon Tetrachloride	2	0.0015	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Bromodichloromethane	11	0.002	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
1,2-Dichloropropane	10	0.0017	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
cis-1,3-Dichloropropene	4	0.003	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Trichloroethene	23	0.002	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Dibromochloromethane	110	0.0024	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
1,1,2-Trichloroethane	22	0.0043	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Benzene	3	0.0033	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
trans-1,3-Dichloropropene	4	0.0024	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Bromoform	86	0.0031	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
4-Methyl-2-pentanone	1000	0.0055	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
2-Hexanone		0.0039	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Tetrachloroethene	4	0.004	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
1,1,2,2-Tetrachloroethane	34	0.0042	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Toluene	1000	0.0027	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Chlorobenzene	37	0.0027	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Ethylbenzene	1000	0.0031	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.002 J	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Styrene	23	0.0038	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Xylene (total)	410	0.0038	0.011 U	0.011	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.013 J	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Total Est. Conc. of TIC.											1.15 J		0.006 J				0.007 J	
Dilution Factor																		
Method:TCL Volatiles																		

MAIN POST
SOIL BORING VOLATILES

Geographical Location			M18		M18		M18		M18		B1		B1		B2		B2	
Sample			MP18-SB24-A02		MP18-SB25-A01		MP18-SB25-A02		MP18-SB25-D02		B1-SB01-A01		B1-SB01-A02		B2-SB01-A01		B2-SB01-A02	
Sample Type									Trip Blank									
Batch#			9501G632		9501G656		9501G656		9501G656		9501G527		9501G527		9501G500		9501G500	
Prep#			95GVT016		95GVT010		95GVT010		95GVC007		95GVF012		95GVF011		95GVF011 & 13		95GVF011	
RFW#			002		001		002		003		001		002		001		002	
Sample Depth (bgs)			2 - 4'		1 - 1.5'		2 - 4'				1 - 2'		2 - 4'		1 - 2'		6 - 8'	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			soil		soil		soil		water		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/l		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			1/12/95		1/13/95		1/13/95		1/13/95		1/9/94		1/9/94		1/6/95		1/6/95	
Analysis Date			1/18/95		1/20/95		1/20/95		1/21/95		1/15/94		1/13/94		1/13/95		1/13/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane	520	0.0073	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
Bromomethane	79	0.0067	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
Vinyl Chloride	2	0.0079	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
Chloroethane		0.0091	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
Methylene Chloride	49	0.0027	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.015 B	0.012
Acetone	1000	0.0069	0.095 B	0.012	0.012 U	0.012	0.066 B	0.011	0.03	0.01	0.011 U	0.011	0.001 J	0.013	0.61 B	*	0.53	*
Carbon Disulfide		0.0044	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
1,1-Dichloroethene	8	0.0049	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
1,1-Dichloroethane	570	0.003	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
1,2-Dichloroethene (total)	79	0.0044	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
Chloroform	19	0.0029	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.003 J	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
1,2-Dichloroethane	6	0.0024	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
2-Butanone	1000	0.0041	0.014	0.012	0.012 U	0.012	0.011	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
1,1,1-Trichloroethane	210	0.0017	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
Carbon Tetrachloride	2	0.0015	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
Bromodichloromethane	11	0.002	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
1,2-Dichloropropane	10	0.0017	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
cis-1,3-Dichloropropene	4	0.003	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
Trichloroethene	23	0.002	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
Dibromochloromethane	110	0.0024	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
1,1,2-Trichloroethane	22	0.0043	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
Benzene	3	0.0033	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
trans-1,3-Dichloropropene	4	0.0024	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
Bromoform	86	0.0031	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
4-Methyl-2-pentanone	1000	0.0055	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
2-Hexanone		0.0039	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
Tetrachloroethene	4	0.004	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
1,1,2,2-Tetrachloroethane	34	0.0042	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
Toluene	1000	0.0027	0.012 U	0.012	0.012 U	0.012	0.002 J	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
Chlorobenzene	37	0.0027	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
Ethylbenzene	1000	0.0031	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
Styrene	23	0.0038	0.012 U	0.012	0.012 U	0.012	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
Xylene (total)	410	0.0038	0.012 U	0.012	0.012 U	0.012	0.006 J	0.011	0.01 U	0.01	0.011 U	0.011	0.013 U	0.013	0.012 U	0.012	0.012 U	0.012
Total Est. Conc. of TIC.			0.064 J				0.118 J		0.008 J									
Dilution Factor															* = ?		* = 10.0	
Method:TCL Volatiles																		

MAIN POST
SOIL BORING VOLATILES

Geographical Location			B3		B3		B3		B4		B4		B4		B4		B5	
Sample			B3-SB01-A01		B3-SB01-A03		B3-SB01-D03		B4-SB01-A01		B4-SB01-A02		B4-SB01-C01		B4-SB01-D01		B5-SB01-A01	
Sample Type							Trip Blank						Duplicate		Trip Blank			
Batch#			9501G500		9501G500		9401G500		9501G527		9501G527		9501G527		9501G527		9501G587	
Prep#			95GVF011		95GVF011		95GB0012		95GVF012		95GVF012 & 13		95GVF012		95GVE012		95GVF016	
RFW#			003		004		005		003		004		005		006		007	
Sample Depth (bgs)			1 - 2'		16 - 18'				1 - 2'		6 - 8'						1 - 2'	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			soil		soil		water		soil		soil		soil		water		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/l		mg/kg		mg/kg		mg/kg		mg/l		mg/kg	
Sampling Date			1/6/95		1/6/95		1/6/95		1/9/95		1/9/95		1/9/95		1/9/95		1/11/95	
Analysis Date			1/13/95		1/12/95		1/13/95		1/15/95		1/15/95		1/15/95		1/12/95		1/18/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane	520	0.0073	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Bromomethane	79	0.0067	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Vinyl Chloride	2	0.0079	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Chloroethane		0.0091	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Methylene Chloride	49	0.0027	0.011 U	0.011	0.032 B	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Acetone	1000	0.0069	0.011 U	0.011	0.036	0.014	0.01 U	0.01	0.011 U	0.011	0.83 B	27 *	0.016	0.011	0.01 U	0.01	0.012 U	0.012
Carbon Disulfide		0.0044	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
1,1-Dichloroethene	8	0.0049	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
1,1-Dichloroethane	570	0.003	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
1,2-Dichloroethene (total)	79	0.0044	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Chloroform	19	0.0029	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
1,2-Dichloroethane	6	0.0024	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
2-Butanone	1000	0.0041	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
1,1,1-Trichloroethane	210	0.0017	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Carbon Tetrachloride	2	0.0015	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Bromodichloromethane	11	0.002	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
1,2-Dichloropropane	10	0.0017	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
cis-1,3-Dichloropropene	4	0.003	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Trichloroethene	23	0.002	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Dibromochloromethane	110	0.0024	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
1,1,2-Trichloroethane	22	0.0043	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Benzene	3	0.0033	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
trans-1,3-Dichloropropene	4	0.0024	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Bromoform	86	0.0031	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
4-Methyl-2-pentanone	1000	0.0055	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
2-Hexanone		0.0039	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Tetrachloroethene	4	0.004	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
1,1,2,2-Tetrachloroethane	34	0.0042	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Toluene	1000	0.0027	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.004 J	0.011	0.01 U	0.01	0.012 U	0.012
Chlorobenzene	37	0.0027	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Ethylbenzene	1000	0.0031	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Styrene	23	0.0038	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.011 U	0.011	0.01 U	0.01	0.012 U	0.012
Xylene (total)	410	0.0038	0.011 U	0.011	0.014 U	0.014	0.01 U	0.01	0.011 U	0.011	0.014 U	0.014	0.004 J	0.011	0.01 U	0.01	0.012 U	0.012
Total Est. Conc. of TIC.																	0.023 J	
Dilution Factor											* = 20.0							
Method:TCL Volatiles																		

MAIN POST
SOIL BORING VOLATILES

Geographical Location			B5		B5	
Sample			B5-SB01-A02		B5-SB01-D02	
Sample Type					Trip Blank	
Batch#			9501G587		9501G587	
Prep#			95GVF014		95GVC005	
RFW#			008		009	
Sample Depth (bgs)			2 - 4'			
Dilution Factor			1.00		1.00	
Matrix			soil		water	
Units	mg/kg	mg/kg	mg/kg		mg/l	
Sampling Date			1/11/95		1/11/95	
Analysis Date			1/17/95		1/16/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane	520	0.0073	0.012 U	0.012	0.01 U	0.01
Bromomethane	79	0.0067	0.012 U	0.012	0.01 U	0.01
Vinyl Chloride	2	0.0079	0.012 U	0.012	0.01 U	0.01
Chloroethane		0.0091	0.012 U	0.012	0.01 U	0.01
Methylene Chloride	49	0.0027	0.012 U	0.012	0.01 U	0.01
Acetone	1000	0.0069	0.012 U	0.012	0.01 U	0.01
Carbon Disulfide		0.0044	0.012 U	0.012	0.01 U	0.01
1,1-Dichloroethene	8	0.0049	0.012 U	0.012	0.01 U	0.01
1,1-Dichloroethane	570	0.003	0.012 U	0.012	0.01 U	0.01
1,2-Dichloroethene (total)	79	0.0044	0.012 U	0.012	0.01 U	0.01
Chloroform	19	0.0029	0.012 U	0.012	0.01 U	0.01
1,2-Dichloroethane	6	0.0024	0.012 U	0.012	0.01 U	0.01
2-Butanone	1000	0.0041	0.012 U	0.012	0.01 U	0.01
1,1,1-Trichloroethane	210	0.0017	0.012 U	0.012	0.01 U	0.01
Carbon Tetrachloride	2	0.0015	0.012 U	0.012	0.01 U	0.01
Bromodichloromethane	11	0.002	0.012 U	0.012	0.01 U	0.01
1,2-Dichloropropane	10	0.0017	0.012 U	0.012	0.01 U	0.01
cis-1,3-Dichloropropene	4	0.003	0.012 U	0.012	0.01 U	0.01
Trichloroethene	23	0.002	0.012 U	0.012	0.01 U	0.01
Dibromochloromethane	110	0.0024	0.012 U	0.012	0.01 U	0.01
1,1,2-Trichloroethane	22	0.0043	0.012 U	0.012	0.01 U	0.01
Benzene	3	0.0033	0.012 U	0.012	0.01 U	0.01
trans-1,3-Dichloropropene	4	0.0024	0.012 U	0.012	0.01 U	0.01
Bromoform	86	0.0031	0.012 U	0.012	0.01 U	0.01
4-Methyl-2-pentanone	1000	0.0055	0.012 U	0.012	0.01 U	0.01
2-Hexanone		0.0039	0.012 U	0.012	0.01 U	0.01
Tetrachloroethene	4	0.004	0.012 U	0.012	0.01 U	0.01
1,1,2,2-Tetrachloroethane	34	0.0042	0.012 U	0.012	0.01 U	0.01
Toluene	1000	0.0027	0.012 U	0.012	0.01 U	0.01
Chlorobenzene	37	0.0027	0.012 U	0.012	0.01 U	0.01
Ethylbenzene	1000	0.0031	0.012 U	0.012	0.01 U	0.01
Styrene	23	0.0038	0.012 U	0.012	0.01 U	0.01
Xylene (total)	410	0.0038	0.012 U	0.012	0.01 U	0.01
Total Est. Conc. of TIC.						
Dilution Factor						
Method:TCL Volatiles						

MAIN POST
SOIL BORING SEMIVOLATILES

Geographical Location			AOC3		AOC3		AOC3		M16		M16	
Sample			MPA3-SB01-A02		MPA3-SB01-C02		MPA3-SB02-A02		MP16-SB01-A01		MP16-SB01-A02	
Sample Type					Duplicate							
Batch#			9412G130		9412G130		9412G155		9412G155		9412G155	
Prep#			94GBO835		94GBO835		94GBO835		94GB0835		94GB0835	
RFW#			001		002		003		001		002	
Sample Depth (bgs)												
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			12/14/94		12/14/94		12/15/94		12/15/94		12/15/94	
Analysis Date			12/27/94		12/27/94		12/23/94		12/23/94		12/27/94	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	10000	0.234	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
bis(2-Chloroethyl) ether	0.66	0.32	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
2-Chlorophenol	280	0.241	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
1,3-Dichlorobenzene	5100	0.175	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
1,4-Dichlorobenzene	570	0.158	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
1,2-Dichlorobenzene	5100	0.188	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
2-Methylphenol	2800	0.221	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
2,2'-oxybis(1-Chloropropane)		0.231	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
4-Methylphenol	2800	0.426	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
N-Nitroso-di-n-propylamine	0.66	0.264	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
Hexachloroethane	6	0.175	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
Nitrobenzene	28	0.244	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
Isophorone	1100	0.129	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
2-Nitrophenol		0.231	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
2,4-Dimethylphenol	1100	0.158	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
bis(2-Chloroethoxy) methane		0.201	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
2,4-Dichlorophenol	170	0.145	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
1,2,4-Trichlorobenzene	68	0.317	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
Naphthalene	230	0.277	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
4-Chloroaniline	230	0.096	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
Hexachlorobutadiene	1	0.152	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
4-Chloro-3-methylphenol	10000	0.102	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
2-Methylnaphthalene		0.287	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
Hexachlorocyclopentadiene	400	0.119	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
2,4,6-Trichlorophenol	62	0.185	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
2,4,5-Trichlorophenol	5600	0.155	0.92 U	0.92	0.89 U	0.89	0.88 U	0.88	0.96 U	0.96	1 U	1
2-Chloronaphthalene		0.271	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
2-Nitroaniline		0.201	0.92 U	0.92	0.89 U	0.89	0.88 U	0.88	0.96 U	0.96	1 U	1
Dimethylphthalate	10000	0.145	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
Acenaphthylene		0.198	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
2,6-Dinitrotoluene	1	0.172	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
3-Nitroaniline		0.172	0.92 U	0.92	0.89 U	0.89	0.88 U	0.88	0.96 U	0.96	1 U	1
Acenaphthene	3400	0.221	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
2,4-Dinitrophenol	110	0.152	0.92 U	0.92	0.89 U	0.89	0.88 U	0.88	0.96 U	0.96	1 U	1
4-Nitrophenol		0.248	0.92 U	0.92	0.89 U	0.89	0.88 U	0.88	0.96 U	0.96	1 U	1

MAIN POST
SOIL BORING SEMIVOLATILES

Geographical Location			AOC3		AOC3		AOC3		M16		M16	
Sample			MPA3-SB01-A02		MPA3-SB01-C02		MPA3-SB02-A02		MP16-SB01-A01		MP16-SB01-A02	
Sample Type					Duplicate							
Batch#			9412G130		9412G130		9412G155		9412G155		9412G155	
Prep#			94GBO835		94GBO835		94GBO835		94GB0835		94GB0835	
RFW#			001		002		003		001		002	
Sample Depth (bgs)												
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			12/14/94		12/14/94		12/15/94		12/15/94		12/15/94	
Analysis Date			12/27/94		12/27/94		12/23/94		12/23/94		12/27/94	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Dibenzofuran		0.215	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
2,4-Dinitrotoluene	1	0.191	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
Diethylphthalate	10000	0.178	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
4-Chlorophenyl-phenylether		0.231	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
Fluorene	2300	0.208	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
4-Nitroaniline		0.211	0.92 U	0.92	0.89 U	0.89	0.88 U	0.88	0.96 U	0.96	1 U	1
4,6-Dinitro-2-methylphenol		0.175	0.92 U	0.92	0.89 U	0.89	0.88 U	0.88	0.96 U	0.96	1 U	1
N-Nitrosodiphenylamine (1)	140	0.139	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
4-Bromophenyl-phenylether		0.175	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
Hexachlorobenzene	0.66	0.182	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
Pentachlorophenol	6	0.132	0.92 U	0.92	0.89 U	0.89	0.88 U	0.88	0.96 U	0.96	1 U	1
Phenanthrene		0.165	0.09 J	0.37	0.078 J	0.36	0.35 U	0.35	0.14 J	0.38	0.42 U	0.42
Anthracene	10000	0.152	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
Carbazole		0.145	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
Di-n-butylphthalate	5700	0.215	0.093 JB	0.37	0.17 JB	0.36	0.084 JB	0.35	0.092 JB	0.38	0.094 JB	0.42
Fluoranthene	2300	0.198	0.11 J	0.37	0.11 J	0.36	0.35 U	0.35	0.33 J	0.38	0.42 U	0.42
Pyrene	1700	0.178	0.15 J	0.37	0.14 J	0.36	0.35 U	0.35	0.22 J	0.38	0.42 U	0.42
Butylbenzylphthalate	1100	0.175	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
3,3'-Dichlorobenzidine	2	0.092	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
Benzo(a)anthracene	0.9	0.162	0.077 J	0.37	0.078 J	0.36	0.35 U	0.35	0.092 J	0.38	0.42 U	0.42
Chrysene	9	0.145	0.099 J	0.37	0.11 J	0.36	0.35 U	0.35	0.15 J	0.38	0.42 U	0.42
bis(2-Ethylhexy)phthalate	49	0.32	0.057 J	0.37	0.11 J	0.36	0.053 J	0.35	0.38 U	0.38	0.23 J	0.42
Di-n-octyl phthalate	1100	0.185	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
Benzo(b)fluoranthene	0.9	0.188	0.077 J	0.37	0.093 J	0.36	0.35 U	0.35	0.15 J	0.38	0.42 U	0.42
Benzo(k)fluoranthene	0.9	0.205	0.37 U	0.37	0.037 J	0.36	0.35 U	0.35	0.069 J	0.38	0.42 U	0.42
Benzo(a)pyrene	0.66	0.162	0.055 J	0.37	0.069 J	0.36	0.35 U	0.35	0.084 J	0.38	0.43	0.42
Indeno(1,2,3-cd)pyrene	0.9	0.234	0.046 J	0.37	0.057 J	0.36	0.35 U	0.35	0.067 J	0.38	0.42 U	0.42
Dibenzo(a,h)anthracene	0.66	0.198	0.37 U	0.37	0.36 U	0.36	0.35 U	0.35	0.38 U	0.38	0.42 U	0.42
Benzo(g,h,i)perylene		0.224	0.049 J	0.37	0.055 J	0.36	0.35 U	0.35	0.063 J	0.38	0.42 U	0.42
Petroleum hydrocarbons												
Total Est. Conc. of TIC			17.3		17.3		.18 J, 10.28 JB		14.8		14.2	
Dilution Factor												
Method:TCL Semivolatiles												

MAIN POST
SOIL BORING SEMIVOLATILES

Geographical Location			M16		M18		M18		M18		M18		M18		M18	
Sample			MP16-SB02-A02		M18-SB04-A01		M18-SB04-A02		M18-SB05-A01		M18-SB05-A02		M18-SB06-A01		M18-SB06-A02	
Sample Type																
Batch#			9412G155		9501G587		9501G587		9501G587		9501G587		9501G587		9501G587	
Prep#			94GB0835		95GTS014		95GTS014		95GTS014		95GTS014		95GTS014		95GP0035	
RFW#			003		003		004		001		002		005		006	
Sample Depth (bgs)																
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			soil		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			12/15/94		1/11/95		1/11/95		1/11/95		1/11/95		1/11/95		1/11/95	
Analysis Date			12/28/94		1/20/95		1/20/95		1/20/95		1/20/95		1/20/95		2/22/95	
Analysis	Standard	MDL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL
			Result		Result		Result		Result		Result		Result		Result	
Phenol	10000	0.234	0.35 U	0.35											0.46 U	0.46
bis(2-Chloroethyl) ether	0.66	0.32	0.35 U	0.35											0.46 U	0.46
2-Chlorophenol	280	0.241	0.35 U	0.35											0.46 U	0.46
1,3-Dichlorobenzene	5100	0.175	0.35 U	0.35											0.46 U	0.46
1,4-Dichlorobenzene	570	0.158	0.35 U	0.35											0.46 U	0.46
1,2-Dichlorobenzene	5100	0.188	0.35 U	0.35											0.46 U	0.46
2-Methylphenol	2800	0.221	0.35 U	0.35											0.46 U	0.46
2,2'-oxybis(1-Chloropropane)		0.231	0.35 U	0.35											0.46 U	0.46
4-Methylphenol	2800	0.426	0.35 U	0.35											0.46 U	0.46
N-Nitroso-di-n-propylamine	0.66	0.264	0.35 U	0.35											0.46 U	0.46
Hexachloroethane	6	0.175	0.35 U	0.35											0.46 U	0.46
Nitrobenzene	28	0.244	0.35 U	0.35											0.46 U	0.46
Isophorone	1100	0.129	0.35 U	0.35											0.46 U	0.46
2-Nitrophenol		0.231	0.35 U	0.35											0.46 U	0.46
2,4-Dimethylphenol	1100	0.158	0.35 U	0.35											0.46 U	0.46
bis(2-Chloroethoxy) methane		0.201	0.35 U	0.35											0.46 U	0.46
2,4-Dichlorophenol	170	0.145	0.35 U	0.35											0.46 U	0.46
1,2,4-Trichlorobenzene	68	0.317	0.35 U	0.35											0.46 U	0.46
Naphthalene	230	0.277	0.35 U	0.35											1.2	0.46
4-Chloroaniline	230	0.096	0.35 U	0.35											0.46 U	0.46
Hexachlorobutadiene	1	0.152	0.35 U	0.35											0.46 U	0.46
4-Chloro-3-methylphenol	10000	0.102	0.35 U	0.35											0.46 U	0.46
2-Methylnaphthalene		0.287	0.35 U	0.35											0.27 U	0.46
Hexachlorocyclopentadiene	400	0.119	0.35 U	0.35											0.46 U	0.45
2,4,6-Trichlorophenol	62	0.185	0.35 U	0.35											0.46 U	0.46
2,4,5-Trichlorophenol	5600	0.155	0.88 U	0.88											1.1 U	1.1
2-Chloronaphthalene		0.271	0.35 U	0.35											0.46 U	0.46
2-Nitroaniline		0.201	0.88 U	0.88											1.1 U	1.1
Dimethylphthalate	10000	0.145	0.35 U	0.35											0.46 U	0.46
Acenaphthylene		0.198	0.35 U	0.35											0.46 U	0.46
2,6-Dinitrotoluene	1	0.172	0.35 U	0.35											0.46 U	0.46
3-Nitroaniline		0.172	0.88 U	0.88											1.1 U	1.1
Acenaphthene	3400	0.221	0.35 U	0.35											52	9.2 *
2,4-Dinitrophenol	110	0.152	0.88 U	0.88											1.1 U	1.1
4-Nitrophenol		0.248	0.88 U	0.88											1.1 U	1.1

MAIN POST
SOIL BORING SEMIVOLATILES

Geographical Location			M16		M18		M18		M18		M18		M18		M18	
Sample			MP16-SB02-A02		M18-SB04-A01		M18-SB04-A02		M18-SB05-A01		M18-SB05-A02		M18-SB06-A01		M18-SB06-A02	
Sample Type																
Batch#			9412G155		9501G587		9501G587		9501G587		9501G587		9501G587		9501G587	
Prep#			94GB0835		95GTS014		95GTS014		95GTS014		95GTS014		95GTS014		95GP0035	
RFW#			003		003		004		001		002		005		006	
Sample Depth (bgs)																
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			soil		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			12/15/94		1/11/95		1/11/95		1/11/95		1/11/95		1/11/95		1/11/95	
Analysis Date			12/28/94		1/20/95		1/20/95		1/20/95		1/20/95		1/20/95		2/22/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Dibenzofuran		0.215	0.35 U	0.35											31	9.2 *
2,4-Dinitrotoluene	1	0.191	0.35 U	0.35											0.460 U	0.46
Diethylphthalate	10000	0.178	0.35 U	0.35											0.460 U	0.46
4-Chlorophenyl-phenylether		0.231	0.35 U	0.35											0.460 U	0.46
Fluorene	2300	0.208	0.35 U	0.35											40	9.2 *
4-Nitroaniline		0.211	0.88 U	0.88											1.1 U	1.1
4,6-Dinitro-2-methylphenol		0.175	0.88 U	0.88											1.1 U	1.1
N-Nitrosodiphenylamine (1)	140	0.139	0.35 U	0.35											0.46 U	0.46
4-Bromophenyl-phenylether		0.175	0.35 U	0.35											0.46 U	0.46
Hexachlorobenzene	0.66	0.182	0.35 U	0.35											0.46 U	0.46
Pentachlorophenol	6	0.132	0.88 U	0.88											1.1 U	1.1
Phenanthrene		0.165	0.35 U	0.35											140	46 **
Anthracene	10000	0.152	0.35 U	0.35											16	9.2 *
Carbazole		0.145	0.35 U	0.35											4.8 J	9.2 *
Di-n-butylphthalate	5700	0.215	0.084 JB	0.35											0.36 JB	0.46
Fluoranthene	2300	0.198	0.35 U	0.35											46	9.2 *
Pyrene	1700	0.178	0.35 U	0.35											48	9.2 *
Butylbenzylphthalate	1100	0.175	0.35 U	0.35											0.45 J	0.46
3,3'-Dichlorobenzidine	2	0.092	0.35 U	0.35											0.46 U	0.46
Benzo(a)anthracene	0.9	0.162	0.35 U	0.35											11	9.2 *
Chrysene	9	0.145	0.35 U	0.35											10	9.2 *
bis(2-Ethylhexy)phthalate	49	0.32	0.053 J	0.35											0.17 J	0.46
Di-n-octyl phthalate	1100	0.185	0.35 U	0.35											0.46 U	0.46
Benzo(b)fluoranthene	0.9	0.188	0.35 U	0.35											7.6 J	9.2 *
Benzo(k)fluoranthene	0.9	0.205	0.35 U	0.35											2.3	0.46
Benzo(a)pyrene	0.66	0.162	0.35 U	0.35											3.8 J	9.2 *
Indeno(1,2,3-cd)pyrene	0.9	0.234	0.35 U	0.35											2.1	0.46
Dibenzo(a,h)anthracene	0.66	0.198	0.35 U	0.35											0.45 J	0.46
Benzo(g,h,i)perylene		0.224	0.35 U	0.35											0.21 J	0.46
Petroleum hydrocarbons					27.8 U	27.8	26.8 U	26.8	117	28.7	30.0 U	30.0	221	28.6	2300	348
Total Est. Conc. of TIC			10.46												17.8	
Dilution Factor															* = 20.0, ** = 100	
Method:TCL Semivolatiles																

MAIN POST
SOIL BORING SEMIVOLATILES

Geographical Location			M18		M18		M18		M18		M18		M18	
Sample			M18-SB06-A02RE		MP18-SB01-A01		MP18-SB01-A02		MP18-SB02-A01		MP18-SB02-A02		MP18-SB03-A01	
Sample Type														
Batch#			9501G587		9412G632		9412G632		9412G632		9412G632		9412G632	
Prep#			95GP0083		94GTS038		94GTS038		94GTS038		94GTS038		94GTS038	
RFW#			006		003		004		005		006		006	
Sample Depth (bgs)														
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			1/11/95		1/12/95		1/12/95		1/12/95		1/12/95		1/12/95	
Analysis Date			2/11/95		1/30/95		1/30/95		1/30/95		1/30/95		1/30/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	10000	0.234	0.46 U	0.46										
bis(2-Chloroethyl) ether	0.66	0.32	0.46 U	0.46										
2-Chlorophenol	280	0.241	0.46 U	0.46										
1,3-Dichlorobenzene	5100	0.175	0.46 U	0.46										
1,4-Dichlorobenzene	570	0.158	0.46 U	0.46										
1,2-Dichlorobenzene	5100	0.188	0.46 U	0.46										
2-Methylphenol	2800	0.221	0.46 U	0.46										
2,2'-oxybis(1-Chloropropane)		0.231	0.46 U	0.46										
4-Methylphenol	2800	0.426	0.46 U	0.46										
N-Nitroso-di-n-propylamine	0.66	0.264	0.46 U	0.46										
Hexachloroethane	6	0.175	0.46 U	0.46										
Nitrobenzene	28	0.244	0.46 U	0.46										
Isophorone	1100	0.129	0.46 U	0.46										
2-Nitrophenol		0.231	0.46 U	0.46										
2,4-Dimethylphenol	1100	0.158	0.46 U	0.46										
bis(2-Chloroethoxy) methane		0.201	0.46 U	0.46										
2,4-Dichlorophenol	170	0.145	0.46 U	0.46										
1,2,4-Trichlorobenzene	68	0.317	0.46 U	0.46										
Naphthalene	230	0.277	0.94	0.46										
4-Chloroaniline	230	0.096	0.46 U	0.46										
Hexachlorobutadiene	1	0.152	0.46 U	0.46										
4-Chloro-3-methylphenol	10000	0.102	0.46 U	0.46										
2-Methylnaphthalene		0.287	0.18 J	0.46										
Hexachlorocyclopentadiene	400	0.119	0.46 U	0.46										
2,4,6-Trichlorophenol	62	0.185	0.46 U	0.46										
2,4,5-Trichlorophenol	5600	0.155	1.2 U	1.2										
2-Chloronaphthalene		0.271	0.46 U	0.46										
2-Nitroaniline		0.201	1.2 U	1.2										
Dimethylphthalate	10000	0.145	0.46 U	0.46										
Acenaphthylene		0.198	0.46 U	0.46										
2,6-Dinitrotoluene	1	0.172	0.46 U	0.46										
3-Nitroaniline		0.172	1.2 U	1.2										
Acenaphthene	3400	0.221	E	0.46										
2,4-Dinitrophenol	110	0.152	1.2 U	1.2										
4-Nitrophenol		0.248	1.2 U	1.2										

MAIN POST
SOIL BORING SEMIVOLATILES

Geographical Location			M18		M18		M18		M18		M18		M18	
Sample			M18-SB06-A02RE		MP18-SB01-A01		MP18-SB01-A02		MP18-SB02-A01		MP18-SB02-A02		MP18-SB03-A01	
Sample Type														
Batch#			9501G587		9412G632		9412G632		9412G632		9412G632		9412G632	
Prep#			95GP0083		94GTS038		94GTS038		94GTS038		94GTS038		94GTS038	
RFW#			006		003		004		005		006		006	
Sample Depth (bgs)														
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			1/11/95		1/12/95		1/12/95		1/12/95		1/12/95		1/12/95	
Analysis Date			2/11/95		1/30/95		1/30/95		1/30/95		1/30/95		1/30/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Dibenzofuran		0.215	E	0.46										
2,4-Dinitrotoluene	1	0.191	0.46 U	0.46										
Diethylphthalate	10000	0.178	0.46 U	0.46										
4-Chlorophenyl-phenylether		0.231	0.46 U	0.46										
Fluorene	2300	0.208	E	0.46										
4-Nitroaniline		0.211	1.2 U	1.2										
4,6-Dinitro-2-methylphenol		0.175	1.2 U	1.2										
N-Nitrosodiphenylamine (1)	140	0.139	0.46 U	0.46										
4-Bromophenyl-phenylether		0.175	0.46 U	0.46										
Hexachlorobenzene	0.66	0.182	0.46 U	0.46										
Pentachlorophenol	6	0.132	1.2 U	1.2										
Phenanthrene		0.165	E	0.46										
Anthracene	10000	0.152	E	0.46										
Carbazole		0.145	E	0.46										
Di-n-butylphthalate	5700	0.215	1.6 B	0.46										
Fluoranthene	2300	0.198	E	0.46										
Pyrene	1700	0.178	E	0.46										
Butylbenzylphthalate	1100	0.175	0.46 U	0.46										
3,3'-Dichlorobenzidine	2	0.092	0.46 U	0.46										
Benzo(a)anthracene	0.9	0.162	E	0.46										
Chrysene	9	0.145	E	0.46										
bis(2-Ethylhexy)phthalate	49	0.32	0.18 J	0.46										
Di-n-octyl phthalate	1100	0.185	0.46 U	0.46										
Benzo(b)fluoranthene	0.9	0.188	E	0.46										
Benzo(k)fluoranthene	0.9	0.205	1.3	0.46										
Benzo(a)pyrene	0.66	0.162	3.1	0.46										
Indeno(1,2,3-cd)pyrene	0.9	0.234	1.7	0.46										
Dibenzo(a,h)anthracene	0.66	0.198	0.46 U	0.46										
Benzo(g,h,i)perylene		0.224	1.5	0.46										
Petroleum hydrocarbons					367	27.5	84.9	28.5	188	27.8	612	30.6	6330	719
Total Est. Conc. of TIC			21.2											
Dilution Factor														
Method:TCL Semivolatiles														

MAIN POST
SOIL BORING SEMIVOLATILES

Geographical Location			M18		M18		M18		M18		M18	
Sample			MP18-SB03-A01		MP18-SB07-A02		MP18-SB24-A01		MP18-SB24-A02		MP18-SB25-A01	
Sample Type												
Batch#			9412G632		9412G632		9412G632		9412G632		9501G656	
Prep#			94GTS038		94GTS038		94GTS038		94GTS038		95GTS038	
RFW#			007		008		001		002		001	
Sample Depth (bgs)												
Dilution Factor			1.00		1.00		1.00		1.00		10.0	
Matrix			soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			1/12/95		1/12/95		1/12/95		1/12/95		1/11/95	
Analysis Date			1/30/95		1/30/95		1/30/95		1/30/95		1/13/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	10000	0.234										
bis(2-Chloroethyl) ether	0.66	0.32										
2-Chlorophenol	280	0.241										
1,3-Dichlorobenzene	5100	0.175										
1,4-Dichlorobenzene	570	0.158										
1,2-Dichlorobenzene	5100	0.188										
2-Methylphenol	2800	0.221										
2,2'-oxybis(1-Chloropropane)		0.231										
4-Methylphenol	2800	0.426										
N-Nitroso-di-n-propylamine	0.66	0.264										
Hexachloroethane	6	0.175										
Nitrobenzene	28	0.244										
Isophorone	1100	0.129										
2-Nitrophenol		0.231										
2,4-Dimethylphenol	1100	0.158										
bis(2-Chloroethoxy) methane		0.201										
2,4-Dichlorophenol	170	0.145										
1,2,4-Trichlorobenzene	68	0.317										
Naphthalene	230	0.277										
4-Chloroaniline	230	0.096										
Hexachlorobutadiene	1	0.152										
4-Chloro-3-methylphenol	10000	0.102										
2-Methylnaphthalene		0.287										
Hexachlorocyclopentadiene	400	0.119										
2,4,6-Trichlorophenol	62	0.185										
2,4,5-Trichlorophenol	5600	0.155										
2-Chloronaphthalene		0.271										
2-Nitroaniline		0.201										
Dimethylphthalate	10000	0.145										
Acenaphthylene		0.198										
2,6-Dinitrotoluene	1	0.172										
3-Nitroaniline		0.172										
Acenaphthene	3400	0.221										
2,4-Dinitrophenol	110	0.152										
4-Nitrophenol		0.248										

MAIN POST
SOIL BORING SEMIVOLATILES

Geographical Location			M18		M18		M18		M18		M18	
Sample			MP18-SB03-A01		MP18-SB07-A02		MP18-SB24-A01		MP18-SB24-A02		MP18-SB25-A01	
Sample Type												
Batch#			9412G632		9412G632		9412G632		9412G632		9501G656	
Prep#			94GTS038		94GTS038		94GTS038		94GTS038		95GTS038	
RFW#			007		008		001		002		001	
Sample Depth (bgs)												
Dilution Factor			1.00		1.00		1.00		1.00		10.0	
Matrix			soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			1/12/95		1/12/95		1/12/95		1/12/95		1/11/95	
Analysis Date			1/30/95		1/30/95		1/30/95		1/30/95		1/13/95	
Analysis	Standard	MDL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL
			Result		Result		Result		Result		Result	
Dibenzofuran		0.215										
2,4-Dinitrotoluene	1	0.191										
Diethylphthalate	10000	0.178										
4-Chlorophenyl-phenylether		0.231										
Fluorene	2300	0.208										
4-Nitroaniline		0.211										
4,6-Dinitro-2-methylphenol		0.175										
N-Nitrosodiphenylamine (1)	140	0.139										
4-Bromophenyl-phenylether		0.175										
Hexachlorobenzene	0.66	0.182										
Pentachlorophenol	6	0.132										
Phenanthrene		0.165										
Anthracene	10000	0.152										
Carbazole		0.145										
Di-n-butylphthalate	5700	0.215										
Fluoranthene	2300	0.198										
Pyrene	1700	0.178										
Butylbenzylphthalate	1100	0.175										
3,3'-Dichlorobenzidine	2	0.092										
Benzo(a)anthracene	0.9	0.162										
Chrysene	9	0.145										
bis(2-Ethylhexy)phthalate	49	0.32										
Di-n-octyl phthalate	1100	0.185										
Benzo(b)fluoranthene	0.9	0.188										
Benzo(k)fluoranthene	0.9	0.205										
Benzo(a)pyrene	0.66	0.162										
Indeno(1,2,3-cd)pyrene	0.9	0.234										
Dibenzo(a,h)anthracene	0.66	0.198										
Benzo(g,h,i)perylene		0.224										
Petroleum hydrocarbons			1100	29.0	29.9	28.6	695	28.8	993	31.1	311	29.6
Total Est. Conc. of TIC												
Dilution Factor					These can be found in the Inorganics data packages.							
Method:TCL Semivolatiles												

MAIN POST
SOIL BORING SEMIVOLATILES

Geographical Location			M18		B1		B1		B1		B2	
Sample			MP18-SB25-A02		B1-SB01-A01		B1-SB01-A01RE		B1-SB01-A02		B2-SB01-A01	
Sample Type												
Batch#			9501G656		9401G527		9401G527		9401G527		9401G500	
Prep#			95GTS038		95GB0017		95GB0017		95GB0017		95GB0017	
RFW#			002		001		001		002		001	
Sample Depth (bgs)												
Dilution Factor			10.0		1.00		1.00		1.00		1.00	
Matrix			soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			1/11/95		1/9/95		1/9/95		1/9/95		1/6/95	
Analysis Date			1/13/95		1/21/94		2/8/94		2/8/94		1/21/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	10000	0.234			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
bis(2-Chloroethyl) ether	0.66	0.32			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
2-Chlorophenol	280	0.241			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
1,3-Dichlorobenzene	5100	0.175			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
1,4-Dichlorobenzene	570	0.158			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
1,2-Dichlorobenzene	5100	0.188			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
2-Methylphenol	2800	0.221			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
2,2'-oxybis(1-Chloropropane)		0.231			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
4-Methylphenol	2800	0.426			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
N-Nitroso-di-n-propylamine	0.66	0.264			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Hexachloroethane	6	0.175			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Nitrobenzene	28	0.244			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Isophorone	1100	0.129			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
2-Nitrophenol		0.231			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
2,4-Dimethylphenol	1100	0.158			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
bis(2-Chloroethoxy) methane		0.201			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
2,4-Dichlorophenol	170	0.145			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
1,2,4-Trichlorobenzene	68	0.317			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Naphthalene	230	0.277			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
4-Chloroaniline	230	0.096			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Hexachlorobutadiene	1	0.152			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
4-Chloro-3-methylphenol	10000	0.102			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
2-Methylnaphthalene		0.287			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Hexachlorocyclopentadiene	400	0.119			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
2,4,6-Trichlorophenol	62	0.185			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
2,4,5-Trichlorophenol	5600	0.155			0.94 U	0.94	0.94 U	0.94	1 U	1	1 U	1
2-Chloronaphthalene		0.271			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
2-Nitroaniline		0.201			0.94 U	0.94	0.94 U	0.94	1 U	1	1 U	1
Dimethylphthalate	10000	0.145			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Acenaphthylene		0.198			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
2,6-Dinitrotoluene	1	0.172			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
3-Nitroaniline		0.172			0.94 U	0.94	0.94 U	0.94	1 U	1	1 U	1
Acenaphthene	3400	0.221			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
2,4-Dinitrophenol	110	0.152			0.94 U	0.94	0.94 U	0.94	1 U	1	1 U	1
4-Nitrophenol		0.248			0.94 U	0.94	0.94 U	0.94	1 U	1	1 U	1

MAIN POST
SOIL BORING SEMIVOLATILES

Geographical Location			M18		B1		B1		B1		B2	
Sample			MP18-SB25-A02		B1-SB01-A01		B1-SB01-A01RE		B1-SB01-A02		B2-SB01-A01	
Sample Type												
Batch#			9501G656		9401G527		9401G527		9401G527		9401G500	
Prep#			95GTS038		95GB0017		95GB0017		95GB0017		95GB0017	
RFW#			002		001		001		002		001	
Sample Depth (bgs)												
Dilution Factor			10.0		1.00		1.00		1.00		1.00	
Matrix			soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			1/11/95		1/9/95		1/9/95		1/9/95		1/6/95	
Analysis Date			1/13/95		1/21/94		2/8/94		2/8/94		1/21/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Dibenzofuran		0.215			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
2,4-Dinitrotoluene	1	0.191			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Diethylphthalate	10000	0.178			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
4-Chlorophenyl-phenylether		0.231			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Fluorene	2300	0.208			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
4-Nitroaniline		0.211			0.94 U	0.94	0.94 U	0.94	1 U	1	1 U	1
4,6-Dinitro-2-methylphenol		0.175			0.94 U	0.94	0.94 U	0.94	1 U	1	1 U	1
N-Nitrosodiphenylamine (1)	140	0.139			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
4-Bromophenyl-phenylether		0.175			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Hexachlorobenzene	0.66	0.182			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Pentachlorophenol	6	0.132			0.94 U	0.94	0.94 U	0.94	1 U	1	1 U	1
Phenanthrene		0.165			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.067 J	0.41
Anthracene	10000	0.152			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Carbazole		0.145			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Di-n-butylphthalate	5700	0.215			0.16 JB	0.38	0.11 JB	0.38	0.078 JB	0.42	0.068 JB	0.41
Fluoranthene	2300	0.198			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.042 J	0.41
Pyrene	1700	0.178			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.081 J	0.41
Butylbenzylphthalate	1100	0.175			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
3,3'-Dichlorobenzidine	2	0.092			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Benzo(a)anthracene	0.9	0.162			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Chrysene	9	0.145			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
bis(2-Ethylhexy)phthalate	49	0.32			0.041 J	0.38	0.083 J	0.38	0.42 U	0.42	0.067 J	0.41
Di-n-octyl phthalate	1100	0.185			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Benzo(b)fluoranthene	0.9	0.188			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Benzo(k)fluoranthene	0.9	0.205			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Benzo(a)pyrene	0.66	0.162			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Indeno(1,2,3-cd)pyrene	0.9	0.234			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Dibenzo(a,h)anthracene	0.66	0.198			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Benzo(g,h,i)perylene		0.224			0.38 U	0.38	0.38 U	0.38	0.42 U	0.42	0.41 U	0.41
Petroleum hydrocarbons			2500	141								
Total Est. Conc. of TIC					12.1		5.15		5.58		11.5	
Dilution Factor												
Method:TCL Semivolatiles												

MAIN POST
SOIL BORING SEMIVOLATILES

Geographical Location			B2		B3		B3		B4		B4	
Sample			B2-SB01-A02		B3-SB01-A01		B3-SB01-A03		B4-SB01-A01		B4-SB01-A01RE	
Sample Type												
Batch#			9401G500		9401G500		9401G500		9401G527		9401G527	
Prep#			95GB0017		95GB0017		95GB0017		95GB0017		95GB0017	
RFW#			002		003		004		003		003	
Sample Depth (bgs)												
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			1/6/95		1/6/95		1/6/95		1/9/95		1/9/95	
Analysis Date			1/21/95		1/21/95		1/21/95		2/8/94		2/9/94	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	10000	0.234	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
bis(2-Chloroethyl) ether	0.66	0.32	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
2-Chlorophenol	280	0.241	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
1,3-Dichlorobenzene	5100	0.175	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
1,4-Dichlorobenzene	570	0.158	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
1,2-Dichlorobenzene	5100	0.188	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
2-Methylphenol	2800	0.221	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
2,2'-oxybis(1-Chloropropane)		0.231	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
4-Methylphenol	2800	0.426	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
N-Nitroso-di-n-propylamine	0.66	0.264	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
Hexachloroethane	6	0.175	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
Nitrobenzene	28	0.244	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
Isophorone	1100	0.129	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
2-Nitrophenol		0.231	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
2,4-Dimethylphenol	1100	0.158	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
bis(2-Chloroethoxy) methane		0.201	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
2,4-Dichlorophenol	170	0.145	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
1,2,4-Trichlorobenzene	68	0.317	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
Naphthalene	230	0.277	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
4-Chloroaniline	230	0.096	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
Hexachlorobutadiene	1	0.152	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
4-Chloro-3-methylphenol	10000	0.102	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
2-Methylnaphthalene		0.287	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
Hexachlorocyclopentadiene	400	0.119	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
2,4,6-Trichlorophenol	62	0.185	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
2,4,5-Trichlorophenol	5600	0.155	1 U	1	0.94 U	0.94	1.1 U	1.1	0.94 U	0.94	0.94 U	0.94
2-Chloronaphthalene		0.271	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
2-Nitroaniline		0.201	1 U	1	0.94 U	0.94	1.1 U	1.1	0.94 U	0.94	0.94 U	0.94
Dimethylphthalate	10000	0.145	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
Acenaphthylene		0.198	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.039 J	0.38	0.38 U	0.38
2,6-Dinitrotoluene	1	0.172	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
3-Nitroaniline		0.172	1 U	1	0.94 U	0.94	1.1 U	1.1	0.94 U	0.94	0.94 U	0.94
Acenaphthene	3400	0.221	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
2,4-Dinitrophenol	110	0.152	1 U	1	0.94 U	0.94	1.1 U	1.1	0.94 U	0.94	0.94 U	0.94
4-Nitrophenol		0.248	1 U	1	0.94 U	0.94	1.1 U	1.1	0.94 U	0.94	0.94 U	0.94

MAIN POST
SOIL BORING SEMIVOLATILES

Geographical Location			B2		B3		B3		B4		B4	
Sample			B2-SB01-A02		B3-SB01-A01		B3-SB01-A03		B4-SB01-A01		B4-SB01-A01RE	
Sample Type												
Batch#			9401G500		9401G500		9401G500		9401G527		9401G527	
Prep#			95GB0017		95GB0017		95GB0017		95GB0017		95GB0017	
RFW#			002		003		004		003		003	
Sample Depth (bgs)												
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			1/6/95		1/6/95		1/6/95		1/9/95		1/9/95	
Analysis Date			1/21/95		1/21/95		1/21/95		2/8/94		2/9/94	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Dibenzofuran		0.215	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
2,4-Dinitrotoluene	1	0.191	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
Diethylphthalate	10000	0.178	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
4-Chlorophenyl-phenylether		0.231	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
Fluorene	2300	0.208	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
4-Nitroaniline		0.211	1 U	1	0.94 U	0.94	1.1 U	1.1	0.94 U	0.94	0.94 U	0.94
4,6-Dinitro-2-methylphenol		0.175	1 U	1	0.94 U	0.94	1.1 U	1.1	0.94 U	0.94	0.94 U	0.94
N-Nitrosodiphenylamine (1)	140	0.139	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
4-Bromophenyl-phenylether		0.175	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
Hexachlorobenzene	0.66	0.182	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
Pentachlorophenol	6	0.132	1 U	1	0.94 U	0.94	1.1 U	1.1	0.94 U	0.94	0.94 U	0.94
Phenanthrene		0.165	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.39	0.38	0.37 J	0.38
Anthracene	10000	0.152	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.092 J	0.38	0.071 J	0.38
Carbazole		0.145	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
Di-n-butylphthalate	5700	0.215	0.073 JB	0.41	0.058 JB	0.38	0.071 JB	0.45	0.056 JB	0.38	0.057 JB	0.38
Fluoranthene	2300	0.198	0.41 U	0.41	0.07 J	0.38	0.45 U	0.45	0.44	0.38	0.46	0.38
Pyrene	1700	0.178	0.41 U	0.41	0.062 J	0.38	0.45 U	0.45	1.5	0.38	1.1	0.38
Butylbenzylphthalate	1100	0.175	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
3,3'-Dichlorobenzidine	2	0.092	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
Benzo(a)anthracene	0.9	0.162	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.54	0.38	0.65	0.38
Chrysene	9	0.145	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.64	0.38	0.58	0.38
bis(2-Ethylhexy)phthalate	49	0.32	0.047 J	0.41	0.38 U	0.38	0.078 J	0.45	0.069 J	0.38	0.064 J	0.38
Di-n-octyl phthalate	1100	0.185	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.38 U	0.38	0.38 U	0.38
Benzo(b)fluoranthene	0.9	0.188	0.41 U	0.41	0.055 J	0.38	0.45 U	0.45	0.83	0.38	0.83	0.38
Benzo(k)fluoranthene	0.9	0.205	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.37 J	0.38	0.43	0.38
Benzo(a)pyrene	0.66	0.162	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.51	0.38	0.57	0.38
Indeno(1,2,3-cd)pyrene	0.9	0.234	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.3 J	0.38	0.46	0.38
Dibenzo(a,h)anthracene	0.66	0.198	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.05 JB	0.38	0.38 U	0.38
Benzo(g,h,i)perylene		0.224	0.41 U	0.41	0.38 U	0.38	0.45 U	0.45	0.33 JB	0.38	0.54 B	0.38
Petroleum hydrocarbons												
Total Est. Conc. of TIC			11.58		10.47				4.53		0.86	
Dilution Factor												
Method:TCL Semivolatiles												

MAIN POST
SOIL BORING SEMIVOLATILES

Geographical Location			B4		B4		B4		B4		B5	
Sample			B4-SB01-A02		B4-SB01-A02RE		B4-SB01-C01		B4-SB01-C01RE		B5-SB01-A01	
Sample Type							Duplicate		Duplicate			
Batch#			9401G527		9401G527		9401G527		9401G527		9501G587	
Prep#			95GB0017		95GB0017		95GB0017		95GB0017		95GP0035	
RFW#			004		004		005		005		007	
Sample Depth (bgs)												
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			1/9/95		1/9/95		1/9/95		1/9/95		1/11/95	
Analysis Date			2/8/94		2/9/94		2/8/95		2/9/95		2/10/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	10000	0.234	0.42 J	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
bis(2-Chloroethyl) ether	0.66	0.32	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
2-Chlorophenol	280	0.241	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
1,3-Dichlorobenzene	5100	0.175	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
1,4-Dichlorobenzene	570	0.158	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
1,2-Dichlorobenzene	5100	0.188	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
2-Methylphenol	2800	0.221	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
2,2'-oxybis(1-Chloropropane)		0.231	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
4-Methylphenol	2800	0.426	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
N-Nitroso-di-n-propylamine	0.66	0.264	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
Hexachloroethane	6	0.175	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
Nitrobenzene	28	0.244	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
Isophorone	1100	0.129	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
2-Nitrophenol		0.231	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
2,4-Dimethylphenol	1100	0.158	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
bis(2-Chloroethoxy) methane		0.201	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
2,4-Dichlorophenol	170	0.145	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
1,2,4-Trichlorobenzene	68	0.317	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
Naphthalene	230	0.277	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
4-Chloroaniline	230	0.096	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
Hexachlorobutadiene	1	0.152	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
4-Chloro-3-methylphenol	10000	0.102	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
2-Methylnaphthalene		0.287	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
Hexachlorocyclopentadiene	400	0.119	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
2,4,6-Trichlorophenol	62	0.185	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
2,4,5-Trichlorophenol	5600	0.155	1.1 U	1.1	1.1 U	1.1	0.93 U	0.93	0.93 U	0.93	0.98 U	0.98
2-Chloronaphthalene		0.271	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
2-Nitroaniline		0.201	1.1 U	1.1	1.1 U	1.1	0.93 U	0.93	0.93 U	0.93	0.98 U	0.98
Dimethylphthalate	10000	0.145	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
Acenaphthylene		0.198	0.45 U	0.45	0.45 U	0.45	0.041 J	0.37	0.37 U	0.37	0.39 U	0.39
2,6-Dinitrotoluene	1	0.172	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
3-Nitroaniline		0.172	1.1 U	1.1	1.1 U	1.1	0.93 U	0.93	0.93 U	0.93	0.98 U	0.98
Acenaphthene	3400	0.221	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
2,4-Dinitrophenol	110	0.152	1.1 U	1.1	1.1 U	1.1	0.93 U	0.93	0.93 U	0.93	0.98 U	0.98
4-Nitrophenol		0.248	1.1 U	1.1	1.1 U	1.1	0.93 U	0.93	0.93 U	0.93	0.98 U	0.98

MAIN POST
SOIL BORING SEMIVOLATILES

Geographical Location			B4		B4		B4		B4		B5	
Sample			B4-SB01-A02		B4-SB01-A02RE		B4-SB01-C01		B4-SB01-C01RE		B5-SB01-A01	
Sample Type							Duplicate		Duplicate			
Batch#			9401G527		9401G527		9401G527		9401G527		9501G587	
Prep#			95GB0017		95GB0017		95GB0017		95GB0017		95GP0035	
RFW#			004		004		005		005		007	
Sample Depth (bgs)												
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			1/9/95		1/9/95		1/9/95		1/9/95		1/11/95	
Analysis Date			2/8/94		2/9/94		2/8/95		2/9/95		2/10/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Dibenzofuran		0.215	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
2,4-Dinitrotoluene	1	0.191	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
Diethylphthalate	10000	0.178	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
4-Chlorophenyl-phenylether		0.231	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
Fluorene	2300	0.208	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
4-Nitroaniline		0.211	1.1 U	1.1	1.1 U	1.1	0.93 U	0.93	0.93 U	0.93	0.98 U	0.98
4,6-Dinitro-2-methylphenol		0.175	1.1 U	1.1	1.1 U	1.1	0.93 U	0.93	0.93 U	0.93	0.98 U	0.98
N-Nitrosodiphenylamine (1)	140	0.139	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
4-Bromophenyl-phenylether		0.175	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
Hexachlorobenzene	0.66	0.182	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
Pentachlorophenol	6	0.132	1.1 U	1.1	1.1 U	1.1	0.93 U	0.93	0.93 U	0.93	0.98 U	0.98
Phenanthrene		0.165	0.45 U	0.45	0.45 U	0.45	0.11 J	0.37	0.1 J	0.37	0.39 U	0.39
Anthracene	10000	0.152	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.04 J	0.37	0.39 U	0.39
Carbazole		0.145	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
Di-n-butylphthalate	5700	0.215	0.22 JB	0.45	0.22 JB	0.45	0.062 JB	0.37	0.067 JB	0.37	0.082 JB	0.39
Fluoranthene	2300	0.198	0.45 U	0.45	0.45 U	0.45	0.3 J	0.37	0.36 J	0.37	0.046 J	0.39
Pyrene	1700	0.178	0.45 U	0.45	0.45 U	0.45	1.1	0.37	0.81	0.37	0.041 J	0.39
Butylbenzylphthalate	1100	0.175	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
3,3'-Dichlorobenzidine	2	0.092	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
Benzo(a)anthracene	0.9	0.162	0.45 U	0.45	0.45 U	0.45	0.54	0.37	0.58	0.37	0.39 U	0.39
Chrysene	9	0.145	0.45 U	0.45	0.45 U	0.45	0.61	0.37	0.65	0.37	0.39 U	0.39
bis(2-Ethylhexy)phthalate	49	0.32	0.45 U	0.45	0.45 U	0.45	0.04 J	0.37	0.37 U	0.37	0.39 U	0.39
Di-n-octyl phthalate	1100	0.185	0.45 U	0.45	0.45 U	0.45	0.37 U	0.37	0.37 U	0.37	0.39 U	0.39
Benzo(b)fluoranthene	0.9	0.188	0.45 U	0.45	0.45 U	0.45	0.75	0.37	0.9	0.37	0.056 J	0.39
Benzo(k)fluoranthene	0.9	0.205	0.45 U	0.45	0.45 U	0.45	0.23 J	0.37	0.26 J	0.37	0.39 U	0.39
Benzo(a)pyrene	0.66	0.162	0.45 U	0.45	0.45 U	0.45	0.59	0.37	0.6	0.37	0.39 U	0.39
Indeno(1,2,3-cd)pyrene	0.9	0.234	0.45 U	0.45	0.45 U	0.45	0.26 J	0.37	0.44	0.37	0.39 U	0.39
Dibenzo(a,h)anthracene	0.66	0.198	0.45 U	0.45	0.45 U	0.45	0.058 JB	0.37	0.079 JB	0.37	0.39 U	0.39
Benzo(g,h,i)perylene		0.224	0.45 U	0.45	0.45 U	0.45	0.39 B	0.37	0.64 B	0.37	0.39 U	0.39
Petroleum hydrocarbons												
Total Est. Conc. of TIC			4.88		5.18		5.6		5.02		6.35	
Dilution Factor												
Method:TCL Semivolatiles												

MAIN POST
SOIL BORING SEMIVOLATILES

Geographical Location			B5		B5		B5	
Sample			B5-SB01-A01RE		B5-SB01-A01RE		B5-SB01-A02	
Sample Type								
Batch#			9501G587		9501G587		9501G587	
Prep#			95GP0035		95GP0035		95GP0035	
RFW#			007		008		008	
Sample Depth (bgs)								
Dilution Factor			1.00		1.00		1.00	
Matrix			soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
Sampling Date			1/11/95		1/11/95		1/11/95	
Analysis Date			2/10/95		2/11/95		2/10/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	10000	0.234	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
bis(2-Chloroethyl) ether	0.66	0.32	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2-Chlorophenol	280	0.241	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
1,3-Dichlorobenzene	5100	0.175	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
1,4-Dichlorobenzene	570	0.158	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
1,2-Dichlorobenzene	5100	0.188	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2-Methylphenol	2800	0.221	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2,2'-oxybis(1-Chloropropane)		0.231	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
4-Methylphenol	2800	0.426	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
N-Nitroso-di-n-propylamine	0.66	0.264	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Hexachloroethane	6	0.175	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Nitrobenzene	28	0.244	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Isophorone	1100	0.129	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2-Nitrophenol		0.231	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2,4-Dimethylphenol	1100	0.158	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
bis(2-Chloroethoxy) methane		0.201	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2,4-Dichlorophenol	170	0.145	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
1,2,4-Trichlorobenzene	68	0.317	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Naphthalene	230	0.277	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
4-Chloroaniline	230	0.096	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Hexachlorobutadiene	1	0.152	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
4-Chloro-3-methylphenol	10000	0.102	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2-Methylnaphthalene		0.287	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Hexachlorocyclopentadiene	400	0.119	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2,4,6-Trichlorophenol	62	0.185	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2,4,5-Trichlorophenol	5600	0.155	0.98 U	0.98	0.99 U	0.99	0.98 U	0.98
2-Chloronaphthalene		0.271	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2-Nitroaniline		0.201	0.98 U	0.98	0.99 U	0.99	0.98 U	0.98
Dimethylphthalate	10000	0.145	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Acenaphthylene		0.198	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2,6-Dinitrotoluene	1	0.172	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
3-Nitroaniline		0.172	0.98 U	0.98	0.99 U	0.99	0.98 U	0.98
Acenaphthene	3400	0.221	0.1 J	0.39	0.4 U	0.4	0.39 U	0.39
2,4-Dinitrophenol	110	0.152	0.98 U	0.98	0.99 U	0.99	0.98 U	0.98
4-Nitrophenol		0.248	0.98 U	0.98	0.99 U	0.99	0.98 U	0.98

MAIN POST
SOIL BORING SEMIVOLATILES

Geographical Location			B5		B5		B5	
Sample			B5-SB01-A01RE		B5-SB01-A01RE		B5-SB01-A02	
Sample Type								
Batch#			9501G587		9501G587		9501G587	
Prep#			95GP0035		95GP0035		95GP0035	
RFW#			007		008		008	
Sample Depth (bgs)								
Dilution Factor			1.00		1.00		1.00	
Matrix			soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
Sampling Date			1/11/95		1/11/95		1/11/95	
Analysis Date			2/10/95		2/11/95		2/10/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Dibenzofuran		0.215	0.06 J	0.39	0.4 U	0.4	0.39 U	0.39
2,4-Dinitrotoluene	1	0.191	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Diethylphthalate	10000	0.178	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
4-Chlorophenyl-phenylether		0.231	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Fluorene	2300	0.208	0.074 J	0.39	0.4 U	0.4	0.39 U	0.39
4-Nitroaniline		0.211	0.98 U	0.98	0.99 U	0.99	0.98 U	0.98
4,6-Dinitro-2-methylphenol		0.175	0.98 U	0.98	0.99 U	0.99	0.98 U	0.98
N-Nitrosodiphenylamine (1)	140	0.139	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
4-Bromophenyl-phenylether		0.175	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Hexachlorobenzene	0.66	0.182	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Pentachlorophenol	6	0.132	0.98 U	0.98	0.99 U	0.99	0.98 U	0.98
Phenanthrene		0.165	0.3 J	0.39	0.4 U	0.4	0.39 U	0.39
Anthracene	10000	0.152	0.1 J	0.39	0.4 U	0.4	0.39 U	0.39
Carbazole		0.145	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Di-n-butylphthalate	5700	0.215	1.8 B	0.39	2.2 B	0.4	0.094 JB	0.39
Fluoranthene	2300	0.198	0.21 J	0.39	0.4 U	0.4	0.39 U	0.39
Pyrene	1700	0.178	0.2 J	0.39	0.4 U	0.4	0.39 U	0.39
Butylbenzylphthalate	1100	0.175	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
3,3'-Dichlorobenzidine	2	0.092	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Benzo(a)anthracene	0.9	0.162	0.047 J	0.39	0.4 U	0.4	0.39 U	0.39
Chrysene	9	0.145	0.056 J	0.39	0.4 U	0.4	0.39 U	0.39
bis(2-Ethylhexy)phthalate	49	0.32	0.39 U	0.39	0.19 J	0.4	0.39 U	0.39
Di-n-octyl phthalate	1100	0.185	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Benzo(b)fluoranthene	0.9	0.188	0.12 J	0.39	0.4 U	0.4	0.39 U	0.39
Benzo(k)fluoranthene	0.9	0.205	0.12 J	0.39	0.4 U	0.4	0.39 U	0.39
Benzo(a)pyrene	0.66	0.162	0.08 J	0.39	0.4 U	0.4	0.39 U	0.39
Indeno(1,2,3-cd)pyrene	0.9	0.234	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Dibenzo(a,h)anthracene	0.66	0.198	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Benzo(g,h,i)perylene		0.224	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Petroleum hydrocarbons								
Total Est. Conc. of TIC			10.68		12.2		4.85	
Dilution Factor								
Method:TCL Semivolatiles								

MAIN POST
SOIL BORING INORGANICS

Geographical Location		M-AOC3		M-AOC3		M-AOC3		M16		M16	
Sample		MPA3-SB01-A02		MPA3-SB01-C02		MPA3-SB02-A02		MP16-SB01-A01		MP16-SB01-A02	
Sample Type				Duplicate							
Batch#		9412G130		9412G130		9412G155		9412G155		9412G155	
Prep#		94GTS484		94GTS484		94GTS484		94GTS484		94GTS484	
RFW#		001		002		003		001		002	
Sample Depth (bgs)											
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		12/14/94		12/14/94		12/15/94		12/15/94		12/15/94	
Analysis Date		12/22/94		12/22/94		12/22/94		12/22/94		12/22/94	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
% Solids		90.1	0.10	90.1	0.10	93.0	0.1	86.1	0.10	77.9	0.10
Silver	110	0.43 U	0.43	0.52 U	0.52	0.69	0.42	0.40 U	0.40	0.60 U	0.60
Aluminum		3000	1.8	3580	2.2	4020	1.8	6840	1.7	11900	2.6
Arsenic	20	2.8	0.31	3.4	0.27	4.2	0.33	8.8	0.31	16.0	2.0 *
Barium	700	14.4	0.14	11.6	0.17	12.5	0.14	36.3	0.13	29.7	0.20
Beryllium	1	0.34	0.072	0.39	0.087	0.63	0.069	0.84	0.067	0.80	0.10
Calcium		310	1.6	406	1.9	226	1.5	1500	1.5	1200	2.2
Cadmium	1	0.61 U	0.61	0.74 U	0.74	0.59 U	0.59	0.57 U	0.57	0.86 U	0.86
Cobalt		0.72	0.51	1.4	0.61	1.5	0.49	5.0	0.47	2.8	0.70
Chromium		39.9	1.2	45.2	1.4	61.0	1.1	54.6	1.1	59.5	1.6
Copper	600	1.9	0.43	1.9	0.52	1.7	0.42	24.2	0.40	11.7	0.60
Iron		15000	0.42	18900	0.50	21700	0.40	21300	0.39	36200	0.58
Mercury	14	0.09 U	0.09	0.073 U	0.073	0.11 U	0.11	0.10 U	0.10	0.12 U	0.12
Potassium		1760	18.5	1950	22.3	4240	17.7	2990	17.2	3660	25.7
Magnesium		690	6.9	760	8.3	1490	6.6	1670	6.4	2340	9.6
Manganese		13.8	0.11	19.6	0.13	15.6	0.10	74.5	0.10	37.7	0.15
Sodium		17.4	2.4	21.6	2.9	18.6	2.3	283	2.2	232	3.3
Nickel	250	1.9	0.58	2.5	0.70	3.0	0.55	8.0	0.54	5.4	0.81
Lead	400	8.3	2.7 *	28.6	2.4 *	11.5	2.9	35.3	5.4 *	16.3	1.7
Antimony	14	2.1 U	2.1	2.5 U	2.5	2.0 U	2.0	1.9 U	1.9	2.9 U	2.9 *
Selenium	63	0.17 U	0.17	0.18	0.15	0.19 U	0.19	0.67	0.17	0.96	0.22
Thallium	2	0.21 U	0.21	0.19 U	0.19	0.23 U	0.23	0.21 U	0.21	0.27 U	0.27
Vanadium	370	28.0	0.38	28.4	0.46	32.9	0.36	37.6	0.35	43.5	0.53
Zinc	1500	19.1	0.38	25.3	0.46	30.8	0.36	93.0	0.35	42.1	0.53
Cyanide	1100	0.48 U	0.48	0.45 U	0.45						
Dilution Factor		* = 10.0		* = 10.0				* = 20.0		* = 5.00	
Method:TAL Metals, Cyanide											

MAIN POST
SOIL BORING INORGANICS

Geographical Location		M18		M18		M18		M18		M18	
Sample		M18-SB06-A02		MP18-SB01-A01		MP18-SB01-A02		MP18-SB02-A01		MP18-SB02-A02	
Sample Type											
Batch#		9501G587		9501G632		9501G632		9501G632		9501G632	
Prep#		95GTS013		95GTS038		95GTS038		95GTS038		95GTS038	
RFW#		006		003		004		005		006	
Sample Depth (bgs)											
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		1/11/95		1/12/95		1/12/95		1/12/95		1/12/95	
Analysis Date		1/13/95		1/30/95		1/30/95		1/30/95		1/30/95	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
% Solids		72.1	0.10	86.0	0.10	84.0	0.10	87.6	0.10	80.5	0.10
Silver	110	0.57 U	0.57								
Aluminum		6130	3.9								
Arsenic	20	5.8	0.44								
Barium	700	31.0	0.18								
Beryllium	1	0.07 U	0.07								
Calcium		11100	1.9								
Cadmium	1	0.66 U	0.66								
Cobalt		6.3	0.53								
Chromium		35.3	1.1								
Copper	600	218	0.92								
Iron		17700	0.57								
Mercury	14	0.61	0.11								
Potassium		2190	15.6								
Magnesium		3380	7.9								
Manganese		168	0.21								
Sodium		181	4.4								
Nickel	250	12.6	0.96								
Lead	400	127	4.6 *								
Antimony	14	2.5 U	2.5								
Selenium	63	0.78	0.35								
Thallium	2	0.16 U	0.16								
Vanadium	370	27.3	0.48								
Zinc	1500	72.6	0.44								
Cyanide	1100										
Dilution Factor		* = 20.0									
Method:TAL Metals, Cyanide											

MAIN POST
SOIL BORING INORGANICS

Geographical Location		M18		M18		M18		M18		M18	
Sample		MP18-SB03-A01		MP18-SB03-A02		MP18-SB07-A01		MP18-SB24-A01		MP18-SB24-A02	
Sample Type											
Batch#		9501G632		9501G632		9501G632		9501G632		9501G632	
Prep#		95GTS038		95GTS038		95GTS038		95GTS038		95GTS038	
RFW#		007		008		009		001		002	
Sample Depth (bgs)											
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		1/12/95		1/12/95		1/12/95		1/12/95		1/12/95	
Analysis Date		1/30/95		1/30/95		1/30/95		1/30/95		1/30/95	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
% Solids		83.1	0.10	85.0	0.10	87.7	0.10	86.3	0.10	80.8	0.10
Silver	110										
Aluminum											
Arsenic	20										
Barium	700										
Beryllium	1										
Calcium											
Cadmium	1										
Cobalt											
Chromium											
Copper	600										
Iron											
Mercury	14										
Potassium											
Magnesium											
Manganese											
Sodium											
Nickel	250										
Lead	400										
Antimony	14										
Selenium	63										
Thallium	2										
Vanadium	370										
Zinc	1500										
Cyanide	1100										
Dilution Factor											
Method:TAL Metals, Cyanide											

MAIN POST
SOIL BORING INORGANICS

Geographical Location		M18		M18		M18		M18		M18	
Sample		MP18-SB25-A01		MP18-SB25-A02		M18-SB04-A01		M18-SB04-A02		M18-SB05-A01	
Sample Type											
Batch#		9501GG656		9501GG656		9501G587		9501G587		9501G587	
Prep#		95GTS038		95GTS038		95GTS013		95GTS013		95GTS013	
RFW#		001		002		003		004		001	
Sample Depth (bgs)											
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		1/13/95		1/13/95		1/11/95		1/11/95		1/11/95	
Analysis Date		1/30/95		1/30/95		1/13/95		1/13/95		1/13/95	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
% Solids		83.0	0.10	88.4	0.10	92.7	0.10	90.8	0.10	87.4	0.10
Silver	110										
Aluminum											
Arsenic	20										
Barium	700										
Beryllium	1										
Calcium											
Cadmium	1										
Cobalt											
Chromium											
Copper	600										
Iron											
Mercury	14										
Potassium											
Magnesium											
Manganese											
Sodium											
Nickel	250										
Lead	400										
Antimony	14										
Selenium	63										
Thallium	2										
Vanadium	370										
Zinc	1500										
Cyanide	1100										
Dilution Factor											
Method:TAL Metals, Cyanide											

MAIN POST
SOIL BORING INORGANICS

Geographical Location		M18		M18		M18		B1		B1	
Sample		M18-SB05-A02		M18-SB06-A01		MP18-MW03-A01		B1-SB01-A01		B1-SB01-A02	
Sample Type											
Batch#		9501G587		9501G587		9505G825		9512G527		9512G527	
Prep#		95GTS013		95GTS013		95GI713		95GTS007		95GTS007	
RFW#		002		005		006		001		002	
Sample Depth (bgs)											
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		water		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		1/11/95		1/11/95		5/10/95		1/9/95		1/9/95	
Analysis Date		1/13/95		1/13/95		5/24/95		1/11/95		1/11/95	
Analysis	Standard	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting
		Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
% Solids		79.8	0.10	87.0	0.10	85.9	0.10	88.0	0.10	79.0	0.10
Silver	110							0.51 U	0.51	0.53 U	0.53
Aluminum								4780	3.4	4680	3.5
Arsenic	20							5.8	0.31	4.7	0.32
Barium	700							6.5	0.16	6.3	0.17
Beryllium	1							0.54	0.061	0.75	0.063
Calcium								170	1.7	96.1	1.8
Cadmium	1							0.59 U	0.59	0.61 U	0.61
Cobalt								0.79	0.47	1.4	0.49
Chromium								64.6	0.96	84.8	0.99
Copper	600							2.0	0.82	2.0	0.84
Iron								14700	0.51	17400	0.53
Mercury	14							0.095 U	0.095	0.094 U	0.094
Potassium								3110	13.9	2730	14.3
Magnesium								1130	7.0	1070	7.2
Manganese								9.4	0.18	8.2	0.19
Sodium								15.1	3.9	12.6	4.0
Nickel	250							2.0	0.86	3.2	0.89
Lead	400							7.7	0.54 *	8.4	0.56 *
Antimony	14							2.2 U	2.2	2.3 U	2.3
Selenium	63							0.17 U	0.17	0.18 U	0.18
Thallium	2							0.21 U	0.21	0.22 U	0.22
Vanadium	370							43.9	0.43	94.1	0.44
Zinc	1500							20.2	0.39	19.6	0.40
Cyanide	1100					0.53 U	0.53	0.32 U	0.32	0.63 U	0.63
Dilution Factor								* = 2.00		* = 2.00	
Method:TAL Metals, Cyanide											

MAIN POST
SOIL BORING INORGANICS

Geographical Location		B2		B2		B3		B3		B4	
Sample		B2-SB01-A01		B2-SB01-A02		B3-SB01-A01		B3-SB01-A03		B4-SB01-A01	
Sample Type											
Batch#		9501G500		9501G500		9501G500		9501G500		9512G527	
Prep#		95GTS007		95GTS007		95GTS007		95GTS007		95GTS007	
RFW#		001		002		003		004		003	
Sample Depth (bgs)											
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		1/6/95		1/6/95		1/6/95		1/6/95		1/9/95	
Analysis Date		1/10/95		1/10/95		1/10/95		1/10/95		1/11/95	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
% Solids		81.2	0.10	80.1	0.10	88.1	0.1	73.3	0.10	88.8	0.10
Silver	110	0.88	0.64	0.86	0.66	0.73	0.59	1.1	0.70	0.52 U	0.52
Aluminum		9900	0.55	12700	5.7	7630	5.1	15200	6.0	4290	3.5
Arsenic	20	21.7	3.2 *	22.9	3.3 *	6.2	0.60 *	9.8	0.72 *	4.5	0.32
Barium	700	23.7	0.43	20.1	0.45	28.0	0.40	26.0	0.47	22.7	0.17
Beryllium	1	0.99	0.31	1.4	0.32	0.78	0.29	2.0	0.34	0.53	0.063
Calcium		427	2.5	343	2.6	921	2.3	511	2.7	642	1.8
Cadmium	1	0.57 U	0.57	0.60 U	0.60	0.53 U	0.53	0.63 U	0.63	0.60 U	0.60
Cobalt		1.6	0.55	1.1	0.58	1.0	0.52	0.97	0.61	0.98	0.48
Chromium		109	0.62	154	0.64	48.4	0.57	269	0.68	39.9	0.98
Copper	600	6.4	0.47	5.7	0.49	4.1	0.44	7.8	0.52	4.0	0.83
Iron		36800	0.96	39800	1.0	19700	0.90	55800	1.1	12900	0.52
Mercury	14	0.12 U	0.12	0.10 U	0.10	0.11 U	0.11	0.13 U	0.13	0.11 U	0.11
Potassium		5840	169	9290	175	3090	157	15400	185	2580	14.2
Magnesium		3030	5.0	4400	5.2	1920	4.7	7320	5.5	1290	7.2
Manganese		34.2	0.41	29.9	0.43	90.7	0.38	9.9	0.45	18.4	0.19
Sodium		24.9	3.2	23.8	3.3	22.3	2.9	51.6	3.5	18.7	4.0
Nickel	250	8.4	2.6	5.5	2.7	5.1	2.4	6.6	2.9	2.8	0.88
Lead	400	6.8	0.20	5.9	0.21	15.2	0.94 **	4.2	0.23	19.5	2.8 *
Antimony	14	4.4 U	4.4	4.6 U	4.6	4.1 U	4.1	4.8 U	4.8	2.3 U	2.3
Selenium	63	1.8	0.18	1.7	0.19	0.64	0.17	1.9	0.20	0.25	0.18
Thallium	2	0.22 U	0.22	0.23 U	0.23	0.21 U	0.21	0.25 U	0.25	0.22 U	0.22
Vanadium	370	39.4	0.60	53.9	0.62	29.1	0.55	50.3	0.65	19.9	0.44
Zinc	1500	39.9	0.57	39.1	0.60	35.0	0.53	81.4	0.63	24.1	0.40
Cyanide	1100	0.51 U	0.51	0.39 U	0.39	0.35 U	0.35	0.59 U	0.59	0.35 U	0.35
Dilution Factor		* = 10.0		* = 10.0		* = 2.00, ** = 5.00		* = 2.00		* = 10.0	
Method:TAL Metals, Cyanide											

MAIN POST
SOIL BORING INORGANICS

Geographical Location		B4		B4		B5		B5	
Sample		B4-SB01-A02		B4-SB01-C01		B5-SB01-A01		B5-SB01-A02	
Sample Type				Duplicate					
Batch#		9512G527		9512G527		9501G587		9501G587	
Prep#		95GTS007		95GTS007		95GTS013		95GTS013	
RFW#		004		005		007		008	
Sample Depth (bgs)									
Dilution Factor		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		1/9/95		1/9/95		1/11/95		1/11/95	
Analysis Date		1/11/95		1/11/95		1/13/95		1/13/95	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
% Solids		74.3	0.10	89.3	0.10	84.4	0.10	83.1	0.10
Silver	110	0.45 U	0.45	0.47 U	0.47	0.49 U	0.49	0.50 U	0.50
Aluminum		11700	3.1	4570	3.2	8020	3.3	8450	3.3
Arsenic	20	10	0.72 *	3.7	0.27	7.4	0.74 *	8.0	{0.76}
Barium	700	32.3	0.15	21.9	0.15	28.3	0.16	21.7	0.16
Beryllium	1	1.7	0.055	0.53	0.056	0.76	0.059	0.89	0.060
Calcium		104	1.5	601	1.6	738	1.7	517	1.7
Cadmium	1	0.53 U	0.53	0.55 U	0.55	0.57 U	0.57	0.58 U	0.58
Cobalt		2.5	0.42	0.58	0.43	2	0.45	1.5	0.46
Chromium		143	0.85	42.8	0.88	54.8	0.93	80.4	0.93
Copper	600	8.0	0.73	2.7	0.75	6.2	0.79	3.4	0.80
Iron		41400	0.45	13800	0.47	21200	0.49	25700	0.50
Mercury	14	0.13 U	0.13	0.083 U	0.083	0.09 U	0.09	0.09 U	0.09
Potassium		11800	12.4	2940	12.8	3770	13.4	3990	13.5
Magnesium		5430	6.2	1440	6.5	1840	6.8	1880	6.8
Manganese		9.5	0.16	16.7	0.17	46	0.18	14.0	0.18
Sodium		40.5	3.5	13.7	3.6	33.9	3.8	22.9	3.8
Nickel	250	5.0	0.76	2.4	0.79	3.7	0.83	3.5	0.84
Lead	400	3.8	0.32	9.7	1.2 *	19.0	2.0 **	5.7	0.20
Antimony	14	2.0 U	2.0	2.1 U	2.1	2.2 U	2.2	2.2 U	2.2
Selenium	63	0.20 U	0.20	0.28	0.15	0.67	0.29	1.2	0.30
Thallium	2	0.25 U	0.25	0.18 U	0.18	0.14 U	0.14	0.14 U	0.14
Vanadium	370	23.7	0.38	19.0	0.40	35.1	0.41	46.9	0.42
Zinc	1500	60.2	0.35	24.0	0.36	38.1	0.38	30.3	0.38
Cyanide	1100	0.45 U	0.45	0.49 U	0.49	0.35 U	0.35	0.39 U	0.39
Dilution Factor		* = 2.00		* = 5.00		* = 2.00, ** = 10.0		* = 2.00	
Method:TAL Metals, Cyanide									

MAIN POST
SOIL BORING PESTICIDES/PCBS

Geographical Location		M-AOC3		M-AOC3		M-AOC3		M-AOC3		M16		M16	
Sample		MPA3-SB01-A02		MPA3-SB01-C02		MPA3-SB02-A02		MPA3-SB02-A02DL		MP16-SB01-A01		MP16-SB01-A01DL	
Sample Type				Duplicate									
Batch#		9412G130		9412G130		9401G155		9401G155		9401G155		9401G155	
Prep#		94GP1090		94GP1090		94GP1090		94GP1090		94GP1090		94GP1090	
RFW#		001		002		003		003		001		001DL	
Sample Depth (bgs)													
Dilution Factor		1.00		1.00		1.00		10.0		10.0		100	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		12/14/94		12/14/94		12/15/94		12/15/94		12/15/94		12/15/94	
Analysis Date		1/3/95		1/3/95		1/3/95		1/3/95		1/3/95		1/4/95	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
alpha-BHC		0.0018 U	0.0018	0.0018 U	0.0018	0.0017 U	0.0017	0.017 U	0.017	0.019 U	0.019	0.19 U	0.19
beta-BHC		0.0018 U	0.0018	0.0018 U	0.0018	0.0017 U	0.0017	0.017 U	0.017	0.019 U	0.019	0.19 U	0.19
delta-BHC		0.0018 U	0.0018	0.0018 U	0.0018	0.0017 U	0.0017	0.017 U	0.017	0.019 U	0.019	0.19 U	0.19
gamma-BHC (Lindane)	0.52	0.0018 U	0.0018	0.0018 U	0.0018	0.0017 U	0.0017	0.017 U	0.017	0.019 U	0.019	0.19 U	0.19
Heptachlor	0.15	0.0018 U	0.0018	0.0018 U	0.0018	0.0017 U	0.0017	0.017 U	0.017	0.019 U	0.019	0.19 U	0.19
Aldrin	0.04	0.0018 U	0.0018	0.0018 U	0.0018	0.0017 U	0.0017	0.017 U	0.017	0.019 U	0.019	0.19 U	0.19
Heptachlor epoxide		0.0018 U	0.0018	0.0018 U	0.0018	0.0017 U	0.0017	0.017 U	0.017	0.019 U	0.019	0.19 U	0.19
Endosulfan I	340	0.0018 U	0.0018	0.0018 U	0.0018	0.0017 U	0.0017	0.017 U	0.017	0.019 U	0.019	0.19 U	0.19
Dieldrin	0.042	0.0037 U	0.0037	0.0036 U	0.0036	0.0035 U	0.0035	0.035 U	0.035	0.12	0.038	0.38 U	0.38
4,4'-DDE	2	0.044	0.0037	0.011	0.0036	0.022	0.0035	0.035 U	0.035	1 C	0.038	0.65 CD	0.38
Endrin	17	0.0037 U	0.0037	0.0036 U	0.0036	0.0035 U	0.0035	0.035 U	0.035	0.038 U	0.038	0.38 U	0.38
Endosulfan II	340	0.0037 U	0.0037	0.0036 U	0.0036	0.0035 U	0.0035	0.035 U	0.035	0.038 U	0.038	0.38 U	0.38
4,4'-DDD	3	0.024	0.0037	0.0097	0.0036	0.016	0.0035	0.035 U	0.035	1.5 C	0.038	1.1 CD	0.38
Endosulfan sulfate		0.0037 U	0.0037	0.0036 U	0.0036	0.0035 U	0.0035	0.035 U	0.035	0.04 U	0.038	0.38 U	0.38
4,4'-DDT	2	0.035 P	0.0037	0.017	0.0036	0.085	0.0035	.073 P	0.035	0.71 C	0.038	.62 D	0.38
Methoxychlor	280	0.018 U	0.018	0.018 U	0.018	0.02 U	0.017	0.17 U	0.17	0.19 U	0.19	1.9 U	0.38
Endrin ketone		0.0037 U	0.0037	0.0036 U	0.0036	0.0035 U	0.0035	0.035 U	0.035	0.038 U	0.038	0.38 U	0.38
Endrin aldehyde		0.0037 U	0.0037	0.0036 U	0.0036	0.0035 U	0.0035	0.035 U	0.035	0.038 U	0.038	0.38 U	0.38
alpha-Chlordane		0.0018 U	0.0018	0.0018 U	0.0018	0.0052	0.0017	0.017 U	0.017	0.042	0.019	0.19 U	0.19
gamma-Chlordane		0.0018 U	0.0018	0.0014 JP	0.0018	0.0035 P	0.0017	0.017 U	0.017	0.033 P	0.019	0.19 U	0.19
Toxaphene	0.1	0.18 U	0.18	0.18 U	0.18	0.17 U	0.17	1.7 U	1.7	1.9 U	1.9	19 U	19
Aroclor-1016	0.49	0.037 U	0.037	0.036 U	0.036	0.035 U	0.035	0.35 U	0.35	0.38 U	0.38	3.8 U	3.8
Aroclor-1221	0.49	0.073 U	0.073	0.072 U	0.072	0.07 U	0.07	0.7 U	0.7	0.77 U	0.77	7.7 U	7.7
Aroclor-1232	0.49	0.037 U	0.037	0.036 U	0.036	0.035 U	0.035	0.35 U	0.35	0.38 U	0.38	3.8 U	3.8
Aroclor-1242	0.49	0.037 U	0.037	0.036 U	0.036	0.035 U	0.035	0.35 U	0.35	0.38 U	0.38	3.8 U	3.8
Aroclor-1248	0.49	0.037 U	0.037	0.036 U	0.036	0.2 P	0.035	.25 JDP	0.35	0.38 U	0.38	3.8 U	3.8
Aroclor-1254	0.49	0.037 U	0.037	0.036 U	0.036	0.035 U	0.035	0.35 U	0.35	0.38 U	0.38	3.8 U	3.8
Aroclor-1260	0.49	0.037 U	0.037	0.036 U	0.036	0.035 U	0.035	0.35 U	0.35	0.38 U	0.38	3.8 U	3.8
Method:TCL Pesticides/PCBs													

MAIN POST
SOIL BORING PESTICIDES/PCBS

Geographical Location		M16		M16		M18		M18		B1		B1	
Sample		MP16-SB01-A02		MP16-SB01-A02DL		M18-SB06-A02		M18-SB06-A02DL		B1-SB01-A01		B1-SB01-A02	
Sample Type													
Batch#		9401G155		9401G155		9501G587		9501G587		9501G527		9501G527	
Prep#		94GP1090		94GP1090		95GP0050		95GP0050		95GP0028		95GP0028	
RFW#		002		002DL		006		006DL		001		002	
Sample Depth (bgs)													
Dilution Factor		1.00		10.0		1.00		10.0		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		12/15/94		12/15/94		1/11/95		1/11/95		1/9/95		1/9/95	
Analysis Date		1/3/95		1/3/95		2/2/95		2/2/95		1/18/95		1/18/95	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
alpha-BHC		0.0021 U	0.0021	0.021 U	0.021	0.0023 U	0.0023	0.023 U	0.023	0.0019 U	0.0019	0.0021 U	0.0021
beta-BHC		0.0021 U	0.0021	0.021 U	0.021	0.0023 U	0.0023	0.023 U	0.023	0.0019 U	0.0019	0.0021 U	0.0021
delta-BHC		0.0021 U	0.0021	0.021 U	0.021	0.0023 U	0.0023	0.023 U	0.023	0.0019 U	0.0019	0.0021 U	0.0021
gamma-BHC (Lindane)	0.52	0.0021 U	0.0021	0.021 U	0.021	0.0023 U	0.0023	0.023 U	0.023	0.0019 U	0.0019	0.0021 U	0.0021
Heptachlor	0.15	0.0021 U	0.0021	0.021 U	0.021	0.0023 U	0.0023	0.023 U	0.023	0.0019 U	0.0019	0.0021 U	0.0021
Aldrin	0.04	0.0021 U	0.0021	0.021 U	0.021	0.0023 U	0.0023	0.023 U	0.023	0.0019 U	0.0019	0.0021 U	0.0021
Heptachlor epoxide		0.0021 U	0.0021	0.021 U	0.021	0.03 P	0.0023	.038 DP	0.023	0.0019 U	0.0019	0.0021 U	0.0021
Endosulfan I	340	0.0021 U	0.0021	0.021 U	0.021	0.0023 U	0.0023	0.023 U	0.023	0.0019 U	0.0019	0.0021 U	0.0021
Dieldrin	0.042	0.0042 U	0.0042	0.042 U	0.042	0.0046 U	0.0046	0.046 U	0.046	0.0038 U	0.0038	0.0042 U	0.0042
4,4'-DDE	2	0.1	0.0042	.07 D	0.042	0.11	0.0046	.077 D	0.046	0.0038 U	0.0038	0.0042 U	0.0042
Endrin	17	0.0042 U	0.0042	0.042 U	0.042	0.0046 U	0.0046	0.046 U	0.046	0.0038 U	0.0038	0.0042 U	0.0042
Endosulfan II	340	0.0042 U	0.0042	0.042 U	0.042	0.0046 U	0.0046	0.046 U	0.046	0.0038 U	0.0038	0.0042 U	0.0042
4,4'-DDD	3	0.2	0.0042	.16 D	0.042	0.46 UX	0.0046	4.6 UX	0.046	0.0038 U	0.0038	0.0042 U	0.0042
Endosulfan sulfate		0.0042 U	0.0042	0.042 U	0.042	0.0046 U	0.0046	0.046 U	0.046	0.0038 U	0.0038	0.0042 U	0.0042
4,4'-DDT	2	0.072	0.0042	.063 D	0.042	0.032	0.0046	.038 JDP	0.046	0.0038 U	0.0038	0.0042 U	0.0042
Methoxychlor	280	0.021 U	0.021	0.21 U	0.21	0.023 U	0.023	0.23 U	0.23	0.019 U	0.019	0.021 U	0.021
Endrin ketone		0.0042 U	0.0042	0.042 U	0.042	0.0046 U	0.0046	0.046 U	0.046	0.0038 U	0.0038	0.0042 U	0.0042
Endrin aldehyde		0.0042 U	0.0042	0.042 U	0.042	0.0046 U	0.0046	0.046 U	0.046	0.0038 U	0.0038	0.0042 U	0.0042
alpha-Chlordane		0.0096	0.0021	0.021 U	0.021	0.0078	0.0023	0.023 U	0.023	0.0019 U	0.0019	0.0021 U	0.0021
gamma-Chlordane		0.0088 P	0.0021	0.021 U	0.021	0.02 P	0.0023	0.023 U	0.023	0.0019 U	0.0019	0.0021 U	0.0021
Toxaphene	0.1	0.21 U	0.21	2.1 U	2.1	0.23 U	0.23	2.3 U	2.3	0.19 U	0.19	0.21 U	0.21
Aroclor-1016	0.49	0.042 U	0.042	0.42 U	0.42	0.046 U	0.046	0.46 U	0.46	0.038 U	0.038	0.042 U	0.042
Aroclor-1221	0.49	0.083 U	0.083	0.83 U	0.83	0.092 U	0.092	0.92 U	0.92	0.076 U	0.076	0.084 U	0.084
Aroclor-1232	0.49	0.042 U	0.042	0.42 U	0.42	0.046 U	0.046	0.46 U	0.46	0.038 U	0.038	0.042 U	0.042
Aroclor-1242	0.49	0.042 U	0.042	0.42 U	0.42	0.046 U	0.046	0.46 U	0.46	0.038 U	0.038	0.042 U	0.042
Aroclor-1248	0.49	0.042 U	0.042	0.42 U	0.42	0.046 U	0.046	0.46 U	0.46	0.038 U	0.038	0.042 U	0.042
Aroclor-1254	0.49	0.042 U	0.042	0.42 U	0.42	0.046 U	0.046	0.46 U	0.46	0.038 U	0.038	0.042 U	0.042
Aroclor-1260	0.49	0.042 U	0.042	0.42 U	0.42	0.046 U	0.046	0.46 U	0.46	0.038 U	0.038	0.042 U	0.042
Method:TCL Pesticides/PCBs													

MAIN POST
SOIL BORING PESTICIDES/PCBS

Geographical Location		B2		B2		B3		B3		B4		B4	
Sample		B2-SB01-A01		B2-SB01-A02		B3-SB01-A01		B3-SB01-A03		B4-SB01-A01		B4-SB01-A01DL	
Sample Type													
Batch#		9501G500		9501G500		9501G500		9501G500		9501G527		9501G527	
Prep#		95GP0028		95GP0028		95GP0028		95GP0028		95GP0028		95GP0028	
RFW#		001		002		003		004		003		003	
Sample Depth (bgs)													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		10.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		1/6/95		1/6/95		1/6/95		1/6/95		1/9/95		1/9/95	
Analysis Date		1/18/95		1/18/95		1/18/95		1/18/95		1/18/95		1/18/95	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
alpha-BHC		0.002 U	0.002	0.002 U	0.002	0.0018 U	0.0018	0.0023 U	0.0023	0.0018 U	0.0018	0.018 U	0.018
beta-BHC		0.002 U	0.002	0.002 U	0.002	0.0018 U	0.0018	0.0023 U	0.0023	0.0018 U	0.0018	0.018 U	0.018
delta-BHC		0.002 U	0.002	0.002 U	0.002	0.0018 U	0.0018	0.0023 U	0.0023	0.0018 U	0.0018	0.018 U	0.018
gamma-BHC (Lindane)	0.52	0.002 U	0.002	0.002 U	0.002	0.0018 U	0.0018	0.0023 U	0.0023	0.0018 U	0.0018	0.018 U	0.018
Heptachlor	0.15	0.002 U	0.002	0.002 U	0.002	0.0018 U	0.0018	0.0023 U	0.0023	0.0018 U	0.0018	0.018 U	0.018
Aldrin	0.04	0.002 U	0.002	0.002 U	0.002	0.0018 U	0.0018	0.0023 U	0.0023	0.0018 U	0.0018	0.018 U	0.018
Heptachlor epoxide		0.002 U	0.002	0.002 U	0.002	0.0018 U	0.0018	0.0023 U	0.0023	0.0018 U	0.0018	0.037 U	0.037
Endosulfan I	340	0.002 U	0.002	0.002 U	0.002	0.0018 U	0.0018	0.0023 U	0.0023	0.0018 U	0.0018	0.037 U	0.037
Dieldrin	0.042	0.004 U	0.004	0.0041 U	0.0041	0.0037 U	0.0037	0.0045 U	0.0045	0.0037 U	0.0037	0.037 U	0.037
4,4'-DDE	2	0.004 U	0.004	0.0041 U	0.0041	0.0048 P	0.0037	0.0045 U	0.0045	0.086 P	0.0037	.097 D	0.037
Endrin	17	0.004 U	0.004	0.0041 U	0.0041	0.0037 U	0.0037	0.0045 U	0.0045	0.0037 U	0.0037	0.037 U	0.037
Endosulfan II	340	0.004 U	0.004	0.0041 U	0.0041	0.0037 U	0.0037	0.0045 U	0.0045	0.0037 U	0.0037	0.037 U	0.037
4,4'-DDD	3	0.0028 JP	0.004	0.0041 U	0.0041	0.0037 U	0.0037	0.0045 U	0.0045	0.0096 P	0.0037	0.037 U	0.037
Endosulfan sulfate		0.004 U	0.004	0.0041 U	0.0041	0.0037 U	0.0037	0.0045 U	0.0045	0.0037 U	0.0037	0.037 U	0.037
4,4'-DDT	2	0.0028 JP	0.004	0.0041 U	0.0041	0.0033 JP	0.0037	0.0045 U	0.0045	0.1 P	0.0037	.11 D	0.037
Methoxychlor	280	0.02 U	0.02	0.02 U	0.02	0.018 U	0.018	0.023 U	0.023	0.018 U	0.018	0.18 U	0.18
Endrin ketone		0.004 U	0.004	0.0041 U	0.0041	0.0037 U	0.0037	0.0045 U	0.0045	0.0037 U	0.0037	0.037 U	0.037
Endrin aldehyde		0.004 U	0.004	0.0041 U	0.0041	0.0037 U	0.0037	0.0045 U	0.0045	0.0037 U	0.0037	0.037 U	0.037
alpha-Chlordane		0.002 U	0.002	0.002 U	0.002	0.0018 U	0.0018	0.0023 U	0.0023	0.0018 U	0.0018	0.018 U	0.018
gamma-Chlordane		0.002 U	0.002	0.002 U	0.002	0.0018 U	0.0018	0.0023 U	0.0023	0.0018 U	0.0018	0.018 U	0.018
Toxaphene	0.1	0.2 U	0.2	0.2 U	0.2	0.18 U	0.18	0.23 U	0.23	0.18 U	0.18	1.8 U	1.8
Aroclor-1016	0.49	0.04 U	0.04	0.041 U	0.041	0.04 U	0.037	0.045 U	0.045	0.037 U	0.037	0.37 U	0.37
Aroclor-1221	0.49	0.08 U	0.08	0.082 U	0.082	0.07 U	0.074	0.09 U	0.09	0.074 U	0.074	0.74 U	0.74
Aroclor-1232	0.49	0.04 U	0.04	0.041 U	0.041	0.04 U	0.037	0.045 U	0.045	0.037 U	0.037	0.37 U	0.37
Aroclor-1242	0.49	0.04 U	0.04	0.041 U	0.041	0.04 U	0.037	0.045 U	0.045	0.037 U	0.037	0.37 U	0.37
Aroclor-1248	0.49	0.04 U	0.04	0.041 U	0.041	0.04 U	0.037	0.045 U	0.045	0.037 U	0.037	0.37 U	0.37
Aroclor-1254	0.49	0.04 U	0.04	0.041 U	0.041	0.04 U	0.037	0.045 U	0.045	0.037 U	0.037	0.37 U	0.37
Aroclor-1260	0.49	0.04 U	0.04	0.041 U	0.041	0.04 U	0.037	0.045 U	0.045	0.037 U	0.037	0.37 U	0.37
Method:TCL Pesticides/PCBs													

MAIN POST
SOIL BORING PESTICIDES/PCBS

Geographical Location		B4		B4		B4		B5		B5	
Sample		B4-SB01-A02		B4-SB01-C01		B4-SB01-C01DL		B5-SB01-A01		B5-SB01-A02	
Sample Type				Duplicate		Duplicate					
Batch#		9501G527		9501G527		9501G527		9501G587		9501G587	
Prep#		95GP0028		95GP0028		95GP0028		95GP0050		95GP0050	
RFW#		004		005		005		007		008	
Sample Depth (bgs)											
Dilution Factor		1.00		1.00		5.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		1/9/95		1/9/95		1/9/95		1/11/95		1/11/95	
Analysis Date		1/18/95		1/18/95		1/18/95		2/3/95		2/3/95	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
alpha-BHC		0.0022 U	0.0022	0.0018 U	0.0018	0.0092 U	0.0092	0.002 U	0.002	0.002 U	0.002
beta-BHC		0.0022 U	0.0022	0.0018 U	0.0018	0.0092 U	0.0092	0.002 U	0.002	0.002 U	0.002
delta-BHC		0.0022 U	0.0022	0.0018 U	0.0018	0.0092 U	0.0092	0.002 U	0.002	0.002 U	0.002
gamma-BHC (Lindane)	0.52	0.0022 U	0.0022	0.0018 U	0.0018	0.0092 U	0.0092	0.002 U	0.002	0.002 U	0.002
Heptachlor	0.15	0.0022 U	0.0022	0.0018 U	0.0018	0.0092 U	0.0092	0.002 U	0.002	0.002 U	0.002
Aldrin	0.04	0.0022 U	0.0022	0.0018 U	0.0018	0.0092 U	0.0092	0.002 U	0.002	0.002 U	0.002
Heptachlor epoxide		0.0022 U	0.0022	0.0018 U	0.0018	0.0092 U	0.0092	0.002 U	0.002	0.002 U	0.002
Endosulfan I	340	0.0022 U	0.0022	0.0018 U	0.0018	0.0092 U	0.0092	0.002 U	0.002	0.002 U	0.002
Dieldrin	0.042	0.0044 U	0.0044	0.0037 U	0.0037	0.018 U	0.018	0.0039 U	0.0039	0.004 U	0.004
4,4'-DDE	2	0.0044 U	0.0044	0.072 P	0.0037	.085 D	0.018	0.028	0.0039	0.004 U	0.004
Endrin	17	0.0044 U	0.0044	0.0037 U	0.0037	0.018 U	0.018	0.0039 U	0.0039	0.004 U	0.004
Endosulfan II	340	0.0044 U	0.0044	0.0037 U	0.0037	0.018 U	0.018	0.0039 U	0.0039	0.004 U	0.004
4,4'-DDD	3	0.0044 U	0.0044	0.0037 U	0.0037	0.018 U	0.018	0.0039 U	0.0039	0.004 U	0.004
Endosulfan sulfate		0.0044 U	0.0044	0.0037 U	0.0037	0.018 U	0.018	0.0039 U	0.0039	0.004 U	0.004
4,4'-DDT	2	0.0044 U	0.0044	0.078 P	0.0037	.092 DP	0.018	0.043	0.0039	0.004 U	0.004
Methoxychlor	280	0.022 U	0.022	0.018 U	0.018	0.092 U	0.092	0.02 U	0.02	0.02 U	0.02
Endrin ketone		0.0044 U	0.0044	0.0037 U	0.0037	0.018 U	0.018	0.0039 U	0.0039	0.004 U	0.004
Endrin aldehyde		0.0044 U	0.0044	0.0037 U	0.0037	0.018 U	0.018	0.0039 U	0.0039	0.004 U	0.004
alpha-Chlordane		0.0022 U	0.0022	0.0018 U	0.0018	0.0092 U	0.0092	0.002 U	0.002	0.002 U	0.002
gamma-Chlordane		0.0022 U	0.0022	0.0018 U	0.0018	0.0092 U	0.0092	0.002 U	0.002	0.002 U	0.002
Toxaphene	0.1	0.22 U	0.22	0.18 U	0.18	0.92 U	0.92	0.2 U	0.2	0.2 U	0.2
Aroclor-1016	0.49	0.044 U	0.044	0.037 U	0.037	0.18 U	0.18	0.039 U	0.039	0.04 U	0.04
Aroclor-1221	0.49	0.087 U	0.087	0.074 U	0.074	0.37 U	0.37	0.078 U	0.078	0.079 U	0.079
Aroclor-1232	0.49	0.044 U	0.044	0.037 U	0.037	0.18 U	0.18	0.039 U	0.039	0.04 U	0.04
Aroclor-1242	0.49	0.044 U	0.044	0.037 U	0.037	0.18 U	0.18	0.039 U	0.039	0.04 U	0.04
Aroclor-1248	0.49	0.044 U	0.044	0.037 U	0.037	0.18 U	0.18	0.039 U	0.039	0.04 U	0.04
Aroclor-1254	0.49	0.044 U	0.044	0.037 U	0.037	0.18 U	0.18	0.039 U	0.039	0.04 U	0.04
Aroclor-1260	0.49	0.044 U	0.044	0.037 U	0.037	0.18 U	0.18	0.039 U	0.039	0.04 U	0.04
Method:TCL Pesticides/PCBs											

MAIN POST
GROUNDWATER VOLATILES

Geographical Location			M2		M2		M2		M2		M2		M2		M3	
Sample			MP02-MW01-A01		MP02-MW01-A02		MP02-MW02-A01		MP02-MW02-A02		MP02-MW03-A01		MP02-MW03-A02		MP03-MW04-A01	
Sample Type																
Batch#			9502G197		9503G642		9502G197		9503G642		9502G197		9503G642		9502G219	
Prep#			95GVC034		95GVC054		95GVF029		95GVC054		95GVF029		95GVC054		95GVC030	
RFW#			001		001		003		003		005		005		001	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/15/95		3/8/95		2/15/95		3/8/95		2/15/95		3/8/95		2/16/95	
Analysis Date			2/22/95		3/10/95		2/20/95		3/10/95		2/21/95		3/10/95		2/21/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,1-Trichloroethane	30	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	25	10	33	10	25	10	10	10	10	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Total Est. Conc. of TIC.					20 J		10 J		20 J							
Method:TCL Volatiles																

MAIN POST
GROUNDWATER VOLATILES

Geographical Location			M3		M3		M3		M3		M3		M4		M4	
Sample			MP03-MW04-A02		MP03-MW05-A01		MP03-MW05-A02		MP03-MW06-A01		MP03-MW06-A02		MP04-MW07-A01		MP04-MW07-A02	
Sample Type																
Batch#			9503G642		9502G219		9503G660		9502G219		9503G660		9502G219		9503G660	
Prep#			95GVC054		95GVC030		95GVC055		95GVC030		95GVC055		95GVC030		95GVC055	
RFW#			009		003		003		005		001		007		005	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/8/95		2/16/95		3/9/95		2/16/95		3/9/95		2/16/95		3/9/95	
Analysis Date			3/10/95		2/21/95		3/10/95		2/21/95		3/10/95		2/21/95		3/10/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,1-Trichloroethane	30	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	4 J	10	10 U	10	3 J	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	10 U	10	5 J	10	10 U	10	10 U	10	10 U	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Total Est. Conc. of TIC.					30 J		30 J		30 J		30 J					
Method:TCL Volatiles																

MAIN POST
GROUNDWATER VOLATILES

Geographical Location			M4		M4		M4		M4		M4		M4		M4	
Sample			MP04-MW07-C01		MP04-MW07-C02		MP04-MW07-D01		MP04-MW07-E01		MP04-MW08-A01		MP04-MW08-A02		MP04-MW09-A01	
Sample Type			Duplicate		Duplicate		Trip Blank		Field Rinsate Blank							
Batch#			9502G219		9503G660		9502G219		9502G219		9502G219		9503G642		9502G219	
Prep#			95GVC030		95GVC055		95GVC030		95GVC031		95GVC031		95GVC054		95GVC031	
RFW#			009		007		011		012		014		007		016	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/16/95		3/9/95		2/16/95		2/16/95		2/16/95		3/8/95		2/16/95	
Analysis Date			2/21/95		3/10/95		2/21/95		2/21/95		2/21/95		3/10/95		2/21/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	10 U	10	13	10	10	10	10 U	10	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	10 U	10	10 U	10	27	10	27	10	10 U	10	10 U	10	10 U	10
1,1,1-Trichloroethane	30	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Total Est. Conc. of TIC.																
Method:TCL Volatiles																

MAIN POST
GROUNDWATER VOLATILES

Geographical Location			M4		M5		M5		M5		M5		M5		M5	
Sample			MP04-MW09-A02		MP05-MW10-A01		MP05-MW10-A02		MP05-MW11-A01		MP05-MW11-A02		MP05-MW11-D02		MP05-MW11-E02	
Sample Type													Trip Blank		Field Rinsate Blank	
Batch#			9503G660		9502G238		9503G660		9502G238		9503G660		9503G660		9503G660	
Prep#			95GVC055		95GVC032		95GVC055		95GVC032		95GVC055		95GVC055		95GVC055	
RFW#			009		010		011		012		013		015		016	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/9/95		2/17/95		3/9/95		2/17/95		3/9/95		3/9/95		3/9/95	
Analysis Date			3/11/95		2/22/95		3/11/95		2/22/95		3/11/95		3/11/95		3/11/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	33	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,1-Trichloroethane	30	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	10 U	10	10 U	10	10 U	10	130	10	88	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Total Est. Conc. of TIC.																
Method:TCL Volatiles																

MAIN POST
GROUNDWATER VOLATILES

Geographical Location			M8		M8		M8		M8		M8		M8	
Sample			MP08-MW12-A01		MP08-MW12-A02		MP08-MW12-C02		MP08-MW12-D02		MP08-MW12-E02		MP08-MW13-A01	
Sample Type							Duplicate		Trip Blank		Field Rinsate Blank			
Batch#			9502G238		9503G767		9503G767		9503G767		9503G767		9502G403	
Prep#			95GVC033		95GVE072		95GVE072		95GVE072		95GVE072		95GVC041	
RFW#			014		001		003		005		006		001	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/17/95		3/15/95		3/15/95		3/15/95		3/15/95		2/22/95	
Analysis Date			2/22/95		3/20/95		3/20/95		3/20/95		3/20/95		3/1/95	
Analysis	Standard	MDL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL
			Result		Result		Result		Result		Result		Result	
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,1-Trichloroethane	30	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	40	10	52	10	54	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Total Est. Conc. of TIC.														
Method:TCL Volatiles														

MAIN POST
GROUNDWATER VOLATILES

Geographical Location			M8		M8		M8		M8		M8		M8		M8	
Sample			MP08-MW13-A02		MP08-MW14-A01		MP08-MW14-A02		MP08-MW15-A01		MP08-MW15-A02		MP08-MW15-C01		MP08-MW15-D01	
Sample Type													Duplicate		Trip Blank	
Batch#			9503G767		9502G219		9503G767		9502G403		9503G767		9502G403		9502G403	
Prep#			95GVE072		95GVC031		95GVE072		95GVC041		95GVE072		95GVC042		95GVC042	
RFW#			008		018		010		003		012		005		007	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/15/95		2/16/95		3/15/95		2/22/95		3/15/95		2/22/95		2/22/95	
Analysis Date			3/21/95		2/21/95		3/20/95		3/1/95		3/20/95		3/1/95		3/1/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	20	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	37	10
1,1,1-Trichloroethane	30	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	3 J	10	5 J	10	4 J	10	10 U	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	4 J	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	10 U	10	8 J	10	33	10	39	10	36	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Total Est. Conc. of TIC.							5 J		10 J		15 J		10 J			
Method:TCL Volatiles																

MAIN POST
GROUNDWATER VOLATILES

Geographical Location			M8		M12		M12		M12		M12		M12		M12	
Sample			MP08-MW15-E01		MP12-MW16-A01		MP12-MW16-A02		MP12-MW17-A01		MP12-MW17-A02		MP12-MW18-A01		MP12-MW18-A02	
Sample Type			Field Rinsate Blank													
Batch#			9502G403		9502G299		9503G681		9502G299		9503G681		9502G299		9503G681	
Prep#			95GVC042		95GVC034		95GVE063		95GVC034		95GVE063		95GVC034		95GVE063	
RFW#			008		001		001		003		003		005		005	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/22/95		2/20/95		3/10/95		2/20/95		3/10/95		2/20/95		3/10/95	
Analysis Date			3/1/95		2/23/95		3/14/95		2/23/95		3/14/95		2/23/95		3/14/95	
Analysis	Standard	MDL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL
			Result		Result		Result		Result		Result		Result		Result	
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	38	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,1-Trichloroethane	30	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Total Est. Conc. of TIC.																
Method:TCL Volatiles																

MAIN POST
GROUNDWATER VOLATILES

Geographical Location			M14		M14		M14		M14		M14		M14	
Sample			MP14-MW19-A01		MP14-MW19-A02		MP14-MW20-A01		MP14-MW20-A02		MP14-MW20-D02		MP14-MW20-E02	
Sample Type											Trip Blank		Field Rinsate Blank	
Batch#			9502G299		9503G681		9502G403		9503G722		9503G767		9503G722	
Prep#			95GVC034		95GVE063		95GVC042		95GVE071		95GVE072		95GVE071	
RFW#			007		007		010		1		014		3	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/20/95		3/10/95		2/22/95		3/13/95		3/15/95		3/13/95	
Analysis Date			2/23/95		3/14/95		3/1/95		3/19/95		3/21/95		3/19/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,1-Trichloroethane	30	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Total Est. Conc. of TIC.														
Method:TCL Volatiles														

MAIN POST
GROUNDWATER VOLATILES

Geographical Location			M14		M14		M16		M16		M18		M18		M18	
Sample			MP14-MW21-A01		MP14-MW21-A02		MP16-MW22-A01		MP16-MW22-A02		MP18-MW03-A01		MP18-MW03-A02		MP18-MW03-D01	
Sample Type															Trip Blank	
Batch#			9502G403		9503G660		9502G238		9503G660		9505G825		9505G139		9505G825	
Prep#			95GVC042		95GVC055		95GVC033		95GVC055		95GVC137		95GVB148		95GVC137	
RFW#			012		019		016		018		001		001		003	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/22/95		3/9/95		2/17/95		3/9/95		5/10/95		5/27/95		5/10/95	
Analysis Date			3/1/95		3/11/95		2/22/95		3/11/95		5/20/95		6/1/95		5/20/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,1-Trichloroethane	30	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Total Est. Conc. of TIC.																
Method:TCL Volatiles																

MAIN POST
GROUNDWATER VOLATILES

Geographical Location			M18		M18		M18		M18		M18		M18	
Sample			MP18-MW03-E01		MP18-MW24-A01		MP18-MW24-A02		MP18-MW24-C02		MP18-MW24-D01		MP18-MW24-D02	
Sample Type			Field Rinsate Blank						Duplicate		Trip Blank		Trip Blank	
Batch#			9505G825		9502G238		9503G681		9503G681		9502G238		9503G681	
Prep#			95GVC137		95GVC032		95GVE063		95GVE063		95GVC031		95GVE063	
RFW#			004		001		009		011		003		013	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			5/10/95		2/17/95		3/10/95		3/10/95		2/17/95		3/10/95	
Analysis Date			5/20/95		2/21/95		3/14/95		3/14/95		2/21/95		3/14/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	12	10	7 J	10	8 J	10	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	10 U	10	10 U	10	10 U	10	10 U	10	23	10	10 U	10
1,1,1-Trichloroethane	30	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Total Est. Conc. of TIC.														
Method:TCL Volatiles														

MAIN POST
GROUNDWATER VOLATILES

Geographical Location			M18		M18		M18		M18		M18		B1	
Sample			MP18-MW24-E01		MP18-MW24-E02		MP18-MW25-A01		MP18-MW25-A02		MP18-MW25-C01		B1-MW01B-A01	
Sample Type			Field Rinsate Blank		Field Rinsate Blank						Duplicate			
Batch#			9502G238		9503G681		9502G238		9503G681		9502G238		9502G169	
Prep#			95GVC031		95GVE063		95GVC031		95GVE063		95GVC032		95GVC028	
RFW#			004		014		006		016		008		001	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/17/95		3/10/95		2/17/95		3/10/95		2/17/95		2/14/95	
Analysis Date			2/21/95		3/14/95		2/21/95		3/14/95		2/22/95		2/19/95	
Analysis	Standard	MDL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL
			Result		Result		Result		Result		Result		Result	
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	10 U	10	10	10	15	10	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	21	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,1-Trichloroethane	30	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Total Est. Conc. of TIC.														
Method:TCL Volatiles														

MAIN POST
GROUNDWATER VOLATILES

Geographical Location			B1		B2		B2		B3		B3		B3		B3	
Sample			B1-MW01B-A02		B2-MW02B-A01		B2-MW02B-A02		B3-MW03B-A01		B3-MW03B-A02		B3-MW03B-D01		B3-MW03B-D02	
Sample Type													Trip Blank		Trip Blank	
Batch#			9503G616		9502G169		9503G616		9502G169		9503G740		9502G169		9503G616	
Prep#			95GVC053		95GVC028		95GVC053		95GVC028		95GVE072		95GVC028		95GVC053	
RFW#			008		003		010		005		001		007		005	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/7/95		2/14/95		3/7/95		2/14/95		3/14/95		2/13/95		3/7/95	
Analysis Date			3/10/95		2/19/95		3/10/95		2/19/95		3/20/95		2/19/95		3/9/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	15	10	10 U	10
1,1,1-Trichloroethane	30	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Total Est. Conc. of TIC.																
Method:TCL Volatiles																

MAIN POST
GROUNDWATER VOLATILES

Geographical Location			B3		B3		B4		B4		B5		B5	
Sample			B3-MW03B-E01		B3-MW03B-E02		B4-MW04B-A01		B4-MW04B-A02		B5-MW05B-A01		B5-MW05B-A02	
Sample Type			Field Rinsate Blank		Field Rinsate Blank									
Batch#			9502G169		9503G616		9502G169		9503G616		9502G169		9503G616	
Prep#			95GVC028		95GVC053		95GVC028		95GVC053		95GVC028		95GVC053	
RFW#			008		006		010		012		012		001	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/13/95		3/7/95		2/13/95		3/7/95		2/13/95		3/7/95	
Analysis Date			2/19/95		3/9/95		2/19/95		3/10/95		2/19/95		3/9/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	17	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,1-Trichloroethane	30	1.7	10 U	10	8 J	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Total Est. Conc. of TIC.														
Method:TCL Volatiles														

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M2		M2		M2		M2		M2	
Sample			MP02-MW01-A01		MP02-MW01-A02		MP02-MW02-A01		MP02-MW02-A02		MP02-MW03-A01	
Sample Type												
Batch#			9502G197		9503G642		9502G197		9503G642		9502G197	
Prep#			95GB0108		95GB0172		95GB0108		95GB0172		95GB0108	
RFW#			001		001		003		003		005	
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/15/95		3/8/95		2/15/95		3/8/95		2/15/95	
Analysis Date			3/4/95		3/24/95		3/4/95		3/24/95		3/10/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
bis(2-Chloroethyl) ether	10	9.7	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
2-Chlorophenol	40	7.3	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
1,3-Dichlorobenzene	600	5.3	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
1,4-Dichlorobenzene	75	4.8	10 U	10	10 U	10	4 J	10	2 J	10	12 U	12
1,2-Dichlorobenzene	600	5.7	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
2-Methylphenol		6.7	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
2,2'-oxybis(1-Chloropropane)		7.0	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
4-Methylphenol		12.9	10 U	10	10 U	10	3 J	10	10 U	10	12 U	12
N-Nitroso-di-n-propylamine	20	8.0	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Hexachloroethane	10	5.3	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Nitrobenzene	10	7.4	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Isophorone	100	3.9	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
2-Nitrophenol		7.0	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
2,4-Dimethylphenol	100	4.8	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
bis(2-Chloroethoxy) methane		6.1	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
2,4-Dichlorophenol	20	4.4	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
1,2,4-Trichlorobenzene	9	9.6	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Naphthalene		8.4	10 U	10	10 U	10	1 J	10	10 U	10	12 U	12
4-Chloroaniline		2.9	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Hexachlorobutadiene	1	4.6	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
4-Chloro-3-methylphenol	20	3.1	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
2-Methylnaphthalene		8.7	10 U	10	10 U	10	2 J	10	2 J	10	12 U	12
Hexachlorocyclopentadiene	50	3.6	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
2,4,6-Trichlorophenol		5.6	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
2,4,5-Trichlorophenol	700	4.7	25 U	25	25 U	25	24 U	24	24 U	24	30 U	30
2-Chloronaphthalene		8.2	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
2-Nitroaniline		6.1	25 U	25	25 U	25	24 U	24	24 U	24	30 U	30
Dimethylphthalate	7000	4.4	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Acenaphthylene	10	6.0	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
2,6-Dinitrotoluene	10	5.2	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
3-Nitroaniline		5.2	25 U	25	25 U	25	24 U	24	24 U	24	30 U	30
Acenaphthene	400	6.7	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
2,4-Dinitrophenol	40	4.6	25 U	25	25 U	25	24 U	24	24 U	24	30 U	30

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M2		M2		M2		M2		M2	
Sample			MP02-MW01-A01		MP02-MW01-A02		MP02-MW02-A01		MP02-MW02-A02		MP02-MW03-A01	
Sample Type												
Batch#			9502G197		9503G642		9502G197		9503G642		9502G197	
Prep#			95GB0108		95GB0172		95GB0108		95GB0172		95GB0108	
RFW#			001		001		003		003		005	
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/15/95		3/8/95		2/15/95		3/8/95		2/15/95	
Analysis Date			3/4/95		3/24/95		3/4/95		3/24/95		3/10/95	
Analysis	Standard	MDL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL
			Result		Result		Result		Result		Result	
4-Nitrophenol		7.5	25 U	25	25 U	25	24 U	24	24 U	24	30 U	30
Dibenzofuran		6.5	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
2,4-Dinitrotoluene	10	5.8	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Diethylphthalate	5000	5.4	1 J	10	1 JB	10	1 J	10	1 JB	10	12 U	12
4-Chlorophenyl-phenylether		7.0	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Fluorene	300	6.3	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
4-Nitroaniline		6.4	25 U	25	25 U	25	24 U	24	24 U	24	30 U	30
4,6-Dinitro-2-methylphenol		5.3	25 U	25	25 U	25	24 U	24	24 U	24	30 U	30
N-Nitrosodiphenylamine (1)	20	4.2	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
4-Bromophenyl-phenylether		5.3	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Hexachlorobenzene	10	5.5	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Pentachlorophenol	1	4.0	25 U	25	25 U	25	24 U	24	24 U	24	30 U	30
Phenanthrene	10	5.0	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Anthracene	2000	4.6	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Carbazole		4.4	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Di-n-butylphthalate	900	6.5	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Fluoranthene	300	6.0	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Pyrene	200	5.4	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Butylbenzylphthalate	100	5.3	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
3,3'-Dichlorobenzidine	60	2.8	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Benzo(a)anthracene	10	4.9	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Chrysene	20	4.4	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
bis(2-Ethylhexy)phthalate	30	9.7	2 J	10	1 J	10	10 U	10	10 U	10	12 U	12
Di-n-octyl phthalate	100	5.6	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Benzo(b)fluoranthene	2	5.7	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Benzo(k)fluoranthene	2	6.2	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Benzo(a)pyrene	20	4.9	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Indeno(1,2,3-cd)pyrene	20	7.1	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Dibenzo(a,h)anthracene	20	6.0	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Benzo(g,h,i)perylene	20	6.8	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12
Petroleum hydrocarbons												
Total Est. Conc. of TIC			47				63				9	
Dilution Factor												
Method:TCL Semivolatiles												

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M2		M3		M3		M3		M3		M3	
Sample			MP02-MW03-A02		MP03-MW04-A01		MP03-MW04-A02		MP03-MW05-A01		MP03-MW05-A02		MP03-MW06-A01	
Sample Type														
Batch#			9503G642		9502G219		9503G642		9502G219		9503G660		9502G219	
Prep#			95GB0172		95GB0111		95GB0172		95GB0111		95GB0174		95GB0111	
RFW#			005		001		009		003		003		005	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/8/95		2/16/95		3/8/95		2/16/95		3/9/95		2/16/95	
Analysis Date			3/24/95		3/7/95		3/24/95		3/8/95		3/25/95		3/8/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
bis(2-Chloroethyl) ether	10	9.7	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
2-Chlorophenol	40	7.3	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
1,3-Dichlorobenzene	600	5.3	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
1,4-Dichlorobenzene	75	4.8	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
1,2-Dichlorobenzene	600	5.7	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
2-Methylphenol		6.7	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
2,2'-oxybis(1-Chloropropane)		7.0	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
4-Methylphenol		12.9	10 U	10	11 U	11	11 U	11	3 J	10	10 U	10	10 U	10
N-Nitroso-di-n-propylamine	20	8.0	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Hexachloroethane	10	5.3	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Nitrobenzene	10	7.4	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Isophorone	100	3.9	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
2-Nitrophenol		7.0	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
2,4-Dimethylphenol	100	4.8	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
bis(2-Chloroethoxy) methane		6.1	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
2,4-Dichlorophenol	20	4.4	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
1,2,4-Trichlorobenzene	9	9.6	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Naphthalene		8.4	10 U	10	11 U	11	11 U	11	1 J	10	10 U	10	10 U	10
4-Chloroaniline		2.9	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Hexachlorobutadiene	1	4.6	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
4-Chloro-3-methylphenol	20	3.1	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
2-Methylnaphthalene		8.7	10 U	10	11 U	11	11 U	11	2 J	10	1 J	10	10 U	10
Hexachlorocyclopentadiene	50	3.6	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
2,4,6-Trichlorophenol		5.6	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
2,4,5-Trichlorophenol	700	4.7	24 U	24	28 U	28	26 U	26	24 U	24	25 U	25	24 U	24
2-Chloronaphthalene		8.2	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
2-Nitroaniline		6.1	24 U	24	28 U	28	26 U	26	24 U	24	25 U	25	24 U	24
Dimethylphthalate	7000	4.4	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Acenaphthylene	10	6.0	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
2,6-Dinitrotoluene	10	5.2	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
3-Nitroaniline		5.2	24 U	24	28 U	28	26 U	26	24 U	24	25 U	25	24 U	24
Acenaphthene	400	6.7	10 U	10	11 U	11	11 U	11	2 J	10	2 J	10	10 U	10
2,4-Dinitrophenol	40	4.6	24 U	24	28 U	28	26 U	26	24 U	24	25 U	25	24 U	24

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M2		M3		M3		M3		M3		M3	
Sample			MP02-MW03-A02		MP03-MW04-A01		MP03-MW04-A02		MP03-MW05-A01		MP03-MW05-A02		MP03-MW06-A01	
Sample Type														
Batch#			9503G642		9502G219		9503G642		9502G219		9503G660		9502G219	
Prep#			95GB0172		95GB0111		95GB0172		95GB0111		95GB0174		95GB0111	
RFW#			005		001		009		003		003		005	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/8/95		2/16/95		3/8/95		2/16/95		3/9/95		2/16/95	
Analysis Date			3/24/95		3/7/95		3/24/95		3/8/95		3/25/95		3/8/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	24 U	24	28 U	28	26 U	26	24 U	24	25 U	25	24 U	24
Dibenzofuran		6.5	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
2,4-Dinitrotoluene	10	5.8	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Diethylphthalate	5000	5.4	10 U	10	11 U	11	1 JB	11	10 U	10	10 U	10	10 U	10
4-Chlorophenyl-phenylether		7.0	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Fluorene	300	6.3	10 U	10	11 U	11	11 U	11	2 J	10	1 J	10	10 U	10
4-Nitroaniline		6.4	24 U	24	28 U	28	26 U	26	24 U	24	25 U	25	24 U	24
4,6-Dinitro-2-methylphenol		5.3	24 U	24	28 U	28	26 U	26	24 U	24	25 U	25	24 U	24
N-Nitrosodiphenylamine (1)	20	4.2	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
4-Bromophenyl-phenylether		5.3	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Hexachlorobenzene	10	5.5	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Pentachlorophenol	1	4.0	24 U	24	28 U	28	26 U	26	24 U	24	25 U	25	24 U	24
Phenanthrene	10	5.0	10 U	10	11 U	11	11 U	11	3 J	10	3 J	10	10 U	10
Anthracene	2000	4.6	10 U	10	11 U	11	11 U	11	10 U	10	1 J	10	10 U	10
Carbazole		4.4	10 U	10	11 U	11	11 U	11	1 J	10	10 U	10	10 U	10
Di-n-butylphthalate	900	6.5	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Fluoranthene	300	6.0	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Pyrene	200	5.4	10 U	10	11 U	11	11 U	11	10 U	10	1 J	10	10 U	10
Butylbenzylphthalate	100	5.3	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
3,3'-Dichlorobenzidine	60	2.8	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Benzo(a)anthracene	10	4.9	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Chrysene	20	4.4	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
bis(2-Ethylhexy)phthalate	30	9.7	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	3 J	10
Di-n-octyl phthalate	100	5.6	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Benzo(b)fluoranthene	2	5.7	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Benzo(k)fluoranthene	2	6.2	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Benzo(a)pyrene	20	4.9	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Indeno(1,2,3-cd)pyrene	20	7.1	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Dibenzo(a,h)anthracene	20	6.0	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Benzo(g,h,i)perylene	20	6.8	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	10 U	10
Petroleum hydrocarbons														
Total Est. Conc. of TIC					4 J				38 J		43 J		18 J	
Dilution Factor														
Method:TCL Semivolatiles														

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M3		M4		M4		M4		M4		M4	
Sample			MP03-MW06-A02		MP04-MW07-A01		MP04-MW07-A02		MP04-MW07-C01		MP04-MW07-C02		MP04-MW07-E01	
Sample Type									Duplicate		Duplicate		Field Rinsate Blank	
Batch#			9503G660		9502G219		9503G660		9502G219		9503G660		9502G219	
Prep#			95GB0174		95GB0111		95GB0174		95GB0111		95GB0174		95GB0111	
RFW#			001		007		005		009		007		012	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/9/95		2/16/95		3/9/95		2/16/95		3/9/95		2/16/95	
Analysis Date			3/25/95		3/9/95		3/25/95		3/8/95		3/26/95		3/8/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
bis(2-Chloroethyl) ether	10	9.7	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
2-Chlorophenol	40	7.3	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
1,3-Dichlorobenzene	600	5.3	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
1,4-Dichlorobenzene	75	4.8	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
1,2-Dichlorobenzene	600	5.7	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
2-Methylphenol		6.7	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
2,2'-oxybis(1-Chloropropane)		7.0	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
4-Methylphenol		12.9	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
N-Nitroso-di-n-propylamine	20	8.0	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Hexachloroethane	10	5.3	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Nitrobenzene	10	7.4	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Isophorone	100	3.9	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
2-Nitrophenol		7.0	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
2,4-Dimethylphenol	100	4.8	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
bis(2-Chloroethoxy) methane		6.1	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
2,4-Dichlorophenol	20	4.4	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
1,2,4-Trichlorobenzene	9	9.6	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Naphthalene		8.4	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
4-Chloroaniline		2.9	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Hexachlorobutadiene	1	4.6	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
4-Chloro-3-methylphenol	20	3.1	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
2-Methylnaphthalene		8.7	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Hexachlorocyclopentadiene	50	3.6	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
2,4,6-Trichlorophenol		5.6	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
2,4,5-Trichlorophenol	700	4.7	24 U	24	26 U	26	26 U	26	26 U	26	26 U	26	30 U	30
2-Chloronaphthalene		8.2	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
2-Nitroaniline		6.1	24 U	24	26 U	26	26 U	26	26 U	26	26 U	26	30 U	30
Dimethylphthalate	7000	4.4	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Acenaphthylene	10	6.0	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
2,6-Dinitrotoluene	10	5.2	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
3-Nitroaniline		5.2	24 U	24	26 U	26	26 U	26	26 U	26	26 U	26	30 U	30
Acenaphthene	400	6.7	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
2,4-Dinitrophenol	40	4.6	24 U	24	26 U	26	26 U	26	26 U	26	26 U	26	30 U	30

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M3		M4		M4		M4		M4		M4	
Sample			MP03-MW06-A02		MP04-MW07-A01		MP04-MW07-A02		MP04-MW07-C01		MP04-MW07-C02		MP04-MW07-E01	
Sample Type									Duplicate		Duplicate		Field Rinsate Blank	
Batch#			9503G660		9502G219		9503G660		9502G219		9503G660		9502G219	
Prep#			95GB0174		95GB0111		95GB0174		95GB0111		95GB0174		95GB0111	
RFW#			001		007		005		009		007		012	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/9/95		2/16/95		3/9/95		2/16/95		3/9/95		2/16/95	
Analysis Date			3/25/95		3/9/95		3/25/95		3/8/95		3/26/95		3/8/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	24 U	24	26 U	26	26 U	26	26 U	26	26 U	26	30 U	30
Dibenzofuran		6.5	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
2,4-Dinitrotoluene	10	5.8	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Diethylphthalate	5000	5.4	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
4-Chlorophenyl-phenylether		7.0	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Fluorene	300	6.3	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
4-Nitroaniline		6.4	24 U	24	26 U	26	26 U	26	26 U	26	26 U	26	30 U	30
4,6-Dinitro-2-methylphenol		5.3	24 U	24	26 U	26	26 U	26	26 U	26	26 U	26	30 U	30
N-Nitrosodiphenylamine (1)	20	4.2	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
4-Bromophenyl-phenylether		5.3	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Hexachlorobenzene	10	5.5	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Pentachlorophenol	1	4.0	24 U	24	26 U	26	26 U	26	26 U	26	26 U	26	30 U	30
Phenanthrene	10	5.0	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Anthracene	2000	4.6	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Carbazole		4.4	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Di-n-butylphthalate	900	6.5	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Fluoranthene	300	6.0	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Pyrene	200	5.4	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Butylbenzylphthalate	100	5.3	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
3,3'-Dichlorobenzidine	60	2.8	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Benzo(a)anthracene	10	4.9	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Chrysene	20	4.4	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
bis(2-Ethylhexy)phthalate	30	9.7	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Di-n-octyl phthalate	100	5.6	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Benzo(b)fluoranthene	2	5.7	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Benzo(k)fluoranthene	2	6.2	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Benzo(a)pyrene	20	4.9	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Indeno(1,2,3-cd)pyrene	20	7.1	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Dibenzo(a,h)anthracene	20	6.0	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Benzo(g,h,i)perylene	20	6.8	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11	12 U	12
Petroleum hydrocarbons														
Total Est. Conc. of TIC			17 J						2 JA				11 JA	
Dilution Factor														
Method:TCL Semivolatiles														

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M4		M4		M4		M4		M5		M5	
Sample			MP04-MW08-A01		MP04-MW08-A02		MP04-MW09-A01		MP04-MW09-A02		MP05-MW10-A01		MP05-MW10-A02	
Sample Type														
Batch#			9502G219		9503G642		9502G219		9503G660		9502G238		9503G660	
Prep#			95GB0111		95GB0172		95GB0111		95GB0174		95GB0112		95GB0174	
RFW#			014		007		016		009		010		011	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/16/95		3/8/95		2/16/95		3/9/95		2/17/95		3/9/95	
Analysis Date			3/9/95		3/24/95		3/9/95		3/26/95		2/27/95		3/26/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
bis(2-Chloroethyl) ether	10	9.7	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
2-Chlorophenol	40	7.3	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
1,3-Dichlorobenzene	600	5.3	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
1,4-Dichlorobenzene	75	4.8	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
1,2-Dichlorobenzene	600	5.7	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
2-Methylphenol		6.7	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
2,2'-oxybis(1-Chloropropane)		7.0	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
4-Methylphenol		12.9	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
N-Nitroso-di-n-propylamine	20	8.0	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Hexachloroethane	10	5.3	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Nitrobenzene	10	7.4	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Isophorone	100	3.9	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
2-Nitrophenol		7.0	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
2,4-Dimethylphenol	100	4.8	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
bis(2-Chloroethoxy) methane		6.1	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
2,4-Dichlorophenol	20	4.4	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
1,2,4-Trichlorobenzene	9	9.6	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Naphthalene		8.4	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
4-Chloroaniline		2.9	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Hexachlorobutadiene	1	4.6	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
4-Chloro-3-methylphenol	20	3.1	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
2-Methylnaphthalene		8.7	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Hexachlorocyclopentadiene	50	3.6	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
2,4,6-Trichlorophenol		5.6	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
2,4,5-Trichlorophenol	700	4.7	26 U	26	26 U	26	28 U	28	26 U	26	27 U	27	27 U	27
2-Chloronaphthalene		8.2	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
2-Nitroaniline		6.1	26 U	26	26 U	26	28 U	28	26 U	26	27 U	27	27 U	27
Dimethylphthalate	7000	4.4	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Acenaphthylene	10	6.0	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
2,6-Dinitrotoluene	10	5.2	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
3-Nitroaniline		5.2	26 U	26	26 U	26	28 U	28	26 U	26	27 U	27	27 U	27
Acenaphthene	400	6.7	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
2,4-Dinitrophenol	40	4.6	26 U	26	26 U	26	28 U	28	26 U	26	27 U	27	27 U	27

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M4		M4		M4		M4		M5		M5	
Sample			MP04-MW08-A01		MP04-MW08-A02		MP04-MW09-A01		MP04-MW09-A02		MP05-MW10-A01		MP05-MW10-A02	
Sample Type														
Batch#			9502G219		9503G642		9502G219		9503G660		9502G238		9503G660	
Prep#			95GB0111		95GB0172		95GB0111		95GB0174		95GB0112		95GB0174	
RFW#			014		007		016		009		010		011	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/16/95		3/8/95		2/16/95		3/9/95		2/17/95		3/9/95	
Analysis Date			3/9/95		3/24/95		3/9/95		3/26/95		2/27/95		3/26/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	26 U	26	26 U	26	28 U	28	26 U	26	27 U	27	27 U	27
Dibenzofuran		6.5	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
2,4-Dinitrotoluene	10	5.8	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Diethylphthalate	5000	5.4	10 U	10	2 JB	11	11 U	11	11 U	11	11 U	11	11 U	11
4-Chlorophenyl-phenylether		7.0	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Fluorene	300	6.3	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
4-Nitroaniline		6.4	26 U	26	26 U	26	28 U	28	26 U	26	27 U	27	27 U	27
4,6-Dinitro-2-methylphenol		5.3	26 U	26	26 U	26	28 U	28	26 U	26	27 U	27	27 U	27
N-Nitrosodiphenylamine (1)	20	4.2	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
4-Bromophenyl-phenylether		5.3	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Hexachlorobenzene	10	5.5	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Pentachlorophenol	1	4.0	26 U	26	26 U	26	28 U	28	26 U	26	27 U	27	27 U	27
Phenanthrene	10	5.0	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Anthracene	2000	4.6	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Carbazole		4.4	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Di-n-butylphthalate	900	6.5	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Fluoranthene	300	6.0	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Pyrene	200	5.4	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Butylbenzylphthalate	100	5.3	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
3,3'-Dichlorobenzidine	60	2.8	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Benzo(a)anthracene	10	4.9	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Chrysene	20	4.4	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
bis(2-Ethylhexy)phthalate	30	9.7	10 U	10	3 J	11	11 U	11	11 U	11	11 U	11	11 U	11
Di-n-octyl phthalate	100	5.6	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Benzo(b)fluoranthene	2	5.7	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Benzo(k)fluoranthene	2	6.2	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Benzo(a)pyrene	20	4.9	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Indeno(1,2,3-cd)pyrene	20	7.1	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Dibenzo(a,h)anthracene	20	6.0	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Benzo(g,h,i)perylene	20	6.8	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11	11 U	11
Petroleum hydrocarbons														
Total Est. Conc. of TIC			5 J				4 J				4 J		8 J	
Dilution Factor														
Method:TCL Semivolatiles														

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M5		M5		M5		M8		M8	
Sample			MP05-MW11-A01		MP05-MW11-A02		MP05-MW11-E02		MP08-MW12-A01		MP08-MW12-A02	
Sample Type							Field Rinsate Blank					
Batch#			9502G238		9503G660		9503G660		9502G238		9503G767	
Prep#			95GB0112		95GB0174		95GB0174		95GB0112		95GP0263	
RFW#			012		013		016		014		001	
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/17/95		3/9/95		3/9/95		2/17/95		3/15/95	
Analysis Date			2/27/95		3/26/95		3/27/95		2/28/95		4/15/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
bis(2-Chloroethyl) ether	10	9.7	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
2-Chlorophenol	40	7.3	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
1,3-Dichlorobenzene	600	5.3	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
1,4-Dichlorobenzene	75	4.8	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
1,2-Dichlorobenzene	600	5.7	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
2-Methylphenol		6.7	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
2,2'-oxybis(1-Chloropropane)		7.0	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
4-Methylphenol		12.9	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
N-Nitroso-di-n-propylamine	20	8.0	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Hexachloroethane	10	5.3	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Nitrobenzene	10	7.4	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Isophorone	100	3.9	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
2-Nitrophenol		7.0	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
2,4-Dimethylphenol	100	4.8	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
bis(2-Chloroethoxy) methane		6.1	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
2,4-Dichlorophenol	20	4.4	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
1,2,4-Trichlorobenzene	9	9.6	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Naphthalene		8.4	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
4-Chloroaniline		2.9	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Hexachlorobutadiene	1	4.6	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
4-Chloro-3-methylphenol	20	3.1	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
2-Methylnaphthalene		8.7	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Hexachlorocyclopentadiene	50	3.6	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
2,4,6-Trichlorophenol		5.6	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
2,4,5-Trichlorophenol	700	4.7	26 U	26	31 U	31	26 U	26	26 U	26	26 U	26
2-Chloronaphthalene		8.2	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
2-Nitroaniline		6.1	26 U	26	31 U	31	26 U	26	26 U	26	26 U	26
Dimethylphthalate	7000	4.4	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Acenaphthylene	10	6.0	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
2,6-Dinitrotoluene	10	5.2	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
3-Nitroaniline		5.2	26 U	26	31 U	31	26 U	26	26 U	26	26 U	26
Acenaphthene	400	6.7	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
2,4-Dinitrophenol	40	4.6	26 U	26	31 U	31	26 U	26	26 U	26	26 U	26

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M5		M5		M5		M8		M8	
Sample			MP05-MW11-A01		MP05-MW11-A02		MP05-MW11-E02		MP08-MW12-A01		MP08-MW12-A02	
Sample Type							Field Rinsate Blank					
Batch#			9502G238		9503G660		9503G660		9502G238		9503G767	
Prep#			95GB0112		95GB0174		95GB0174		95GB0112		95GP0263	
RFW#			012		013		016		014		001	
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/17/95		3/9/95		3/9/95		2/17/95		3/15/95	
Analysis Date			2/27/95		3/26/95		3/27/95		2/28/95		4/15/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	26 U	26	31 U	31	26 U	26	26 U	26	26 U	26
Dibenzofuran		6.5	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
2,4-Dinitrotoluene	10	5.8	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Diethylphthalate	5000	5.4	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
4-Chlorophenyl-phenylether		7.0	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Fluorene	300	6.3	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
4-Nitroaniline		6.4	26 U	26	31 U	31	26 U	26	26 U	26	26 U	26
4,6-Dinitro-2-methylphenol		5.3	26 U	26	31 U	31	26 U	26	26 U	26	26 U	26
N-Nitrosodiphenylamine (1)	20	4.2	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
4-Bromophenyl-phenylether		5.3	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Hexachlorobenzene	10	5.5	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Pentachlorophenol	1	4.0	26 U	26	31 U	31	26 U	26	26 U	26	26 U	26
Phenanthrene	10	5.0	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Anthracene	2000	4.6	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Carbazole		4.4	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Di-n-butylphthalate	900	6.5	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Fluoranthene	300	6.0	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Pyrene	200	5.4	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Butylbenzylphthalate	100	5.3	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
3,3'-Dichlorobenzidine	60	2.8	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Benzo(a)anthracene	10	4.9	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Chrysene	20	4.4	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
bis(2-Ethylhexy)phthalate	30	9.7	2 J	10	12 U	12	10 U	10	11 U	11	11 U	11
Di-n-octyl phthalate	100	5.6	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Benzo(b)fluoranthene	2	5.7	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Benzo(k)fluoranthene	2	6.2	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Benzo(a)pyrene	20	4.9	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Indeno(1,2,3-cd)pyrene	20	7.1	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Dibenzo(a,h)anthracene	20	6.0	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Benzo(g,h,i)perylene	20	6.8	10 U	10	12 U	12	10 U	10	11 U	11	11 U	11
Petroleum hydrocarbons												
Total Est. Conc. of TIC			35 J		37 J		9 J		18 J		20 J	
Dilution Factor												
Method:TCL Semivolatiles												

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M8		M8		M8		M8		M8	
Sample			MP08-MW12-C02		MP08-MW12-E02		MP08-MW13-A01		MP08-MW13-A01RE		MP08-MW13-A02	
Sample Type			Duplicate		Field Rinsate Blank							
Batch#			9503G767		9503G767		9502G403		9502G403		9503G767	
Prep#			95GP0263		95GP0263		95GB0129		95GB0129		95GP0263	
RFW#			003		006		001		001 RE		008	
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/15/95		3/15/95		2/22/95		2/22/95		3/15/95	
Analysis Date			4/15/95		4/15/95		3/15/95		3/16/95		4/15/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
bis(2-Chloroethyl) ether	10	9.7	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
2-Chlorophenol	40	7.3	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
1,3-Dichlorobenzene	600	5.3	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
1,4-Dichlorobenzene	75	4.8	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
1,2-Dichlorobenzene	600	5.7	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
2-Methylphenol		6.7	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
2,2'-oxybis(1-Chloropropane)		7.0	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
4-Methylphenol		12.9	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
N-Nitroso-di-n-propylamine	20	8.0	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Hexachloroethane	10	5.3	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Nitrobenzene	10	7.4	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Isophorone	100	3.9	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
2-Nitrophenol		7.0	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
2,4-Dimethylphenol	100	4.8	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
bis(2-Chloroethoxy) methane		6.1	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
2,4-Dichlorophenol	20	4.4	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
1,2,4-Trichlorobenzene	9	9.6	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Naphthalene		8.4	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
4-Chloroaniline		2.9	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Hexachlorobutadiene	1	4.6	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
4-Chloro-3-methylphenol	20	3.1	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
2-Methylnaphthalene		8.7	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Hexachlorocyclopentadiene	50	3.6	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
2,4,6-Trichlorophenol		5.6	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
2,4,5-Trichlorophenol	700	4.7	26 U	26	26 U	26	26 U	26	26 U	26	26 U	26
2-Chloronaphthalene		8.2	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
2-Nitroaniline		6.1	26 U	26	26 U	26	26 U	26	26 U	26	26 U	26
Dimethylphthalate	7000	4.4	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Acenaphthylene	10	6.0	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
2,6-Dinitrotoluene	10	5.2	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
3-Nitroaniline		5.2	26 U	26	26 U	26	26 U	26	26 U	26	26 U	26
Acenaphthene	400	6.7	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
2,4-Dinitrophenol	40	4.6	26 U	26	26 U	26	26 U	26	26 U	26	26 U	26

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M8		M8		M8		M8		M8	
Sample			MP08-MW12-C02		MP08-MW12-E02		MP08-MW13-A01		MP08-MW13-A01RE		MP08-MW13-A02	
Sample Type			Duplicate		Field Rinsate Blank							
Batch#			9503G767		9503G767		9502G403		9502G403		9503G767	
Prep#			95GP0263		95GP0263		95GB0129		95GB0129		95GP0263	
RFW#			003		006		001		001 RE		008	
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/15/95		3/15/95		2/22/95		2/22/95		3/15/95	
Analysis Date			4/15/95		4/15/95		3/15/95		3/16/95		4/15/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	26 U	26	26 U	26	26 U	26	26 U	26	26 U	26
Dibenzofuran		6.5	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
2,4-Dinitrotoluene	10	5.8	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Diethylphthalate	5000	5.4	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
4-Chlorophenyl-phenylether		7.0	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Fluorene	300	6.3	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
4-Nitroaniline		6.4	26 U	26	26 U	26	26 U	26	26 U	26	26 U	26
4,6-Dinitro-2-methylphenol		5.3	26 U	26	26 U	26	26 U	26	26 U	26	26 U	26
N-Nitrosodiphenylamine (1)	20	4.2	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
4-Bromophenyl-phenylether		5.3	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Hexachlorobenzene	10	5.5	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Pentachlorophenol	1	4.0	26 U	26	26 U	26	26 U	26	26 U	26	26 U	26
Phenanthrene	10	5.0	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Anthracene	2000	4.6	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Carbazole		4.4	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Di-n-butylphthalate	900	6.5	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Fluoranthene	300	6.0	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Pyrene	200	5.4	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Butylbenzylphthalate	100	5.3	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
3,3'-Dichlorobenzidine	60	2.8	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Benzo(a)anthracene	10	4.9	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Chrysene	20	4.4	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
bis(2-Ethylhexy)phthalate	30	9.7	10 U	10	2 J	10	2 JB	11	1 JB	11	11 U	11
Di-n-octyl phthalate	100	5.6	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Benzo(b)fluoranthene	2	5.7	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Benzo(k)fluoranthene	2	6.2	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Benzo(a)pyrene	20	4.9	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Indeno(1,2,3-cd)pyrene	20	7.1	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Dibenzo(a,h)anthracene	20	6.0	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Benzo(g,h,i)perylene	20	6.8	10 U	10	10 U	10	11 U	11	11 U	11	11 U	11
Petroleum hydrocarbons												
Total Est. Conc. of TIC			22 J		10 J		17 JA		20 JA			
Dilution Factor												
Method:TCL Semivolatiles												

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M8		M8		M8		M8		M8	
Sample			MP08-MW14-A01		MP08-MW14-A02		MP08-MW14-A02RE		MP08-MW15-A01		MP08-MW15-A02	
Sample Type												
Batch#			9502G219		9503G767		9503G767		9502G403		9503G767	
Prep#			95GB0111		95GP0263		95GP0263		95GB0129		95GP0263	
RFW#			018		010		010		003		012	
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/16/95		3/15/95		3/15/95		2/22/95		3/15/95	
Analysis Date			3/13/95		4/15/95		4/15/95		3/16/95		4/15/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
bis(2-Chloroethyl) ether	10	9.7	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2-Chlorophenol	40	7.3	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
1,3-Dichlorobenzene	600	5.3	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
1,4-Dichlorobenzene	75	4.8	3 J	10	3 J	10	3 J	10	2 J	11	12 U	12
1,2-Dichlorobenzene	600	5.7	10 U	10	10 U	10	10 U	10	5 J	11	4 J	12
2-Methylphenol		6.7	10 U	10	10 U	10	10 U	10	1 J	11	12 U	12
2,2'-oxybis(1-Chloropropane)		7.0	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
4-Methylphenol		12.9	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
N-Nitroso-di-n-propylamine	20	8.0	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Hexachloroethane	10	5.3	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Nitrobenzene	10	7.4	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Isophorone	100	3.9	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2-Nitrophenol		7.0	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2,4-Dimethylphenol	100	4.8	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
bis(2-Chloroethoxy) methane		6.1	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2,4-Dichlorophenol	20	4.4	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
1,2,4-Trichlorobenzene	9	9.6	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Naphthalene		8.4	10 U	10	10 U	10	1 J	10	1 J	11	12 U	12
4-Chloroaniline		2.9	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Hexachlorobutadiene	1	4.6	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
4-Chloro-3-methylphenol	20	3.1	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2-Methylnaphthalene		8.7	1 J	10	1 J	10	10 U	10	2 J	11	1 J	12
Hexachlorocyclopentadiene	50	3.6	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2,4,6-Trichlorophenol		5.6	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2,4,5-Trichlorophenol	700	4.7	24 U	24	25 U	25	24 U	24	26 U	26	30 U	30
2-Chloronaphthalene		8.2	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2-Nitroaniline		6.1	24 U	24	25 U	25	24 U	24	26 U	26	30 U	30
Dimethylphthalate	7000	4.4	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Acenaphthylene	10	6.0	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2,6-Dinitrotoluene	10	5.2	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
3-Nitroaniline		5.2	24 U	24	25 U	25	24 U	24	26 U	26	30 U	30
Acenaphthene	400	6.7	2 J	10	2 J	10	2 J	10	17	11	14	12
2,4-Dinitrophenol	40	4.6	24 U	24	25 U	25	24 U	24	26 U	26	30 U	30

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M8		M8		M8		M8		M8	
Sample			MP08-MW14-A01		MP08-MW14-A02		MP08-MW14-A02RE		MP08-MW15-A01		MP08-MW15-A02	
Sample Type												
Batch#			9502G219		9503G767		9503G767		9502G403		9503G767	
Prep#			95GB0111		95GP0263		95GP0263		95GB0129		95GP0263	
RFW#			018		010		010		003		012	
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/16/95		3/15/95		3/15/95		2/22/95		3/15/95	
Analysis Date			3/13/95		4/15/95		4/15/95		3/16/95		4/15/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	24 U	24	25 U	25	24 U	24	26 U	26	30 U	30
Dibenzofuran		6.5	10 U	10	10 U	10	10 U	10	7 J	11	5 J	12
2,4-Dinitrotoluene	10	5.8	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Diethylphthalate	5000	5.4	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
4-Chlorophenyl-phenylether		7.0	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Fluorene	300	6.3	10 U	10	10 U	10	10 U	10	9 J	11	7 J	12
4-Nitroaniline		6.4	24 U	24	25 U	25	24 U	24	26 U	26	30 U	30
4,6-Dinitro-2-methylphenol		5.3	24 U	24	25 U	25	24 U	24	26 U	26	30 U	30
N-Nitrosodiphenylamine (1)	20	4.2	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
4-Bromophenyl-phenylether		5.3	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Hexachlorobenzene	10	5.5	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Pentachlorophenol	1	4.0	24 U	24	25 U	25	24 U	24	26 U	26	30 U	30
Phenanthrene	10	5.0	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Anthracene	2000	4.6	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Carbazole		4.4	10 U	10	10 U	10	10 U	10	1 J	11	12 U	12
Di-n-butylphthalate	900	6.5	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Fluoranthene	300	6.0	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Pyrene	200	5.4	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Butylbenzylphthalate	100	5.3	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
3,3'-Dichlorobenzidine	60	2.8	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Benzo(a)anthracene	10	4.9	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Chrysene	20	4.4	10 U	10	10 U	10	10 U	10	1 JB	11	12 U	12
bis(2-Ethylhexy)phthalate	30	9.7	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Di-n-octyl phthalate	100	5.6	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Benzo(b)fluoranthene	2	5.7	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Benzo(k)fluoranthene	2	6.2	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Benzo(a)pyrene	20	4.9	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Indeno(1,2,3-cd)pyrene	20	7.1	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Dibenzo(a,h)anthracene	20	6.0	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Benzo(g,h,i)perylene	20	6.8	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Petroleum hydrocarbons												
Total Est. Conc. of TIC			143 J		142 J		170 J		205 JA		89 J	
Dilution Factor												
Method:TCL Semivolatiles												

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M8		M8		M8		M8		M12	
Sample			MP08-MW15-C01		MP08-MW15-C01RE		MP08-MW15-E01		MP08-MW15-E01RE		MP12-MW16-A01	
Sample Type			Duplicate		Duplicate		Field Rinsate Blank		Field Rinsate Blank			
Batch#			9502G403		9502G403		9502G403		9502G403		9502G299	
Prep#			95GB0129		95GB0129		95GB0129		95GB0129		95GB0118	
RFW#			005		005 RE		008		008 RE		001	
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/22/95		2/22/95		2/22/95		2/22/95		2/20/95	
Analysis Date			3/16/95		3/16/95		3/16/95		3/16/95		3/11/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
bis(2-Chloroethyl) ether	10	9.7	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
2-Chlorophenol	40	7.3	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
1,3-Dichlorobenzene	600	5.3	2 J	10	2 J	10	12 U	12	12 U	12	11 U	11
1,4-Dichlorobenzene	75	4.8	4 J	10	5 J	10	12 U	12	12 U	12	11 U	11
1,2-Dichlorobenzene	600	5.7	10 U	10	1 J	10	12 U	12	12 U	12	11 U	11
2-Methylphenol		6.7	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
2,2'-oxybis(1-Chloropropane)		7.0	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
4-Methylphenol		12.9	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
N-Nitroso-di-n-propylamine	20	8.0	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Hexachloroethane	10	5.3	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Nitrobenzene	10	7.4	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Isophorone	100	3.9	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
2-Nitrophenol		7.0	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
2,4-Dimethylphenol	100	4.8	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
bis(2-Chloroethoxy) methane		6.1	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
2,4-Dichlorophenol	20	4.4	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
1,2,4-Trichlorobenzene	9	9.6	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Naphthalene		8.4	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
4-Chloroaniline		2.9	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Hexachlorobutadiene	1	4.6	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
4-Chloro-3-methylphenol	20	3.1	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
2-Methylnaphthalene		8.7	10 U	10	2 J	10	12 U	12	12 U	12	11 U	11
Hexachlorocyclopentadiene	50	3.6	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
2,4,6-Trichlorophenol		5.6	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
2,4,5-Trichlorophenol	700	4.7	26 U	26	26 U	26	30 U	30	30 U	30	26 U	26
2-Chloronaphthalene		8.2	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
2-Nitroaniline		6.1	26 U	26	26 U	26	30 U	30	30 U	30	26 U	26
Dimethylphthalate	7000	4.4	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Acenaphthylene	10	6.0	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
2,6-Dinitrotoluene	10	5.2	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
3-Nitroaniline		5.2	26 U	26	26 U	26	30 U	30	30 U	30	26 U	26
Acenaphthene	400	6.7	16	10	14	10	12 U	12	12 U	12	11 U	11
2,4-Dinitrophenol	40	4.6	26 U	26	26 U	26	30 U	30	30 U	30	26 U	26

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M8		M8		M8		M8		M12	
Sample			MP08-MW15-C01		MP08-MW15-C01RE		MP08-MW15-E01		MP08-MW15-E01RE		MP12-MW16-A01	
Sample Type			Duplicate		Duplicate		Field Rinsate Blank		Field Rinsate Blank			
Batch#			9502G403		9502G403		9502G403		9502G403		9502G299	
Prep#			95GB0129		95GB0129		95GB0129		95GB0129		95GB0118	
RFW#			005		005 RE		008		008 RE		001	
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/22/95		2/22/95		2/22/95		2/22/95		2/20/95	
Analysis Date			3/16/95		3/16/95		3/16/95		3/16/95		3/11/95	
Analysis	Standard	MDL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL
			Result		Result		Result		Result		Result	
4-Nitrophenol		7.5	26 U	26	26 U	26	30 U	30	30 U	30	26 U	26
Dibenzofuran		6.5	6 J	10	6 J	10	12 U	12	12 U	12	11 U	11
2,4-Dinitrotoluene	10	5.8	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Diethylphthalate	5000	5.4	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
4-Chlorophenyl-phenylether		7.0	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Fluorene	300	6.3	8 J	10	8 J	10	12 U	12	12 U	12	11 U	11
4-Nitroaniline		6.4	26 U	26	26 U	26	30 U	30	30 U	30	26 U	26
4,6-Dinitro-2-methylphenol		5.3	26 U	26	26 U	26	30 U	30	30 U	30	26 U	26
N-Nitrosodiphenylamine (1)	20	4.2	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
4-Bromophenyl-phenylether		5.3	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Hexachlorobenzene	10	5.5	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Pentachlorophenol	1	4.0	26 U	26	26 U	26	30 U	30	30 U	30	26 U	26
Phenanthrene	10	5.0	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Anthracene	2000	4.6	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Carbazole		4.4	1 J	10	1 J	10	12 U	12	12 U	12	11 U	11
Di-n-butylphthalate	900	6.5	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Fluoranthene	300	6.0	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Pyrene	200	5.4	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Butylbenzylphthalate	100	5.3	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
3,3'-Dichlorobenzidine	60	2.8	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Benzo(a)anthracene	10	4.9	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Chrysene	20	4.4	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
bis(2-Ethylhexy)phthalate	30	9.7	1 JB	10	10 U	10	3 JB	12	3 JB	12	4 J	11
Di-n-octyl phthalate	100	5.6	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Benzo(b)fluoranthene	2	5.7	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Benzo(k)fluoranthene	2	6.2	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Benzo(a)pyrene	20	4.9	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Indeno(1,2,3-cd)pyrene	20	7.1	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Dibenzo(a,h)anthracene	20	6.0	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Benzo(g,h,i)perylene	20	6.8	10 U	10	10 U	10	12 U	12	12 U	12	11 U	11
Petroleum hydrocarbons												
Total Est. Conc. of TIC			189 J		143 J		17 JA		15 JA		8 J	
Dilution Factor												
Method:TCL Semivolatiles												

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M12		M12		M12		M12		M12	
Sample			MP12-MW16-A02		MP12-MW17-A01		MP12-MW17-A01RE		MP12-MW17-A02		MP12-MW18-A01	
Sample Type												
Batch#			9502G681		9502G299		9502G299		9502G681		9502G299	
Prep#			95GB0175		95GB0118		95GB0175		95GB0175		95GB0118	
RFW#			001		003		003		003		005	
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/10/95		2/20/95		2/20/95		3/10/95		2/20/95	
Analysis Date			3/28/95		3/11/95		3/16/95		3/26/95		3/11/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
bis(2-Chloroethyl) ether	10	9.7	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
2-Chlorophenol	40	7.3	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
1,3-Dichlorobenzene	600	5.3	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
1,4-Dichlorobenzene	75	4.8	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
1,2-Dichlorobenzene	600	5.7	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
2-Methylphenol		6.7	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
2,2'-oxybis(1-Chloropropane)		7.0	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
4-Methylphenol		12.9	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
N-Nitroso-di-n-propylamine	20	8.0	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Hexachloroethane	10	5.3	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Nitrobenzene	10	7.4	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Isophorone	100	3.9	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
2-Nitrophenol		7.0	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
2,4-Dimethylphenol	100	4.8	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
bis(2-Chloroethoxy) methane		6.1	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
2,4-Dichlorophenol	20	4.4	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
1,2,4-Trichlorobenzene	9	9.6	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Naphthalene		8.4	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
4-Chloroaniline		2.9	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Hexachlorobutadiene	1	4.6	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
4-Chloro-3-methylphenol	20	3.1	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
2-Methylnaphthalene		8.7	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Hexachlorocyclopentadiene	50	3.6	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
2,4,6-Trichlorophenol		5.6	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
2,4,5-Trichlorophenol	700	4.7	26 U	26	31 U	31	26 U	26	31 U	31	28 U	28
2-Chloronaphthalene		8.2	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
2-Nitroaniline		6.1	26 U	26	31 U	31	26 U	26	31 U	31	28 U	28
Dimethylphthalate	7000	4.4	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Acenaphthylene	10	6.0	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
2,6-Dinitrotoluene	10	5.2	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
3-Nitroaniline		5.2	26 U	26	31 U	31	26 U	26	31 U	31	28 U	28
Acenaphthene	400	6.7	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
2,4-Dinitrophenol	40	4.6	26 U	26	31 U	31	26 U	26	31 U	31	28 U	28

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M12		M12		M12		M12		M12	
Sample			MP12-MW16-A02		MP12-MW17-A01		MP12-MW17-A01RE		MP12-MW17-A02		MP12-MW18-A01	
Sample Type												
Batch#			9502G681		9502G299		9502G299		9502G681		9502G299	
Prep#			95GB0175		95GB0118		95GB0175		95GB0175		95GB0118	
RFW#			001		003		003		003		005	
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/10/95		2/20/95		2/20/95		3/10/95		2/20/95	
Analysis Date			3/28/95		3/11/95		3/16/95		3/26/95		3/11/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	26 U	26	31 U	31	26 U	26	31 U	31	28 U	28
Dibenzofuran		6.5	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
2,4-Dinitrotoluene	10	5.8	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Diethylphthalate	5000	5.4	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
4-Chlorophenyl-phenylether		7.0	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Fluorene	300	6.3	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
4-Nitroaniline		6.4	26 U	26	31 U	31	26 U	26	31 U	31	28 U	28
4,6-Dinitro-2-methylphenol		5.3	26 U	26	31 U	31	26 U	26	31 U	31	28 U	28
N-Nitrosodiphenylamine (1)	20	4.2	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
4-Bromophenyl-phenylether		5.3	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Hexachlorobenzene	10	5.5	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Pentachlorophenol	1	4.0	26 U	26	31 U	31	26 U	26	31 U	31	28 U	28
Phenanthrene	10	5.0	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Anthracene	2000	4.6	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Carbazole		4.4	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Di-n-butylphthalate	900	6.5	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Fluoranthene	300	6.0	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Pyrene	200	5.4	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Butylbenzylphthalate	100	5.3	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
3,3'-Dichlorobenzidine	60	2.8	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Benzo(a)anthracene	10	4.9	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Chrysene	20	4.4	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
bis(2-Ethylhexy)phthalate	30	9.7	2 J	11	12 U	12	3 J	11	1 J	12	3 J	11
Di-n-octyl phthalate	100	5.6	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Benzo(b)fluoranthene	2	5.7	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Benzo(k)fluoranthene	2	6.2	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Benzo(a)pyrene	20	4.9	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Indeno(1,2,3-cd)pyrene	20	7.1	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Dibenzo(a,h)anthracene	20	6.0	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Benzo(g,h,i)perylene	20	6.8	11 U	11	12 U	12	11 U	11	12 U	12	11 U	11
Petroleum hydrocarbons												
Total Est. Conc. of TIC			5 J		52 J		22 J		10 J		3 J	
Dilution Factor												
Method:TCL Semivolatiles												

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M12		M14		M14		M14		M14	
Sample			MP12-MW18-A02		MP14-MW19-A01		MP14-MW19-A02		MP14-MW20-A01		MP14-MW20-A02	
Sample Type												
Batch#			9502G681		9502G299		9502G681		9502G403		9503G722	
Prep#			95GB0175		95GB0118		95GB0175		95GB0129		95GB0181	
RFW#			005		007		007		010		001	
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/10/95		2/20/95		3/10/95		2/22/95		3/13/95	
Analysis Date			3/26/95		3/12/95		3/27/95		3/16/95		3/29/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
bis(2-Chloroethyl) ether	10	9.7	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
2-Chlorophenol	40	7.3	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
1,3-Dichlorobenzene	600	5.3	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
1,4-Dichlorobenzene	75	4.8	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
1,2-Dichlorobenzene	600	5.7	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
2-Methylphenol		6.7	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
2,2'-oxybis(1-Chloropropane)		7.0	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
4-Methylphenol		12.9	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
N-Nitroso-di-n-propylamine	20	8.0	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Hexachloroethane	10	5.3	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Nitrobenzene	10	7.4	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Isophorone	100	3.9	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
2-Nitrophenol		7.0	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
2,4-Dimethylphenol	100	4.8	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
bis(2-Chloroethoxy) methane		6.1	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
2,4-Dichlorophenol	20	4.4	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
1,2,4-Trichlorobenzene	9	9.6	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Naphthalene		8.4	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
4-Chloroaniline		2.9	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Hexachlorobutadiene	1	4.6	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
4-Chloro-3-methylphenol	20	3.1	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
2-Methylnaphthalene		8.7	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Hexachlorocyclopentadiene	50	3.6	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
2,4,6-Trichlorophenol		5.6	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
2,4,5-Trichlorophenol	700	4.7	31 U	31	26 U	26	31 U	31	24 U	24	26 U	26
2-Chloronaphthalene		8.2	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
2-Nitroaniline		6.1	31 U	31	26 U	26	31 U	31	24 U	24	26 U	26
Dimethylphthalate	7000	4.4	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Acenaphthylene	10	6.0	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
2,6-Dinitrotoluene	10	5.2	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
3-Nitroaniline		5.2	31 U	31	26 U	26	31 U	31	24 U	24	26 U	26
Acenaphthene	400	6.7	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
2,4-Dinitrophenol	40	4.6	31 U	31	26 U	26	31 U	31	24 U	24	26 U	26

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M12		M14		M14		M14		M14	
Sample			MP12-MW18-A02		MP14-MW19-A01		MP14-MW19-A02		MP14-MW20-A01		MP14-MW20-A02	
Sample Type												
Batch#			9502G681		9502G299		9502G681		9502G403		9503G722	
Prep#			95GB0175		95GB0118		95GB0175		95GB0129		95GB0181	
RFW#			005		007		007		010		001	
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/10/95		2/20/95		3/10/95		2/22/95		3/13/95	
Analysis Date			3/26/95		3/12/95		3/27/95		3/16/95		3/29/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	31 U	31	26 U	26	31 U	31	24 U	24	26 U	26
Dibenzofuran		6.5	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
2,4-Dinitrotoluene	10	5.8	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Diethylphthalate	5000	5.4	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
4-Chlorophenyl-phenylether		7.0	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Fluorene	300	6.3	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
4-Nitroaniline		6.4	31 U	31	26 U	26	31 U	31	24 U	24	26 U	26
4,6-Dinitro-2-methylphenol		5.3	31 U	31	26 U	26	31 U	31	24 U	24	26 U	26
N-Nitrosodiphenylamine (1)	20	4.2	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
4-Bromophenyl-phenylether		5.3	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Hexachlorobenzene	10	5.5	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Pentachlorophenol	1	4.0	31 U	31	26 U	26	31 U	31	24 U	24	26 U	26
Phenanthrene	10	5.0	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Anthracene	2000	4.6	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Carbazole		4.4	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Di-n-butylphthalate	900	6.5	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Fluoranthene	300	6.0	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Pyrene	200	5.4	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Butylbenzylphthalate	100	5.3	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
3,3'-Dichlorobenzidine	60	2.8	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Benzo(a)anthracene	10	4.9	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Chrysene	20	4.4	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
bis(2-Ethylhexy)phthalate	30	9.7	12 U	12	3 J	11	12 U	12	1 JB	10	10 U	10
Di-n-octyl phthalate	100	5.6	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Benzo(b)fluoranthene	2	5.7	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Benzo(k)fluoranthene	2	6.2	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Benzo(a)pyrene	20	4.9	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Indeno(1,2,3-cd)pyrene	20	7.1	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Dibenzo(a,h)anthracene	20	6.0	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Benzo(g,h,i)perylene	20	6.8	12 U	12	11 U	11	12 U	12	10 U	10	10 U	10
Petroleum hydrocarbons												
Total Est. Conc. of TIC					22 J		5 J		12 J		28 J	
Dilution Factor												
Method:TCL Semivolatiles												

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M14		M14		M14		M14		M16	
Sample			MP14-MW20-E02		MP14-MW21-A01		MP14-MW21-A02		MP14-MW21-A01RE		MP16-MW22-A01	
Sample Type			Field Rinsate Blank									
Batch#			9503G722		9502G403		9503G660		9502G403		9502G238	
Prep#			95GB0181		95GB0129		95GB0174		95GB0129		95GB0112	
RFW#			003		012		019		012 RE		016	
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/13/95		2/22/95		3/9/95		2/22/95		2/17/95	
Analysis Date			3/18/95		3/16/95		3/27/95		3/5/95		2/28/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
bis(2-Chloroethyl) ether	10	9.7	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
2-Chlorophenol	40	7.3	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
1,3-Dichlorobenzene	600	5.3	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
1,4-Dichlorobenzene	75	4.8	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichlorobenzene	600	5.7	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
2-Methylphenol		6.7	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
2,2'-oxybis(1-Chloropropane)		7.0	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
4-Methylphenol		12.9	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
N-Nitroso-di-n-propylamine	20	8.0	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Hexachloroethane	10	5.3	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Nitrobenzene	10	7.4	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Isophorone	100	3.9	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
2-Nitrophenol		7.0	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
2,4-Dimethylphenol	100	4.8	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
bis(2-Chloroethoxy) methane		6.1	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
2,4-Dichlorophenol	20	4.4	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
1,2,4-Trichlorobenzene	9	9.6	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Naphthalene		8.4	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
4-Chloroaniline		2.9	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Hexachlorobutadiene	1	4.6	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
4-Chloro-3-methylphenol	20	3.1	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
2-Methylnaphthalene		8.7	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Hexachlorocyclopentadiene	50	3.6	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
2,4,6-Trichlorophenol		5.6	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
2,4,5-Trichlorophenol	700	4.7	27 U	27	24 U	24	24 U	24	24 U	24	25 U	25
2-Chloronaphthalene		8.2	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
2-Nitroaniline		6.1	27 U	27	24 U	24	24 U	24	24 U	24	25 U	25
Dimethylphthalate	7000	4.4	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Acenaphthylene	10	6.0	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
2,6-Dinitrotoluene	10	5.2	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
3-Nitroaniline		5.2	27 U	27	24 U	24	24 U	24	24 U	24	25 U	25
Acenaphthene	400	6.7	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
2,4-Dinitrophenol	40	4.6	27 U	27	24 U	24	24 U	24	24 U	24	25 U	25

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M14		M14		M14		M14		M16	
Sample			MP14-MW20-E02		MP14-MW21-A01		MP14-MW21-A02		MP14-MW21-A01RE		MP16-MW22-A01	
Sample Type			Field Rinsate Blank									
Batch#			9503G722		9502G403		9503G660		9502G403		9502G238	
Prep#			95GB0181		95GB0129		95GB0174		95GB0129		95GB0112	
RFW#			003		012		019		012 RE		016	
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/13/95		2/22/95		3/9/95		2/22/95		2/17/95	
Analysis Date			3/18/95		3/16/95		3/27/95		3/5/95		2/28/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	27 U	27	24 U	24	24 U	24	24 U	24	25 U	25
Dibenzofuran		6.5	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
2,4-Dinitrotoluene	10	5.8	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Diethylphthalate	5000	5.4	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
4-Chlorophenyl-phenylether		7.0	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Fluorene	300	6.3	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
4-Nitroaniline		6.4	27 U	27	24 U	24	24 U	24	24 U	24	25 U	25
4,6-Dinitro-2-methylphenol		5.3	27 U	27	24 U	24	24 U	24	24 U	24	25 U	25
N-Nitrosodiphenylamine (1)	20	4.2	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
4-Bromophenyl-phenylether		5.3	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Hexachlorobenzene	10	5.5	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Pentachlorophenol	1	4.0	27 U	27	24 U	24	24 U	24	24 U	24	25 U	25
Phenanthrene	10	5.0	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Anthracene	2000	4.6	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Carbazole		4.4	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Di-n-butylphthalate	900	6.5	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Fluoranthene	300	6.0	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Pyrene	200	5.4	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Butylbenzylphthalate	100	5.3	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
3,3'-Dichlorobenzidine	60	2.8	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Benzo(a)anthracene	10	4.9	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Chrysene	20	4.4	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
bis(2-Ethylhexy)phthalate	30	9.7	11 U	11	1 JB	10	10 U	10	10 U	10	10 U	10
Di-n-octyl phthalate	100	5.6	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Benzo(b)fluoranthene	2	5.7	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Benzo(k)fluoranthene	2	6.2	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Benzo(a)pyrene	20	4.9	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Indeno(1,2,3-cd)pyrene	20	7.1	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Dibenzo(a,h)anthracene	20	6.0	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Benzo(g,h,i)perylene	20	6.8	11 U	11	10 U	10	10 U	10	10 U	10	10 U	10
Petroleum hydrocarbons												
Total Est. Conc. of TIC					7 J				6 J		83 J	
Dilution Factor												
Method:TCL Semivolatiles												

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M16		M18		M18		M18		M18		M18	
Sample			MP16-MW22-A02		MP18-MW03-A01		MP18-MW03-E01		MP18-MW03-A02		MP18-MW24-A01		MP18-MW24-A02	
Sample Type							Field Rinsate Blank							
Batch#			9503G660		9505G825		9505G825		9505G139		9502G238		9502G681	
Prep#			95GB0174		95GIR081		95GIR081		95GB0112		95GB0112		95GB0175	
RFW#			018		001		004		001		001		009	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/9/95		5/10/95		5/10/95		2/17/95		2/17/95		3/10/95	
Analysis Date			3/27/95		5/30/95		5/29/95		3/1/95		3/1/95		3/28/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
bis(2-Chloroethyl) ether	10	9.7	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
2-Chlorophenol	40	7.3	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
1,3-Dichlorobenzene	600	5.3	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
1,4-Dichlorobenzene	75	4.8	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
1,2-Dichlorobenzene	600	5.7	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
2-Methylphenol		6.7	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
2,2'-oxybis(1-Chloropropane)		7.0	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
4-Methylphenol		12.9	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	2 J	11
N-Nitroso-di-n-propylamine	20	8.0	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Hexachloroethane	10	5.3	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Nitrobenzene	10	7.4	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Isophorone	100	3.9	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
2-Nitrophenol		7.0	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
2,4-Dimethylphenol	100	4.8	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
bis(2-Chloroethoxy) methane		6.1	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
2,4-Dichlorophenol	20	4.4	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
1,2,4-Trichlorobenzene	9	9.6	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Naphthalene		8.4	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
4-Chloroaniline		2.9	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Hexachlorobutadiene	1	4.6	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
4-Chloro-3-methylphenol	20	3.1	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
2-Methylnaphthalene		8.7	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Hexachlorocyclopentadiene	50	3.6	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
2,4,6-Trichlorophenol		5.6	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
2,4,5-Trichlorophenol	700	4.7	24 U	24	27 U	27	28 U	28	24 U	24	24 U	24	26 U	26
2-Chloronaphthalene		8.2	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
2-Nitroaniline		6.1	24 U	24	27 U	27	28 U	28	24 U	24	24 U	24	26 U	26
Dimethylphthalate	7000	4.4	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Acenaphthylene	10	6.0	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
2,6-Dinitrotoluene	10	5.2	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
3-Nitroaniline		5.2	24 U	24	27 U	27	28 U	28	24 U	24	24 U	24	26 U	26
Acenaphthene	400	6.7	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
2,4-Dinitrophenol	40	4.6	24 U	24	27 U	27	28 U	28	24 U	24	24 U	24	26 U	26

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M16		M18		M18		M18		M18		M18	
Sample			MP16-MW22-A02		MP18-MW03-A01		MP18-MW03-E01		MP18-MW03-A02		MP18-MW24-A01		MP18-MW24-A02	
Sample Type							Field Rinsate Blank							
Batch#			9503G660		9505G825		9505G825		9505G139		9502G238		9502G681	
Prep#			95GB0174		95GIR081		95GIR081		95GB0112		95GB0112		95GB0175	
RFW#			018		001		004		001		001		009	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/9/95		5/10/95		5/10/95		2/17/95		2/17/95		3/10/95	
Analysis Date			3/27/95		5/30/95		5/29/95		3/1/95		3/1/95		3/28/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	24 U	24	27 U	27	28 U	28	24 U	24	24 U	24	26 U	26
Dibenzofuran		6.5	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
2,4-Dinitrotoluene	10	5.8	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Diethylphthalate	5000	5.4	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
4-Chlorophenyl-phenylether		7.0	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Fluorene	300	6.3	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
4-Nitroaniline		6.4	24 U	24	27 U	27	28 U	28	24 U	24	24 U	24	26 U	26
4,6-Dinitro-2-methylphenol		5.3	24 U	24	27 U	27	28 U	28	24 U	24	24 U	24	26 U	26
N-Nitrosodiphenylamine (1)	20	4.2	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
4-Bromophenyl-phenylether		5.3	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Hexachlorobenzene	10	5.5	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Pentachlorophenol	1	4.0	24 U	24	27 U	27	28 U	28	24 U	24	24 U	24	26 U	26
Phenanthrene	10	5.0	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Anthracene	2000	4.6	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Carbazole		4.4	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Di-n-butylphthalate	900	6.5	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Fluoranthene	300	6.0	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Pyrene	200	5.4	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Butylbenzylphthalate	100	5.3	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
3,3'-Dichlorobenzidine	60	2.8	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Benzo(a)anthracene	10	4.9	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Chrysene	20	4.4	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
bis(2-Ethylhexy)phthalate	30	9.7	1 J	10	90 B	43	2 JB	43	2 JB	10	4	10	1 J	11
Di-n-octyl phthalate	100	5.6	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Benzo(b)fluoranthene	2	5.7	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Benzo(k)fluoranthene	2	6.2	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Benzo(a)pyrene	20	4.9	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Indeno(1,2,3-cd)pyrene	20	7.1	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Dibenzo(a,h)anthracene	20	6.0	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Benzo(g,h,i)perylene	20	6.8	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10	11 U	11
Petroleum hydrocarbons					0.26 U	0.26	0.27 U	0.27	0.26 U	0.26	1.3	0.27	0.62	0.26
Total Est. Conc. of TIC			88 J		5 JB		10 J		29 J		12 J		29 J	
Dilution Factor														
Method:TCL Semivolatiles														

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M18		M18		M18		M18		M18		M18	
Sample			MP18-MW24-C02		MP18-MW24-C02RE		MP18-MW24-E01		MP18-MW24-E02		MP18-MW25-A01		MP18-MW25-A02	
Sample Type			Duplicate		Duplicate		Field Rinsate Blank		Field Rinsate Blank					
Batch#			9502G681		9502G681		9502G238		9502G681		9502G238		9502G681	
Prep#			95GB0175		95GB0175		95GB0112		95GB0175		95GB0112		95GB0175	
RFW#			011		011 RE		004		014		006		016	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/10/95		3/10/95		2/17/95		3/10/95		2/17/95		3/10/95	
Analysis Date			3/27/95		3/28/95		2/27/95		3/27/95		2/28/95		3/28/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
bis(2-Chloroethyl) ether	10	9.7	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
2-Chlorophenol	40	7.3	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
1,3-Dichlorobenzene	600	5.3	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
1,4-Dichlorobenzene	75	4.8	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
1,2-Dichlorobenzene	600	5.7	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
2-Methylphenol		6.7	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
2,2'-oxybis(1-Chloropropane)		7.0	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
4-Methylphenol		12.9	2 J	11	2 J	11	10 U	10	11 U	11	10 U	10	12 U	12
N-Nitroso-di-n-propylamine	20	8.0	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Hexachloroethane	10	5.3	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Nitrobenzene	10	7.4	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Isophorone	100	3.9	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
2-Nitrophenol		7.0	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
2,4-Dimethylphenol	100	4.8	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
bis(2-Chloroethoxy) methane		6.1	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
2,4-Dichlorophenol	20	4.4	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
1,2,4-Trichlorobenzene	9	9.6	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Naphthalene		8.4	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
4-Chloroaniline		2.9	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Hexachlorobutadiene	1	4.6	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
4-Chloro-3-methylphenol	20	3.1	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
2-Methylnaphthalene		8.7	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Hexachlorocyclopentadiene	50	3.6	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
2,4,6-Trichlorophenol		5.6	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
2,4,5-Trichlorophenol	700	4.7	26 U	26	26 U	26	26 U	26	28 U	28	26 U	26	31 U	31
2-Chloronaphthalene		8.2	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
2-Nitroaniline		6.1	26 U	26	26 U	26	26 U	26	28 U	28	26 U	26	31 U	31
Dimethylphthalate	7000	4.4	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Acenaphthylene	10	6.0	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
2,6-Dinitrotoluene	10	5.2	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
3-Nitroaniline		5.2	26 U	26	26 U	26	26 U	26	28 U	28	26 U	26	31 U	31
Acenaphthene	400	6.7	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
2,4-Dinitrophenol	40	4.6	26 U	26	26 U	26	26 U	26	28 U	28	26 U	26	31 U	31

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M18		M18		M18		M18		M18		M18	
Sample			MP18-MW24-C02		MP18-MW24-C02RE		MP18-MW24-E01		MP18-MW24-E02		MP18-MW25-A01		MP18-MW25-A02	
Sample Type			Duplicate		Duplicate		Field Rinsate Blank		Field Rinsate Blank					
Batch#			9502G681		9502G681		9502G238		9502G681		9502G238		9502G681	
Prep#			95GB0175		95GB0175		95GB0112		95GB0175		95GB0112		95GB0175	
RFW#			011		011 RE		004		014		006		016	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/10/95		3/10/95		2/17/95		3/10/95		2/17/95		3/10/95	
Analysis Date			3/27/95		3/28/95		2/27/95		3/27/95		2/28/95		3/28/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	26 U	26	26 U	26	26 U	26	28 U	28	26 U	26	31 U	31
Dibenzofuran		6.5	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
2,4-Dinitrotoluene	10	5.8	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Diethylphthalate	5000	5.4	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
4-Chlorophenyl-phenylether		7.0	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Fluorene	300	6.3	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
4-Nitroaniline		6.4	26 U	26	26 U	26	26 U	26	28 U	28	26 U	26	31 U	31
4,6-Dinitro-2-methylphenol		5.3	26 U	26	26 U	26	26 U	26	28 U	28	26 U	26	31 U	31
N-Nitrosodiphenylamine (1)	20	4.2	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
4-Bromophenyl-phenylether		5.3	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Hexachlorobenzene	10	5.5	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Pentachlorophenol	1	4.0	26 U	26	26 U	26	26 U	26	28 U	28	26 U	26	31 U	31
Phenanthrene	10	5.0	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Anthracene	2000	4.6	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Carbazole		4.4	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Di-n-butylphthalate	900	6.5	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Fluoranthene	300	6.0	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Pyrene	200	5.4	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Butylbenzylphthalate	100	5.3	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
3,3'-Dichlorobenzidine	60	2.8	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Benzo(a)anthracene	10	4.9	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Chrysene	20	4.4	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
bis(2-Ethylhexy)phthalate	30	9.7	11 U	11	11 U	11	10 U	10	140	22 *	10 U	10	12 U	12
Di-n-octyl phthalate	100	5.6	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Benzo(b)fluoranthene	2	5.7	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Benzo(k)fluoranthene	2	6.2	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Benzo(a)pyrene	20	4.9	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Indeno(1,2,3-cd)pyrene	20	7.1	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Dibenzo(a,h)anthracene	20	6.0	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Benzo(g,h,i)perylene	20	6.8	11 U	11	11 U	11	10 U	10	11 U	11	10 U	10	12 U	12
Petroleum hydrocarbons			0.94	0.27	0.94	0.27	0.28	0.26	0.29 U	0.29	0.28	0.27	0.58	0.27
Total Est. Conc. of TIC			38 J		24 J		4 J		7 J		72 J		59 J	
Dilution Factor									* = 2.00					
Method:TCL Semivolatiles														

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M18		B1		B1		B2		B2		B3	
Sample			MP18-MW25-C01		B1-MW01B-A01		B1-MW01B-A02		B2-MW02B-A01		B2-MW02B-A02		B3-MW03B-A01	
Sample Type			Duplicate											
Batch#			9502G238		9502G169		9503G616		9502G169		9503G616		9502G169	
Prep#			95GB0112		95GB0103		95GB0166		95GB0103		95GB0166		95GB0103	
RFW#			008		001		008		003		010		005	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/17/95		2/14/95		3/7/95		2/14/95		3/7/95		2/14/95	
Analysis Date			2/28/95		3/7/95		3/26/95		3/7/95		3/30/95		3/7/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
bis(2-Chloroethyl) ether	10	9.7	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
2-Chlorophenol	40	7.3	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
1,3-Dichlorobenzene	600	5.3	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
1,4-Dichlorobenzene	75	4.8	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
1,2-Dichlorobenzene	600	5.7	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
2-Methylphenol		6.7	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
2,2'-oxybis(1-Chloropropane)		7.0	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
4-Methylphenol		12.9	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
N-Nitroso-di-n-propylamine	20	8.0	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Hexachloroethane	10	5.3	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Nitrobenzene	10	7.4	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Isophorone	100	3.9	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
2-Nitrophenol		7.0	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
2,4-Dimethylphenol	100	4.8	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
bis(2-Chloroethoxy) methane		6.1	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
2,4-Dichlorophenol	20	4.4	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
1,2,4-Trichlorobenzene	9	9.6	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Naphthalene		8.4	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
4-Chloroaniline		2.9	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Hexachlorobutadiene	1	4.6	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
4-Chloro-3-methylphenol	20	3.1	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
2-Methylnaphthalene		8.7	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Hexachlorocyclopentadiene	50	3.6	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
2,4,6-Trichlorophenol		5.6	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
2,4,5-Trichlorophenol	700	4.7	26 U	26	30 U	30	30 U	30	24 U	24	31 U	31	25 U	25
2-Chloronaphthalene		8.2	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
2-Nitroaniline		6.1	26 U	26	30 U	30	30 U	30	24 U	24	31 U	31	25 U	25
Dimethylphthalate	7000	4.4	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Acenaphthylene	10	6.0	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
2,6-Dinitrotoluene	10	5.2	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
3-Nitroaniline		5.2	26 U	26	30 U	30	30 U	30	24 U	24	31 U	31	25 U	25
Acenaphthene	400	6.7	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
2,4-Dinitrophenol	40	4.6	26 U	26	30 U	30	30 U	30	24 U	24	31 U	31	25 U	25

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			M18		B1		B1		B2		B2		B3	
Sample			MP18-MW25-C01		B1-MW01B-A01		B1-MW01B-A02		B2-MW02B-A01		B2-MW02B-A02		B3-MW03B-A01	
Sample Type			Duplicate											
Batch#			9502G238		9502G169		9503G616		9502G169		9503G616		9502G169	
Prep#			95GB0112		95GB0103		95GB0166		95GB0103		95GB0166		95GB0103	
RFW#			008		001		008		003		010		005	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/17/95		2/14/95		3/7/95		2/14/95		3/7/95		2/14/95	
Analysis Date			2/28/95		3/7/95		3/26/95		3/7/95		3/30/95		3/7/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	26 U	26	30 U	30	30 U	30	24 U	24	31 U	31	25 U	25
Dibenzofuran		6.5	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
2,4-Dinitrotoluene	10	5.8	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Diethylphthalate	5000	5.4	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
4-Chlorophenyl-phenylether		7.0	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Fluorene	300	6.3	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
4-Nitroaniline		6.4	26 U	26	30 U	30	30 U	30	24 U	24	31 U	31	25 U	25
4,6-Dinitro-2-methylphenol		5.3	26 U	26	30 U	30	30 U	30	24 U	24	31 U	31	25 U	25
N-Nitrosodiphenylamine (1)	20	4.2	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
4-Bromophenyl-phenylether		5.3	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Hexachlorobenzene	10	5.5	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Pentachlorophenol	1	4.0	26 U	26	30 U	30	30 U	30	24 U	24	31 U	31	25 U	25
Phenanthrene	10	5.0	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Anthracene	2000	4.6	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Carbazole		4.4	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Di-n-butylphthalate	900	6.5	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Fluoranthene	300	6.0	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Pyrene	200	5.4	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Butylbenzylphthalate	100	5.3	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
3,3'-Dichlorobenzidine	60	2.8	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Benzo(a)anthracene	10	4.9	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Chrysene	20	4.4	3 J	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
bis(2-Ethylhexy)phthalate	30	9.7	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	100 B	20 *
Di-n-octyl phthalate	100	5.6	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Benzo(b)fluoranthene	2	5.7	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Benzo(k)fluoranthene	2	6.2	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Benzo(a)pyrene	20	4.9	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Indeno(1,2,3-cd)pyrene	20	7.1	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Dibenzo(a,h)anthracene	20	6.0	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Benzo(g,h,i)perylene	20	6.8	11 U	11	12 U	12	12 U	12	10 U	10	12 U	12	10 U	10
Petroleum hydrocarbons			0.30	0.27										
Total Est. Conc. of TIC			114 J		4		5 J		6		7 J		10	
Dilution Factor														
Method:TCL Semivolatiles														

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			B3		B3		B3		B4		B4	
Sample			B3-MW03B-A02		B3-MW03B-E01		B3-MW03B-E02		B4-MW04B-A01		B4-MW04B-A02	
Sample Type					Field Rinsate Blank		Field Rinsate Blank					
Batch#			9503G740		9502G169		9503G616		9502G169		9503G616	
Prep#			95GB0181		95GB0103		95GB0166		95GB0103		95GB0166	
RFW#			001		008		006		010		012	
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/14/95		2/13/95		3/7/95		2/13/95		3/7/95	
Analysis Date			3/29/95		3/7/95		3/25/95		3/7/95		3/26/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
bis(2-Chloroethyl) ether	10	9.7	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2-Chlorophenol	40	7.3	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
1,3-Dichlorobenzene	600	5.3	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
1,4-Dichlorobenzene	75	4.8	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
1,2-Dichlorobenzene	600	5.7	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2-Methylphenol		6.7	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2,2'-oxybis(1-Chloropropane)		7.0	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
4-Methylphenol		12.9	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
N-Nitroso-di-n-propylamine	20	8.0	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Hexachloroethane	10	5.3	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Nitrobenzene	10	7.4	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Isophorone	100	3.9	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2-Nitrophenol		7.0	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2,4-Dimethylphenol	100	4.8	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
bis(2-Chloroethoxy) methane		6.1	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2,4-Dichlorophenol	20	4.4	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
1,2,4-Trichlorobenzene	9	9.6	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Naphthalene		8.4	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
4-Chloroaniline		2.9	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Hexachlorobutadiene	1	4.6	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
4-Chloro-3-methylphenol	20	3.1	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2-Methylnaphthalene		8.7	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Hexachlorocyclopentadiene	50	3.6	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2,4,6-Trichlorophenol		5.6	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2,4,5-Trichlorophenol	700	4.7	25 U	25	26 U	26	24 U	24	27 U	27	31 U	31
2-Chloronaphthalene		8.2	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2-Nitroaniline		6.1	25 U	25	26 U	26	24 U	24	27 U	27	31 U	31
Dimethylphthalate	7000	4.4	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Acenaphthylene	10	6.0	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2,6-Dinitrotoluene	10	5.2	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
3-Nitroaniline		5.2	25 U	25	26 U	26	24 U	24	27 U	27	31 U	31
Acenaphthene	400	6.7	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2,4-Dinitrophenol	40	4.6	25 U	25	26 U	26	24 U	24	27 U	27	31 U	31

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			B3		B3		B3		B4		B4	
Sample			B3-MW03B-A02		B3-MW03B-E01		B3-MW03B-E02		B4-MW04B-A01		B4-MW04B-A02	
Sample Type					Field Rinsate Blank		Field Rinsate Blank					
Batch#			9503G740		9502G169		9503G616		9502G169		9503G616	
Prep#			95GB0181		95GB0103		95GB0166		95GB0103		95GB0166	
RFW#			001		008		006		010		012	
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/14/95		2/13/95		3/7/95		2/13/95		3/7/95	
Analysis Date			3/29/95		3/7/95		3/25/95		3/7/95		3/26/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	25 U	25	26 U	26	24 U	24	27 U	27	31 U	31
Dibenzofuran		6.5	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
2,4-Dinitrotoluene	10	5.8	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Diethylphthalate	5000	5.4	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
4-Chlorophenyl-phenylether		7.0	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Fluorene	300	6.3	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
4-Nitroaniline		6.4	25 U	25	26 U	26	24 U	24	27 U	27	31 U	31
4,6-Dinitro-2-methylphenol		5.3	25 U	25	26 U	26	24 U	24	27 U	27	31 U	31
N-Nitrosodiphenylamine (1)	20	4.2	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
4-Bromophenyl-phenylether		5.3	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Hexachlorobenzene	10	5.5	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Pentachlorophenol	1	4.0	25 U	25	26 U	26	24 U	24	27 U	27	31 U	31
Phenanthrene	10	5.0	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Anthracene	2000	4.6	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Carbazole		4.4	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Di-n-butylphthalate	900	6.5	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Fluoranthene	300	6.0	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Pyrene	200	5.4	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Butylbenzylphthalate	100	5.3	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
3,3'-Dichlorobenzidine	60	2.8	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Benzo(a)anthracene	10	4.9	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Chrysene	20	4.4	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
bis(2-Ethylhexy)phthalate	30	9.7	5 J	10	10 U	10	10 U	10	11 U	11	12 U	12
Di-n-octyl phthalate	100	5.6	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Benzo(b)fluoranthene	2	5.7	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Benzo(k)fluoranthene	2	6.2	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Benzo(a)pyrene	20	4.9	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Indeno(1,2,3-cd)pyrene	20	7.1	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Dibenzo(a,h)anthracene	20	6.0	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Benzo(g,h,i)perylene	20	6.8	10 U	10	10 U	10	10 U	10	11 U	11	12 U	12
Petroleum hydrocarbons												
Total Est. Conc. of TIC			52 J		8		10 J		6		6 J	
Dilution Factor			* = 2.00									
Method:TCL Semivolatiles												

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			B5		B5	
Sample			B5-MW05B-A01		B5-MW05B-A02	
Sample Type						
Batch#			9502G169		9503G616	
Prep#			95GB0103		95GB0166	
RFW#			012		001	
Dilution Factor			1.00		1.00	
Matrix			water		water	
Units	ug/l	ug/l	ug/l		ug/l	
Sampling Date			2/13/95		3/7/95	
Analysis Date			3/7/95		3/25/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	11 U	11	10 U	10
bis(2-Chloroethyl) ether	10	9.7	11 U	11	10 U	10
2-Chlorophenol	40	7.3	11 U	11	10 U	10
1,3-Dichlorobenzene	600	5.3	11 U	11	10 U	10
1,4-Dichlorobenzene	75	4.8	11 U	11	10 U	10
1,2-Dichlorobenzene	600	5.7	11 U	11	10 U	10
2-Methylphenol		6.7	11 U	11	10 U	10
2,2'-oxybis(1-Chloropropane)		7.0	11 U	11	10 U	10
4-Methylphenol		12.9	11 U	11	10 U	10
N-Nitroso-di-n-propylamine	20	8.0	11 U	11	10 U	10
Hexachloroethane	10	5.3	11 U	11	10 U	10
Nitrobenzene	10	7.4	11 U	11	10 U	10
Isophorone	100	3.9	11 U	11	10 U	10
2-Nitrophenol		7.0	11 U	11	10 U	10
2,4-Dimethylphenol	100	4.8	11 U	11	10 U	10
bis(2-Chloroethoxy) methane		6.1	11 U	11	10 U	10
2,4-Dichlorophenol	20	4.4	11 U	11	10 U	10
1,2,4-Trichlorobenzene	9	9.6	11 U	11	10 U	10
Naphthalene		8.4	11 U	11	10 U	10
4-Chloroaniline		2.9	11 U	11	10 U	10
Hexachlorobutadiene	1	4.6	11 U	11	10 U	10
4-Chloro-3-methylphenol	20	3.1	11 U	11	10 U	10
2-Methylnaphthalene		8.7	11 U	11	10 U	10
Hexachlorocyclopentadiene	50	3.6	11 U	11	10 U	10
2,4,6-Trichlorophenol		5.6	11 U	11	10 U	10
2,4,5-Trichlorophenol	700	4.7	26 U	26	25 U	25
2-Chloronaphthalene		8.2	11 U	11	10 U	10
2-Nitroaniline		6.1	26 U	26	25 U	25
Dimethylphthalate	7000	4.4	11 U	11	10 U	10
Acenaphthylene	10	6.0	11 U	11	10 U	10
2,6-Dinitrotoluene	10	5.2	11 U	11	10 U	10
3-Nitroaniline		5.2	26 U	26	25 U	25
Acenaphthene	400	6.7	11 U	11	10 U	10
2,4-Dinitrophenol	40	4.6	26 U	26	25 U	25

MAIN POST
GROUNDWATER SEMIVOLATILES

Geographical Location			B5		B5	
Sample			B5-MW05B-A01		B5-MW05B-A02	
Sample Type						
Batch#			9502G169		9503G616	
Prep#			95GB0103		95GB0166	
RFW#			012		001	
Dilution Factor			1.00		1.00	
Matrix			water		water	
Units	ug/l	ug/l	ug/l		ug/l	
Sampling Date			2/13/95		3/7/95	
Analysis Date			3/7/95		3/25/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	26 U	26	25 U	25
Dibenzofuran		6.5	11 U	11	10 U	10
2,4-Dinitrotoluene	10	5.8	11 U	11	10 U	10
Diethylphthalate	5000	5.4	11 U	11	10 U	10
4-Chlorophenyl-phenylether		7.0	11 U	11	10 U	10
Fluorene	300	6.3	11 U	11	10 U	10
4-Nitroaniline		6.4	26 U	26	25 U	25
4,6-Dinitro-2-methylphenol		5.3	26 U	26	25 U	25
N-Nitrosodiphenylamine (1)	20	4.2	11 U	11	10 U	10
4-Bromophenyl-phenylether		5.3	11 U	11	10 U	10
Hexachlorobenzene	10	5.5	11 U	11	10 U	10
Pentachlorophenol	1	4.0	26 U	26	25 U	25
Phenanthrene	10	5.0	11 U	11	10 U	10
Anthracene	2000	4.6	11 U	11	10 U	10
Carbazole		4.4	11 U	11	10 U	10
Di-n-butylphthalate	900	6.5	11 U	11	10 U	10
Fluoranthene	300	6.0	11 U	11	10 U	10
Pyrene	200	5.4	11 U	11	10 U	10
Butylbenzylphthalate	100	5.3	11 U	11	10 U	10
3,3'-Dichlorobenzidine	60	2.8	11 U	11	10 U	10
Benzo(a)anthracene	10	4.9	11 U	11	10 U	10
Chrysene	20	4.4	11 U	11	10 U	10
bis(2-Ethylhexy)phthalate	30	9.7	11 U	11	10 U	10
Di-n-octyl phthalate	100	5.6	11 U	11	10 U	10
Benzo(b)fluoranthene	2	5.7	11 U	11	10 U	10
Benzo(k)fluoranthene	2	6.2	11 U	11	10 U	10
Benzo(a)pyrene	20	4.9	11 U	11	10 U	10
Indeno(1,2,3-cd)pyrene	20	7.1	11 U	11	10 U	10
Dibenzo(a,h)anthracene	20	6.0	11 U	11	10 U	10
Benzo(g,h,i)perylene	20	6.8	11 U	11	10 U	10
Petroleum hydrocarbons						
Total Est. Conc. of TIC			5		4 J	
Dilution Factor						
Method:TCL Semivolatiles						

N OST
GROUNDWATER INORGANICS

Geographical Location		M2		M2		M2		M2		M2		M2		M2	
Sample		MP02-MW01-A01		MP02-MW01-A01 SOL		MP02-MW01-A02		MP02-MW01-A02 SOL		MP02-MW02-A01		MP02-MW02-A01 SOL		MP02-MW02-A02	
Sample Type		Total		Soluble		Total		Soluble		Total		Soluble		Total	
Batch#		9502G197		9502G197		9503G642		9503G642		9502G197		9502G197		9503G642	
Prep#		95GI426		95GI426		95GI479		95GI479		95GI426		95GI426		95GI479	
RFW#		001		002		001		002		003		004		003	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water, filtered		water		water, filtered		water		water, filtered		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/15/95		2/15/95		3/8/95		3/8/95		2/15/95		2/15/95		3/8/95	
Analysis Date		2/23/95		2/28/95		3/10/95		3/10/95		2/23/95		2/28/95		3/10/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0
Aluminum	200	5400	24.0	310	24.0	5310	24.0	379	24.0	633	24.0	40.2	24.0	3490	24.0
Arsenic	8	9.3	1.9	1.9 U	1.9	8.6	1.6	1.6 U	1.6	1.9 U	1.9	1.9 U	1.9	7.7	1.6
Barium	2000	141	1.7	104	1.7	129	1.7	88.5	1.7	484	1.7	436	1.7	397	1.7
Beryllium	20	1.1	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90
Calcium		14000	10.4	13800	10.4	14300	10.4	14100	10.4	98600	10.4	94800	10.4	80100	10.4
Cadmium	4	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	4.0	2.8
Cobalt		7.9	3.0	5.8	3.0	5.6	3.0	6.9	3.0	3.0 U	3.0	3.0 U	3.0	6.2	3.0
Chromium	100	68.4	2.9	2.9 U	2.9	63.6	2.9	2.9 U	2.9	7.5	2.9	2.9 U	2.9	37.5	2.9
Copper	1000	4.3	1.9	2.8	1.9	6.3	1.9	1.9	1.9	1.9 U	1.9	1.9 U	1.9	12.2	1.9
Iron	300	16600	6.4	39.8	6.4	15200	6.4	33.7	6.4	64700	6.4	58900	6.4	57800	6.4
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.29	0.20	0.20 U	0.20	0.21	0.20
Potassium		6710	685	3680	685	7680	685	4050	685	12000	685	11400	685	12000	685
Magnesium		8370	18.3	6290	18.3	8260	18.3	6250	18.3	12100	18.3	11400	18.3	10700	18.3
Manganese	50	79.5	1.8	67.0	1.8	77.6	1.8	66.4	1.8	314	1.8	301	1.8	259	1.8
Sodium	50000	12600	30.5	13500	30.5	13600	30.5	13900	30.5	11200	30.5	10900	30.5	9580	30.5
Nickel	100	19.1	10.8	16.6	10.8	20.5	10.8	14.0	10.8	10.8 U	10.8	20.0	10.8	10.8 U	10.8
Lead	10	4.9	1.1	1.1 U	1.1	3.9	1.2	1.2 U	1.2	4.4	1.1	1.1 U	1.1	18.7	1.2
Antimony	20	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	22.6	20.7	20.7 U	20.7
Selenium	50	1.8	1.5	1.5 U	1.5	2.0	1.8	1.8 U	1.8	1.5 U	1.5	1.5 U	1.5	1.8 U	1.8
Thallium	10	0.70 U	0.70	0.70 U	0.70	1.1 U	1.1	1.1 U	1.1	0.70 U	0.70	0.70 U	0.70	1.1 U	1.1
Vanadium		21.6	2.3	2.3 U	2.3	20.9	2.3	2.4	2.3	6.2	2.3	2.3 U	2.3	21.1	2.3
Zinc	5000	455	3.8	402	3.8	489	3.8	463	3.8	15.7	3.8	5.1	3.8	79.0	3.8
Cyanide	200	10 U	10			10 U	10			10 U	10			10 U	10
Ammonia as Nitrogen															
Sulfate															
Dilution Factor															
Method:TAL Metals, Cyanide															

MAIN POST
GROUNDWATER INORGANICS

Geographical Location		M2		M2		M2		M2		M2		M3		M3	
Sample		MP02-MW02-A02 SOL		MP02-MW03-A01		MP02-MW03-A01 SOL		MP02-MW03-A02		MP02-MW03-A02 SOL		MP03-MW04-A01		MP03-MW04-A01 SOL	
Sample Type		Soluble		Total		Soluble		Total		Soluble		Total		Soluble	
Batch#		9503G642		9502G197		9502G197		9503G642		9503G642		9502G219		9502G219	
Prep#		95GI479		95GI426		95GI426		95GI479		95GI479		95GI439		95GI439	
RFW#		004		005		006		005		006		001		002	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water, filtered		water		water, filtered		water		water, filtered		water		water, filtered	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/8/95		2/15/95		2/15/95		3/8/95		3/8/95		2/16/95		2/16/95	
Analysis Date		3/10/95		2/23/95		2/28/95		3/10/95		3/10/95		3/1/95		3/3/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	2.5 U	2.5	2.5 U	2.5
Aluminum	200	30.9	24.0	693	24.0	28.3	24.0	2540	24.0	24.0 U	24.0	611	16.8	29.3	16.8
Arsenic	8	1.8	1.6	1.9 U	1.9	1.9 U	1.9	3.4	1.6	1.6 U	1.6	1.9 U	1.9	1.9 U	1.9
Barium	2000	298	1.7	79.1	1.7	64.8	1.7	132	1.7	55.9	1.7	43.6	0.80	39.7	0.80
Beryllium	20	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.30 U	0.30	0.30 U	0.30
Calcium		80000	10.4	63300	10.4	63800	10.4	65800	10.4	60600	10.4	32300	8.4	32300	8.4
Cadmium	4	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.9 U	2.9	2.9 U	2.9
Cobalt		3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.5	3.0	3.0 U	3.0	2.3 U	2.3	2.3 U	2.3
Chromium	100	2.9 U	2.9	5.6	2.9	2.9 U	2.9	24.9	2.9	2.9 U	2.9	8.1	4.7	4.7 U	4.7
Copper	1000	4.2	1.9	2.1	1.9	1.9 U	1.9	9.6	1.9	2.8	1.9	4.0 U	4.0	4.0 U	4.0
Iron	300	42500	6.4	15500	6.4	12000	6.4	25400	6.4	11800	6.4	2610	2.5	1030	2.5
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.29	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		10000	685	10400	685	10200	685	11900	685	9540	685	7540	67.9	6730	67.9
Magnesium		9600	18.3	5180	18.3	5090	18.3	5960	18.3	4940	18.3	4210	34.3	3920	34.3
Manganese	50	248	1.8	455	1.8	453	1.8	512	1.8	455	1.8	32.7	0.90	34.1	0.90
Sodium	50000	9710	30.5	8940	30.5	8990	30.5	9400	30.5	8770	30.5	12600	19.1	12600	19.1
Nickel	100	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8	5.9	4.2	4.2 U	4.2
Lead	10	1.2 U	1.2	8.0	1.1	1.1 U	1.1	21.6	1.2	3.9	1.2	1.6 U	1.6	1.6 U	1.6
Antimony	20	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	10.9 U	10.9	10.9 U	10.9
Selenium	50	1.8 U	1.8	1.5 U	1.5	1.5 U	1.5	1.8 U	1.8	1.8 U	1.8	1.5 U	1.5	1.5 U	1.5
Thallium	10	5.5 U	5.5 *	0.70 U	0.70	0.70 U	0.70	1.1 U	1.1	1.1 U	1.1	0.70 U	0.70	0.70 U	0.70
Vanadium		2.3 U	2.3	5.1	2.3	2.3 U	2.3	14.3	2.3	2.3 U	2.3	4.0	2.1	2.6	2.1
Zinc	5000	6.6	3.8	36.6	3.8	4.1	3.8	122	3.8	9.3	3.8	17.9	1.9	8.5	1.9
Cyanide	200			10 U	10			10 U	10			10 U	10		
Ammonia as Nitrogen															
Sulfate															
Dilution Factor		* = 5.0													
Method:TAL Metals, Cyanide															

[illegible]'OST
GROUNDWATER INORGANICS

Geographical Location		M3		M3		M3		M3		M3		M3		M3	
Sample		MP03-MW04-A02		MP03-MW04-A02 SOL		MP03-MW05-A01		MP03-MW05-A01 SOL		MP03-MW05-A02		MP03-MW05-A02 SOL		MP03-MW06-A01	
Sample Type		Total		Soluble		Total		Soluble		Total		Soluble		Total	
Batch#		9503G642		9503G642		9502G219		9502G219		9503G660		9503G660		9502G219	
Prep#		95GI479		95GI479		95GI439		95GI439		95GI488		95GI488		95GI439	
RFW#		009		010		003		004		003		004		005	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water, filtered		water		water, filtered		water		water, filtered		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/8/95		3/8/95		2/16/95		2/16/95		3/9/95		3/9/95		2/16/95	
Analysis Date		3/10/95		3/10/95		3/1/95		3/3/95		3/13/95		3/13/95		3/1/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	3.0 U	3.0	2.5 U	2.5	2.5 U	2.5	3.0 U	3.0	3.0 U	3.0	2.5 U	2.5
Aluminum	200	799	24.0	24.0 U	24.0	768	16.8	16.8 U	16.8	4220	24.0	24.0 U	24.0	132	16.8
Arsenic	8	1.9	1.6	2.0	1.6	1.9 U	1.9	1.9 U	1.9	4.3	1.3	1.3 U	1.3	1.9 U	1.9
Barium	2000	51.2	1.7	42.8	1.7	520.0	0.80	466	0.80	648	1.7	536	1.7	119	0.80
Beryllium	20	0.90 U	0.90	0.90 U	0.90	0.30 U	0.30	0.30 U	0.30	0.90 U	0.90	0.90 U	0.90	0.30 U	0.30
Calcium		35200	10.4	32400	10.4	93200	8.4	90000	8.4	98000	10.4	97900	10.4	119000	8.4
Cadmium	4	2.8 U	2.8	2.8 U	2.8	2.9 U	2.9	2.9 U	2.9	4.2	2.8	2.8 U	2.8	2.9 U	2.9
Cobalt		3.0 U	3.0	3.0 U	3.0	3.0	2.3	3.6	2.3	3.0 U	3.0	3.0 U	3.0	2.3 U	2.3
Chromium	100	10	2.9	2.9 U	2.9	7.3	4.7	4.7 U	4.7	32.9	2.9	2.9 U	2.9	7.3	4.7
Copper	1000	2.0	1.9	3.0	1.9	8.5	4.0	4.0 U	4.0	36.9	1.9	1.9 U	1.9	4.0 U	4.0
Iron	300	3320	6.4	48.7	6.4	79700	2.5	71300	2.5	100000	6.4	78700	6.4	17800	2.5
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.63	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		8110	685	6450	685	12900	67.9	12300	67.9	13700	685	11700	685	10100	67.9
Magnesium		4970	18.3	4170	18.3	17800	34.3	17200	34.3	18100	18.3	17100	18.3	28100	34.3
Manganese	50	35.9	1.8	32.1	1.8	1150	0.90	1100	0.90	1080	1.8	1030	1.8	659	0.90
Sodium	50000	13700	30.5	12500	30.5	16300	19.1	16200	19.1	15300	30.5	15800	30.5	35000	19.1
Nickel	100	10.8 U	10.8	10.8 U	10.8	4.2 U	4.2	4.2 U	4.2	10.8 U	10.8	10.8 U	10.8	4.2 U	4.2
Lead	10	1.2 U	1.2	1.2 U	1.2	26.6	3.2	1.6 U	1.6	130	16.0 *	1.6 U	1.6	1.6 U	1.6
Antimony	20	20.7 U	20.7	20.7 U	20.7	10.9 U	10.9	10.9 U	10.9	20.7 U	20.7	20.7 U	20.7	10.9 U	10.9
Selenium	50	1.8 U	1.8	1.8 U	1.8	1.5 U	1.5	1.5 U	1.5	1.8 U	1.8	1.8 U	1.8	1.5 U	1.5
Thallium	10	1.1 U	1.1	1.1 U	1.1	0.70 U	0.70	0.70 U	0.70	1.7 U	1.7	1.7 U	1.7	0.70 U	0.70
Vanadium		2.6	2.3	2.3 U	2.3	4.9	2.1	2.1 U	2.1	19.1	2.3	2.3 U	2.3	2.1 U	2.1
Zinc	5000	17.8	3.8	10.2	3.8	86.1	1.9	12.5	1.9	382	3.8	11.4	3.8	64.2	1.9
Cyanide	200	10 U	10			10 U	10			10 U	10			10 U	10
Ammonia as Nitrogen															
Sulfate															
Dilution Factor										* = 10					
Method:TAL Metals, Cyanide															

MAIN POST
GROUNDWATER INORGANICS

Geographical Location		M3		M3		M3		M4		M4		M4		M4	
Sample		MP03-MW06-A01 SOL		MP03-MW06-A02		MP03-MW06-A02 SOL		MP04-MW07-A01		MP04-MW07-A01 SOL		MP04-MW07-A02		MP04-MW07-A02 SOL	
Sample Type		Soluble		Total		Soluble		Total		Soluble		Total		Soluble	
Batch#		9502G219		9503G660		9503G660		9502G219		9502G219		9503G660		9503G660	
Prep#		95GI439		95GI488		95GI488		95GI439		95GI439		95GI488		95GI488	
RFW#		006		001		002		007		008		005		006	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water, filtered		water		water, filtered		water		water, filtered		water		water, filtered	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/16/95		3/9/95		3/9/95		2/16/95		2/16/95		3/9/95		3/9/95	
Analysis Date		3/3/95		3/13/95		3/13/95		3/1/95		3/3/95		3/13/95		3/13/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	2.5 U	2.5	3.0 U	3.0	3.0 U	3.0	2.5 U	2.5	2.5 U	2.5	3.0 U	3.0	3.0 U	3.0
Aluminum	200	16.8 U	16.8	816	24.0	24.0 U	24.0	9440	16.8	823	16.8	3150	24.0	851	24.0
Arsenic	8	1.9 U	1.9	1.3 U	1.3	1.3 U	1.3	8.0	1.9	1.9 U	1.9	2.2	1.3	1.3 U	1.3
Barium	2000	112	0.80	129	1.7	113	1.7	91.6	0.80	60.5	0.80	68.5	1.7	62.3	1.7
Beryllium	20	0.30 U	0.30	0.90 U	0.90	0.90 U	0.90	0.69	0.30	0.40	0.30	0.90 U	0.90	0.90 U	0.90
Calcium		117000	8.4	126000	10.4	126000	10.4	18600	8.4	18100	8.4	18100	10.4	18600	10.4
Cadmium	4	2.9 U	2.9	2.8 U	2.8	2.8 U	2.8	2.9 U	2.9	2.9 U	2.9	2.8 U	2.8	2.8 U	2.8
Cobalt		2.3 U	2.3	3.0 U	3.0	3.0 U	3.0	6.0	2.3	3.5	2.3	3.0 U	3.0	3.0 U	3.0
Chromium	100	4.7 U	4.7	8.2	2.9	2.9 U	2.9	94.9	4.7	4.7 U	4.7	22.1	2.9	2.9 U	2.9
Copper	1000	4.0 U	4.0	1.9 U	1.9	1.9 U	1.9	9.5	4.0	4.0 U	4.0	1.9 U	1.9	1.9 U	1.9
Iron	300	15900	2.5	23200	6.4	17200	6.4	29000	2.5	57.2	2.5	6870	6.4	169	6.4
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		9750	67.9	10500	685	10200	685	6810	67.9	1970	67.9	3150	685	2420	685
Magnesium		27400	34.3	29500	18.3	29100	18.3	9020	34.3	7090	34.3	7550	18.3	7290	18.3
Manganese	50	643	0.90	713	1.8	703	1.8	65.6	0.90	51.5	0.90	57.0	1.8	55.3	1.8
Sodium	50000	34400	19.1	33600	30.5	33400	30.5	54300	19.1	53000	19.1	46100	30.5	47400	30.5
Nickel	100	4.2 U	4.2	10.8 U	10.8	10.8 U	10.8	13.7	4.2	10.0	4.2	10.8 U	10.8	10.8 U	10.8
Lead	10	1.6 U	1.6	4.1	1.6	1.6 U	1.6	15.8	1.6	1.6 U	1.6	1.8	1.6	1.6 U	1.6
Antimony	20	10.9 U	10.9	20.7 U	20.7	20.7 U	20.7	10.9 U	10.9	10.9 U	10.9	20.7 U	20.7	20.7 U	20.7
Selenium	50	1.5 U	1.5	1.8 U	1.8	1.8 U	1.8	1.5 U	1.5	1.5 U	1.5	1.8 U	1.8	1.8 U	1.8
Thallium	10	0.70 U	0.70	1.7 U	1.7	1.7 U	1.7	0.70 U	0.70	0.70 U	0.70	1.7 U	1.7	1.7 U	1.7
Vanadium		2.1 U	2.1	6.2	2.3	2.3 U	2.3	54.1	2.1	2.8	2.1	13.8	2.3	2.3 U	2.3
Zinc	5000	53.3	1.9	59.9	3.8	34.4	3.8	60.1	1.9	34.2	1.9	38.4	3.8	34.6	3.8
Cyanide	200			10 U	10			10 U	10			10 U	10		
Ammonia as Nitrogen															
Sulfate															
Dilution Factor															
Method:TAL Metals, Cyanide															

I POST
GROUNDWATER INORGANICS

Geographical Location		M4		M4		M4		M4		M4		M4		M4	
Sample		MP04-MW07-C01		MP04-MW07-C01 SOL		MP04-MW07-C02		MP04-MW07-C02 SOL		MP04-MW07-E01		MP04-MW07-E01 SOL		MP04-MW08-A01	
Sample Type		Duplicate - Total		Duplicate - Soluble		Duplicate - Total		Duplicate - Soluble		Field Rinsate - Total		Field Rinsate - Soluble		Total	
Batch#		9502G219		9502G219		9503G660		9503G660		9502G219		9502G219		9502G219	
Prep#		95GI439		95GI439		95GI488		95GI488		95GI439		95GI439		95GI439	
RFW#		009		010		007		008		012		013		014	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water, filtered		water		water, filtered		water		water, filtered		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/16/95		2/16/95		3/9/95		3/9/95		2/16/95		2/16/95		2/16/95	
Analysis Date		3/1/95		3/3/95		3/13/95		3/13/95		3/1/95		3/1/95		3/1/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	2.5 U	2.5	2.5 U	2.5	3.0 U	3.0	3.0 U	3.0	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5
Aluminum	200	9950	16.8	807	16.8	2890	24.0	856	24.0	18.1	16.8	16.8 U	16.8	1570	16.8
Arsenic	8	7.2	1.9	1.9 U	1.9	2.2	1.3	1.3 U	1.3	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9
Barium	2000	89.7	0.80	60.1	0.80	70.3	1.7	61.6	1.7	0.81	0.80	0.80 U	0.80	38.8	0.80
Beryllium	20	0.69	0.30	0.51	0.30	0.99	0.90	0.90 U	0.90	0.30 U	0.30	0.31	0.30	0.30 U	0.30
Calcium		18200	8.4	17900	8.4	19000	10.4	18900	10.4	57.4	8.4	82.6	8.4	32700	8.4
Cadmium	4	2.9 U	2.9	2.9 U	2.9	2.8 U	2.8	2.8 U	2.8	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9
Cobalt		5.8	2.3	5.3	2.3	3.4	3.0	3.0 U	3.0	2.3 U	2.3	2.3 U	2.3	2.8	2.3
Chromium	100	103	4.7	4.7 U	4.7	18.2	2.9	2.9 U	2.9	4.7 U	4.7	4.7 U	4.7	17.9	4.7
Copper	1000	6.3	4.0	4.0 U	4.0	1.9 U	1.9	1.9 U	1.9	4.0 U	4.0	4.0 U	4.0	4.0 U	4.0
Iron	300	30000	2.5	62.3	2.5	6420	6.4	131	6.4	62.7	2.5	4.3	2.5	17700	2.5
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		6690	67.9	1990	67.9	3230	685	2240	685	67.9 U	67.9	68.8	67.9	7500	67.9
Magnesium		9110	34.3	6990	34.3	7690	18.3	7430	18.3	34.3 U	34.3	34.3 U	34.3	5970	34.3
Manganese	50	64.6	0.90	51.0	0.90	58.2	1.8	55.2	1.8	0.90 U	0.90	0.90 U	0.90	110	0.90
Sodium	50000	52700	19.1	52100	19.1	47600	30.5	48600	30.5	116	19.1	81.4	19.1	9450	19.1
Nickel	100	12.0	4.2	9.2	4.2	10.8 U	10.8	10.8 U	10.8	4.2 U	4.2	4.2 U	4.2	4.2 U	4.2
Lead	10	15.8	1.6	1.6 U	1.6	2.2	1.6	1.6 U	1.6	1.6 U	1.6	1.6 U	1.6	7.4	1.6
Antimony	20	10.9 U	10.9	10.9 U	10.9	20.7 U	20.7	20.7 U	20.7	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9
Selenium	50	1.5 U	1.5	1.5 U	1.5	1.8 U	1.8	1.8 U	1.8	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5
Thallium	10	0.70 U	0.70	0.70 U	0.70	1.7 U	1.7	1.7 U	1.7	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70
Vanadium		56.1	2.1	2.1 U	2.1	12.2	2.3	2.3 U	2.3	2.1 U	2.1	2.1 U	2.1	6.0	2.1
Zinc	5000	59.6	1.9	34.0	1.9	39.2	3.8	33.2	3.8	3.8	1.9	2.4	1.9	30.0	1.9
Cyanide	200	10 U	10			10 U	10			10 U	10			10 U	10
Ammonia as Nitrogen															
Sulfate															
Dilution Factor															
Method:TAL Metals, Cyanide															

MAIN POST
GROUNDWATER INORGANICS

Geographical Location		M4		M4		M4		M4		M4		M4		M4	
Sample		MP04-MW08-A01 SOL		MP04-MW08-A02		MP04-MW08-A02 SOL		MP04-MW09-A01		MP04-MW09-A01 SOL		MP04-MW09-A02		MP04-MW09-A02 SOL	
Sample Type		Soluble		Total		Soluble		Total		Soluble		Total		Soluble	
Batch#		9502G219		9503G642		9503G642		9502G219		9502G219		9503G660		9503G660	
Prep#		95GI439		95GI479		95GI479		95GCN045		95GI439		95GI488		95GI488	
RFW#		015		007		008		016		017		009		010	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water, filtered		water		water, filtered		water		water, filtered		water		water, filtered	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/16/95		3/8/95		3/8/95		2/16/95		2/16/95		3/9/95		3/9/95	
Analysis Date		3/3/95		3/10/95		3/10/95		3/1/95		3/3/95		3/13/95		3/13/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	2.5 U	2.5	3.0 U	3.0	3.0 U	3.0	2.5 U	2.5	2.5 U	2.5	3.0 U	3.0	3.0 U	3.0
Aluminum	200	16.8 U	16.8	1640	24.0	24.0 U	24.0	182	16.8	16.8 U	16.8	76.2	24.0	24.0 U	24.0
Arsenic	8	1.9 U	1.9	2.1	1.6	1.6 U	1.6	1.9 U	1.9	1.9 U	1.9	1.3 U	1.3	1.3 U	1.3
Barium	2000	27.7	0.80	41.0	1.7	28.0	1.7	60.0	0.80	39.3	0.80	55.8	1.7	38.8	1.7
Beryllium	20	0.30 U	0.30	0.90 U	0.90	0.90 U	0.90	0.30 U	0.30	0.30 U	0.30	0.90 U	0.90	0.90 U	0.90
Calcium		31900	8.4	33500	10.4	33100	10.4	45300	8.4	44000	8.4	47700	10.4	46300	10.4
Cadmium	4	2.9 U	2.9	2.8 U	2.8	2.8 U	2.8	2.9 U	2.9	2.9 U	2.9	2.8 U	2.8	2.8 U	2.8
Cobalt		2.3 U	2.3	3.8	3.0	3.0 U	3.0	2.3 U	2.3	2.3 U	2.3	3.0 U	3.0	3.0 U	3.0
Chromium	100	4.7 U	4.7	16.6	2.9	2.9 U	2.9	6.0	4.7	4.7 U	4.7	2.9 U	2.9	2.9 U	2.9
Copper	1000	4.0 U	4.0	3.0	1.9	2.6	1.9	4.0 U	4.0	4.0 U	4.0	1.9 U	1.9	1.9 U	1.9
Iron	300	10900	2.5	18100	6.4	10600	6.4	21500	2.5	12500	2.5	21900	6.4	13500	6.4
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		6150	67.9	7670	685	6570	685	8640	67.9	8350	67.9	9210	685	8010	685
Magnesium		5290	34.3	6320	18.3	5760	18.3	6070	34.3	5870	34.3	6420	18.3	6170	18.3
Manganese	50	101	0.90	111	1.8	104	1.8	81.3	0.90	77.2	0.90	88.7	1.8	85.5	1.8
Sodium	50000	9230	19.1	9550	30.5	9580	30.5	9760	19.1	9580	19.1	10800	30.5	10500	30.5
Nickel	100	4.2 U	4.2	10.8 U	10.8	10.8 U	10.8	4.2 U	4.2	4.2 U	4.2	10.8 U	10.8	10.8 U	10.8
Lead	10	1.6 U	1.6	6.7	1.2	1.2 U	1.2	1.6 U	1.6	1.6 U	1.6	1.6 U	1.6	1.6 U	1.6
Antimony	20	10.9 U	10.9	20.7 U	20.7	20.7 U	20.7	10.9 U	10.9	10.9 U	10.9	20.7 U	20.7	20.7 U	20.7
Selenium	50	1.5 U	1.5	1.8 U	1.8	1.8 U	1.8	1.5 U	1.5	1.5 U	1.5	1.8 U	1.8	1.8 U	1.8
Thallium	10	0.70 U	0.70	1.1 U	1.1	1.1 U	1.1	0.70 U	0.70	0.70 U	0.70	1.7 U	1.7	1.7 U	1.7
Vanadium		2.1 U	2.1	7.9	2.3	2.3 U	2.3	2.1 U	2.1	2.1 U	2.1	2.3 U	2.3	2.3 U	2.3
Zinc	5000	3.0	1.9	33.5	3.8	5.7	3.8	3.9	1.9	1.9 U	1.9	3.8 U	3.8	4.5	3.8
Cyanide	200			10 U	10			10 U	10			10 U	10		
Ammonia as Nitrogen															
Sulfate															
Dilution Factor															
Method:TAL Metals, Cyanide															

POST
GROUNDWATER INORGANICS

Geographical Location		M5		M5		M5		M5		M5		M5		M5	
Sample		MP05-MW10-A01		MP05-MW10-A01 SOL		MP05-MW10-A02		MP05-MW10-A02 SOL		MP05-MW11-A01		MP05-MW11-A01 SOL		MP05-MW11-A02	
Sample Type		Total		Soluble		Total		Soluble		Total		Soluble		Total	
Batch#		9502G238		9502G238		9503G660		9503G660		9502G238		9502G238		9503G660	
Prep#		95GCN045		95GI397		95GI488		95GI488		95GCN045		95GI397		95GI488	
RFW#		010		011		011		012		012		013		013	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water, filtered		water		water, filtered		water		water, filtered		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/17/95		2/17/95		3/9/95		3/9/95		2/17/95		2/17/95		3/9/95	
Analysis Date		3/1/95		2/22/95		3/13/95		3/13/95		3/1/95		2/22/95		3/13/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0
Aluminum	200	212	24.0	30.7	24.0	99.6	24.0	24.0 U	24.0	1160	24.0	57.4	24.0	945	24.0
Arsenic	8	1.9 U	1.9	1.9 U	1.9	1.3 U	1.3	1.3 U	1.3	1.9 U	1.9	1.9 U	1.9	1.3 U	1.3
Barium	2000	101	1.7	36.7	1.7	131	1.7	44.9	1.7	16.8	1.7	13.2	1.7	15.3	1.7
Beryllium	20	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90
Calcium		16000	10.4	15400	10.4	17000	10.4	15900	10.4	11100	10.4	11100	10.4	11100	10.4
Cadmium	4	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8
Cobalt		3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0
Chromium	100	5.5	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	15.4	2.9	2.9 U	2.9	10.4	2.9
Copper	1000	10.9	1.9	2.5	1.9	3.2	1.9	1.9 U	1.9	2.9	1.9	2.0	1.9	1.9 U	1.9
Iron	300	8310	6.4	4200	6.4	10100	6.4	4490	6.4	5150	6.4	19.3	6.4	4220	6.4
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		10100	685	10000	685	7600	685	7430	685	3590	685	2230	685	3020	685
Magnesium		14100	18.3	14100	18.3	13000	18.3	12400	18.3	4260	18.3	3760	18.3	4180	18.3
Manganese	50	127	1.8	117	1.8	166	1.8	148	1.8	14.8	1.8	12.0	1.8	14.2	1.8
Sodium	50000	85400	30.5	85100	30.5	80200	30.5	77000	30.5	18400	30.5	18500	30.5	17500	30.5
Nickel	100	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8	12.4	10.8	10.8 U	10.8
Lead	10	5.4	1.6	1.6 U	1.6	5.9	1.6	1.6 U	1.6	2.2	1.6	1.6 U	1.6	1.6 U	1.6
Antimony	20	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.8	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7
Selenium	50	1.5 U	1.5	1.5 U	1.5	1.8 U	1.8	1.8 U	1.8	1.5 U	1.5	1.5 U	1.5	1.8 U	1.8
Thallium	10	0.70 U	0.70	0.70 U	0.70	1.7 U	1.7	1.7 U	1.7	0.70 U	0.70	0.70 U	0.70	1.7 U	1.7
Vanadium		2.3 U	2.3	2.3 U	2.3	2.6	2.3	2.3 U	2.3	5.5	2.3	2.3 U	2.3	6.2	2.3
Zinc	5000	10.5	3.8	5.9	3.8	5.0	3.8	4.3	3.8	168	3.8	160	3.8	178.0	3.8
Cyanide	200	10 U	10			10 U	10			10 U	10			10 U	10
Ammonia as Nitrogen															
Sulfate		18.8	5.0			10.8	5.0			49.2	10.0 *			38.3	10.0
Dilution Factor										*=2					
Method:TAL Metals, Cyanide															

MAIN POST
GROUNDWATER INORGANICS

Geographical Location		M5		M5		M5		M8		M8		M8	
Sample		MP05-MW11-A02 SOL		MP05-MW11-E02		MP05-MW11-E02 SOL		MP08-MW12-A01		MP08-MW12-A01 SOL		MP08-MW12-A02	
Sample Type		Soluble		Field Rinsate - Total		Field Rinsate - Soluble		Total		Soluble		Total	
Batch#		9503G660		9503G660		9503G660		9502G238		9502G238		9503G767	
Prep#		95GI488		95GI488		95GI488		95GCN045		95GI397		95GI509	
RFW#		014		016		017		014		015		001	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water, filtered		water		water, filtered		water		water, filtered		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/9/95		3/9/95		3/9/95		2/17/95		2/17/95		3/15/95	
Analysis Date		3/13/95		3/13/95		3/13/95		3/1/95		2/22/95		3/21/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0
Aluminum	200	45.8	24.0	24.0 U	24.0	24.0 U	24.0	186	24.0	25.8	24.0	1290	24.0
Arsenic	8	1.3 U	1.3	1.3 U	1.3	1.3 U	1.3	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9
Barium	2000	11.7	1.7	1.7 U	1.7	1.7 U	1.7	6.8	1.7	4.6	1.7	10.8	1.7
Beryllium	20	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90
Calcium		10900	10.4	289	10.4	55.4	10.4	9210	10.4	8940	10.4	8580	10.4
Cadmium	4	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8
Cobalt		3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0
Chromium	100	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	14.5	2.9
Copper	1000	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	3.2	1.9	2.4	1.9	1.9 U	1.9
Iron	300	17.3	6.4	6.4 U	6.4	6.4 U	6.4	529	6.4	23.6	6.4	5430	6.4
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		2320	685	737	685	685 U	685	2540	685	2460	685	3090	685
Magnesium		3670	18.3	18.3 U	18.3	18.3 U	18.3	2400	18.3	2290	18.3	2570	18.3
Manganese	50	9.5	1.8	1.8 U	1.8	1.8 U	1.8	9.9	1.8	8.0	1.8	10.6	1.8
Sodium	50000	17200	30.5	165	30.5	147	30.5	22000	30.5	21200	30.5	20500	30.5
Nickel	100	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8
Lead	10	1.6 U	1.6	1.6 U	1.6	1.6 U	1.6	1.6 U	1.6	1.6 U	1.6	1.0	1.0
Antimony	20	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7
Selenium	50	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5
Thallium	10	1.7 U	1.7	1.7 U	1.7	1.7 U	1.7	0.70 U	0.70	0.70 U	0.70	1.1 U	1.1
Vanadium		2.3 U	2.3	2.3 U	2.3	2.3 U	2.3	2.3 U	2.3	2.3 U	2.3	11.4	2.3
Zinc	5000	165	3.8	3.8 U	3.8	3.8 U	3.8	4.4	3.8	3.8 U	3.8	7.7	3.8
Cyanide	200			10 U	10			10 U	10			10 U	10
Ammonia as Nitrogen								0.20 U	0.20			0.20 U	0.20
Sulfate				5.0 U	5.0			40.4	10.0			35.9	5.0
Dilution Factor								*=2					
Method:TAL Metals, Cyanide													

I POST
GROUNDWATER INORGANICS

Geographical Location		M8		M8		M8		M8		M8		M8		M8	
Sample		MP08-MW12-A02 SOL		MP08-MW12-C02		MP08-MW12-C02 SOL		MP08-MW12-E02		MP08-MW12-E02 SOL		MP08-MW13-A01		MP08-MW13-A01 SOL	
Sample Type		Soluble		Duplicate - Total		Duplicate - Soluble		Field Rinsate - Total		Field Rinsate - Soluble		Total		Soluble	
Batch#		9503G767		9503G767		9503G767		9503G767		9503G767		9502G403		9502G403	
Prep#		95GI510		95GI511		95GI512		95GI513		95GI514		95GCN053		95GI460	
RFW#		002		003		004		006		007		001		002	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water, filtered		water		water, filtered		water		water, filtered		water		water, filtered	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/15/95		3/15/95		3/15/95		3/15/95		3/15/95		2/22/95		2/22/95	
Analysis Date		3/21/95		3/21/95		3/21/95		3/21/95		3/21/95		3/7/95		3/8/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0
Aluminum	200	24.0 U	24.0	1090	24.0	36.1	24.0	27.0	24.0	24.0 U	24.0	363	24.0	24.0 U	24.0
Arsenic	8	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9
Barium	2000	4.0	1.7	10.8	1.7	3.9	1.7	1.7 U	1.7	1.7 U	1.7	204	1.7	174	1.7
Beryllium	20	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90
Calcium		7980	10.4	8750	10.4	8550	10.4	109	10.4	95.7	10.4	144000	10.4	139000	10.4
Cadmium	4	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8
Cobalt		3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0
Chromium	100	2.9 U	2.9	11.1	2.9	3.3	2.9	2.9 U	2.9	2.9 U	2.9	4.1	2.9	2.9 U	2.9
Copper	1000	2.5	1.9	1.9 U	1.9	2.3	1.9	2.1	1.9	1.9 U	1.9	7.9	1.9	1.9 U	1.9
Iron	300	26.6	6.4	4780	6.4	21.3	6.4	13.2	6.4	7.4	6.4	31900	6.4	25600	6.4
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.62	0.20	0.20 U	0.20
Potassium		1980	685	2920	685	2660	685	685 U	685	685 U	685	22100	685	21300	685
Magnesium		1960	18.3	2450	18.3	2160	18.3	18.3 U	18.3	18.3 U	18.3	69600	18.3	67900	18.3
Manganese	50	7.9	1.8	10.6	1.8	7.0	1.8	1.8 U	1.8	1.8 U	1.8	573	1.8	550	1.8
Sodium	50000	19500	30.5	21100	30.5	20900	30.5	87.3	30.5	120	30.5	295000	30.5	288000	30.5
Nickel	100	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8
Lead	10	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	2.8	1.6	1.6 U	1.6
Antimony	20	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7
Selenium	50	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5
Thallium	10	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1	0.70 U	0.70	0.70 U	0.70
Vanadium		3.2	2.3	8.6	2.3	3.8	2.3	3.0	2.3	2.3 U	2.3	5.6	2.3	3.4	2.3
Zinc	5000	8.6	3.8	8.7	3.8	4.2	3.8	3.8 U	3.8	4.1	3.8	11.9	3.8	3.8 U	3.8
Cyanide	200			10 U	10			10 U	10			10 U	10		
Ammonia as Nitrogen				0.20 U	0.20			0.20 U	0.20			2.6	0.20		
Sulfate				41.4	10.0 *			5.0 U	5.0			14.0	5.0		
Dilution Factor				*=2											
Method:TAL Metals, Cyanide															

MAIN POST
GROUNDWATER INORGANICS

Geographical Location		M8		M8		M8		M8		M8		M8	
Sample		MP08-MW13-A02		MP08-MW13-A02 SOL		MP08-MW14-A01		MP08-MW14-A01 SOL		MP08-MW14-A02		MP08-MW14-A02 SOL	
Sample Type		Total		Soluble		Total		Soluble		Total		Soluble	
Batch#		9503G767		9503G767		9502G219		9502G219		9503G767		9503G767	
Prep#		95GI515		95GI516		95GCN045		95GI439		95GI517		95GI518	
RFW#		008		009		018		019		010		011	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water, filtered		water		water, filtered		water		water, filtered	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/15/95		3/15/95		2/16/95		2/16/95		3/15/95		3/15/95	
Analysis Date		3/21/95		3/21/95		3/1/95		3/3/95		3/21/95		3/21/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	3.0 U	3.0	2.5 U	2.5	2.5 U	2.5	3.0 U	3.0	3.0 U	3.0
Aluminum	200	661	24.0	44.4	24.0	2220	16.8	30.4	16.8	2480	24.0	46.9	24.0
Arsenic	8	1.9 U	1.9	1.9 U	1.9	4.3	1.9	1.9 U	1.9	3.2	1.9	1.9 U	1.9
Barium	2000	260	1.7	180	1.7	372	0.80	304	0.80	448	1.7	356	1.7
Beryllium	20	0.90 U	0.90	0.90 U	0.90	0.70	0.30	0.39	0.30	0.90 U	0.90	0.90 U	0.90
Calcium		171000	10.4	165000	10.4	162000	8.4	165000	8.4	157000	10.4	164000	10.4
Cadmium	4	2.8 U	2.8	2.8 U	2.8	3.0	2.9	2.9 U	2.9	2.9	2.8	2.8 U	2.8
Cobalt		3.0 U	3.0	3.0 U	3.0	4.8	2.3	2.5	2.3	3.8	3.0	3.0 U	3.0
Chromium	100	4.3	2.9	2.9 U	2.9	23.1	4.7	4.7 U	4.7	24.9	2.9	3.1	2.9
Copper	1000	5.1	1.9	1.9 U	1.9	4.0 U	4.0	4.0 U	4.0	5.2	1.9	4.4	1.9
Iron	300	48100	6.4	27900	6.4	57700	2.5	41400	2.5	57000	6.4	35100	6.4
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		17800	685	17200	685	65100	67.9	64300	67.9	65200	685	67500	685
Magnesium		58300	18.3	57500	18.3	79000	34.3	78700	34.3	75100	18.3	78200	18.3
Manganese	50	737	1.8	703	1.8	277	0.90	263	0.90	275	1.8	271	1.8
Sodium	50000	171000	30.5	172000	30.5	421000	19.1	424000	19.1	346000	762 *	365000	762 *
Nickel	100	10.8 U	10.8	10.8 U	10.8	4.9	4.2	4.2 U	4.2	10.8 U	10.8	10.8 U	10.8
Lead	10	3.7	1.0	1.0 U	1.0	9.3	1.6	1.6 U	1.6	10.2	1.0	1.0 U	1.0
Antimony	20	20.7 U	20.7	20.7 U	20.7	10.9 U	10.9	10.9 U	10.9	20.7 U	20.7	20.7 U	20.7
Selenium	50	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5
Thallium	10	1.1 U	1.1	1.1 U	1.1	0.70 U	0.70	0.70 U	0.70	1.1 U	1.1	1.1 U	1.1
Vanadium		3.8	2.3	2.3 U	2.3	12.9	2.1	2.1 U	2.1	15.4	2.3	4.6	2.3
Zinc	5000	27.3	3.8	3.9	3.8	49.6	1.9	3.8	1.9	57.2	3.8	4.8	3.8
Cyanide	200	10 U	10			10 U	10			10 U	10		
Ammonia as Nitrogen		2.9	0.20			75.2	20.0 *			72.6	4.0 **		
Sulfate		34.3	10.0 *			6.8	5.0			22.8	5.0		
Dilution Factor		*=2				*=100				*=25,**=20		*=25	
Method:TAL Metals, Cyanide													

POST
GROUNDWATER INORGANICS

Geographical Location		M8		M8		M8		M8		M8		M8	
Sample		MP08-MW15-A01		MP08-MW15-A01 SOL		MP08-MW15-C01		MP08-MW15-C01 SOL		MP08-MW15-E01		MP08-MW15-E01 SOL	
Sample Type		Total		Soluble		Duplicate - Total		Duplicate - Soluble		Field Rinsate - Total		Field Rinsate - Soluble	
Batch#		9502G403		9502G403		9502G403		9502G403		9502G403		9502G403	
Prep#		95GCN053		95GI460		95GCN053		95GI460		95GCN053		95GI460	
RFW#		003		004		005		006		008		009	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water, filtered		water		water, filtered		water		water, filtered	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/22/95		2/22/95		2/22/95		2/22/95		2/22/95		2/22/95	
Analysis Date		3/7/95		3/8/95		3/7/95		3/8/95		3/7/95		3/8/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0
Aluminum	200	540	24.0	24.0 U	24.0	515	24.0	24.0 U	24.0	24.0 U	24.0	24.0 U	24.0
Arsenic	8	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9
Barium	2000	260	1.7	173	1.7	261	1.7	174	1.7	1.7 U	1.7	1.7 U	1.7
Beryllium	20	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90
Calcium		310000	10.4	305000	10.4	315000	10.4	315000	10.4	107	10.4	57.1	10.4
Cadmium	4	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8
Cobalt		3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0
Chromium	100	3.9	2.9	2.9 U	2.9	4.3	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9
Copper	1000	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9
Iron	300	27200	6.4	18100	6.4	27300	6.4	18200	6.4	6.4 U	6.4	6.4 U	6.4
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		34700	685	33500	685	34900	685	34000	685	685 U	685	685 U	685
Magnesium		71500	18.3	71000	18.3	73000	18.3	73000	18.3	18.3 U	18.3	18.3 U	18.3
Manganese	50	375	1.8	363	1.8	380	1.8	375	1.8	1.8 U	1.8	1.8 U	1.8
Sodium	50000	226000	30.5	225000	30.5	230000	30.5	231000	30.5	140	30.5	156	30.5
Nickel	100	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8	11.4	10.8	10.8 U	10.8
Lead	10	2.9	1.6	1.6 U	1.6	2.6	1.6	11.1	1.6	1.6 U	1.6	1.6 U	1.6
Antimony	20	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7
Selenium	50	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5
Thallium	10	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70
Vanadium		7.4	2.3	3.4	2.3	6.0	2.3	3.1	2.3	2.3 U	2.3	2.3 U	2.3
Zinc	5000	13.5	3.8	3.8 U	3.8	13.9	3.8	3.8 U	3.8	3.8 U	3.8	3.8 U	3.8
Cyanide	200	10 U	10			10 U	10			10 U	10		
Ammonia as Nitrogen		31.8	0.20			31.9	0.20			0.20 U	0.20		
Sulfate		71.5	5.0			72.7	5.0			5.0 U	5.0		
Dilution Factor													
Method:TAL Metals, Cyanide													

MAIN POST
GROUNDWATER INORGANICS

Geographical Location		M8		M8		M12		M12		M12		M12	
Sample		MP08-MW15-A02		MP08-MW15-A02 SOL		MP12-MW16-A01		MP12-MW16-A01 SOL		MP12-MW16-A02		MP12-MW16-A02 SOL	
Sample Type		Total		Soluble		Total		Soluble		Total		Soluble	
Batch#		9503G767		9503G767		9502G299		9502G299		9503G681		9503G681	
Prep#		95GI519		95GI519		95GI450		95GI450		95GI494		95GI494	
RFW#		012		013		001		002		001		002	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water, filtered		water		water, filtered		water		water, filtered	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/15/95		3/15/95		2/20/95		2/20/95		3/10/95		3/10/95	
Analysis Date		3/21/95		3/21/95		3/6/95		3/6/95		3/15/95		3/15/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	3.0 U	3.0	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5
Aluminum	200	596	24.0	28.9	24.0	1460	16.8	73.3	16.8	462	16.8	32.9	16.8
Arsenic	8	1.9 U	1.9	1.9 U	1.9	4.8	1.3	2.7	1.3	3.3	1.7	1.9	1.7
Barium	2000	277	1.7	190	1.7	50.3	0.80	40.7	0.80	43.9	0.80	38.6	0.80
Beryllium	20	0.90 U	0.90	0.90 U	0.90	0.30 U	0.30	0.30 U	0.30	0.30 U	0.30	0.30 U	0.30
Calcium		357000	10.4	328000	10.4	7840	8.4	7720	8.4	7880	8.4	8040	8.4
Cadmium	4	2.8 U	2.8	2.8 U	2.8	2.9 U	2.9	2.9 U	2.9	3.5	2.9	3.3	2.9
Cobalt		3.0 U	3.0	3.0 U	3.0	2.9	2.3	2.9	2.3	2.3 U	2.3	2.3 U	2.3
Chromium	100	4.2	2.9	2.9 U	2.9	21.7	4.7	4.7 U	4.7	4.7 U	4.7	4.7 U	4.7
Copper	1000	1.9 U	1.9	1.9 U	1.9	4.0 U	4.0	4.0 U	4.0	4.0 U	4.0	4.0 U	4.0
Iron	300	24300	6.4	15100	6.4	21000	2.5	15700	2.5	18300	2.5	15500	2.5
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.31	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		36000	685	32700	685	3360	67.9	2660	67.9	2720	67.9	2600	67.9
Magnesium		75000	18.3	69100	18.3	6320	34.3	5900	34.3	5920	34.3	5780	34.3
Manganese	50	382	1.8	345	1.8	47.0	0.90	44.3	0.90	45.1	0.90	43.7	0.90
Sodium	50000	228000	30.5	210000	30.5	17300	19.1	17500	19.1	17000	19.1	17000	19.1
Nickel	100	10.8 U	10.8	10.8 U	10.8	5.4	4.2	6.0	4.2	4.2 U	4.2	4.2 U	4.2
Lead	10	1.3	1.0	1.0 U	1.0	1.6 U	1.6	1.6 U	1.6	1.4	1.2	1.2 U	1.2
Antimony	20	20.7 U	20.7	20.7 U	20.7	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9
Selenium	50	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.8 U	1.8	1.8 U	1.8
Thallium	10	1.1 U	1.1	1.1 U	1.1	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70
Vanadium		8.0	2.3	3.3	2.3	8.8	2.1	2.1 U	2.1	3.9	2.1	2.1 U	2.1
Zinc	5000	28.3	3.8	3.8 U	3.8	22.4	1.9	18.2	1.9	19.1	1.9	19.2	1.9
Cyanide	200	10 U	10			10 U	10			10 U	10		
Ammonia as Nitrogen		28.6	2.0 *										
Sulfate		90.0	25.0 **										
Dilution Factor		*=10,**=5											
Method:TAL Metals, Cyanide													

N POST
GROUNDWATER INORGANICS

Geographical Location		M12		M12		M12		M12		M12		M12	
Sample		MP12-MW17-A01		MP12-MW17-A01 SOL		MP12-MW17-A02		MP12-MW17-A02 SOL		MP12-MW18-A01		MP12-MW18-A01 SOL	
Sample Type		Total		Soluble		Total		Soluble		Total		Soluble	
Batch#		9502G299		9502G299		9503G681		9503G681		9502G299		9502G299	
Prep#		95GI450		95GI450		95GI494		95GI494		95GI450		95GI450	
RFW#		003		004		003		004		005		006	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water, filtered		water		water, filtered		water		water, filtered	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/20/95		2/20/95		3/10/95		3/10/95		2/20/95		2/20/95	
Analysis Date		3/6/95		3/6/95		3/15/95		3/15/95		3/6/95		3/6/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5
Aluminum	200	161	16.8	16.8 U	16.8	186	16.8	16.8 U	16.8	903	16.8	206	16.8
Arsenic	8	1.3 U	1.3	1.3 U	1.3	1.7 U	1.7	1.7 U	1.7	2.0	1.3	1.3 U	1.3
Barium	2000	111	0.80	108	0.80	257	0.80	258	0.80	136	0.80	113	0.80
Beryllium	20	0.30 U	0.30	0.30 U	0.30	0.30 U	0.30	0.30 U	0.30	0.30 U	0.30	0.30 U	0.30
Calcium		48500	8.4	48600	8.4	51900	8.4	51300	8.4	6360	8.4	6250	8.4
Cadmium	4	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9
Cobalt		2.3 U	2.3	2.3 U	2.3	2.3 U	2.3	2.3 U	2.3	4.2	2.3	2.3 U	2.3
Chromium	100	6.5	4.7	4.7 U	4.7	4.7 U	4.7	4.7 U	4.7	13.0	4.7	4.7 U	4.7
Copper	1000	21.6	4.0	4.0 U	4.0	6.6	4.0	4.0 U	4.0	5.9	4.0	4.0 U	4.0
Iron	300	21700	2.5	21200	2.5	40800	2.5	40200	2.5	2370	2.5	140	2.5
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		4580	67.9	4440	67.9	4180	67.9	4100	67.9	5400	67.9	4950	67.9
Magnesium		3770	34.3	3760	34.3	5040	34.3	5040	34.3	3990	34.3	3770	34.3
Manganese	50	173	0.90	174	0.90	339	0.90	341	0.90	17.7	0.90	16.2	0.90
Sodium	50000	8670	19.1	8690	19.1	11900	19.1	12100	19.1	21200	19.1	21200	19.1
Nickel	100	4.2 U	4.2	4.2 U	4.2	4.2 U	4.2	4.2 U	4.2	9.2	4.2	8.4	4.2
Lead	10	1.6 U	1.6	1.6 U	1.6	1.8	1.2	1.2 U	1.2	1.6 U	1.6	1.6 U	1.6
Antimony	20	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9
Selenium	50	1.5 U	1.5	1.5 U	1.5	1.8 U	1.8	1.8 U	1.8	1.5 U	1.5	1.5 U	1.5
Thallium	10	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70
Vanadium		2.1 U	2.1	2.1 U	2.1	2.1 U	2.1	2.1 U	2.1	4.5	2.1	2.1 U	2.1
Zinc	5000	6.8	1.9	1.9 U	1.9	12.4	1.9	3.5	1.9	46.6	1.9	44.7	1.9
Cyanide	200	10 U	10			10.0 U	10.0			10 U	10		
Ammonia as Nitrogen													
Sulfate													
Dilution Factor													
Method:TAL Metals, Cyanide													

MAIN POST
GROUNDWATER INORGANICS

Geographical Location		M12		M12		M14		M14		M14		M14	
Sample		MP12-MW18-A02		MP12-MW18-A02 SOL		MP14-MW19-A01		MP14-MW19-A01 SOL		MP14-MW19-A02		MP14-MW19-A02 SOL	
Sample Type		Total		Soluble		Total		Soluble		Total		Soluble	
Batch#		9503G681		9503G681		9502G299		9502G299		9503G681		9503G681	
Prep#		95GI494		95GI494		95GI450		95GI450		95GI494		95GI494	
RFW#		005		006		007		008		007		008	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water, filtered		water		water, filtered		water		water, filtered	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/10/95		3/10/95		2/20/95		2/20/95		3/10/95		3/10/95	
Analysis Date		3/15/95		3/15/95		3/6/95		3/6/95		3/15/95		3/15/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5
Aluminum	200	563	16.8	195	16.8	266	16.8	27.2	16.8	520	16.8	16.8 U	16.8
Arsenic	8	1.7 U	1.7	1.7 U	1.7	1.3 U	1.3	1.3 U	1.3	1.7 U	1.7	1.7 U	1.7
Barium	2000	131	0.80	114	0.80	223	0.80	215	0.80	206	0.80	182	0.80
Beryllium	20	0.30 U	0.30	0.34	0.30	0.30 U	0.30	0.30 U	0.30	0.30 U	0.30	0.30 U	0.30
Calcium		6110	8.4	6250	8.4	37900	8.4	37700	8.4	39500	8.4	39000	8.4
Cadmium	4	3.4	2.9	3.5	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9
Cobalt		2.3 U	2.3	2.3 U	2.3	2.9	2.3	2.3 U	2.3	2.3 U	2.3	2.3 U	2.3
Chromium	100	4.7 U	4.7	4.7 U	4.7	7.5	4.7	4.7 U	4.7	4.7 U	4.7	4.7 U	4.7
Copper	1000	4.3	4.0	4.8	4.0	8.6	4.0	4.0 U	4.0	7.7	4.0	4.0 U	4.0
Iron	300	1220	2.5	55.9	2.5	40900	2.5	38800	2.5	41900	2.5	37600	2.5
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		4830	67.9	4700	67.9	4640	67.9	4460	67.9	4680	67.9	4480	67.9
Magnesium		3880	34.3	3810	34.3	5240	34.3	5160	34.3	5130	34.3	4980	34.3
Manganese	50	15.9	0.90	15.0	0.90	547	0.90	543	0.90	554	0.90	538	0.90
Sodium	50000	20900	19.1	20900	19.1	8900	19.1	8940	19.1	8730	19.1	8440	19.1
Nickel	100	6.4	4.2	4.7	4.2	4.6	4.2	4.2 U	4.2	4.2 U	4.2	4.2 U	4.2
Lead	10	5.4	1.2	1.2 U	1.2	13.8	1.6	1.6 U	1.6	23.7	1.2	1.2 U	1.2
Antimony	20	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9
Selenium	50	1.8 U	1.8	1.8 U	1.8	1.5 U	1.5	1.5 U	1.5	1.8 U	1.8	1.8 U	1.8
Thallium	10	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70
Vanadium		2.1 U	2.1	2.1 U	2.1	2.1 U	2.1	2.1 U	2.1	2.1 U	2.1	2.1 U	2.1
Zinc	5000	44.0	1.9	42.5	1.9	66.9	1.9	1.9 U	1.9	112	1.9	3.3	1.9
Cyanide	200	10.0 U	10.0			10 U	10			10.0 U	10.0		
Ammonia as Nitrogen													
Sulfate													
Dilution Factor													
Method:TAL Metals, Cyanide													

N 'OST
GROUNDWATER INORGANICS

Geographical Location		M14		M14		M14		M14		M14		M14		M14	
Sample		MP14-MW20-A01		MP14-MW20-A01 SOL		MP14-MW20-A02		MP14-MW20-A02 SOL		MP14-MW20-E02		MP14-MW20-E02 SOL		MP14-MW21-A01	
Sample Type		Total		Soluble		Total		Soluble		Field Rinsate - Total		Field Rinsate - Soluble		Total	
Batch#		9502G403		9502G403		9503G722		9503G722		9503G722		9503G722		9502G403	
Prep#		95GCN053		95GI460		95GI503		95GI503		95GI503		95GI503		95GCN053	
RFW#		010		011		001		002		003		004		012	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water, filtered		water		water, filtered		water		water, filtered		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/22/95		2/22/95		3/13/95		3/13/95		3/13/95		3/13/95		2/22/95	
Analysis Date		3/7/95		3/8/95		3/15/95		3/15/95		3/15/95		3/15/95		3/7/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	3.0 U	3.0	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	3.0 U	3.0
Aluminum	200	1290	24.0	63.0	24.0	517	16.8	85	16.8	16.8 U	16.8	16.8 U	16.8	1130	24.0
Arsenic	8	2.4	1.9	1.9 U	1.9	10.2	1.3	8.8	1.3	1.3 U	1.3	1.3 U	1.3	1.9 U	1.9
Barium	2000	53.4	1.7	25.6	1.7	44.0	0.80	31.1	0.80	0.80 U	0.80	1.2	0.80	27.0	1.7
Beryllium	20	0.90 U	0.90	0.90 U	0.90	0.34	0.30	0.30 U	0.30	0.30 U	0.30	0.30 U	0.30	0.90 U	0.90
Calcium		30400	10.4	28300	10.4	33300	8.4	32500	8.4	103	8.4	102	8.4	32400	10.4
Cadmium	4	2.8 U	2.8	2.8 U	2.8	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.8 U	2.8
Cobalt		3.0 U	3.0	3.0 U	3.0	2.3 U	2.3	2.3 U	2.3	2.3 U	2.3	2.3 U	2.3	3.0 U	3.0
Chromium	100	16.9	2.9	2.9 U	2.9	4.7 U	4.7	4.7 U	4.7	4.7 U	4.7	4.7 U	4.7	10.8	2.9
Copper	1000	4.7	1.9	1.9 U	1.9	11.9	4.0	4.0 U	4.0	4.0 U	4.0	4.0 U	4.0	1.9 U	1.9
Iron	300	8890	6.4	4480	6.4	7030	2.5	5350	2.5	9.6	2.5	9.2	2.5	4880	6.4
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		5340	685	4230	685	5292	67.9	3800	67.9	67.9 U	67.9	67.9 U	67.9	6920	685
Magnesium		4330	18.3	3720	18.3	4210	34.3	4010	34.3	34.3 U	34.3	34.3 U	34.3	3930	18.3
Manganese	50	186	1.8	171	1.8	213	0.90	209	0.90	0.90 U	0.90	0.90 U	0.90	62.5	1.8
Sodium	50000	23300	30.5	22100	30.5	21900	19.1	20600	19.1	56.3	19.1	142	19.1	6360	30.5
Nickel	100	10.8 U	10.8	10.8 U	10.8	9.2	4.2	4.2 U	4.2	4.2 U	4.2	4.2 U	4.2	10.8 U	10.8
Lead	10	3.8	1.6	1.6 U	1.6	5.5	1.1	1.1 U	1.1	1.5	1.1	1.1 U	1.1	3.1	1.6
Antimony	20	20.7 U	20.7	20.7 U	20.7	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9	20.7 U	20.7
Selenium	50	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5
Thallium	10	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70
Vanadium		8.5	2.3	4.0	2.3	4.0	2.1	3.1	2.1	2.1 U	2.1	2.1 U	2.1	7.1	2.3
Zinc	5000	7.2	3.8	3.8 U	3.8	21.8	1.9	10.1	1.9	3.9	1.9	4.2	1.9	11.1	3.8
Cyanide	200	10 U	10			10 U	10			10 U	10			10 U	10
Ammonia as Nitrogen															
Sulfate															
Dilution Factor															
Method:TAL Metals, Cyanide															

MAIN POST
GROUNDWATER INORGANICS

Geographical Location		M14		M14		M14		M18		M18		M18		M18	
Sample		MP14-MW21-A01 SOL		MP14-MW21-A02		MP14-MW21-A02 SOL		MP18-MW03-A01		MP18-MW03-A01 SOL		MP18-MW03-A02		MP18-MW03-A02 SOL	
Sample Type		Soluble		Total		Soluble		Total		Soluble		Total		Soluble	
Batch#		9502G403		9503G660		9503G660		9505G825		9505G825		9505G139		9505G139	
Prep#		95GI460		95GI488		95GI488		95GI713		95GI713		95GI761		95GI761	
RFW#		013		019		020		001		002		001		001	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water, filtered		water		water, filtered		water		water, filtered		water		water, filtered	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/22/95		3/9/95		3/9/95		5/10/95		5/10/95		5/25/95		5/25/95	
Analysis Date		3/8/95		3/13/95		3/13/95		5/24/95		5/24/95		6/7/95		6/7/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9
Aluminum	200	24.0 U	24.0	1630	24.0	24.0 U	24.0	6410	15.7	368	15.7	8980	15.7	251	15.7
Arsenic	8	1.9 U	1.9	3.7	1.3	1.8	1.3	4.5	1.4	1.4 U	1.4	5.1	1.7	1.7 U	1.7
Barium	2000	23.3	1.7	43.4	1.7	22.4	1.7	12.1	0.80	2.3	0.80	15.2	0.80	1.5	0.80
Beryllium	20	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.77 U	0.30	0.30 U	0.30	1.2	0.30	0.30 U	0.30
Calcium		32600	10.4	33200	10.4	33900	10.4	5650	13.4	5270	13.4	5290	13.4	4320	13.4
Cadmium	4	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	3.9 U	3.9	3.9 U	3.9	3.9 U	3.9	4.7	3.9
Cobalt		3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.3	1.4	2.5	1.4	5.0	1.4	3.1	1.4
Chromium	100	36.6	2.9	14.5	2.9	2.9 U	2.9	75.7 U	3.8	7.9	3.8	107.0	3.8	12.5	3.8
Copper	1000	1.9 U	1.9	2.7	1.9	1.9 U	1.9	2.7	1.8	3.1	1.8	3	1.8	1.8 U	1.8
Iron	300	625	6.4	6490	6.4	407	6.4	33000	3.6	2110	3.6	46900	3.6	1500	3.6
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		6610	685	8060	685	7110	685	9770	81.2	3340	81.2	11700	81.2	3280	81.2
Magnesium		3600	18.3	4190	18.3	3780	18.3	5850	37.2	3170	37.2	6440	37.2	2600	37.2
Manganese	50	56.4	1.8	66.4	1.8	56.7	1.8	32.6	0.70	18.6	0.70	44.0	0.70	16.7	0.70
Sodium	50000	6460	30.5	7040	30.5	7850	30.5	58700	11.8	58600	11.8	53200	11.8	53500	11.8
Nickel	100	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8	6.4	5.4	5.4	5.4	8.2	5.4	6.0	5.4
Lead	10	1.6 U	1.6	3.8	1.6	1.6	1.6	6.1	0.80	0.80 U	0.80	10.3	0.90	0.90 U	0.90
Antimony	20	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	12.0 U	12.0	12.0 U	12.0	12.0 U	12.0	14.6	12.0
Selenium	50	1.5 U	1.5	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8
Thallium	10	0.70 U	0.70	1.7 U	1.7	1.7 U	1.7	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70
Vanadium		2.3 U	2.3	10.4	2.3	4.6	2.3	35.9	1.5	2.2	1.5	53.6	1.5	5.3	1.5
Zinc	5000	3.8 U	3.8	15.9	3.8	3.8 U	3.8	78.2	2.2	33.9	2.2	99.6	2.2	28.4	2.2
Cyanide	200			10 U	10										
Ammonia as Nitrogen															
Sulfate															
Dilution Factor															
Method:TAL Metals, Cyanide															

I POST
GROUNDWATER INORGANICS

Geographical Location		M18		M18		M18		M18		M18		M18	
Sample		MP18-MW03-E01		MP18-MW03-E01 SOL		MP18-MW24-A01		MP18-MW24-A01 SOL		MP18-MW24-A02		MP18-MW24-A02 SOL	
Sample Type		Field Rinsate - Total		Field Rinsate - Soluble		Total		Soluble		Total		Soluble	
Batch#		9505G825		9505G825		9502G238		9502G238		9503G681		9503G681	
Prep#		95GI713		95GI713		95GI397		95GI397		95GI494		95GI494	
RFW#		004		005		001		002		009		010	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water, filtered		water		water, filtered		water		water, filtered	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		5/10/95		5/10/95		2/17/95		2/17/95		3/10/95		3/10/95	
Analysis Date		5/24/95		5/24/95		2/22/95		2/22/95		3/15/95		3/15/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	1.9 U	1.9	1.9 U	1.9	3.0 U	3.0	3.0 U	3.0	2.5 U	2.5	2.5 U	2.5
Aluminum	200	33.2	15.7	20.5	15.7	3790	24.0	46.2	24.0	7440	16.8	50.2	16.8
Arsenic	8	1.4 U	1.4	1.4 U	1.4	13.0	1.9	3.7	1.9	20.3	1.7	4.9	1.7
Barium	2000	0.92	0.80	0.80 U	0.80	272	1.7	183	1.7	262	0.80	169	0.80
Beryllium	20	0.30 U	0.30	0.30 U	0.30	1.6	0.90	1.2	0.90	1.4	0.30	0.56	0.30
Calcium		65.6	13.4	45.4	13.4	714000	10.4	680000	10.4	787000	42.0 *	748000	42.0 *
Cadmium	4	3.9 U	3.9	3.9 U	3.9	2.8 U	2.8	2.8 U	2.8	2.9 U	2.9	2.9 U	2.9
Cobalt		2.2	1.4	2.2	1.4	3.0 U	3.0	3.0 U	3.0	2.3 U	2.3	2.3 U	2.3
Chromium	100	3.8 U	3.8	4.1	3.8	33.8	2.9	3.6	2.9	62.5	4.7	4.7 U	4.7
Copper	1000	2.9	1.8	1.8 U	1.8	9.4	1.9	4.6	1.9	7.5	4.0	4.0 U	4.0
Iron	300	19.3	3.6	13.1	3.6	37900	6.4	15300	6.4	42100	2.5	16300	2.5
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		81.2 U	81.2	81.2 U	81.2	18900	685	16800	685	19500	67.9	16200	67.9
Magnesium		37.2 U	37.2	37.2 U	37.2	54300	18.3	51400	18.3	45200	34.3	47900	34.3
Manganese	50	1.1	0.70	0.72	0.70	756	1.8	697	1.8	668	0.90	666	0.90
Sodium	50000	101	11.8	94.1	11.8	47100	30.5	45700	30.5	36900	19.1	38400	19.1
Nickel	100	5.4 U	5.4	5.4 U	5.4	10.8 U	10.8	10.8 U	10.8	11.4	4.2	4.2 U	4.2
Lead	10	0.80 U	0.80	0.80 U	0.80	28.6	1.6	1.6 U	1.6	40.8	2.4 **	1.2 U	1.2
Antimony	20	12.0 U	12.0	12.0 U	12.0	20.7 U	20.7	20.7 U	20.7	10.9 U	10.9	10.9 U	10.9
Selenium	50	1.8 U	1.8	1.8 U	1.8	1.5 U	1.5	1.5 U	1.5	2.4	1.8	1.8 U	1.8
Thallium	10	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70
Vanadium		1.5 U	1.5	1.5 U	1.5	22.3	2.3	2.3 U	2.3	36.0	2.1	2.4	2.1
Zinc	5000	2.2 U	2.2	2.2 U	2.2	80.5	3.8	4.2	3.8	101	1.9	12.6	1.9
Cyanide	200												
Ammonia as Nitrogen													
Sulfate													
Dilution Factor										* = 5, ** = 2		* = 5	
Method:TAL Metals, Cyanide													

MAIN POST
GROUNDWATER INORGANICS

Geographical Location		M18		M18		M18		M18		M18		M18		M18	
Sample		MP18-MW24-C02		MP18-MW24-C02 SOL		MP18-MW24-E01		MP18-MW24-E01 SOL		MP18-MW24-E02		MP18-MW24-E02 SOL		MP18-MW25-A01	
Sample Type		Duplicate - Total		Duplicate - Soluble		Field Rinsate - Total		Field Rinsate - Soluble		Field Rinsate - Total		Field Rinsate - Soluble		Total	
Batch#		9503G681		9503G681		9502G238		9502G238		9503G681		9503G681		9502G238	
Prep#		95GI494		95GI494		95GI397		95GI397		95GI494		95GI494		95GI397	
RFW#		011		012		004		005		014		015		006	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water, filtered		water		water, filtered		water		water, filtered		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/10/95		3/10/95		2/17/95		2/17/95		3/10/95		3/10/95		2/17/95	
Analysis Date		3/15/95		3/15/95		2/22/95		2/22/95		3/15/95		3/15/95		2/22/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	2.5 U	2.5	2.5 U	2.5	3.0 U	3.0	3.0 U	3.0	2.5 U	2.5	2.5 U	2.5	3.0 U	3.0
Aluminum	200	7330	16.8	36.2	16.8	25.0	24.0	28.4	24.0	20.0	16.8	16.8 U	16.8	293	24.0
Arsenic	8	20.6	3.4 **	6.4	1.7	1.9 U	1.9	1.9 U	1.9	1.7 U	1.7	1.7 U	1.7	6.3	1.9
Barium	2000	262	0.80	158	0.80	1.7 U	1.7	1.7 U	1.7	0.80 U	0.80	0.80 U	0.80	64.4	1.7
Beryllium	20	1.7	0.30	0.57	0.30	0.90 U	0.90	0.90 U	0.90	0.30 U	0.30	0.30 U	0.30	0.90 U	0.90
Calcium		780000	42.0 *	727000	42.0 *	282	10.4	161	10.4	460	8.4	106	8.4	167000	10.4
Cadmium	4	4.1	2.9	2.9	2.9	2.8 U	2.8	2.8 U	2.8	2.9 U	2.9	2.9 U	2.9	2.8 U	2.8
Cobalt		2.8	2.3	2.3 U	2.3	3.0 U	3.0	3.0 U	3.0	2.3 U	2.3	2.3 U	2.3	3.0 U	3.0
Chromium	100	64.7	4.7	4.7 U	4.7	2.9 U	2.9	2.9 U	2.9	4.7 U	4.7	4.7 U	4.7	3.9	2.9
Copper	1000	9.2	4.0	4.0 U	4.0	1.9 U	1.9	2.7	1.9	5.4	4.0	4.0	4.0	2.1	1.9
Iron	300	43800	2.5	15200	2.5	13.4	6.4	13.5	6.4	24.5	2.5	15.7	2.5	7540	6.4
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		19100	67.9	15100	67.9	685 U	685	685 U	685	67.9 U	67.9	67.9 U	67.9	26500	685
Magnesium		45100	34.3	44300	34.3	20.0	18.3	23.9	18.3	34.3 U	34.3	34.3 U	34.3	63100	18.3
Manganese	50	680	0.90	634	0.90	1.8 U	1.8	1.8 U	1.8	0.90 U	0.90	0.90 U	0.90	1050	1.8
Sodium	50000	35800	19.1	35600	19.1	160	30.5	118	30.5	75.8	19.1	97.2	19.1	293000	30.5
Nickel	100	11.3	4.2	4.2 U	4.2	10.8 U	10.8	10.8 U	10.8	4.2 U	4.2	4.2 U	4.2	10.8 U	10.8
Lead	10	44.6	2.4 **	1.2 U	1.2	1.6 U	1.6	1.6 U	1.6	1.2 U	1.2	1.2 U	1.2	1.6 U	1.6
Antimony	20	10.9 U	10.9	10.9 U	10.9	21	20.7	20.7 U	20.7	10.9 U	10.9	10.9 U	10.9	20.7 U	20.7
Selenium	50	1.8	1.8	1.8 U	1.8	1.5 U	1.5	1.5 U	1.5	1.8 U	1.8	1.8 U	1.8	1.5 U	1.5
Thallium	10	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70
Vanadium		37.1	2.1	2.1 U	2.1	2.3 U	2.3	2.3 U	2.3	2.1 U	2.1	2.1 U	2.1	6.7	2.3
Zinc	5000	103	1.9	13.7	1.9	3.8 U	3.8	3.8 U	3.8	1.9 U	1.9	1.9 U	1.9	4.0	3.8
Cyanide	200														
Ammonia as Nitrogen															
Sulfate															
Dilution Factor		* = 5, ** = 2		* = 5											
Method:TAL Metals, Cyanide															

POST
GROUNDWATER INORGANICS

Geographical Location		M18		M18		M18		M18		M18	
Sample		MP18-MW25-A01 SOL		MP18-MW25-A02		MP18-MW25-A02 SOL		MP18-MW25-C01		MP18-MW25-C01 SOL	
Sample Type		Soluble		Total		Soluble		Duplicate - Total		Duplicate - Soluble	
Batch#		9502G238		9503G681		9503G681		9502G238		9502G238	
Prep#		95GI397		95GI494		95GI494		95GI397		95GI397	
RFW#		007		016		015		008		009	
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		water, filtered		water		water, filtered		water		water, filtered	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/17/95		3/10/95		3/10/95		2/17/95		2/17/95	
Analysis Date		2/22/95		3/15/95		3/15/95		2/22/95		2/22/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	2.5 U	2.5	2.5 U	2.5	3.0 U	3.0	3.0 U	3.0
Aluminum	200	30.8	24.0	7640	16.8	16.8 U	16.8	566	24.0	28.3	24.0
Arsenic	8	6.0	1.9	16.5	1.7	4.8	1.7	5.8	1.9	5.3	1.9
Barium	2000	57.3	1.7	117	0.80	60.2	0.80	68.8	1.7	66.1	1.7
Beryllium	20	0.90 U	0.90	0.91	0.30	0.35	0.30	0.90 U	0.90	0.90 U	0.90
Calcium		163000	10.4	162000	8.4	161000	8.4	176000	10.4	159000	10.4
Cadmium	4	2.8 U	2.8	5.8	2.9	2.9 U	2.9	2.8 U	2.8	2.8 U	2.8
Cobalt		3.0 U	3.0	2.5	2.3	2.3 U	2.3	3.0 U	3.0	3.0 U	3.0
Chromium	100	2.9 U	2.9	40.7	4.7	4.7 U	4.7	5.7	2.9	2.9 U	2.9
Copper	1000	2.1	1.9	4.0 U	4.0	4.0 U	4.0	3.2	1.9	2.7	1.9
Iron	300	5100	6.4	49700	2.5	11700	2.5	6650	6.4	11000	6.4
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		25000	685	33300	67.9	29400	67.9	26300	685	34700	685
Magnesium		60600	18.3	75000	34.3	70100	34.3	63100	18.3	81000	18.3
Manganese	50	1030	1.8	830	0.90	730	0.90	1030	1.8	874	1.8
Sodium	50000	277000	30.5	434000	19.1	412000	19.1	284000	30.5	488000	30.5
Nickel	100	10.8 U	10.8	14.6	4.2	4.2 U	4.2	10.8 U	10.8	10.8 U	10.8
Lead	10	1.6 U	1.6	21.6	6.0 *	1.2 U	1.2	1.7	1.6	1.6 U	1.6
Antimony	20	20.7 U	20.7	10.9 U	10.9	10.9 U	10.9	20.7 U	20.7	20.7 U	20.7
Selenium	50	1.5 U	1.5	1.8 U	1.8	1.8 U	1.8	1.5 U	1.5	1.5 U	1.5
Thallium	10	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70
Vanadium		2.4	2.3	41.6	2.1	5.3	2.1	8.1	2.3	4.4	2.3
Zinc	5000	3.8 U	3.8	62.4	1.9	3.4	1.9	4.7	3.8	3.8 U	3.8
Cyanide	200										
Ammonia as Nitrogen											
Sulfate											
Dilution Factor				*=5							
Method:TAL Metals, Cyanide											

MAIN POST
GROUND WATER INORGANICS

Geographical Location		B1		B1		B1		B1		B2		B2	
Sample		B1-MW01B-A01		B1-MW01B-A01 SOL		B1-MW01B-A02		B1-MW01B-A02 SOL		B2-MW02B-A01		B2-MW02B-A01 SOL	
Sample Type		Total		Soluble		Total		Soluble		Total		Soluble	
Batch#		9502G169		9502G169		9503G616		9503G616		9502G169		9502G169	
Prep#		95GI422		95GI422		95GI475		95GI475		95GI422		95GI422	
RFW#		001		002		008		009		003		004	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water, filtered		water		water, filtered		water		water, filtered	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/14/95		2/14/95		3/7/95		3/7/95		2/15/95		2/15/95	
Analysis Date		2/23/95		2/27/95		3/13/95		3/13/95		2/23/95		2/27/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5
Aluminum	200	2430	16.8	146	16.8	634	16.8	116	16.8	1070	16.8	40.9	16.8
Arsenic	8	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	4.8	1.9	1.9 U	1.9
Barium	2000	68.5	0.80	62.5	0.80	62.9	0.80	60.2	0.80	73.9	0.80	67.3	0.80
Beryllium	20	0.43	0.30	0.30 U	0.30	0.30 U	0.30	0.30 U	0.30	0.30 U	0.30	0.30 U	0.30
Calcium		5130	8.4	5090	8.4	4910	8.4	5040	8.4	40300	8.4	40200	8.4
Cadmium	4	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9
Cobalt		6.4	2.3	4.6	2.3	4.5	2.3	4.9	2.3	4.0	2.3	2.3 U	2.3
Chromium	100	43.8	4.7	4.7 U	4.7	12.9	4.7	4.7 U	4.7	7.4	4.7	4.7 U	4.7
Copper	1000	4.0 U	4.0	4.0 U	4.0	4.0 U	4.0	4.0 U	4.0	4.0 U	4.0	4.0 U	4.0
Iron	300	12300	2.5	18.0	2.5	2430	2.5	20.9	2.5	40100	2.5	26600	2.5
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		3640	67.9	2880	67.9	3110	67.9	2910	67.9	9100	67.9	8790	67.9
Magnesium		9050	34.3	8640	34.3	8880	34.3	8850	34.3	7250	34.3	6730	34.3
Manganese	50	56.7	0.90	46.6	0.90	47.2	0.90	45.4	0.90	148	0.90	118	0.90
Sodium	50000	7070	19.1	7120	19.1	7020	19.1	7110	19.1	6170	19.1	6270	19.1
Nickel	100	40.1	4.2	35.4	4.2	32.0	4.2	33.2	4.2	5.8	4.2	6.4	4.2
Lead	10	2.8	1.6	1.6 U	1.6	1.2 U	1.2	1.2 U	1.2	2.7	1.6	1.6 U	1.6
Antimony	20	16.7	10.9	10.9 U	10.9	10.9 U	10.9	11.0	10.9	12	10.9	15.1	10.9
Selenium	50	1.5 U	1.5	1.5 U	1.5	1.8 U	1.8	1.8 U	1.8	1.5 U	1.5	1.5 U	1.5
Thallium	10	0.70 U	0.70	0.70 U	0.70	1.1 U	1.1	1.1 U	1.1	3.5 U	3.5	0.70 U	0.70
Vanadium		50.4	2.1	2.1 U	2.1	10.6	2.1	2.1 U	2.1	13.6	2.1	2.1 U	2.1
Zinc	5000	35.8	1.9	24.4	1.9	24.5	1.9	23.4	1.9	13.6	1.9	8.4	1.9
Cyanide	200	10 U	10			10 U	10			10 U	10		
Dilution Factor													
Method:TAL Metals, Cyanide													

MAIN POST
GROUND WATER INORGANICS

Geographical Location		B2		B2		B3		B3		B3	
Sample		B2-MW02B-A02		B2-MW02B-A02 SOL		B3-MW03B-A01		B3-MW03B-A01 SOL		B3-MW03B-A02	
Sample Type		Total		Soluble		Total		Soluble		Total	
Batch#		9503G616		9503G616		9502G169		9502G169		9503G740	
Prep#		95GI475		95GI475		95GI422		95GI422		95GI519	
RFW#		010		011		005		009		001	
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water, filtered		water		water, filtered		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/7/95		3/7/95		2/15/95		2/13/95		3/14/95	
Analysis Date		3/13/95		3/13/95		2/23/95		2/27/95		3/21/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	3.0 U	3.0
Aluminum	200	454	16.8	16.8 U	16.8	5010	16.8	16.8 U	16.8	121000	24.0
Arsenic	8	3.9	1.9	1.9 U	1.9	7.1	1.9	1.9 U	1.9	89.3	9.5 *
Barium	2000	75.2	0.80	72.3	0.80	144	0.80	0.80 U	0.80	556	1.7
Beryllium	20	0.30 U	0.30	0.30 U	0.30	0.78	0.30	0.30 U	0.30	15.1	0.90
Calcium		41000	8.4	41100	8.4	27600	8.4	83.8	8.4	45400	10.4
Cadmium	4	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	9.5	2.8
Cobalt		2.3 U	2.3	2.3 U	2.3	9.4	2.3	2.3 U	2.3	50.0	3.0
Chromium	100	4.7 U	4.7	4.7 U	4.7	61.6	4.7	4.7 U	4.7	1600	2.9
Copper	1000	4.0 U	4.0	4.0 U	4.0	5.2	4.0	4.0 U	4.0	65.6	1.9
Iron	300	35000	2.5	28000	2.5	18800	2.5	9.4	2.5	431000	6.4
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		9180	67.9	9300	67.9	18400	67.9	67.9 U	67.9	137000	685
Magnesium		7300	34.3	7200	34.3	8230	34.3	34.3 U	34.3	62700	18.3
Manganese	50	129	0.90	119	0.90	106	0.90	0.90 U	0.90	331	1.8
Sodium	50000	6660	19.1	6820	19.1	21500	19.1	93.3	19.1	19600	30.5
Nickel	100	4.2 U	4.2	4.2 U	4.2	66.3	4.2	4.2 U	4.2	187	10.8
Lead	10	1.2 U	1.2	2.1	1.2	2.9	1.6	1.6 U	1.6	76.6	5.0 *
Antimony	20	10.9	10.9	10.9 U	10.9	14.1	10.9	16.8	10.9	20.7 U	20.7
Selenium	50	1.8 U	1.8	1.8 U	1.8	4.2	1.5	1.5 U	1.5	22	3.0 **
Thallium	10	1.1 U	1.1	1.1 U	1.1	0.70 U	0.70	0.70 U	0.70	5.5	5.5 *
Vanadium		4.7	2.1	2.1 U	2.1	23.1	2.1	2.1 U	2.1	452	2.3
Zinc	5000	9.7	1.9	5.8	1.9	63.0	1.9	4.0	1.9	801	3.8
Cyanide	200	10 U	10			10 U	10			10 U	10.0
Dilution Factor										* = 5, ** = 2	
Method:TAL Metals, Cyanide											

MAIN POST
GROUND WATER INORGANICS

Geographical Location		B3		B3		B3		B3		B3		B4	
Sample		B3-MW03B-A02 SOL		B3-MW03B-E01		B3-MW03B-E01 SOL		B3-MW03B-E02		B3-MW03B-E02 SOL		B4-MW04B-A01	
Sample Type		Soluble		Field Rinsate - Total		Field Rinsate - Soluble		Field Rinsate - Total		Field Rinsate - Soluble		Total	
Batch#		9503G740		9502G169		9502G169		9503G616		9503G616		9502G169	
Prep#		95GI519		95GI422		95GI422		95GI475		95GI475		95GI422	
RFW#		002		008		006		006		007		010	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water, filtered		water		water, filtered		water		water, filtered		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/14/95		2/14/95		2/14/95		3/7/95		3/7/95		2/13/95	
Analysis Date		3/21/95		2/23/95		2/27/95		3/13/95		3/13/95		2/23/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5
Aluminum	200	84.1	24.0	26.2	16.8	173	16.8	27.1	16.8	17.2	16.8	1890	16.8
Arsenic	8	2.1	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9
Barium	2000	93.1	1.7	1.0	0.80	113	0.80	0.80 U	0.80	0.80 U	0.80	56.8	0.80
Beryllium	20	0.90 U	0.90	0.30 U	0.30	0.30 U	0.30	0.30 U	0.30	0.30 U	0.30	0.36	0.30
Calcium		24900	10.4	123	8.4	25400	8.4	368	8.4	163	8.4	4460	8.4
Cadmium	4	2.8 U	2.8	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9
Cobalt		4.4	3.0	2.3 U	2.3	7.3	2.3	2.3 U	2.3	2.3 U	2.3	2.7	2.3
Chromium	100	2.9 U	2.9	4.7 U	4.7	4.7 U	4.7	4.7 U	4.7	4.7 U	4.7	18.4	4.7
Copper	1000	2.9	1.9	4.0 U	4.0	4.0 U	4.0	4.0 U	4.0	4.0 U	4.0	4.0 U	4.0
Iron	300	10000	6.4	16.5	2.5	109	2.5	10.1	2.5	9.3	2.5	4510	2.5
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.26	0.20
Potassium		8400	685	67.9 U	67.9	13200	67.9	67.9 U	67.9	67.9 U	67.9	4690	67.9
Magnesium		6390	18.3	34.3 U	34.3	5790	34.3	46.0	34.3	61.3	34.3	7430	34.3
Manganese	50	104	1.8	0.90 U	0.90	90.1	0.90	0.90 U	0.90	0.90 U	0.90	11.8	0.90
Sodium	50000	20100	30.5	820	19.1	20800	19.1	296	19.1	179	19.1	12600	19.1
Nickel	100	33.3	10.8	4.2 U	4.2	61.5	4.2	4.2 U	4.2	4.2 U	4.2	8.5	4.2
Lead	10	1.0 U	1.0	1.6 U	1.6	1.6 U	1.6	1.2 U	1.2	1.2 U	1.2	1.6 U	1.6
Antimony	20	20.7 U	20.7	10.9 U	10.9	16.7	10.9	10.9 U	10.9	10.9 U	10.9	12.1	10.9
Selenium	50	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.8 U	1.8	1.8 U	1.8	1.5 U	1.5
Thallium	10	1.1 U	1.1	0.70 U	0.70	0.70 U	0.70	1.1 U	1.1	1.1 U	1.1	0.70 U	0.70
Vanadium		2.3 U	2.3	2.1 U	2.1	2.1 U	2.1	2.1 U	2.1	2.1 U	2.1	6.6	2.1
Zinc	5000	39.4	3.8	2.0	1.9	27.0	1.9	1.9 U	1.9	1.9 U	1.9	51.4	1.9
Cyanide	200			10 U	10			10 U	10			10 U	10
Dilution Factor													
Method:TAL Metals, Cyanide													

MAIN POST
GROUND WATER INORGANICS

Geographical Location		B4		B4		B4		B5		B5		B5	
Sample		B4-MW04B-A01 SOL		B4-MW04B-A02		B4-MW04B-A02 SOL		B5-MW05B-A01		B5-MW05B-A01 SOL		B5-MW05B-A02	
Sample Type		Soluble		Total		Soluble		Total		Soluble		Total	
Batch#		9502G169		9503G616		9503G616		9502G169		9502G169		9503G616	
Prep#		95GI422		95GI475		95GI475		95GI422		95GI422		95GI475	
RFW#		011		012		013		012		013		001	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water, filtered		water		water, filtered		water		water, filtered		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/13/95		3/7/95		3/7/95		2/13/95		2/13/95		3/7/95	
Analysis Date		2/27/95		3/13/95		3/13/95		2/23/95		2/27/95		3/13/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5
Aluminum	200	605	16.8	3700	16.8	673	16.8	5630	16.8	113	16.8	26000	16.8
Arsenic	8	1.9 U	1.9	2.1	1.9	1.9 U	1.9	15.8	1.9	1.9 U	1.9	56	9.5 *
Barium	2000	43.9	0.80	71.5	0.80	48.2	0.80	299	0.80	147	0.80	699	0.80
Beryllium	20	0.30 U	0.30	0.35	0.30	0.30 U	0.30	0.67	0.30	0.30 U	0.30	2.1	0.30
Calcium		4540	8.4	5160	8.4	5040	8.4	13800	8.4	13600	8.4	16400	8.4
Cadmium	4	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	3.8	2.9	2.9 U	2.9	4.6	2.9
Cobalt		2.3 U	2.3	3.5	2.3	2.3 U	2.3	15.6	2.3	13.3	2.3	18.3	2.3
Chromium	100	4.7 U	4.7	42.2	4.7	4.7 U	4.7	33.9	4.7	4.7 U	4.7	191	4.7
Copper	1000	4.0 U	4.0	4.0 U	4.0	4.0 U	4.0	10.0	4.0	4.0 U	4.0	43.0	4.0
Iron	300	18.5	2.5	10500	2.5	19.3	2.5	15500	2.5	277	2.5	72100	2.5
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		3580	67.9	6830	67.9	3810	67.9	8730	67.9	6910	67.9	16800	67.9
Magnesium		7030	34.3	9460	34.3	8120	34.3	7050	34.3	5900	34.3	12400	34.3
Manganese	50	10.8	0.90	14.5	0.90	11.0	0.90	166	0.90	145	0.90	233	0.90
Sodium	50000	12900	19.1	13900	19.1	14300	19.1	15900	19.1	16200	19.1	17900	19.1
Nickel	100	9.2	4.2	5.4	4.2	6.2	4.2	96.7	4.2	89.8	4.2	120	4.2
Lead	10	1.6 U	1.6	2.4	1.2	1.2 U	1.2	5.8	1.6	1.6 U	1.6	22.7	1.2
Antimony	20	12.9	10.9	10.9 U	10.9	12.3	10.9	14.5	10.9	15.8	10.9	12.1	10.9
Selenium	50	1.5 U	1.5	1.8 U	1.8	1.8 U	1.8	8.0	1.5	4.1	1.5	29.6	3.6 **
Thallium	10	0.70 U	0.70	1.1 U	1.1	1.1 U	1.1	0.70 U	0.70	0.70 U	0.70	5.5 U	5.5 *
Vanadium		2.1 U	2.1	14.8	2.1	2.1 U	2.1	22.8	2.1	2.1 U	2.1	108	2.1
Zinc	5000	44.8	1.9	63.7	1.9	55.5	1.9	115	1.9	74.3	1.9	233	1.9
Cyanide	200			10 U	10			10 U	10			10 U	10
Dilution Factor												* = 5.0, ** = 2.0	
Method:TAL Metals, Cyanide													

MAIN POST
GROUND WATER INORGANICS

Geographical Location		B5	
Sample		B5-MW05B-A02 SOL	
Sample Type		Soluble	
Batch#		9503G616	
Prep#		95GI475	
RFW#		002	
Dilution Factor		1.00	
Matrix		water, filtered	
Units	ug/l	ug/l	
Sampling Date		3/7/95	
Analysis Date		3/13/95	
Analysis	Standard	Analytical Result	MDL
Silver	20	2.5 U	2.5
Aluminum	200	108	16.8
Arsenic	8	1.9 U	1.9
Barium	2000	99.6	0.80
Beryllium	20	0.30 U	0.30
Calcium		14100	8.4
Cadmium	4	3.7	2.9
Cobalt		11.6	2.3
Chromium	100	4.7 U	4.7
Copper	1000	4.0 U	4.0
Iron	300	300	2.5
Mercury	2	0.20 U	0.20
Potassium		6280	67.9
Magnesium		6420	34.3
Manganese	50	146	0.90
Sodium	50000	17200	19.1
Nickel	100	76.9	4.2
Lead	10	1.2 U	1.2
Antimony	20	10.9 U	10.9
Selenium	50	4.4	1.8
Thallium	10	1.1 U	1.1
Vanadium		2.1 U	2.1
Zinc	5000	82.4	1.9
Cyanide	200		
Dilution Factor			
Method:TAL Metals, Cyanide			

MAIN POST
GROUNDWATER PESTICIDES/PCBS

Geographical Location		M2		M2		M2		M2		M2		M2	
Sample		MP02-MW01-A01		MP02-MW01-A02		MP02-MW02-A01		MP02-MW02-A02		MP02-MW03-A01		MP02-MW03-A02	
Sample Type													
Batch#		9502G197		9503G642		9502G197		9503G642		9502G197		9503G642	
Prep#		95GP0119		95GP0229		95GP0119		95GP0229		95GP0119		95GP0229	
RFW#		001		001		002		003		003		005	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/15/95		3/8/95		2/15/95		3/8/95		2/15/95		3/8/95	
Analysis Date		3/4/95		3/19/95		3/4/95		3/19/95		3/4/95		3/19/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.050 U	0.050	0.048 U	0.048	0.047 U	0.047	0.048 U	0.048	0.052 U	0.052	0.056 U	0.056
beta-BHC	0.2	0.050 U	0.050	0.048 U	0.048	0.047 U	0.047	0.048 U	0.048	0.052 U	0.052	0.056 U	0.056
delta-BHC		0.050 U	0.050	0.048 U	0.048	0.047 U	0.047	0.048 U	0.048	0.052 U	0.052	0.056 U	0.056
gamma-BHC (Lindane)	0.2	0.050 U	0.050	0.048 U	0.048	0.047 U	0.047	0.048 U	0.048	0.052 U	0.052	0.056 U	0.056
Heptachlor	0.4	0.050 U	0.050	0.048 U	0.048	0.047 U	0.047	0.048 U	0.048	0.052 U	0.052	0.056 U	0.056
Aldrin	0.04	0.050 U	0.050	0.048 U	0.048	0.047 U	0.047	0.048 U	0.048	0.052 U	0.052	0.056 U	0.056
Heptachlor epoxide	0.2	0.050 U	0.050	0.048 U	0.048	0.047 U	0.047	0.048 U	0.048	0.052 U	0.052	0.056 U	0.056
Endosulfan I	0.4	0.050 U	0.050	0.048 U	0.048	0.047 U	0.047	0.048 U	0.048	0.052 U	0.052	0.056 U	0.056
Dieldrin	0.03	0.10 U	0.10	0.095 U	0.095	0.094 U	0.094	0.095 U	0.095	0.10 U	0.10	0.11 U	0.11
4,4'-DDE	0.1	0.10 U	0.10	0.095 U	0.095	0.094 U	0.094	0.095 U	0.095	0.10 U	0.10	0.11 U	0.11
Endrin	2	0.10 U	0.10	0.095 U	0.095	0.094 U	0.094	0.095 U	0.095	0.10 U	0.10	0.11 U	0.11
Endosulfan II	0.4	0.10 U	0.10	0.095 U	0.095	0.094 U	0.094	0.095 U	0.095	0.10 U	0.10	0.11 U	0.11
4,4'-DDD	0.1	0.10 U	0.10	0.095 U	0.095	0.094 U	0.094	0.095 U	0.095	0.10 U	0.10	0.11 U	0.11
Endosulfan sulfate	0.4	0.10 U	0.10	0.095 U	0.095	0.094 U	0.094	0.095 U	0.095	0.10 U	0.10	0.11 U	0.11
4,4'-DDT	0.1	0.10 U	0.10	0.095 U	0.095	0.094 U	0.094	0.095 U	0.095	0.10 U	0.10	0.11 U	0.11
Methoxychlor	40	0.50 U	0.50	0.48 U	0.48	0.47 U	0.47	0.48 U	0.48	0.52 U	0.52	0.56 U	0.56
Endrin ketone		0.10 U	0.10	0.095 U	0.095	0.094 U	0.094	0.095 U	0.095	0.10 U	0.10	0.11 U	0.11
Endrin aldehyde		0.10 U	0.10	0.095 U	0.095	0.094 U	0.094	0.095 U	0.095	0.10 U	0.10	0.11 U	0.11
alpha-Chlordane		0.050 U	0.050	0.048 U	0.048	0.047 U	0.047	0.048 U	0.048	0.052 U	0.052	0.056 U	0.056
gamma-Chlordane	0.5	0.050 U	0.050	0.048 U	0.048	0.047 U	0.047	0.048 U	0.048	0.052 U	0.052	0.056 U	0.056
Toxaphene	3	5.0 U	5.0	4.8 U	4.8	4.7 U	4.7	4.8 U	4.8	5.2 U	5.2	5.6 U	5.6
Aroclor-1016	2	1.0 U	1.0	0.95 U	0.95	0.94 U	0.94	0.95 U	0.95	1.0 U	1.0	1.1 U	1.1
Aroclor-1221	2	2.0 U	2.0	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	2.1 U	2.1	2.2 U	2.2
Aroclor-1232	2	1.0 U	1.0	0.95 U	0.95	0.94 U	0.94	0.95 U	0.95	1.0 U	1.0	1.1 U	1.1
Aroclor-1242	2	1.0 U	1.0	0.95 U	0.95	0.94 U	0.94	0.95 U	0.95	1.8 P	1.0	1.1 U	1.1
Aroclor-1248	2	1.0 U	1.0	0.95 U	0.95	0.94 U	0.94	0.95 U	0.95	1.0 U	1.0	1.1 U	1.1
Aroclor-1254	2	1.0 U	1.0	0.95 U	0.95	0.94 U	0.94	0.95 U	0.95	1.0 U	1.0	1.1 U	1.1
Aroclor-1260	2	1.0 U	1.0	0.95 U	0.95	0.94 U	0.94	0.95 U	0.95	1.0 U	1.0	1.1 U	1.1
Method:TCL Pesticides/PCBs													

MAIN POST
GROUNDWATER PESTICIDES/PCBS

Geographical Location		M3		M3		M3		M3		M3		M3	
Sample		MP03-MW04-A01		MP03-MW04-A02		MP03-MW05-A01		MP03-MW05-A02		MP03-MW06-A01		MP03-MW06-A02	
Sample Type													
Batch#		9502G219		9503G642		9502G219		9503G660		9502G219		9503G660	
Prep#		95GP0127		95GP0229		95GP0127		95GP0233		95GP0127		95GP0233	
RFW#		001		009		003		003		005		001	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/16/95		3/8/95		2/16/95		3/9/95		2/16/95		3/9/95	
Analysis Date		3/14/95		3/20/95		3/14/95		3/20/95		3/14/95		3/20/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.054 U	0.054	0.052 U	0.052	0.047 U	0.047	0.056 U	0.056	0.049 U	0.049	0.048 U	0.048
beta-BHC	0.2	0.054 U	0.054	0.052 U	0.052	0.047 U	0.047	0.056 U	0.056	0.049 U	0.049	0.048 U	0.048
delta-BHC		0.054 U	0.054	0.052 U	0.052	0.047 U	0.047	0.056 U	0.056	0.049 U	0.049	0.048 U	0.048
gamma-BHC (Lindane)	0.2	0.054 U	0.054	0.052 U	0.052	0.047 U	0.047	0.056 U	0.056	0.049 U	0.049	0.048 U	0.048
Heptachlor	0.4	0.054 U	0.054	0.052 U	0.052	0.047 U	0.047	0.056 U	0.056	0.049 U	0.049	0.048 U	0.048
Aldrin	0.04	0.054 U	0.054	0.052 U	0.052	0.047 U	0.047	0.056 U	0.056	0.049 U	0.049	0.048 U	0.048
Heptachlor epoxide	0.2	0.054 U	0.054	0.052 U	0.052	0.047 U	0.047	0.056 U	0.056	0.049 U	0.049	0.048 U	0.048
Endosulfan I	0.4	0.054 U	0.054	0.052 U	0.052	0.047 U	0.047	0.056 U	0.056	0.049 U	0.049	0.048 U	0.048
Dieldrin	0.03	0.11 U	0.11	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.098 U	0.098	0.096 U	0.096
4,4'-DDE	0.1	0.11 U	0.11	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.098 U	0.098	0.096 U	0.096
Endrin	2	0.11 U	0.11	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.098 U	0.098	0.096 U	0.096
Endosulfan II	0.4	0.11 U	0.11	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.098 U	0.098	0.096 U	0.096
4,4'-DDD	0.1	0.11 U	0.11	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.098 U	0.098	0.096 U	0.096
Endosulfan sulfate	0.4	0.11 U	0.11	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.098 U	0.098	0.096 U	0.096
4,4'-DDT	0.1	0.11 U	0.11	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.098 U	0.098	0.096 U	0.096
Methoxychlor	40	0.54 U	0.54	0.52 U	0.52	0.47 U	0.47	0.56 U	0.56	0.49 U	0.49	0.48 U	0.48
Endrin ketone		0.11 U	0.11	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.098 U	0.098	0.096 U	0.096
Endrin aldehyde		0.11 U	0.11	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.098 U	0.098	0.096 U	0.096
alpha-Chlordane		0.054 U	0.054	0.052 U	0.052	0.047 U	0.047	0.056 U	0.056	0.049 U	0.049	0.048 U	0.048
gamma-Chlordane	0.5	0.054 U	0.054	0.052 U	0.052	0.047 U	0.047	0.056 U	0.056	0.049 U	0.049	0.048 U	0.048
Toxaphene	3	5.4 U	5.4	5.2 U	5.2	4.7 U	4.7	5.6 U	5.6	4.9 U	4.9	4.8 U	4.8
Aroclor-1016	2	1.1 U	1.1	1.0 U	1.0	0.94 U	0.94	1.1 U	1.1	0.98 U	0.98	0.96 U	0.96
Aroclor-1221	2	2.2 U	2.2	2.1 U	2.1	1.9 U	1.9	2.2 U	2.2	2.0 U	2.0 U	1.9 U	1.9
Aroclor-1232	2	1.1 U	1.1	1.0 U	1.0	0.94 U	0.94	1.1 U	1.1	0.98 U	0.98	0.96 U	0.96
Aroclor-1242	2	1.1 U	1.1	1.0 U	1.0	0.94 U	0.94	1.1 U	1.1	0.98 U	0.98	0.96 U	0.96
Aroclor-1248	2	1.1 U	1.1	1.0 U	1.0	0.94 U	0.94	1.1 U	1.1	0.98 U	0.98	0.96 U	0.96
Aroclor-1254	2	1.1 U	1.1	1.0 U	1.0	0.94 U	0.94	1.1 U	1.1	0.98 U	0.98	0.96 U	0.96
Aroclor-1260	2	1.1 U	1.1	1.0 U	1.0	0.94 U	0.94	1.1 U	1.1	0.98 U	0.98	0.96 U	0.96
Method:TCL Pesticides/PCBs													

MAIN POST
GROUNDWATER PESTICIDES/PCBS

Geographical Location		M4		M4		M4		M4		M4		M4	
Sample		MP04-MW07-A01		MP04-MW07-A02		MP04-MW07-C01		MP04-MW07-C02		MP04-MW07-E01		MP04-MW08-A01	
Sample Type						Duplicate		Duplicate		Field Rinsate Blank			
Batch#		9502G219		9503G660		9502G219		9503G660		9502G219		9502G219	
Prep#		95GP0127		95GP0233		95GP0127		95GP0233		95GP0127		95GP0127	
RFW#		007		005		009		007		012		014	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/16/95		3/9/95		2/16/95		3/9/95		2/16/95		2/16/95	
Analysis Date		3/14/95		3/20/95		3/14/95		3/20/95		3/14/95		3/14/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.062 U	0.062
beta-BHC	0.2	0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.062 U	0.062
delta-BHC		0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.062 U	0.062
gamma-BHC (Lindane)	0.2	0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.062 U	0.062
Heptachlor	0.4	0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.062 U	0.062
Aldrin	0.04	0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.062 U	0.062
Heptachlor epoxide	0.2	0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.062 U	0.062
Endosulfan I	0.4	0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.062 U	0.062
Dieldrin	0.03	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.12 U	0.12
4,4'-DDE	0.1	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.12 U	0.12
Endrin	2	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.12 U	0.12
Endosulfan II	0.4	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.12 U	0.12
4,4'-DDD	0.1	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.12 U	0.12
Endosulfan sulfate	0.4	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.12 U	0.12
4,4'-DDT	0.1	0.19	0.10	0.11 U	0.11	0.32	0.10	0.11 U	0.11	0.10 U	0.10	0.12 U	0.12
Methoxychlor	40	0.52 U	0.52	0.53 U	0.53	0.52 U	0.52	0.53 U	0.53	0.52 U	0.52	0.62 U	0.62
Endrin ketone		0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.12 U	0.12
Endrin aldehyde		0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.12 U	0.12
alpha-Chlordane		0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.062 U	0.062
gamma-Chlordane	0.5	0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.053 U	0.053	0.052 U	0.052	0.062 U	0.062
Toxaphene	3	5.2 U	5.2	5.3 U	5.3	5.2 U	5.2	5.3 U	5.3	5.2 U	5.2	6.2 U	6.2
Aroclor-1016	2	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	1.2 U	1.2
Aroclor-1221	2	2.1 U	2.1	2.1 U	2.1	2.1 U	2.1	2.1 U	2.1	2.1 U	2.1	2.5 U	2.5
Aroclor-1232	2	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	1.2 U	1.2
Aroclor-1242	2	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	1.2 U	1.2
Aroclor-1248	2	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	1.2 U	1.2
Aroclor-1254	2	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	1.2 U	1.2
Aroclor-1260	2	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	1.2 U	1.2
Method:TCL Pesticides/PCBs													

MAIN POST
GROUNDWATER PESTICIDES/PCBS

Geographical Location		M4		M4		M4		M5		M5		M5	
Sample		MP04-MW08-A02		MP04-MW09-A01		MP04-MW09-A02		MP05-MW10-A01		MP05-MW10-A02		MP05-MW11-A01	
Sample Type													
Batch#		9503G642		9502G219		9503G660		9502G238		9503G660		9502G238	
Prep#		95GP0229		95GP0127		95GP0233		95GP0135		95GP0233		95GP0135	
RFW#		007		016		009		010		011		012	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/8/95		2/16/95		3/9/95		2/17/95		3/9/95		2/17/95	
Analysis Date		3/20/95		3/14/95		3/26/95		3/11/95		3/26/95		3/11/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.053 U	0.053	0.062 U	0.062	0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
beta-BHC	0.2	0.053 U	0.053	0.062 U	0.062	0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
delta-BHC		0.053 U	0.053	0.062 U	0.062	0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
gamma-BHC (Lindane)	0.2	0.053 U	0.053	0.062 U	0.062	0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
Heptachlor	0.4	0.053 U	0.053	0.062 U	0.062	0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
Aldrin	0.04	0.053 U	0.053	0.062 U	0.062	0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
Heptachlor epoxide	0.2	0.053 U	0.053	0.062 U	0.062	0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
Endosulfan I	0.4	0.053 U	0.053	0.062 U	0.062	0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
Dieldrin	0.03	0.11 U	0.11	0.12 U	0.12	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
4,4'-DDE	0.1	0.11 U	0.11	0.12 U	0.12	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
Endrin	2	0.11 U	0.11	0.12 U	0.12	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
Endosulfan II	0.4	0.11 U	0.11	0.12 U	0.12	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
4,4'-DDD	0.1	0.11 U	0.11	0.12 U	0.12	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
Endosulfan sulfate	0.4	0.11 U	0.11	0.12 U	0.12	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
4,4'-DDT	0.1	0.11 U	0.11	0.12 U	0.12	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
Methoxychlor	40	0.53 U	0.53	0.62 U	0.62	0.52 U	0.52	0.51 U	0.51	0.52 U	0.52	0.52 U	0.52
Endrin ketone		0.11 U	0.11	0.12 U	0.12	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
Endrin aldehyde		0.11 U	0.11	0.12 U	0.12	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
alpha-Chlordane		0.053 U	0.053	0.062 U	0.062	0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
gamma-Chlordane	0.5	0.053 U	0.053	0.062 U	0.062	0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
Toxaphene	3	5.3 U	5.3	6.2 U	6.2	5.2 U	5.2	5.1 U	5.1	5.2 U	5.2	5.2 U	5.2
Aroclor-1016	2	1.1 U	1.1	1.2 U	1.2	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0
Aroclor-1221	2	2.1 U	2.1	2.5 U	2.5	2.1 U	2.1	2.0 U	2.0	2.1 U	2.1	2.1 U	2.1
Aroclor-1232	2	1.1 U	1.1	1.2 U	1.2	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0
Aroclor-1242	2	1.1 U	1.1	1.2 U	1.2	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0
Aroclor-1248	2	1.1 U	1.1	1.2 U	1.2	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0
Aroclor-1254	2	1.1 U	1.1	1.2 U	1.2	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0
Aroclor-1260	2	1.1 U	1.1	1.2 U	1.2	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0
Method:TCL Pesticides/PCBs													

MAIN POST
GROUNDWATER PESTICIDES/PCBS

Geographical Location		M5		M5		M8		M8		M8		M8	
Sample		MP05-MW11-A02		MP05-MW11-E02		MP08-MW12-A01		MP08-MW12-A02		MP08-MW12-C02		MP08-MW12-E02	
Sample Type				Field Rinsate Blank						Duplicate		Field Rinsate Blank	
Batch#		9503G660		9503G660		9502G238		9503G767		9503G767		9503G767	
Prep#		95GP0233		95GP0233		95GP0135		94GP0262		94GP0262		94GP0262	
RFW#		013		016		014		001		003		006	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/9/95		3/9/95		2/17/95		3/15/95		3/15/95		3/15/95	
Analysis Date		3/26/95		3/28/95		3/11/95		4/15/95		4/15/95		4/15/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052
beta-BHC	0.2	0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052
delta-BHC		0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052
gamma-BHC (Lindane)	0.2	0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052
Heptachlor	0.4	0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052
Aldrin	0.04	0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052
Heptachlor epoxide	0.2	0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052
Endosulfan I	0.4	0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052
Dieldrin	0.03	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
4,4'-DDE	0.1	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
Endrin	2	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
Endosulfan II	0.4	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
4,4'-DDD	0.1	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
Endosulfan sulfate	0.4	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
4,4'-DDT	0.1	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
Methoxychlor	40	0.52 U	0.52	0.51 U	0.51	0.52 U	0.52	0.52 U	0.52	0.52 U	0.52	0.52 U	0.52
Endrin ketone		0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
Endrin aldehyde		0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
alpha-Chlordane		0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052
gamma-Chlordane	0.5	0.052 U	0.052	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052
Toxaphene	3	5.2 U	5.2	5.1 U	5.1	5.2 U	5.2	5.2 U	5.2	5.2 U	5.2	5.2 U	5.2
Aroclor-1016	2	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0
Aroclor-1221	2	2.1 U	2.1	2.0 U	2.0	2.1 U	2.1	2.1 U	2.1	2.1 U	2.1	2.1 U	2.1
Aroclor-1232	2	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0
Aroclor-1242	2	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0
Aroclor-1248	2	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0
Aroclor-1254	2	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0
Aroclor-1260	2	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0
Method:TCL Pesticides/PCBs													

MAIN POST
GROUNDWATER PESTICIDES/PCBS

Geographical Location		M8		M8		M8		M8		M8		M8	
Sample		MP08-MW13-A01		MP08-MW13-A02		MP08-MW14-A01		MP08-MW14-A02		MP08-MW15-A01		MP08-MW15-A02	
Sample Type													
Batch#		9502G403		9503G767		9502G219		9503G767		9502G403		9503G767	
Prep#		95GP0164		94GP0262		95GP0127		94GP0262		95GP0164		94GP0262	
RFW#		001		008		018		010		003		012	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/22/95		3/15/95		2/16/95		3/15/95		2/22/95		3/15/95	
Analysis Date		3/14/95		4/15/95		3/14/95		4/15/95		3/14/95		4/15/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.052 U	0.052	0.052 U	0.052	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.053 U	0.053
beta-BHC	0.2	0.052 U	0.052	0.052 U	0.052	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.053 U	0.053
delta-BHC		0.052 U	0.052	0.052 U	0.052	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.053 U	0.053
gamma-BHC (Lindane)	0.2	0.052 U	0.052	0.052 U	0.052	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.053 U	0.053
Heptachlor	0.4	0.052 U	0.052	0.052 U	0.052	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.053 U	0.053
Aldrin	0.04	0.052 U	0.052	0.052 U	0.052	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.053 U	0.053
Heptachlor epoxide	0.2	0.052 U	0.052	0.052 U	0.052	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.053 U	0.053
Endosulfan I	0.4	0.052 U	0.052	0.052 U	0.052	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.053 U	0.053
Dieldrin	0.03	0.10 U	0.10	0.10 U	0.10	0.097 U	0.097	0.092 U	0.092	0.10 U	0.10	0.11 U	0.11
4,4'-DDE	0.1	0.10 U	0.10	0.10 U	0.10	0.097 U	0.097	0.092 U	0.092	0.10 U	0.10	0.11 U	0.11
Endrin	2	0.10 U	0.10	0.10 U	0.10	0.097 U	0.097	0.092 U	0.092	0.10 U	0.10	0.11 U	0.11
Endosulfan II	0.4	0.10 U	0.10	0.10 U	0.10	0.097 U	0.097	0.092 U	0.092	0.10 U	0.10	0.11 U	0.11
4,4'-DDD	0.1	0.10 U	0.10	0.10 U	0.10	0.097 U	0.097	0.092 U	0.092	0.10 U	0.10	0.11 U	0.11
Endosulfan sulfate	0.4	0.10 U	0.10	0.10 U	0.10	0.097 U	0.097	0.092 U	0.092	0.10 U	0.10	0.11 U	0.11
4,4'-DDT	0.1	0.10 U	0.10	0.10 U	0.10	0.097 U	0.097	0.092 U	0.092	0.10 U	0.10	0.11 U	0.11
Methoxychlor	40	0.52 U	0.52	0.52 U	0.52	0.48 U	0.48	0.46 U	0.46	0.52 U	0.52	0.53 U	0.53
Endrin ketone		0.10 U	0.10	0.10 U	0.10	0.097 U	0.097	0.092 U	0.092	0.10 U	0.10	0.11 U	0.11
Endrin aldehyde		0.10 U	0.10	0.10 U	0.10	0.097 U	0.097	0.092 U	0.092	0.10 U	0.10	0.11 U	0.11
alpha-Chlordane		0.052 U	0.052	0.052 U	0.052	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.053 U	0.053
gamma-Chlordane	0.5	0.052 U	0.052	0.052 U	0.052	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.053 U	0.053
Toxaphene	3	5.2 U	5.2	5.2 U	5.2	4.8 U	4.8	4.6 U	4.6	5.2 U	5.2	5.3 U	5.3
Aroclor-1016	2	1.0 U	1.0	1.0 U	1.0	0.97 U	0.97	0.92 U	0.92	1.0 U	1.0	1.1 U	1.1
Aroclor-1221	2	2.1 U	2.1	2.1 U	2.1	1.9 U	1.9	1.8 U	1.8	2.1 U	2.1	2.1 U	2.1
Aroclor-1232	2	1.0 U	1.0	1.0 U	1.0	0.97 U	0.97	0.92 U	0.92	1.0 U	1.0	1.1 U	1.1
Aroclor-1242	2	1.0 U	1.0	1.0 U	1.0	0.97 U	0.97	0.92 U	0.92	1.0 U	1.0	1.1 U	1.1
Aroclor-1248	2	1.0 U	1.0	1.0 U	1.0	0.97 U	0.97	0.92 U	0.92	1.0 U	1.0	1.1 U	1.1
Aroclor-1254	2	1.0 U	1.0	1.0 U	1.0	0.97 U	0.97	0.92 U	0.92	1.0 U	1.0	1.1 U	1.1
Aroclor-1260	2	1.0 U	1.0	1.0 U	1.0	0.97 U	0.97	0.92 U	0.92	1.0 U	1.0	1.1 U	1.1
Method:TCL Pesticides/PCBs													

MAIN POST
GROUNDWATER PESTICIDES/PCBS

Geographical Location		M8		M8		M12		M12		M12		M12	
Sample		MP08-MW15-C01		MP08-MW15-E01		MP12-MW16-A01		MP12-MW16-A02		MP12-MW17-A01		MP12-MW17-A02	
Sample Type		Duplicate		Field Rinsate Blank									
Batch#		9502G403		9502G403		9503G299		9503G681		9503G299		9503G681	
Prep#		95GP0164		95GP0164		95GP0154		95GP0247		95GP0154		95GP0247	
RFW#		005		008		001		001		003		003	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/22/95		2/22/95		2/20/95		3/10/95		2/20/95		3/10/95	
Analysis Date		3/14/95		3/15/95		3/15/95		3/29/95		3/15/95		3/29/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.052 U	0.052	0.054 U	0.054	0.053 U	0.053	0.053 U	0.053	0.052 U	0.052	0.052 U	0.052
beta-BHC	0.2	0.052 U	0.052	0.054 U	0.054	0.053 U	0.053	0.053 U	0.053	0.052 U	0.052	0.052 U	0.052
delta-BHC		0.052 U	0.052	0.054 U	0.054	0.053 U	0.053	0.053 U	0.053	0.052 U	0.052	0.052 U	0.052
gamma-BHC (Lindane)	0.2	0.052 U	0.052	0.054 U	0.054	0.053 U	0.053	0.053 U	0.053	0.052 U	0.052	0.052 U	0.052
Heptachlor	0.4	0.052 U	0.052	0.054 U	0.054	0.053 U	0.053	0.053 U	0.053	0.052 U	0.052	0.052 U	0.052
Aldrin	0.04	0.052 U	0.052	0.054 U	0.054	0.053 U	0.053	0.053 U	0.053	0.052 U	0.052	0.052 U	0.052
Heptachlor epoxide	0.2	0.052 U	0.052	0.054 U	0.054	0.053 U	0.053	0.053 U	0.053	0.052 U	0.052	0.052 U	0.052
Endosulfan I	0.4	0.052 U	0.052	0.054 U	0.054	0.053 U	0.053	0.053 U	0.053	0.052 U	0.052	0.052 U	0.052
Dieldrin	0.03	0.10 U	0.10	0.11 U	0.11	0.11 U	0.11	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10
4,4'-DDE	0.1	0.10 U	0.10	0.11 U	0.11	0.11 U	0.11	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10
Endrin	2	0.10 U	0.10	0.11 U	0.11	0.11 U	0.11	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10
Endosulfan II	0.4	0.10 U	0.10	0.11 U	0.11	0.11 U	0.11	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10
4,4'-DDD	0.1	0.10 U	0.10	0.11 U	0.11	0.11 U	0.11	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10
Endosulfan sulfate	0.4	0.10 U	0.10	0.11 U	0.11	0.11 U	0.11	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10
4,4'-DDT	0.1	0.10 U	0.10	0.11 U	0.11	0.11 U	0.11	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10
Methoxychlor	40	0.52 U	0.52	0.54 U	0.54	0.53 U	0.53	0.53 U	0.53	0.52 U	0.52	0.52 U	0.52
Endrin ketone		0.10 U	0.10	0.11 U	0.11	0.11 U	0.11	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10
Endrin aldehyde		0.10 U	0.10	0.11 U	0.11	0.11 U	0.11	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10
alpha-Chlordane		0.052 U	0.052	0.054 U	0.054	0.053 U	0.053	0.053 U	0.053	0.052 U	0.052	0.052 U	0.052
gamma-Chlordane	0.5	0.052 U	0.052	0.054 U	0.054	0.053 U	0.053	0.053 U	0.053	0.052 U	0.052	0.052 U	0.052
Toxaphene	3	5.2 U	5.2	5.4 U	5.4	5.3 U	5.3	5.3 U	5.3	5.2 U	5.2	5.2 U	5.2
Aroclor-1016	2	1.0 U	1.0	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0
Aroclor-1221	2	2.1 U	2.1	2.2 U	2.2	2.1 U	2.1	2.1 U	2.1	2.1 U	2.1	2.1 U	2.1
Aroclor-1232	2	1.0 U	1.0	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0
Aroclor-1242	2	1.0 U	1.0	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0
Aroclor-1248	2	1.0 U	1.0	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0
Aroclor-1254	2	1.0 U	1.0	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0
Aroclor-1260	2	1.0 U	1.0	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0
Method:TCL Pesticides/PCBs													

MAIN POST
GROUNDWATER PESTICIDES/PCBS

Geographical Location		M12		M12		M14		M14		M14		M14	
Sample		MP12-MW18-A01		MP12-MW18-A02		MP14-MW19-A01		MP14-MW19-A02		MP14-MW20-A01		MP14-MW20-A02	
Sample Type													
Batch#		9503G299		9503G681		9503G299		9503G681		9502G403		9503G722	
Prep#		95GP0154		95GP0247		95GP0154		95GP0247		95GP0164		95GP0247	
RFW#		005		005		007		007		010		001	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/20/95		3/10/95		2/20/95		3/10/95		2/22/95		3/13/95	
Analysis Date		3/15/95		3/29/95		3/15/95		3/29/95		3/15/95		3/29/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.056 U	0.056	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.046 U	0.046	0.060 U	0.060
beta-BHC	0.2	0.056 U	0.056	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.046 U	0.046	0.060 U	0.060
delta-BHC		0.056 U	0.056	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.046 U	0.046	0.060 U	0.060
gamma-BHC (Lindane)	0.2	0.056 U	0.056	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.046 U	0.046	0.060 U	0.060
Heptachlor	0.4	0.056 U	0.056	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.046 U	0.046	0.060 U	0.060
Aldrin	0.04	0.056 U	0.056	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.046 U	0.046	0.060 U	0.060
Heptachlor epoxide	0.2	0.056 U	0.056	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.046 U	0.046	0.060 U	0.060
Endosulfan I	0.4	0.056 U	0.056	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.046 U	0.046	0.060 U	0.060
Dieldrin	0.03	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.093 U	0.093	0.12 U	0.12
4,4'-DDE	0.1	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.093 U	0.093	0.12 U	0.12
Endrin	2	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.093 U	0.093	0.12 U	0.12
Endosulfan II	0.4	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.093 U	0.093	0.12 U	0.12
4,4'-DDD	0.1	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.093 U	0.093	0.12 U	0.12
Endosulfan sulfate	0.4	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.093 U	0.093	0.12 U	0.12
4,4'-DDT	0.1	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.093 U	0.093	0.12 U	0.12
Methoxychlor	40	0.56 U	0.56	0.52 U	0.52	0.52 U	0.52	0.52 U	0.52	0.46 U	0.46	0.60 U	0.60
Endrin ketone		0.11 U	0.11	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.093 U	0.093	0.12 U	0.12
Endrin aldehyde		0.11 U	0.11	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.093 U	0.093	0.12 U	0.12
alpha-Chlordane		0.056 U	0.056	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.046 U	0.046	0.060 U	0.060
gamma-Chlordane	0.5	0.056 U	0.056	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.046 U	0.046	0.060 U	0.060
Toxaphene	3	5.6 U	5.6	5.2 U	5.2	5.2 U	5.2	5.2 U	5.2	4.6 U	4.6	6.0 U	6.0
Aroclor-1016	2	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	0.93 U	0.93	1.2 U	1.2
Aroclor-1221	2	2.2 U	2.2	2.1 U	2.1	2.1 U	2.1	2.1 U	2.1	1.9 U	1.9	2.4 U	2.4
Aroclor-1232	2	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	0.93 U	0.93	1.2 U	1.2
Aroclor-1242	2	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	0.93 U	0.93	1.2 U	1.2
Aroclor-1248	2	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	0.93 U	0.93	1.2 U	1.2
Aroclor-1254	2	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	0.93 U	0.93	1.2 U	1.2
Aroclor-1260	2	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	0.93 U	0.93	1.2 U	1.2
Method:TCL Pesticides/PCBs													

MAIN POST
GROUNDWATER PESTICIDES/PCBS

Geographical Location		M14		M14		M14		M16		M16		M18	
Sample		MP14-MW20-E02		MP14-MW21-A01		MP14-MW21-A02		MP16-MW22-A01		MP16-MW22-A02		MP18-MW03-A01	
Sample Type		Field Rinsate Blank											
Batch#		9503G722		9502G403		9503G660		9502G238		9503G660		9505G825	
Prep#		95GP0247		95GP0164		95GP0233		95GP0135		95GP0233		95GP0510	
RFW#		003		012		019		016		018		001	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/13/95		2/22/95		3/9/95		2/17/95		3/9/95		5/10/95	
Analysis Date		3/29/95		3/15/95		3/28/95		3/11/95		3/28/95		5/19/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.052 U	0.052	0.047 U	0.047	0.054 U	0.054	0.048 U	0.048	0.052 U	0.052	0.054 U	0.054
beta-BHC	0.2	0.052 U	0.052	0.047 U	0.047	0.054 U	0.054	0.048 U	0.048	0.052 U	0.052	0.054 U	0.054
delta-BHC		0.052 U	0.052	0.047 U	0.047	0.054 U	0.054	0.048 U	0.048	0.052 U	0.052	0.054 U	0.054
gamma-BHC (Lindane)	0.2	0.052 U	0.052	0.047 U	0.047	0.054 U	0.054	0.048 U	0.048	0.052 U	0.052	0.054 U	0.054
Heptachlor	0.4	0.052 U	0.052	0.047 U	0.047	0.054 U	0.054	0.048 U	0.048	0.052 U	0.052	0.054 U	0.054
Aldrin	0.04	0.052 U	0.052	0.047 U	0.047	0.054 U	0.054	0.048 U	0.048	0.052 U	0.052	0.054 U	0.054
Heptachlor epoxide	0.2	0.052 U	0.052	0.047 U	0.047	0.054 U	0.054	0.048 U	0.048	0.052 U	0.052	0.054 U	0.054
Endosulfan I	0.4	0.052 U	0.052	0.047 U	0.047	0.054 U	0.054	0.048 U	0.048	0.052 U	0.052	0.054 U	0.054
Dieldrin	0.03	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.095 U	0.095	0.10 U	0.10	0.11 U	0.11 U
4,4'-DDE	0.1	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.095 U	0.095	0.10 U	0.10	0.11 U	0.11 U
Endrin	2	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.095 U	0.095	0.10 U	0.10	0.11 U	0.11 U
Endosulfan II	0.4	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.095 U	0.095	0.10 U	0.10	0.11 U	0.11 U
4,4'-DDD	0.1	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.095 U	0.095	0.10 U	0.10	0.11 U	0.11 U
Endosulfan sulfate	0.4	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.095 U	0.095	0.10 U	0.10	0.11 U	0.11 U
4,4'-DDT	0.1	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.095 U	0.095	0.10 U	0.10	0.11 U	0.11 U
Methoxychlor	40	0.52 U	0.52	0.47 U	0.47	0.54 U	0.54	0.48 U	0.48	0.52 U	0.52	0.54 U	0.54
Endrin ketone		0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.095 U	0.095	0.10 U	0.10	0.11 U	0.11 U
Endrin aldehyde		0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.095 U	0.095	0.10 U	0.10	0.11 U	0.11 U
alpha-Chlordane		0.052 U	0.052	0.047 U	0.047	0.054 U	0.054	0.048 U	0.048	0.052 U	0.052	0.054 U	0.054
gamma-Chlordane	0.5	0.052 U	0.052	0.047 U	0.047	0.054 U	0.054	0.048 U	0.048	0.052 U	0.052	0.054 U	0.054
Toxaphene	3	5.2 U	5.2	4.7 U	4.7	5.4 U	5.4	4.8 U	4.8	5.2 U	5.2	5.4 U	5.4
Aroclor-1016	2	1.0 U	1.0	0.94 U	0.94	1.1 U	1.1	0.95 U	0.95	1.0 U	1.0	1.1 U	1.1 U
Aroclor-1221	2	2.1 U	2.1	1.9 U	1.9	2.2 U	2.2	1.9 U	1.9	2.1 U	2.1	2.2 U	2.2
Aroclor-1232	2	1.0 U	1.0	0.94 U	0.94	1.1 U	1.1	0.95 U	0.95	1.0 U	1.0	1.1 U	1.1 U
Aroclor-1242	2	1.0 U	1.0	0.94 U	0.94	1.1 U	1.1	0.95 U	0.95	1.0 U	1.0	1.1 U	1.1 U
Aroclor-1248	2	1.0 U	1.0	0.94 U	0.94	1.1 U	1.1	0.95 U	0.95	1.0 U	1.0	1.1 U	1.1 U
Aroclor-1254	2	1.0 U	1.0	0.94 U	0.94	1.1 U	1.1	0.95 U	0.95	1.0 U	1.0	1.1 U	1.1 U
Aroclor-1260	2	1.0 U	1.0	0.94 U	0.94	1.1 U	1.1	0.95 U	0.95	1.0 U	1.0	1.1 U	1.1 U
Method:TCL Pesticides/PCBs													

MAIN POST
GROUNDWATER PESTICIDES/PCBS

Geographical Location		M18		M18		M18		M18		M18		M18	
Sample		MP18-MW03-E01		MP18-MW03-A02		MP18-MW24-A01		MP18-MW24-A02		MP18-MW24-C02		MP18-MW24-E01	
Sample Type		Field Rinsate Blank								Duplicate		Field Rinsate Blank	
Batch#		9505G825		9505G139		9502G238		9503G681		9503G681		9502G238	
Prep#		95GP0510		95GP0580		95GP0135		95GP0247		95GP0248		95GP0135	
RFW#		001		001		001		009		011		004	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		5/10/95		5/25/95		2/17/95		3/10/95		3/10/95		2/17/95	
Analysis Date		5/19/95		6/1/95		3/10/95		3/29/95		3/29/95		3/10/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.054 U	0.054	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.052 U	0.052	0.047 U	0.047
beta-BHC	0.2	0.054 U	0.054	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.052 U	0.052	0.047 U	0.047
delta-BHC		0.054 U	0.054	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.052 U	0.052	0.047 U	0.047
gamma-BHC (Lindane)	0.2	0.054 U	0.054	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.052 U	0.052	0.047 U	0.047
Heptachlor	0.4	0.054 U	0.054	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.052 U	0.052	0.047 U	0.047
Aldrin	0.04	0.054 U	0.054	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.052 U	0.052	0.047 U	0.047
Heptachlor epoxide	0.2	0.054 U	0.054	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.052 U	0.052	0.047 U	0.047
Endosulfan I	0.4	0.054 U	0.054	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.052 U	0.052	0.047 U	0.047
Dieldrin	0.03	0.11 U	0.11 U	0.095 U	0.095	0.093 U	0.093	0.10 U	0.10	0.10 U	0.10	0.094 U	0.094
4,4'-DDE	0.1	0.11 U	0.11 U	0.095 U	0.095	0.093 U	0.093	0.10 U	0.10	0.10 U	0.10	0.094 U	0.094
Endrin	2	0.11 U	0.11 U	0.095 U	0.095	0.093 U	0.093	0.10 U	0.10	0.10 U	0.10	0.094 U	0.094
Endosulfan II	0.4	0.11 U	0.11 U	0.095 U	0.095	0.093 U	0.093	0.10 U	0.10	0.10 U	0.10	0.094 U	0.094
4,4'-DDD	0.1	0.11 U	0.11 U	0.095 U	0.095	0.18	0.093	0.10 U	0.10	0.11 P	0.10	0.094 U	0.094
Endosulfan sulfate	0.4	0.11 U	0.11 U	0.095 U	0.095	0.093 U	0.093	0.10 U	0.10	0.10 U	0.10	0.094 U	0.094
4,4'-DDT	0.1	0.11 U	0.11 U	0.095 U	0.095	0.093 U	0.093	0.10 U	0.10	0.10 U	0.10	0.094 U	0.094
Methoxychlor	40	0.54 U	0.54	0.48 U	0.48	0.46 U	0.46	0.52 U	0.52	0.52 U	0.52	0.47 U	0.47
Endrin ketone		0.11 U	0.11 U	0.095 U	0.095	0.093 U	0.093	0.10 U	0.10	0.10 U	0.10	0.094 U	0.094
Endrin aldehyde		0.11 U	0.11 U	0.095 U	0.095	0.093 U	0.093	0.10 U	0.10	0.10 U	0.10	0.094 U	0.094
alpha-Chlordane		0.054 U	0.054	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.052 U	0.052	0.047 U	0.047
gamma-Chlordane	0.5	0.054 U	0.054	0.048 U	0.048	0.046 U	0.046	0.052 U	0.052	0.052 U	0.052	0.047 U	0.047
Toxaphene	3	5.4 U	5.4	4.8 U	4.8	4.6 U	4.6	5.2 U	5.2	5.2 U	5.2	4.7 U	4.7
Aroclor-1016	2	1.1 U	1.1 U	0.95 U	0.95	0.93 U	0.93	1.0 U	1.0	1.0 U	1.0	0.94 U	0.94
Aroclor-1221	2	2.2 U	2.2	1.9 U	1.9	1.9 U	1.9	2.1 U	2.1	2.1 U	2.1	1.9 U	1.9
Aroclor-1232	2	1.1 U	1.1 U	0.95 U	0.95	0.93 U	0.93	1.0 U	1.0	1.0 U	1.0	0.94 U	0.94
Aroclor-1242	2	1.1 U	1.1 U	0.95 U	0.95	0.93 U	0.93	1.0 U	1.0	1.0 U	1.0	0.94 U	0.94
Aroclor-1248	2	1.1 U	1.1 U	0.95 U	0.95	0.93 U	0.93	1.0 U	1.0	1.0 U	1.0	0.94 U	0.94
Aroclor-1254	2	1.1 U	1.1 U	0.95 U	0.95	0.93 U	0.93	1.0 U	1.0	1.0 U	1.0	0.94 U	0.94
Aroclor-1260	2	1.1 U	1.1 U	0.95 U	0.95	0.93 U	0.93	1.0 U	1.0	1.0 U	1.0	0.94 U	0.94
Method:TCL Pesticides/PCBs													

MAIN POST
GROUNDWATER PESTICIDES/PCBS

Geographical Location		M18		M18		M18		M18		B1	
Sample		MP18-MW24-E02		MP18-MW25-A01		MP18-MW25-A02		MP18-MW25-C01		B1-MW01B-A01	
Sample Type		Field Rinsate Blank						Duplicate			
Batch#		9503G681		9502G238		9503G681		9502G238		9502G169	
Prep#		95GP0247		95GP0135		95GP0247		95GP0135		95GP0119	
RFW#		014		006		016		008		001	
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/10/95		2/17/95		3/10/95		2/17/95		2/14/95	
Analysis Date		3/29/95		3/10/95		3/29/95		3/11/95		3/4/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.056 U	0.056	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.052 U	0.052
beta-BHC	0.2	0.056 U	0.056	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.052 U	0.052
delta-BHC		0.056 U	0.056	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.052 U	0.052
gamma-BHC (Lindane)	0.2	0.056 U	0.056	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.052 U	0.052
Heptachlor	0.4	0.056 U	0.056	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.052 U	0.052
Aldrin	0.04	0.056 U	0.056	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.052 U	0.052
Heptachlor epoxide	0.2	0.056 U	0.056	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.052 U	0.052
Endosulfan I	0.4	0.056 U	0.056	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.041 J	0.052
Dieldrin	0.03	0.11 U	0.11	0.094 U	0.094	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10
4,4'-DDE	0.1	0.11 U	0.11	0.094 U	0.094	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10
Endrin	2	0.11 U	0.11	0.094 U	0.094	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10
Endosulfan II	0.4	0.11 U	0.11	0.094 U	0.094	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10
4,4'-DDD	0.1	0.11 U	0.11	0.094 U	0.094	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10
Endosulfan sulfate	0.4	0.11 U	0.11	0.094 U	0.094	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10
4,4'-DDT	0.1	0.11 U	0.11	0.094 U	0.094	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10
Methoxychlor	40	0.56 U	0.56	0.47 U	0.47	0.53 U	0.53	0.51 U	0.51	0.52 U	0.52
Endrin ketone		0.11 U	0.11	0.094 U	0.094	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10
Endrin aldehyde		0.11 U	0.11	0.094 U	0.094	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10
alpha-Chlordane		0.056 U	0.056	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.052 U	0.052
gamma-Chlordane	0.5	0.056 U	0.056	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.052 U	0.052
Toxaphene	3	5.6 U	5.6	4.7 U	4.7	5.3 U	5.3	5.1 U	5.1	5.2 U	5.2
Aroclor-1016	2	1.1 U	1.1	0.94 U	0.94	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0
Aroclor-1221	2	2.2 U	2.2	1.9 U	1.9	2.1 U	2.1	2.0 U	2.0	2.1 U	2.1
Aroclor-1232	2	1.1 U	1.1	0.94 U	0.94	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0
Aroclor-1242	2	1.1 U	1.1	0.94 U	0.94	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0
Aroclor-1248	2	1.1 U	1.1	0.94 U	0.94	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0
Aroclor-1254	2	1.1 U	1.1	0.94 U	0.94	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0
Aroclor-1260	2	1.1 U	1.1	0.94 U	0.94	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0
Method:TCL Pesticides/PCBs											

MAIN POST
GROUNDWATER PESTICIDES/PCBS

Geographical Location		B1		B2		B2		B3		B3	
Sample		B1-MW01B-A02		B2-MW02B-A01		B2-MW02B-A02		B3-MW03B-A01		B3-MW03B-A02	
Sample Type											
Batch#		9503G616		9502G169		9503G616		9502G169		9503G740	
Prep#		95GP0219		95GP0119		95GP0219		95GP0119		95GP0251	
RFW#		008		003		010		005		001	
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/7/95		2/14/95		3/7/95		2/14/95		3/14/95	
Analysis Date		3/17/95		3/4/95		3/17/95		3/4/95		4/12/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.051 U	0.051	0.056 U	0.056	0.052 U	0.052	0.047 U	0.047	0.050 U	0.05
beta-BHC	0.2	0.051 U	0.051	0.056 U	0.056	0.052 U	0.052	0.047 U	0.047	0.050 U	0.05
delta-BHC		0.051 U	0.051	0.056 U	0.056	0.052 U	0.052	0.047 U	0.047	0.050 U	0.05
gamma-BHC (Lindane)	0.2	0.051 U	0.051	0.056 U	0.056	0.052 U	0.052	0.047 U	0.047	0.050 U	0.05
Heptachlor	0.4	0.051 U	0.051	0.056 U	0.056	0.052 U	0.052	0.047 U	0.047	0.050 U	0.05
Aldrin	0.04	0.051 U	0.051	0.056 U	0.056	0.052 U	0.052	0.047 U	0.047	0.050 U	0.05
Heptachlor epoxide	0.2	0.041 J	0.051	0.056 U	0.056	0.052 U	0.052	0.047 U	0.047	0.050 U	0.05
Endosulfan I	0.4	0.051 U	0.051	0.056 U	0.056	0.052 U	0.052	0.047 U	0.047	0.050 U	0.05
Dieldrin	0.03	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.094 U	0.094	0.10 U	0.10
4,4'-DDE	0.1	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.094 U	0.094	0.050 JP	0.10
Endrin	2	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.094 U	0.094	0.10 U	0.10
Endosulfan II	0.4	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.094 U	0.094	0.10 U	0.10
4,4'-DDD	0.1	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.094 U	0.094	0.10 U	0.10
Endosulfan sulfate	0.4	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.094 U	0.094	0.10 U	0.10
4,4'-DDT	0.1	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.094 U	0.094	0.10 U	0.10
Methoxychlor	40	0.51 U	0.51	0.56 U	0.56	0.52 U	0.52	0.47 U	0.47	0.50 U	0.5
Endrin ketone		0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.094 U	0.094	0.10 U	0.10
Endrin aldehyde		0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.094 U	0.094	0.10 U	0.10
alpha-Chlordane		0.051 U	0.051	0.056 U	0.056	0.052 U	0.052	0.047 U	0.047	0.050 U	0.05
gamma-Chlordane	0.5	0.051 U	0.051	0.056 U	0.056	0.052 U	0.052	0.047 U	0.047	0.050 U	0.05
Toxaphene	3	5.1 U	5.1	5.6 U	5.6	5.2 U	5.2	4.7 U	4.7	5.0 U	5.0
Aroclor-1016	2	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	0.94 U	0.94	1.0 U	1.0
Aroclor-1221	2	2.0 U	2.0	2.2 U	2.2	2.1 U	2.1	1.9 U	1.9	2.0 U	2.0
Aroclor-1232	2	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	0.94 U	0.94	1.0 U	1.0
Aroclor-1242	2	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	0.94 U	0.94	1.0 U	1.0
Aroclor-1248	2	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	0.94 U	0.94	1.0 U	1.0
Aroclor-1254	2	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	0.94 U	0.94	1.0 U	1.0
Aroclor-1260	2	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	0.94 U	0.94	1.0 U	1.0
Method:TCL Pesticides/PCBs											

MAIN POST
GROUNDWATER PESTICIDES/PCBS

Geographical Location		B3		B3		B4		B4		B5		B5	
Sample		B3-MW03B-E01		B3-MW03B-E02		B4-MW04B-A01		B4-MW04B-A02		B5-MW05B-A01		B5-MW05B-A02	
Sample Type		Field Rinsate Blank		Field Rinsate Blank									
Batch#		9502G169		9503G616		9502G169		9503G616		9502G169		9503G616	
Prep#		95GP0119		95GP0219		95GP0119		95GP0219		95GP0119		95GP0219	
RFW#		008		006		010		012		012		001	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/13/95		3/7/95		2/13/95		3/7/95		2/13/95		3/7/95	
Analysis Date		3/4/95		3/17/95		3/4/95		3/17/95		3/4/95		3/17/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.048 U	0.048	0.048 U	0.048	0.062 U	0.062	0.052 U	0.052	0.052 U	0.052	0.058 U	0.058
beta-BHC	0.2	0.048 U	0.048	0.048 U	0.048	0.062 U	0.062	0.052 U	0.052	0.052 U	0.052	0.058 U	0.058
delta-BHC		0.048 U	0.048	0.048 U	0.048	0.062 U	0.062	0.052 U	0.052	0.052 U	0.052	0.058 U	0.058
gamma-BHC (Lindane)	0.2	0.048 U	0.048	0.048 U	0.048	0.062 U	0.062	0.052 U	0.052	0.052 U	0.052	0.058 U	0.058
Heptachlor	0.4	0.048 U	0.048	0.048 U	0.048	0.062 U	0.062	0.052 U	0.052	0.052 U	0.052	0.058 U	0.058
Aldrin	0.04	0.048 U	0.048	0.048 U	0.048	0.062 U	0.062	0.052 U	0.052	0.052 U	0.052	0.058 U	0.058
Heptachlor epoxide	0.2	0.048 U	0.048	0.048 U	0.048	0.062 U	0.062	0.052 U	0.052	0.052 U	0.052	0.058 U	0.058
Endosulfan I	0.4	0.048 U	0.048	0.048 U	0.048	0.062 U	0.062	0.052 U	0.052	0.052 U	0.052	0.058 U	0.058
Dieldrin	0.03	0.095 U	0.095	0.096 U	0.096	0.12 U	0.12	0.10 U	0.10	0.10 U	0.10	0.12 U	0.12
4,4'-DDE	0.1	0.095 U	0.095	0.096 U	0.096	0.12 U	0.12	0.10 U	0.10	0.10 U	0.10	0.12 U	0.12
Endrin	2	0.095 U	0.095	0.096 U	0.096	0.12 U	0.12	0.10 U	0.10	0.10 U	0.10	0.12 U	0.12
Endosulfan II	0.4	0.095 U	0.095	0.096 U	0.096	0.12 U	0.12	0.10 U	0.10	0.10 U	0.10	0.12 U	0.12
4,4'-DDD	0.1	0.095 U	0.095	0.096 U	0.096	0.12 U	0.12	0.10 U	0.10	0.10 U	0.10	0.12 U	0.12
Endosulfan sulfate	0.4	0.095 U	0.095	0.096 U	0.096	0.12 U	0.12	0.10 U	0.10	0.10 U	0.10	0.12 U	0.12
4,4'-DDT	0.1	0.095 U	0.095	0.096 U	0.096	0.12 U	0.12	0.10 U	0.10	0.10 U	0.10	0.12 U	0.12
Methoxychlor	40	0.48 U	0.48	0.48 U	0.48	0.62 U	0.62	0.52 U	0.52	0.52 U	0.52	0.58 U	0.58
Endrin ketone		0.095 U	0.095	0.096 U	0.096	0.12 U	0.12	0.10 U	0.10	0.10 U	0.10	0.12 U	0.12
Endrin aldehyde		0.095 U	0.095	0.096 U	0.096	0.12 U	0.12	0.10 U	0.10	0.10 U	0.10	0.12 U	0.12
alpha-Chlordane		0.048 U	0.048	0.048 U	0.048	0.062 U	0.062	0.052 U	0.052	0.052 U	0.052	0.058 U	0.058
gamma-Chlordane	0.5	0.048 U	0.048	0.048 U	0.048	0.062 U	0.062	0.052 U	0.052	0.052 U	0.052	0.058 U	0.058
Toxaphene	3	4.8 U	4.8	4.8 U	4.8	6.2 U	6.2	5.2 U	5.2	5.2 U	5.2	5.8 U	5.8
Aroclor-1016	2	0.95 U	0.95	0.96 U	0.96	1.2 U	1.2	1.0 U	1.0	1.0 U	1.0	1.2 U	1.2
Aroclor-1221	2	1.9 U	1.9	1.9 U	1.9	2.5 U	2.5	2.1 U	2.1	2.1 U	2.1	2.3 U	2.3
Aroclor-1232	2	0.95 U	0.95	0.96 U	0.96	1.2 U	1.2	1.0 U	1.0	1.0 U	1.0	1.2 U	1.2
Aroclor-1242	2	0.95 U	0.95	0.96 U	0.96	1.2 U	1.2	1.0 U	1.0	1.0 U	1.0	1.2 U	1.2
Aroclor-1248	2	0.95 U	0.95	0.96 U	0.96	1.2 U	1.2	1.0 U	1.0	1.0 U	1.0	1.2 U	1.2
Aroclor-1254	2	0.95 U	0.95	0.96 U	0.96	1.2 U	1.2	1.0 U	1.0	1.0 U	1.0	1.2 U	1.2
Aroclor-1260	2	0.95 U	0.95	0.96 U	0.96	1.2 U	1.2	1.0 U	1.0	1.0 U	1.0	1.2 U	1.2
Method:TCL Pesticides/PCBs													

MAIN POST
TRANSFORMERS AND CONCRETE - PCBs

Geographical Location		Building 292		Building 686		Building 718		Building 1002		Building 1002		Building 1004	
Sample		MPT5-TR01-A01		MPT6-TR01-A01		MPT4-TR01-A01		MPT7-CC01-A01		MPT7-CC01-C01		MPT8-TR01-A01	
Sample Type		Transformer		Transformer		Transformer		Concrete		Duplicate		Transformer	
Batch#		9411G832		9411G832		9411G832		9412G922		9412G922		9411G832	
Prep#		94GP1024		94GP1024		94GP1024						94GP1024	
RFW#		007		008		006		010		011		009	
Sample Depth													
Dilution Factor		2.5		0.5		0.5		25000		25000		5.0	
Matrix		soil		soil		soil		Concrete		Concrete		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		11/29/94		11/29/94		11/29/94						11/29/94	
Analysis Date		12/21/94		12/21/94		12/22/94		12/31/94		12/31/94		12/21/94	
Analysis	Standard	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting
		Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
% Solids		81.3	0.10	89.4	0.10	77.7	0.10					88.2	0.10
Aroclor-1016	0.055	0.24 U	0.24	0.045 U	0.045	0.051 U	0.051	2000 U	2000	1900 U	1900	0.45 U	0.45
Aroclor-1221	0.055	0.24 U	0.24	0.045 U	0.045	0.051 U	0.051	2000 U	2000	1900 U	1900	0.45 U	0.45
Aroclor-1232	0.055	0.24 U	0.24	0.045 U	0.045	0.051 U	0.051	2000 U	2000	1900 U	1900	0.45 U	0.45
Aroclor-1242	0.055	0.24 U	0.24	0.045 U	0.045	0.051 U	0.051	2000 U	2000	1900 U	1900	0.45 U	0.45
Aroclor-1248	0.055	0.24 U	0.24	0.045 U	0.045	0.051 U	0.051	8400	2000	6300	1900	0.45 U	0.45
Aroclor-1254	0.055	0.48 U	0.48	0.089 U	0.089	0.1 U	0.1	3900 U	3900	3900 U	3900	0.89 U	0.89
Aroclor-1260	0.055	0.68		0.18		0.059 J	0.1	3900 U	3900	3900 U	3900	0.89 U	0.89
Method:TCL PCBs													

MAIN POST
TRANSFORMERS AND CONCRETE - PCBs

Geographical Location		Building 1208		Building 1208		Building 1209		Bulding 1220		Bulding 1220		Bulding 1220	
Sample		MPT2-CC01-A01		MPT2-CC01-A01DL		MPT1-CC01-A01		MPT3-TR01-A01		MPT3-TR02-A01		MPT3-TR03-A01	
Sample Type		Concrete		Concrete		Concrete		Transformer		Transformer		Transformer	
Batch#		9412G922		9412G922		9412G922		9411G832		9411G832		9411G832	
Prep#								94GP1024		94GP1024		94GP1024	
RFW#		009DL		009		008		001		002		003	
Sample Depth													
Dilution Factor		25000		50000		5000		0.5		0.5		0.5	
Matrix		Concrete		Concrete		Concrete		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date						NA		11/29/94		11/29/94		11/29/94	
Analysis Date		12/31/94		12/31/94		12/31/94		12/21/94		12/21/94		12/21/94	
Analysis	Standard	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting
		Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
% Solids								88.3	0.10	96.4	0.10	84.9	0.10
Aroclor-1016	0.055	2000 U	2000	NA	NA	400 U	400	0.045 U	0.045	0.041 U	0.041	0.047 U	0.047
Aroclor-1221	0.055	2000 U	2000	NA	NA	400 U	400	0.045 U	0.045	0.041 U	0.041	0.047 U	0.047
Aroclor-1232	0.055	2000 U	2000	NA	NA	400 U	400	0.045 U	0.045	0.041 U	0.041	0.047 U	0.047
Aroclor-1242	0.055	2000 U	2000	NA	NA	400 U	400	0.045 U	0.045	0.041 U	0.041	0.047 U	0.047
Aroclor-1248	0.055	2000 U	2000	NA	NA	400 U	400	0.045 U	0.045	0.041 U	0.041	0.047 U	0.047
Aroclor-1254	0.055	4000 U	4000	NA	NA	790 U	790	0.089 U	0.089	0.082 U	0.082	0.094 U	0.094
Aroclor-1260	0.055	E		19000	8000	1500	790	0.015 J	0.089	0.082 U	0.082	0.063 J	0.094
Method:TCL PCBs													

MAIN POST
TRANSFORMERS AND CONCRETE - PCBs

Geographical Location		Bulding 1220		Bulding 1220		Building 1220	
Sample		MPT3-TR04-A01		MPT3-TR04-C01		MPT3-CC01-A01	
Sample Type		Transformer		Duplicate		Concrete	
Batch#		9411G832		9411G832		9412G922	
Prep#		94GP1024		94GP1024			
RFW#		004		005		007	
Sample Depth							
Dilution Factor		0.5		0.5		0.50	
Matrix		soil		soil		Concrete	
Units	mg/kg	mg/kg		mg/kg		mg/kg	
Sampling Date		11/29/94		11/29/94		NA	
Analysis Date		12/21/94		12/22/94		12/31/94	
Analysis	Standard	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting
		Result	Limit	Result	Limit	Result	Limit
% Solids		87.9	0.10	88.0	0.10		
Aroclor-1016	0.055	0.045 U	0.045	0.045 U	0.045	0.04 U	0.04
Aroclor-1221	0.055	0.045 U	0.045	0.045 U	0.045	0.04 U	0.04
Aroclor-1232	0.055	0.045 U	0.045	0.045 U	0.045	0.04 U	0.04
Aroclor-1242	0.055	0.045 U	0.045	0.045 U	0.045	0.04 U	0.04
Aroclor-1248	0.055	0.045 U	0.045	0.045 U	0.045	0.04 U	0.04
Aroclor-1254	0.055	0.090 U	0.09	0.089 U	0.089	0.08 U	0.079
Aroclor-1260	0.055	0.087 J	0.09	0.07 J	0.089	0.026	0.079
Method:TCL PCBs							

CHARLES WOOD

CHARLES WOOD
SEDIMENT VOLATILES

Geographical Location			Background		Background		CW5	
Sample			CW02-SD01-A01		CW05-SD01-A01		CW06-SD01-A01	
Batch#			9412G923		9412G923		9412G923	
Prep#			94GVT028		94GVT028		94GVT028	
RFW#			005		006		006	
Sample Depth			0-6"		0-6"		0-6"	
Dilution Factor			1.00		1.00		1.00	
Matrix			soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg	
Sampling Date			12/1/94		12/1/94		12/1/94	
Analysis Date			12/9/94		12/9/94		12/9/94	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane		0.0073	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Bromomethane		0.0067	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Vinyl Chloride		0.0079	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Chloroethane		0.0091	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Methylene Chloride		0.0027	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Acetone		0.0069	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Carbon Disulfide		0.0044	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
1,1-Dichloroethene		0.0049	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
1,1-Dichloroethane		0.003	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
1,2-Dichloroethene (total)		0.0044	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Chloroform		0.0029	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
1,2-Dichloroethane		0.0024	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
2-Butanone		0.0041	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
1,1,1-Trichloroethane		0.0017	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Carbon Tetrachloride		0.0015	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Bromodichloromethane		0.002	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
1,2-Dichloropropane		0.0017	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
cis-1,3-Dichloropropene		0.003	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Trichloroethene		0.002	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Dibromochloromethane		0.0024	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
1,1,2-Trichloroethane		0.0043	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Benzene		0.0033	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
trans-1,3-Dichloropropene		0.0024	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Bromoform		0.0031	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
4-Methyl-2-pentanone		0.0055	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
2-Hexanone		0.0039	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Tetrachloroethene		0.004	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
1,1,2,2-Tetrachloroethane		0.0042	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Toluene		0.0027	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Chlorobenzene		0.0027	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Ethylbenzene		0.0031	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Styrene		0.0038	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Xylene (total)		0.0038	0.014 U	0.014	0.018 U	0.018	0.013 U	0.013
Total Est. Conc. of TIC.					0.02			
Method:TCL Volatiles								

CHARLES WOOD
SEDIMENT SEMIVOLATILES

Geographical Location			Background		Background		Background		CW5	
Sample			CW02-SD01-A01		CW05-SD01-A01		CW05-SD01-A01R		CW06-SD01-A01	
Batch#			9412G923		9412G923		9412G923		9412G923	
Prep#			94GBO800		94GBO800		94GBO800		94GBO800	
RFW#			005		006		006		007	
Sample Depth			0-6"		0-6"		0-6"		0-6"	
Dilution Factor			1.00		1.00		1.00		1.00	
Matrix			soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			12/1/94		12/1/94		12/1/94		12/1/94	
Analysis Date			12/22/94		12/22/94		12/22/94		12/22/94	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol		0.234	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
bis(2-Chloroethyl) ether		0.32	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
2-Chlorophenol		0.241	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
1,3-Dichlorobenzene		0.175	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
1,4-Dichlorobenzene		0.158	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
1,2-Dichlorobenzene		0.188	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
2-Methylphenol		0.221	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
2,2'-oxybis(1-Chloropropane)		0.231	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
4-Methylphenol		0.426	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
N-Nitroso-di-n-propylamine		0.264	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
Hexachloroethane		0.175	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
Nitrobenzene		0.244	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
Isophorone		0.129	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
2-Nitrophenol		0.231	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
2,4-Dimethylphenol		0.158	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
bis(2-Chloroethoxy) methane		0.201	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
2,4-Dichlorophenol		0.145	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
1,2,4-Trichlorobenzene		0.317	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
Naphthalene		0.277	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
4-Chloroaniline		0.096	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
Hexachlorobutadiene		0.152	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
4-Chloro-3-methylphenol		0.102	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
2-Methylnaphthalene		0.287	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
Hexachlorocyclopentadiene		0.119	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
2,4,6-Trichlorophenol		0.185	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
2,4,5-Trichlorophenol		0.155	1.2 U	1.2	1.5 U	1.5	1.5 U	1.5	1 U	1
2-Chloronaphthalene		0.271	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
2-Nitroaniline		0.201	1.2 U	1.2	1.5 U	1.5	1.5 U	1.5	1 U	1
Dimethylphthalate		0.145	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.4 J	0.42
Acenaphthylene		0.198	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
2,6-Dinitrotoluene		0.172	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
3-Nitroaniline		0.172	1.2 U	1.2	1.5 U	1.5	1.5 U	1.5	1 U	1
Acenaphthene		0.221	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
2,4-Dinitrophenol		0.152	1.2 U	1.2	1.5 U	1.5	1.5 U	1.5	1 U	1

CHARLES WOOD
SEDIMENT SEMIVOLATILES

Geographical Location			Background		Background		Background		CW5	
Sample			CW02-SD01-A01		CW05-SD01-A01		CW05-SD01-A01R		CW06-SD01-A01	
Batch#			9412G923		9412G923		9412G923		9412G923	
Prep#			94GBO800		94GBO800		94GBO800		94GBO800	
RFW#			005		006		006		007	
Sample Depth			0-6"		0-6"		0-6"		0-6"	
Dilution Factor			1.00		1.00		1.00		1.00	
Matrix			soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			12/1/94		12/1/94		12/1/94		12/1/94	
Analysis Date			12/22/94		12/22/94		12/22/94		12/22/94	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		0.248	1.2 U	1.2	1.5 U	1.5	1.5 U	1.5	1 U	1
Dibenzofuran		0.215	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
2,4-Dinitrotoluene		0.191	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
Diethylphthalate		0.178	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
4-Chlorophenyl-phenylether		0.231	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
Fluorene		0.208	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
4-Nitroaniline		0.211	1.2 U	1.2	1.5 U	1.5	1.5 U	1.5	1 U	1
4,6-Dinitro-2-methylphenol		0.175	1.2 U	1.2	1.5 U	1.5	1.5 U	1.5	1 U	1
N-Nitrosodiphenylamine (1)		0.139	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
4-Bromophenyl-phenylether		0.175	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
Hexachlorobenzene		0.182	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
Pentachlorophenol		0.132	1.2 U	1.2	1.5 U	1.5	1.5 U	1.5	1 U	1
Phenanthrene	0.225	0.165	0.47 U	0.47	0.079 J	0.61	0.074 J	0.61	0.098 J	0.42
Anthracene		0.152	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
Carbazole		0.145	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
Di-n-butylphthalate		0.215	0.47 U	0.47	0.12 J	0.61	0.12 JB	0.61	0.081 J	0.42
Fluoranthene	0.6	0.198	0.47 U	0.47	0.12 J	0.61	0.12 J	0.61	0.16 J	0.42
Pyrene	0.35	0.178	0.47 U	0.47	0.24 J	0.61	0.41 J	0.61	0.19 J	0.42
Butylbenzylphthalate		0.175	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
3,3'-Dichlorobenzidine		0.092	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
Benzo(a)anthracene	0.23	0.162	0.47 U	0.47	0.09 J	0.61	0.083 J	0.61	0.079 J	0.42
Chrysene	0.4	0.145	0.47 U	0.47	0.11 J	0.61	0.14 J	0.61	0.087 J	0.42
bis(2-Ethylhexy)phthalate		0.32	0.47 U	0.47	0.21 J	0.61	0.23 J	0.61	0.45	0.42
Di-n-octyl phthalate		0.185	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.11 J	0.42
Benzo(b)fluoranthene		0.188	0.47 U	0.47	0.16 J	0.61	0.16 J	0.61	0.1 J	0.42
Benzo(k)fluoranthene		0.205	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
Benzo(a)pyrene	0.4	0.162	0.47 U	0.47	0.61 U	0.61	0.1 J	0.61	0.42 U	0.42
Indeno(1,2,3-cd)pyrene		0.234	0.47 U	0.47	0.17 J	0.61	0.19 J	0.61	0.42 U	0.42
Dibenzo(a,h)anthracene		0.198	0.47 U	0.47	0.61 U	0.61	0.61 U	0.61	0.42 U	0.42
Benzo(g,h,i)perylene		0.224	0.47 U	0.47	0.15 J	0.61	0.21 J	0.61	0.42 U	0.42
Organic Carbon %					1.3	0.06				
% solids					76.3	0.10				
Total Est. Conc. of TIC			10.1 J		28.2 J		39.7 J		9.39 J	
Method:TCL Semivolatiles										

CHARLES WOOD
SEDIMENT INORGANICS

Geographical Location		Background		Background		Background		CW5	
Sample		CW02-SD01-A01		CW05-SD01-A01		CW05-SD01-A01		CW06-SD01-A01	
Batch#		9412G923		9505G138		9412G923		9412G923	
Prep#		94GTS473		95GTS327		94GTS473		94GTS473	
RFW#		005		001		006		007	
Sample Depth		0-6"		0-6"		0-6"		0-6"	
Dilution Factor		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		12/1/94		5/25/95		12/1/94		12/1/94	
Analysis Date		12/9/94		6/1/95		12/9/94		12/9/94	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
% Solids		71.3	0.10	76.3	0.10	54.5	0.10	79.3	0.10
Silver	1	0.63 U	0.63			1.1 U	1.1	0.70 U	0.7
Aluminum		1910	5.5			6660	9.1	866	6.1
Arsenic	33	1.1	0.38			5.8	0.54	0.74	0.35
Barium		8.4	0.43			45.7	0.71	9.6	0.48
Beryllium		0.31 U	0.31			0.51 U	0.51	0.34 U	0.34
Calcium		343	2.5			2960	4.1	509	2.7
Cadmium	5	0.70 U	0.70			1.2 U	1.2	0.77 U	0.77
Cobalt		0.88	0.57			4.2	0.95	1.3	0.64
Chromium	80	24.4	1.3			36.9	2.2	7.8	1.5
Copper	70	2.2	0.49			24.5	0.82	7.4	0.55
Iron		5860	0.96			19600	1.6	6910	1.1
Mercury	0.15	0.10 U	0.10			0.15 U	0.15	0.084 U	0.084
Potassium		1700	168			1410	279	256	186
Magnesium		640	7.8			2560	13.0	320	8.7
Manganese		5.4	0.41			65.1	0.68	25.8	0.45
Sodium		37.4	3.2			271	5.2	54.0	3.5
Nickel	30	2.6 U	2.6			11.3	4.3	2.9 U	2.9
Lead	35	6.4	1.5 *			142	10.8 *	9.3	1.8 *
Antimony		4.4 U	4.4			7.3 U	7.3	4.9 U	4.9
Selenium		0.21 U	0.21			0.68	0.30	0.20 U	0.2
Thallium		0.26 U	0.26			0.37 U	0.37	0.24 U	0.24
Vanadium		11.3	0.59			39.5	0.99	5.4	0.66
Zinc	120	14.3	0.57			126	0.95	22.5	0.64
Cyanide		1.1	0.63			0.87 U	0.87	0.47 U	0.47
Dilution Factor		* = 4.00				* = 20.0		* = 5.00	
Method:TAL Metals, Cyanide									

CHARLES WOOD
SEDIMENT PESTICIDES/PCBS

Geographical Location		Background		Background		Background		CW5	
Sample		CW02-SD01-A01		CW05-SD01-A01		CW05-SD01-A01DL		CW06-SD01-A01	
Batch#		9412G923		9412G923		9412G923		9412G923	
Prep#		94GP1049		94GP1049		94GP1049		94GP1049	
RFW#		005		006		006DL		007	
Sample Depth		0-6"		0-6"		0-6"		0-6"	
Dilution Factor		1.00		1.00		2.00		1.00	
Matrix		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		12/1/94		12/1/94		12/1/94		12/1/94	
Analysis Date		1/12/95		1/12/95		1/12/95		1/12/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
alpha-BHC		0.0023 U	0.0023	0.003 U	0.003	0.006 U	0.006	0.0021 U	0.0021
beta-BHC		0.0023 U	0.0023	0.003 U	0.003	0.006 U	0.006	0.0021 U	0.0021
delta-BHC		0.0023 U	0.0023	0.003 U	0.003	0.006 U	0.006	0.0021 U	0.0021
gamma-BHC (Lindane)		0.0023 U	0.0023	0.003 U	0.003	0.006 U	0.006	0.0021 U	0.0021
Heptachlor		0.0023 U	0.0023	0.003 U	0.003	0.006 U	0.006	0.0021 U	0.0021
Aldrin		0.0023 U	0.0023	0.003 U	0.003	0.006 U	0.006	0.0021 U	0.0021
Heptachlor epoxide		0.0023 U	0.0023	0.003 U	0.003	0.006 U	0.006	0.0042 P	0.0021
Endosulfan I		0.0023 U	0.0023	0.003 U	0.003	0.006 U	0.006	0.0021 U	0.0021
Dieldrin		0.0047 U	0.0047	0.006 U	0.006	0.012 U	0.012	0.0042 U	0.0042
4,4'-DDE	0.002	0.0028 J	0.0047	0.096	0.006	.085 D	0.012	0.0067	0.0042
Endrin		0.0047 U	0.0047	0.006 U	0.006	0.012 U	0.012	0.0042 U	0.0042
Endosulfan II		0.0047 U	0.0047	0.006 U	0.006	0.012 U	0.012	0.0042 U	0.0042
4,4'-DDD	0.002	0.0065	0.0047	0.013 P	0.006	.015 PD	0.012	0.005 P	0.0042
Endosulfan sulfate		0.0047 U	0.0047	0.006 U	0.006	0.012 U	0.012	0.0042 U	0.0042
4,4'-DDT	0.00183	0.007	0.0047	0.11	0.006	.11 D	0.012	0.0029 JP	0.0042
Methoxychlor		0.023 U	0.023	0.03 U	0.03	0.06 U	0.06	0.021 U	0.021
Endrin ketone		0.0047 U	0.0047	0.006 U	0.006	0.012 U	0.012	0.0042 U	0.0042
Endrin aldehyde		0.0047 U	0.0047	0.006 U	0.006	0.012 U	0.012	0.0042 U	0.0042
alpha-Chlordane		0.0023 U	0.0023	0.003 U	0.003	0.006 U	0.006	0.0021 U	0.0021
gamma-Chlordane		0.0023 U	0.0023	0.003 U	0.003	0.006 U	0.006	0.0021 U	0.0021
Toxaphene		0.23 U	0.23	0.3 U	0.3	0.6 U	0.6	0.21 U	0.21
Aroclor-1016		0.047 U	0.047	0.06 U	0.06	0.12 U	0.12	0.042 U	0.042
Aroclor-1221		0.093 U	0.093	0.12 U	0.12	0.24 U	0.24	0.084 U	0.084
Aroclor-1232		0.047 U	0.047	0.06 U	0.06	0.12 U	0.12	0.042 U	0.042
Aroclor-1242		0.047 U	0.047	0.06 U	0.06	0.12 U	0.12	0.042 U	0.042
Aroclor-1248		0.047 U	0.047	0.06 U	0.06	0.12 U	0.12	0.042 U	0.042
Aroclor-1254		0.047 U	0.047	0.06 U	0.06	0.12 U	0.12	0.042 U	0.042
Aroclor-1260		0.047 U	0.047	0.06 U	0.06	0.12 U	0.12	0.042 U	0.042
Method:TCL Pesticides/PCBs									

CHARLES WOOD
SURFACE WATER VOLATILES

Geographical Location			Background		Background	
Sample			CW02-SW01-A01		CW05-SW01-A01	
Batch#			9412G923		9412G923	
Prep#			94GVE348		94GVE348	
RFW#			001		003	
Dilution Factor			1.00		1.00	
Matrix			water		water	
Units	ug/l		ug/l		ug/l	
Sampling Date			12/1/94		12/1/94	
Analysis Date			12/9/94		12/9/94	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane	5.7	7.3	10 U	10	10 U	10
Bromomethane	48.4	6.7	10 U	10	10 U	10
Vinyl Chloride	0.083	7.9	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10
Methylene Chloride	2.49	2.7	10 U	10	10 U	10
Acetone		6.9	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10
1,1-Dichloroethene	4.81	4.9	10 U	10	10 U	10
1,1-Dichloroethane		3.0	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10
Chloroform	5.67	2.9	10 U	10	10 U	10
1,2-Dichloroethane	0.291	2.4	10 U	10	10 U	10
2-Butanone		4.1	10 U	10	10 U	10
1,1,1-Trichloroethane	127	1.7	10 U	10	10 U	10
Carbon Tetrachloride	0.363	1.5	10 U	10	10 U	10
Bromodichloromethane	0.266	2.0	10 U	10	10 U	10
1,2-Dichloropropane		1.7	10 U	10	10 U	10
cis-1,3-Dichloropropene		3.0	10 U	10	10 U	10
Trichloroethene	1.09	2.0	10 U	10	10 U	10
Dibromochloromethane	72.6	2.4	10 U	10	10 U	10
1,1,2-Trichloroethane	13.5	4.3	10 U	10	10 U	10
Benzene	0.15	3.3	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.193	2.4	10 U	10	10 U	10
Bromoform	4.38	3.1	10 U	10	10 U	10
4-Methyl-2-pentanone		5.5	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10
Tetrachloroethene	0.388	4.0	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	1.72	4.2	10 U	10	10 U	10
Toluene	7440	2.7	10 U	10	10 U	10
Chlorobenzene	22	2.7	10 U	10	10 U	10
Ethylbenzene	3030	3.1	10 U	10	10 U	10
Styrene		3.8	10 U	10	10 U	10
Xylene (total)		3.8	10 U	10	10 U	10
Method:TCL Volatiles						

CHARLES WOOD
SURFACE WATER SEMIVOLATILES

Geographical Location			Background		Background	
Sample			CW02-SW01-A01		CW05-SW01-A01	
Batch#			9412G923		9412G923	
Prep#			94GBO800		94GBO800	
RFW#			001		003	
Dilution Factor			1.00		1.00	
Matrix			water		water	
Units	ug/l	ug/l	ug/l		ug/l	
Sampling Date			12/1/94		12/1/94	
Analysis Date			12/22/94		12/22/94	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	20900	7.1	10 U	10	10 U	10
bis(2-Chloroethyl) ether	0.0311	9.7	10 U	10	10 U	10
2-Chlorophenol	122	7.3	10 U	10	10 U	10
1,3-Dichlorobenzene	2620	5.3	10 U	10	10 U	10
1,4-Dichlorobenzene	343	4.8	10 U	10	10 U	10
1,2-Dichlorobenzene	2520	5.7	10 U	10	10 U	10
2-Methylphenol		6.7	10 U	10	10 U	10
2,2'-oxybis(1-Chloropropane)		7.0	10 U	10	10 U	10
4-Methylphenol		12.9	10 U	10	10 U	10
N-Nitroso-di-n-propylamine		8.0	10 U	10	10 U	10
Hexachloroethane	2.73	5.3	10 U	10	10 U	10
Nitrobenzene	16	7.4	10 U	10	10 U	10
Isophorone	552	3.9	10 U	10	10 U	10
2-Nitrophenol		7.0	10 U	10	10 U	10
2,4-Dimethylphenol		4.8	10 U	10	10 U	10
bis(2-Chloroethoxy) methane		6.1	10 U	10	10 U	10
2,4-Dichlorophenol	92.7	4.4	10 U	10	10 U	10
1,2,4-Trichlorobenzene	30.6	9.6	10 U	10	10 U	10
Naphthalene		8.4	10 U	10	10 U	10
4-Chloroaniline		2.9	10 U	10	10 U	10
Hexachlorobutadiene	6.94	4.6	10 U	10	10 U	10
4-Chloro-3-methylphenol		3.1	10 U	10	10 U	10
2-Methylnaphthalene		8.7	10 U	10	10 U	10
Hexachlorocyclopentadiene	245	3.6	10 U	10	10 U	10
2,4,6-Trichlorophenol	2.14	5.6	10 U	10	10 U	10
2,4,5-Trichlorophenol	2580	4.7	25 U	25	25 U	25
2-Chloronaphthalene		8.2	10 U	10	10 U	10
2-Nitroaniline		6.1	25 U	25	25 U	25
Dimethylphthalate	313000	4.4	10 U	10	10 U	10
Acenaphthylene		6.0	10 U	10	10 U	10
2,6-Dinitrotoluene		5.2	10 U	10	10 U	10
3-Nitroaniline		5.2	25 U	25	25 U	25
Acenaphthene		6.7	10 U	10	10 U	10
2,4-Dinitrophenol	69.7	4.6	25 U	25	25 U	25
4-Nitrophenol		7.5	25 U	25	25 U	25

CHARLES WOOD
SURFACE WATER SEMIVOLATILES

Geographical Location			Background		Background	
Sample			CW02-SW01-A01		CW05-SW01-A01	
Batch#			9412G923		9412G923	
Prep#			94GBO800		94GBO800	
RFW#			001		003	
Dilution Factor			1.00		1.00	
Matrix			water		water	
Units	ug/l	ug/l	ug/l		ug/l	
Sampling Date			12/1/94		12/1/94	
Analysis Date			12/22/94		12/22/94	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL
Dibenzofuran		6.5	10 U	10	10 U	10
2,4-Dinitrotoluene	0.11	5.8	10 U	10	10 U	10
Diethylphthalate	21200	5.4	10 U	10	10 U	10
4-Chlorophenyl-phenylether		7.0	10 U	10	10 U	10
Fluorene	1340	6.3	25 U	25	25 U	25
4-Nitroaniline		6.4	25 U	25	25 U	25
4,6-Dinitro-2-methylphenol		5.3	10 U	10	10 U	10
N-Nitrosodiphenylamine (1)		4.2	10 U	10	10 U	10
4-Bromophenyl-phenylether		5.3	10 U	10	10 U	10
Hexachlorobenzene	0.000748	5.5	25 U	25	25 U	25
Pentachlorophenol	0.282	4.0	10 U	10	10 U	10
Phenanthrene		5.0	10 U	10	10 U	10
Anthracene	9570	4.6	10 U	10	10 U	10
Carbazole		4.4	10 U	10	10 U	10
Di-n-butylphthalate	3530	6.5	10 U	10	10 U	10
Fluoranthene	310	6.0	10 U	10	10 U	10
Pyrene	797	5.4	10 U	10	10 U	10
Butylbenzylphthalate	239	5.3	10 U	10	10 U	10
3,3'-Dichlorobenzidine	0.0386	2.8	10 U	10	10 U	10
Benzo(a)anthracene	0.0028	4.9	10 U	10	10 U	10
Chrysene	0.0028	4.4	10 U	10	10 U	10
bis(2-Ethylhexy)phthalate	1.76	9.7	1 J	10	1 J	10 JB
Di-n-octyl phthalate		5.6	10 U	10	10 U	10
Benzo(b)fluoranthene	0.0028	5.7	10 U	10	10 U	10
Benzo(k)fluoranthene	0.0028	6.2	10 U	10	10 U	10
Benzo(a)pyrene	0.0028	4.9	10 U	10	10 U	10
Indeno(1,2,3-cd)pyrene	0.0028	7.1	10 U	10	10 U	10
Dibenzo(a,h)anthracene	0.0028	6.0	10 U	10	10 U	10
Benzo(g,h,i)perylene		6.8	10 U	10	10 U	10
Total Est. Conc. of TIC			70			
Method:TCL Semivolatiles						

CHARLES WOOD
SURFACE WATER INORGANICS

Geographical Location		Background		Background		Background		Background	
Sample		CW02-SW01-A01		CW02-SW01-A01 SOL		CW05-SW01-A01		CW05-SW01-A01 SOL	
Sample Type		Total		Soluble		Total		Soluble	
Batch#		9412G923		9412G923		9412G923		9412G923	
Prep#		94GCN264		94GI186		94GCN264		94GI186	
RFW#		001		002		003		004	
Dilution Factor		1.00		1.00		1.00		1.00	
Matrix		water		water, filtered		water		water, filtered	
Units	ug/l	ug/l		ug/l		ug/l		ug/l	
Sampling Date		12/1/94		12/1/94		12/1/94		12/1/94	
Analysis Date		12/14/94		12/21/94		12/14/94		12/21/94	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	164	3.1 U	3.1	3.1 U	3.1	3.1 U	3.1	3.1 U	3.1
Aluminum		134	26.7	86.6	26.7	265	26.7	160	26.7
Arsenic	0.017	1.6 U	1.6	1.6 U	1.6	1.6 U	1.6	1.6 U	1.6
Barium	2000	77.1	2.1	78.2	2.1	60.6	2.1	60.3	2.1
Beryllium		1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5
Calcium		15100	12.0	15700	12.0	22900	12.0	24000	12
Cadmium	10	3.4 U	3.4	3.4 U	3.4	3.4 U	3.4	3.4 U	3.4
Cobalt		2.8	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8
Chromium	160	6.4 U	6.4	6.4 U	6.4	6.4 U	6.4	6.4 U	6.4
Copper		2.4 U	2.4	4.8	2.4	8.0	2.4	10.2	2.4
Iron		608	4.7	352	4.7	715	4.7	435	4.7
Mercury	0.144	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		3590	821	4040	821	1110	821	1030	821
Magnesium		7050	38.2	7390	38.2	4150	38.2	4280	38.2
Manganese	100	97.4	2.0	100	2.0	43.0	2.0	44.4	2.0
Sodium		156000	15.4	164000	15.4	10700	15.4	11200	15.4
Nickel	516	12.8 U	12.8	12.8 U	12.8	12.8 U	12.8	12.8 U	12.8
Lead	5	2.2	1.6	1.8	1.6	4.7	0.8	3.9	0.8
Antimony	12.2	26.8	21.5	21.5 U	21.5	21.5 U	21.5	21.5 U	21.5
Selenium	10	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90
Thallium	1.7	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1
Vanadium		2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9
Zinc		55.1	2.8	58.8	2.8	204	2.8	215	2.8
Cyanide	5.2	10.0 U	10.0			10.0 U	10.0		
Method:TAL Metals, Cyanide									

CHARLES WOOD
SURFACE WATER PESTICIDES/PCBS

Geographical Location		Background		Background	
Sample		CW02-SW01-A01		CW05-SW01-A01	
Batch#		9412G923		9412G923	
Prep#		94GP1038		94GP1038	
RFW#		001		003	
Dilution Factor		1.00		1.00	
Matrix		water		water	
Units	ug/l	ug/l		ug/l	
Sampling Date		12/1/94		12/1/94	
Analysis Date		12/17/94		12/17/94	
Analysis	Standard	Analytical	Reporting	Analytical	Reporting
		Result	Limit	Result	Limit
alpha-BHC	0.00391	0.050 U	0.050	0.040 U	0.040
beta-BHC	0.137	0.050 U	0.050	0.040 U	0.040
delta-BHC		0.050 U	0.050	0.040 U	0.040
gamma-BHC (Lindane)	0.08	0.050 U	0.050	0.040 U	0.040
Heptachlor	0.000208	0.050 U	0.050	0.040 U	0.040
Aldrin	0.000135	0.050 U	0.050	0.040 U	0.040
Heptachlor epoxide	0.000103	0.050 U	0.050	0.040 U	0.040
Endosulfan I		0.050 U	0.050	0.040 U	0.040
Dieldrin	0.000135	0.1 U	0.10	0.080 U	0.080
4,4'-DDE	0.000588	0.1 U	0.10	0.080 U	0.080
Endrin	0.0023	0.1 U	0.10	0.080 U	0.080
Endosulfan II		0.1 U	0.10	0.080 U	0.080
4,4'-DDD	0.000832	0.1 U	0.10	0.080 U	0.080
Endosulfan sulfate	0.93	0.1 U	0.10	0.080 U	0.080
4,4'-DDT	0.000588	0.1 U	0.10	0.080 U	0.080
Methoxychlor	0.03	0.5 U	0.50	0.40 U	0.4
Endrin ketone		0.1 U	0.10	0.080 U	0.080
Endrin aldehyde	0.76	0.1 U	0.10	0.080 U	0.080
alpha-Chlordane	0.000277	0.050 U	0.050	0.040 U	0.040
gamma-Chlordane		0.050 U	0.050	0.040 U	0.040
Toxaphene	0.00073	5 U	5	4 U	4
Aroclor-1016	0.000244	1 U	1	0.80 U	0.8
Aroclor-1221	0.000244	2 U	2	1.6 U	1.6
Aroclor-1232	0.000244	1 U	1	0.80 U	0.80
Aroclor-1242	0.000244	1 U	1	0.80 U	0.80
Aroclor-1248	0.000244	1 U	1	0.80 U	0.80
Aroclor-1254	0.000244	1 U	1	0.80 U	0.80
Aroclor-1260	0.000244	1 U	1	0.80 U	0.80
Method:TCL Pesticides/PCBs					

CHARLES WOOD
SURFACE SOIL VOLATILES

Geographical Location			CW6		CW9		CW9	
Sample			CW06-SS01-A01		CW09-SS01-D01		CW09-SS01-E01	
Sample Type					Duplicate		Field Rinsate Blank	
Batch#			9412G854		9412G854		9412G854	
Prep#			94GVT027		94GVE343		94GVE343	
RFW#			014		001		002	
Sample Depth			0-6"		0-6"		0-6"	
Dilution Factor			1.00		1.00		1.00	
Matrix			soil		water		water	
Units	mg/kg	mg/kg	mg/kg		mg/l		mg/l	
Sampling Date			11/30/94		11/30/94		11/30/94	
Analysis Date			12/5/94		12/7/94		12/7/94	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane	520	0.0073	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Bromomethane	79	0.0067	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Vinyl Chloride	2	0.0079	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Chloroethane		0.0091	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Methylene Chloride	49	0.0027	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Acetone	1000	0.0069	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Carbon Disulfide		0.0044	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
1,1-Dichloroethene	8	0.0049	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
1,1-Dichloroethane	570	0.003	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
1,2-Dichloroethene (total)	79	0.0044	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Chloroform	19	0.0029	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
1,2-Dichloroethane	6	0.0024	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
2-Butanone	1000	0.0041	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
1,1,1-Trichloroethane	210	0.0017	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Carbon Tetrachloride	2	0.0015	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Bromodichloromethane	11	0.002	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
1,2-Dichloropropane	10	0.0017	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
cis-1,3-Dichloropropene	4	0.003	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Trichloroethene	23	0.002	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Dibromochloromethane	110	0.0024	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
1,1,2-Trichloroethane	22	0.0043	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Benzene	3	0.0033	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
trans-1,3-Dichloropropene	4	0.0024	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Bromoform	86	0.0031	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
4-Methyl-2-pentanone	1000	0.0055	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
2-Hexanone		0.0039	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Tetrachloroethene	4	0.004	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
1,1,2,2-Tetrachloroethane	34	0.0042	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Toluene	1000	0.0027	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Chlorobenzene	37	0.0027	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Ethylbenzene	1000	0.0031	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Styrene	23	0.0038	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Xylene (total)	410	0.0038	0.022 U	0.022	0.01 U	0.01	0.01 U	0.01
Method:TCL Volatiles								

CHARLES WOOD
SURFACE SOIL SEMIVOLATILES

Geographical Location			CW6	
Sample			CW06-SS01-A01	
Batch#			9412G854	
Prep#			94GB0796	
RFW#			014	
Sample Depth			0-6"	
Dilution Factor			10.00	
Matrix			soil	
Units	mg/kg	mg/kg	mg/kg	
Sampling Date			11/30/94	
Analysis Date			12/21/94	
Analysis	Standard	MDL	Analytical Result	CRQL
Phenol	10000	0.234	7.2 U	7.2
bis(2-Chloroethyl) ether	0.66	0.32	7.2 U	7.2
2-Chlorophenol	280	0.241	7.2 U	7.2
1,3-Dichlorobenzene	5100	0.175	7.2 U	7.2
1,4-Dichlorobenzene	570	0.158	7.2 U	7.2
1,2-Dichlorobenzene	5100	0.188	7.2 U	7.2
2-Methylphenol	2800	0.221	7.2 U	7.2
2,2'-oxybis(1-Chloropropane)		0.231	7.2 U	7.2
4-Methylphenol	2800	0.426	7.2 U	7.2
N-Nitroso-di-n-propylamine	0.66	0.264	7.2 U	7.2
Hexachloroethane	6	0.175	7.2 U	7.2
Nitrobenzene	28	0.244	7.2 U	7.2
Isophorone	1100	0.129	7.2 U	7.2
2-Nitrophenol		0.231	7.2 U	7.2
2,4-Dimethylphenol	1100	0.158	7.2 U	7.2
bis(2-Chloroethoxy) methane		0.201	7.2 U	7.2
2,4-Dichlorophenol	170	0.145	7.2 U	7.2
1,2,4-Trichlorobenzene	68	0.317	7.2 U	7.2
Naphthalene	230	0.277	7.2 U	7.2
4-Chloroaniline	230	0.096	7.2 U	7.2
Hexachlorobutadiene	1	0.152	7.2 U	7.2
4-Chloro-3-methylphenol	10000	0.102	7.2 U	7.2
2-Methylnaphthalene		0.287	7.2 U	7.2
Hexachlorocyclopentadiene	400	0.119	7.2 U	7.2
2,4,6-Trichlorophenol	62	0.185	7.2 U	7.2
2,4,5-Trichlorophenol	5600	0.155	18 U	18
2-Chloronaphthalene		0.271	7.2 U	7
2-Nitroaniline		0.201	18 U	18
Dimethylphthalate	10000	0.145	7.2 U	7
Acenaphthylene		0.198	7.2 U	7
2,6-Dinitrotoluene	1	0.172	7.2 U	7
3-Nitroaniline		0.172	18 U	18
Acenaphthene	3400	0.221	7.2 U	7
2,4-Dinitrophenol	110	0.152	18 U	18

CHARLES WOOD
SURFACE SOIL SEMIVOLATILES

Geographical Location			CW6	
Sample			CW06-SS01-A01	
Batch#			9412G854	
Prep#			94GB0796	
RFW#			014	
Sample Depth			0-6"	
Dilution Factor			10.00	
Matrix			soil	
Units	mg/kg	mg/kg	mg/kg	
Sampling Date			11/30/94	
Analysis Date			12/21/94	
Analysis	Standard	MDL	Analytical Result	CRQL
4-Nitrophenol		0.248	18 U	18
Dibenzofuran		0.215	7.2 U	7.2
2,4-Dinitrotoluene	1	0.191	7.2 U	7.2
Diethylphthalate	10000	0.178	7.2 U	7.2
4-Chlorophenyl-phenylether		0.231	7.2 U	7.2
Fluorene	2300	0.208	7.2 U	7.2
4-Nitroaniline		0.211	18 U	18
4,6-Dinitro-2-methylphenol		0.175	18 U	18
N-Nitrosodiphenylamine (1)	140	0.139	7.2 U	7.2
4-Bromophenyl-phenylether		0.175	7.2 U	7.2
Hexachlorobenzene	0.66	0.182	7.2 U	7.2
Pentachlorophenol	6	0.132	18 U	18
Phenanthrene		0.165	7.2 U	7.2
Anthracene	10000	0.152	7.2 U	7.2
Carbazole		0.145	7.2 U	7.2
Di-n-butylphthalate	5700	0.215	7.2 U	7.2
Fluoranthene	2300	0.198	7.2 U	7.2
Pyrene	1700	0.178	7.2 U	7.2
Butylbenzylphthalate	1100	0.175	7.2 U	7.2
3,3'-Dichlorobenzidine	2	0.092	7.2 U	7.2
Benzo(a)anthracene	0.9	0.162	7.2 U	7.2
Chrysene	9	0.145	7.2 U	7.2
bis(2-Ethylhexy)phthalate	49	0.32	0.76 J	
Di-n-octyl phthalate	1100	0.185	7.2 U	7.2
Benzo(b)fluoranthene	0.9	0.188	7.2 U	7.2
Benzo(k)fluoranthene	0.9	0.205	7.2 U	7.2
Benzo(a)pyrene	0.66	0.162	7.2 U	7.2
Indeno(1,2,3-cd)pyrene	0.9	0.234	7.2 U	7.2
Dibenzo(a,h)anthracene	0.66	0.198	7.2 U	7.2
Benzo(g,h,i)perylene		0.224	7.2 U	7.2
Method:TCL Semivolatiles				

CHARLES WOOD
SURFACE SOIL INORGANICS

Geographical Location		CW4		CW6		CW9		CW9		CW9		CW9	
Sample		CW04-SS01-A01		CW06-SS01-A01		CW09-SS01-A01		CW09-SS01-C01		CW09-SS02-A01		CW09-SS03-A01	
Sample Type								Duplicate					
Batch#		9412G854		9412G854		9412G854		9412G854		9412G854		9412G854	
Prep#		94GTS467		94GTS467		94GTS467		94GTS467		94GTS467		94GTS467	
RFW#		013		014		003		004		005		006	
Sample Depth		0-6"		0-6"		0-6"		0-6"		0-6"		0-6"	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		11/30/94		11/30/94		11/30/94		11/30/94		11/30/94		11/30/94	
Analysis Date		12/6/94		12/6/94		12/6/94		12/6/94		12/6/94		12/6/94	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
% Solids		90.1	0.10	46.0	0.10	77.4	0.10	78.8	0.10	80.5	0.10	78.6	0.10
Silver	110	0.76	0.5	1.5	1.3	2.5	0.72	2.4	0.64	2.8	0.53	0.65 U	0.65
Aluminum		6870	4.3	5130	11	7350	6.2	7470	5.6	5730	4.6	3600	5.6
Arsenic	20	7.8	0.58 *	11.6	0.61	13.6	1.9 *	14.1	0.76 *	12.1	0.69 *	6.9	0.33
Barium	700	17.7	0.34	72.2	0.86	23.4	0.49	24.1	0.44	28.9	0.36	65.4	0.44
Beryllium	1	0.76	0.24	0.62 U	0.62	0.73	0.35	0.91	0.31	0.68	0.26	0.57	0.32
Calcium		699	1.9	4430	5	2680	2.8	2620	2.5	2650	2.1	1960	2.5
Cadmium	1	0.45 U	0.45	4.4	1.1	0.65 U	0.65	0.58 U	0.58	0.48 U	0.48	0.59 U	0.59
Cobalt		0.62	0.43	1.1 U	1.1	0.63 U	0.63	1.2	0.56	0.46 U	0.46	0.57 U	0.57
Chromium		58.3	0.48	65.8	1.2	56.7	0.7	60.6	0.62	57.2	0.51	24.9	0.63
Copper	600	3.2	0.37	69.8	0.94	9.6	0.54	9.7	0.48	10.3	0.39	5	0.48
Iron		19700	0.76	10900	1.9	20600	1.1	22100	0.98	18200	0.81	10800	0.99
Mercury	14	0.10 U	0.1	6	0.35 *	0.2	0.12	0.19	0.091	0.23	0.099	0.094 U	0.094
Potassium		2720	132	1420	337	1600	191	1630	171	2620	141	1460	173
Magnesium		1450	3.9	1260	10	1910	5.7	1920	5.1	2010	4.2	815	5.1
Manganese		26.2	0.32	78.8	0.82	85.1	0.47	91	0.42	46.8	0.34	22.3	0.42
Sodium		16	2.5	103	6.3	35.6	3.6	33.1	3.2	33.9	2.6	77.4	3.2
Nickel	250	2.3	2.1	5.30 U	5.3	6	3	4.6	2.7	3.3	2.2	2.7 U	2.7
Lead	400	8.9	0.58 *	203	10.3	19.9	3.8 **	20.1	3.8 **	30.1	4.3	13.5	1.6 *
Antimony	14	3.50 U	3.5	8.8 U	8.8	5.0 U	5	4.5 U	4.5	3.7 U	3.7	4.5 U	4.5
Selenium	63	0.33	0.16	0.7	0.34	0.56	0.21	0.97	0.21	0.62	0.19	0.75	0.18
Thallium	2	0.20 U	0.2	0.42 U	0.42	0.26 U	0.26	0.26 U	0.26	0.24 U	0.24	0.22 U	0.22
Vanadium	370	37.3	0.47	21.8	1.2	45.7	0.68	48.5	0.6	34	0.5	15.7	0.61
Zinc	1500	24.6	0.45	463	1.1	53.7	0.65	45.9	0.58	61.2	0.48	25.8	0.59
Dilution Factor		* = 2.00		* = 2.00		* = 5.0, ** = 10.0		* = 2.00, ** = 10.0		* = 2.00		* = 5.00	
Method:TAL Metals													

CHARLES WOOD
SURFACE SOIL INORGANICS

Geographical Location		CW9		CW9		CW9		CW9		CW9		CW9	
Sample		CW09-SS04-A01		CW09-SS05-A01		CW09-SS06-A01		CW09-SS07-A01		CW09-SS08-A01		CW09-SS09-A01	
Sample Type													
Batch#		9412G854		9412G854		9412G854		9412G854		9412G854		9412G854	
Prep#		94GTS467		94GTS467		94GTS467		94GTS467		94GTS467		94GTS467	
RFW#		007		008		009		010		011		012	
Sample Depth		0-6"		0-6"		0-6"		0-6"		0-6"		0-6"	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		11/30/94		11/30/94		11/30/94		11/30/94		11/30/94		11/30/94	
Analysis Date		12/6/94		12/6/94		12/6/94		12/6/94		12/6/94		12/6/94	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
% Solids		71.9	0.10	79.7	0.10	82.3	0.10	68.5	0.10	83.2	0.10	86.4	0.10
Silver	110	0.58 U	0.58	0.77	0.57	0.71	0.59	1.2	0.85	3.3	0.56	1.3	0.51
Aluminum		4380	5	6930	4.9	5450	5.1	3910	7.4	4070	4.9	7700	4.4
Arsenic	20	6.3	0.52 *	15.6	1.4	9.3	0.62 *	10.5	0.46	7.2	0.67 *	7.7	0.36
Barium	700	51.2	0.39	32.5	0.38	33	0.4	40.7	0.58	19.2	0.38	40.8	0.34
Beryllium	1	0.55	0.28	0.9	0.27	0.72	0.29	0.58	0.41	0.56	0.27	1	0.24
Calcium		19600	2.3	3570	2.2	3610	2.3	4370	3.3	1630	2.2	3440	2
Cadmium	1	0.53 U	0.53	0.51 U	0.51	0.54 U	0.54	2.6	0.77	0.51 U	0.51	0.46 U	0.46
Cobalt		1.3	0.51	1.9	0.49	1.7	0.52	0.74 U	0.74	0.49 U	0.49	1.8	0.44
Chromium		28.3	0.56	60.5	0.55	46.9	0.57	164	0.83	56.2	0.55	70	0.49
Copper	600	17.7	0.43	8.8	0.42	11.1	0.44	17.4	0.63	9	0.42	9.6	0.37
Iron		12200	0.88	22200	0.86	17900	0.9	9880	1.3	11300	0.86	25600	0.77
Mercury	14	0.11 U	0.11	0.14	0.1	0.09 U	0.09	7.9	1.2 *	0.69	0.12	0.093 U	0.093
Potassium		2060	154	3950	150	3180	157	1720	226	1250	149	5130	134
Magnesium		2260	4.6	2280	4.5	1720	4.7	1620	6.7	893	4.4	2590	4
Manganese		106	0.38	59.2	0.37	56	0.38	140	0.55	37	0.36	69.5	0.33
Sodium		118	2.9	49.7	2.8	49.7	2.9	40.6	4.2	34.5	2.8	60.9	2.5
Nickel	250	5.7	2.4	6.9	2.3	4.9	2.4	4.3	3.5	2.4	2.3	5.8	2.1
Lead	400	56.8	4.7	27.4	2.7 *	17	3.1 **	82.3	6.9	35.5	4.6	20.1	3.6 *
Antimony	14	4.0 U	4	3.90 U	3.9	4.10 U	4.1	5.90 U	5.9	3.90 U	3.9	3.5 U	3.5
Selenium	63	0.28	0.15	0.63	0.15	0.41	0.17	0.57	0.26	0.6	0.19	0.48	0.2
Thallium	2	0.18 U	0.18	0.19 U	0.19	0.21 U	0.21	0.32 U	0.32	0.23 U	0.23	0.24 U	0.24
Vanadium	370	22.9	0.54	33.1	0.53	30.3	0.55	15.6	0.8	29.3	0.53	32	0.47
Zinc	1500	92.5	0.53	47.8	0.51	62.3	0.54	77	0.77	36	0.51	48.1	0.46
Dilution Factor		* = 2.00		* = 10.0		* = 2.00, ** = 10.0		* = 10.0		* = 2.00		* = 10.0	
Method:TAL Metals													

CHARLES WOOD
SURFACE SOIL PESTICIDES/PCBS

Geographical Location		CW6		CW6	
Sample		CW06-SS01-A01		CW06-SS01-A01DL	
Batch#		9412G854		9412G854	
Prep#		94GP1033		94GP1033	
RFW#		014		014 DL	
Sample Depth		0-6"		0-6"	
Dilution Factor		5.00		50.00	
Matrix		soil		soil	
Units	mg/kg	mg/kg		mg/kg	
Sampling Date		11/30/94		11/30/94	
Analysis Date		12/18/94		12/14/94	
Analysis	Standard	Analytical	Reporting	Analytical	Reporting
		Result	Limit	Result	Limit
alpha-BHC		0.018 U	0.018	0.18 U	0.18
beta-BHC		0.018 U	0.018	0.18 U	0.18
delta-BHC		0.018 U	0.018	0.18 U	0.18
gamma-BHC (Lindane)	0.52	0.018 U	0.018	0.18 U	0.18
Heptachlor	0.15	0.018 U	0.018	0.18 U	0.18
Aldrin	0.04	0.018 U	0.018	0.18 U	0.18
Heptachlor epoxide		0.032		0.18 U	0.18
Endosulfan I	340	0.018 U	0.018	0.18 U	0.18
Dieldrin	0.042	0.036 U	0.036	0.36 U	0.36
4,4'-DDE	2	0.13		0.36 U	0.36
Endrin	17	0.036 U	0.036	0.36 U	0.36
Endosulfan II	340	0.036 U	0.036	0.36 U	0.36
4,4'-DDD	3	0.86 C		.66 CD	
Endosulfan sulfate		0.036 U	0.036	0.36 U	0.36
4,4'-DDT	2	0.81 C		.79 CD	
Methoxychlor	280	0.180 U	0.18	1.8 U	1.8
Endrin ketone		0.036 U	0.036	0.36 U	0.36
Endrin aldehyde		0.036 U	0.036	0.36 U	0.36
alpha-Chlordane		0.85 C		.87 CD	
gamma-Chlordane		0.81 C		.8 CD	
Toxaphene	0.1	1.8 U	1.8	18 U	18
Aroclor-1016	0.49	0.36 U	0.36	3.6 U	3.6
Aroclor-1221	0.49	0.72 U	0.72	7.2 U	7.2
Aroclor-1232	0.49	0.36 U	0.36	3.6 U	3.6
Aroclor-1242	0.49	0.36 U	0.36	3.6 U	3.6
Aroclor-1248	0.49	0.36 U	0.36	3.6 U	3.6
Aroclor-1254	0.49	0.36 U	0.36	3.6 U	3.6
Aroclor-1260	0.49	0.36 U	0.36	3.6 U	3.6
Method:Pesticides/PCBs					

CHARLES WOOD
SOIL BORING VOLATILES

Geographical Location			AOC7		AOC7		AOC7		AOC7		AOC7		AOC7		AOC7	
Sample			CWA7-SB01-A02		CWA7-SB02-A02		CWA7-SB03-A02		CWA7-SB04-A02		CWA7-SB04-D02		CWA7-SB05-A02		CWA7-SB06-A03	
Sample Type											Trip Blank					
Batch#			9412G264		9412G264		9412G264		9412G264		9412G264		9412G264		9412G264	
Prep#			94GVT034 & 35		94GVT034		94GVT034 & 35		94GVT034		94GVB441		94GVT034		94GVT034	
RFW#			001		003		002		006		007		004		005	
Sample Depth (bgs)			10 - 12'		10 - 12'		6 - 8'		8 -10'				8 -10'		12 - 14'	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			soil		soil		soil		soil		water		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/l		mg/kg		mg/kg	
Sampling Date			12/21/94		12/21/94		12/21/94		12/21/94		12/21/94		12/21/94		12/21/94	
Analysis Date			12/27/94		12/27/94		12/27/94		12/27/94		12/28/94		12/27/94		12/27/94	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane	520	0.0073	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
Bromomethane	79	0.0067	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
Vinyl Chloride	2	0.0079	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
Chloroethane		0.0091	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
Methylene Chloride	49	0.0027	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
Acetone	1000	0.0069	0.68 B	0.11 *	0.063 B	0.011	0.11 B	0.022	0.019 B	0.011	0.01 U	0.01	0.060 B	0.011	0.043 B	0.011
Carbon Disulfide		0.0044	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
1,1-Dichloroethene	8	0.0049	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
1,1-Dichloroethane	570	0.003	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
1,2-Dichloroethene (total)	79	0.0044	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
Chloroform	19	0.0029	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
1,2-Dichloroethane	6	0.0024	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
2-Butanone	1000	0.0041	0.011 U	0.011	0.002 J	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
1,1,1-Trichloroethane	210	0.0017	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
Carbon Tetrachloride	2	0.0015	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
Bromodichloromethane	11	0.002	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
1,2-Dichloropropane	10	0.0017	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
cis-1,3-Dichloropropene	4	0.003	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
Trichloroethene	23	0.002	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
Dibromochloromethane	110	0.0024	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
1,1,2-Trichloroethane	22	0.0043	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
Benzene	3	0.0033	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
trans-1,3-Dichloropropene	4	0.0024	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
Bromoform	86	0.0031	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
4-Methyl-2-pentanone	1000	0.0055	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
2-Hexanone		0.0039	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
Tetrachloroethene	4	0.004	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
1,1,2,2-Tetrachloroethane	34	0.0042	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
Toluene	1000	0.0027	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
Chlorobenzene	37	0.0027	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
Ethylbenzene	1000	0.0031	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
Styrene	23	0.0038	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
Xylene (total)	410	0.0038	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.011 U	0.011	0.01 U	0.01	0.011 U	0.011	0.011 U	0.011
Total Est. Conc. of TIC.			0.006		0.007		.006, .01 *						0.006			
Dilution Factor			* = 10.0				* = 2.00									
Method:TCL Volatiles																

CHARLES WOOD
SOIL BORING VOLATILES

Geographical Location			CW1		CW1		CW1		CW1		CW1		CW2		CW2	
Sample			CW01-SB26-A02		CW01-SB26-D02		CW01-SB27-A02		CW01-SB28-A02		CW01-SB29-A02		CW02-SB30-A02		CW02-SB31-A02	
Sample Type					Trip Blank											
Batch#			9412G922		9412G922		9412G216		9412G216		9412G216		9412G182		9412G182	
Prep#			94GVT033		94GVE365		94GVT033		94GVT033		94GVT033		94GVT031		94GVT031	
RFW#			004		005		002		003		001		002		003	
Sample Depth (bgs)			7 - 9'				7 - 9'		7 - 9'		7 - 9'		7 - 9'		7 - 9'	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			soil		water		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/l		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date			12/19/94		12/19/94		12/19/94		12/19/94		12/19/94		12/16/94		12/16/94	
Analysis Date			12/22/94		12/21/94		12/22/94		12/22/94		12/22/94		12/20/94		12/20/94	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane	520	0.0073	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
Bromomethane	79	0.0067	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
Vinyl Chloride	2	0.0079	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
Chloroethane		0.0091	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
Methylene Chloride	49	0.0027	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.088	0.012	0.086	0.014
Acetone	1000	0.0069	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.057 B	0.012	0.120 B	0.013	98 B	12 *	0.74 B	0.68 *
Carbon Disulfide		0.0044	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
1,1-Dichloroethene	8	0.0049	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
1,1-Dichloroethane	570	0.003	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
1,2-Dichloroethene (total)	79	0.0044	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
Chloroform	19	0.0029	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
1,2-Dichloroethane	6	0.0024	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
2-Butanone	1000	0.0041	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.012 J	0.014
1,1,1-Trichloroethane	210	0.0017	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
Carbon Tetrachloride	2	0.0015	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
Bromodichloromethane	11	0.002	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
1,2-Dichloropropane	10	0.0017	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
cis-1,3-Dichloropropene	4	0.003	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
Trichloroethene	23	0.002	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
Dibromochloromethane	110	0.0024	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
1,1,2-Trichloroethane	22	0.0043	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
Benzene	3	0.0033	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
trans-1,3-Dichloropropene	4	0.0024	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
Bromoform	86	0.0031	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
4-Methyl-2-pentanone	1000	0.0055	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
2-Hexanone		0.0039	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
Tetrachloroethene	4	0.004	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
1,1,2,2-Tetrachloroethane	34	0.0042	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
Toluene	1000	0.0027	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
Chlorobenzene	37	0.0027	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
Ethylbenzene	1000	0.0031	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
Styrene	23	0.0038	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
Xylene (total)	410	0.0038	0.013 U	0.013	0.01 U	0.01	0.013 U	0.013	0.012 U	0.012	0.013 U	0.013	0.012 U	0.012	0.014 U	0.014
Total Est. Conc. of TIC.							0.007						.008, 6 *		.9 *	
Dilution Factor													* = 1000		* = 50.0	
Method:TCL Volatiles																

CHARLES WOOD
SOIL BORING VOLATILES

Geographical Location			CW2		CW2		CW2		CW2		CW2		CW2		CW4	
Sample			CW02-SB31-D02		CW02-SB31-E02		CW02-SB32-A02		CW02-SB33-A02		CW02-SB33-A02		CW02-SB33-D02		CW04-SB01-A02	
Sample Type			Trip Blank		Field Rinsate Blank								Trip Blank			
Batch#			9412G182		9412G182		9412G182		9412G154		9412G154		9412G154		9412G264	
Prep#			94GVT365		94GVT365		94GVT031		94GVT030 & 31		94GVT030 & 35		94GVB439		94GVT034 & 35	
RFW#			004		005		001		001		002		003		008	
Sample Depth (bgs)							7 - 9'		7 - 9'		7 - 9'				4 -6'	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		soil		soil		soil		water		soil	
Units	mg/kg	mg/kg	mg/l		mg/l		mg/kg		mg/kg		mg/kg		mg/l		mg/kg	
Sampling Date			12/16/94		12/16/94		12/16/94		12/15/94		12/15/94		12/16/94		12/21/94	
Analysis Date			12/21/94		12/12/94		12/20/94		12/19/94		12/19/94		12/20/94		12/27/94	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane	520	0.0073	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
Bromomethane	79	0.0067	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
Vinyl Chloride	2	0.0079	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
Chloroethane		0.0091	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
Methylene Chloride	49	0.0027	0.01 U	0.01	0.01 U	0.01	0.017	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
Acetone	1000	0.0069	0.01 U	0.01	0.11	0.01	5.9 B	1.2	0.98 B	.24 *	2.1 B	0.12	0.01 U	0.01	1.4 B	.12 *
Carbon Disulfide		0.0044	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
1,1-Dichloroethene	8	0.0049	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
1,1-Dichloroethane	570	0.003	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
1,2-Dichloroethene (total)	79	0.0044	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
Chloroform	19	0.0029	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
1,2-Dichloroethane	6	0.0024	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
2-Butanone	1000	0.0041	0.01 U	0.01	0.01 U	0.01	0.008 J	0.012	0.012 U	0.012	0.031	0.012	0.01 U	0.01	0.012 U	0.012
1,1,1-Trichloroethane	210	0.0017	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
Carbon Tetrachloride	2	0.0015	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
Bromodichloromethane	11	0.002	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
1,2-Dichloropropane	10	0.0017	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
cis-1,3-Dichloropropene	4	0.003	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
Trichloroethene	23	0.002	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
Dibromochloromethane	110	0.0024	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
1,1,2-Trichloroethane	22	0.0043	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
Benzene	3	0.0033	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
trans-1,3-Dichloropropene	4	0.0024	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
Bromoform	86	0.0031	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
4-Methyl-2-pentanone	1000	0.0055	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
2-Hexanone		0.0039	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
Tetrachloroethene	4	0.004	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
1,1,2,2-Tetrachloroethane	34	0.0042	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
Toluene	1000	0.0027	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
Chlorobenzene	37	0.0027	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
Ethylbenzene	1000	0.0031	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
Styrene	23	0.0038	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
Xylene (total)	410	0.0038	0.01 U	0.01	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012
Total Est. Conc. of TIC.																
Dilution Factor							* = 100.0		* = 20.0		* = 10.0				.06 *	
Method:TCL Volatiles															* = 10.0	

CHARLES WOOD
SOIL BORING VOLATILES

Geographical Location			CW5		CW5		CW5		CW6		CW6		CW6		CW6	
Sample			CW05-SB01-A02		CW05-SB01-D02		CW05-SB02-A02		CW06-SB02-A01		CW06-SB34-A01		CW06-SB34-A02		CW06-SB34-D02	
Sample Type					Trip Blank										Trip Blank	
Batch#			9412G245		9412G923		9412G245		9505G840		9501G423		9501G423		9501G423	
Prep#			94GVT035 & 99		94GVB441		94GVT035 & 99		95GVB138		95GVT002		95GVT002		95GVT006	
RFW#			001		003		001		001		001		002		003	
Sample Depth (bgs)			6 - 8'				6 - 8'		0.5 - 1'		0-2'		2-4'			
Dilution Factor			1.00		5.00		1.00		1.00		1.00		1.00		1.00	
Matrix			soil		water		soil		soil		soil		soil		water	
Units	mg/kg	mg/kg	mg/kg		mg/l		mg/kg		mg/kg		mg/kg		mg/kg		mg/l	
Sampling Date			12/20/94		12/20/94		12/20/94		5/10/95		1/3/95		1/3/95		1/3/95	
Analysis Date			12/28/94		12/28/94		12/28/94		5/24/95		1/5/95		1/5/95		1/6/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane	520	0.0073	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Bromomethane	79	0.0067	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Vinyl Chloride	2	0.0079	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Chloroethane		0.0091	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Methylene Chloride	49	0.0027	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Acetone	1000	0.0069	2.7 B	0.23	0.01 U	0.01	0.57 B	0.06	0.016 B	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Carbon Disulfide		0.0044	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,1-Dichloroethene	8	0.0049	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,1-Dichloroethane	570	0.003	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,2-Dichloroethene (total)	79	0.0044	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Chloroform	19	0.0029	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,2-Dichloroethane	6	0.0024	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
2-Butanone	1000	0.0041	0.013	0.012	0.01 U	0.01	0.01 J	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,1,1-Trichloroethane	210	0.0017	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Carbon Tetrachloride	2	0.0015	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Bromodichloromethane	11	0.002	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,2-Dichloropropane	10	0.0017	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
cis-1,3-Dichloropropene	4	0.003	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Trichloroethene	23	0.002	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Dibromochloromethane	110	0.0024	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,1,2-Trichloroethane	22	0.0043	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Benzene	3	0.0033	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
trans-1,3-Dichloropropene	4	0.0024	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Bromoform	86	0.0031	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
4-Methyl-2-pentanone	1000	0.0055	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
2-Hexanone		0.0039	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Tetrachloroethene	4	0.004	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,1,2,2-Tetrachloroethane	34	0.0042	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Toluene	1000	0.0027	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Chlorobenzene	37	0.0027	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Ethylbenzene	1000	0.0031	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Styrene	23	0.0038	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Xylene (total)	410	0.0038	0.012 U	0.012	0.01 U	0.01	0.012 U	0.012	0.014 U	0.014	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Total Est. Conc. of TIC.			0.016				0.007									
Dilution Factor			* = 20.0				* = 5.00									
Method:TCL Volatiles																

CHARLES WOOD
SOIL BORING VOLATILES

Geographical Location			CW9		CW9		CW9		CW9		B6		B6		B7	
Sample			CW09-SB01-A02		CW09-SB01-D02		CW09-SB01-E02		CW09-SB01-E02DL		B6-SB01-A01		B6-SB01-A02		B7-SB01-A01	
Sample Type					Trip Blank		Field Rinsate Blank		Field Rinsate Blank							
Batch#			9501G450		9501G450		9501G450		9501G450		9501G553		9501G553		9501G553	
Prep#			95GVF011		95GVE009		95GVE009		95GVF009		95GVF013		95GVF013		95GVF012	
RFW#			001		003		002DL		002		008		019		006	
Sample Depth (bgs)			2 - 4'								1 - 2'		2 - 4'		1 - 2'	
Dilution Factor			1.00		1.00		50.0		1.00		1.00		1.00		1.00	
Matrix			soil		water		water		water		soil		soil		soil	
Units	mg/kg	mg/kg	mg/kg		mg/l		mg/l		mg/l		mg/kg		mg/kg		mg/kg	
Sampling Date			1/4/95		1/4/95		1/4/95		1/4/95		1/10/95		1/10/95		1/10/95	
Analysis Date			1/13/95		1/10/95		1/10/95		1/10/95		1/16/95		1/16/95		1/15/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane	520	0.0073	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Bromomethane	79	0.0067	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Vinyl Chloride	2	0.0079	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Chloroethane		0.0091	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Methylene Chloride	49	0.0027	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Acetone	1000	0.0069	1.2	*	0.01 U	0.01	E	0.01	5.2		0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Carbon Disulfide		0.0044	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
1,1-Dichloroethene	8	0.0049	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
1,1-Dichloroethane	570	0.003	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
1,2-Dichloroethene (total)	79	0.0044	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Chloroform	19	0.0029	0.012 U	0.012	0.01 U	0.01	0.003 J	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
1,2-Dichloroethane	6	0.0024	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
2-Butanone	1000	0.0041	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
1,1,1-Trichloroethane	210	0.0017	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Carbon Tetrachloride	2	0.0015	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Bromodichloromethane	11	0.002	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
1,2-Dichloropropane	10	0.0017	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
cis-1,3-Dichloropropene	4	0.003	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Trichloroethene	23	0.002	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Dibromochloromethane	110	0.0024	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
1,1,2-Trichloroethane	22	0.0043	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Benzene	3	0.0033	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
trans-1,3-Dichloropropene	4	0.0024	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Bromoform	86	0.0031	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
4-Methyl-2-pentanone	1000	0.0055	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
2-Hexanone		0.0039	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Tetrachloroethene	4	0.004	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
1,1,2,2-Tetrachloroethane	34	0.0042	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Toluene	1000	0.0027	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Chlorobenzene	37	0.0027	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Ethylbenzene	1000	0.0031	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Styrene	23	0.0038	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Xylene (total)	410	0.0038	0.012 U	0.012	0.01 U	0.01	0.01 U	0.01	NA	NA	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012
Total Est. Conc. of TIC.											0.006					
Dilution Factor			* = 10.0													
Method:TCL Volatiles																

CHARLES WOOD
SOIL BORING VOLATILES

Geographical Location			B7		B8		B8		B9		B9		B9		B9	
Sample			B7-SB01-A02		B8-SB01-A01		B8-SB01-A02		B9-SB01-A01		B9-SB01-A02		B9-SB01-C02		B9-SB01-D02	
Sample Type													Duplicate		Trip Blank	
Batch#			9501G553		9501G553		9501G553		9501G831		9501G831		9501G831		9501G831	
Prep#			95GVF013		95GVF012		95GVF012		95GVT020		95GVT020		95GVT020		95GVC014	
RFW#			007		004		005		001		002		003		005	
Sample Depth (bgs)			4 - 6'		1 - 2'		4 - 6'		1 - 2'		6 - 8'					
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			soil		soil		soil		soil		soil		soil		water	
Units	mg/kg	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/l	
Sampling Date			1/10/95		1/10/95		1/10/95		1/23/95		1/23/95		1/23/95		1/23/95	
Analysis Date			1/16/95		1/15/95		1/15/95		2/1/95		2/1/95		2/1/95		2/1/95	
Analysis	Standard	MDL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL
			Result		Result		Result		Result		Result		Result		Result	
Chloromethane	520	0.0073	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Bromomethane	79	0.0067	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Vinyl Chloride	2	0.0079	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Chloroethane		0.0091	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Methylene Chloride	49	0.0027	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.014 B	0.012	0.012 U	0.012	0.01 U	0.01
Acetone	1000	0.0069	0.015 B	0.012	0.011 U	0.011	0.13	0.012	0.9 B	.3 *	0.012 U	0.012	0.012 U	0.012	8300	1000 *
Carbon Disulfide		0.0044	0.012 U	0.012	0.011 U	0.011	0.002 J	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,1-Dichloroethene	8	0.0049	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,1-Dichloroethane	570	0.003	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,2-Dichloroethene (total)	79	0.0044	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Chloroform	19	0.0029	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,2-Dichloroethane	6	0.0024	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
2-Butanone	1000	0.0041	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,1,1-Trichloroethane	210	0.0017	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Carbon Tetrachloride	2	0.0015	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Bromodichloromethane	11	0.002	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,2-Dichloropropane	10	0.0017	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
cis-1,3-Dichloropropene	4	0.003	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Trichloroethene	23	0.002	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Dibromochloromethane	110	0.0024	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,1,2-Trichloroethane	22	0.0043	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Benzene	3	0.0033	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.006 J	0.01
trans-1,3-Dichloropropene	4	0.0024	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Bromoform	86	0.0031	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
4-Methyl-2-pentanone	1000	0.0055	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
2-Hexanone		0.0039	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Tetrachloroethene	4	0.004	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,1,2,2-Tetrachloroethane	34	0.0042	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Toluene	1000	0.0027	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Chlorobenzene	37	0.0027	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Ethylbenzene	1000	0.0031	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Styrene	23	0.0038	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Xylene (total)	410	0.0038	0.012 U	0.012	0.011 U	0.011	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Total Est. Conc. of TIC.									.008, .8 *							
Dilution Factor									* = 25.0						* = 100000	
Method:TCL Volatiles																

CHARLES WOOD
SOIL BORING VOLATILES

Geographical Location			B9		B10		B10		B10		B10	
Sample			B9-SB01-E02		B10-SB01-A01		B10-SB01-A01RE		B10-SB01-A02		B10-SB01-D02	
Sample Type			Field Rinsate Blank								Trip Blank	
Batch#			9501G831		9501G553		9501G553		9501G553		9501G553	
Prep#			95GVC014		95GVF012		95GVF013		95GVF012		95GVF012	
RFW#			004		001		001RE		002		003	
Sample Depth (bgs)					1 - 2'				2 - 4'			
Dilution Factor			1.00		1.00		1.00		1.00		1.00	
Matrix			water		soil		soil		soil		water	
Units	mg/kg	mg/kg	mg/l		mg/kg		mg/kg		mg/kg		mg/l	
Sampling Date			1/23/95		1/10/95		1/10/95		1/10/95		1/10/95	
Analysis Date			2/1/95		1/15/95		1/16/95		1/15/95		1/12/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Chloromethane	520	0.0073	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Bromomethane	79	0.0067	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Vinyl Chloride	2	0.0079	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Chloroethane		0.0091	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Methylene Chloride	49	0.0027	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Acetone	1000	0.0069	0.13	.02 *	0.012 U	0.012	0.016 B	0.012	0.24	0.012	0.022	0.01
Carbon Disulfide		0.0044	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,1-Dichloroethene	8	0.0049	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,1-Dichloroethane	570	0.003	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,2-Dichloroethene (total)	79	0.0044	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Chloroform	19	0.0029	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,2-Dichloroethane	6	0.0024	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
2-Butanone	1000	0.0041	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,1,1-Trichloroethane	210	0.0017	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Carbon Tetrachloride	2	0.0015	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Bromodichloromethane	11	0.002	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,2-Dichloropropane	10	0.0017	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
cis-1,3-Dichloropropene	4	0.003	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Trichloroethene	23	0.002	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Dibromochloromethane	110	0.0024	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,1,2-Trichloroethane	22	0.0043	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Benzene	3	0.0033	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
trans-1,3-Dichloropropene	4	0.0024	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Bromoform	86	0.0031	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
4-Methyl-2-pentanone	1000	0.0055	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
2-Hexanone		0.0039	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Tetrachloroethene	4	0.004	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
1,1,2,2-Tetrachloroethane	34	0.0042	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Toluene	1000	0.0027	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Chlorobenzene	37	0.0027	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Ethylbenzene	1000	0.0031	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Styrene	23	0.0038	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Xylene (total)	410	0.0038	0.01 U	0.01	0.012 U	0.012	0.012 U	0.012	0.012 U	0.012	0.01 U	0.01
Total Est. Conc. of TIC.												
Dilution Factor			* = 2.00									
Method:TCL Volatiles												

CHARLES WOOD
SOIL BORING SEMIVOLATILES

Geographical Location		AOC7		AOC7		AOC7		AOC7		AOC7		AOC7		CW1	
Sample		CWA7-SB01-A02		CWA7-SB02-A02		CWA7-SB03-A02		CWA7-SB04-A02		CWA7-SB05-A02		CWA7-SB06-A03		CW01-SB26-A02	
Sample Type															
Batch#		9412G264		9412G264		9412G264		9412G264		9412G264		9412G264		9412G216	
Prep#		94GBO847		94GBO847		94GBO847		94GBO852		94GBO847		94GBO847		94GB0835	
RFW#		001		003		002		006		004		005		004	
Sample Depth (bgs)															
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		12/21/94		12/21/94		12/21/94		12/21/94		12/21/94		12/21/94		12/19/94	
Analysis Date		1/3/95		1/3/95		1/3/95		1/3/95		1/3/95		1/3/95		1/5/95	
Analysis	Standard	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	10000	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
bis(2-Chloroethyl) ether	0.66	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
2-Chlorophenol	280	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
1,3-Dichlorobenzene	5100	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
1,4-Dichlorobenzene	570	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
1,2-Dichlorobenzene	5100	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
2-Methylphenol	2800	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
2,2'-oxybis(1-Chloropropane)		0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
4-Methylphenol	2800	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
N-Nitroso-di-n-propylamine	0.66	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Hexachloroethane	6	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Nitrobenzene	28	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Isophorone	1100	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
2-Nitrophenol		0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
2,4-Dimethylphenol	1100	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
bis(2-Chloroethoxy) methane		0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
2,4-Dichlorophenol	170	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
1,2,4-Trichlorobenzene	68	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Naphthalene	230	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
4-Chloroaniline	230	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Hexachlorobutadiene	1	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
4-Chloro-3-methylphenol	10000	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
2-Methylnaphthalene		0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Hexachlorocyclopentadiene	400	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
2,4,6-Trichlorophenol	62	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
2,4,5-Trichlorophenol	5600	0.92 U	0.92	0.92 U	0.92	0.91 U	0.91	0.92 U	0.92	0.9 U	0.9	0.9 U	0.9	1.1 U	1.1
2-Chloronaphthalene		0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
2-Nitroaniline		0.92 U	0.92	0.92 U	0.92	0.91 U	0.91	0.92 U	0.92	0.9 U	0.9	0.9 U	0.9	1.1 U	1.1
Dimethylphthalate	10000	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.40 U	0.42
Acenaphthylene		0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
2,6-Dinitrotoluene	1	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
3-Nitroaniline		0.92 U	0.92	0.92 U	0.92	0.91 U	0.91	0.92 U	0.92	0.9 U	0.9	0.9 U	0.9	1.1 U	1.1
Acenaphthene	3400	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
2,4-Dinitrophenol	110	0.92 U	0.92	0.92 U	0.92	0.91 U	0.91	0.92 U	0.92	0.9 U	0.9	0.9 U	0.9	1.1 U	1.1
4-Nitrophenol		0.92 U	0.92	0.92 U	0.92	0.91 U	0.91	0.92 U	0.92	0.9 U	0.9	0.9 U	0.9	1.1 U	1.1

CHARLES WOOD
SOIL BORING SEMIVOLATILES

Geographical Location		AOC7		AOC7		AOC7		AOC7		AOC7		AOC7		CW1	
Sample		CWA7-SB01-A02		CWA7-SB02-A02		CWA7-SB03-A02		CWA7-SB04-A02		CWA7-SB05-A02		CWA7-SB06-A03		CW01-SB26-A02	
Sample Type															
Batch#		9412G264		9412G264		9412G264		9412G264		9412G264		9412G264		9412G216	
Prep#		94GBO847		94GBO847		94GBO847		94GBO852		94GBO847		94GBO847		94GB0835	
RFW#		001		003		002		006		004		005		004	
Sample Depth (bgs)															
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		12/21/94		12/21/94		12/21/94		12/21/94		12/21/94		12/21/94		12/19/94	
Analysis Date		1/3/95		1/3/95		1/3/95		1/3/95		1/3/95		1/3/95		1/5/95	
Analysis	Standard	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Dibenzofuran		0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
2,4-Dinitrotoluene	1	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Diethylphthalate	10000	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
4-Chlorophenyl-phenylether		0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Fluorene	2300	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
4-Nitroaniline		0.92 U	0.92	0.92 U	0.92	0.91 U	0.91	0.92 U	0.92	0.9 U	0.9	0.9 U	0.9	1.1 U	1.1
4,6-Dinitro-2-methylphenol		0.92 U	0.92	0.92 U	0.92	0.91 U	0.91	0.92 U	0.92	0.9 U	0.9	0.9 U	0.9	1.1 U	1.1
N-Nitrosodiphenylamine (1)	140	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
4-Bromophenyl-phenylether		0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Hexachlorobenzene	0.66	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Pentachlorophenol	6	0.92 U	0.92	0.92 U	0.92	0.91 U	0.91	0.92 U	0.92	0.9 U	0.9	0.9 U	0.9	1.1 U	1.1
Phenanthrene		0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Anthracene	10000	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Carbazole		0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Di-n-butylphthalate	5700	0.23 JB	0.37	1.5 B	0.37	0.48 B	0.36	0.09 J	0.37	2 B	0.36	1.8 B	0.36	0.081	0.42
Fluoranthene	2300	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Pyrene	1700	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Butylbenzylphthalate	1100	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
3,3'-Dichlorobenzidine	2	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Benzo(a)anthracene	0.9	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Chrysene	9	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
bis(2-Ethylhexy)phthalate	49	0.075 J	0.37	0.37 U	0.37	0.34 J	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.075 J	0.42
Di-n-octyl phthalate	1100	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Benzo(b)fluoranthene	0.9	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Benzo(k)fluoranthene	0.9	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Benzo(a)pyrene	0.66	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Indeno(1,2,3-cd)pyrene	0.9	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Dibenzo(a,h)anthracene	0.66	0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Benzo(g,h,i)perylene		0.37 U	0.37	0.37 U	0.37	0.36 U	0.36	0.37 U	0.37	0.36 U	0.36	0.36 U	0.36	0.42 U	0.42
Petroleum hydrocarbons															
Total Est. Conc. of TIC		6.62		5.44		6.44		5.63		3.68		4.87		6.39	
Method:TCL Semivolatiles															

CHARLES WOOD
SOIL BORING SEMIVOLATILES

Geographical Location		CW1		CW1		CW1		CW2		CW2		CW2	
Sample		CW01-SB27-A02		CW01-SB28-A02		CW01-SB29-A02		CW02-SB30-A02		CW02-SB31-A02		CW02-SB32-A02	
Sample Type													
Batch#		9412G216		9412G216		9412G216		9412G182		9412G182		9412G182	
Prep#		94GB0835		94GB0835		94GBO835		94GBO835		94GBO835		94GBO835	
RFW#		002		003		001		002		003		001	
Sample Depth (bgs)													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		12/19/94		12/19/94		12/19/94		12/16/94		12/16/94		12/16/94	
Analysis Date		1/5/95		1/5/95		1/5/95		12/28/94		12/28/94		12/28/94	
Analysis	Standard	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	10000	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
bis(2-Chloroethyl) ether	0.66	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
2-Chlorophenol	280	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
1,3-Dichlorobenzene	5100	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
1,4-Dichlorobenzene	570	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
1,2-Dichlorobenzene	5100	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
2-Methylphenol	2800	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
2,2'-oxybis(1-Chloropropane)		0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
4-Methylphenol	2800	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
N-Nitroso-di-n-propylamine	0.66	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
Hexachloroethane	6	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
Nitrobenzene	28	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
Isophorone	1100	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
2-Nitrophenol		0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
2,4-Dimethylphenol	1100	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
bis(2-Chloroethoxy) methane		0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
2,4-Dichlorophenol	170	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
1,2,4-Trichlorobenzene	68	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
Naphthalene	230	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.15 J	0.39	0.44 U	0.44	0.4 U	0.4
4-Chloroaniline	230	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
Hexachlorobutadiene	1	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
4-Chloro-3-methylphenol	10000	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
2-Methylnaphthalene		0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.1 J	0.39	0.44 U	0.44	0.4 U	0.4
Hexachlorocyclopentadiene	400	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
2,4,6-Trichlorophenol	62	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
2,4,5-Trichlorophenol	5600	1.1 U	1.1	1 U	1	1.1 U	1.1	0.98 U	0.98	1.1 U	1.1	1 U	1
2-Chloronaphthalene		0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
2-Nitroaniline		1.1 U	1.1	1 U	1	1.1 U	1.1	0.98 U	0.98	1.1 U	1.1	1 U	1
Dimethylphthalate	10000	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
Acenaphthylene		0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
2,6-Dinitrotoluene	1	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.98 U	0.39	0.44 U	0.44	0.4 U	0.4
3-Nitroaniline		1.1 U	1.1	1 U	1	1.1 U	1.1	0.98 U	0.98	1.1 U	1.1	1 U	1
Acenaphthene	3400	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.17 J	0.39	0.44 U	0.44	0.4 U	0.4
2,4-Dinitrophenol	110	1.1 U	1.1	1 U	1	1.1 U	1.1	0.98 U	0.98	1.1 U	1.1	1 U	1
4-Nitrophenol		1.1 U	1.1	1 U	1	1.1 U	1.1	0.98 U	0.98	1.1 U	1.1	1 U	1

CHARLES WOOD
SOIL BORING SEMIVOLATILES

Geographical Location		CW1		CW1		CW1		CW2		CW2		CW2	
Sample		CW01-SB27-A02		CW01-SB28-A02		CW01-SB29-A02		CW02-SB30-A02		CW02-SB31-A02		CW02-SB32-A02	
Sample Type													
Batch#		9412G216		9412G216		9412G216		9412G182		9412G182		9412G182	
Prep#		94GB0835		94GB0835		94GBO835		94GBO835		94GBO835		94GBO835	
RFW#		002		003		001		002		003		001	
Sample Depth (bgs)													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		12/19/94		12/19/94		12/19/94		12/16/94		12/16/94		12/16/94	
Analysis Date		1/5/95		1/5/95		1/5/95		12/28/94		12/28/94		12/28/94	
Analysis	Standard	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Dibenzofuran		0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.093 J	0.39	0.44 U	0.44	0.4 U	0.4
2,4-Dinitrotoluene	1	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
Diethylphthalate	10000	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
4-Chlorophenyl-phenylether		0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
Fluorene	2300	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
4-Nitroaniline		1.1 U	1.1	1 U	1	1.1 U	1.1	0.21 J	0.39	0.44 U	0.44	0.4 U	0.4
4,6-Dinitro-2-methylphenol		1.1 U	1.1	1 U	1	1.1 U	1.1	0.98 U	0.98	1.1 U	1.1	1 U	1
N-Nitrosodiphenylamine (1)	140	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
4-Bromophenyl-phenylether		0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
Hexachlorobenzene	0.66	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
Pentachlorophenol	6	1.1 U	1.1	1 U	1	1.1 U	1.1	0.98 U	0.98	1.1 U	1.1	1 U	1
Phenanthrene		0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	1.3	0.39	0.44 U	0.44	0.4 U	0.4
Anthracene	10000	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.33 J	0.39	0.44 U	0.44	0.4 U	0.4
Carbazole		0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.18 J	0.39	0.44 U	0.44	0.4 U	0.4
Di-n-butylphthalate	5700	0.086	0.44	0.077	0.41	0.13 JB	0.43	0.081	0.39	0.12 JB	0.44	0.079	0.4
Fluoranthene	2300	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	1.5	0.39	0.44 U	0.44	0.4 U	0.4
Pyrene	1700	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	1.1	0.39	0.44 U	0.44	0.4 U	0.4
Butylbenzylphthalate	1100	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
3,3'-Dichlorobenzidine	2	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
Benzo(a)anthracene	0.9	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.69	0.39	0.44 U	0.44	0.4 U	0.4
Chrysene	9	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.71	0.39	0.44 U	0.44	0.4 U	0.4
bis(2-Ethylhexy)phthalate	49	0.09 J	0.44	0.41 U	0.41	0.43 U	0.43	0.16 J	0.39	0.1 J	0.44	0.059 J	0.4
Di-n-octyl phthalate	1100	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.39 U	0.39	0.44 U	0.44	0.4 U	0.4
Benzo(b)fluoranthene	0.9	0.44 U	0.44	0.41 U	0.41	0.07 J	0.43	0.79	0.39	0.44 U	0.44	0.4 U	0.4
Benzo(k)fluoranthene	0.9	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.28 J	0.39	0.44 U	0.44	0.4 U	0.4
Benzo(a)pyrene	0.66	0.44 U	0.44	0.41 U	0.41	0.073 J	0.43	0.62	0.39	0.13 J	0.44	0.053 J	0.4
Indeno(1,2,3-cd)pyrene	0.9	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.37 J	0.39	0.44 U	0.44	0.4 U	0.4
Dibenzo(a,h)anthracene	0.66	0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.089 J	0.39	0.44 U	0.44	0.4 U	0.4
Benzo(g,h,i)perylene		0.44 U	0.44	0.41 U	0.41	0.43 U	0.43	0.35 J	0.39	0.44 U	0.44	0.4 U	0.4
Petroleum hydrocarbons													
Total Est. Conc. of TIC		6.7		6.19		9.19		11.4		22.8		18.1	
Method:TCL Semivolatiles													

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SOIL BORING SEMIVOLATILES

Geographical Location		CW2		CW4		CW4		CW5		CW5		CW5	
Sample		CW02-SB33-A02		CW04-SB01-A02		CW04-SB04-A02		CW05-SB01-A02		CW05-SB01-A02RE		CW05-SB02-A02	
Sample Type													
Batch#		9412G154		9412G264		9412G264		9412G245		9412G245		9412G245	
Prep#		94GBS0835		94GBO847		95GIR002		94GBO847		94GBO847		94GBO847	
RFW#		002		008				001		001		001	
Sample Depth (bgs)		7-9'											
Dilution Factor		1.00		1.00				1.00		1.00		1.00	
Matrix		soil		soil		water		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/l		mg/kg		mg/kg		mg/kg	
Sampling Date		12/15/94		12/21/94		NA		12/20/94		12/20/94		12/20/94	
Analysis Date		12/27/94		1/3/95		1/5/95		1/3/95		1/3/95		1/3/95	
Analysis	Standard	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	10000	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
bis(2-Chloroethyl) ether	0.66	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
2-Chlorophenol	280	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
1,3-Dichlorobenzene	5100	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
1,4-Dichlorobenzene	570	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
1,2-Dichlorobenzene	5100	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
2-Methylphenol	2800	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
2,2'-oxybis(1-Chloropropane)		0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
4-Methylphenol	2800	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
N-Nitroso-di-n-propylamine	0.66	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
Hexachloroethane	6	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
Nitrobenzene	28	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
Isophorone	1100	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
2-Nitrophenol		0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
2,4-Dimethylphenol	1100	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
bis(2-Chloroethoxy) methane		0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
2,4-Dichlorophenol	170	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
1,2,4-Trichlorobenzene	68	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
Naphthalene	230	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
4-Chloroaniline	230	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
Hexachlorobutadiene	1	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
4-Chloro-3-methylphenol	10000	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
2-Methylnaphthalene		0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
Hexachlorocyclopentadiene	400	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
2,4,6-Trichlorophenol	62	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
2,4,5-Trichlorophenol	5600	1 U	1	0.98 U	0.98			0.95 U	0.95	0.95 U	0.95	0.98 U	0.98
2-Chloronaphthalene		0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
2-Nitroaniline		1 U	1	0.98 U	0.98			0.95 U	0.95	0.95 U	0.95	0.98 U	0.98
Dimethylphthalate	10000	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
Acenaphthylene		0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
2,6-Dinitrotoluene	1	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
3-Nitroaniline		1 U	1	0.98 U	0.98			0.95 U	0.95	0.95 U	0.95	0.98 U	0.98
Acenaphthene	3400	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
2,4-Dinitrophenol	110	1 U	1	0.98 U	0.98			0.95 U	0.95	0.95 U	0.95	0.98 U	0.98
4-Nitrophenol		1 U	1	0.98 U	0.98			0.95 U	0.95	0.95 U	0.95	0.98 U	0.98

CHARLES WOOD
SOIL BORING SEMIVOLATILES

Geographical Location		CW2		CW4		CW4		CW5		CW5		CW5	
Sample		CW02-SB33-A02		CW04-SB01-A02		CW04-SB04-A02		CW05-SB01-A02		CW05-SB01-A02RE		CW05-SB02-A02	
Sample Type													
Batch#		9412G154		9412G264		9412G264		9412G245		9412G245		9412G245	
Prep#		94GBS0835		94GBO847		95GIR002		94GBO847		94GBO847		94GBO847	
RFW#		002		008				001		001		001	
Sample Depth (bgs)		7-9'											
Dilution Factor		1.00		1.00				1.00		1.00		1.00	
Matrix		soil		soil		water		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/l		mg/kg		mg/kg		mg/kg	
Sampling Date		12/15/94		12/21/94		NA		12/20/94		12/20/94		12/20/94	
Analysis Date		12/27/94		1/3/95		1/5/95		1/3/95		1/3/95		1/3/95	
Analysis	Standard	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Dibenzofuran		0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
2,4-Dinitrotoluene	1	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
Diethylphthalate	10000	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
4-Chlorophenyl-phenylether		0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
Fluorene	2300	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
4-Nitroaniline		1 U	1	0.98 U	0.98			0.95 U	0.95	0.95 U	0.95	0.98 U	0.98
4,6-Dinitro-2-methylphenol		1 U	1	0.98 U	0.98			0.95 U	0.95	0.95 U	0.95	0.98 U	0.98
N-Nitrosodiphenylamine (1)	140	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
4-Bromophenyl-phenylether		0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
Hexachlorobenzene	0.66	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
Pentachlorophenol	6	1 U	1	0.98 U	0.98			0.95 U	0.95	0.95 U	0.95	0.98 U	0.98
Phenanthrene		0.075 J	0.41	0.39 U	0.39			0.085 J	0.38	0.086 J	0.38	0.39 U	0.39
Anthracene	10000	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
Carbazole		0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
Di-n-butylphthalate	5700	0.42 B	0.41	2.5 B	0.39			0.16 JB	0.38	0.17 JB	0.38	0.18 JB	0.39
Fluoranthene	2300	0.073 J	0.41	0.39 U	0.39			0.21 J	0.38	0.22 J	0.38	0.39 U	0.39
Pyrene	1700	0.067 J	0.41	0.39 U	0.39			0.25 J	0.38	0.24 J	0.38	0.39 U	0.39
Butylbenzylphthalate	1100	0.41 U	0.41	0.23 J	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
3,3'-Dichlorobenzidine	2	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
Benzo(a)anthracene	0.9	0.41 U	0.41	0.39 U	0.39			0.14 J	0.38	0.13 J	0.38	0.39 U	0.39
Chrysene	9	0.043 J	0.41	0.39 U	0.39			0.15 J	0.38	0.15 J	0.38	0.39 U	0.39
bis(2-Ethylhexy)phthalate	49	0.41 U	0.41	0.39 U	0.39			0.21 J	0.38	0.21 J	0.38	0.39 U	0.39
Di-n-octyl phthalate	1100	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
Benzo(b)fluoranthene	0.9	0.41 U	0.41	0.39 U	0.39			0.2 J	0.38	0.22 J	0.38	0.39 U	0.39
Benzo(k)fluoranthene	0.9	0.41 U	0.41	0.39 U	0.39			0.084 J	0.38	0.089 J	0.38	0.39 U	0.39
Benzo(a)pyrene	0.66	0.094 J	0.41	0.39 U	0.39			0.11 J	0.38	0.1 J	0.38	0.39 U	0.39
Indeno(1,2,3-cd)pyrene	0.9	0.41 U	0.41	0.39 U	0.39			0.066 J	0.38	0.38 U	0.38	0.39 U	0.39
Dibenzo(a,h)anthracene	0.66	0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
Benzo(g,h,i)perylene		0.41 U	0.41	0.39 U	0.39			0.38 U	0.38	0.38 U	0.38	0.39 U	0.39
Petroleum hydrocarbons						29 U	29						
Total Est. Conc. of TIC				5				9.38		10.08		10.65	
Method:TCL Semivolatiles						From inorganics list.							

CHARLES WOOD
SOIL BORING SEMIVOLATILES

Geographical Location		CW6		CW6		CW6		CW9		B6		B6	
Sample		CW06-SB02-A01		CW06-SB34-A01		CW06-SB34-A02		CW09-SB01-A02		B6-SB01-A01		B6-SB01-A01RE	
Sample Type													
Batch#		9505G840		9501G423		9501G423		9501G450		9412G553		9412G553	
Prep#		95GB0323		95GB0017		95GB0017		95GB0017		94GTS0035		94GTS0083	
RFW#		001		001		002		001		008		008	
Sample Depth (bgs)													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		5/10/95		1/3/95		1/3/95		1/4/95		1/10/95		1/10/95	
Analysis Date		5/30/95		1/20/95		1/20/95		1/21/95		2/9/95		2/9/95	
Analysis	Standard	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	10000	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
bis(2-Chloroethyl) ether	0.66	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
2-Chlorophenol	280	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
1,3-Dichlorobenzene	5100	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
1,4-Dichlorobenzene	570	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
1,2-Dichlorobenzene	5100	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
2-Methylphenol	2800	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
2,2'-oxybis(1-Chloropropane)		0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
4-Methylphenol	2800	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
N-Nitroso-di-n-propylamine	0.66	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Hexachloroethane	6	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Nitrobenzene	28	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Isophorone	1100	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
2-Nitrophenol		0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
2,4-Dimethylphenol	1100	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
bis(2-Chloroethoxy) methane		0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
2,4-Dichlorophenol	170	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
1,2,4-Trichlorobenzene	68	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Naphthalene	230	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
4-Chloroaniline	230	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Hexachlorobutadiene	1	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
4-Chloro-3-methylphenol	10000	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
2-Methylnaphthalene		0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Hexachlorocyclopentadiene	400	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
2,4,6-Trichlorophenol	62	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
2,4,5-Trichlorophenol	5600	1.2 U	1.2	1 U	1	0.96 U	0.96	0.96 U	0.96	0.94 U	0.94	0.94 U	0.94
2-Chloronaphthalene		0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
2-Nitroaniline		1.2 U	1.2	1 U	1	0.96 U	0.96	0.96 U	0.96	0.94 U	0.94	0.94 U	0.94
Dimethylphthalate	10000	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Acenaphthylene		0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
2,6-Dinitrotoluene	1	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
3-Nitroaniline		1.2 U	1.2	1 U	1	0.96 U	0.96	0.96 U	0.96	0.94 U	0.94	0.94 U	0.94
Acenaphthene	3400	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
2,4-Dinitrophenol	110	1.2 U	1.2	1 U	1	0.96 U	0.96	0.96 U	0.96	0.94 U	0.94	0.94 U	0.94
4-Nitrophenol		1.2 U	1.2	1 U	1	0.96 U	0.96	0.96 U	0.96	0.94 U	0.94	0.94 U	0.94

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SOIL BORING SEMIVOLATILES

Geographical Location		CW6		CW6		CW6		CW9		B6		B6	
Sample		CW06-SB02-A01		CW06-SB34-A01		CW06-SB34-A02		CW09-SB01-A02		B6-SB01-A01		B6-SB01-A01RE	
Sample Type													
Batch#		9505G840		9501G423		9501G423		9501G450		9412G553		9412G553	
Prep#		95GB0323		95GB0017		95GB0017		95GB0017		94GTS0035		94GTS0083	
RFW#		001		001		002		001		008		008	
Sample Depth (bgs)													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		5/10/95		1/3/95		1/3/95		1/4/95		1/10/95		1/10/95	
Analysis Date		5/30/95		1/20/95		1/20/95		1/21/95		2/9/95		2/9/95	
Analysis	Standard	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Dibenzofuran		0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
2,4-Dinitrotoluene	1	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Diethylphthalate	10000	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
4-Chlorophenyl-phenylether		0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Fluorene	2300	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
4-Nitroaniline		1.2 U	1.2	1 U	1	0.96 U	0.96	0.96 U	0.96	0.94 U	0.94	0.94 U	0.94
4,6-Dinitro-2-methylphenol		1.2 U	1.2	1 U	1	0.96 U	0.96	0.96 U	0.96	0.94 U	0.94	0.94 U	0.94
N-Nitrosodiphenylamine (1)	140	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
4-Bromophenyl-phenylether		0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Hexachlorobenzene	0.66	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Pentachlorophenol	6	1.2 U	1.2	1 U	1	0.96 U	0.96	0.96 U	0.96	0.94 U	0.94	0.94 U	0.94
Phenanthrene		0.47 U	0.47	0.4 U	0.4	0.24 J	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Anthracene	10000	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Carbazole		0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Di-n-butylphthalate	5700	0.55 B	0.47	0.081	0.4	0.066	0.38	0.076	0.38	0.14 JB	0.38	1.2 B	0.38
Fluoranthene	2300	0.47 U	0.47	0.049 J	0.4	0.18 J	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Pyrene	1700	0.47 U	0.47	0.056 J	0.4	0.27 J	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Butylbenzylphthalate	1100	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
3,3'-Dichlorobenzidine	2	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Benzo(a)anthracene	0.9	0.47 U	0.47	0.4 U	0.4	0.16 J	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Chrysene	9	0.47 U	0.47	0.4 U	0.4	0.15 J	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
bis(2-Ethylhexy)phthalate	49	0.07 JB	0.47	0.21 J	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.042 J	0.38
Di-n-octyl phthalate	1100	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Benzo(b)fluoranthene	0.9	0.47 U	0.47	0.4 U	0.4	0.11 J	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Benzo(k)fluoranthene	0.9	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Benzo(a)pyrene	0.66	0.47 U	0.47	0.4 U	0.4	0.087 J	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Indeno(1,2,3-cd)pyrene	0.9	0.47 U	0.47	0.4 U	0.4	0.054 J	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Dibenzo(a,h)anthracene	0.66	0.47 U	0.47	0.4 U	0.4	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Benzo(g,h,i)perylene		0.47 U	0.47	0.057	0.4	0.066	0.38	0.38 U	0.38	0.38 U	0.38	0.38 U	0.38
Petroleum hydrocarbons													
Total Est. Conc. of TIC		35.9		12.2		10.3		9.58		7.02		6.03	
Method:TCL Semivolatiles													

CHARLES WOOD
SOIL BORING SEMIVOLATILES

Geographical Location		B6		B6		B7		B7		B7		B7	
Sample		B6-SB01-A02		B6-SB01-A02RE		B7-SB01-A01		B7-SB01-A01RE		B7-SB01-A02		B7-SB01-A02RE	
Sample Type													
Batch#		9412G553		9412G553		9412G553		9412G553		9412G553		9412G553	
Prep#		94GTS0035		94GTS0083		94GTS0035		94GTS0083		94GTS0035		94GTS0083	
RFW#		009		009		006		006		007		007	
Sample Depth (bgs)													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		1/10/95		1/10/95		1/10/95		1/10/95		1/10/95		1/10/95	
Analysis Date		2/9/95		2/9/95		2/9/95		2/9/95		2/9/95		2/9/95	
Analysis	Standard	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	10000	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
bis(2-Chloroethyl) ether	0.66	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2-Chlorophenol	280	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
1,3-Dichlorobenzene	5100	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
1,4-Dichlorobenzene	570	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
1,2-Dichlorobenzene	5100	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2-Methylphenol	2800	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2,2'-oxybis(1-Chloropropane)		0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
4-Methylphenol	2800	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
N-Nitroso-di-n-propylamine	0.66	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Hexachloroethane	6	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Nitrobenzene	28	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Isophorone	1100	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2-Nitrophenol		0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2,4-Dimethylphenol	1100	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
bis(2-Chloroethoxy) methane		0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2,4-Dichlorophenol	170	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
1,2,4-Trichlorobenzene	68	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Naphthalene	230	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
4-Chloroaniline	230	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Hexachlorobutadiene	1	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
4-Chloro-3-methylphenol	10000	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2-Methylnaphthalene		0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Hexachlorocyclopentadiene	400	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2,4,6-Trichlorophenol	62	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2,4,5-Trichlorophenol	5600	0.96 U	0.96	0.98 U	0.98	0.97 U	0.97	0.97 U	0.97	1 U	1	0.98 U	0.98
2-Chloronaphthalene		0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2-Nitroaniline		0.96 U	0.96	0.98 U	0.98	0.97 U	0.97	0.97 U	0.97	1 U	1	0.98 U	0.98
Dimethylphthalate	10000	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Acenaphthylene		0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2,6-Dinitrotoluene	1	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
3-Nitroaniline		0.96 U	0.96	0.98 U	0.98	0.97 U	0.97	0.97 U	0.97	1 U	1	0.98 U	0.98
Acenaphthene	3400	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2,4-Dinitrophenol	110	0.96 U	0.96	0.98 U	0.98	0.97 U	0.97	0.97 U	0.97	1 U	1	0.98 U	0.98
4-Nitrophenol		0.96 U	0.96	0.98 U	0.98	0.97 U	0.97	0.97 U	0.97	1 U	1	0.98 U	0.98

CHARLES WOOD
SOIL BORING SEMIVOLATILES

Geographical Location		B6		B6		B7		B7		B7		B7	
Sample		B6-SB01-A02		B6-SB01-A02RE		B7-SB01-A01		B7-SB01-A01RE		B7-SB01-A02		B7-SB01-A02RE	
Sample Type													
Batch#		9412G553		9412G553		9412G553		9412G553		9412G553		9412G553	
Prep#		94GTS0035		94GTS0083		94GTS0035		94GTS0083		94GTS0035		94GTS0083	
RFW#		009		009		006		006		007		007	
Sample Depth (bgs)													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		1/10/95		1/10/95		1/10/95		1/10/95		1/10/95		1/10/95	
Analysis Date		2/9/95		2/9/95		2/9/95		2/9/95		2/9/95		2/9/95	
Analysis	Standard	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Dibenzofuran		0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
2,4-Dinitrotoluene	1	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Diethylphthalate	10000	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
4-Chlorophenyl-phenylether		0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Fluorene	2300	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
4-Nitroaniline		0.96 U	0.96	0.98 U	0.98	0.97 U	0.97	0.97 U	0.97	1 U	1	0.98 U	0.98
4,6-Dinitro-2-methylphenol		0.96 U	0.96	0.98 U	0.98	0.97 U	0.97	0.97 U	0.97	1 U	1	0.98 U	0.98
N-Nitrosodiphenylamine (1)	140	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
4-Bromophenyl-phenylether		0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Hexachlorobenzene	0.66	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Pentachlorophenol	6	0.96 U	0.96	0.98 U	0.98	0.97 U	0.97	0.97 U	0.97	1 U	1	0.98 U	0.98
Phenanthrene		0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Anthracene	10000	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Carbazole		0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Di-n-butylphthalate	5700	0.17 JB	0.39	1.7 B	0.39	0.37 JB	0.39	0.75 B	0.39	0.28 JB	0.4	1 B	0.39
Fluoranthene	2300	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.042 J	0.39	0.4 U	0.4	0.39 U	0.39
Pyrene	1700	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.048 J	0.39	0.4 U	0.4	0.39 U	0.39
Butylbenzylphthalate	1100	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
3,3'-Dichlorobenzidine	2	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Benzo(a)anthracene	0.9	0.39 U	0.39	0.046 J	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Chrysene	9	0.044 J	0.39	0.083 J	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
bis(2-Ethylhexy)phthalate	49	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.076 J	0.4	0.39 U	0.39
Di-n-octyl phthalate	1100	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Benzo(b)fluoranthene	0.9	0.078 J	0.39	0.06 J	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Benzo(k)fluoranthene	0.9	0.041 J	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Benzo(a)pyrene	0.66	0.39 U	0.39	0.047 J	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Indeno(1,2,3-cd)pyrene	0.9	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Dibenzo(a,h)anthracene	0.66	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Benzo(g,h,i)perylene		0.39 U	0.39	0.042 J	0.39	0.39 U	0.39	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39
Petroleum hydrocarbons													
Total Est. Conc. of TIC		6.19		9.64		6.74		6.59		6.54		7.19	
Method:TCL Semivolatiles													

CHARLES WOOD
SOIL BORING SEMIVOLATILES

Geographical Location		B8		B8		B8		B8		B9		B9	
Sample		B8-SB01-A01		B8-SB01-A01RE		B8-SB01-A02		B8-SB01-A02RE		B9-SB01-A01		B9-SB01-A02	
Sample Type													
Batch#		9412G553		9412G553		9412G553		9412G553		9501G831		9501G831	
Prep#		94GTS0035		94GTS0083		94GTS0035		94GTS0083		95GB0064		95GB0064	
RFW#		004		004		005		005		001		002	
Sample Depth (bgs)													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		1/10/95		1/10/95		1/10/95		1/10/95		1/23/95		1/23/95	
Analysis Date		2/9/95		2/9/95		2/9/95		2/9/95		2/11/95		2/22/95	
Analysis	Standard	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	10000	0.36 U	0.36	0.36 U	0.36	0.39 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
bis(2-Chloroethyl) ether	0.66	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
2-Chlorophenol	280	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
1,3-Dichlorobenzene	5100	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
1,4-Dichlorobenzene	570	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
1,2-Dichlorobenzene	5100	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
2-Methylphenol	2800	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
2,2'-oxybis(1-Chloropropane)		0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
4-Methylphenol	2800	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
N-Nitroso-di-n-propylamine	0.66	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Hexachloroethane	6	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Nitrobenzene	28	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Isophorone	1100	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
2-Nitrophenol		0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
2,4-Dimethylphenol	1100	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
bis(2-Chloroethoxy) methane		0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
2,4-Dichlorophenol	170	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
1,2,4-Trichlorobenzene	68	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Naphthalene	230	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
4-Chloroaniline	230	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Hexachlorobutadiene	1	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
4-Chloro-3-methylphenol	10000	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
2-Methylnaphthalene		0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Hexachlorocyclopentadiene	400	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
2,4,6-Trichlorophenol	62	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
2,4,5-Trichlorophenol	5600	0.9 U	0.9	0.91 U	0.91	1 U	0.96	0.98 U	0.98	0.96 U	0.96	0.99 U	0.99
2-Chloronaphthalene		0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
2-Nitroaniline		0.9 U	0.9	0.91 U	0.91	1 U	0.96	0.98 U	0.98	0.96 U	0.96	0.99 U	0.99
Dimethylphthalate	10000	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Acenaphthylene		0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
2,6-Dinitrotoluene	1	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
3-Nitroaniline		0.9 U	0.9	0.91 U	0.91	1 U	0.96	0.98 U	0.98	0.96 U	0.96	0.99 U	0.99
Acenaphthene	3400	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
2,4-Dinitrophenol	110	0.9 U	0.9	0.91 U	0.91	1 U	0.96	0.98 U	0.98	0.96 U	0.96	0.99 U	0.99
4-Nitrophenol		0.9 U	0.9	0.91 U	0.91	1 U	0.96	0.98 U	0.98	0.96 U	0.96	0.99 U	0.99

CHARLES WOOD
SOIL BORING SEMIVOLATILES

Geographical Location		B8		B8		B8		B8		B9		B9	
Sample		B8-SB01-A01		B8-SB01-A01RE		B8-SB01-A02		B8-SB01-A02RE		B9-SB01-A01		B9-SB01-A02	
Sample Type													
Batch#		9412G553		9412G553		9412G553		9412G553		9501G831		9501G831	
Prep#		94GTS0035		94GTS0083		94GTS0035		94GTS0083		95GB0064		95GB0064	
RFW#		004		004		005		005		001		002	
Sample Depth (bgs)													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		1/10/95		1/10/95		1/10/95		1/10/95		1/23/95		1/23/95	
Analysis Date		2/9/95		2/9/95		2/9/95		2/9/95		2/11/95		2/22/95	
Analysis	Standard	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Dibenzofuran		0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
2,4-Dinitrotoluene	1	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Diethylphthalate	10000	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
4-Chlorophenyl-phenylether		0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Fluorene	2300	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
4-Nitroaniline		0.9 U	0.9	0.91 U	0.91	1 U	0.96	0.98 U	0.98	0.96 U	0.96	0.99 U	0.99
4,6-Dinitro-2-methylphenol		0.9 U	0.9	0.91 U	0.91	1 U	0.96	0.98 U	0.98	0.96 U	0.96	0.99 U	0.99
N-Nitrosodiphenylamine (1)	140	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
4-Bromophenyl-phenylether		0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Hexachlorobenzene	0.66	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Pentachlorophenol	6	0.9 U	0.9	0.91 U	0.91	1 U	0.96	0.98 U	0.98	0.96 U	0.96	0.99 U	0.99
Phenanthrene		0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Anthracene	10000	0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Carbazole		0.36 U	0.36	0.36 U	0.36	0 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Di-n-butylphthalate	5700	0.72 B	0.36	0.14 JB	0.36	0.59 B	0.39	0 JB	0.39	0.12 JB	0.38	0.1 JB	0.4
Fluoranthene	2300	0.36 U	0.36	0.36 U	0.36	0.39 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Pyrene	1700	0.36 U	0.36	0.36 U	0.36	0.39 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Butylbenzylphthalate	1100	0.36 U	0.36	0.36 U	0.36	0.39 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
3,3'-Dichlorobenzidine	2	0.36 U	0.36	0.36 U	0.36	0.39 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Benzo(a)anthracene	0.9	0.36 U	0.36	0.36 U	0.36	0.39 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Chrysene	9	0.36 U	0.36	0.36 U	0.36	0.39 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
bis(2-Ethylhexy)phthalate	49	0.36 U	0.36	0.36 U	0.36	0.39 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Di-n-octyl phthalate	1100	0.36 U	0.36	0.36 U	0.36	0.39 U	0.39	0.39 U	0.39	0.11 J	0.38	0.073 J	0.4
Benzo(b)fluoranthene	0.9	0.36 U	0.36	0.36 U	0.36	0.39 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Benzo(k)fluoranthene	0.9	0.36 U	0.36	0.36 U	0.36	0.39 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Benzo(a)pyrene	0.66	0.36 U	0.36	0.36 U	0.36	0.39 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Indeno(1,2,3-cd)pyrene	0.9	0.36 U	0.36	0.36 U	0.36	0.39 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Dibenzo(a,h)anthracene	0.66	0.36 U	0.36	0.36 U	0.36	0.39 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Benzo(g,h,i)perylene		0.36 U	0.36	0.36 U	0.36	0.39 U	0.39	0.39 U	0.39	0.38 U	0.38	0.4 U	0.4
Petroleum hydrocarbons													
Total Est. Conc. of TIC		5.08		11.26		7.06		7.27		0.56		10.09	
Method:TCL Semivolatiles													

CHARLES WOOD
SOIL BORING SEMIVOLATILES

Geographical Location		B9		B10		B10		B10		B10	
Sample		B9-SB01-C02		B10-SB01-A01		B10-SB01-A01RE		B10-SB01-A02		B10-SB01-A02RE	
Sample Type		Duplicate									
Batch#		9501G831		9412G553		9412G553		9412G553		9412G553	
Prep#		95GB0064		94GTS0035		94GTS0083		94GTS0035		94GTS0083	
RFW#		003		001		001		002		002	
Sample Depth (bgs)											
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		1/23/95		1/10/95		1/10/95		1/10/95		1/10/95	
Analysis Date		2/22/95		2/9/95		2/9/95		2/9/95		2/9/95	
Analysis	Standard	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	10000	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
bis(2-Chloroethyl) ether	0.66	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
2-Chlorophenol	280	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
1,3-Dichlorobenzene	5100	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
1,4-Dichlorobenzene	570	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
1,2-Dichlorobenzene	5100	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
2-Methylphenol	2800	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
2,2'-oxybis(1-Chloropropane)		0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
4-Methylphenol	2800	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
N-Nitroso-di-n-propylamine	0.66	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
Hexachloroethane	6	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
Nitrobenzene	28	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
Isophorone	1100	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
2-Nitrophenol		0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
2,4-Dimethylphenol	1100	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
bis(2-Chloroethoxy) methane		0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
2,4-Dichlorophenol	170	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
1,2,4-Trichlorobenzene	68	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
Naphthalene	230	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
4-Chloroaniline	230	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
Hexachlorobutadiene	1	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
4-Chloro-3-methylphenol	10000	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
2-Methylnaphthalene		0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
Hexachlorocyclopentadiene	400	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
2,4,6-Trichlorophenol	62	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
2,4,5-Trichlorophenol	5600	1 U	1	0.98 U	0.98	0.99 U	0.99	0.97 U	0.97	0.98 U	0.98
2-Chloronaphthalene		0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
2-Nitroaniline		1 U	1	0.98 U	0.98	0.99 U	0.99	0.97 U	0.97	0.98 U	0.98
Dimethylphthalate	10000	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
Acenaphthylene		0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
2,6-Dinitrotoluene	1	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
3-Nitroaniline		1 U	1	0.98 U	0.98	0.99 U	0.99	0.97 U	0.97	0.98 U	0.98
Acenaphthene	3400	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
2,4-Dinitrophenol	110	1 U	1	0.98 U	0.98	0.99 U	0.99	0.97 U	0.97	0.98 U	0.98
4-Nitrophenol		1 U	1	0.98 U	0.98	0.99 U	0.99	0.97 U	0.97	0.98 U	0.98

CHARLES WOOD
SOIL BORING SEMIVOLATILES

Geographical Location		B9		B10		B10		B10		B10	
Sample		B9-SB01-C02		B10-SB01-A01		B10-SB01-A01RE		B10-SB01-A02		B10-SB01-A02RE	
Sample Type		Duplicate									
Batch#		9501G831		9412G553		9412G553		9412G553		9412G553	
Prep#		95GB0064		94GTS0035		94GTS0083		94GTS0035		94GTS0083	
RFW#		003		001		001		002		002	
Sample Depth (bgs)											
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		1/23/95		1/10/95		1/10/95		1/10/95		1/10/95	
Analysis Date		2/22/95		2/9/95		2/9/95		2/9/95		2/9/95	
Analysis	Standard	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Dibenzofuran		0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
2,4-Dinitrotoluene	1	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
Diethylphthalate	10000	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
4-Chlorophenyl-phenylether		0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
Fluorene	2300	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
4-Nitroaniline		1 U	1	0.98 U	0.98	0.99 U	0.99	0.97 U	0.97	0.98 U	0.98
4,6-Dinitro-2-methylphenol		1 U	1	0.98 U	0.98	0.99 U	0.99	0.97 U	0.97	0.98 U	0.98
N-Nitrosodiphenylamine (1)	140	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
4-Bromophenyl-phenylether		0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
Hexachlorobenzene	0.66	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
Pentachlorophenol	6	1 U	1	0.98 U	0.98	0.99 U	0.99	0.97 U	0.97	0.98 U	0.98
Phenanthrene		0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
Anthracene	10000	0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
Carbazole		0.4 U	0.4	0.39 U	0.39	0.4 U	0.4	0.39 U	0.39	0.39 U	0.39
Di-n-butylphthalate	5700	0.088	0.4	2 B	0.39	0 JB	0.4	1.6 B	0.39	0.2 JB	0.39
Fluoranthene	2300	0.4 U	0.4	0.39 U	0.39	0 U	0.4	0.39 U	0.39	0.39 U	0.39
Pyrene	1700	0.4 U	0.4	0.39 U	0.39	0 U	0.4	0.39 U	0.39	0.39 U	0.39
Butylbenzylphthalate	1100	0.4 U	0.4	0.39 U	0.39	0 U	0.4	0.39 U	0.39	0.39 U	0.39
3,3'-Dichlorobenzidine	2	0.4 U	0.4	0.39 U	0.39	0 U	0.4	0.39 U	0.39	0.39 U	0.39
Benzo(a)anthracene	0.9	0.4 U	0.4	0.39 U	0.39	0 U	0.4	0.39 U	0.39	0.39 U	0.39
Chrysene	9	0.4 U	0.4	0.39 U	0.39	0 U	0.4	0.39 U	0.39	0.39 U	0.39
bis(2-Ethylhexy)phthalate	49	0.043 J	0.4	0.057 J	0.39	0 U	0.4	0.39 U	0.39	0.17 J	0.39
Di-n-octyl phthalate	1100	0.4 U	0.4	0.39 U	0.39	0 U	0.4	0.39 U	0.39	0.39 U	0.39
Benzo(b)fluoranthene	0.9	0.4 U	0.4	0.39 U	0.39	0 U	0.4	0.39 U	0.39	0.39 U	0.39
Benzo(k)fluoranthene	0.9	0.4 U	0.4	0.39 U	0.39	0 U	0.4	0.39 U	0.39	0.39 U	0.39
Benzo(a)pyrene	0.66	0.4 U	0.4	0.39 U	0.39	0 U	0.4	0.39 U	0.39	0.39 U	0.39
Indeno(1,2,3-cd)pyrene	0.9	0.4 U	0.4	0.39 U	0.39	0 U	0.4	0.39 U	0.39	0.39 U	0.39
Dibenzo(a,h)anthracene	0.66	0.4 U	0.4	0.39 U	0.39	0 U	0.4	0.39 U	0.39	0.39 U	0.39
Benzo(g,h,i)perylene		0.4 U	0.4	0.39 U	0.39	0 U	0.4	0.39 U	0.39	0.39 U	0.39
Petroleum hydrocarbons											
Total Est. Conc. of TIC		8.97		4.57		13.06		4.74		9.4	
Method:TCL Semivolatiles											

CHARLES WOOD
SOIL BORING INORGANICS

Geographical Location		AOC7		AOC7		AOC7		AOC7		AOC7		AOC7	
Sample		CWA7-SB01-A02		CWA7-SB02-A02		CWA7-SB03-A02		CWA7-SB04-A02		CWA7-SB05-A02		CWA7-SB06-A03	
Sample Type													
Batch#		9412G264		9412G264		9412G264		9412G264		9412G264		9412G264	
Prep#		94GI211		94GI211		94GI211		94GI211		94GI211		94GI211	
RFW#		001		003		002		006		004		005	
Sample Depth (bgs)		7-9'											
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		12/21/94		12/21/94		12/21/94		12/21/94		12/21/94		12/21/94	
Analysis Date		1/4/95		1/4/95		1/4/95		1/4/95		1/4/95		1/4/95	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
% Solids		90.0	0.10	90.6	0.10	90.8	0.10	89.8	0.10	90.5	0.10	89.8	0.10
Silver	110	0.49 U	0.49	0.50 U	0.50	0.46 U	0.46	0.51 U	0.51	0.47 U	0.47	0.48 U	0.48
Aluminum		3650	2.1	4340	2.1	3820	1.9	5170	2.2	3490	2.0	3610	2.0
Arsenic	20	8.6	1.5 *	1.7	0.29	8.4	0.34	12.7	1.0 *	2.8	0.28	5.9	0.32
Barium	700	2.5	0.16	4.5	0.17	4.5	0.15	6.2	0.17	3.6	0.16	2.4	0.16
Beryllium	1	0.31	0.082	0.29	0.084	0.28	0.076	0.45	0.086	0.30	0.079	0.26	0.080
Calcium		69	1.8	91.9	1.8	134	1.7	275	1.9	63.9	1.7	43.7	1.7
Cadmium	1	0.70 U	0.7	0.71 U	0.71	0.65 U	0.65	0.73 U	0.73	0.67 U	0.67	0.68 U	0.68
Cobalt		0.58 U	0.58	0.94	0.59	0.68	0.53	0.60 U	0.6	0.55 U	0.55	0.56 U	0.56
Chromium		61.1	1.3	61.6	1.3	73.6	1.2	83.4	1.4	64.7	1.3	61.1	1.3
Copper	600	1.6	0.49	1.6	0.5	1.8	0.46	2.2	0.51	1.4	0.47	1.3	0.48
Iron		10800	0.47	12400	0.48	11100	0.44	15900	0.49	11400	0.45	11000	0.46
Mercury	14	0.10 U	0.10	0.085 U	0.085	0.09 U	0.09	0.10 U	0.10	0.10 U	0.10	0.09 U	0.09
Potassium		2060	21.1	2360	21.5	1740	19.4	2570	21.9	2200	20.2	2280	20.5
Magnesium		694	7.9	852	8	602	7.3	919	8.2	720	7.5	766	7.7
Manganese		3.6	0.12	8.2	0.13	12.7	0.11	11.3	0.13	2.8	0.12	1.8	0.12
Sodium		18.8	2.7	12.0	2.8	11.7	2.5	13.8	2.8	14.7	2.6	11.5	2.6
Nickel	250	1.8	0.66	2.6	0.67	1.9	0.61	2.1	0.69	1.6	0.63	1.3	0.64
Lead	400	6.3	0.27	6.9	0.26	4.5	0.3	8.5	1.5 **	6.3	1.2 *	4.9	0.28
Antimony	14	2.3 U	2.3	2.4 U	2.4	2.2 U	2.2	2.4 U	2.4	2.2 U	2.2	2.3 U	2.3
Selenium	63	0.26	0.17	0.18	0.17	0.19 U	0.19	0.3	0.19	0.26	0.16	0.18 U	0.18
Thallium	2	0.21 U	0.21	0.20 U	0.2	0.23 U	0.23	0.23 U	0.23	0.19 U	0.19	0.22 U	0.22
Vanadium	370	93.5	0.43	79.8	0.44	78.4	0.4	95.1	0.45	92.8	0.41	81.7	0.42
Zinc	1500	8.9	0.43	12.0	0.44	10.5	0.4	15.8	0.45	9.0	0.41	9.1	0.42
Cyanide	1100												
Dilution Factor		* = 5.00						* = 3.00, ** = 5.00		* = 5.00			
Method:TAL Metals													

CHARLES WOOD
SOIL BORING INORGANICS

Geographical Location		CW1		CW1		CW1		CW1		CW2		CW2	
Sample		CW01-SB26-A02		CW01-SB27-A02		CW01-SB28-A02		CW01-SB29-A02		CW02-SB30-A02		CW02-SB31-A02	
Sample Type													
Batch#		9412G216		9412G216		9412G216		9412G216		9412G182		9412G182	
Prep#		94GTS484		94GTS484		94GTS484		94GTS484		94GTS484		94GTS484	
RFW#		004		002		003		001		002		003	
Sample Depth (bgs)													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		12/19/94		12/19/94		12/19/94		12/19/94		12/16/94		12/16/94	
Analysis Date		12/22/94		12/22/94		12/22/94		12/22/94		12/22/94		12/22/94	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
% Solids		77.9	0.10	75.5	0.10	81.2	0.1	76.7	0.10	83.1	0.1	74.2	0.10
Silver	110	0.46 U	0.46	0.53 U	0.53	0.47 U	0.47	0.50 U	0.50	0.54 U	0.54	0.60 U	0.6
Aluminum		4070	1.9	5120	2.3	4850	2.0	4010	2.1	6450	2.3	5430	2.6
Arsenic	20	4.1	0.30	4.5	0.35	5.6	0.31	2.2	0.36	5.7	0.31	8.5	0.76 *
Barium	700	3.4	0.15	4.4	0.18	4.2	0.16	2.7	0.17	36.2	0.18	58.6	0.20
Beryllium	1	0.41	0.076	0.45	0.088	0.84	0.079	0.33	0.084	0.58	0.090	0.51	0.10
Calcium		236	1.7	283	1.9	229	1.7	669	1.8	655	2.0	976	2.2
Cadmium	1	0.65 U	0.65	0.75 U	0.75	0.67 U	0.67	0.71 U	0.71	0.76 U	0.76	0.86 U	0.86
Cobalt		0.53 U	0.53	0.73	0.62	0.86	0.55	0.59 U	0.59	0.95	0.63	4.20	0.71
Chromium		52.2	1.2	71.7	1.4	59.7	1.3	46.4	1.3	69.9	1.4	48.6	1.6
Copper	600	1.8	0.46	2	0.53	1.1	0.47	1.2	0.50	2.7	0.54	2.9	0.60
Iron		10800	0.44	14500	0.51	12900	0.45	9440	0.48	20400	0.52	19200	0.58
Mercury	14	0.10 U	0.10	0.11 U	0.11	0.21	0.091	0.10 U	0.10	0.10 U	0.10	0.11 U	0.11
Potassium		2700	19.5	3540	22.6	3660	20.2	2700	21.5	4210	23.0	2610	25.8
Magnesium		960	7.3	1310	8.4	1310	7.5	943	8.0	1720	8.6	1270	9.6
Manganese		7.2	0.11	10.6	0.13	8.0	0.12	5.4	0.13	25.1	0.13	24.8	0.15
Sodium		33.4	2.5	29.7	2.9	20.4	2.6	15.5	2.8	34.8	2.9	45.8	3.3
Nickel	250	1.5	0.61	3.1	0.71	2.7	0.63	1.4	0.67	4.9	0.72	11.2	0.81
Lead	400	3.9	0.26	5.9	0.30	3.9	0.27	3.2	0.31	8.1	0.54 *	7.5	0.33
Antimony	14	2.2 U	2.2	2.5 U	2.5	2.2 U	2.2	2.4 U	2.4	2.6 U	2.6	2.9 U	2.9
Selenium	63	0.19	0.17	0.20 U	0.20	0.17 U	0.17	0.20 U	0.20	0.29	0.17	0.70	0.21
Thallium	2	0.20 U	0.20	0.24 U	0.24	0.21 U	0.21	0.25 U	0.25	0.21 U	0.21	0.26 U	0.26
Vanadium	370	28.8	0.40	42.4	0.46	31.8	0.41	26.7	0.44	36.6	0.47	29.1	0.53
Zinc	1500	12.8	0.40	16.2	0.46	15.2	0.41	11.7	0.44	27.8	0.47	44.2	0.53
Cyanide	1100												
Dilution Factor										* = 2.00		* = 2.00	
Method:TAL Metals													

CHARLES WOOD
SOIL BORING INORGANICS

Geographical Location		CW2		CW2		CW2		CW4		CW5		CW5	
Sample		CW02-SB32-A02		CW02-SB33-A02		CW02-SB33-A02		CW04-SB01-A02		CW05-SB01-A02		CW05-SB02-A02	
Sample Type													
Batch#		9412G182		9412G154		9412G154		9412G264		9412G245		9412G245	
Prep#		94GTS484		95GTS001		95GTS001		94GI211					
RFW#		001		001		002		008		001		002	
Sample Depth (bgs)				2-4'		7-9'							
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		12/16/94		12/15/94		12/15/94		12/21/94					
Analysis Date		12/22/94		1/3/95		1/3/95		1/4/95					
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
% Solids		80.7	0.1	84.4	0.10	80.0	0.10	83.2	0.10	86.1	0.10	83.9	0.10
Silver	110	0.52 U	0.52			0.5 U	0.5	0.52 U	0.52	7.4	0.47	0.40 U	0.40
Aluminum		2920	2.2			7310	2.1	5030	2.2	3920	2.0	3400	1.7
Arsenic	20	2.6	0.34			15.7	1.9 *	1.5	0.31	3.8	0.34	1.5	0.29
Barium	700	23.6	0.17			326	0.17	2.7	0.17	36.2	0.16	21.0	0.13
Beryllium	1	0.28	0.087			1.5	0.083	0.47	0.087	0.14	0.079	0.32	0.067
Calcium		502	1.9			1270	1.8	302	1.9	1000	1.7	851	1.5
Cadmium	1	0.74 U	0.74			0.9	0.71	0.74 U	0.74	0.67 U	0.67	0.57 U	0.57
Cobalt		0.91	0.61			5.9	0.58	0.61 U	0.61	1.0	0.55	0.47 U	0.47
Chromium		32.2	1.4			56.5	1.3	63.5	1.4	42.2	1.3	38.3	1.1
Copper	600	2.7	0.52			5.5	0.5	379	0.52	21.5	0.47	2.0	0.40
Iron		11100	0.50			17600	0.48	11500	0.50	8950	0.45	5930	0.39
Mercury	14	0.083 U	0.083			0.12 U	0.12	0.09 U	0.09	0.63	0.12	0.09 U	0.09
Potassium		1980	22.2			3350	21.3	3490	22.2	944	20.1	1880	17.2
Magnesium		776	8.3			1880	8	1320	8.3	527	7.5	717	6.4
Manganese		12.5	0.13			35.1	0.12	8.8	0.13	19.7	0.12	7.2	0.10
Sodium		40.8	2.8			42.7	2.7	15.3	2.8	28.9	2.6	13.5	2.2
Nickel	250	2.6	0.70			23.2	0.67	1.5	0.69	2.7	0.63	1.6	0.54
Lead	400	3.1	0.29			5.6	1.7 *	1440	5.8	20.7	3.0 *	3.3	0.25
Antimony	14	2.5 U	2.5			2.4 U	2.4	2.5	2.5	2.2 U	2.2	1.9 U	1.9
Selenium	63	0.20	0.19			4.2	0.44 *	0.17 U	0.17	0.40	0.19	0.35	0.16
Thallium	2	0.23 U	0.23			0.27 U	0.27	0.21 U	0.21	0.24 U	0.24	0.33	0.20
Vanadium	370	19.4	0.46			23.6	0.44	20.6	0.45	20.7	0.41	21.4	0.35
Zinc	1500	19.3	0.46			63.9	0.44	46.2	0.45	40.4	0.41	11.4	0.35
Cyanide	1100									0.43 U	0.43	0.33 U	0.33
Dilution Factor		* = 10.0				* = 5.00				* = 10.0			
Method:TAL Metals													

CHARLES WOOD
SOIL BORING INORGANICS

Geographical Location		CW6		CW6		CW6		CW9		B6	
Sample		CW06-SB34-A01		CW06-SB34-A02		CW06-SB34-A02		CW09-SB01-A02		B6-SB01-A01	
Sample Type											
Batch#		9501G423		9501G423		9505G840		9501G450		9501G553	
Prep#		95GTS006		95GTS006		95GTS285		95GTS006		95GTS013	
RFW#		001		002		001		003		008	
Sample Depth (bgs)											
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		1/3/95		1/3/95		5/10/95		1/4/95		1/10/95	
Analysis Date		1/9/95		1/9/95		5/16/95		1/9/95		1/13/95	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
% Solids		83.8	0.10	86.6	0.10	70.9	0.10	86.9	0.10	88.0	0.1
Silver	110							0.93	0.50	0.45 U	0.45
Aluminum								3830	2.1	4220	3.1
Arsenic	20							2.6	0.33	4.6	0.35
Barium	700							6.6	0.17	6.3	0.15
Beryllium	1							0.39	0.084	0.055 U	0.055
Calcium								366	1.8	303	1.5
Cadmium	1							0.71 U	0.71	0.53 U	0.53
Cobalt								1.0	0.59	0.59	0.42
Chromium								44.0	1.3	51.8	0.85
Copper	600							2.3	0.50	1.4	0.73
Iron								9720	0.48	11000	0.45
Mercury	14							0.12	0.11	0.095 U	0.095
Potassium								1480	21.4	2570	12.3
Magnesium								698	8.0	1040	6.2
Manganese								11.9	0.13	5.6	0.16
Sodium								21.4	2.7	24.2	3.5
Nickel	250							2.8	0.67	1.9	0.76
Lead	400							3.9	0.29	1.9	0.18
Antimony	14							2.4 U	2.4	2.0 U	2.0
Selenium	63							0.19 U	0.19	0.4	0.27
Thallium	2							0.36 U	0.36	0.13 U	0.13
Vanadium	370							27.4	0.44	25.6	0.38
Zinc	1500							12.8	0.44	18.4	0.35
Cyanide	1100									0.42 U	0.42
Dilution Factor											
Method:TAL Metals											

CHARLES WOOD
SOIL BORING INORGANICS

Geographical Location		B6		B7		B7		B8		B8		B9	
Sample		B6-SB01-A02		B7-SB01-A01		B7-SB01-A02		B8-SB01-A01		B8-SB01-A02		B9-SB01-A01	
Sample Type													
Batch#		9501G553		9501G553		9501G553		9501G553		9501G553		9501G831	
Prep#		95GTS013		95GTS013		95GTS013		95GTS013		95GTS013			
RFW#		009		006		007		004		005		001	
Sample Depth (bgs)													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		1/10/95		1/10/95		1/10/95		1/10/95		1/10/95			
Analysis Date		1/13/95		1/13/95		1/13/95		1/13/95		1/13/95			
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
% Solids		84.6	0.1	85.5	0.1	83.4	0.10	91.2	0.1	84.8	0.10	84.7	0.10
Silver	110	0.49 U	0.49	0.49 U	0.49	0.48 U	0.48	0.44 U	0.44	0.48 U	0.48	0.58 U	0.58
Aluminum		6800	3.3	15700	3.3	2220	3.2	4510	3.0	5800	3.2	7800	3.9
Arsenic	20	4.3	0.38	10.3	0.72 *	1.3	0.38	3.5	0.35	7.5	0.73 *	19.5	2.0 **
Barium	700	5.0	0.16	25.9	0.16	2.3	0.15	3.3	0.14	8.8	0.15	40.1	0.19
Beryllium	1	0.72	0.059	1.1	0.059	0.06 U	0.06	0.053 U	0.053	0.76	0.058	0.85	0.070
Calcium		235	1.7	653	1.7	76.2	1.6	44.8	1.5	76	1.6	746	2.0
Cadmium	1	0.57 U	0.57	0.57 U	0.57	0.56 U	0.56	0.51 U	0.51	0.56 U	0.56	0.58 U	0.68
Cobalt		1.1	0.45	4.5	0.45	0.54	0.44	0.65	0.41	1.1	0.44	3.0	0.54
Chromium		77.5	0.93	66.1	0.92	33.6	0.90	48.0	0.83	64.7	0.91	76.5	1.1
Copper	600	1.8	0.79	6.6	0.79	0.77 U	0.77	1.2	0.71	1.7	0.77	5.1	0.94
Iron		16700	0.49	32000	0.49	6100	0.48	11800	0.44	16000	0.48	28300	0.58
Mercury	14	0.11 U	0.11	0.1 U	0.1	0.09 U	0.09	0.081 U	0.081	0.12 U	0.12	0.14	0.10
Potassium		3900	13.4	2780	13.3	1710	13.0	2410	12.0	3740	13.1	4080	15.9
Magnesium		1710	6.8	2390	6.7	622	6.6	932	6.1	1450	6.6	1890	8.0
Manganese		9.4	0.18	122	0.18	2.8	0.17	3.4	0.16	6.8	0.17	48.7	0.21
Sodium		56.8	3.8	37.7	3.8	39.9	3.7	22.4	3.4	18.7	3.7	29.8	4.5
Nickel	250	3.1	0.83	8.3	0.83	1.4	0.81	2.2	0.74	3	0.81	5.6	0.98
Lead	400	3.5	0.20	11.1	0.95 **	1.7	0.20	2.7	0.18	4.1	0.19	12.1	0.56 *
Antimony	14	2.1 U	2.1	2.1 U	2.1	2.1 U	2.1	1.9 U	1.9	2.1 U	2.1	2.5 U	2.5
Selenium	63	0.30 U	0.30	0.85	0.29	0.30 U	0.30	0.49	0.28	0.55	0.29	0.90	0.35
Thallium	2	0.14 U	0.14	0.13 U	0.13	0.14 U	0.14	0.13 U	0.13	0.14 U	0.14	0.26 U	0.26
Vanadium	370	35.0	0.41	59.6	0.41	17.3	0.40	25.0	0.37	35.1	0.41	23.5	0.49
Zinc	1500	20.3	0.37	34.3	0.37	6.9	0.36	11.6	0.34	17.5	0.37	47.7	0.44
Cyanide	1100	0.51 U	0.51	0.41	0.41	0.39 U	0.39	0.38 U	0.38	0.55 U	0.55	0.47 U	0.47
Dilution Factor				* = 2.00, ** = 5.00						* = 2.00		* = 2.00, ** = 5.00	
Method:TAL Metals													

CHARLES WOOD
SOIL BORING INORGANICS

Geographical Location		B9		B9		B10		B10	
Sample		B9-SB01-A02		B9-SB01-C02		B10-SB01-A01		B10-SB01-A02	
Sample Type									
Batch#		9501G831		9501G831		9501G553		9501G553	
Prep#						95GTS013		95GTS013	
RFW#		002		003		001		002	
Sample Depth (bgs)									
Dilution Factor		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date						1/10/95		1/10/95	
Analysis Date						1/13/95		1/13/95	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
% Solids		83.4	0.10	81.9	0.10	84.1	0.1	84.9	0.1
Silver	110	0.58 U	0.58	0.47 U	0.47	0.49 U	0.49	0.48 U	0.48
Aluminum		6250	3.9	6520	3.1	9790	3.3	10200	3.2
Arsenic	20	22.7	2.6 *	20.4	1.6 *	31.6	3.8 *	24.9	3.7 *
Barium	700	39.2	0.18	35.3	0.15	22.3	0.16	26.0	0.15
Beryllium	1	0.68	0.069	0.74	0.056	1.7	0.058	1.6	0.058
Calcium		297	1.9	244	1.6	517	1.6	501	1.6
Cadmium	1	0.67 U	0.67	0.54 U	0.54	0.57 U	0.57	0.56 U	0.56
Cobalt		2.9	0.53	2.8	0.43	3.3	0.45	3.4	0.44
Chromium		69.2	1.1	70.0	0.88	126	0.92	128	0.91
Copper	600	3.5	0.92	3.4	0.75	3.3	0.78	3.1	0.77
Iron		25200	0.58	23800	0.47	45500	0.49	43200	0.48
Mercury	14	0.32	0.092	0.12 U	0.12	0.10 U	0.10	0.10 U	0.10
Potassium		3300	15.7	4080	12.7	10600	13.2	10400	13.1
Magnesium		1490	7.9	1830	6.4	3920	6.7	3960	6.6
Manganese		25.1	0.21	25.9	0.17	31.0	0.18	23.6	0.17
Sodium		19.8	4.4	20.3	3.6	55.2	3.7	44.6	3.7
Nickel	250	5.6	0.97	6.0	0.78	7.1	0.82	7.4	0.81
Lead	400	6.1	0.19	5.6	0.23	5.1	0.20	4.5	0.19
Antimony	14	2.5 U	2.5	2.0 U	2.0	2.1 U	2.1	2.1 U	2.1
Selenium	63	0.49	0.23	0.50	0.29	0.56	0.30	0.61	0.29
Thallium	2	0.17 U	0.17	0.21 U	0.21	0.14 U	0.14	0.14 U	0.14
Vanadium	370	25.6	0.48	20.6	0.39	42.9	0.41	40.9	0.41
Zinc	1500	49.4	0.44	49.8	0.35	55.6	0.37	53.6	0.37
Cyanide	1100	0.42 U	0.42	0.40 U	0.40	0.56 U	0.56	0.49 U	0.49
Dilution Factor		* = 10.00		* = 5.00		* = 10.0		* = 10.0	
Method:TAL Metals									

CHARLES WOOD
SOIL BORING PESTICIDES/PCBS

Geographical Location		AOC7		AOC7		AOC7		AOC7		AOC7		AOC7	
Sample		CWA7-SB01-A02		CWA7-SB02-A02		CWA7-SB03-A02		CWA7-SB04-A02		CWA7-SB05-A02		CWA7-SB06-A03	
Sample Type													
Batch#		9412G264		9412G264		9412G264		9412G264		9412G264		9412G264	
Prep#		94GP1108		94GP1108		94GP1108		94GP1108		94GP1108		94GP1108	
RFW#		001		003		002		006		004		005	
Sample Depth (bgs)													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		12/21/94		12/21/94		12/21/94		12/21/94		12/21/94		12/21/94	
Analysis Date		1/4/95		1/4/95		1/4/95		1/4/95		1/4/95		1/4/95	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
alpha-BHC		0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018
beta-BHC		0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018
delta-BHC		0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018
gamma-BHC (Lindane)	0.52	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018
Heptachlor	0.15	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018
Aldrin	0.04	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018
Heptachlor epoxide		0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018
Endosulfan I	340	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018
Dieldrin	0.042	0.0037 U	0.0037	0.0036 U	0.0036	0.0036 U	0.0036	0.0037 U	0.0037	0.0036 U	0.0036	0.0036 U	0.0036
4,4'-DDE	2	0.0037 U	0.0037	0.0036 U	0.0036	0.0036 U	0.0036	0.0037 U	0.0037	0.0036 U	0.0036	0.0036 U	0.0036
Endrin	17	0.0037 U	0.0037	0.0036 U	0.0036	0.0036 U	0.0036	0.0037 U	0.0037	0.0036 U	0.0036	0.0036 U	0.0036
Endosulfan II	340	0.0037 U	0.0037	0.0036 U	0.0036	0.0036 U	0.0036	0.0037 U	0.0037	0.0036 U	0.0036	0.0036 U	0.0036
4,4'-DDD	3	0.0037 U	0.0037	0.0036 U	0.0036	0.0036 U	0.0036	0.0037 U	0.0037	0.0036 U	0.0036	0.0036 U	0.0036
Endosulfan sulfate		0.0037 U	0.0037	0.0036 U	0.0036	0.0036 U	0.0036	0.0037 U	0.0037	0.0036 U	0.0036	0.0036 U	0.0036
4,4'-DDT	2	0.0037 U	0.0037	0.0036 U	0.0036	0.004	0.0036	0.0037 U	0.0037	0.0036 U	0.0036	0.0036 U	0.0036
Methoxychlor	280	0.018 U	0.018	0.018 U	0.018	0.018 U	0.018	0.018 U	0.018	0.018 U	0.018	0.018 U	0.018
Endrin ketone		0.0037 U	0.0037	0.0036 U	0.0036	0.0036 U	0.0036	0.0037 U	0.0037	0.0036 U	0.0036	0.0036 U	0.0036
Endrin aldehyde		0.0037 U	0.0037	0.0036 U	0.0036	0.0036 U	0.0036	0.0037 U	0.0037	0.0036 U	0.0036	0.0036 U	0.0036
alpha-Chlordane		0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018
gamma-Chlordane		0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018	0.0018 U	0.0018
Toxaphene	0.1	0.18 U	0.18	0.18 U	0.18	0.18 U	0.18	0.18 U	0.18	0.18 U	0.18	0.18 U	0.18
Aroclor-1016	0.49	0.037 U	0.037	0.036 U	0.036	0.036 U	0.036	0.037 U	0.037	0.036 U	0.036	0.036 U	0.036
Aroclor-1221	0.49	0.073 U	0.073	0.073 U	0.073	0.072 U	0.072	0.073 U	0.073	0.073 U	0.073	0.073 U	0.073
Aroclor-1232	0.49	0.037 U	0.037	0.036 U	0.036	0.036 U	0.036	0.037 U	0.037	0.036 U	0.036	0.036 U	0.036
Aroclor-1242	0.49	0.037 U	0.037	0.036 U	0.036	0.036 U	0.036	0.037 U	0.037	0.036 U	0.036	0.036 U	0.036
Aroclor-1248	0.49	0.037 U	0.037	0.036 U	0.036	0.036 U	0.036	0.037 U	0.037	0.036 U	0.036	0.036 U	0.036
Aroclor-1254	0.49	0.037 U	0.037	0.036 U	0.036	0.036 U	0.036	0.037 U	0.037	0.036 U	0.036	0.036 U	0.036
Aroclor-1260	0.49	0.037 U	0.037	0.036 U	0.036	0.036 U	0.036	0.037 U	0.037	0.036 U	0.036	0.036 U	0.036
Method:TCL Pesticides/PCBs													

CHARLES WOOD
SOIL BORING PESTICIDES/PCBS

Geographical Location		CW1		CW1		CW1		CW1		CW2		CW2	
Sample		CW01-SB26-A02		CW01-SB27-A02		CW01-SB28-A02		CW01-SB29-A02		CW02-SB30-A02		CW02-SB30-A02DL	
Sample Type													
Batch#		9412G216		9412G216		9412G216		9412G216		9412G182		9412G182	
Prep#		94GP1108		94GP1108		94GP1108		94GP1108		94GP1090		94GP1090	
RFW#		004		002		003		001		002		002DL	
Sample Depth (bgs)													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		5.0	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		12/19/94		12/19/94		12/19/94		12/19/94		12/16/94		12/16/94	
Analysis Date		1/4/95		1/4/95		1/4/95		1/4/95		1/3/95		1/3/95	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
alpha-BHC		0.0021 U	0.0021	0.0022 U	0.0022	0.002 U	0.002	0.0022 U	0.0022	0.0019 U	0.0019	0.0097 U	0.0097
beta-BHC		0.0021 U	0.0021	0.0022 U	0.0022	0.002 U	0.002	0.0022 U	0.0022	0.0019 U	0.0019	0.0097 U	0.0097
delta-BHC		0.0021 U	0.0021	0.0022 U	0.0022	0.002 U	0.002	0.0022 U	0.0022	0.0019 U	0.0019	0.0097 U	0.0097
gamma-BHC (Lindane)	0.52	0.0021 U	0.0021	0.0022 U	0.0022	0.002 U	0.002	0.0022 U	0.0022	0.0019 U	0.0019	0.0097 U	0.0097
Heptachlor	0.15	0.0021 U	0.0021	0.0022 U	0.0022	0.002 U	0.002	0.0022 U	0.0022	0.0019 U	0.0019	0.0097 U	0.0097
Aldrin	0.04	0.0021 U	0.0021	0.0022 U	0.0022	0.002 U	0.002	0.0022 U	0.0022	0.0019 U	0.0019	0.0097 U	0.0097
Heptachlor epoxide		0.0021 U	0.0021	0.0022 U	0.0022	0.002 U	0.002	0.0022 U	0.0022	0.0019 U	0.0019	0.0097 U	0.0097
Endosulfan I	340	0.0021 U	0.0021	0.0022 U	0.0022	0.002 U	0.002	0.0022 U	0.0022	0.0019 U	0.0019	0.0097 U	0.0097
Dieldrin	0.042	0.0042 U	0.0042	0.0043 U	0.0043	0.0041 U	0.0041	0.0043 U	0.0043	0.0039 U	0.0039	0.019 U	0.019
4,4'-DDE	2	0.0038 J	0.0042	0.0043 U	0.0043	0.0041 U	0.0041	0.0043 U	0.0043	0.0035 JP	0.0039	0.019 U	0.019
Endrin	17	0.0042 U	0.0042	0.0043 U	0.0043	0.0041 U	0.0041	0.0043 U	0.0043	0.0039 U	0.0039	0.019 U	0.019
Endosulfan II	340	0.0042 U	0.0042	0.0043 U	0.0043	0.0041 U	0.0041	0.0043 U	0.0043	0.0039 U	0.0039	0.019 U	0.019
4,4'-DDD	3	0.0042 U	0.0042	0.0043 U	0.0043	0.0041 U	0.0041	0.0043 U	0.0043	0.012 P	0.0039	.014 JD	0.019
Endosulfan sulfate		0.0042 U	0.0042	0.0043 U	0.0043	0.0041 U	0.0041	0.0043 U	0.0043	0.0039 U	0.0039	0.019 U	0.019
4,4'-DDT	2	0.0042 U	0.0042	0.0043 U	0.0043	0.0041 U	0.0041	0.0043 U	0.0043	0.062 P	0.0039	.053 DP	0.019
Methoxychlor	280	0.021 U	0.021	0.022 U	0.022	0.02 U	0.02	0.022 U	0.022	0.019 U	0.019	0.097 U	0.097
Endrin ketone		0.0042 U	0.0042	0.0043 U	0.0043	0.0041 U	0.0041	0.0043 U	0.0043	0.0039 U	0.0039	0.019 U	0.019
Endrin aldehyde		0.0042 U	0.0042	0.0043 U	0.0043	0.0041 U	0.0041	0.0043 U	0.0043	0.0039 U	0.0039	0.019 U	0.019
alpha-Chlordane		0.0021 U	0.0021	0.0022 U	0.0022	0.002 U	0.002	0.0022 U	0.0022	0.0019 U	0.0019	0.0097 U	0.0097
gamma-Chlordane		0.0021 U	0.0021	0.0022 U	0.0022	0.002 U	0.002	0.0022 U	0.0022	0.0019 U	0.0019	0.0097 U	0.0097
Toxaphene	0.1	0.21 U	0.21	0.22 U	0.22	0.2 U	0.2	0.22 U	0.22	0.19 U	0.19	0.97 U	0.97
Aroclor-1016	0.49	0.042 U	0.042	0.043 U	0.043	0.041 U	0.041	0.043 U	0.043	0.039 U	0.039	0.19 U	0.19
Aroclor-1221	0.49	0.085 U	0.085	0.087 U	0.087	0.082 U	0.082	0.086 U	0.086	0.078 U	0.078	0.39 U	0.39
Aroclor-1232	0.49	0.042 U	0.042	0.043 U	0.043	0.041 U	0.041	0.043 U	0.043	0.039 U	0.039	0.19 U	0.19
Aroclor-1242	0.49	0.042 U	0.042	0.043 U	0.043	0.041 U	0.041	0.043 U	0.043	0.039 U	0.039	0.19 U	0.19
Aroclor-1248	0.49	0.042 U	0.042	0.043 U	0.043	0.041 U	0.041	0.043 U	0.043	0.039 U	0.039	0.19 U	0.19
Aroclor-1254	0.49	0.042 U	0.042	0.043 U	0.043	0.041 U	0.041	0.043 U	0.043	0.61	0.039	.75 D	0.19
Aroclor-1260	0.49	0.042 U	0.042	0.043 U	0.043	0.041 U	0.041	0.043 U	0.043	0.039 U	0.039	0.19 U	0.19
Method:TCL Pesticides/PCBs													

CHARLES WOOD
SOIL BORING PESTICIDES/PCBS

Geographical Location		CW2		CW2		CW2		CW2		CW4		CW5	
Sample		CW02-SB31-A02		CW02-SB32-A02		CW02-SB33-A02		CW02-SB33-A02DL		CW04-SB01-A02		CW05-SB01-A02	
Sample Type													
Batch#		9412G182		9412G182		9412G154		9412G154		9412G264		9412G245	
Prep#		94GP1090		94GP1090		94GP1090		94GP1090		94GP1108		94GP1108	
RFW#		003		001		002		002DL		008		001	
Sample Depth (bgs)						7-9'		7-9'					
Dilution Factor		1.00		1.00		1.00		10.0		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		12/16/94		12/16/94		12/15/94		NA		12/21/94		12/20/94	
Analysis Date		1/3/95		1/3/95		1/3/95		1/3/95		1/4/95		1/4/95	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
alpha-BHC		0.0022 U	0.0022	0.002 U	0.002	0.0021 U	0.0021	0.021 U	0.021	0.002 U	0.002	0.0019 U	0.0019
beta-BHC		0.0022 U	0.0022	0.002 U	0.002	0.0021 U	0.0021	0.021 U	0.021	0.002 U	0.002	0.0019 U	0.0019
delta-BHC		0.0022 U	0.0022	0.002 U	0.002	0.0021 U	0.0021	0.021 U	0.021	0.002 U	0.002	0.0019 U	0.0019
gamma-BHC (Lindane)	0.52	0.0022 U	0.0022	0.002 U	0.002	0.0021 U	0.0021	0.021 U	0.021	0.002 U	0.002	0.0019 U	0.0019
Heptachlor	0.15	0.0022 U	0.0022	0.002 U	0.002	0.0021 U	0.0021	0.021 U	0.021	0.002 U	0.002	0.0019 U	0.0019
Aldrin	0.04	0.0022 U	0.0022	0.002 U	0.002	0.0021 U	0.0021	0.021 U	0.021	0.002 U	0.002	0.0019 U	0.0019
Heptachlor epoxide		0.0022 U	0.0022	0.002 U	0.002	0.0021 U	0.0021	0.021 U	0.021	0.002 U	0.002	0.0019 U	0.0019
Endosulfan I	340	0.0022 U	0.0022	0.002 U	0.002	0.0021 U	0.0021	0.021 U	0.021	0.002 U	0.002	0.0019 U	0.0019
Dieldrin	0.042	0.0044 U	0.0044	0.0041 U	0.0041	0.0041 U	0.0041	0.041 U	0.041	0.004 U	0.004	0.0038 U	0.0038
4,4'-DDE	2	0.0044 U	0.0044	0.0041 U	0.0041	0.0083 P	0.0041	0.041 U	0.041	0.004 U	0.004	0.21 P	0.0038
Endrin	17	0.0044 U	0.0044	0.0041 U	0.0041	0.0041 U	0.0041	0.041 U	0.041	0.004 U	0.004	0.0038 U	0.0038
Endosulfan II	340	0.0044 U	0.0044	0.0041 U	0.0041	0.0041 U	0.0041	0.041 U	0.041	0.004 U	0.004	0.0038 U	0.0038
4,4'-DDD	3	0.0098	0.0044	0.0073	0.0041	0.26	0.0041	.2 D	0.041	0.004 U	0.004	0.087	0.0038
Endosulfan sulfate		0.0044 U	0.0044	0.0041 U	0.0041	0.0041 U	0.0041	0.041 U	0.041	0.004 U	0.004	0.0038 U	0.0038
4,4'-DDT	2	0.0058	0.0044	0.0041 U	0.0041	0.046	0.0041	.043 D	0.041	0.004 U	0.004	0.087	0.0038
Methoxychlor	280	0.022 U	0.022	0.02 U	0.02	0.021 U	0.021	0.21 U	0.21	0.02 U	0.02	0.0038 U	0.0038
Endrin ketone		0.0044 U	0.0044	0.0041 U	0.0041	0.0041 U	0.0041	0.041 U	0.041	0.004 U	0.004	0.0038 U	0.0038
Endrin aldehyde		0.0044 U	0.0044	0.0041 U	0.0041	0.0041 U	0.0041	0.041 U	0.041	0.004 U	0.004	0.0038 U	0.0038
alpha-Chlordane		0.0022 U	0.0022	0.002 U	0.002	0.0021 U	0.0021	0.021 U	0.021	0.002 U	0.002	0.0084 P	0.0019
gamma-Chlordane		0.0022 U	0.0022	0.002 U	0.002	0.0021 U	0.0021	0.021 U	0.021	0.002 U	0.002	0.0092	0.0019
Toxaphene	0.1	0.22 U	0.22	0.2 U	0.2	0.21 U	0.21	2.1 U	2.1	0.2 U	0.2	0.19 U	0.19
Aroclor-1016	0.49	0.044 U	0.044	0.041 U	0.041	0.041 U	0.041	0.41 U	0.41	0.04 U	0.04	0.038 U	0.038
Aroclor-1221	0.49	0.089 U	0.089	0.082 U	0.082	0.083 U	0.083	0.83 U	0.83	0.079 U	0.079	0.077 U	0.077
Aroclor-1232	0.49	0.044 U	0.044	0.041 U	0.041	0.041 U	0.041	0.41 U	0.41	0.04 U	0.04	0.038 U	0.038
Aroclor-1242	0.49	0.044 U	0.044	0.041 U	0.041	0.041 U	0.041	0.41 U	0.41	0.04 U	0.04	0.038 U	0.038
Aroclor-1248	0.49	0.044 U	0.044	0.041 U	0.041	0.041 U	0.041	0.41 U	0.41	0.04 U	0.04	0.038 U	0.038
Aroclor-1254	0.49	0.044 U	0.044	0.041 U	0.041	0.041 U	0.041	0.41 U	0.41	0.04 U	0.04	0.17	0.038
Aroclor-1260	0.49	0.044 U	0.044	0.041 U	0.041	0.041 U	0.041	0.41 U	0.41	0.04 U	0.04	0.15	0.038
Method:TCL Pesticides/PCBs													

CHARLES WOOD
SOIL BORING PESTICIDES/PCBS

Geographical Location		CW5		CW5		CW6		CW6		CW6		CW6	
Sample		CW05-SB01-A02DL		CW05-SB02-A02		CW06-SB02-A01		CW06-SB02-A01DL		CW06-SB34-A01		CW06-SB34-A01DL	
Sample Type													
Batch#		9412G245		9412G245		9505G840		9505G840		9501G423		9501G423	
Prep#		94GP1108		94GP1108		95GP0512		95GP0512		95GP0028		95GP0028	
RFW#		001DL		002		001		001 DL		001		001DL	
Sample Depth (bgs)													
Dilution Factor		10.0		1.00		1.00		1.00		1.00		10.0	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		12/20/94		12/20/94		5/10/95		5/10/95		1/3/95		1/3/95	
Analysis Date		1/5/95		1/4/95		5/29/95		5/29/95		1/17/95		1/18/95	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
alpha-BHC		0.019 U	0.019	0.0019 U	0.0019	0.0023 U	0.0023	0.23 U	0.23	0.002 U	0.002	0.02 U	0.02
beta-BHC		0.019 U	0.019	0.0019 U	0.0019	0.0023 U	0.0023	0.23 U	0.23	0.002 U	0.002	0.02 U	0.02
delta-BHC		0.019 U	0.019	0.0019 U	0.0019	0.0023 U	0.0023	0.23 U	0.23	0.002 U	0.002	0.02 U	0.02
gamma-BHC (Lindane)	0.52	0.019 U	0.019	0.0019 U	0.0019	0.0023 U	0.0023	0.23 U	0.23	0.002 U	0.002	0.02 U	0.02
Heptachlor	0.15	0.019 U	0.019	0.0019 U	0.0019	0.0023 U	0.0023	0.23 U	0.23	0.002 U	0.002	0.02 U	0.02
Aldrin	0.04	0.019 U	0.019	0.0019 U	0.0019	0.0023 U	0.0023	0.23 U	0.23	0.002 U	0.002	0.02 U	0.02
Heptachlor epoxide		0.019 U	0.019	0.0019 U	0.0019	0.0078 P	0.0023	0.23 U	0.23	0.018 P	0.002	0.02 U	0.02
Endosulfan I	340	0.019 U	0.019	0.0019 U	0.0019	0.0023 U	0.0023	0.23 U	0.23	0.002 U	0.002	0.039 U	0.039
Dieldrin	0.042	0.038 U	0.038	0.0039 U	0.0039	0.0046 U	0.0046	0.46 U	0.46	0.0047 P	0.0039	.061 DP	0.039
4,4'-DDE	2	.18 D	0.038	0.0058	0.0039	0.11 CP	0.0046	.34 JCD	0.46	0.074 P	0.0039	0.039 U	0.039
Endrin	17	0.038 U	0.038	0.0039 U	0.0039	0.0046 U	0.0046	0.46 U	0.46	0.0039 U	0.0039	0.039 U	0.039
Endosulfan II	340	0.038 U	0.038	0.0039 U	0.0039	0.0046 U	0.0046	0.46 U	0.46	0.0039 U	0.0039	0.039 U	0.039
4,4'-DDD	3	.069 D	0.038	0.0035 J	0.0039	0.21 CP	0.0046	2.9 CD	0.46	0.0095 P	0.0039	0.039 U	0.039
Endosulfan sulfate		0.038 U	0.038	0.0039 U	0.0039	0.0046 U	0.0046	0.46 U	0.46	0.0039 U	0.0039	0.039 U	0.039
4,4'-DDT	2	.067 D	0.038	0.0039 U	0.0039	0.46 UZ	0.0046	0.46 UZ	0.46	0.16 P	0.0039	.18 DP	0.039
Methoxychlor	280	0.19 U	0.19	0.019 U	0.019	0.023 U	0.023	2.3 U	2.3	0.02 U	0.02	0.2 U	0.2
Endrin ketone		0.038 U	0.038	0.0039 U	0.0039	0.0046 U	0.0046	0.46 U	0.46	0.0039 U	0.0039	0.039 U	0.039
Endrin aldehyde		0.038 U	0.038	0.0039 U	0.0039	0.0046 U	0.0046	0.46 U	0.46	0.0039 U	0.0039	0.039 U	0.039
alpha-Chlordane		0.019 U	0.019	0.0019 U	0.0019	0.043	0.0023	.07 JD	0.23	0.14 P	0.002	.14 DP	0.02
gamma-Chlordane		0.019 U	0.019	0.0019 U	0.0019	0.047	0.0023	.068 JD	0.23	0.11 P	0.002	.11 DP	0.02
Toxaphene	0.1	1.9 U	1.9	0.19 U	0.19	0.23 U	0.23	23 U	23	0.2 U	0.2	2 U	2
Aroclor-1016	0.49	0.38 U	0.38	0.039 U	0.039	0.046 U	0.046	4.6 U	4.6	0.039 U	0.039	0.39 U	0.39
Aroclor-1221	0.49	0.77 U	0.77	0.077 U	0.077	0.092 U	0.092	9.2 U	9.2	0.079 U	0.079	0.79 U	0.79
Aroclor-1232	0.49	0.38 U	0.38	0.039 U	0.039	0.046 U	0.046	4.6 U	4.6	0.039 U	0.039	0.39 U	0.39
Aroclor-1242	0.49	0.38 U	0.38	0.039 U	0.039	0.046 U	0.046	4.6 U	4.6	0.039 U	0.039	0.39 U	0.39
Aroclor-1248	0.49	0.38 U	0.38	0.039 U	0.039	0.046 U	0.046	4.6 U	4.6	0.039 U	0.039	0.39 U	0.39
Aroclor-1254	0.49	.2 JD	0.38	0.039 U	0.039	0.046 U	0.046	4.6 U	4.6	0.039 U	0.039	0.39 U	0.39
Aroclor-1260	0.49	.18 JD	0.38	0.039 U	0.039	0.046 U	0.046	4.6 U	4.6	0.039 U	0.039	0.39 U	0.39
Method:TCL Pesticides/PCBs													

CHARLES WOOD
SOIL BORING PESTICIDES/PCBS

Geographical Location		CW6		CW9		B6		B6		B6		B7	
Sample		CW06-SB34-A02		CW09-SB01-A02		B6-SB01-A01		B6-SB01-A02		B6-SB01-A02DL		B7-SB01-A01	
Sample Type													
Batch#		9501G423		9501G450		9501G553		9501G553		9501G553		9501G553	
Prep#		95GP0028		95GP0028		95GP0050		95GP0050		95GP0050		95GP0050	
RFW#		002		001		008		009		009DL		006	
Sample Depth (bgs)													
Dilution Factor		1.00		1.00		1.00		1.00		5.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		1/3/95		1/4/95		1/10/95		1/10/95		1/10/95		1/10/95	
Analysis Date		1/17/95		1/17/95		1/26/95		1/26/95		2/6/95		1/26/95	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
alpha-BHC		0.0019 U	0.0019	0.0019 U	0.0019	0.0018 U	0.0018	0.002 U	0.002	0.0098 U	0.0098	0.0019 U	0.0019
beta-BHC		0.0019 U	0.0019	0.0019 U	0.0019	0.0018 U	0.0018	0.002 U	0.002	0.0098 U	0.0098	0.0019 U	0.0019
delta-BHC		0.0019 U	0.0019	0.0019 U	0.0019	0.0018 U	0.0018	0.002 U	0.002	0.0098 U	0.0098	0.0019 U	0.0019
gamma-BHC (Lindane)	0.52	0.0019 U	0.0019	0.0019 U	0.0019	0.0018 U	0.0018	0.002 U	0.002	0.0098 U	0.0098	0.0019 U	0.0019
Heptachlor	0.15	0.0019 U	0.0019	0.0019 U	0.0019	0.0018 U	0.0018	0.002 U	0.002	0.0098 U	0.0098	0.0019 U	0.0019
Aldrin	0.04	0.0019 U	0.0019	0.0019 U	0.0019	0.0018 U	0.0018	0.002 U	0.002	0.0098 U	0.0098	0.0019 U	0.0019
Heptachlor epoxide		0.0019 U	0.0019	0.0019 U	0.0019	0.0018 U	0.0018	0.002 U	0.002	0.0098 U	0.0098	0.0019 U	0.0019
Endosulfan I	340	0.0019 U	0.0019	0.0019 U	0.0019	0.0018 U	0.0018	0.002 U	0.002	0.0098 U	0.0098	0.0019 U	0.0019
Dieldrin	0.042	0.0038 U	0.0038	0.0038 U	0.0038	0.0037 U	0.0037	0.0039 U	0.0039	0.02 U	0.02	0.0038 U	0.0038
4,4'-DDE	2	0.0038 U	0.0038	0.0076 P	0.0038	0.028	0.0037	0.071	0.0039	.066 D	0.02	0.023	0.0038
Endrin	17	0.0038 U	0.0038	0.0038 U	0.0038	0.0037 U	0.0037	0.0039 U	0.0039	0.02 U	0.02	0.0038 U	0.0038
Endosulfan II	340	0.0038 U	0.0038	0.0038 U	0.0038	0.0037 U	0.0037	0.0039 U	0.0039	0.02 U	0.02	0.0038 U	0.0038
4,4'-DDD	3	0.0038 U	0.0038	0.0038 U	0.0038	0.0037 U	0.0037	0.0039 U	0.0039	0.02 U	0.02	0.0038 U	0.0038
Endosulfan sulfate		0.0038 U	0.0038	0.0038 U	0.0038	0.0037 U	0.0037	0.0039 U	0.0039	0.02 U	0.02	0.0038 U	0.0038
4,4'-DDT	2	0.011 P	0.0038	0.008 P	0.0038	0.032	0.0037	0.053	0.0039	.047 D	0.02	0.013	0.0038
Methoxychlor	280	0.019 U	0.019	0.019 U	0.019	0.018 U	0.018	0.02 U	0.02	0.098 U	0.098	0.019 U	0.019
Endrin ketone		0.0038 U	0.0038	0.0038 U	0.0038	0.0037 U	0.0037	0.0039 U	0.0039	0.02 U	0.02	0.0038 U	0.0038
Endrin aldehyde		0.0038 U	0.0038	0.0038 U	0.0038	0.0037 U	0.0037	0.0039 U	0.0039	0.02 U	0.02	0.0038 U	0.0038
alpha-Chlordane		0.0034 P	0.0019	0.0019 U	0.0019	0.0018 U	0.0018	0.002 U	0.002	0.0098 U	0.0098	0.0019 U	0.0019
gamma-Chlordane		0.0027 P	0.0019	0.0019 U	0.0019	0.0018 U	0.0018	0.002 U	0.002	0.0098 U	0.0098	0.0019 U	0.0019
Toxaphene	0.1	0.19 U	0.19	0.19 U	0.19	0.18 U	0.18	0.2 U	0.2	0.98 U	0.98	0.19 U	0.19
Aroclor-1016	0.49	0.038 U	0.038	0.038 U	0.038	0.037 U	0.037	0.039 U	0.039	0.2 U	0.2	0.038 U	0.038
Aroclor-1221	0.49	0.076 U	0.076	0.076 U	0.076	0.074 U	0.074	0.078 U	0.078	0.39 U	0.39	0.077 U	0.077
Aroclor-1232	0.49	0.038 U	0.038	0.038 U	0.038	0.037 U	0.037	0.039 U	0.039	0.2 U	0.2	0.038 U	0.038
Aroclor-1242	0.49	0.038 U	0.038	0.038 U	0.038	0.037 U	0.037	0.039 U	0.039	0.2 U	0.2	0.038 U	0.038
Aroclor-1248	0.49	0.038 U	0.038	0.038 U	0.038	0.037 U	0.037	0.039 U	0.039	0.2 U	0.2	0.038 U	0.038
Aroclor-1254	0.49	0.038 U	0.038	0.038 U	0.038	0.037 U	0.037	0.039 U	0.039	0.2 U	0.2	0.038 U	0.038
Aroclor-1260	0.49	0.038 U	0.038	0.038 U	0.038	0.037 U	0.037	0.039 U	0.039	0.2 U	0.2	0.038 U	0.038
Method:TCL Pesticides/PCBs													

CHARLES WOOD
SOIL BORING PESTICIDES/PCBS

Geographical Location		B7		B8		B8		B9		B9		B9	
Sample		B7-SB01-A02		B8-SB01-A01		B8-SB01-A02		B9-SB01-A01		B9-SB01-A02		B9-SB01-C02	
Sample Type												Duplicate	
Batch#		9501G553		9501G553		9501G553		9501G831		9501G831		9501G831	
Prep#		95GP0050		95GP0050		95GP0050		95GP0079		95GP0079		95GP0079	
RFW#		007		004		005		001		002		003	
Sample Depth (bgs)													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		1/10/95		1/10/95		1/10/95		1/23/95		1/23/95		1/23/95	
Analysis Date		1/26/95		1/26/95		1/26/95		2/3/95		2/3/95		2/3/95	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
alpha-BHC		0.0019 U	0.0019	0.0018 U	0.0018	0.0019 U	0.0019	0.0019 U	0.0019	0.002 U	0.002	0.002 U	0.002
beta-BHC		0.0019 U	0.0019	0.0018 U	0.0018	0.0019 U	0.0019	0.0019 U	0.0019	0.002 U	0.002	0.002 U	0.002
delta-BHC		0.0019 U	0.0019	0.0018 U	0.0018	0.0019 U	0.0019	0.0019 U	0.0019	0.002 U	0.002	0.002 U	0.002
gamma-BHC (Lindane)	0.52	0.0019 U	0.0019	0.0018 U	0.0018	0.0019 U	0.0019	0.0019 U	0.0019	0.002 U	0.002	0.002 U	0.002
Heptachlor	0.15	0.0019 U	0.0019	0.0018 U	0.0018	0.0019 U	0.0019	0.0019 U	0.0019	0.002 U	0.002	0.002 U	0.002
Aldrin	0.04	0.0019 U	0.0019	0.0018 U	0.0018	0.0019 U	0.0019	0.0019 U	0.0019	0.002 U	0.002	0.002 U	0.002
Heptachlor epoxide		0.0019 U	0.0019	0.0018 U	0.0018	0.0019 U	0.0019	0.0019 U	0.0019	0.002 U	0.002	0.002 U	0.002
Endosulfan I	340	0.0019 U	0.0019	0.0018 U	0.0018	0.0019 U	0.0019	0.0019 U	0.0019	0.002 U	0.002	0.002 U	0.002
Dieldrin	0.042	0.0039 U	0.0039	0.0036 U	0.0036	0.0038 U	0.0038	0.0039 U	0.0039	0.004 U	0.004	0.004 U	0.004
4,4'-DDE	2	0.0039 U	0.0039	0.0036 U	0.0036	0.0038 U	0.0038	0.011	0.0039	0.004 U	0.004	0.0044	0.004
Endrin	17	0.0039 U	0.0039	0.0036 U	0.0036	0.0038 U	0.0038	0.0039 U	0.0039	0.004 U	0.004	0.004 U	0.004
Endosulfan II	340	0.0039 U	0.0039	0.0036 U	0.0036	0.0038 U	0.0038	0.0039 U	0.0039	0.004 U	0.004	0.004 U	0.004
4,4'-DDD	3	0.0039 U	0.0039	0.0036 U	0.0036	0.0038 U	0.0038	0.0039 U	0.0039	0.004 U	0.004	0.004 U	0.004
Endosulfan sulfate		0.0039 U	0.0039	0.0036 U	0.0036	0.0038 U	0.0038	0.0039 U	0.0039	0.004 U	0.004	0.004 U	0.004
4,4'-DDT	2	0.0039 U	0.0039	0.0036 U	0.0036	0.0038 U	0.0038	0.02	0.0039	0.0024 J	0.004	0.0053	0.004
Methoxychlor	280	0.019 U	0.019	0.018 U	0.018	0.019 U	0.019	0.019 U	0.019	0.02 U	0.02	0.02 U	0.02
Endrin ketone		0.0039 U	0.0039	0.0036 U	0.0036	0.0038 U	0.0038	0.0039 U	0.0039	0.004 U	0.004	0.004 U	0.004
Endrin aldehyde		0.0039 U	0.0039	0.0036 U	0.0036	0.0038 U	0.0038	0.0039 U	0.0039	0.004 U	0.004	0.004 U	0.004
alpha-Chlordane		0.0019 U	0.0019	0.0018 U	0.0018	0.0019 U	0.0019	0.0019 U	0.0019	0.002 U	0.002	0.002 U	0.002
gamma-Chlordane		0.0019 U	0.0019	0.0018 U	0.0018	0.0019 U	0.0019	0.0019 U	0.0019	0.002 U	0.002	0.002 U	0.002
Toxaphene	0.1	0.19 U	0.19	0.18 U	0.18	0.19 U	0.19	0.19 U	0.19	0.2 U	0.2	0.2 U	0.2
Aroclor-1016	0.49	0.039 U	0.039	0.036 U	0.036	0.038 U	0.038	0.039 U	0.039	0.04 U	0.04	0.04 U	0.04
Aroclor-1221	0.49	0.078 U	0.078	0.072 U	0.072	0.077 U	0.077	0.078 U	0.078	0.079 U	0.079	0.081 U	0.081
Aroclor-1232	0.49	0.039 U	0.039	0.036 U	0.036	0.038 U	0.038	0.039 U	0.039	0.04 U	0.04	0.04 U	0.04
Aroclor-1242	0.49	0.039 U	0.039	0.036 U	0.036	0.038 U	0.038	0.039 U	0.039	0.04 U	0.04	0.04 U	0.04
Aroclor-1248	0.49	0.039 U	0.039	0.036 U	0.036	0.038 U	0.038	0.039 U	0.039	0.04 U	0.04	0.04 U	0.04
Aroclor-1254	0.49	0.039 U	0.039	0.036 U	0.036	0.038 U	0.038	0.039 U	0.039	0.04 U	0.04	0.04 U	0.04
Aroclor-1260	0.49	0.039 U	0.039	0.036 U	0.036	0.038 U	0.038	0.039 U	0.039	0.04 U	0.04	0.04 U	0.04
Method:TCL Pesticides/PCBs													

CHARLES WOOD
SOIL BORING PESTICIDES/PCBS

Geographical Location		B10		B10		B10	
Sample		B10-SB01-A01		B10-SB01-A02		B10-SB01-A02RE	
Sample Type							
Batch#		9501G553		9501G553		9501G553	
Prep#		95GP0050		95GP0050		95GP0079	
RFW#		001		002		002RE	
Sample Depth (bgs)							
Dilution Factor		1.00		1.00		1.00	
Matrix		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg	
Sampling Date		1/10/94		1/10/95		1/10/95	
Analysis Date		1/26/95		1/26/95		2/3/95	
Analysis	Standard	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
alpha-BHC		0.002 U	0.002	0.0019 U	0.0019	0.0019 U	0.0019
beta-BHC		0.002 U	0.002	0.0019 U	0.0019	0.0019 U	0.0019
delta-BHC		0.002 U	0.002	0.0019 U	0.0019	0.0019 U	0.0019
gamma-BHC (Lindane)	0.52	0.002 U	0.002	0.0019 U	0.0019	0.0019 U	0.0019
Heptachlor	0.15	0.002 U	0.002	0.0019 U	0.0019	0.0019 U	0.0019
Aldrin	0.04	0.002 U	0.002	0.0019 U	0.0019	0.0019 U	0.0019
Heptachlor epoxide		0.002 U	0.002	0.0019 U	0.0019	0.0019 U	0.0019
Endosulfan I	340	0.002 U	0.002	0.0019 U	0.0019	0.0019 U	0.0019
Dieldrin	0.042	0.0039 U	0.0039	0.0039 U	0.0039	0.0039 U	0.0039
4,4'-DDE	2	0.0035 J	0.0039	0.0039 U	0.0039	0.0039 U	0.0039
Endrin	17	0.0039 U	0.0039	0.0039 U	0.0039	0.0039 U	0.0039
Endosulfan II	340	0.0039 U	0.0039	0.0039 U	0.0039	0.0039 U	0.0039
4,4'-DDD	3	0.0039 U	0.0039	0.0039 U	0.0039	0.0039 U	0.0039
Endosulfan sulfate		0.0039 U	0.0039	0.0039 U	0.0039	0.0039 U	0.0039
4,4'-DDT	2	0.0024 J	0.0039	0.0039 U	0.0039	0.0039 U	0.0039
Methoxychlor	280	0.02 U	0.02	0.019 U	0.019	0.019 U	0.019
Endrin ketone		0.0039 U	0.0039	0.0039 U	0.0039	0.0039 U	0.0039
Endrin aldehyde		0.0039 U	0.0039	0.0039 U	0.0039	0.0039 U	0.0039
alpha-Chlordane		0.002 U	0.002	0.0019 U	0.0019	0.0019 U	0.0019
gamma-Chlordane		0.002 U	0.002	0.0019 U	0.0019	0.0019 U	0.0019
Toxaphene	0.1	0.2 U	0.2	0.19 U	0.19	0.19 U	0.19
Aroclor-1016	0.49	0.039 U	0.039	0.039 U	0.039	0.039 U	0.039
Aroclor-1221	0.49	0.079 U	0.079	0.078 U	0.078	0.077 U	0.077
Aroclor-1232	0.49	0.039 U	0.039	0.039 U	0.039	0.039 U	0.039
Aroclor-1242	0.49	0.039 U	0.039	0.039 U	0.039	0.039 U	0.039
Aroclor-1248	0.49	0.039 U	0.039	0.039 U	0.039	0.039 U	0.039
Aroclor-1254	0.49	0.039 U	0.039	0.039 U	0.039	0.039 U	0.039
Aroclor-1260	0.49	0.039 U	0.039	0.039 U	0.039	0.039 U	0.039
Method:TCL Pesticides/PCBs							

CHARLES WOOD
GROUNDWATER VOLATILES

Geographical Location			CW1		CW1		CW1		CW1		CW1		CW1		CW1	
Sample			CW01-MW26-A01		CW01-MW26-A02		CW01-MW26-D02		CW01-MW26-E02		CW01-MW27-A01		CW01-MW27-A02		CW01-MW28-A01	
Sample Type							Trip Blank		Field Rinsate Blank							
Batch#			9502G358		9503G739		9503G739		9503G739		9502G358		9503G739		9502G358	
Prep#			95GVC041		95GVE071		95GVE071		95GVE071		95GVC039		95GVE071		95GVC039	
RFW#			001		003		005		006		003		001		005	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/21/95		3/14/95		3/14/95		3/14/95		2/21/95		3/14/95		2/21/95	
Analysis Date			3/1/95		3/19/95		3/19/95		3/19/95		2/27/95		3/19/95		2/27/95	
Analysis	Standard	MDL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting
			Result		Result		Result		Result		Result	Limit	Result	Limit	Result	Limit
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,1-Trichloroethane	30	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	23	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	10 U	10	4 J	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dilution Factor																
Method:TCL Volatiles																

CHARLES WOOD
GROUNDWATER VOLATILES

Geographical Location			CW1		CW1		CW1		CW1		CW1		CW2		CW2	
Sample			CW01-MW28-A02		CW01-MW29-A01		CW01-MW29-A02		CW01-MW29-D01		CW01-MW29-E01		CW02-MW30-A01		CW02-MW30-A02	
Sample Type									Trip Blank		Field Rinsate Blank					
Batch#			9503G739		9502G358		9503G739		9502G358		9502G358		9502G358		9503G739	
Prep#			95GVE071		95GVC039		95GVE071 & 62		95GVC039		95GVC039		95GVC041		95GVE071	
RFW#			008		007		010		009		010		012		012	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/14/95		2/21/95		3/14/95		2/21/95		2/21/95		2/21/95		3/14/95	
Analysis Date			3/19/95		2/27/95		3/19/95		2/27/95		2/27/95		3/1/95		3/19/95	
Analysis	Standard	MDL	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	10 U	10	10 U	10	20	10	10 U	10	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	4 J	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	110	10	360	50 *	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	10 U	10	10 U	10	10 U	10	36	10	10 U	10	10 U	10	10 U	10
1,1,1-Trichloroethane	30	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	48	10	780	100 *	990	50 *	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dilution Factor					* = 10		* = 5									
Method:TCL Volatiles																

CHARLES WOOD
GROUNDWATER VOLATILES

Geographical Location			CW2		CW2		CW2		CW2		CW2		CW2		CW6	
Sample			CW02-MW31-A01		CW02-MW31-A02		CW02-MW32-A01		CW02-MW32-A02		CW02-MW33-A01		CW02-MW33-A02		CW06-MW01-A01	
Sample Type																
Batch#			9502G358		9503G739		9502G358		9503G739		9502G358		9503G739		9505G840	
Prep#			95GVC041		95GVE072		95GVC041		95GVE072		95GVC041		95GVE072		95GVC129	
RFW#			014		014		016		016		018		018		002	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/21/95		3/14/95		2/21/95		3/14/95		2/21/95		3/14/95		5/10/95	
Analysis Date			3/1/95		3/20/95		3/1/95		3/20/95		3/1/95		3/20/95		5/16/95	
Analysis	Standard	MDL	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting
			Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,1-Trichloroethane	30	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	11	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	10 U	10	10 U	10	10 U	10	3 J	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	2 J	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	4 J	10
Dilution Factor																
Method:TCL Volatiles																

CHARLES WOOD
GROUNDWATER VOLATILES

Geographical Location			CW6		CW6		CW6		CW6		CW6		CW6	
Sample			CW06-MW01-A02		CW06-MW01-E02		CW06-MW01-D02		CW06-MW34-A01		CW06-MW34-A02		CW06-MW34-D01	
Sample Type					Field Rinsate Blank		Trip Blank						Trip Blank	
Batch#			9505G138		9505G138		9505G138		9502G300		9503G723		9502G300	
Prep#			95GVB148		95GVB148		95GVB148		95GVC034		95GVE071		95GVC034	
RFW#			002		003		004		001		001		002	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			5/25/95		5/25/95		5/25/95		2/20/95		3/13/95		2/20/95	
Analysis Date			6/1/95		6/1/95		6/1/95		2/23/95		3/19/95		2/23/95	
Analysis	Standard	MDL	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	30	10
1,1,1-Trichloroethane	30	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dilution Factor														
Method:TCL Volatiles														

CHARLES WOOD
GROUNDWATER VOLATILES

Geographical Location			CW9		CW9		CW9		CW9		CW9		B6	
Sample			CW09-MW35-A01		CW09-MW35-A02		CW09-MW35-E01		CW09-MW36-A01		CW09-MW36-A02		B6-MW06B-A01	
Sample Type							Field Rinsate Blank							
Batch#			9502G300		9503G723		9502G300		9502G300		9503G723		9502G198	
Prep#			95GVC034		95GVE071		95GVC036		95GVC036		95GVE071		95GVC029	
RFW#			003		002		007		005		004		003	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/20/95		3/13/95		2/20/95		2/20/95		3/13/95		2/15/95	
Analysis Date			2/23/95		3/19/95		2/24/95		2/24/95		3/19/95		2/20/95	
Analysis	Standard	MDL	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	10 U	10	12	10	10 U	10	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	10 U	10	10 U	10	25	10	10 U	10	10 U	10	10 U	10
1,1,1-Trichloroethane	30	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dilution Factor														
Method:TCL Volatiles														

CHARLES WOOD
GROUNDWATER VOLATILES

Geographical Location			B6		B7		B7		B8		B8		B9		B9	
Sample			B6-MW06B-A02		B7-MW07B-A01		B7-MW07B-A02		B8-MW08B-A01		B8-MW08B-A02		B9-MW09B-A01		B9-MW09B-A02	
Sample Type																
Batch#			9503G641		9502G198		9503G617		9502G198		9503G641		9502G198		9503G617	
Prep#			95GVC053		95GVC029		95GVC052		95GVC029		95GVC053		95GVC029		95GVC052	
RFW#			001		005		003		007		003		001		001	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/8/95		2/15/95		3/7/95		2/15/95		3/8/95		2/15/95		3/7/95	
Analysis Date			3/10/95		2/20/95		3/9/95		2/20/95		3/10/95		2/20/95		3/9/95	
Analysis	Standard	MDL	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit	Analytical Result	Reporting Limit
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	2 J	10	10 U	10	10 U	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,1-Trichloroethane	30	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dilution Factor																
Method:TCL Volatiles																

CHARLES WOOD
GROUNDWATER VOLATILES

Geographical Location			B10		B10		B10		B10		B10		B10	
Sample			B10-MW10B-A01		B10-MW10B-A02		B10-MW10B-D01		B10-MW10B-D02		B10-MW10B-E01		B10-MW10B-E02	
Sample Type							Trip Blank		Trip Blank		Field Rinsate Blank		Field Rinsate Blank	
Batch#			9502G198		9503G641		9502G198		9503G641		9502G198		9503G641	
Prep#			95GVC030		95GVC053		95GVC030		95GVC053		95GVC030		95GVC053	
RFW#			009		005		011		007		012		008	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/15/95		3/8/95		2/13/95		3/8/95		2/13/95		3/8/95	
Analysis Date			2/21/95		3/10/95		2/21/95		3/10/95		2/21/95		3/10/95	
Analysis	Standard	MDL	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting
			Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
Chloromethane		7.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromomethane		6.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Vinyl Chloride	5	7.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroethane		9.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Methylene Chloride	2	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Acetone	700	6.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Disulfide		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethene		4.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1-Dichloroethane	70	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethene (total)		4.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chloroform	6	2.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloroethane	2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Butanone		4.1	10 U	10	10 U	10	14	10	10 U	10	15	10	10 U	10
1,1,1-Trichloroethane	30	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Carbon Tetrachloride	2	1.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromodichloromethane	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,2-Dichloropropane	1	1.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
cis-1,3-Dichloropropene	0.2	3.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Trichloroethene	1	2.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dibromochloromethane	10	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2-Trichloroethane	3	4.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Benzene	1	3.3	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
trans-1,3-Dichloropropene	0.2	2.4	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Bromoform	4	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
4-Methyl-2-pentanone	400	5.5	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
2-Hexanone		3.9	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Tetrachloroethene	1	4.0	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
1,1,2,2-Tetrachloroethane	2	4.2	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Toluene	1000	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Chlorobenzene	4	2.7	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Ethylbenzene	700	3.1	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Styrene	100	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Xylene (total)	40	3.8	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10	10 U	10
Dilution Factor														
Method:TCL Volatiles														

CHARLES WOOD
GROUNDWATER SEMIVOLATILES

Geographical Location			CW1		CW1		CW1		CW1		CW1		CW1	
Sample			CW01-MW26-A01		CW01-MW26-A02		CW01-MW26-E02		CW01-MW27-A01		CW01-MW27-A02		CW01-MW28-A01	
Sample Type							Field Rinsate Blank							
Batch#			9502G358		9503G739		9503G739		9502G358		9503G739		9502G358	
Prep#			95GB0123		95GB0181		95GB0181		95GB0123		95GB0181		95GB0123	
RFW#			001		003		006		003		001		005	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/21/95		3/14/95		3/14/95		2/21/95		3/14/95		2/21/95	
Analysis Date			3/12/95		3/30/95		3/29/95		3/13/95		3/29/95		3/15/95	
Analysis	Standard	MDL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL
			Result		Result		Result		Result		Result		Result	
Phenol	4000	7.1	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
bis(2-Chloroethyl) ether	10	9.7	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
2-Chlorophenol	40	7.3	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
1,3-Dichlorobenzene	600	5.3	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
1,4-Dichlorobenzene	75	4.8	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
1,2-Dichlorobenzene	600	5.7	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
2-Methylphenol		6.7	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
2,2'-oxybis(1-Chloropropane)		7.0	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
4-Methylphenol		12.9	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
N-Nitroso-di-n-propylamine	20	8.0	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Hexachloroethane	10	5.3	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Nitrobenzene	10	7.4	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Isophorone	100	3.9	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
2-Nitrophenol		7.0	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
2,4-Dimethylphenol	100	4.8	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
bis(2-Chloroethoxy) methane		6.1	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
2,4-Dichlorophenol	20	4.4	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
1,2,4-Trichlorobenzene	9	9.6	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Naphthalene		8.4	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
4-Chloroaniline		2.9	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Hexachlorobutadiene	1	4.6	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
4-Chloro-3-methylphenol	20	3.1	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
2-Methylnaphthalene		8.7	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Hexachlorocyclopentadiene	50	3.6	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
2,4,6-Trichlorophenol		5.6	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
2,4,5-Trichlorophenol	700	4.7	26 U	26	25 U	25	28 U	28	26 U	26	26 U	26	27 U	27
2-Chloronaphthalene		8.2	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
2-Nitroaniline		6.1	26 U	26	25 U	25	28 U	28	26 U	26	26 U	26	27 U	27
Dimethylphthalate	7000	4.4	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Acenaphthylene	10	6.0	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
2,6-Dinitrotoluene	10	5.2	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
3-Nitroaniline		5.2	26 U	26	25 U	25	28 U	28	26 U	26	26 U	26	27 U	27
Acenaphthene	400	6.7	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
2,4-Dinitrophenol	40	4.6	26 U	26	25 U	25	28 U	28	26 U	26	26 U	26	27 U	27

CHARLES WOOD
GROUNDWATER SEMIVOLATILES

Geographical Location			CW1		CW1		CW1		CW1		CW1		CW1	
Sample			CW01-MW26-A01		CW01-MW26-A02		CW01-MW26-E02		CW01-MW27-A01		CW01-MW27-A02		CW01-MW28-A01	
Sample Type							Field Rinsate Blank							
Batch#			9502G358		9503G739		9503G739		9502G358		9503G739		9502G358	
Prep#			95GB0123		95GB0181		95GB0181		95GB0123		95GB0181		95GB0123	
RFW#			001		003		006		003		001		005	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/21/95		3/14/95		3/14/95		2/21/95		3/14/95		2/21/95	
Analysis Date			3/12/95		3/30/95		3/29/95		3/13/95		3/29/95		3/15/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	26 U	26	25 U	25	28 U	28	26 U	26	26 U	26	27 U	27
Dibenzofuran		6.5	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
2,4-Dinitrotoluene	10	5.8	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Diethylphthalate	5000	5.4	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
4-Chlorophenyl-phenylether		7.0	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Fluorene	300	6.3	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
4-Nitroaniline		6.4	26 U	26	25 U	25	28 U	28	26 U	26	26 U	26	27 U	27
4,6-Dinitro-2-methylphenol		5.3	26 U	26	25 U	25	28 U	28	26 U	26	26 U	26	27 U	27
N-Nitrosodiphenylamine (1)	20	4.2	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
4-Bromophenyl-phenylether		5.3	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Hexachlorobenzene	10	5.5	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Pentachlorophenol	1	4.0	26 U	26	25 U	25	28 U	28	26 U	26	26 U	26	27 U	27
Phenanthrene	10	5.0	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Anthracene	2000	4.6	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Carbazole		4.4	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Di-n-butylphthalate	900	6.5	11 U	11	10 U	10	11 U	11	11 U	11	5 J	11	11 U	11
Fluoranthene	300	6.0	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Pyrene	200	5.4	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Butylbenzylphthalate	100	5.3	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
3,3'-Dichlorobenzidine	60	2.8	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Benzo(a)anthracene	10	4.9	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Chrysene	20	4.4	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
bis(2-Ethylhexy)phthalate	30	9.7	2 J	11	10 U	10	11 U	11	2 J	11	2 J	11	2 J	11
Di-n-octyl phthalate	100	5.6	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Benzo(b)fluoranthene	2	5.7	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Benzo(k)fluoranthene	2	6.2	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Benzo(a)pyrene	20	4.9	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Indeno(1,2,3-cd)pyrene	20	7.1	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Dibenzo(a,h)anthracene	20	6.0	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Benzo(g,h,i)perylene	20	6.8	11 U	11	10 U	10	11 U	11	11 U	11	11 U	11	11 U	11
Total Est. Conc. of TIC			8 JB		5 J		5 J		5 J				40 J	
Dilution Factor														
Method:TCL Semivolatiles									6 JB				5 JB	

CHARLES WOOD
GROUNDWATER SEMIVOLATILES

Geographical Location			CW1		CW1		CW1		CW1		CW2		CW2	
Sample			CW01-MW28-A02		CW01-MW29-A01		CW01-MW29-A02		CW01-MW29-E01		CW02-MW30-A01		CW02-MW30-A02	
Sample Type									Field Rinsate Blank					
Batch#			9503G739		9502G358		9503G739		9502G358		9502G358		9503G739	
Prep#			95GB0181		95GB0123		95GB0181		95GB0123		95GB0123		95GB0181	
RFW#			008		007		010		010		012		012	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/14/95		2/21/95		3/14/95		2/21/95		2/21/95		3/14/95	
Analysis Date			3/29/95		3/15/95		3/29/95		3/15/95		3/15/95		3/29/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
bis(2-Chloroethyl) ether	10	9.7	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
2-Chlorophenol	40	7.3	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
1,3-Dichlorobenzene	600	5.3	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
1,4-Dichlorobenzene	75	4.8	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
1,2-Dichlorobenzene	600	5.7	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
2-Methylphenol		6.7	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
2,2'-oxybis(1-Chloropropane)		7.0	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
4-Methylphenol		12.9	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
N-Nitroso-di-n-propylamine	20	8.0	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Hexachloroethane	10	5.3	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Nitrobenzene	10	7.4	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Isophorone	100	3.9	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
2-Nitrophenol		7.0	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
2,4-Dimethylphenol	100	4.8	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
bis(2-Chloroethoxy) methane		6.1	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
2,4-Dichlorophenol	20	4.4	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
1,2,4-Trichlorobenzene	9	9.6	10 U	10	3 J	10	5 J	10	10 U	10	12 U	12	12 U	12
Naphthalene		8.4	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
4-Chloroaniline		2.9	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Hexachlorobutadiene	1	4.6	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
4-Chloro-3-methylphenol	20	3.1	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
2-Methylnaphthalene		8.7	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Hexachlorocyclopentadiene	50	3.6	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
2,4,6-Trichlorophenol		5.6	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
2,4,5-Trichlorophenol	700	4.7	26 U	26	24 U	24	26 U	26	24 U	24	31 U	31	30 U	30
2-Chloronaphthalene		8.2	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
2-Nitroaniline		6.1	26 U	26	24 U	24	26 U	26	24 U	24	31 U	31	30 U	30
Dimethylphthalate	7000	4.4	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Acenaphthylene	10	6.0	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
2,6-Dinitrotoluene	10	5.2	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
3-Nitroaniline		5.2	26 U	26	24 U	24	26 U	26	24 U	24	31 U	31	30 U	30
Acenaphthene	400	6.7	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
2,4-Dinitrophenol	40	4.6	26 U	26	24 U	24	26 U	26	24 U	24	31 U	31	30 U	30

CHARLES WOOD
GROUNDWATER SEMIVOLATILES

Geographical Location			CW1		CW1		CW1		CW1		CW2		CW2	
Sample			CW01-MW28-A02		CW01-MW29-A01		CW01-MW29-A02		CW01-MW29-E01		CW02-MW30-A01		CW02-MW30-A02	
Sample Type									Field Rinsate Blank					
Batch#			9503G739		9502G358		9503G739		9502G358		9502G358		9503G739	
Prep#			95GB0181		95GB0123		95GB0181		95GB0123		95GB0123		95GB0181	
RFW#			008		007		010		010		012		012	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/14/95		2/21/95		3/14/95		2/21/95		2/21/95		3/14/95	
Analysis Date			3/29/95		3/15/95		3/29/95		3/15/95		3/15/95		3/29/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	26 U	26	24 U	24	26 U	26	24 U	24	31 U	31	30 U	30
Dibenzofuran		6.5	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
2,4-Dinitrotoluene	10	5.8	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Diethylphthalate	5000	5.4	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
4-Chlorophenyl-phenylether		7.0	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Fluorene	300	6.3	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
4-Nitroaniline		6.4	26 U	26	24 U	24	26 U	26	24 U	24	31 U	31	30 U	30
4,6-Dinitro-2-methylphenol		5.3	26 U	26	24 U	24	26 U	26	24 U	24	31 U	31	30 U	30
N-Nitrosodiphenylamine (1)	20	4.2	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
4-Bromophenyl-phenylether		5.3	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Hexachlorobenzene	10	5.5	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Pentachlorophenol	1	4.0	26 U	26	24 U	24	26 U	26	24 U	24	31 U	31	30 U	30
Phenanthrene	10	5.0	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Anthracene	2000	4.6	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Carbazole		4.4	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Di-n-butylphthalate	900	6.5	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	2 J	12
Fluoranthene	300	6.0	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Pyrene	200	5.4	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Butylbenzylphthalate	100	5.3	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
3,3'-Dichlorobenzidine	60	2.8	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Benzo(a)anthracene	10	4.9	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Chrysene	20	4.4	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
bis(2-Ethylhexy)phthalate	30	9.7	1 J	10	1 J	10	10 U	10	10 U	10	2 J	12	2 J	12
Di-n-octyl phthalate	100	5.6	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Benzo(b)fluoranthene	2	5.7	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Benzo(k)fluoranthene	2	6.2	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Benzo(a)pyrene	20	4.9	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Indeno(1,2,3-cd)pyrene	20	7.1	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Dibenzo(a,h)anthracene	20	6.0	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Benzo(g,h,i)perylene	20	6.8	10 U	10	10 U	10	10 U	10	10 U	10	12 U	12	12 U	12
Total Est. Conc. of TIC					2 J		2 J		99 J		78 J		3 J	
Dilution Factor														
Method:TCL Semivolatiles					5 JB				5 JB		6 JB			

CHARLES WOOD
GROUNDWATER SEMIVOLATILES

Geographical Location			CW2		CW2		CW2		CW2		CW2		CW2	
Sample			CW02-MW31-A01		CW02-MW31-A02		CW02-MW32-A01		CW02-MW32-A02		CW02-MW33-A01		CW02-MW33-A02	
Sample Type														
Batch#			9502G358		9503G739		9502G358		9503G739		9502G358		9503G739	
Prep#			95GB0123		95GB0181		95GB0123		95GB0181		95GB0123		95GB0181	
RFW#			014		014		016		016		018		018	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/21/95		3/14/95		2/21/95		3/14/95		2/21/95		3/14/95	
Analysis Date			3/15/95		3/29/95		3/15/95		3/29/95		3/15/95		3/29/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
bis(2-Chloroethyl) ether	10	9.7	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
2-Chlorophenol	40	7.3	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
1,3-Dichlorobenzene	600	5.3	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
1,4-Dichlorobenzene	75	4.8	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
1,2-Dichlorobenzene	600	5.7	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
2-Methylphenol		6.7	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
2,2'-oxybis(1-Chloropropane)		7.0	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
4-Methylphenol		12.9	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
N-Nitroso-di-n-propylamine	20	8.0	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Hexachloroethane	10	5.3	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Nitrobenzene	10	7.4	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Isophorone	100	3.9	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
2-Nitrophenol		7.0	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
2,4-Dimethylphenol	100	4.8	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
bis(2-Chloroethoxy) methane		6.1	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
2,4-Dichlorophenol	20	4.4	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
1,2,4-Trichlorobenzene	9	9.6	10 U	10	5 J	10	11 U	11	12 U	12	11 U	11	12 U	12
Naphthalene		8.4	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
4-Chloroaniline		2.9	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Hexachlorobutadiene	1	4.6	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
4-Chloro-3-methylphenol	20	3.1	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
2-Methylnaphthalene		8.7	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Hexachlorocyclopentadiene	50	3.6	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
2,4,6-Trichlorophenol		5.6	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
2,4,5-Trichlorophenol	700	4.7	25 U	25	26 U	26	26 U	26	30 U	30	26 U	26	30 U	30
2-Chloronaphthalene		8.2	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
2-Nitroaniline		6.1	25 U	25	26 U	26	26 U	26	30 U	30	26 U	26	30 U	30
Dimethylphthalate	7000	4.4	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Acenaphthylene	10	6.0	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
2,6-Dinitrotoluene	10	5.2	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
3-Nitroaniline		5.2	25 U	25	26 U	26	26 U	26	30 U	30	26 U	26	30 U	30
Acenaphthene	400	6.7	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
2,4-Dinitrophenol	40	4.6	25 U	25	26 U	26	26 U	26	30 U	30	26 U	26	30 U	30

CHARLES WOOD
GROUNDWATER SEMIVOLATILES

Geographical Location			CW2		CW2		CW2		CW2		CW2		CW2	
Sample			CW02-MW31-A01		CW02-MW31-A02		CW02-MW32-A01		CW02-MW32-A02		CW02-MW33-A01		CW02-MW33-A02	
Sample Type														
Batch#			9502G358		9503G739		9502G358		9503G739		9502G358		9503G739	
Prep#			95GB0123		95GB0181		95GB0123		95GB0181		95GB0123		95GB0181	
RFW#			014		014		016		016		018		018	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/21/95		3/14/95		2/21/95		3/14/95		2/21/95		3/14/95	
Analysis Date			3/15/95		3/29/95		3/15/95		3/29/95		3/15/95		3/29/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	25 U	25	26 U	26	26 U	26	30 U	30	26 U	26	30 U	30
Dibenzofuran		6.5	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
2,4-Dinitrotoluene	10	5.8	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Diethylphthalate	5000	5.4	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
4-Chlorophenyl-phenylether		7.0	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Fluorene	300	6.3	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
4-Nitroaniline		6.4	25 U	25	26 U	26	26 U	26	30 U	30	26 U	26	30 U	30
4,6-Dinitro-2-methylphenol		5.3	25 U	25	26 U	26	26 U	26	30 U	30	26 U	26	30 U	30
N-Nitrosodiphenylamine (1)	20	4.2	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
4-Bromophenyl-phenylether		5.3	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Hexachlorobenzene	10	5.5	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Pentachlorophenol	1	4.0	25 U	25	26 U	26	26 U	26	30 U	30	26 U	26	30 U	30
Phenanthrene	10	5.0	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Anthracene	2000	4.6	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Carbazole		4.4	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Di-n-butylphthalate	900	6.5	10 U	10	11	10	11 U	11	2 J	12	11 U	11	2 J	12
Fluoranthene	300	6.0	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Pyrene	200	5.4	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Butylbenzylphthalate	100	5.3	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
3,3'-Dichlorobenzidine	60	2.8	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Benzo(a)anthracene	10	4.9	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Chrysene	20	4.4	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
bis(2-Ethylhexy)phthalate	30	9.7	10 U	10	10 U	10	1 J	11	2 J	12	1 J	11	2 J	12
Di-n-octyl phthalate	100	5.6	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Benzo(b)fluoranthene	2	5.7	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Benzo(k)fluoranthene	2	6.2	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Benzo(a)pyrene	20	4.9	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Indeno(1,2,3-cd)pyrene	20	7.1	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Dibenzo(a,h)anthracene	20	6.0	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Benzo(g,h,i)perylene	20	6.8	10 U	10	10 U	10	11 U	11	12 U	12	11 U	11	12 U	12
Total Est. Conc. of TIC			4 JB				5 JB				3 J			
Dilution Factor														
Method:TCL Semivolatiles											5 JB			

CHARLES WOOD
GROUNDWATER SEMIVOLATILES

Geographical Location			CW6		CW6		CW6		CW6		CW6		CW9	
Sample			CW06-MW01-A01		CW06-MW01-A02		CW06-MW01-E02		CW06-MW34-A01		CW06-MW34-A02		CW09-MW35-A01	
Sample Type							Field Rinsate Blank							
Batch#			9505G840		9505G138		9505G138		9502G300		9503G723		9502G300	
Prep#			95GB0319		95GB0350		95GB0350		95GB0118		95GB0181		95GB0118	
RFW#			002		002		003		001		001		003	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			5/10/95		5/25/95		5/25/95		2/20/95		3/13/95		2/20/95	
Analysis Date			5/29/95		6/2/95		6/2/95		3/15/95		3/27/95		3/15/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
bis(2-Chloroethyl) ether	10	9.7	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
2-Chlorophenol	40	7.3	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
1,3-Dichlorobenzene	600	5.3	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
1,4-Dichlorobenzene	75	4.8	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
1,2-Dichlorobenzene	600	5.7	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
2-Methylphenol		6.7	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
2,2'-oxybis(1-Chloropropane)		7.0	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
4-Methylphenol		12.9	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
N-Nitroso-di-n-propylamine	20	8.0	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Hexachloroethane	10	5.3	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Nitrobenzene	10	7.4	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Isophorone	100	3.9	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
2-Nitrophenol		7.0	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
2,4-Dimethylphenol	100	4.8	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
bis(2-Chloroethoxy) methane		6.1	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
2,4-Dichlorophenol	20	4.4	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
1,2,4-Trichlorobenzene	9	9.6	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Naphthalene		8.4	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
4-Chloroaniline		2.9	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Hexachlorobutadiene	1	4.6	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
4-Chloro-3-methylphenol	20	3.1	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
2-Methylnaphthalene		8.7	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Hexachlorocyclopentadiene	50	3.6	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
2,4,6-Trichlorophenol		5.6	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
2,4,5-Trichlorophenol	700	4.7	28 U	28	24 U	24	27 U	27	24 U	24	26 U	26	24 U	24
2-Chloronaphthalene		8.2	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
2-Nitroaniline		6.1	28 U	28	24 U	24	27 U	27	24 U	24	26 U	26	24 U	24
Dimethylphthalate	7000	4.4	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Acenaphthylene	10	6.0	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
2,6-Dinitrotoluene	10	5.2	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
3-Nitroaniline		5.2	28 U	28	24 U	24	27 U	27	24 U	24	26 U	26	24 U	24
Acenaphthene	400	6.7	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
2,4-Dinitrophenol	40	4.6	28 U	28	24 U	24	27 U	27	24 U	24	26 U	26	24 U	24

CHARLES WOOD
GROUNDWATER SEMIVOLATILES

Geographical Location			CW6		CW6		CW6		CW6		CW6		CW9	
Sample			CW06-MW01-A01		CW06-MW01-A02		CW06-MW01-E02		CW06-MW34-A01		CW06-MW34-A02		CW09-MW35-A01	
Sample Type							Field Rinsate Blank							
Batch#			9505G840		9505G138		9505G138		9502G300		9503G723		9502G300	
Prep#			95GB0319		95GB0350		95GB0350		95GB0118		95GB0181		95GB0118	
RFW#			002		002		003		001		001		003	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			5/10/95		5/25/95		5/25/95		2/20/95		3/13/95		2/20/95	
Analysis Date			5/29/95		6/2/95		6/2/95		3/15/95		3/27/95		3/15/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	28 U	28	24 U	24	27 U	27	24 U	24	26 U	26	24 U	24
Dibenzofuran		6.5	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
2,4-Dinitrotoluene	10	5.8	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Diethylphthalate	5000	5.4	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
4-Chlorophenyl-phenylether		7.0	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Fluorene	300	6.3	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
4-Nitroaniline		6.4	28 U	28	24 U	24	27 U	27	24 U	24	26 U	26	24 U	24
4,6-Dinitro-2-methylphenol		5.3	28 U	28	24 U	24	27 U	27	24 U	24	26 U	26	24 U	24
N-Nitrosodiphenylamine (1)	20	4.2	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
4-Bromophenyl-phenylether		5.3	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Hexachlorobenzene	10	5.5	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Pentachlorophenol	1	4.0	28 U	28	24 U	24	27 U	27	24 U	24	26 U	26	24 U	24
Phenanthrene	10	5.0	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Anthracene	2000	4.6	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Carbazole		4.4	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Di-n-butylphthalate	900	6.5	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Fluoranthene	300	6.0	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Pyrene	200	5.4	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Butylbenzylphthalate	100	5.3	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
3,3'-Dichlorobenzidine	60	2.8	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Benzo(a)anthracene	10	4.9	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Chrysene	20	4.4	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
bis(2-Ethylhexy)phthalate	30	9.7	11 U	11	21 B	10	1 JB	11	2 J	10	11 U	11	10 U	10
Di-n-octyl phthalate	100	5.6	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Benzo(b)fluoranthene	2	5.7	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Benzo(k)fluoranthene	2	6.2	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Benzo(a)pyrene	20	4.9	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Indeno(1,2,3-cd)pyrene	20	7.1	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Dibenzo(a,h)anthracene	20	6.0	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Benzo(g,h,i)perylene	20	6.8	11 U	11	10 U	10	11 U	11	10 U	10	11 U	11	10 U	10
Total Est. Conc. of TIC					29 J		42 J		6 J		300 J			
Dilution Factor														
Method:TCL Semivolatiles														

CHARLES WOOD
GROUNDWATER SEMIVOLATILES

Geographical Location			CW9		CW9		CW9		CW9		B6		B6	
Sample			CW09-MW35-A02		CW09-MW35-E01		CW09-MW36-A01		CW09-MW36-A02		B6-MW06B-A01		B6-MW06B-A02	
Sample Type					Field Rinsate Blank									
Batch#			9503G723		9502G300		9502G300		9503G723		9502G198		9503G641	
Prep#			95GB0181		95GB0118		95GB0118		95GB0181		95GB0108		95GB0172	
RFW#			002		007		005		004		003		001	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/13/95		2/20/95		2/20/95		3/13/95		2/15/95		3/8/95	
Analysis Date			3/27/95		3/15/95		3/15/95		3/27/95		3/7/95		3/25/95	
Analysis	Standard	MDL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL	Analytical	CRQL
			Result		Result		Result		Result		Result		Result	
Phenol	4000	7.1	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
bis(2-Chloroethyl) ether	10	9.7	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
2-Chlorophenol	40	7.3	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
1,3-Dichlorobenzene	600	5.3	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
1,4-Dichlorobenzene	75	4.8	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
1,2-Dichlorobenzene	600	5.7	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
2-Methylphenol		6.7	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
2,2'-oxybis(1-Chloropropane)		7.0	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
4-Methylphenol		12.9	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
N-Nitroso-di-n-propylamine	20	8.0	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Hexachloroethane	10	5.3	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Nitrobenzene	10	7.4	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Isophorone	100	3.9	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
2-Nitrophenol		7.0	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
2,4-Dimethylphenol	100	4.8	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
bis(2-Chloroethoxy) methane		6.1	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
2,4-Dichlorophenol	20	4.4	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
1,2,4-Trichlorobenzene	9	9.6	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Naphthalene		8.4	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
4-Chloroaniline		2.9	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Hexachlorobutadiene	1	4.6	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
4-Chloro-3-methylphenol	20	3.1	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
2-Methylnaphthalene		8.7	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Hexachlorocyclopentadiene	50	3.6	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
2,4,6-Trichlorophenol		5.6	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
2,4,5-Trichlorophenol	700	4.7	24 U	24	26 U	26	24 U	24	28 U	28	25 U	25	24 U	24
2-Chloronaphthalene		8.2	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
2-Nitroaniline		6.1	24 U	24	26 U	26	24 U	24	28 U	28	25 U	25	24 U	24
Dimethylphthalate	7000	4.4	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Acenaphthylene	10	6.0	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
2,6-Dinitrotoluene	10	5.2	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
3-Nitroaniline		5.2	24 U	24	26 U	26	24 U	24	28 U	28	25 U	25	24 U	24
Acenaphthene	400	6.7	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
2,4-Dinitrophenol	40	4.6	24 U	24	26 U	26	24 U	24	28 U	28	25 U	25	24 U	24

CHARLES WOOD
GROUNDWATER SEMIVOLATILES

Geographical Location			CW9		CW9		CW9		CW9		B6		B6	
Sample			CW09-MW35-A02		CW09-MW35-E01		CW09-MW36-A01		CW09-MW36-A02		B6-MW06B-A01		B6-MW06B-A02	
Sample Type					Field Rinsate Blank									
Batch#			9503G723		9502G300		9502G300		9503G723		9502G198		9503G641	
Prep#			95GB0181		95GB0118		95GB0118		95GB0181		95GB0108		95GB0172	
RFW#			002		007		005		004		003		001	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			3/13/95		2/20/95		2/20/95		3/13/95		2/15/95		3/8/95	
Analysis Date			3/27/95		3/15/95		3/15/95		3/27/95		3/7/95		3/25/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	24 U	24	26 U	26	24 U	24	28 U	28	25 U	25	24 U	24
Dibenzofuran		6.5	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
2,4-Dinitrotoluene	10	5.8	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Diethylphthalate	5000	5.4	10 U	10	10 U	10	10 U	10	11 U	11	1 J	10	1 JB	10
4-Chlorophenyl-phenylether		7.0	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Fluorene	300	6.3	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
4-Nitroaniline		6.4	24 U	24	26 U	26	24 U	24	28 U	28	25 U	25	24 U	24
4,6-Dinitro-2-methylphenol		5.3	24 U	24	26 U	26	24 U	24	28 U	28	25 U	25	24 U	24
N-Nitrosodiphenylamine (1)	20	4.2	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
4-Bromophenyl-phenylether		5.3	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Hexachlorobenzene	10	5.5	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Pentachlorophenol	1	4.0	24 U	24	26 U	26	24 U	24	28 U	28	25 U	25	24 U	24
Phenanthrene	10	5.0	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Anthracene	2000	4.6	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Carbazole		4.4	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Di-n-butylphthalate	900	6.5	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Fluoranthene	300	6.0	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Pyrene	200	5.4	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Butylbenzylphthalate	100	5.3	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
3,3'-Dichlorobenzidine	60	2.8	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Benzo(a)anthracene	10	4.9	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Chrysene	20	4.4	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
bis(2-Ethylhexy)phthalate	30	9.7	10 U	10	10 U	10	2 J	10	6 J	11	10 U	10	10 U	10
Di-n-octyl phthalate	100	5.6	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Benzo(b)fluoranthene	2	5.7	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Benzo(k)fluoranthene	2	6.2	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Benzo(a)pyrene	20	4.9	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Indeno(1,2,3-cd)pyrene	20	7.1	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Dibenzo(a,h)anthracene	20	6.0	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Benzo(g,h,i)perylene	20	6.8	10 U	10	10 U	10	10 U	10	11 U	11	10 U	10	10 U	10
Total Est. Conc. of TIC			600 J		13 J		4 J		430 J		11 JB			
Dilution Factor														
Method:TCL Semivolatiles														

CHARLES WOOD
GROUNDWATER SEMIVOLATILES

Geographical Location			B7		B7		B8		B8		B9		B9	
Sample			B7-MW07B-A01		B7-MW07B-A02		B8-MW08B-A01		B8-MW08B-A02		B9-MW09B-A01		B9-MW09B-A02	
Sample Type														
Batch#			9502G198		9503G617		9502G198		9503G641		9502G198		9503G617	
Prep#			95GB0108		95GB0166		95GB0108		95GB0172		95GB0108		95GB0166	
RFW#			005		003		007		003		001		001	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/15/95		3/7/95		2/15/95		3/8/95		2/15/95		3/7/95	
Analysis Date			3/7/95		3/26/95		3/7/95		3/26/95		3/7/95		3/26/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
bis(2-Chloroethyl) ether	10	9.7	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
2-Chlorophenol	40	7.3	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
1,3-Dichlorobenzene	600	5.3	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
1,4-Dichlorobenzene	75	4.8	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
1,2-Dichlorobenzene	600	5.7	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
2-Methylphenol		6.7	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
2,2'-oxybis(1-Chloropropane)		7.0	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
4-Methylphenol		12.9	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
N-Nitroso-di-n-propylamine	20	8.0	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Hexachloroethane	10	5.3	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Nitrobenzene	10	7.4	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Isophorone	100	3.9	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
2-Nitrophenol		7.0	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
2,4-Dimethylphenol	100	4.8	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
bis(2-Chloroethoxy) methane		6.1	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
2,4-Dichlorophenol	20	4.4	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
1,2,4-Trichlorobenzene	9	9.6	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Naphthalene		8.4	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
4-Chloroaniline		2.9	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Hexachlorobutadiene	1	4.6	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
4-Chloro-3-methylphenol	20	3.1	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
2-Methylnaphthalene		8.7	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Hexachlorocyclopentadiene	50	3.6	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
2,4,6-Trichlorophenol		5.6	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
2,4,5-Trichlorophenol	700	4.7	26 U	26	26 U	26	26 U	26	26 U	26	24 U	24	24 U	24
2-Chloronaphthalene		8.2	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
2-Nitroaniline		6.1	26 U	26	26 U	26	26 U	26	26 U	26	24 U	24	24 U	24
Dimethylphthalate	7000	4.4	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Acenaphthylene	10	6.0	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
2,6-Dinitrotoluene	10	5.2	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
3-Nitroaniline		5.2	26 U	26	26 U	26	26 U	26	26 U	26	24 U	24	24 U	24
Acenaphthene	400	6.7	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
2,4-Dinitrophenol	40	4.6	26 U	26	26 U	26	26 U	26	26 U	26	24 U	24	24 U	24

CHARLES WOOD
GROUNDWATER SEMIVOLATILES

Geographical Location			B7		B7		B8		B8		B9		B9	
Sample			B7-MW07B-A01		B7-MW07B-A02		B8-MW08B-A01		B8-MW08B-A02		B9-MW09B-A01		B9-MW09B-A02	
Sample Type														
Batch#			9502G198		9503G617		9502G198		9503G641		9502G198		9503G617	
Prep#			95GB0108		95GB0166		95GB0108		95GB0172		95GB0108		95GB0166	
RFW#			005		003		007		003		001		001	
Dilution Factor			1.00		1.00		1.00		1.00		1.00		1.00	
Matrix			water		water		water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/15/95		3/7/95		2/15/95		3/8/95		2/15/95		3/7/95	
Analysis Date			3/7/95		3/26/95		3/7/95		3/26/95		3/7/95		3/26/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	26 U	26	26 U	26	26 U	26	26 U	26	24 U	24	24 U	24
Dibenzofuran		6.5	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
2,4-Dinitrotoluene	10	5.8	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Diethylphthalate	5000	5.4	1 J	10	10 U	10	11 U	11	2 JB	11	1 J	10	10 U	10
4-Chlorophenyl-phenylether		7.0	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Fluorene	300	6.3	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
4-Nitroaniline		6.4	26 U	26	26 U	26	26 U	26	26 U	26	24 U	24	24 U	24
4,6-Dinitro-2-methylphenol		5.3	26 U	26	26 U	26	26 U	26	26 U	26	24 U	24	24 U	24
N-Nitrosodiphenylamine (1)	20	4.2	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
4-Bromophenyl-phenylether		5.3	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Hexachlorobenzene	10	5.5	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Pentachlorophenol	1	4.0	26 U	26	26 U	26	26 U	26	26 U	26	24 U	24	24 U	24
Phenanthrene	10	5.0	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Anthracene	2000	4.6	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Carbazole		4.4	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Di-n-butylphthalate	900	6.5	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Fluoranthene	300	6.0	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Pyrene	200	5.4	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Butylbenzylphthalate	100	5.3	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
3,3'-Dichlorobenzidine	60	2.8	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Benzo(a)anthracene	10	4.9	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Chrysene	20	4.4	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
bis(2-Ethylhexy)phthalate	30	9.7	10 U	10	1 J	10	11 U	11	11 U	11	10 U	10	10 U	10
Di-n-octyl phthalate	100	5.6	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Benzo(b)fluoranthene	2	5.7	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Benzo(k)fluoranthene	2	6.2	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Benzo(a)pyrene	20	4.9	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Indeno(1,2,3-cd)pyrene	20	7.1	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Dibenzo(a,h)anthracene	20	6.0	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Benzo(g,h,i)perylene	20	6.8	10 U	10	10 U	10	11 U	11	11 U	11	10 U	10	10 U	10
Total Est. Conc. of TIC			6 JB		2 J		5 JB		3 J		8 JB		3 J	
Dilution Factor														
Method:TCL Semivolatiles														

CHARLES WOOD
GROUNDWATER SEMIVOLATILES

Geographical Location			B10		B10		B10		B10	
Sample			B10-MW10B-A01		B10-MW10B-A02		B10-MW10B-E01		B10-MW10B-E02	
Sample Type							Field Rinsate Blank		Field Rinsate Blank	
Batch#			9502G198		9503G641		9502G198		9503G641	
Prep#			95GB0108		95GB0172		95GB0108		95GB0172	
RFW#			009		005		012		008	
Dilution Factor			1.00		1.00		1.00		1.00	
Matrix			water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/15/95		3/8/95		2/13/95		3/8/95	
Analysis Date			3/7/95		3/25/95		3/7/95		3/25/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
Phenol	4000	7.1	12 U	12	11 U	11	11 U	11	11 U	11
bis(2-Chloroethyl) ether	10	9.7	12 U	12	11 U	11	11 U	11	11 U	11
2-Chlorophenol	40	7.3	12 U	12	11 U	11	11 U	11	11 U	11
1,3-Dichlorobenzene	600	5.3	12 U	12	11 U	11	11 U	11	11 U	11
1,4-Dichlorobenzene	75	4.8	12 U	12	11 U	11	11 U	11	11 U	11
1,2-Dichlorobenzene	600	5.7	12 U	12	11 U	11	11 U	11	11 U	11
2-Methylphenol		6.7	12 U	12	11 U	11	11 U	11	11 U	11
2,2'-oxybis(1-Chloropropane)		7.0	12 U	12	11 U	11	11 U	11	11 U	11
4-Methylphenol		12.9	12 U	12	11 U	11	11 U	11	11 U	11
N-Nitroso-di-n-propylamine	20	8.0	12 U	12	11 U	11	11 U	11	11 U	11
Hexachloroethane	10	5.3	12 U	12	11 U	11	11 U	11	11 U	11
Nitrobenzene	10	7.4	12 U	12	11 U	11	11 U	11	11 U	11
Isophorone	100	3.9	12 U	12	11 U	11	11 U	11	11 U	11
2-Nitrophenol		7.0	12 U	12	11 U	11	11 U	11	11 U	11
2,4-Dimethylphenol	100	4.8	12 U	12	11 U	11	11 U	11	11 U	11
bis(2-Chloroethoxy) methane		6.1	12 U	12	11 U	11	11 U	11	11 U	11
2,4-Dichlorophenol	20	4.4	12 U	12	11 U	11	11 U	11	11 U	11
1,2,4-Trichlorobenzene	9	9.6	12 U	12	11 U	11	11 U	11	11 U	11
Naphthalene		8.4	12 U	12	11 U	11	11 U	11	11 U	11
4-Chloroaniline		2.9	12 U	12	11 U	11	11 U	11	11 U	11
Hexachlorobutadiene	1	4.6	12 U	12	11 U	11	11 U	11	11 U	11
4-Chloro-3-methylphenol	20	3.1	12 U	12	11 U	11	11 U	11	11 U	11
2-Methylnaphthalene		8.7	12 U	12	11 U	11	11 U	11	11 U	11
Hexachlorocyclopentadiene	50	3.6	12 U	12	11 U	11	11 U	11	11 U	11
2,4,6-Trichlorophenol		5.6	12 U	12	11 U	11	11 U	11	11 U	11
2,4,5-Trichlorophenol	700	4.7	30 U	30	26 U	26	28 U	28	28 U	28
2-Chloronaphthalene		8.2	12 U	12	11 U	11	11 U	11	11 U	11
2-Nitroaniline		6.1	30 U	30	26 U	26	28 U	28	28 U	28
Dimethylphthalate	7000	4.4	12 U	12	11 U	11	11 U	11	11 U	11
Acenaphthylene	10	6.0	12 U	12	11 U	11	11 U	11	11 U	11
2,6-Dinitrotoluene	10	5.2	12 U	12	11 U	11	11 U	11	11 U	11
3-Nitroaniline		5.2	30 U	30	26 U	26	28 U	28	28 U	28
Acenaphthene	400	6.7	12 U	12	11 U	11	11 U	11	11 U	11
2,4-Dinitrophenol	40	4.6	30 U	30	26 U	26	28 U	28	28 U	28

CHARLES WOOD
GROUNDWATER SEMIVOLATILES

Geographical Location			B10		B10		B10		B10	
Sample			B10-MW10B-A01		B10-MW10B-A02		B10-MW10B-E01		B10-MW10B-E02	
Sample Type							Field Rinsate Blank		Field Rinsate Blank	
Batch#			9502G198		9503G641		9502G198		9503G641	
Prep#			95GB0108		95GB0172		95GB0108		95GB0172	
RFW#			009		005		012		008	
Dilution Factor			1.00		1.00		1.00		1.00	
Matrix			water		water		water		water	
Units	ug/l	ug/l	ug/l		ug/l		ug/l		ug/l	
Sampling Date			2/15/95		3/8/95		2/13/95		3/8/95	
Analysis Date			3/7/95		3/25/95		3/7/95		3/25/95	
Analysis	Standard	MDL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL	Analytical Result	CRQL
4-Nitrophenol		7.5	30 U	30	26 U	26	28 U	28	28 U	28
Dibenzofuran		6.5	12 U	12	11 U	11	11 U	11	11 U	11
2,4-Dinitrotoluene	10	5.8	12 U	12	11 U	11	11 U	11	11 U	11
Diethylphthalate	5000	5.4	12 U	12	1 JB	11	11 U	11	2 JB	11
4-Chlorophenyl-phenylether		7.0	12 U	12	11 U	11	11 U	11	11 U	11
Fluorene	300	6.3	12 U	12	11 U	11	11 U	11	11 U	11
4-Nitroaniline		6.4	30 U	30	26 U	26	28 U	28	28 U	28
4,6-Dinitro-2-methylphenol		5.3	30 U	30	26 U	26	28 U	28	28 U	28
N-Nitrosodiphenylamine (1)	20	4.2	12 U	12	11 U	11	11 U	11	11 U	11
4-Bromophenyl-phenylether		5.3	12 U	12	11 U	11	11 U	11	11 U	11
Hexachlorobenzene	10	5.5	12 U	12	11 U	11	11 U	11	11 U	11
Pentachlorophenol	1	4.0	30 U	30	26 U	26	28 U	28	28 U	28
Phenanthrene	10	5.0	12 U	12	11 U	11	11 U	11	11 U	11
Anthracene	2000	4.6	12 U	12	11 U	11	11 U	11	11 U	11
Carbazole		4.4	12 U	12	11 U	11	11 U	11	11 U	11
Di-n-butylphthalate	900	6.5	12 U	12	11 U	11	11 U	11	11 U	11
Fluoranthene	300	6.0	12 U	12	11 U	11	11 U	11	11 U	11
Pyrene	200	5.4	12 U	12	11 U	11	11 U	11	11 U	11
Butylbenzylphthalate	100	5.3	12 U	12	11 U	11	11 U	11	11 U	11
3,3'-Dichlorobenzidine	60	2.8	12 U	12	11 U	11	11 U	11	11 U	11
Benzo(a)anthracene	10	4.9	12 U	12	11 U	11	11 U	11	11 U	11
Chrysene	20	4.4	12 U	12	11 U	11	11 U	11	11 U	11
bis(2-Ethylhexy)phthalate	30	9.7	12 U	12	600	110 *	11 U	11	11 U	11
Di-n-octyl phthalate	100	5.6	12 U	12	11 U	11	11 U	11	11 U	11
Benzo(b)fluoranthene	2	5.7	12 U	12	11 U	11	11 U	11	11 U	11
Benzo(k)fluoranthene	2	6.2	12 U	12	11 U	11	11 U	11	11 U	11
Benzo(a)pyrene	20	4.9	12 U	12	11 U	11	11 U	11	11 U	11
Indeno(1,2,3-cd)pyrene	20	7.1	12 U	12	11 U	11	11 U	11	11 U	11
Dibenzo(a,h)anthracene	20	6.0	12 U	12	11 U	11	11 U	11	11 U	11
Benzo(g,h,i)perylene	20	6.8	12 U	12	11 U	11	11 U	11	11 U	11
Total Est. Conc. of TIC			9 JB				15 JB			
Dilution Factor					* = 10					
Method:TCL Semivolatiles										

CHARLES WOOD
GROUNDWATER INORGANICS

Geographical Location		CW1		CW1		CW1		CW1		CW1	
Sample		CW01-MW26-A01		CW01-MW26-A01 SOL		CW01-MW26-A02		CW01-MW26-A02		CW01-MW26-A02 SOL	
Sample Type		Total		Soluble		Total		Total		Soluble	
Batch#		9502G358		9502G358		9502G739		9502G739		9502G739	
Prep#		95GI454		95GI454		95GI508		95GI508		95GI508	
RFW#		001		002		002		003		004	
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/21/95		2/21/95		3/14/95		3/14/95		3/14/95	
Analysis Date		3/8/95		3/8/95		3/8/95		3/8/95		3/8/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	3.0 U	3.0	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5
Aluminum	200	6830	24.0	279	24.0	885	16.8	4990	16.8	375	16.8
Arsenic	8	7.8	1.9	1.9 U	1.9	1.9 U	1.9	3.8	1.9	1.9 U	1.9
Barium	2000	81.4	1.7	62.9	1.7	116	0.80	99.3	0.80	86.7	0.80
Beryllium	20	0.90 U	0.90	0.90 U	0.90	0.30 U	0.30	0.56	0.30	0.30 U	0.30
Calcium		25800	10.4	24500	10.4	24900	8.4	32700	8.4	31300	8.4
Cadmium	4	2.8 U	2.8	2.8 U	2.8	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9
Cobalt		6.0	3.0	5.1	3.0	13.2	2.3	8.0	2.3	4.2	2.3
Chromium	100	79.7	2.9	2.9 U	2.9	4.7 U	4.7	54.0	4.7	4.7 U	4.7
Copper	1000	1.9 U	1.9	1.9 U	1.9	8.1	4.0	8.9	4.0	5.7	4.0
Iron	300	15500	6.4	25.0	6.4	93.3	2.5	10700	2.5	18.6	2.5
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		13100	685	9970	685	11800	67.9	14500	67.9	12300	67.9
Magnesium		4810	18.3	3390	18.3	13500	34.3	5340	34.3	4240	34.3
Manganese	50	68.3	1.8	45.2	1.8	114	0.90	71.8	0.90	54.6	0.90
Sodium	50000	55300	30.5	53100	30.5	73800	19.1	58600	19.1	56800	19.1
Nickel	100	24.6	10.8	10.8 U	10.8	15.0	4.2	7.9	4.2	8.7	4.2
Lead	10	5.6	1.6	1.6 U	1.6	2.2	1.2	4.1	1.2	1.2	1.2
Antimony	20	20.7 U	20.7	20.7 U	20.7	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9
Selenium	50	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8
Thallium	10	0.70 U	0.70	0.70 U	0.70	1.1 U	1.1	1.1 U	1.1	1.1 U	1.1
Vanadium		57.7	2.3	2.3 U	2.3	2.1 U	2.1	39.7	2.1	2.1 U	2.1
Zinc	5000	39.0	3.8	14.4	3.8	32.5	1.9	35.6	1.9	17.2	1.9
Cyanide	200										
Method:TAL Metals, Cyanide											

CHA S WOOD
GROUNDWATER INORGANICS

Geographical Location		CW1		CW1		CW1		CW1		CW1	
Sample		CW01-MW26-E02		CW01-MW26-E02 SOL		CW01-MW27-A01		CW01-MW27-A01 SOL		CW01-MW27-A02	
Sample Type		Field Rinsate - Total		Field Rinsate - Soluble		Total		Soluble		Total	
Batch#		9502G739		9502G739		9502G358		9502G358		9502G739	
Prep#		95GI508		95GI508		95GI454		95GI454		95GI508	
RFW#		004		007		003		004		001	
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/14/95		3/14/95		2/21/95		2/21/95		3/14/95	
Analysis Date		3/8/95		3/8/95		3/8/95		3/8/95		3/8/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	2.5 U	2.5	2.5 U	2.5	3.0 U	3.0	3.0 U	3.0	2.5 U	2.5
Aluminum	200	20.2	16.8	18.4	16.8	3770	24.0	653	24.0	7620	16.8
Arsenic	8	1.9 U	1.9	1.9 U	1.9	5.0	1.9	1.9 U	1.9	4.4	1.9
Barium	2000	0.80 U	0.80	0.80 U	0.80	112	1.7	95.6	1.7	142	0.80
Beryllium	20	0.30 U	0.30	0.30 U	0.30	0.90 U	0.90	0.90 U	0.90	0.99	0.30
Calcium		105	8.4	115	8.4	22000	10.4	21500	10.4	26200	8.4
Cadmium	4	2.9 U	2.9	2.9 U	2.9	2.8 U	2.8	2.8 U	2.8	2.9 U	2.9
Cobalt		2.3 U	2.3	2.3 U	2.3	12.4	3.0	12.2	3.0	16.6	2.3
Chromium	100	4.7 U	4.7	4.7 U	4.7	34.5	2.9	2.9 U	2.9	76.6	4.7
Copper	1000	4.0 U	4.0	4.0 U	4.0	1.9 U	1.9	1.9 U	1.9	10.4	4.0
Iron	300	12.0	2.5	16.8	2.5	7190	6.4	122	6.4	15400	2.5
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		67.9	67.9	119	67.9	11400	685	10500	685	14500	67.9
Magnesium		34.3	34.3	47.6	34.3	11700	18.3	10900	18.3	15600	34.3
Manganese	50	0.90 U	0.90	0.90 U	0.90	110	1.8	98.4	1.8	140	0.90
Sodium	50000	132	19.1	156	19.1	64300	30.5	62700	30.5	79100	19.1
Nickel	100	4.2 U	4.2	4.2 U	4.2	11.9	10.8	20.4	10.8	30.0	4.2
Lead	10	2.6	1.2	1.5	1.2	5.6	1.6	1.6 U	1.6	11.0	1.2
Antimony	20	10.9 U	10.9	13.2	10.9	20.7 U	20.7	20.7 U	20.7	10.9 U	10.9
Selenium	50	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8
Thallium	10	1.1 U	1.1	1.1 U	1.1	0.70 U	0.70	0.70 U	0.70	1.1 U	1.1
Vanadium		2.1 U	2.1	2.1 U	2.1	34.4	2.3	2.3 U	2.3	71.5	2.1
Zinc	5000	1.9 U	1.9	1.9 U	1.9	41.9	3.8	33.4	3.8	56.6	1.9
Cyanide	200										
Method:TAL Metals, Cyanide											

CHARLES WOOD
GROUNDWATER INORGANICS

Geographical Location		CW1		CW1		CW1		CW1		CW1	
Sample		CW01-MW27-A02 SOL		CW01-MW28-A01		CW01-MW28-A01 SOL		CW01-MW28-A02		CW01-MW28-A02 SOL	
Sample Type		Soluble		Total		Soluble		Total		Soluble	
Batch#		9503G739		9502G358		9502G358		9502G739		9502G739	
Prep#		95GI508		95GI454		95GI454		95GI508		95GI508	
RFW#		002		005		006		008		009	
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/14/95		2/21/95		2/21/95		3/14/95		3/14/95	
Analysis Date		3/8/95		3/8/95		3/8/95		3/8/95		3/8/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	2.5 U	2.5	3.0 U	3.0	3.0 U	3.0	2.5 U	2.5	2.5 U	2.5
Aluminum	200	885	16.8	3480	24.0	510	24.0	4150	16.8	498	16.8
Arsenic	8	1.9 U	1.9	4.3	1.9	1.9 U	1.9	3.7	1.9	1.9 U	1.9
Barium	2000	116	0.80	54.3	1.7	49.3	1.7	51.8	0.80	39.7	0.80
Beryllium	20	0.30 U	0.30	0.90 U	0.90	0.90 U	0.90	0.30 U	0.30	0.33	0.30
Calcium		24900	8.4	15300	10.4	15100	10.4	14800	8.4	14500	8.4
Cadmium	4	2.9 U	2.9	2.8 U	2.8	2.8 U	2.8	2.9 U	2.9	2.9 U	2.9
Cobalt		13.2	2.3	7.5	3.0	4.7	3.0	6.4	2.3	4.4	2.3
Chromium	100	4.7 U	4.7	27.1	2.9	2.9 U	2.9	29.2	4.7	4.7 U	4.7
Copper	1000	8.1	4.0	1.9 U	1.9	1.9 U	1.9	4.4	4.0	4.0 U	4.0
Iron	300	93.3	2.5	5760	6.4	8.4	6.4	6610	2.5	28.6	2.5
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		11800	67.9	12900	685	12100	685	12900	67.9	11600	67.9
Magnesium		13500	34.3	3890	18.3	3380	18.3	4270	34.3	3580	34.3
Manganese	50	114	0.90	44.0	1.8	36.3	1.8	48.7	0.90	39.5	0.90
Sodium	50000	73800	19.1	17000	30.5	17100	30.5	19200	19.1	19000	19.1
Nickel	100	15.0	4.2	11.5	10.8	17.2	10.8	6.0	4.2	7.2	4.2
Lead	10	2.2	1.2	2.7	1.6	1.6 U	1.6	3.6	1.2	1.5	1.2
Antimony	20	10.9 U	10.9	20.7 U	20.7	20.7 U	20.7	10.9 U	10.9	10.9 U	10.9
Selenium	50	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8
Thallium	10	1.1 U	1.1	0.70 U	0.70	0.70 U	0.70	1.1 U	1.1	1.1 U	1.1
Vanadium		2.1 U	2.1	23.4	2.3	2.3 U	2.3	24.4	2.1	2.1 U	2.1
Zinc	5000	32.5	1.9	21.9	3.8	13.1	3.8	27.8	1.9	14.4	1.9
Cyanide	200										
Method:TAL Metals, Cyanide											

CHA S WOOD
GROUNDWATER INORGANICS

Geographical Location		CW1		CW1		CW1		CW1		CW1	
Sample		CW01-MW29-A01		CW01-MW29-A01 SOL		CW01-MW29-A02		CW01-MW29-A02 SOL		CW01-MW29-E01	
Sample Type		Total		Soluble		Total		Soluble		Field Rinsate - Total	
Batch#		9502G358		9502G358		9502G739		9502G739		9502G358	
Prep#		95GI454		95GI454		95GI508		95GI508		95GI454	
RFW#		007		008		010		011		010	
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/21/95		2/21/95		3/14/95		3/14/95		2/21/95	
Analysis Date		3/8/95		3/8/95		3/8/95		3/8/95		3/8/95	
Analysis	Standard	Analytical	MDL	Analytical	MDL	Analytical	MDL	Analytical	MDL	Analytical	MDL
		Result		Result		Result		Result		Result	
Silver	20	3.0 U	3.0	3.0 U	3.0	2.5 U	2.5	2.5 U	2.5	3.0 U	3.0
Aluminum	200	1980	24.0	118	24.0	2760	16.8	143	16.8	24.0 U	24.0
Arsenic	8	2.3	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9
Barium	2000	46.3	1.7	37.6	1.7	55.3	0.80	46.0	0.80	1.7 U	1.7
Beryllium	20	0.90 U	0.90	0.90 U	0.90	0.30 U	0.30	0.30 U	0.30	0.90 U	0.90
Calcium		25400	10.4	25000	10.4	31300	8.4	31400	8.4	113	10.4
Cadmium	4	2.8 U	2.8	2.8 U	2.8	2.9 U	2.9	2.9 U	2.9	2.8 U	2.8
Cobalt		4.4	3.0	3.6	3.0	5.2	2.3	4.1	2.3	3.0 U	3.0
Chromium	100	17.5	2.9	2.9 U	2.9	21.9	4.7	4.7 U	4.7	2.9 U	2.9
Copper	1000	1.9 U	1.9	1.9 U	1.9	4.0 U	4.0	4.0 U	4.0	1.9 U	1.9
Iron	300	3810	6.4	134	6.4	5300	2.5	238	2.5	6.4 U	6.4
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		10700	685	9660	685	11300	67.9	11000	67.9	685 U	685
Magnesium		4940	18.3	4520	18.3	6100	34.3	5890	34.3	18.3 U	18.3
Manganese	50	65.8	1.8	60.5	1.8	75.3	0.90	70.3	0.90	1.8 U	1.8
Sodium	50000	28000	30.5	27600	30.5	30800	19.1	33500	19.1	321	30.5
Nickel	100	15.4	10.8	10.8 U	10.8	4.8	4.2	5.8	4.2	10.8 U	10.8
Lead	10	1.6 U	1.6	1.6 U	1.6	2.3	1.2	1.2	1.2	1.6 U	1.6
Antimony	20	20.7 U	20.7	20.7 U	20.7	10.9 U	10.9	10.9 U	10.9	20.7 U	20.7
Selenium	50	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8
Thallium	10	0.70 U	0.70	0.70 U	0.70	1.1 U	1.1	1.1 U	1.1	0.70 U	0.70
Vanadium		14.5	2.3	2.3 U	2.3	16.7	2.1	2.1 U	2.1	2.3 U	2.3
Zinc	5000	21.4	3.8	15.8	3.8	23.8	1.9	16.3	1.9	3.8 U	3.8
Cyanide	200										
Method:TAL Metals, Cyanide											

CHARLES WOOD
GROUNDWATER INORGANICS

Geographical Location		CW1		CW2		CW2		CW2		CW2		CW2	
Sample		CW01-MW29-E01 SOL		CW02-MW30-A01		CW02-MW30-A01 SOL		CW02-MW30-A02		CW02-MW30-A02 SOL		CW02-MW31-A01	
Sample Type		Field Rinsate - Soluble		Total		Soluble		Total		Soluble		Total	
Batch#		9502G358		9502G358		9502G358		9502G739		9502G739		9502G358	
Prep#		95GI454		95GI454		95GI454		95GI508		95GI508		95GI454	
RFW#		011		012		013		012		013		014	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/21/95		2/21/95		2/21/95		3/14/95		3/14/95		2/21/95	
Analysis Date		3/8/95		3/8/95		3/8/95		3/8/95		3/8/95		3/8/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	2.5 U	2.5	2.5 U	2.5	3.0 U	3.0
Aluminum	200	24.0 U	24.0	127	24.0	24.0 U	24.0	131	16.8	22.2	16.8	24.0 U	24.0
Arsenic	8	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9
Barium	2000	1.7 U	1.7	227	1.7	219	1.7	240	0.80	235	0.80	170	1.7
Beryllium	20	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.30 U	0.30	0.30 U	0.30	0.90 U	0.90
Calcium		72.3	10.4	61200	10.4	59100	10.4	66000	8.4	66000	8.4	37100	10.4
Cadmium	4	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.9 U	2.9	2.9 U	2.9	2.8 U	2.8
Cobalt		3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	2.3 U	2.3	2.3 U	2.3	3.0 U	3.0
Chromium	100	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	4.7 U	4.7	4.7 U	4.7	2.9 U	2.9
Copper	1000	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	7.6	4.0	8.2	4.0	1.9 U	1.9
Iron	300	6.4 U	6.4	42800	6.4	40500	6.4	48700	2.5	47500	2.5	34600	6.4
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		685 U	685	9460	685	9590	685	10500	67.9	10600	67.9	8270	685
Magnesium		18.3 U	18.3	6770	18.3	6560	18.3	7320	34.3	7300	34.3	4500	18.3
Manganese	50	1.8 U	1.8	352	1.8	340	1.8	378	0.90	375	0.90	212	1.8
Sodium	50000	137	30.5	18000	30.5	17600	30.5	16200	19.1	16200	19.1	9650	30.5
Nickel	100	12.9	10.8	16.7	10.8	21.1	10.8	4.6	4.2	4.2 U	4.2	26.0	10.8
Lead	10	1.6 U	1.6	1.6 U	1.6	1.6 U	1.6	1.2 U	1.2	1.8	1.2	1.6 U	1.6
Antimony	20	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	10.9 U	10.9	12.7	10.9	20.7 U	20.7
Selenium	50	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8
Thallium	10	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	1.1 U	1.1	1.1 U	1.1	0.70 U	0.70
Vanadium		2.3 U	2.3	3.2	2.3	2.3 U	2.3	2.1 U	2.1	2.1 U	2.1	2.3 U	2.3
Zinc	5000	3.8 U	3.8	6.6	3.8	5.1	3.8	4.8	1.9	6.1	1.9	5.6	3.8
Cyanide	200												
Method:TAL Metals, Cyanide													

CHA S WOOD
GROUNDWATER INORGANICS

Geographical Location		CW2		CW2		CW2		CW2		CW2	
Sample		CW02-MW31-A01 SOL		CW02-MW31-A02		CW02-MW31-A02 SOL		CW02-MW32-A01		CW02-MW32-A01 SOL	
Sample Type		Soluble		Total		Soluble		Total		Soluble	
Batch#		9502G358		9502G739		9502G739		9502G358		9502G358	
Prep#		95GI454		95GI508		95GI508		95GI454		95GI454	
RFW#		015		014		015		016		017	
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/21/95		3/14/95		3/14/95		2/21/95		2/21/95	
Analysis Date		3/8/95		3/8/95		3/8/95		3/8/95		3/8/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	2.5 U	2.5	2.5 U	2.5	3.0 U	3.0	3.0 U	3.0
Aluminum	200	24.0 U	24.0	35.3	16.8	26.1	16.8	530	24.0	24.0 U	24.0
Arsenic	8	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9
Barium	2000	169	1.7	191	0.80	183	0.80	216	1.7	187	1.7
Beryllium	20	0.90 U	0.90	0.30 U	0.30	0.30 U	0.30	0.90 U	0.90	0.90 U	0.90
Calcium		37600	10.4	40400	8.4	39500	8.4	45800	10.4	43700	10.4
Cadmium	4	2.8 U	2.8	2.9 U	2.9	2.9 U	2.9	2.8 U	2.8	2.8 U	2.8
Cobalt		3.0 U	3.0	2.3 U	2.3	2.3 U	2.3	3.0 U	3.0	3.0 U	3.0
Chromium	100	2.9 U	2.9	4.7 U	4.7	4.7 U	4.7	2.9 U	2.9	2.9 U	2.9
Copper	1000	1.9 U	1.9	4.3	4.0	4.0 U	4.0	1.9 U	1.9	1.9 U	1.9
Iron	300	33300	6.4	38100	2.5	34200	2.5	47700	6.4	38300	6.4
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		8210	685	9150	67.9	8930	67.9	9480	685	9210	685
Magnesium		4540	18.3	5050	34.3	4960	34.3	5560	18.3	5230	18.3
Manganese	50	214	1.8	233	0.90	228	0.90	266	1.8	250	1.8
Sodium	50000	9790	30.5	11000	19.1	10900	19.1	11500	30.5	11000	30.5
Nickel	100	26.4	10.8	4.2 U	4.2	14.7	4.2	10.8 U	10.8	10.8 U	10.8
Lead	10	1.6 U	1.6	1.2 U	1.2	1.7	1.2	1.6 U	1.6	1.6 U	1.6
Antimony	20	20.7 U	20.7	10.9 U	10.9	15.8	10.9	20.7 U	20.7	22.3	20.7
Selenium	50	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8
Thallium	10	0.70 U	0.70	1.1 U	1.1	1.1 U	1.1	0.70 U	0.70	0.70 U	0.70
Vanadium		2.3 U	2.3	2.1 U	2.1	2.1 U	2.1	3.9	2.3	2.3 U	2.3
Zinc	5000	3.8 U	3.8	2.2	1.9	5.4	1.9	14.2	3.8	4.1	3.8
Cyanide	200										
Method:TAL Metals, Cyanide											

CHARLES WOOD
GROUNDWATER INORGANICS

Geographical Location		CW2		CW2		CW2		CW2		CW2	
Sample		CW02-MW32-A02		CW02-MW32-A02 SOL		CW02-MW33-A01		CW02-MW33-A01 SOL		CW02-MW33-A02	
Sample Type		Total		Soluble		Total		Soluble		Total	
Batch#		9502G739		9502G739		9502G358		9502G358		9502G739	
Prep#		95GI508		95GI508		95GI454		95GI454		95GI508	
RFW#		016		017		018		019		018	
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/14/95		3/14/95		2/21/95		2/21/95		3/14/95	
Analysis Date		3/8/95		3/8/95		3/8/95		3/8/95		3/8/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	2.5 U	2.5	2.5 U	2.5	3.0 U	3.0	3.0 U	3.0	2.5 U	2.5
Aluminum	200	365	16.8	16.8	16.8	651	24.0	24.0 U	24.0	701	16.8
Arsenic	8	1.9 U	1.9	1.9 U	1.9	3.0	1.9	1.9 U	1.9	1.9 U	1.9
Barium	2000	206	0.80	189	0.80	235	1.7	184	1.7	233	0.80
Beryllium	20	0.30 U	0.30	0.30 U	0.30	0.90 U	0.90	0.90 U	0.90	0.30 U	0.30
Calcium		46700	8.4	47100	8.4	49300	10.4	48600	10.4	53200	8.4
Cadmium	4	2.9 U	2.9	2.9 U	2.9	2.8 U	2.8	2.8 U	2.8	2.9 U	2.9
Cobalt		2.3 U	2.3	2.5	2.3	3.0 U	3.0	3.0 U	3.0	5.8	2.3
Chromium	100	4.7 U	4.7	4.7 U	4.7	4.3	2.9	2.9 U	2.9	4.7 U	4.7
Copper	1000	4.0	4.0	4.4	4.0	8.4	1.9	1.9 U	1.9	15.4	4.0
Iron	300	50200	2.5	42700	2.5	54900	6.4	39700	6.4	54000	2.5
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		9680	67.9	9720	67.9	8030	685	8130	685	8880	67.9
Magnesium		5630	34.3	5670	34.3	5890	18.3	5710	18.3	6310	34.3
Manganese	50	271	0.90	270	0.90	252	1.8	248	1.8	294	0.90
Sodium	50000	12100	19.1	12300	19.1	12800	30.5	12600	30.5	15900	19.1
Nickel	100	23.5	4.2	6.1	4.2	10.8 U	10.8	10.8 U	10.8	5.4	4.2
Lead	10	1.4	1.2	1.2	1.2	1.6 U	1.6	1.6 U	1.6	6.6	1.2
Antimony	20	10.9 U	10.9	10.9 U	10.9	20.7 U	20.7	20.7 U	20.7	10.9 U	10.9
Selenium	50	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8
Thallium	10	1.1 U	1.1	1.1 U	1.1	0.70 U	0.70	0.70 U	0.70	1.1 U	1.1
Vanadium		2.7	2.1	2.1 U	2.1	4.5	2.3	2.3 U	2.3	5.8	2.1
Zinc	5000	13.5	1.9	4.5	1.9	14.0	3.8	6.1	3.8	37.2	1.9
Cyanide	200										
Method:TAL Metals, Cyanide											

CHA S WOOD
GROUNDWATER INORGANICS

Geographical Location		CW2		CW9		CW9		CW9		CW9	
Sample		CW02-MW33-A02 SOL		CW09-MW35-A01		CW09-MW35-A01 SOL		CW09-MW35-A02		CW09-MW35-A02 SOL	
Sample Type		Soluble		Total		Soluble		Total		Soluble	
Batch#		9502G739		9502G300		9502G300		9503G723		9503G723	
Prep#		95GI508		95GI450		95GI450		95GI503		95GI503	
RFW#		019		003		004		002		003	
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/14/95		2/20/95		2/20/95		3/13/95		3/13/95	
Analysis Date		3/8/95		3/6/95		3/6/95		3/15/95		3/15/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5
Aluminum	200	25.6	16.8	242	16.8	85.2	16.8	210	16.8	91.0	16.8
Arsenic	8	1.9 U	1.9	1.3 U	1.3	1.3 U	1.3	1.3 U	1.3	1.3 U	1.3
Barium	2000	192	0.80	40.5	0.80	36.8	0.80	34.0	0.80	35.4	0.80
Beryllium	20	0.30 U	0.30	0.30 U	0.30	0.30 U	0.30	0.35	0.30	0.33	0.30
Calcium		51800	8.4	21800	8.4	20700	8.4	25000	8.4	25800	8.4
Cadmium	4	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9
Cobalt		4.0	2.3	4.9	2.3	4.2	2.3	2.3 U	2.3	2.3 U	2.3
Chromium	100	4.7 U	4.7	4.7 U	4.7	4.7 U	4.7	4.7 U	4.7	4.7 U	4.7
Copper	1000	7.7	4.0	4.0 U	4.0	4.0 U	4.0	4.0 U	4.0	6.5	4.0
Iron	300	38900	2.5	123	2.5	17.1	2.5	85.4	2.5	30.1	2.5
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		8700	67.9	2110	67.9	1990	67.9	1960	67.9	2180	67.9
Magnesium		6140	34.3	5770	34.3	5360	34.3	5980	34.3	6200	34.3
Manganese	50	284	0.90	43.9	0.90	40.2	0.90	36.3	0.90	37.9	0.90
Sodium	50000	15900	19.1	7300	19.1	6760	19.1	6660	19.1	7080	19.1
Nickel	100	4.3	4.2	11.3	4.2	9.6	4.2	4.2 U	4.2	9.3	4.2
Lead	10	5.6	1.2	1.6 U	1.6	1.6 U	1.6	1.1 U	1.1	1.1 U	1.1
Antimony	20	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9
Selenium	50	1.8 U	1.8	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5
Thallium	10	1.1 U	1.1	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70
Vanadium		2.1 U	2.1	2.1 U	2.1	2.1 U	2.1	2.1 U	2.1	2.1 U	2.1
Zinc	5000	25.4	1.9	60.1	1.9	55.0	1.9	51.6	1.9	58.4	1.9
Cyanide	200										
Method:TAL Metals, Cyanide											

CHARLES WOOD
GROUNDWATER INORGANICS

Geographical Location		CW9		CW9		CW9		CW9		CW9	
Sample		CW09-MW35-E01		CW09-MW35-E01 SOL		CW09-MW36-A01		CW09-MW36-A01 SOL		CW09-MW36-A02	
Sample Type		Total		Soluble		Total		Soluble		Total	
Batch#		9502G300		9502G300		9502G300		9502G300		9503G723	
Prep#		95GI450		95GI450		95GI450		95GI450		95GI503	
RFW#		007		008		005		006		004	
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/20/95		2/20/95		2/20/95		2/20/95		3/13/95	
Analysis Date		3/6/95		3/6/95		3/6/95		3/6/95		3/15/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5	2.5 U	2.5
Aluminum	200	231	16.8	16.8 U	16.8	460	16.8	39.5	16.8	645	16.8
Arsenic	8	1.3 U	1.3	1.3 U	1.3	1.3 U	1.3	1.3 U	1.3	1.3 U	1.3
Barium	2000	40.8	0.80	0.80 U	0.80	33.2	0.80	28.3	0.80	29.4	0.80
Beryllium	20	0.30 U	0.30	0.30 U	0.30	0.30 U	0.30	0.30 U	0.30	0.30 U	0.30
Calcium		21100	8.4	191	8.4	37400	8.4	37600	8.4	32700	8.4
Cadmium	4	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9
Cobalt		4.0	2.3	2.3 U	2.3	3.2	2.3	4.2	2.3	2.5	2.3
Chromium	100	4.7 U	4.7	4.7 U	4.7	6.4	4.7	6.5	4.7	5.0	4.7
Copper	1000	4.0 U	4.0	4.0 U	4.0	4.0 U	4.0	4.0 U	4.0	4.0 U	4.0
Iron	300	85.8	2.5	3.8	2.5	1120	2.5	44.1	2.5	1420	2.5
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		2090	67.9	82.5	67.9	4180	67.9	4110	67.9	3820	67.9
Magnesium		5580	34.3	34.3 U	34.3	8200	34.3	8170	34.3	7470	34.3
Manganese	50	43.9	0.90	0.90 U	0.90	239	0.90	240	0.90	195	0.90
Sodium	50000	7230	19.1	654	19.1	5990	19.1	6120	19.1	5810	19.1
Nickel	100	10.8	4.2	4.2 U	4.2	6.4	4.2	8.3	4.2	4.9	4.2
Lead	10	1.6 U	1.6	1.6 U	1.6	1.6 U	1.6	1.6 U	1.6	4.1	1.1
Antimony	20	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9	10.9 U	10.9
Selenium	50	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5
Thallium	10	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70
Vanadium		2.1 U	2.1	2.8	2.1	3.5	2.1	2.1 U	2.1	4.2	2.1
Zinc	5000	60.7	1.9	2.6	1.9	25.7	1.9	24.9	1.9	28.3	1.9
Cyanide	200										
Method:TAL Metals, Cyanide											

CHA S WOOD
GROUNDWATER INORGANICS

Geographical Location		CW9		B6		B6		B6		B6		B7	
Sample		CW09-MW36-A02 SOL		B6-MW06B-A01		B6-MW06B-A01 SOL		B6-MW06B-A02		B6-MW06B-A02 SOL		B7-MW07B-A01	
Sample Type		Soluble		Total		Soluble		Total		Soluble		Total	
Batch#		9503G723		9502G198		9502G198		9503G641		9503G641		9502G198	
Prep#		95GI503		95GI427		95GI427		95GI479		95GI479		95GI427	
RFW#		005		003		004		001		002		005	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/13/95		2/15/95		2/15/95		3/8/95		3/8/95		2/15/95	
Analysis Date		3/15/95		2/23/95		2/28/95		3/14/95		3/10/95		2/23/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	2.5 U	2.5	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0
Aluminum	200	36.2	16.8	7500	24.0	152	24.0	8210	24.0	245	24.0	1360	24.0
Arsenic	8	1.3 U	1.3	14.6	1.9	1.9 U	1.9	25.1	1.6	2.3	1.6	1.9 U	1.9
Barium	2000	22.6	0.80	170	1.7	50.8	1.7	192	1.7	34.9	1.7	71.0	1.7
Beryllium	20	0.35	0.30	2.3	0.90	0.90 U	0.90	2.8	0.90	0.94	0.90	0.90 U	0.90
Calcium		31700	8.4	5270	10.4	5050	10.4	4500	10.4	4200	10.4	7610	10.4
Cadmium	4	2.9 U	2.9	3.7	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8
Cobalt		2.6	2.3	12.5	3.0	5.2	3.0	10.7	3.0	8.7	3.0	30.6	3.0
Chromium	100	4.7 U	4.7	49.6	2.9	2.9 U	2.9	48.3	2.9	2.9 U	2.9	9.7	2.9
Copper	1000	4.0 U	4.0	6.8	1.9	1.9 U	1.9	9.8	1.9	4.0	1.9	1.9 U	1.9
Iron	300	29.3	2.5	15600	6.4	1800	6.4	19600	6.4	1010	6.4	2150	6.4
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		3600	67.9	4030	685	2450	685	4630	685	2060	685	2140	685
Magnesium		7080	34.3	4770	18.3	2940	18.3	4430	18.3	2540	18.3	6670	18.3
Manganese	50	186	0.90	59.2	1.8	36.3	1.8	51.5	1.8	27.3	1.8	232	1.8
Sodium	50000	5640	19.1	16600	30.5	16600	30.5	17000	30.5	16900	30.5	36400	30.5
Nickel	100	5.0	4.2	48.3	10.8	23.3	10.8	35.7	10.8	22.8	10.8	12.5	10.8
Lead	10	1.1 U	1.1	2.8	1.6	4.1	1.6	3.9	1.0	1.0 U	1.0	3.3	1.6
Antimony	20	10.9 U	10.9	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7
Selenium	50	1.5 U	1.5	3.8	1.5	1.5 U	1.5	3.7	1.8	1.8 U	1.8	1.5 U	1.5
Thallium	10	0.70 U	0.70	0.70 U	0.70	0.70 U	0.70	1.1 U	1.1	1.1 U	1.1	0.70 U	0.70
Vanadium		2.1 U	2.1	27.0	2.3	2.3 U	2.3	28.9	2.3	2.3 U	2.3	9.1	2.3
Zinc	5000	25.4	1.9	133	3.8	70.0	3.8	126	3.8	66.3	3.8	23.5	3.8
Cyanide	200			10 U	10			10 U	10			10 U	10
Method:TAL Metals, Cyanide													

CHARLES WOOD
GROUNDWATER INORGANICS

Geographical Location		B7		B7		B7		B8		B8		B8	
Sample		B7-MW07B-A01 SOL		B7-MW07B-A02		B7-MW07B-A02 SOL		B8-MW08B-A01		B8-MW08B-A01 SOL		B8-MW08B-A02	
Sample Type		Soluble		Total		Soluble		Total		Soluble		Total	
Batch#		9502G198		9503G617		9503G617		9502G198		9502G198		9503G641	
Prep#		95GI427		95GI475		95GI475		95GI427		95GI427		95GI479	
RFW#		006		003		004		007		008		003	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/15/95		3/7/95		3/7/95		2/15/95		2/15/95		3/8/95	
Analysis Date		2/28/95		3/13/95		3/13/95		2/23/95		2/28/95		3/14/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	2.5 U	2.5	2.5 U	2.5	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0
Aluminum	200	327	24.0	993	16.8	289	16.8	340	24.0	27.9	24.0	627	24.0
Arsenic	8	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	1.6 U	1.6
Barium	2000	67.0	1.7	64.9	0.80	62.5	0.80	45.3	1.7	45.3	1.7	45.7	1.7
Beryllium	20	0.90 U	0.90	0.45	0.30	0.57	0.30	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90
Calcium		7420	10.4	7420	8.4	7460	8.4	1890	10.4	1960	10.4	1870	10.4
Cadmium	4	2.8 U	2.8	2.9 U	2.9	2.9 U	2.9	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8
Cobalt		30.6	3.0	29.3	2.3	29.7	2.3	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0
Chromium	100	2.9 U	2.9	5.7	4.7	4.7 U	4.7	2.9 U	2.9	2.9 U	2.9	5.7	2.9
Copper	1000	1.9 U	1.9	4.0 U	4.0	4.0 U	4.0	2.9	1.9	3.8	1.9	1.9 U	1.9
Iron	300	6.4 U	6.4	1430	2.5	10.9	2.5	702	6.4	6.4 U	6.4	1240	6.4
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		1280	685	1400	67.9	1130	67.9	1740	685	2230	685	2120	685
Magnesium		6260	18.3	6160	34.3	6080	34.3	3260	18.3	3310	18.3	3330	18.3
Manganese	50	223	1.8	205	0.90	203	0.90	16.6	1.8	16.6	1.8	15.8	1.8
Sodium	50000	35500	30.5	34100	19.1	34100	19.1	12000	30.5	12300	30.5	12100	30.5
Nickel	100	10.8 U	10.8	4.2 U	4.2	6.5	4.2	10.8 U	10.8	14.2	10.8	10.8 U	10.8
Lead	10	1.6 U	1.6	1.0 U	1.0	1.0 U	1.0	1.6 U	1.6	1.6 U	1.6	1.0 U	1.0
Antimony	20	20.7 U	20.7	10.9 U	10.9	10.9 U	10.9	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7
Selenium	50	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.8 U	1.8
Thallium	10	0.70 U	0.70	1.1 U	1.1	1.1 U	1.1	0.70 U	0.70	0.70 U	0.70	1.1 U	1.1
Vanadium		2.3 U	2.3	4.3	2.1	2.1 U	2.1	2.3 U	2.3	2.4	2.3	4.4	2.3
Zinc	5000	24.7	3.8	22.3	1.9	22.0	1.9	14.7	3.8	14.7	3.8	16.0	3.8
Cyanide	200			10 U	10			10 U	10			10 U	10
Method:TAL Metals, Cyanide													

CHA S WOOD
GROUNDWATER INORGANICS

Geographical Location		B8		B8		B9		B9		B9		B9	
Sample		B8-MW08B-A02 SOL		B8-MW10B-A02 SOL		B9-MW09B-A01		B9-MW09B-A01 SOL		B9-MW09B-A02		B9-MW09B-A02 SOL	
Sample Type		Soluble		Soluble		Total		Soluble		Total		Soluble	
Batch#		9503G641		9503G641		9502G198		9502G198		9503G617		9503G617	
Prep#		95GI479		95GI479		95GCN040		95GI427		95GI475		95GI475	
RFW#		004		006		001		002		001		002	
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/8/95		3/8/95		2/15/95		2/15/95		3/7/95		3/7/95	
Analysis Date		3/10/95		3/10/95		2/23/95		2/28/95		3/13/95		3/13/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	2.5 U	2.5	2.5 U	2.5
Aluminum	200	29.1	24.0	50.5	24.0	1290	24.0	400	24.0	3880	16.8	399	16.8
Arsenic	8	1.6 U	1.6	2.3	1.6	2.3	1.9	1.9 U	1.9	13.2	1.9	1.9 U	1.9
Barium	2000	35.7	1.7	14.9	1.7	82.8	1.7	71.2	1.7	92.3	0.80	50.0	0.80
Beryllium	20	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.56	0.30	0.45	0.30
Calcium		2010	10.4	3490	10.4	8600	10.4	8700	10.4	7810	8.4	8030	8.4
Cadmium	4	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.9 U	2.9	2.9 U	2.9
Cobalt		3.0 U	3.0	3.0 U	3.0	4.8	3.0	5.1	3.0	6.3	2.3	4.8	2.3
Chromium	100	2.9 U	2.9	2.9 U	2.9	8.1	2.9	2.9 U	2.9	31.8	4.7	4.7 U	4.7
Copper	1000	1.9 U	1.9	4.8	1.9	1.9	1.9	3.0	1.9	4.0 U	4.0	4.0 U	4.0
Iron	300	25.5	6.4	28.2	6.4	2650	6.4	13.6	6.4	12800	2.5	33.3	2.5
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		1300	685	1520	685	2400	685	1890	685	2940	67.9	1620	67.9
Magnesium		3120	18.3	2090	18.3	6460	18.3	6160	18.3	7160	34.3	6380	34.3
Manganese	50	15.3	1.8	23.3	1.8	58.2	1.8	54.1	1.8	62.2	0.90	47.4	0.90
Sodium	50000	12000	30.5	14900	30.5	3330	30.5	3440	30.5	3390	19.1	3530	19.1
Nickel	100	10.8 U	10.8	10.8 U	10.8	23.8	10.8	22.3	10.8	18.4	4.2	15.0	4.2
Lead	10	1.0 U	1.0	1.0 U	1.0	2.0	1.6	1.6 U	1.6	3.6	1.2	1.0 U	1.0
Antimony	20	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	10.9 U	10.9	10.9 U	10.9
Selenium	50	1.8 U	1.8	1.8 U	1.8	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5	1.5 U	1.5
Thallium	10	1.1 U	1.1	1.1 U	1.1	0.70 U	0.70	0.70 U	0.70	1.1 U	1.1	1.1 U	1.1
Vanadium		2.3 U	2.3	2.3 U	2.3	4.4	2.3	2.3 U	2.3	13.2	2.1	2.1 U	2.1
Zinc	5000	18.6	3.8	24.1	3.8	54.8	3.8	53.1	3.8	75.8	1.9	61.3	1.9
Cyanide	200					10 U	10			10 U	10		
Method:TAL Metals, Cyanide													

CHARLES WOOD
GROUNDWATER INORGANICS

Geographical Location		B10		B10		B10		B10		B10	
Sample		B10-MW10B-A01		B10-MW10B-A01 SOL		B10-MW10B-A02		B10-MW10B-A02 SOL		B10-MW10B-E01	
Sample Type		Total		Soluble		Total		Soluble		Field Rinsate - Total	
Batch#		9502G198		9502G198		9503G641		9503G641		9502G198	
Prep#		95GI427		95GI427		95GI479		95GI479		95GI427	
RFW#		009		010		005		006		012	
Dilution Factor		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/15/95		2/15/95		3/8/95		3/8/95		2/15/95	
Analysis Date		2/23/95		2/28/95		3/14/95		3/14/95		2/23/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0
Aluminum	200	1690	24.0	71.1	24.0	1250	24.0	50.5	24.0	24.0 U	24.0
Arsenic	8	3.5	1.9	1.9 U	1.9	4.0	1.6	2.3	1.6	1.9 U	1.9
Barium	2000	77.5	1.7	20.3	1.7	63.2	1.7	14.9	1.7	1.7 U	1.7
Beryllium	20	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90
Calcium		3980	10.4	3690	10.4	3500	10.4	3490	10.4	33.6	10.4
Cadmium	4	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8
Cobalt		3.5	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0
Chromium	100	12.1	2.9	2.9 U	2.9	6.7	2.9	2.9 U	2.9	2.9 U	2.9
Copper	1000	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9	4.8	1.9	1.9 U	1.9
Iron	300	3070	6.4	92.3	6.4	2220	6.4	28.2	6.4	6.4 U	6.4
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		2060	685	685 U	685	1870	685	1520	685	685 U	685
Magnesium		2790	18.3	2340	18.3	2450	18.3	2090	18.3	18.3 U	18.3
Manganese	50	34.8	1.8	30.4	1.8	27.6	1.8	23.3	1.8	2.7	1.8
Sodium	50000	16400	30.5	16200	30.5	15600	30.5	14900	30.5	95.0	30.5
Nickel	100	20.4	10.8	17.3	10.8	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8
Lead	10	2.2	1.6	7.3	1.6	1.0 U	1.0	1.0 U	1.0	1.6 U	1.6
Antimony	20	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7
Selenium	50	1.5 U	1.5	1.5 U	1.5	1.8 U	1.8	1.8 U	1.8	1.5 U	1.5
Thallium	10	0.70 U	0.70	0.70 U	0.70	1.1 U	1.1	1.1 U	1.1	0.70 U	0.70
Vanadium		8.5	2.3	2.3 U	2.3	2.8	2.3	2.3 U	2.3	2.3 U	2.3
Zinc	5000	35.9	3.8	32.4	3.8	30.8	3.8	24.1	3.8	3.8 U	3.8
Cyanide	200	10 U	10			10 U	10	10 U	10		
Method:TAL Metals, Cyanide											

CHA S WOOD
GROUNDWATER INORGANICS

Geographical Location		B10		B10		B10	
Sample		B10-MW10B-E01 SOL		B10-MW10B-E02		B10-MW10B-E02 SOL	
Sample Type		Field Rinsate - Soluble		Field Rinsate - Total		Field Rinsate - Soluble	
Batch#		9502G198		9503G641		9503G641	
Prep#		95GI427		95GI479		95GI479	
RFW#		013		008		009	
Dilution Factor		1.00		1.00		1.00	
Matrix		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l	
Sampling Date		2/15/95		3/8/95		3/8/95	
Analysis Date		2/28/95		3/14/95		3/10/95	
Analysis	Standard	Analytical Result	MDL	Analytical Result	MDL	Analytical Result	MDL
Silver	20	3.0 U	3.0	3.0 U	3.0	3.0 U	3.0
Aluminum	200	24.0 U	24.0	24.0 U	24.0	24.0 U	24.0
Arsenic	8	1.9 U	1.9	1.6 U	1.6	1.6 U	1.6
Barium	2000	1.7 U	1.7	1.7 U	1.7	1.7 U	1.7
Beryllium	20	0.90 U	0.90	0.90 U	0.90	0.90 U	0.90
Calcium		111	10.4	141	10.4	130	10.4
Cadmium	4	2.8 U	2.8	2.8 U	2.8	2.8 U	2.8
Cobalt		3.0 U	3.0	3.0 U	3.0	3.0 U	3.0
Chromium	100	2.9 U	2.9	2.9 U	2.9	2.9 U	2.9
Copper	1000	1.9 U	1.9	1.9 U	1.9	1.9 U	1.9
Iron	300	6.4 U	6.4	9.3	6.4	9.8	6.4
Mercury	2	0.20 U	0.20	0.20 U	0.20	0.20 U	0.20
Potassium		685 U	685	685 U	685	685 U	685
Magnesium		18.3 U	18.3	24.0	18.3	18.3 U	18.3
Manganese	50	1.8 U	1.8	1.8 U	1.8	1.8 U	1.8
Sodium	50000	70.4	30.5	170	30.5	231	30.5
Nickel	100	10.8 U	10.8	10.8 U	10.8	10.8 U	10.8
Lead	10	1.6 U	1.6	1.0 U	1.0	1.0 U	1.0
Antimony	20	20.7 U	20.7	20.7 U	20.7	20.7 U	20.7
Selenium	50	1.5 U	1.5	1.8 U	1.8	1.8 U	1.8
Thallium	10	0.70 U	0.70	1.1 U	1.1	1.1 U	1.1
Vanadium		2.3 U	2.3	2.3 U	2.3	2.3 U	2.3
Zinc	5000	3.8 U	3.8	6.5	3.8	6.4	3.8
Cyanide	200			10 U	10		
Method:TAL Metals, Cyanide							

CHARLES WOOD
GROUNDWATER PESTICIDES/PCBS

Geographical Location		CW1		CW1		CW1		CW1		CW1		CW1	
Sample		CW01-MW26-A01		CW01-MW26-A02		CW01-MW26-E02		CW01-MW27-A01		CW01-MW27-A02		CW01-MW28-A01	
Sample Type						Field Rinsate Blank							
Batch#		9503G358		9503G739		9503G739		9503G358		9503G739		9503G358	
Prep#		95GP0154		95GP0251		95GP0251		95GP0154		95GP0251		95GP0154	
RFW#		001		003		006		003		001		005	
Sample Depth													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/21/95		3/14/95		3/14/95		2/21/95		3/14/95		2/21/95	
Analysis Date		3/15/95		3/12/95		3/12/95		3/15/95		3/12/95		3/15/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.048 U	0.048	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.056 U	0.056	0.047 U	0.047
beta-BHC	0.2	0.048 U	0.048	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.056 U	0.056	0.047 U	0.047
delta-BHC		0.048 U	0.048	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.056 U	0.056	0.047 U	0.047
gamma-BHC (Lindane)	0.2	0.048 U	0.048	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.056 U	0.056	0.047 U	0.047
Heptachlor	0.4	0.048 U	0.048	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.056 U	0.056	0.047 U	0.047
Aldrin	0.04	0.048 U	0.048	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.056 U	0.056	0.047 U	0.047
Heptachlor epoxide	0.2	0.048 U	0.048	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.056 U	0.056	0.047 U	0.047
Endosulfan I	0.4	0.048 U	0.048	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.056 U	0.056	0.047 U	0.047
Dieldrin	0.03	0.097 U	0.097	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.11 U	0.11	0.094 U	0.094
4,4'-DDE	0.1	0.097 U	0.097	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.11 U	0.11	0.094 U	0.094
Endrin	2	0.097 U	0.097	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.11 U	0.11	0.094 U	0.094
Endosulfan II	0.4	0.097 U	0.097	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.11 U	0.11	0.094 U	0.094
4,4'-DDD	0.1	0.097 U	0.097	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.11 U	0.11	0.094 U	0.094
Endosulfan sulfate	0.4	0.097 U	0.097	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.11 U	0.11	0.094 U	0.094
4,4'-DDT	0.1	0.097 U	0.097	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.11 U	0.11	0.094 U	0.094
Methoxychlor	40	0.48 U	0.48	0.52 U	0.52	0.52 U	0.52	0.52 U	0.52	0.56 U	0.56	0.47 U	0.47
Endrin ketone		0.097 U	0.097	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.11 U	0.11	0.094 U	0.094
Endrin aldehyde		0.097 U	0.097	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10	0.11 U	0.11	0.094 U	0.094
alpha-Chlordane		0.048 U	0.048	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.056 U	0.056	0.047 U	0.047
gamma-Chlordane	0.5	0.048 U	0.048	0.052 U	0.052	0.052 U	0.052	0.052 U	0.052	0.056 U	0.056	0.047 U	0.047
Toxaphene	3	4.8 U	4.8	5.2 U	5.2	5.2 U	5.2	5.2 U	5.2	5.6 U	5.6	4.7 U	4.7
Aroclor-1016	2	0.97 U	0.97	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.1 U	1.1	0.94 U	0.94
Aroclor-1221	2	1.9 U	1.9	2.1 U	2.1	2.1 U	2.1	2.1 U	2.1	2.2 U	2.2	1.9 U	1.9
Aroclor-1232	2	0.97 U	0.97	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.1 U	1.1	0.94 U	0.94
Aroclor-1242	2	0.97 U	0.97	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.1 U	1.1	0.94 U	0.94
Aroclor-1248	2	0.97 U	0.97	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.1 U	1.1	0.94 U	0.94
Aroclor-1254	2	0.97 U	0.97	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.1 U	1.1	0.94 U	0.94
Aroclor-1260	2	0.97 U	0.97	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0	1.1 U	1.1	0.94 U	0.94
Method:TCL Pesticides/PCBs													

CHARLES WOOD
GROUNDWATER PESTICIDES/PCBS

Geographical Location		CW1		CW1		CW1		CW1		CW2		CW2	
Sample		CW01-MW28A02		CW01-MW29-A01		CW01-MW29-E01		CW01-MW29A02		CW02-MW30-A01		CW02-MW30-A02	
Sample Type						Field Rinsate Blank							
Batch#		9503G739		9503G358		9503G358		9503G739		9503G358		9503G739	
Prep#		95GP0251		95GP0154		95GP0154		95GP0251		95GP0154		95GP0251	
RFW#		008		007		010		010		012		012	
Sample Depth													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/14/95		2/21/95		2/21/95		3/14/95		2/21/95		3/14/95	
Analysis Date		3/12/95		3/16/95		3/16/95		3/12/95		3/16/95		3/12/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.052 U	0.052	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
beta-BHC	0.2	0.052 U	0.052	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
delta-BHC		0.052 U	0.052	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
gamma-BHC (Lindane)	0.2	0.052 U	0.052	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
Heptachlor	0.4	0.052 U	0.052	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
Aldrin	0.04	0.052 U	0.052	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
Heptachlor epoxide	0.2	0.052 U	0.052	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
Endosulfan I	0.4	0.052 U	0.052	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
Dieldrin	0.03	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
4,4'-DDE	0.1	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
Endrin	2	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
Endosulfan II	0.4	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
4,4'-DDD	0.1	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
Endosulfan sulfate	0.4	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
4,4'-DDT	0.1	0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
Methoxychlor	40	0.52 U	0.52	0.47 U	0.47	0.53 U	0.53	0.51 U	0.51	0.52 U	0.52	0.52 U	0.52
Endrin ketone		0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
Endrin aldehyde		0.10 U	0.10	0.094 U	0.094	0.11 U	0.11	0.10 U	0.10	0.10 U	0.10	0.10 U	0.10
alpha-Chlordane		0.052 U	0.052	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
gamma-Chlordane	0.5	0.052 U	0.052	0.047 U	0.047	0.053 U	0.053	0.051 U	0.051	0.052 U	0.052	0.052 U	0.052
Toxaphene	3	5.2 U	5.2	4.7 U	4.7	5.3 U	5.3	5.1 U	5.1	5.2 U	5.2	5.2 U	5.2
Aroclor-1016	2	1.0 U	1.0	0.94 U	0.94	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0
Aroclor-1221	2	2.1 U	2.1	1.9 U	1.9	2.1 U	2.1	2.0 U	2.0	2.1 U	2.1	2.1 U	2.1
Aroclor-1232	2	1.0 U	1.0	0.94 U	0.94	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0
Aroclor-1242	2	1.0 U	1.0	0.94 U	0.94	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0
Aroclor-1248	2	1.0 U	1.0	0.94 U	0.94	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0
Aroclor-1254	2	1.0 U	1.0	0.94 U	0.94	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0
Aroclor-1260	2	1.0 U	1.0	0.94 U	0.94	1.1 U	1.1	1.0 U	1.0	1.0 U	1.0	1.0 U	1.0
Method:TCL Pesticides/PCBs													

CHARLES WOOD
GROUNDWATER PESTICIDES/PCBS

Geographical Location		CW2		CW2		CW2		CW2		CW2		CW2	
Sample		CW02-MW31-A01		CW02-MW31-A02		CW02-MW32-A01		CW02-MW32-A02		CW02-MW33-A01		CW02-MW33-A02	
Sample Type													
Batch#		9503G358		9503G739		9503G358		9503G739		9503G358		9503G739	
Prep#		95GP0154		95GP0251		95GP0154		95GP0251		95GP0154		95GP0251	
RFW#		014		014		016		016		018		018	
Sample Depth													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/21/95		3/14/95		2/21/95		3/14/95		2/21/95		3/14/95	
Analysis Date		3/16/95		3/12/95		3/16/95		3/12/95		3/16/95		3/12/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.070 U	0.070	0.052 U	0.052	0.054 U	0.054	0.052 U	0.052	0.062 U	0.062	0.053 U	0.053
beta-BHC	0.2	0.070 U	0.070	0.052 U	0.052	0.054 U	0.054	0.052 U	0.052	0.062 U	0.062	0.053 U	0.053
delta-BHC		0.070 U	0.070	0.052 U	0.052	0.054 U	0.054	0.052 U	0.052	0.062 U	0.062	0.053 U	0.053
gamma-BHC (Lindane)	0.2	0.070 U	0.070	0.052 U	0.052	0.054 U	0.054	0.052 U	0.052	0.062 U	0.062	0.053 U	0.053
Heptachlor	0.4	0.070 U	0.070	0.052 U	0.052	0.054 U	0.054	0.052 U	0.052	0.062 U	0.062	0.053 U	0.053
Aldrin	0.04	0.070 U	0.070	0.052 U	0.052	0.054 U	0.054	0.052 U	0.052	0.062 U	0.062	0.053 U	0.053
Heptachlor epoxide	0.2	0.070 U	0.070	0.052 U	0.052	0.054 U	0.054	0.052 U	0.052	0.062 U	0.062	0.053 U	0.053
Endosulfan I	0.4	0.070 U	0.070	0.052 U	0.052	0.054 U	0.054	0.052 U	0.052	0.062 U	0.062	0.053 U	0.053
Dieldrin	0.03	0.14 U	0.14	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.12 U	0.12	0.11 U	0.11
4,4'-DDE	0.1	0.14 U	0.14	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.12 U	0.12	0.11 U	0.11
Endrin	2	0.14 U	0.14	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.12 U	0.12	0.11 U	0.11
Endosulfan II	0.4	0.14 U	0.14	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.12 U	0.12	0.11 U	0.11
4,4'-DDD	0.1	0.14 U	0.14	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.12 U	0.12	0.11 U	0.11
Endosulfan sulfate	0.4	0.14 U	0.14	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.12 U	0.12	0.11 U	0.11
4,4'-DDT	0.1	0.14 U	0.14	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.12 U	0.12	0.11 U	0.11
Methoxychlor	40	0.70 U	0.70	0.52 U	0.52	0.54 U	0.54	0.52 U	0.52	0.62 U	0.62	0.053 U	0.053
Endrin ketone		0.14 U	0.14	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.12 U	0.12	0.11 U	0.11
Endrin aldehyde		0.14 U	0.14	0.10 U	0.10	0.11 U	0.11	0.10 U	0.10	0.12 U	0.12	0.11 U	0.11
alpha-Chlordane		0.070 U	0.070	0.052 U	0.052	0.054 U	0.054	0.052 U	0.052	0.062 U	0.062	0.053 U	0.053
gamma-Chlordane	0.5	0.070 U	0.070	0.052 U	0.052	0.054 U	0.054	0.052 U	0.052	0.062 U	0.062	0.053 U	0.053
Toxaphene	3	7.0 U	7.0	5.2 U	5.2	5.4 U	5.4	5.2 U	5.2	6.2 U	6.2	5.3 U	5.3
Aroclor-1016	2	1.4 U	1.4	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	1.2 U	1.2	1.1 U	1.1
Aroclor-1221	2	2.8 U	2.8	2.1 U	2.1	2.2 U	2.2	2.1 U	2.1	2.5 U	2.5	2.1 U	2.1
Aroclor-1232	2	1.4 U	1.4	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	1.2 U	1.2	1.1 U	1.1
Aroclor-1242	2	1.4 U	1.4	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	1.2 U	1.2	1.1 U	1.1
Aroclor-1248	2	1.4 U	1.4	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	1.2 U	1.2	1.1 U	1.1
Aroclor-1254	2	1.4 U	1.4	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	1.2 U	1.2	1.1 U	1.1
Aroclor-1260	2	1.4 U	1.4	1.0 U	1.0	1.1 U	1.1	1.0 U	1.0	1.2 U	1.2	1.1 U	1.1
Method:TCL Pesticides/PCBs													

CHARLES WOOD
GROUNDWATER PESTICIDES/PCBS

Geographical Location		CW6		CW6		CW6		CW6		CW6		CW6	
Sample		CW06-MW01-A01		CW06-MW01-A02		CW06-MW01-E02		CW06-MW34-A01		CW06-MW34-A02		CW06-MW35-A01	
Sample Type						Field Rinsate Blank							
Batch#		9505G840		9505G138		9505G138		9502G300		9503G723		9502G300	
Prep#		95GP0510		95GP0580		95GP0580		95GP0154		95GP0247		95GP0154	
RFW#		002		002		003		001		001		003	
Sample Depth													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		5/10/95		5/10/95		5/25/95		2/20/95		3/13/95		2/20/95	
Analysis Date		5/19/95		6/1/95		6/1/95		3/15/95		3/29/95		3/12/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.054 U	0.054	0.046 U	0.046	0.053 U	0.053	0.047 U	0.047	0.053 U	0.053	0.048 U	0.048
beta-BHC	0.2	0.054 U	0.054	0.046 U	0.046	0.053 U	0.053	0.047 U	0.047	0.053 U	0.053	0.048 U	0.048
delta-BHC		0.054 U	0.054	0.046 U	0.046	0.053 U	0.053	0.047 U	0.047	0.053 U	0.053	0.048 U	0.048
gamma-BHC (Lindane)	0.2	0.054 U	0.054	0.046 U	0.046	0.053 U	0.053	0.047 U	0.047	0.053 U	0.053	0.048 U	0.048
Heptachlor	0.4	0.054 U	0.054	0.046 U	0.046	0.053 U	0.053	0.047 U	0.047	0.053 U	0.053	0.048 U	0.048
Aldrin	0.04	0.054 U	0.054	0.046 U	0.046	0.053 U	0.053	0.047 U	0.047	0.053 U	0.053	0.048 U	0.048
Heptachlor epoxide	0.2	0.054 U	0.054	0.046 U	0.046	0.053 U	0.053	0.047 U	0.047	0.053 U	0.053	0.048 U	0.048
Endosulfan I	0.4	0.054 U	0.054	0.046 U	0.046	0.053 U	0.053	0.047 U	0.047	0.053 U	0.053	0.048 U	0.048
Dieldrin	0.03	0.11 U	0.11	0.092 U	0.092	0.11 U	0.11	0.094 U	0.094	0.11 U	0.11	0.097 U	0.097
4,4'-DDE	0.1	0.11 U	0.11	0.092 U	0.092	0.11 U	0.11	0.094 U	0.094	0.11 U	0.11	0.097 U	0.097
Endrin	2	0.11 U	0.11	0.092 U	0.092	0.11 U	0.11	0.094 U	0.094	0.11 U	0.11	0.097 U	0.097
Endosulfan II	0.4	0.11 U	0.11	0.092 U	0.092	0.11 U	0.11	0.094 U	0.094	0.11 U	0.11	0.097 U	0.097
4,4'-DDD	0.1	0.098 J	0.11	0.074 J	0.092	0.11 U	0.11	0.094 U	0.094	0.11 U	0.11	0.097 U	0.097
Endosulfan sulfate	0.4	0.11 U	0.11	0.092 U	0.092	0.11 U	0.11	0.094 U	0.094	0.11 U	0.11	0.097 U	0.097
4,4'-DDT	0.1	0.11 U	0.11	0.092 U	0.092	0.11 U	0.11	0.094 U	0.094	0.11 U	0.11	0.097 U	0.097
Methoxychlor	40	0.54 U	0.54	0.46 U	0.46	0.53 U	0.53	0.47 U	0.47	0.53 U	0.53	0.48 U	0.48
Endrin ketone		0.11 U	0.11	0.092 U	0.092	0.11 U	0.11	0.094 U	0.094	0.11 U	0.11	0.097 U	0.097
Endrin aldehyde		0.11 U	0.11	0.092 U	0.092	0.11 U	0.11	0.094 U	0.094	0.11 U	0.11	0.097 U	0.097
alpha-Chlordane		0.054	0.054	0.055	0.046	0.053 U	0.053	0.047 U	0.047	0.053 U	0.053	0.048 U	0.048
gamma-Chlordane	0.5	0.033 JP	0.054	0.037 J	0.046	0.053 U	0.053	0.047 U	0.047	0.053 U	0.053	0.048 U	0.048
Toxaphene	3	5.4 U	4.7	4.6 U	4.6	5.3 U	5.3	4.7 U	4.7	5.3 U	5.3	4.8 U	4.8
Aroclor-1016	2	1.1 U	1.1	0.92 U	0.92	1.1 U	1.1	0.94 U	0.94	1.1 U	1.1	0.97 U	0.97
Aroclor-1221	2	2.2 U	2.2	1.8 U	1.8	2.1 U	2.1	1.9 U	1.9	2.1 U	2.1	1.9 U	1.9
Aroclor-1232	2	1.1 U	1.1	0.092 U	0.092	1.1 U	1.1	0.94 U	0.94	1.1 U	1.1	0.97 U	0.97
Aroclor-1242	2	1.1 U	1.1	0.092 U	0.092	1.1 U	1.1	0.94 U	0.94	1.1 U	1.1	0.97 U	0.97
Aroclor-1248	2	1.1 U	1.1	0.092 U	0.092	1.1 U	1.1	0.94 U	0.94	1.1 U	1.1	0.97 U	0.97
Aroclor-1254	2	1.1 U	1.1	0.092 U	0.092	1.1 U	1.1	0.94 U	0.94	1.1 U	1.1	0.97 U	0.97
Aroclor-1260	2	1.1 U	1.1	0.092 U	0.092	1.1 U	1.1	0.94 U	0.94	1.1 U	1.1	0.97 U	0.97
Method:TCL Pesticides/PCBs													

CHARLES WOOD
GROUNDWATER PESTICIDES/PCBS

Geographical Location		CW9		CW9		CW6		CW9		B6		B6	
Sample		CW09-MW35-A02		CW09-MW35-E01		CW06-MW36-A01		CW09-MW36-A02		B6-MW06B-A01		B6-MW06B-A02	
Sample Type				Field Rinsate Blank									
Batch#		9503G723		9502G300		9502G300		9503G723		9502G198		9503G641	
Prep#		95GP0247		95GP0154		95GP0154		95GP0247		95GP0119		95GP0229	
RFW#		002		007		005		004		003		001	
Sample Depth													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		3/13/95		2/20/95		2/20/95		3/13/95		2/15/95		3/8/95	
Analysis Date		3/29/95		3/15/95		3/15/95		3/29/95		3/4/95		3/19/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.055 U	0.055	0.050 U	0.050	0.048 U	0.048	0.053 U	0.053	0.048 U	0.048	0.050 U	0.050
beta-BHC	0.2	0.055 U	0.055	0.050 U	0.050	0.048 U	0.048	0.053 U	0.053	0.048 U	0.048	0.050 U	0.050
delta-BHC		0.055 U	0.055	0.050 U	0.050	0.048 U	0.048	0.053 U	0.053	0.048 U	0.048	0.050 U	0.050
gamma-BHC (Lindane)	0.2	0.055 U	0.055	0.050 U	0.050	0.048 U	0.048	0.053 U	0.053	0.048 U	0.048	0.050 U	0.050
Heptachlor	0.4	0.055 U	0.055	0.050 U	0.050	0.048 U	0.048	0.053 U	0.053	0.048 U	0.048	0.050 U	0.050
Aldrin	0.04	0.055 U	0.055	0.050 U	0.050	0.048 U	0.048	0.053 U	0.053	0.048 U	0.048	0.050 U	0.050
Heptachlor epoxide	0.2	0.055 U	0.055	0.050 U	0.050	0.048 U	0.048	0.053 U	0.053	0.048 U	0.048	0.050 U	0.050
Endosulfan I	0.4	0.055 U	0.055	0.050 U	0.050	0.048 U	0.048	0.053 U	0.053	0.048 U	0.048	0.050 U	0.050
Dieldrin	0.03	0.11 U	0.11	0.10 U	0.10	0.096 U	0.096	0.11 U	0.11	0.096 U	0.096	0.10 U	0.10
4,4'-DDE	0.1	0.11 U	0.11	0.10 U	0.10	0.096 U	0.096	0.11 U	0.11	0.096 U	0.096	0.10 U	0.10
Endrin	2	0.11 U	0.11	0.10 U	0.10	0.096 U	0.096	0.11 U	0.11	0.096 U	0.096	0.10 U	0.10
Endosulfan II	0.4	0.11 U	0.11	0.10 U	0.10	0.096 U	0.096	0.11 U	0.11	0.096 U	0.096	0.10 U	0.10
4,4'-DDD	0.1	0.11 U	0.11	0.10 U	0.10	0.096 U	0.096	0.11 U	0.11	0.096 U	0.096	0.10 U	0.10
Endosulfan sulfate	0.4	0.11 U	0.11	0.10 U	0.10	0.096 U	0.096	0.11 U	0.11	0.096 U	0.096	0.10 U	0.10
4,4'-DDT	0.1	0.11 U	0.11	0.10 U	0.10	0.096 U	0.096	0.11 U	0.11	0.096 U	0.096	0.10 U	0.10
Methoxychlor	40	0.55 U	0.55	0.50 U	0.50	0.48 U	0.48	0.53 U	0.53	0.48 U	0.48	0.50 U	0.50
Endrin ketone		0.11 U	0.11	0.10 U	0.10	0.096 U	0.096	0.11 U	0.11	0.096 U	0.096	0.10 U	0.10
Endrin aldehyde		0.11 U	0.11	0.10 U	0.10	0.096 U	0.096	0.11 U	0.11	0.096 U	0.096	0.10 U	0.10
alpha-Chlordane		0.055 U	0.055	0.050 U	0.050	0.048 U	0.048	0.053 U	0.053	0.048 U	0.048	0.050 U	0.050
gamma-Chlordane	0.5	0.055 U	0.055	0.050 U	0.050	0.048 U	0.048	0.053 U	0.053	0.048 U	0.048	0.050 U	0.050
Toxaphene	3	5.5 U	5.5	5.0 U	5.0	4.8 U	4.8	5.3 U	5.3	4.8 U	4.8	5.0 U	5.0
Aroclor-1016	2	1.1 U	1.1	1.0 U	1.0	0.96 U	0.96	1.1 U	1.1	0.96 U	0.96	1.0 U	1.0
Aroclor-1221	2	2.2 U	2.2	2.0 U	2.0	1.9 U	1.9	2.1 U	2.1	1.9 U	1.9	2.0 U	2.0
Aroclor-1232	2	1.1 U	1.1	1.0 U	1.0	0.96 U	0.96	1.1 U	1.1	0.96 U	0.96	1.0 U	1.0
Aroclor-1242	2	1.1 U	1.1	1.0 U	1.0	0.96 U	0.96	1.1 U	1.1	0.96 U	0.96	1.0 U	1.0
Aroclor-1248	2	1.1 U	1.1	1.0 U	1.0	0.96 U	0.96	1.1 U	1.1	0.96 U	0.96	1.0 U	1.0
Aroclor-1254	2	1.1 U	1.1	1.0 U	1.0	0.96 U	0.96	1.1 U	1.1	0.96 U	0.96	1.0 U	1.0
Aroclor-1260	2	1.1 U	1.1	1.0 U	1.0	0.96 U	0.96	1.1 U	1.1	0.96 U	0.96	1.0 U	1.0
Method:TCL Pesticides/PCBs													

CHARLES WOOD
GROUNDWATER PESTICIDES/PCBS

Geographical Location		B7		B7		B8		B8		B9		B9	
Sample		B7-MW07B-A01		B7-MW07B-A02		B8-MW08B-A01		B8-MW08B-A02		B9-MW09B-A01		B9-MW09B-A02	
Sample Type													
Batch#		9502G198		9503G617		9502G198		9503G641		9502G198		9503G617	
Prep#		95GP0119		95GP0219		95GP0119		95GP0229		95GP0119		95GP0219	
RFW#		005		003		007		003		001		001	
Sample Depth													
Dilution Factor		1.00		1.00		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/15/95		3/7/95		2/15/95		3/8/95		2/15/95		3/7/95	
Analysis Date		3/4/95		3/17/95		3/7/95		3/19/95		3/4/95		3/17/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.060 U	0.060	0.051 U	0.051	0.060 U	0.060	0.052 U	0.052	0.047 U	0.047	0.048 U	0.048
beta-BHC	0.2	0.060 U	0.060	0.051 U	0.051	0.060 U	0.060	0.052 U	0.052	0.047 U	0.047	0.048 U	0.048
delta-BHC		0.060 U	0.060	0.051 U	0.051	0.060 U	0.060	0.052 U	0.052	0.047 U	0.047	0.048 U	0.048
gamma-BHC (Lindane)	0.2	0.060 U	0.060	0.051 U	0.051	0.060 U	0.060	0.052 U	0.052	0.047 U	0.047	0.048 U	0.048
Heptachlor	0.4	0.060 U	0.060	0.051 U	0.051	0.060 U	0.060	0.052 U	0.052	0.047 U	0.047	0.048 U	0.048
Aldrin	0.04	0.060 U	0.060	0.051 U	0.051	0.060 U	0.060	0.052 U	0.052	0.047 U	0.047	0.048 U	0.048
Heptachlor epoxide	0.2	0.060 U	0.060	0.051 U	0.051	0.060 U	0.060	0.052 U	0.052	0.047 U	0.047	0.048 U	0.048
Endosulfan I	0.4	0.060 U	0.060	0.051 U	0.051	0.060 U	0.060	0.052 U	0.052	0.047 U	0.047	0.048 U	0.048
Dieldrin	0.03	0.12 U	0.12	0.10 U	0.10	0.12 U	0.12	0.10 U	0.10	0.094 U	0.094	0.095 U	0.095
4,4'-DDE	0.1	0.12 U	0.12	0.10 U	0.10	0.12 U	0.12	0.10 U	0.10	0.094 U	0.094	0.095 U	0.095
Endrin	2	0.12 U	0.12	0.10 U	0.10	0.12 U	0.12	0.10 U	0.10	0.094 U	0.094	0.095 U	0.095
Endosulfan II	0.4	0.12 U	0.12	0.10 U	0.10	0.12 U	0.12	0.10 U	0.10	0.094 U	0.094	0.095 U	0.095
4,4'-DDD	0.1	0.12 U	0.12	0.10 U	0.10	0.12 U	0.12	0.10 U	0.10	0.094 U	0.094	0.095 U	0.095
Endosulfan sulfate	0.4	0.12 U	0.12	0.10 U	0.10	0.12 U	0.12	0.10 U	0.10	0.094 U	0.094	0.095 U	0.095
4,4'-DDT	0.1	0.12 U	0.12	0.10 U	0.10	0.12 U	0.12	0.10 U	0.10	0.094 U	0.094	0.095 U	0.095
Methoxychlor	40	0.60 U	0.60	0.51 U	0.51	0.60 U	0.60	0.52 U	0.52	0.47 U	0.47	0.48 U	0.48
Endrin ketone		0.12 U	0.12	0.10 U	0.10	0.12 U	0.12	0.10 U	0.10	0.094 U	0.094	0.095 U	0.095
Endrin aldehyde		0.12 U	0.12	0.10 U	0.10	0.12 U	0.12	0.10 U	0.10	0.094 U	0.094	0.095 U	0.095
alpha-Chlordane		0.060 U	0.060	0.051 U	0.051	0.060 U	0.060	0.052 U	0.052	0.047 U	0.047	0.048 U	0.048
gamma-Chlordane	0.5	0.060 U	0.060	0.051 U	0.051	0.060 U	0.060	0.052 U	0.052	0.047 U	0.047	0.048 U	0.048
Toxaphene	3	6.0 U	6.0	5.1 U	5.1	6.0 U	6.0	5.2 U	5.2	4.7 U	4.7	4.8 U	4.8
Aroclor-1016	2	1.2 U	1.2	1.0 U	1.0	1.2 U	1.2	1.0 U	1.0	0.94 U	0.94	0.95 U	0.95
Aroclor-1221	2	2.4 U	2.4	2.0 U	2.0	2.4 U	2.4	2.1 U	2.1	1.9 U	1.9	1.9 U	1.9
Aroclor-1232	2	1.2 U	1.2	1.0 U	1.0	1.2 U	1.2	1.0 U	1.0	0.94 U	0.94	0.95 U	0.95
Aroclor-1242	2	1.2 U	1.2	1.0 U	1.0	1.2 U	1.2	1.0 U	1.0	0.94 U	0.94	0.95 U	0.95
Aroclor-1248	2	1.2 U	1.2	1.0 U	1.0	1.2 U	1.2	1.0 U	1.0	0.94 U	0.94	0.95 U	0.95
Aroclor-1254	2	1.2 U	1.2	1.0 U	1.0	1.2 U	1.2	1.0 U	1.0	0.94 U	0.94	0.95 U	0.95
Aroclor-1260	2	1.2 U	1.2	1.0 U	1.0	1.2 U	1.2	1.0 U	1.0	0.94 U	0.94	0.95 U	0.95
Method:TCL Pesticides/PCBs													

CHARLES WOOD
GROUNDWATER PESTICIDES/PCBS

Geographical Location		B10		B10		B10		B10	
Sample		B10-MW10B-A01		B10-MW10B-A02		B10-MW10B-E01		B10-MW10B-E02	
Sample Type						Field Rinsate Blank		Field Rinsate Blank	
Batch#		9502G198		9503G641		9502G198		9503G641	
Prep#		95GP0119		95GP0229		95GP0119		95GP0229	
RFW#		009		005		012		008	
Sample Depth									
Dilution Factor		1.00		1.00		1.00		1.00	
Matrix		water		water		water		water	
Units	ug/l	ug/l		ug/l		ug/l		ug/l	
Sampling Date		2/15/95		3/8/95		2/13/95		3/8/95	
Analysis Date		3/7/95		3/19/95		3/7/95		3/19/95	
Analysis	Standard	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL	Analytical Result	CRDL
alpha-BHC	0.02	0.051 U	0.051	0.061 U	0.061	0.052 U	0.052	0.055 U	0.055
beta-BHC	0.2	0.051 U	0.051	0.061 U	0.061	0.052 U	0.052	0.055 U	0.055
delta-BHC		0.051 U	0.051	0.061 U	0.061	0.052 U	0.052	0.055 U	0.055
gamma-BHC (Lindane)	0.2	0.051 U	0.051	0.061 U	0.061	0.052 U	0.052	0.055 U	0.055
Heptachlor	0.4	0.051 U	0.051	0.061 U	0.061	0.052 U	0.052	0.055 U	0.055
Aldrin	0.04	0.051 U	0.051	0.061 U	0.061	0.052 U	0.052	0.055 U	0.055
Heptachlor epoxide	0.2	0.051 U	0.051	0.061 U	0.061	0.052 U	0.052	0.055 U	0.055
Endosulfan I	0.4	0.051 U	0.051	0.061 U	0.061	0.052 U	0.052	0.055 U	0.055
Dieldrin	0.03	0.10 U	0.10	0.12 U	0.12	0.10 U	0.10	0.11 U	0.11
4,4'-DDE	0.1	0.10 U	0.10	0.12 U	0.12	0.10 U	0.10	0.11 U	0.11
Endrin	2	0.10 U	0.10	0.12 U	0.12	0.10 U	0.10	0.11 U	0.11
Endosulfan II	0.4	0.10 U	0.10	0.12 U	0.12	0.10 U	0.10	0.11 U	0.11
4,4'-DDD	0.1	0.10 U	0.10	0.12 U	0.12	0.10 U	0.10	0.11 U	0.11
Endosulfan sulfate	0.4	0.10 U	0.10	0.12 U	0.12	0.10 U	0.10	0.11 U	0.11
4,4'-DDT	0.1	0.10 U	0.10	0.12 U	0.12	0.10 U	0.10	0.11 U	0.11
Methoxychlor	40	0.51 U	0.51	0.61 U	0.61	0.52 U	0.52	0.55 U	0.55
Endrin ketone		0.10 U	0.10	0.12 U	0.12	0.10 U	0.10	0.11 U	0.11
Endrin aldehyde		0.10 U	0.10	0.12 U	0.12	0.10 U	0.10	0.11 U	0.11
alpha-Chlordane		0.051 U	0.051	0.061 U	0.061	0.052 U	0.052	0.055 U	0.055
gamma-Chlordane	0.5	0.051 U	0.051	0.061 U	0.061	0.052 U	0.052	0.055 U	0.055
Toxaphene	3	5.1 U	5.1	6.1 U	6.1	5.2 U	5.2	5.5 U	5.5
Aroclor-1016	2	1.0 U	1.0	1.2 U	1.2	1.0 U	1.0	1.1 U	1.1
Aroclor-1221	2	2.0 U	2.0	2.4 U	2.4	2.1 U	2.1	2.2 U	2.2
Aroclor-1232	2	1.0 U	1.0	1.2 U	1.2	1.0 U	1.0	1.1 U	1.1
Aroclor-1242	2	1.0 U	1.0	1.2 U	1.2	1.0 U	1.0	1.1 U	1.1
Aroclor-1248	2	1.0 U	1.0	1.2 U	1.2	1.0 U	1.0	1.1 U	1.1
Aroclor-1254	2	1.0 U	1.0	1.2 U	1.2	1.0 U	1.0	1.1 U	1.1
Aroclor-1260	2	1.0 U	1.0	1.2 U	1.2	1.0 U	1.0	1.1 U	1.1
Method:TCL Pesticides/PCBs									

CHARLES WOOD
TRANSFORMERS - PCBs

Geographical Location		Building 2000		Building 2000		Building 2000		Building 2000		Building 2018		Building 2018	
Sample		CW07-TR01-A01		CW07-TR02-A01		CW07-TR03-A01		CW07-TR04-A01		CW07-TR05-A01		CW07-TR06-A01	
Sample Type		Transformer		Transformer		Transformer		Transformer		Transformer		Transformer	
Batch#		9411G831		9411G831		9411G831		9411G831		9412G854		9412G854	
Prep#		94GP1024		94GP1024		94GP1024		94GP1024		94GP1024		94GP1024	
RFW#		001		002		003		004		017		018	
Sample Depth													
Dilution Factor		250		50.0		50.0		10.0		50.0		5.0	
Matrix		soil		soil		soil		soil		soil		soil	
Units	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Sampling Date		11/29/94		11/29/94		11/29/94		11/29/94		11/30/91		11/30/91	
Analysis Date		12/21/94		12/20/94		12/20/94		12/21/94		12/22/94		12/21/94	
Analysis	Standard	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting	Analytical	Reporting
		Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit	Result	Limit
% Solids		85.8	0.10	89.0	0.10	90.3	0.10	85.7	0.10	86.4	0.10	92.5	0.10
Aroclor-1016	0.055	23 U	23	4.4 U	4.4	4.4 U	4.4	0.91 U	0.91	4.50	4.5	0.42 U	0.42
Aroclor-1221	0.055	23 U	23	4.4 U	4.4	4.4 U	4.4	0.91 U	0.91	4.50	4.5	0.42 U	0.42
Aroclor-1232	0.055	23 U	23	4.4 U	4.4	4.4 U	4.4	0.91 U	0.91	4.50	4.5	0.42 U	0.42
Aroclor-1242	0.055	23 U	23	4.4 U	4.4	4.4 U	4.4	0.91 U	0.91	4.50	4.5	0.42 U	0.42
Aroclor-1248	0.055	23 U	23	4.4 U	4.4	4.4 U	4.4	0.91 U	0.91	4.50	4.5	0.42 U	0.42
Aroclor-1254	0.055	46 U	46	8.8 U	8.8	8.7 U	8.8	1.8 U	1.8	9 U	9	0.84 U	0.84
Aroclor-1260	0.055	100		27		26		6.4		9 U	9	0.84 U	0.84
Method:TCL PCBs													

CHARLES WOOD
TRANSFORMERS - PCBs

Geographical Location		Building 2276		Building 2276	
Sample		CWAE-TR01-A01		CWAE-TR01-C01	
Sample Type		Transformer		Duplicate	
Batch#		9412G854		9412G854	
Prep#		94GP1024		94GTS467	
RFW#		015		016	
Sample Depth					
Dilution Factor		2.5		0.5	
Matrix		soil		soil	
Units	mg/kg	mg/kg		mg/kg	
Sampling Date		11/30/94		11/30/94	
Analysis Date		12/22/94		12/21/94	
Analysis	Standard	Analytical	Reporting	Analytical	Reporting
		Result	Limit	Result	Limit
% Solids		92.0	1.0	90.7	1.0
Aroclor-1016	0.055	0.21 U	0.21	0.044 U	0.044
Aroclor-1221	0.055	0.21 U	0.21	0.044 U	0.044
Aroclor-1232	0.055	0.21 U	0.21	0.044 U	0.044
Aroclor-1242	0.055	0.21 U	0.21	0.044 U	0.044
Aroclor-1248	0.055	0.21 U	0.21	0.044 U	0.044
Aroclor-1254	0.055	0.43 U	0.43	0.088 U	0.088
Aroclor-1260	0.055	0.43 U	0.43	0.088 U	0.088
Method:TCL PCBs					

APPENDIX E

TIDAL MONITORING GRAPHS

FINAL

SITE INVESTIGATION
FORT MONMOUTH, NEW JERSEY
MAIN POST AND CHARLES WOOD AREAS

Prepared For:

U.S. ARMY CORPS OF ENGINEERS
Baltimore District
10 South Howard Street
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Under:

Contract DACA31-92-D-0018

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

BACKGROUND

The U.S. Army Corps of Engineers (USACE), Baltimore District, contracted Roy F. Weston, Inc. (WESTON®) to perform a field investigation at Fort Monmouth, NJ. This investigation was conducted at two separate areas of Fort Monmouth, i.e., the Main Post and Charles Wood. Suspected hazardous waste sites were initially identified at Fort Monmouth in a report prepared by the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) in 1980. This report identified 37 sites with known or suspected waste materials on the Main Post and the two subposts (Charles Wood and Evans Area). A background investigation was conducted of the 37 sites and 8 additional sites that were identified by Fort Monmouth and the New Jersey Department of Environmental Protection (NJDEP). WESTON's recommendations were described in a report titled *Investigation of Suspected Hazardous Waste Sites at Fort Monmouth, New Jersey*. Additional investigations (including sampling and other field work) were recommended at 22 of the sites on the Main Post and Charles Wood areas (WESTON, 1993). NJDEP approved the recommendations on 20 April 1995. Additional investigations were also recommended at the Evans Area, but since the Evans Area will be closed, further investigations there will be completed under the Base Realignment and Closure (BRAC) program.

This report presents the results of field investigation activities that were performed at 13 sites at the Main Post area and 8 sites at the Charles Wood area. Field investigation activities were performed between November 1994 and March 1995. The field investigation activities included surface geophysical investigations, sediment and surface-water sampling, transformer site sampling, surface and subsurface soil sampling, groundwater monitor well installation and sampling, and tidal monitoring. At one site in the Charles Wood area (CW-3) the presence of construction rubble prohibited sample collection as planned. The rubble was removed in June 1995 and exploratory trenches are planned at this site.

The geophysical investigations were performed between 29 November and 15 December 1994 to delineate the landfill boundaries at Main Post areas M-3, M-12, M-14, and M-18, and at

Charles Wood area CW-3A. The sediment and surface-water samples were collected on 1 and 2 December 1994 from locations along Parkers Creek on the Main Post and in a tributary to Wampum Brook on the Charles Wood site. The purpose of collecting the surface-water and sediment samples was to evaluate the potential impact of the areas of concern on sediment and surface water, and to confirm sample results collected as part of a previous investigation. The sampling of eight transformer areas at Main Post and three transformer areas at Charles Wood was conducted on 1 and 2 December 1994. The transformer area sampling consisted of collection of concrete chips and soil samples from areas potentially impacted by leaking transformers.

Subsurface soil samples were collected as part of soil boring and monitor well installation program, which was conducted between 13 December 1994 and 23 January 1995.

Soil borings were completed at the following Main Post sites: M-16, M-18, and AOC-3; and at Charles Wood sites: CW-1, CW-2, CW-4, CW-5, CW-6, CW-9, and AOC-7. A total of 45 shallow groundwater monitor wells were installed and developed at both the Main Post and Charles Wood areas. Additionally, at Landfill 8 (M-8), a total of 11 previously installed wells were abandoned because of suspect well integrity (six 4-in. diameter monitor wells and five 2-in. diameter piezometers).

Groundwater monitor wells were sampled twice. Both rounds of sampling were conducted in conjunction with a 72-hr tidal monitoring study to evaluate the effect of tidal fluctuations on water levels in site monitor wells. Round 1 tidal monitoring was performed on 30 January to 3 February 1995, followed by round 1 of groundwater sampling on 13 to 22 February 1995. Round 2 tidal monitoring was performed on 20 to 24 March 1995, which was preceded by round 2 groundwater sampling on 7 to 15 March 1995. Two existing monitor wells, one at site M-18 on the Main Post, and one at site CW-6 on Charles Wood, were sampled for two rounds in May 1995. The two rounds of groundwater sampling were conducted within 30 days of each other as specified in the *Technical Requirements for Site Remediation* (NJAC 7:26) to provide for averaging the analytical results.

The concentrations were then compared to the NJDEP criteria and then to maximum background concentrations. Background concentrations are based on sampling at on-site background locations and a review of Monmouth County data.

The results of and recommendations for the investigated sites follow.

MAIN POST

M-2: Chlorobenzene concentrations were detected in all three wells indicating a potential upgradient source. Other volatile organic compounds (VOCs) were detected in surface-water samples. Samples will be collected on a long-term basis from existing groundwater and surface-water sampling locations.

M-3: Low chlorobenzene concentrations were detected in one downgradient well. No surface-water concentrations exceeded NJDEP criteria and background. Samples will be collected on a long-term basis from existing groundwater and surface-water sampling locations. Additionally, a partially exposed drum was observed in the northeast corner of the site. The location of the exposed drum will be investigated by excavation.

M-4: One pesticide compound was detected at a concentration just above the NJDEP Groundwater Quality Criteria (GWQC) in the upgradient well in both the routine and duplicate samples. The pesticide was not detected in downgradient monitor wells. Existing monitor wells will be sampled on a long-term basis.

M-5: Tetrachloroethene (PCE) was detected in the upgradient well. Existing monitor wells will be sampled on a long-term basis.

M-8: VOCs were detected in upgradient and downgradient wells. Existing monitor wells will be sampled on a long-term basis.

M-12: Compounds of concern were not detected in groundwater samples collected at the site. Existing monitor wells will be sampled on a long-term basis.

M-14: No compounds of concern were detected in groundwater samples. Compounds of concern were not detected in surface-water samples collected at the site. Existing monitor wells and surface-water sampling locations will be sampled on a long-term basis.

M-15: Pesticides, lead, cadmium, and zinc were detected in soil samples collected near the water tank. Paint chips and affected soil will be removed and confirmation samples will be collected following removal.

M-16: Compounds of concern were not detected in the groundwater samples collected at the site. Pesticide concentrations were detected in soil samples collected around the former pesticide storage building. The contaminated soil will be excavated in conjunction with confirmatory sampling and the monitor well will be abandoned.

M-18: Semivolatile organic compound (SVOC) concentrations were detected in soil samples collected from one soil boring and pesticides were detected in groundwater samples from one monitor well. Geophysical results indicate an area where anomalous readings may indicate an underground storage tank (UST). Trenching will be performed at the suspected UST location and the SVOC-contaminated soil will be removed at the soil boring location. Additionally, the monitor wells will be sampled on a long-term basis.

AOC-3: Former Main Post Sanitary Treatment Plant (AOC-3): No compounds of concern were identified in soil borings and sediment samples. No additional action will be taken.

STP: Pre-1941 Sanitary Treatment Plant: Metals were detected in a sediment sample at the outfall of the pre-1941 sanitary treatment plant (STP). No further action will be taken because access to the site is restricted.

PCB Transformers—Main Post: Polychlorinated biphenyl (PCB) levels in stained concrete were found to exceed NJDEP criteria in three indoor vaults. PCBs were also detected above applicable

soil standards in the soil beneath one pole-mounted transformer near Building 292. Since the indoor vaults are normally locked and access is restricted, remedial work will be performed when the transformers are removed from service and the stained areas are made accessible. In addition, the soil beneath the former location of the pole-mounted transformer will be resampled to determine the extent of contamination.

CHARLES WOOD AREA

CW-1: Compounds of concern were not detected in soil samples. VOC concentrations were detected in groundwater samples from three of the four wells. The extent of VOC concentrations in groundwater will be investigated by soil-gas survey techniques. The results of the soil-gas survey will be used to locate two additional monitor wells. The new and existing wells will be sampled on a long-term basis.

CW-2: PCB concentrations were detected slightly above the NJDEP Soil Cleanup Criteria (SCC) in one sample from the 7- to 9-ft interval. VOC concentrations were detected in one well in one of the two sampling rounds. The extent of VOC concentrations in groundwater will be investigated by soil-gas survey techniques. The results of the soil-gas survey will be used to locate two additional monitor wells. The new and existing wells will be sampled on a long-term basis.

CW-3: Investigation activities were not conducted as part of this investigation because of construction rubble that was present at the site during the field effort, which prohibited sample collection as planned. The rubble was removed in June 1995, and exploratory trenches are planned to determine if any subsurface debris or soil staining is present.

CW-3A: The results of the geophysical surveys indicated possible buried material at two areas. Exploratory trenching will be conducted at each area to evaluate the nature of the geophysical anomaly.

CW-4: Lead was detected in one soil sample exceeding background concentrations and the NJDEP SCC. Impacted soils will be removed and confirmation samples will be collected at the base of the excavation.

CW-5: No compounds of concern were identified in soil and sediment samples. No further action will be taken.

CW-6: Dieldrin and cadmium were detected in separate soil samples above NJDEP SCC and site background concentrations. The average concentrations of dieldrin and cadmium in surface soil samples collected at CW-6 and CW-9 do not exceed the NJDEP criteria. Benzene was detected in one monitor well. The existing monitor wells will be sampled on a long-term basis.

CW-9: The average concentration of cadmium in surface soil samples at CW-6 and CW-9 does not exceed the NJDEP criteria. No further action will be taken at this site.

AOC-7: No compounds of concern were identified in soil samples. No further action will be taken at this site.

PCB Transformers—Charles Wood: PCBs were detected above NJDEP criteria in soil samples taken near the former location of a transformer pad (see Figure 4.3-18). The contaminated soil will be removed in conjunction with confirmatory sampling.

REPORT ORGANIZATION

Section 1 of this report is the Introduction and describes project objectives, facility information, site descriptions, sampling strategy, and site history. Section 2, Environmental Setting, summarizes environmental conditions such as climate, topography, surface-water drainage, soils, geology, hydrogeology, vegetation, and wildlife. Section 3, Investigation Activities, describes the procedures and methodologies used for the various site investigation activities. Section 4 summarizes the results of the investigation. Section 5 documents the data quality objectives (DQOs) and quality control (QC) procedures. Section 6 presents site-specific conclusions and recommendations. Field investigation data are presented in the appendices. Ground-penetrating

radar (GPR) profiles are contained in a separate volume (Appendix F), and are available upon request.

SECTION 1
INTRODUCTION

SECTION 1

INTRODUCTION

1.1 PROJECT OBJECTIVES

The objectives of this investigation are as follows:

- Perform site investigations to determine if contamination exists, and, if present, to evaluate the extent and degree of contamination at the 22 sites (presented in Figure 1.1-1). These sites were originally identified as potential hazardous waste sites in the Installation Assessment (IA) (USATHAMA, 1980).

- Evaluate the results of the investigation and compare with the following criteria:

  - New Jersey Soil Cleanup Guidance Criteria, 3 February 1994, and winter 1995.

  - NJDEP Groundwater Quality Standards, February 1993.

  - NJDEP Surface-Water Quality Standard, December 1993.

  - Cleanup Standard for Contaminated Sites, New Jersey Administrative Code 7:26D (proposed and withdrawn).

  - NJDEP Sediment Quality Standards, 1991, or marine/estuarine biological effects screening levels (Long et al., 1995).

- Recommend one of four alternatives for each site:

  1. No additional investigation or remediation is required.

  2. Additional field investigations are necessary.

  3. Conduct long-term groundwater and/or surface-water monitoring.

  4. Sufficient data exist to proceed with remedial design and interim or final remedial action.

Refer to the Executive Summary for background information regarding this effort.

WESTON performed the investigation activities as set forth in the U.S. Army Corps of Engineers (USACE) Scopes of Work dated 10 August 1994 for Charles Wood and 12 August 1994 for Main Post. Site investigation activities included:

- Planning documents preparation:
  - Chemical Data Acquisition Plan and Field Sampling Plan (CDAP/FSP).
  - Safety, Health and Emergency Response Plan (SHERP).
- Field investigations:
  - Geophysical investigation.
  - Sediment sampling.
  - Surface-water sampling.
  - Surface and subsurface soil sampling.
  - Transformer site sampling.
  - Groundwater well installation and sampling.
  - Tidal monitoring.
- Report preparation:
  - Draft and final site investigation reports.

1.2 FACILITY DESCRIPTION

1.2.1 Owner/Operator Information

Fort Monmouth is a government-owned, government-operated (GOGO) military installation that provides command, administrative, and logistical support for Headquarters, U.S. Army Communications and Electronics Command (CECOM).

1.2.2 Location of Fort Monmouth

Fort Monmouth is located in the central-eastern portion of New Jersey in Monmouth County (see Figure 1.1-1). The installation contains two subposts (Charles Wood Area and Evans Area), in addition to the Main Post, which are located within a 12-mile radius of the Main Post. Descriptions of the Main Post and Charles Wood are presented in the subsections that follow.

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REMOVED

The Evans Area will be handled under the Base Realignment and Closure (BRAC) Program and will not be discussed in this report.

1.2.2.1 Main Post

The Main Post (Figure 1.1-1) encompasses an area of approximately 630 acres and is bounded by State Highway 35 to the west, Parkers Creek and Lafetra Creek to the north, the New Jersey Transit Railroad to the east, and a residential neighborhood to the south. The Main Post provides supporting administrative, training, and housing functions as well as many of the community facilities for Fort Monmouth.

1.2.2.2 Charles Wood Area

The Charles Wood Area (Figure 1.1-1), is composed of approximately 511 acres, and is located 1 mile west of the Main Post and is bounded by Tinton Avenue to the north, residential development and Pine Brook Road to the south, and the Garden State Parkway to the west. This area is used primarily for research and development (R&D), and testing, and provides the greatest number of housing units available on-post.

1.2.3 Mission Statement

The primary mission of Fort Monmouth is to provide command, administrative, and logistical support for Headquarters, CECOM. CECOM is a major subordinate command of the U.S. Army Materiel Command (AMC) and is the host tenant. The support provided is used by tenant activities in the performance of R&D, procurement, and production of prototype electronic communication material for use by the U.S. Armed Forces.

The major tenant activities to which Headquarters, CECOM is the host tenant include:

- U.S. Army Laboratory Command (LABCOM)
- U.S. Army Aviation Research and Development Activity (AVRADA)

- U.S. Army Information System Management Agency (ISMA)
- Joint Tactical Communications Office (TRI-TAC)
- U.S. Army Chaplain Board
- U.S. Army Chaplain Center and School (USACHCS)
- U.S. Army Military Preparatory School (USAMPS)
- U.S. Army Medical Department Activities (MEDDAC)
- U.S. Army Dental Activity (DENTAC)
- U.S. Army Audit Agency
- Small Business Administration (SBA)
- U.S. Army Information Systems Command (ISC)
- U.S. Army Special Security Detachment
- 902nd Military Intelligence Group
- U.S. Army Criminal Investigation Command
- U.S. Army Commissary
- U.S. Army Newark District Recruiting Command
- U.S. Army Corps of Engineers (USACE), New York District
- Defense Contract Administration Services Management Area, Springfield District
- Defense Investigation Services (DIS)
- Defense Contract Audit Agency (DCAA)
- 513th Military Intelligence Brigade
- Joint Interface Test Force
- 535th Engineer Detachment
- 54th Ordnance Detachment

1.2.4 History of Fort Monmouth

This subsection presents a history of Fort Monmouth with emphasis on environmentally significant activities. The subsection is based primarily on the books, *A Concise History of Fort Monmouth, New Jersey,* and *Fort Monmouth History and Place Names, 1917-1959.*

The Main Post of Fort Monmouth was established on 17 June 1917 as Camp Little Silver. The site of the Main Post had formerly been a horse racetrack, but the track had not been used since 1890. The name of the Camp was changed after 3 months to Camp Alfred Vail. The initial mission of the Camp was to train Signal Corps operators for service in World War I. In the first 19 months of the Camp's existence, 129 semipermanent structures were built, a tent camp was established on the site of a former swamp, and a parade ground was established on the site of a former marsh. A radio laboratory and an airfield were developed in 1918. After the war, Camp Vail was designated as the site of the Signal Corps School, the only training area for Signal Corpsmen in the country. All but four of the World War I structures were demolished by 1924.

In 1925 the facility became a permanent post and its name was changed to Fort Monmouth. The primary mission of Fort Monmouth continued to be Signal Corps training and electronics research. In 1934 the laboratory was consolidated in a new building, Squier Laboratory (Building 283), and research on radios and radar continued. During World War II, the pace of training increased tremendously at Fort Monmouth. The expanded laboratory effort was accomplished by starting laboratories at other Army facilities. Squier Laboratory continued to be the principal laboratory on Main Post until 1954, after which laboratory operations moved to Charles Wood. In 1955 and 1956, 72 World War II wooden structures were demolished to accommodate permanent structures. These new buildings were used for residential, administration, commercial, and recreational purposes. A small number of additional administrative buildings were constructed during the 1970s and 1980s.

Camp Charles Wood was purchased in 1941 by the U.S. Army and opened in 1942. The eastern half of the property was formerly a golf course, and the western half was residential and

farmland. During World War II, the Camp was used for training Signal Corpsmen. Antenna shelters were constructed on 26.5 acres of land and used by the Signal Corps Laboratory for R&D purposes. This operation was placed under the command of the Army Air Force until 1951, when the operation moved to another post. Signal Corps training ceased after World War II.

A new R&D laboratory, the Hexagon (Building 2700), was completed in 1954. Research activities that had formerly been conducted at Squier Laboratory on the Main Post, and some activities from the Evans Area, were transferred to Charles Wood. The laboratory continued to develop electronic equipment. A large amount of residential housing was built from 1953 to 1970. In 1956, 90 World War II wooden structures were razed. The Pulse Power Laboratory was built in the early 1980s.

The document, *A Concise History of Fort Monmouth, New Jersey*, describes a number of R&D activities that were performed by the laboratories at Fort Monmouth. The document does not generally say where these activities were conducted. A partial list of research activities that were conducted in the Fort Monmouth laboratories includes:

- Radios, including vacuum tubes.
- Radar.
- Field TV cameras.
- Radiation dosimeters.
- Satellite instrumentation.
- Solar batteries.
- Laser communication, range-finding, and relay devices.
- Microelectronics.
- Night vision devices.
- Defibrillator pacemakers.
- Lithium batteries.

SECTION 2
ENVIRONMENTAL SETTING

SECTION 2

ENVIRONMENTAL SETTING

2.1 CLIMATE

The temperate-humid climate of Monmouth County, NJ, is characteristic of the temperate zone of the Mid-Atlantic states. The mean annual temperature for Monmouth County is 53 °F; the summers are generally warm, with an average temperature of 72 °F and a maximum temperature of 103 °F, recorded in July 1954. Winters are moderate, with an average temperature of 33 °F. The winter temperatures rarely drop below 0 °F, although the lowest recorded temperature was -8 °F, recorded at Freehold, NJ in February 1961 (Jablonski and Baumley, 1989).

Precipitation in Monmouth County averages 45.18 inches per year; slightly more than half the total annual precipitation falls between April and September (Jablonski and Baumley, 1989). Thunderstorms generally occur in the summer and may combine high winds with heavy rainfall. Heavy rains have occurred in connection with hurricanes or tropical storms that move northward along the Mid-Atlantic coast. Snow has fallen in Monmouth County in every month between October and April. The average seasonal snowfall is 25 inches, with the greatest amounts falling in December, January, and February (Jablonski and Baumley, 1989).

2.2 TOPOGRAPHY

2.2.1 Main Post

The land surface at the Main Post is relatively flat and ranges in elevation from 4 ft above mean sea level (msl) in the east at Oceanport Creek to 32 ft msl at the western end of the post, near Highway 35. The eastern half of the post is generally 10 ft msl in elevation. The greatest elevation is at Landfill 8, located on Parkers Creek, and along Lafetra Creek, Mill Creek, and Husky Brook.

2.2.2 Charles Wood

At Charles Wood the land surface slopes from 72 ft msl in the southwest, to 20 ft msl at the eastern end of the golf course. In general, the southwestern corner of Charles Wood is gently rolling and has the greatest relief.

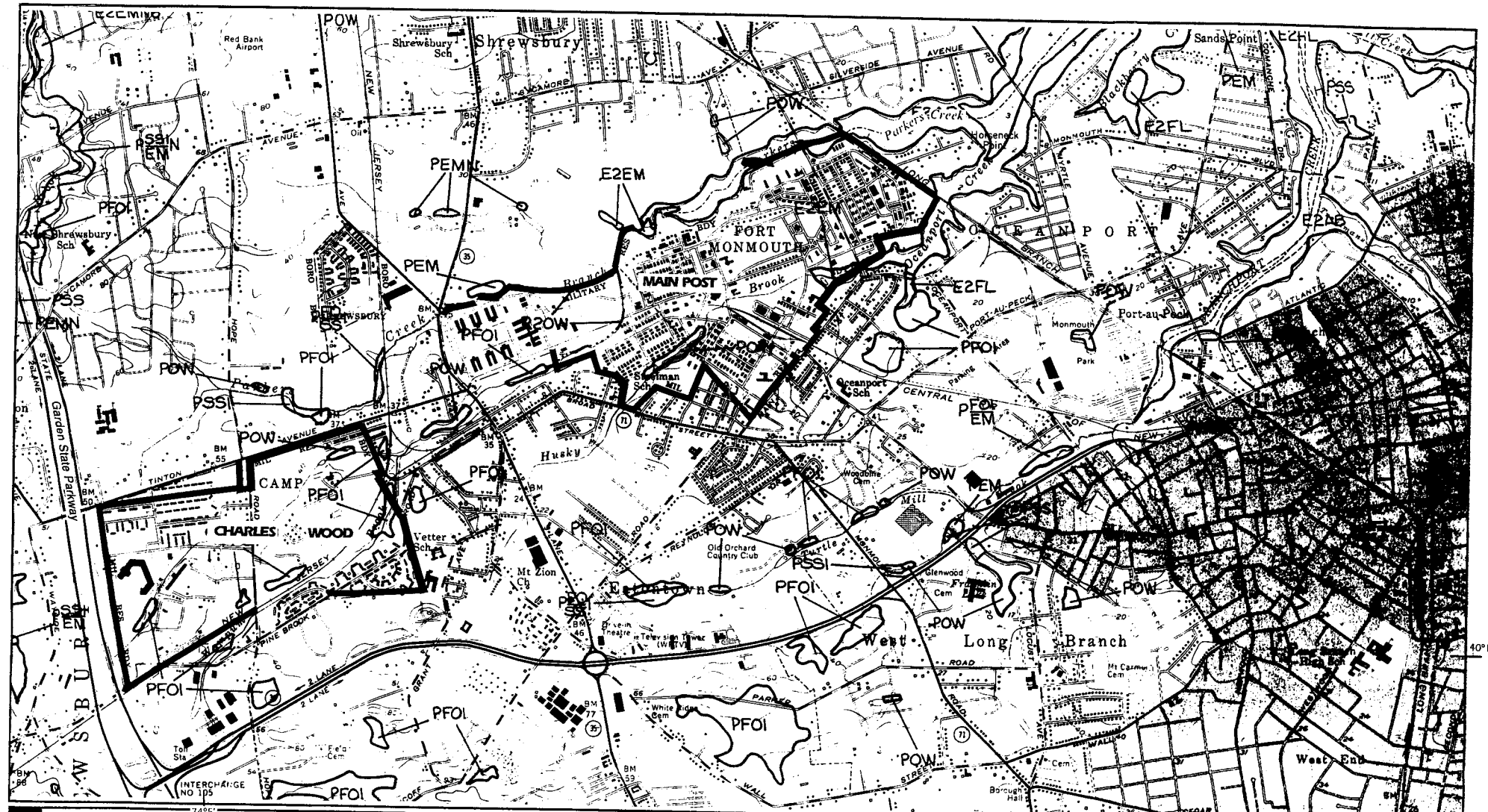
2.3 SURFACE-WATER DRAINAGE AND WETLANDS

2.3.1 Main Post

Surface-water runoff from the western part of the Main Post flows into Lafetra Creek to the north or into Mill Creek to the south. The names of streams indicated on U.S. Army site maps are used in this report. The USGS map (Figure 1.1-1) shows Lafetra Creek as Parkers Creek Branch and Mill Creek as Wampum Brook. Both Mill Creek and Lafetra Creek originate off-post. Mill Creek flows along the southern boundary of Main Post until it turns north just past the Auto Craft Shop. Mill Creek is channelized and flows past several landfills. Lafetra Creek forms the northern boundary of the Main Post and joins Mill Creek to form Parkers Creek. Parkers Creek flows eastward along the northern boundary and joins Oceanport Creek east of the post. Most of Parkers Creek, Lafetra Creek, and Mill Creek are tidally influenced.

Husky Brook originates off-post and, shortly after it flows onto the post, enters Husky Brook Lake. Surface-water drainage from the southern half of the post flows into Husky Brook and Husky Brook Lake through a series of drainage ditches and outfalls. Husky Brook exits Husky Brook Lake and flows into Oceanport Creek, which forms the southern boundary of the eastern post area. Oceanport Creek and Husky Brook are tidally influenced below Husky Brook Lake.

The U.S. Fish and Wildlife Service (FWS) National Wetland Inventory Long Branch quadrangle maps indicated the presence of wetlands at the Main Post (Figure 2.3-1). Parkers and Oceanport Creeks are classified as estuarine intertidal aquatic beds. The area of Parkers Creek northwest of Building 294 and the part of Oceanport Creek/Husky Brook west of Murray Drive and east of Building 551 are classified as estuarine intertidal emergent wetlands. Lafetra Creek and



LEGEND

E2AB	Estuarine Intertidal Aquatic Bed
E2EM	Estuarine Intertidal Emergent Wetland
R2OW	Riverine Lower Perennial Open Water/Unknown Bottom
POW	Palustrine Open Water/Unknown Bottom
PFO1	Palustrine Forested Wetland, Broad-leaved Deciduous

Source: USFWS National Wetlands Inventory
Long Branch, New Jersey Quadrangle Map, 1981

0 1000 2000 3000 4000
SCALE IN FEET

2017-0600

10/20/93

Fort Monmouth, Main Post and Charles Wood

FIGURE 2.3-1
MAIN POST AND CHARLES WOOD WETLANDS

Mill Creek are classified as riverine lower perennial open water/unknown bottom. Husky Brook Lake is classified as palustrine open water/unknown bottom.

2.3.2 Charles Wood

The Charles Wood area is drained principally by two unnamed tributaries of Wampum Brook; one tributary flows eastward through the center of the camp, and the other flows along the southern boundary (Figure 1.1-1). East of Charles Wood, Wampum Brook is joined by several other unnamed tributaries before it becomes Wampum Lake. Wampum Lake discharges into Mill Creek, which flows through Main Post. Some runoff from the northwestern part of the golf course flows into Lafetra Creek, which is located just north of Tinton Avenue.

At Charles Wood, several wetland areas were identified on the FWS National Wetland Inventory Long Branch quadrangle map (Figure 2.3-1). The lake on the golf course is classified as palustrine open water/unknown bottom. Several areas along the unnamed tributaries to Wampum Brook are classified palustrine forested wetland, broad-leaved deciduous.

2.4 SOILS

2.4.1 Main Post

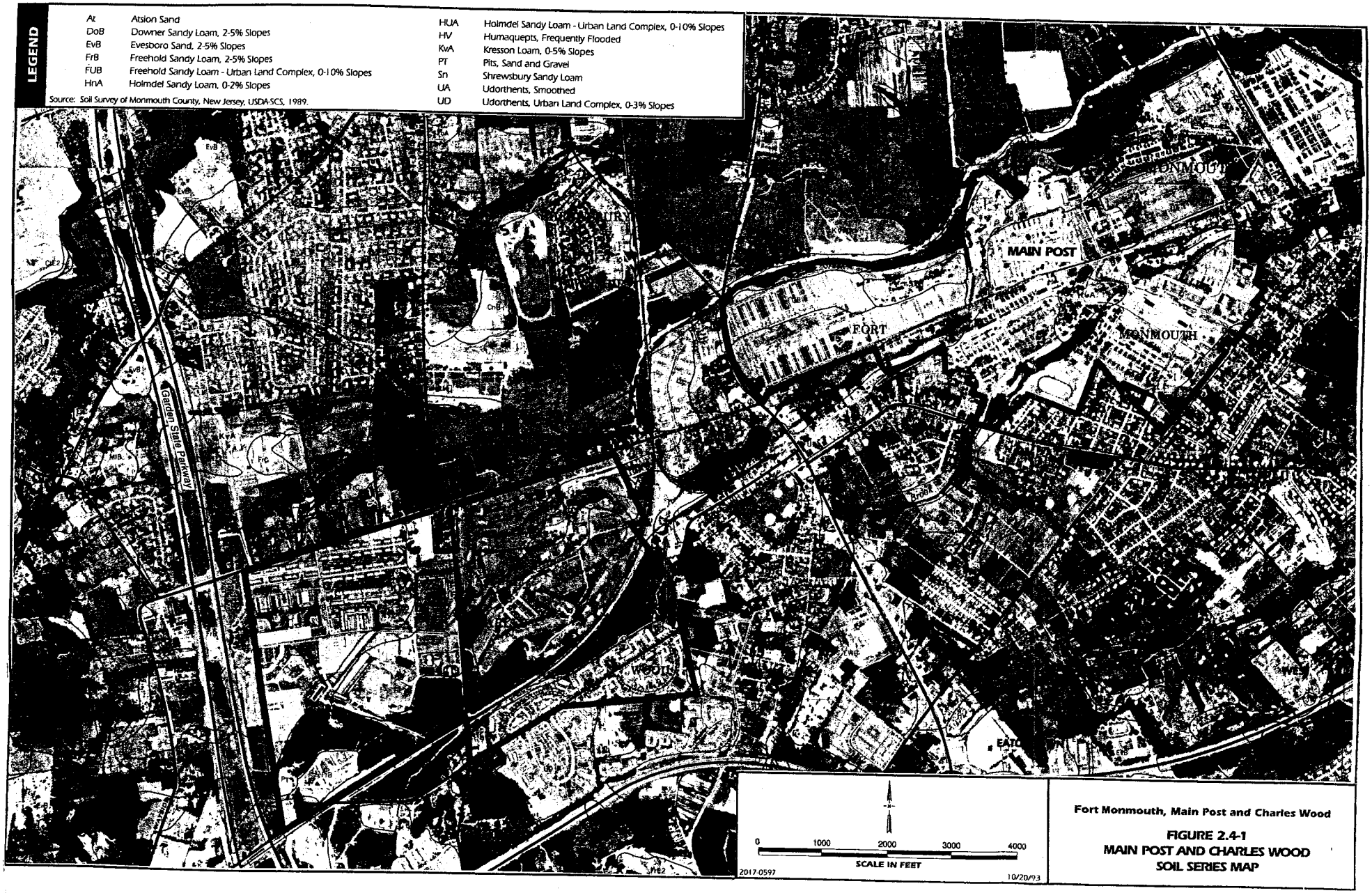
According to the Monmouth County Soil Survey (MCSS) (Jablonski and Baumley, 1989), much of the Main Post is covered by urban land (developed land with disturbed soils). The following soil series and classification units are mapped in the Main Post area:

- DoB Downer sandy loam, 2 to 5% slopes
- FrB Freehold sandy loam, 2 to 5% slopes
- FUB Freehold sandy loam — urban land complex, 0 to 10% slopes
- HV Humaquepts, frequently flooded
- KvA Kresson loam, 0 to 5% slopes
- UA Udorthents, smoothed
- UD Udorthents — urban land complex, 0 to 3% slopes

Figure 2.4-1 illustrates the distribution of these soil series. The Unified Soil Classification (USC) descriptors are shown in parentheses.

Downer series soils are well-drained soils found on uplands and terraces. These soils formed in acid, silty coastal plain sediments. The upper 10 inches are a very friable dark brown sandy loam, which has fine and medium roots and 2% pebbles (sandy silt: SM). The subsoil is 16 inches of strong brown sandy loam with faint clay in bridges between grains, fine and medium roots, and 10% pebbles (sandy silt to sandy clay: SM to SC). The substratum is a strong brown gravelly loamy sand with 35% pebbles, which is strongly acidic (sandy silt to sandy clay to poorly graded sand: SM, SC, SP). Permeability is moderate or moderately rapid in the subsoil and moderately rapid in the substratum, and as a result runoff is slow. The available water capacity is moderate. The seasonal high water table is at a depth of greater than 6 feet. The Downer series is represented on-site by the Downer sandy loam, 2 to 5% slopes (DoB). Downer soils are classified as nonhydric (Jablonski and Baumley, 1989).

Freehold soils are well-drained soils that formed in acid, loamy, coastal plain sediments that, by volume, are 1 to 10% glauconite and are found on uplands. The surface layer is a 9-in. thick, dark yellowish-brown sandy loam (sandy silt, sandy clay, silt, clay: SM, SC, ML, CL). The subsoil is 26 inches thick. The upper 16 inches of the subsoil are dark brown sandy loam and sandy clay loam with some glauconite. The lower 10 inches are brown sandy loam with glauconite. The substratum is yellowish-brown loamy sand with much glauconite to a depth of 70 inches (sandy silt: SM). Permeability is moderate in the subsoil and moderate or moderately rapid in the substratum and surface runoff is medium. The available water capacity is high. Two Freehold soils are found at Main Post: Freehold sandy loam, 2 to 5% slopes (FrB), and the Freehold sandy loam — urban land complex, with 0 to 10% slopes (FUB). Urban land consists of areas covered by impermeable surfaces, such as buildings, roads, and parking lots. The FUB soils were mapped as a complex because Freehold soils and urban land are found in an intricate pattern that made it impractical to map the Freehold soil separately. Freehold soils are classified as nonhydric (Jablonski and Baumley, 1989).



Fort Monmouth, Main Post and Charles Wood

FIGURE 2.4-1
MAIN POST AND CHARLES WOOD SOIL SERIES MAP

Humaquept soils are somewhat poorly to very poorly drained soils formed in stratified, sandy, or loamy sediments of fluvial origin. These soils are located on the flood plain and are subject to flooding several times a year. Humaquept soils are nearly always hydric. These soils differ in stratification from place-to-place. Typically, the surface layer and subsoil consist of stratified layers of sandy loam, loam, and silt loam (sandy silt, silt: SM, ML). The substratum consists of stratified layers of loamy sand, sandy loam, loam, and silt loam (sandy silt, silty clay, poorly graded sand: SM, SC, SP). In some areas, the stratified layers are gravelly or mucky. Permeability is moderate or moderately rapid in the subsoil and the substratum, and as a result runoff is slow. The available water capacity is high. The apparent seasonal high water table is between the surface and 1.5 feet. Organic matter varies from low to high. The soil is subject to frequent flooding in the early spring and during heavy rainfall (Jablonski and Baumley, 1989).

The Kresson loam is a nearly level to gently sloping, somewhat poorly drained, soil found on low divides and in depressions. The surface layer is dark brown loam, 9 inches thick (silty clay, sandy silt, sandy clay: CL, SM, SC). The first 22 inches of the subsoil are mottled olive-brown clay loam, and below that is a mottled olive-gray clay to a depth of 40 inches. The substratum is mottled, dark grayish-brown stratified sandy loam and sandy clay loam to a depth of 60 inches or more. The permeability of this soil is slow in the subsoil and the substratum. The available water capacity is high. The perched seasonal high water table is at a depth of 1 to 1.5 feet from December to May. Runoff is slow to medium. Organic content is moderate. The soil on-site is found in areas with 2 to 5% slopes (Jablonski and Baumley, 1989).

Udorthent soils have been altered by excavating or filling (Jablonski and Baumley, 1989). In filled areas, these soils consist of loamy material that is more than 20 in. thick. Filled areas include flood plains, tidal marshes, and areas with moderately well-drained to very poorly drained soils. Some Udorthent soils contain concrete, asphalt, metal, or glass. Two Udorthent soils are found at Main Post: Udorthents, smoothed (UA), which may also include old sand and gravel pits that have been smoothed or filled in, and Udorthents — urban land complex, with 0 to 3% slopes (UD).

2.4.2 Charles Wood

The Monmouth County Soil Survey (Jablonski and Baumley, 1989) identified nine soil types at Charles Wood (Figure 2.4-1) as follows:

- At Atsion sand
- EvB Evesboro sand, 2 to 5% slopes
- FrB Freehold sandy loam, 2 to 5% slopes
- FUB Freehold sandy loam — urban land complex, 0 to 10% slopes
- HnA Holmdel sandy loam, 0 to 2% slopes
- HUA Holmdel sandy loam — urban land complex, 0 to 5% slopes
- PT Pits, sand, and gravel
- Sn Shrewsbury sandy loam
- UD Udorthents — urban land complex, 0 to 3% slopes

Freehold and Udorthents soils were previously discussed in Subsection 2.4.1 and are not discussed in this subsection.

The Atsion sand is a nearly level, poorly drained, soil found in depressional areas and on broad flats. The uppermost 2 inches are matted, partly decomposed organic material and roots with 6 inches of black sand below. The subsurface layer is a 14-in. thick grayish-brown sand (sandy silt to poorly graded sand: SM, SP). The subsoil is a dark reddish-brown loamy sand, 18 in. thick, with approximately 10 inches of mottled brown sand in the lower layer (sandy silt, sandy clay to poorly graded sand: SM, SC, SP). The substratum is a mottled yellowish-brown fine sand to a depth of at least 60 inches. Permeability is moderately rapid or rapid in the subsoil and rapid in the substratum. The available water capacity is low. Between November and June the seasonal high water table ranges from the surface to 1 foot (Jablonski and Baumley, 1989).

Evesboro soils are excessively drained soils that developed in acid, sandy, coastal plain sediments located on uplands. These soils have a 4-in. surface layer where the upper 2 inches are matted decomposed organic matter with 2 inches of grayish-brown sand in the lower layer. The subsurface layer is 5 inches of yellowish-brown sand (poorly graded sand to silty sand: SP, SM). The subsoil and substratum are yellowish-brown sand (poorly to well graded sand: SP, SW). Permeability is rapid in the subsoil and substratum. The available water capacity is low. The

seasonal high water table is at a depth of more than 6 feet. Runoff is slow. At Charles Wood, Evesboro soils are represented by the Evesboro sand with 2 to 5% slopes (EvB) (Jablonski and Baumley, 1989).

Holmdel soils are level, moderately well-drained to somewhat poorly drained soils found in depressions and on low divides. The surface layer is a 12-in. thick dark grayish-brown sandy loam (silty sand, sandy silt, sandy clay, clay, silt: SM, SC, CL, ML). The subsoil has two layers: the upper is a yellowish-brown sandy loam, 12-in. thick, and the lower layer is mottled yellowish-brown sandy clay loam to a depth of 38 inches. The substratum is mottled, yellowish-brown and light olive-brown sand and sandy loam to a depth of at least 60 inches (poorly graded sand, clayey sand: SP, SC). Permeability is moderate in the subsoil and the substratum, and the available water capacity is high. The seasonal high water table ranges from 1.5 to 4 feet between December and May. Runoff is slow. Two Holmdel soils are found at Charles Wood: the Holmdel sandy loam, 0 to 2% slopes (HnA), and the Holmdel sandy loam — urban land complex, with 0 to 5% slopes (HUA) (Jablonski and Baumley, 1989).

Soils classified as Pits, sand and gravel, have been excavated for sand and gravel. These areas are sand with varying amounts of gravel. The properties of these soils vary from place-to-place (Jablonski and Baumley, 1989).

The Shrewsbury sandy loam is a level poorly drained soil found in depressions, along drainageways, and on broad flats. The first inch is dark reddish-brown matted, partly decomposed organic material and roots with 8 inches of black sandy loam below. The subsurface layer is a 4-in. thick dark gray sandy loam (sandy silt, sandy clay, silt, clay: SM, SC, ML, CL). The subsoil has a 9-in. thick mottled grayish-brown sandy clay loam and 9 inches of mottled olive-gray sandy clay loam. The substratum is a mottled dark greenish-gray loamy sand (poorly graded sand, silty sand: SP, SM). Permeability is moderately slow or moderate in the subsoil and moderately rapid or rapid in the substratum, and the available water capacity is high. The seasonal high water table is between the surface and a depth of 1 foot from October to June. Runoff is slow and water ponds on the surface (Jablonski and Baumley, 1989).

2.5 GEOLOGY

2.5.1 Regional Geology

Monmouth County lies within the New Jersey section of the Atlantic Coastal Plain physiographic province. Main Post and Charles Wood are located in the Outer Coastal Plain subprovince, or the Outer Lowlands.

In general, New Jersey Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, sand, and gravel. These formations typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile and were deposited on Precambrian and lower Paleozoic rocks (Zapecza, 1989). Coastal Plain sediments, predominantly derived from deltaic, shallow marine, and continental shelf environments, date from the Cretaceous through the Quaternary Periods. The mineralogy ranges from quartz to glauconite.

The formations record several major transgressive/regressive cycles and contain units that are generally thicker to the southeast and reflect a deeper water environment. More than 20 regional geologic units are present within the sediments of the Coastal Plain (Table 2.5-1). Regressive, upward-coarsening deposits are usually aquifers (e.g., Englishtown and Kirkwood Formations, and the Cohansey Sand), while the transgressive deposits act as confining units (e.g., the Merchantville, Marshalltown, and Navesink Formations). The thicknesses of these units vary greatly (i.e., from several feet to several hundred feet). The Coastal Plain deposits thicken to the southeast from 0 foot at the Fall Line to greater than 6,500 feet in Cape May County (Brown and Zapecza, 1990).

2.5.2 Local Geology

Based on the regional geologic map (Jablonski, 1968), the Cretaceous Age Red Bank and Tinton Sands outcrop at the Main Post. The Red Bank sand conformably overlies the Navesink Formation and dips to the southeast at a slope of 35 feet per mile. The upper member of the Red Bank sand (Shrewsbury) is a yellowish-gray to reddish-brown clayey, medium- to coarse-grained sand that contains abundant rock fragments, minor mica, and glauconite (Jablonski, 1968). The

Table 2.5-1 *Geologic and Hydrogeologic Units in the New Jersey Coastal Plain*

System	Series	Geologic Unit	Lithology	Hydrogeologic Unit		Hydrologic Characteristics
Quaternary	*Holocene*	Alluvial deposits	Sand, silt, and black mud	Undifferentiated		Surficial material, often hydraulically connected to underlaying aquifers. Locally some units may act as confining beds. Thicker sands are capable of yielding large quantities of water.
		Beach sand and gravel	Sand, quartz, light-colored, medium- to coarse-grained, pebbly			
	Pleistocene	Cape May Formation	Sand, quartz, light-colored, heterogeneous, clayey, pebbly			
Tertiary	*Miocene*	Pensauken Formation				
		Bridgeton Formation		Kirkwood-Cohansey aquifer system		A major aquifer system. Groundwater occurs generally under water-table conditions.
		Beacon Hill Gravel	Gravel, quartz, light-colored, sandy			
		Cohansey Sand	Sand, quartz, light-colored, medium- to coarse-grained, pebbly; local clay beds			
		Kirkwood Formation	Sand, quartz, gray and tan, very fine to medium-grained, micaceous, and dark-colored diatomaceous clay	Confining bed		Thick diatomaceous clay bed occurs along coast and for a short distance inland. A thin water-bearing sand occurs within the middle of this unit.
				Rio Grande w-b		
				Confining bed		
				Atlantic City 800-foot sand		A major aquifer along the coast.
				Composite confining bed		Alloway Clay Member or equivalent.
	Eocene	Piney Point Formation	Sand, quartz, and glauconite, fine- to coarse-grained		Piney Point aquifer	Yields moderate quantities of water locally.
		Shark River Formation	Clay, silty and sandy, glauconitic, green, gray, and brown, fine-grained quartz sand			Poorly permeable sediments.
		Manasquan Formation				
	Paleocene	Vincentown Formation	Sand, quartz, gray and green, fine- to coarse-grained, glauconitic, and brown, clayey, very fossiliferous, glauconite and quartz calcarenite		Vincentown aquifer	Yields small to moderate quantities of water in and near its outcrop area.
		Hornerstown Sand	Sand, clayey, glauconitic, dark green, fine- to coarse-grained			Poorly permeable sediments.
Cretaceous	*Upper Cretaceous*	Tinton Sand	Sand, quartz, and glauconite, brown and gray, fine- to coarse-grained, clayey, micaceous		Red Bank Sand	Yields small quantities of water in and near its outcrop area.
		Red Bank Sand				
		Navesink Formation	Sand, clayey, silty, glauconitic, green and black, medium- to coarse-grained			Poorly permeable sediments.
		Mount Laurel Sand	Sand, quartz, brown and gray, fine- to coarse-grained, slightly glauconitic	Wenonah-Mount Laurel aquifer		A major aquifer.
		Wenonah Formation	Sand, very fine to fine-grained, gray and brown, silty, slightly glauconitic			
		Marshalltown Formation	Clay, silty, dark greenish-gray, glauconitic quartz sand	Marshalltown-Wenonah confining bed		A leaky confining bed.
		Englishtown Formation	Sand, quartz, tan and gray, fine- to medium-grained; local clay beds	Englishtown aquifer system		A major aquifer. Two sand units in Monmouth and Ocean Counties.
		Woodbury Clay	Clay, gray and black, micaceous silt	Merchantville-Woodbury confining bed		A major confining bed. Locally the Merchantville Formation may contain a thin water-bearing sand.
		Merchantville Formation	Clay, glauconitic, micaceous, gray and black; locally very fine-grained quartz and glauconitic sand			
		Magothy Formation	Sand, quartz, light-gray, fine- to coarse-grained; local beds of dark-gray lignitic clay	***Potomac-Raritan Magothy aquifer***	Upper aquifer	A major aquifer system. In the northern Coastal Plain, the upper aquifer is equivalent to the Old Bridge aquifer and the middle aquifer is the equivalent of the Farrington aquifer.
		Raritan Formation	Sand, quartz, light-gray, fine- to coarse-grained; pebbly, arkosic, red, white, and variegated clay		Confining bed	
	Lower Cretaceous	Potomac Group	Alternating clay, silt, sand, and gravel		Middle aquifer	
					Confining bed	
					Lower aquifer	
Pre-Cretaceous		Bedrock	Precambrian and lower Paleozoic crystalline rocks, metamorphic schist and gneiss; locally Triassic basalt, sandstone, and shale and Jurassic diabase	Bedrock confining bed		No wells obtain water from these consolidated rocks, except along the Fall Line.

95P-3382 9/26/95 Adapted from Zapecza, 1989.

lower member (Sandy Hook) is a dark gray to black medium- to fine-grained sand with abundant clay, mica, and glauconite.

The Tinton sand conformably overlies the Red Bank sand and ranges from a clayey medium- to very coarse-grained feldspathic quartz and glauconite sand to a glauconitic coarse sand. The color varies from dark yellowish-orange or light brown to moderate brown, and from light olive to grayish olive. Glauconite may constitute 60 to 80% of the sand fraction in the upper part of the unit (Minard, 1969). The upper part of the Tinton sand is often highly oxidized and iron-oxide encrusted (Minard, 1969).

Both the Tinton sand and the Hornerstown sand (or marl) crop out at Charles Wood. The Hornerstown unconformably overlies the Tinton sand and is a dusky-green to grayish-olive or grayish-olive-green clayey glauconitic sand that may oxidize to moderate reddish-brown and dusky red. The percentage of quartz sand ranges from a few percent to 30%. Approximately half of this formation is composed of silt and clay.

The Kirkwood Formation (part of the Kirkwood-Cohansey system) crops out southeast of the Main Post and dips to the southeast at a slope of 20 feet per mile (Jablonski, 1968). The Kirkwood Formation consists of alternating layers of sand and clay. The upper unit is a light gray to yellowish-brown fine-grained quartz sand with quartz nodules and small pebbles. The lower unit is a brown silt in Monmouth County (Jablonski, 1968).

2.6 HYDROGEOLOGY

Fort Monmouth lies in the Atlantic and Eastern Gulf Coastal Plain groundwater region (Meisler et al., 1988). This groundwater region is underlain by undeformed unconsolidated to semiconsolidated sedimentary deposits. The chemistry of the water near the surface is variable with low dissolved solids and high iron concentrations. The water chemistry in areas underlain by glauconitic sediments (such as the Red Bank and Tinton sands) is dominated by calcium, magnesium, and iron. The sediments in the area of Fort Monmouth were deposited in fluvial-deltaic to nearshore environments.

The water table aquifer at the Main Post area is identified as part of the "composite confining units," or minor aquifers. The minor aquifers include the Navesink Formation, the Red Bank sand, Tinton sand, Hornerstown sand, Vincentown Formation, the Manasquan Formation, Shark River Formation, Piney Point Formation, and the basal clay of the Kirkwood Formation.

According to Jablonski (1968), wells drilled in the Red Bank and Tinton sands produce from 2 to 25 gallons per minute (gpm). Water in these upper hydrogeologic units is typically encountered at shallow depths (2 to 9 ft bgs). However, domestic wells are generally screened deeper in these upper hydrogeologic units. The shallow water table conditions in the Tinton and Red Bank sands, and the similar composition of these sands within the Kirkwood Formation, suggest that the Tinton-Red Bank-Kirkwood sequence forms a single, laterally continuous aquifer. Some well owners have reported acidic water that requires treatment to remove iron. Water in this water table aquifer will flow east toward the Atlantic Ocean. Local topography (stream valleys, etc.) will tend to deflect the flow toward local depressions.

Because of the high silt and clay content, the Hornerstown sand most likely serves as an aquitard or aquiclude rather than as an aquifer. Jablonski (1968) reports that localized areas may yield enough water for domestic use.

2.7 VEGETATION AND WILDLIFE

The information in this subsection was originally reported in the Installation Assessment (IA) (USATHAMA, 1980). Information on vegetation and wildlife of the Evans Area is not discussed in this document, but is presented in the IA.

The Fort Monmouth complex (Main Post and Charles Wood areas) lies within the outer Atlantic Coastal Plain, a region characterized by salt marsh wetlands. Both areas of Fort Monmouth have flood plain salt marshes along or within their boundaries. The ecosystem includes marsh grasses (*Phragmites, Spartina, Distichlis,* and *Scerpus*), small mammals, reptiles, amphibians, and migratory waterfowl. Parkers Creek is an ecologically unique area proximal to Fort Monmouth and its subposts. It is designated as a wildlife habitat bordering the Main Post.

Tables 2.7-1 through 2.7-4 were adapted from Appendix B of the IA report. Appendix B of the IA report also contains a list of vegetation and wildlife found during a survey of the Naval Weapons Station Earle, located approximately 10 miles from Fort Monmouth. Table 2.7-1 lists trees and shrubs found in Monmouth County. Monmouth County mammals are listed in Table 2.7-2, and reptiles and amphibians found in Monmouth County are listed in Table 2.7-3. Table 2.7-4 lists endangered birds and very rare fish in Monmouth County.

The FWS of the U.S. Department of the Interior (DOI) stated in a letter (included as Appendix E of the IA) that there are no federally listed or proposed threatened or endangered flora or fauna on Fort Monmouth. The letter also contains a list of federally endangered and threatened or candidate species in New Jersey. The Office of Natural Lands Management of NJDEP stated in a letter that there was one observance of a New Jersey listed endangered plant, the clustered sedge, in 1992, but there have been no other observances of federal or state rare species. The letter contained a list of rare species in the general vicinity of each area and in Monmouth County.

Table 2.7-1

A Partial List of Trees and Shrubs Found in Monmouth County

Trees	
White ash	Green ash
Big-toothed aspen	Quaking aspen
Atlantic white cedar	Basswood
American beech	Black birch
Gray birch	Black gum
Box elder	Black cherry
American chestnut	Flowering dogwood
Eastern red cedar	American elm
Eastern hemlock	Pignut hickory
Shagbark hickory	American holly
Ironwood	Black locust
Honey locust	Norway maple
Red maple	Silver maple
Red mulberry	White mulberry
Black oak	Swamp white oak
Chestnut oak	White oak
Pin oak	Willow oak
Pitch pine	Red pine
White pine	Sassafras
Black spruce	Norway spruce
Tree-of-heaven	Water tupelo
Black walnut	Black willow
Crack willow	Weeping willow
Shrubs	
Pink azalea	Swamp azalea
Wild azalea	Southern bayberry
Blackberry	Blackhaw
Blueberry	Common buttonbush
Chokeberry	Sand cherry
Coralberry	Large cranberry
Red osier dogwood	Swamp dogwood
Common elderberry	Fetter bush
Hawthorn	Huckleberry
Inkberry	Mountain laurel
Sweet pepperbush	Raspberry
Shadbush	Spicebush
Staghorn sumac	Poison sumac
Winged sumac	Arrowwood viburnum
Winterberry	Witch hazel

Table 2.7-2

Mammals Found in Monmouth County

Mammals	
Opossum	Gray fox
Smokey shrew	Woodchuck
Least shrew	Eastern chipmunk
Short-tail shrew	Eastern gray squirrel
Starnose mole	Red squirrel
Eastern mole	Southern flying squirrel
Keen's myotis (bat)	Beaver
Little brown myotis	White-footed mouse
Small-footed myotis	House mouse
Silver-haired bat	Norway rat
Eastern pipistrel	Southern bog lemming
Red bat	Boreal redback vole
Big brown bat	Meadow vole
Hoary bat	Pine vole
Raccoon	Muskrat
Longtail weasel	Meadow jumping mouse
Mink	Eastern cottontail rabbit
River otter	New England cottontail*
Striped skunk	Virginia white-tailed deer
Red fox	European hare

*Candidate for Federal List of Endangered Species.

Table 2.7-3

Reptiles and Amphibians Found in Monmouth County

Reptiles	
<u>Lizards</u>	
Northern fence	Five-lined skink
	Mud salamander*
<u>Turtles</u>	
Common snapping	Bog*
Wood*	Spotted
Musk	Eastern mud
Diamond-backed terrapin	Eastern painted
Eastern box	Red-eared
<u>Snakes</u>	
Eastern smooth earth	Red-bellied
Northern brown	Northern water
Eastern garter	Eastern ribbon
Eastern hognose	Eastern worm
Northern ringneck	Rough green
Northern black racer	Northern pine*
Black rat	Corn
Scarlet	Eastern milk
Eastern king	Timber rattler*
Amphibians	
<u>Toads</u>	
Eastern spadefoot	Fowlers
<u>Tree Frogs</u>	
Spring peeper	Gray
Pine barrens*	New Jersey chorus
<u>True Frogs</u>	
Cricket	Carpenter
Pickerel	Green
Northern leopard	Wood
Bull	

*On list of endangered or threatened species or candidate for Federal List of Endangered Species.

Table 2.7-4

Endangered Birds and Very Rare Fish Found in Monmouth County

Birds	
Bald eagle[a,b]	Black skimmer[b]
Peregrine falcon[a]	Least tern[b]
Osprey — Fish hawk — Salt marsh[b]	Eskimo curlew — protected by U.S. Government
Coppershawk	
American bittern[b]	
Barred owl[b]	
Black call[b]	
Bobolink[b]	
Cooper's hawk[b]	
Grasshopper sparrow[b]	
Great blue heron[b]	
Loggerhead shrike[b]	
Merlin[b]	
Northern harrier[b]	
Pied-billed grebe[b]	
Piping plover[b]	
Red-shouldered hawk[b]	
Roseate tern[b]	
Savannah sparrow[b]	
Short-eared owl[b]	
Upland sand piper[b]	
Vesper sparrow	
Fish	
Short nose sturgeon	

[a]Federal endangered and threatened species.
[b]New Jersey endangered and threatened species.

SECTION 3
INVESTIGATION ACTIVITIES

SECTION 3

INVESTIGATION ACTIVITIES

The site investigation (SI) at Fort Monmouth was performed in accordance with the CDAP (WESTON, 1994). A description of procedures used during the field investigation is provided in the following subsections.

3.1 GEOPHYSICS

A geophysical investigation was performed as part of the site investigation at Fort Monmouth between 29 November 1994 and 15 December 1994. The investigation was performed at locations within the Main Post and Charles Wood areas using electromagnetic (EM) conductivity, magnetometry (MAG), and/or ground penetrating radar (GPR) surveying methods. The objective of the geophysical investigations was to evaluate the location and extent of the known or suspected waste disposal areas at sites M-3, M-12, M-14, M-18, and CW-3A. The geophysical survey data were used to confirm planned subsequent monitor well and soil boring locations at each area.

Prior to the start of the geophysical investigation, a reference grid was established by a licensed surveyor at 20-ft by 100-ft centers to provide surface control for data collected at each site. The survey grid was established based on a local relative coordinate system using existing monuments and was later surveyed to a state-plane coordinate system. All field data collected at the Main Post and Charles Wood sites were referenced to the established grid coordinates.

3.1.1 Electromagnetic (EM) Terrain Conductivity Surveying Methods

3.1.1.1 Description

An EM survey was conducted at sites M-18 and CW-3A on 1 and 8 December 1994, respectively, using a Geonics, Ltd. EM-31™ terrain conductivity meter. The EM-31 is battery-powered and operates at a frequency of 9.8 kiloHertz (kHz). This system consists of a transmitting coil (primary field source), receiving coil (sensor), phase-sensing circuits, and an

amplifier. A fixed 3.7-meter intercoil spacing is standard for the EM-31. The instrument measures apparent conductivity in units of milliSiemens per meter (mS/m) in materials with true conductivities ranging up to 1,000 mS/m.

The EM-31 was operated in both the quadrature and in-phase components. The quadrature component is sensitive to conductors with low induction numbers (i.e., low conductivity materials). Relative conductivity values associated with in-phase measurements have a greater sensitivity to buried metal objects.

3.1.1.2 Methodology

Prior to conducting each survey, the EM-31 was calibrated in accordance with the instrument operating manual. No anomalies were observed in the calibration data. After calibration was completed, both the quadrature and in-phase components of the EM field were measured at the sites. Conductivity measurements were obtained in the vertical dipole mode of operation for single layer mapping. The effective depth of exploration associated with this mode of operation is approximately 18 feet (McNeill, 1980b).

The EM-31 was operated in a "continuous" mode along pre-established survey grid lines. Measurements were recorded at 5-ft intervals as the operator traversed the line. These measurements were digitally recorded and stored in memory in an Omni Data Logger™. Random quality assurance/quality control (QA/QC) readings were obtained from the EM-31 analog meter and manually recorded in the field notebook. The data in memory were downloaded from the data logger to a field computer. The computer-generated output files were edited and formatted, then compared against the random QA/QC readings recorded in the field logbook. Based on the QA/QC review of the data, no deficiencies were observed in the digitally recorded data.

Conductivity data point postings and contour plots were prepared from the field data using Geosoft™ contour plotting software. These maps (presented in Section 4) were interpreted initially for cultural features on the surface, such as fences. If it was determined that anomalies could be attributed solely to surface features, the anomalies were disregarded. The contour plots

were interpreted with regard to site soil characteristics, site-specific geology, and the suspected presence of buried waste materials. The results of the EM survey are presented and discussed in Section 4.

3.1.2 Magnetic (MAG) Methods

3.1.2.1 Description

The MAG survey was conducted at sites M-3, M-12, M-14, and CW-3A on 6 through 8 December 1994, using a GSM-19 Walking Gradiometer/Magnetometer. The instrument operates on the principle that protons or nuclei of hydrogen atoms in a hydrocarbon fluid behave as spinning magnetic dipoles where the protons are aligned or polarized by an induced current. When the current is removed, the natural spin of the proton causes them to precess about the direction of the earth's ambient magnetic field. This precession generates a small signal with a frequency proportional to the intensity of the total magnetic field. Local perturbations (induced magnetization) generated by anthropogenic (i.e., buried ferrous drums) and natural (i.e., magnetic mineral deposits) features add to the intensity of the ambient magnetic field. The magnetometer measures the vector sum of the earth's magnetic field and the anomalous induced magnetic field in standard nanoTesla (nT) units.

3.1.2.2 Methodology

Prior to conducting the survey, a base station magnetometer was established at each site in an area suspected to be representative of background conditions. The purpose of the base station was to monitor diurnal variations in the regional or "ambient" magnetic field during the actual survey. Both the base station and field magnetometers were calibrated and synchronized in accordance with the manufacturer's operating manual. No anomalies were observed in the calibration data. When calibration was completed, both the total field and magnetic gradient were measured at each station point. Additional QA/QC checks included taking readings at several locations periodically over the survey period to verify the repeatability of field results along with a swing sensor test, which was conducted to identify whether any directional bias existed in the instrument.

Consistent with the EM-31 survey, the magnetometer was operated in a "continuous" mode along the same pre-established survey grid lines. In the continuous mode, MAG measurements were recorded on at least 3-ft spacing intervals as the operator traversed the line. The MAG measurements were digitally recorded and stored in memory in the instrument's data logger.

The data in memory were downloaded from both data loggers to a field computer. Diurnal effects were monitored throughout the survey period but were considered to be negligible relative to the overall range of magnetic data. Therefore, postings of the data points and contour plots of both the total magnetic field and magnetic gradients were prepared from the field data using Geosoft™ contour plotting software. Each magnetic anomaly, as defined by a relatively high vertical gradient, was analyzed with respect to cultural features present on the surface, and the potential for buried ferrous material in the subsurface.

3.1.3 Ground Penetrating Radar (GPR) Methods

3.1.3.1 Description

A GPR survey was conducted at site M-18 on 30 November 1994 and at sites M-3, M-12, M-14, and CW-3A on 9 through 15 December 1994 using a Subsurface Interface Radar™ (SIR) System 10 model. The System 10 is a computer-controlled, multichannel unit that automatically displays, processes, and records cross-sectional color profiles of the subsurface.

The GPR method uses high frequency radio waves to acquire relatively shallow subsurface information. Short pulses of EM energy are radiated downward into the subsurface from a transmitting antenna. A portion of the energy is then reflected back to a receiving antenna, where variations in the reflected signal are continuously processed by a control unit, graphically recorded, and digitally stored on magnetic tape. The amplitude and frequency of the reflected signal are caused by variations in the electrical properties of subsurface materials. These variations may be caused by natural geologic conditions, such as composition, moisture content, salinity, and structure, as well as manmade objects such as utilities, underground storage tanks (USTs), and other buried objects.

The ability of the GPR system to resolve buried targets depends on the physical size and relative electrical contrast of an object/feature with respect to the surrounding materials. Consequently, not every subsurface feature can be identified using the GPR method. Also, since the GPR investigation is a nonintrusive surface electronic testing method, it is not possible to determine the exact description of subsurface anomalies.

3.1.3.2 Methodology

The GPR system was calibrated to site-specific conditions prior to implementation of the survey. To calibrate the system, either the dielectric constant of the survey medium or the depth to a buried object or interface must be known. The GPR system was field calibrated using an averaged dielectric constant for the survey medium. Based on assumed geologic and site conditions a dielectric constant of approximately 5 for the unsaturated unconsolidated soils and 10 for saturated unconsolidated soils was calculated for the materials underlying the sites. QA/QC checks included collecting a duplicate profile at each site to field-verify the repeatability of results.

The GPR survey was referenced to the surface control grid that was previously established at each site. Surveying was accomplished by traversing each area with a 300-megaHertz (MHz) antenna along the same grid lines previously surveyed with the EM and MAG. The product of the GPR survey is a series of real-time subsurface field profiles. The GPR data profiles were processed and interpreted using the GSSI RADAN3 software package. Select color profiles were reproduced in the office from the data tape to enhance subtle features that were not easily recognized on the gray scale of the black-and-white field profiles. These results were integrated with the EM and MAG data and are discussed in Section 4.

3.2 SEDIMENT SAMPLING

Sediment samples were collected by WESTON personnel from seven locations on and in the vicinity of Fort Monmouth on 1 and 2 December 1994. Sediments were sampled from two locations in Parkers Creek on the Main Post and one location in a tributary to Wampum Brook

on the Charles Wood site. Sediments were also collected at two locations upstream from the Main Post, one in Parkers Creek, and one in Mill Creek for background comparisons. Two background samples for Charles Wood were taken in Wampum Brook.

Sediment was collected from the top 3 to 6 inches of the substrate, using either with a stainless-steel trowel or a hand corer, depending on the water depth and compaction of the sediments. A trowel was used in shallow water with loose sediments, whereas a corer was used in deep water with compacted sediments. Sampling was based in areas of fine-grained sediment because some potentially site-related contaminants preferentially adsorb onto fine-grained sediment particles (U.S. EPA, 1982).

At all but one location, sediment samples were submitted for laboratory analysis of the following parameters:

- Target Compound List volatile organic compounds (TCL VOCs).
- TCL semivolatile organic compounds (TCL SVOCs).
- Target Analyte List (TAL) metals.
- Pesticides/polychlorinated biphenyls (PCBs).
- Cyanide.

In accordance with the CDAP, the sediment sample collected at the downstream location in Parkers Creek on the Main Post was only analyzed for TAL metals. This site was a sewage treatment plant in the 1940s, and metals are the only suspected contaminants.

To minimize the potential for volatilizing sediment samples collected for VOC analysis, VOC samples were collected first at each location. The sediment was placed directly into precleaned, prelabeled bottles. Sediment samples collected for all other analyses were then put in a stainless-steel bowl and mixed thoroughly before being transferred to bottles.

Sediment was collected for an original sample, a duplicate sample, a matrix spike (MS) sample, and a matrix spike duplicate (MSD) sample at the location suspected to have the greatest potential for contamination originating from the site and where the full suite of parameters was being analyzed (MP08, near Landfill 8 in Parkers Creek). After all samples collected for VOC

analysis were prepared at that location, sufficient sediment was collected in the bowl and mixed thoroughly to provide for both the original sample and duplicate samples.

Stainless-steel bowls and trowels, and the hand corer were decontaminated prior to use at each location according to instructions in the *Chemical Data Acquisition Plan for Site Investigation at Fort Monmouth, New Jersey* (WESTON, 1994). A laboratory-prepared trip blank was carried throughout the collecting effort for TCL VOC analysis.

After filling, sample bottles were sealed with a signed and dated custody seal, and put into polyethylene bags. Prepared bottles were packed in vermiculite in coolers. Bagged ice was put in the coolers, which were custody sealed and shipped according to U.S. Army Sampling Protocols ER 1110-263 and International Air Transport Association (IATA) regulations for next morning delivery to the laboratory.

3.3 SURFACE-WATER SAMPLING

Surface-water samples were collected from 10 locations on and in the vicinity of Fort Monmouth on 1 December 1994. Table 3.3-1 presents a summary of the surface-water parameters collected at the selected locations prior to sampling.

Surface-water samples were collected from six locations on the Main Post: two from Oceanport Creek, two from Parkers Creek, and two from Mill Creek. Surface water was also collected from both Lafetra Creek and Mill Creek upstream from the Main Post for background comparisons. Both background locations were selected because they are upstream from the head-of-tide and, therefore, were thought to be isolated from releases on the Main Post. Two surface-water samples were also collected on the Charles Wood site from a tributary to Wampum Brook for background comparison.

Surface-water samples were collected directly by submersing laboratory-cleaned sample bottles to a depth of 3 to 6 inches below the surface until completely filled. At locations where surface

Table 3.3-1

Summary of Surface-Water Field Parameters

Location ID	Temperature (°C)	Dissolved Oxygen (mg/L)	pH	Conductivity (µmhos)	Water Depth (inches)	Channel Width (feet)	Sediment Type	Tidally Influenced
Main Post								
Background								
Lafetra Creek	6.5	9.8	7.6	260	12	15	Sand	No[a]
Wampum Creek	8.5	9.0	7.6	220	12	25	Large cobble	No[a]
Lafetra Creek								
MP10	6.5	9.6	7.7	270	3	25	Sand	Yes[a]
MP06	5.0	10.0	7.5	410	5	40	Sand	Yes[a]
Wampum Brook (MP02)								
SW01	9.0	9.2	8.0	230	12	20	Sand	No[a]
SW02	8.5	10.0	7.8	220	12	25	Sand	No[a]
Oceanport Creek (MP14)								
SW01	8.0	10.5	7.6	510	3	20	Sand	Yes[a]
SW02	8.0	9.4	7.7	980	36	20	Sand	Yes[a]
Charles Wood Background								
CW02	5.0	11.2	8.3	1,000	12	3	Sand, gravel, small cobble	No[b]
CW05	10.0	3.0	7.4	220	3	15	Silty sand, leaf choked	No[b]

[a]Results determined from conductivity and salinity measurements collected during tidal monitoring tests.
[b]Results based on field observations.

water was not sufficiently deep, a hole was made in the sediment to facilitate sample collection. Disturbed sediment was allowed to settle before water samples were collected. Clean surgical gloves were worn during surface-water sample collection and when handling sample bottles for shipping. Gloves were changed between sample locations.

Surface water was analyzed for the following parameters:

- TCL VOCs.
- TCL SVOCs.
- TAL total metals (unfiltered).
- TAL soluble metals (filtered).
- Pesticides/PCBs.
- Cyanide.

Samples for soluble metals were filtered with a peristaltic pump through a high capacity 0.45-micron filter.

Surface water was collected for an original sample, a duplicate sample, an MS sample, and an MSD sample at the location suspected to have the greatest potential for contamination originating from the site (sample MP06, near Landfill 6 in Parkers Creek). No equipment was used to collect surface water, so no rinsate blanks were collected.

Filled sample bottles were handled in the same manner as sediment sample bottles (see Subsection 3.2).

3.4 SURFACE SOIL SAMPLES

Surface soil samples were collected by WESTON personnel from 17 locations on and in the vicinity of Fort Monmouth, NJ on 29 and 30 November 1994. Of the surface soil locations, 6 were on the Main Post and 11 were on the Charles Wood site.

Surface soil was collected from within the upper 6 inches with a decontaminated stainless-steel trowel. To minimize the potential for volatilization, surface soil samples submitted for VOC

analysis were collected first at each location, placing the soil directly into laboratory-prepared bottles. Soil samples collected for all other analyses were then put in a decontaminated stainless-steel bowl and mixed thoroughly before being transferred to laboratory-prepared bottles.

At Main Post, the soil from all six sampling locations was analyzed for pesticides/PCBs and TCL SVOCs; the soil from the two locations at site M-15 was also analyzed for TAL metals and cyanide; and the soil from the four locations at site M-16 was also analyzed for TCL VOCs. Of those Charles Wood site locations where soil was analyzed for more than PCBs, all were analyzed for TAL metals and cyanide, and soil from location CW-6 was also analyzed for pesticides, TCL VOCs, and TCL SVOCs.

Rinse blanks submitted for TCL VOC analysis were collected or labeled at a Main Post location (MP-16) and a Charles Wood site location (CW-9). A duplicate soil sample for TAL metals and cyanide analysis was also collected at the Charles Wood site location (CW-9). Sufficient soil was collected at each duplicate sample location and mixed thoroughly in the bowl to provide for both the original and duplicate samples. Handling of soil samples was similar to that of sediment (Subsection 3.2).

3.5 PCB TRANSFORMER SITE SAMPLING

3.5.1 General

Two types of samples were collected (soil samples and concrete chip samples) to determine whether PCB contamination exists at any of the former PCB class transformer locations. Soil samples were taken under the former location of pole-mounted transformers and on each side of a pad-mounted transformer. Concrete chip samples were taken at stained areas on the concrete pads or vault floors. Table 3.5-1 summarizes PCB transformer sampling. All samples were analyzed for PCBs.

Table 3.5-1

Sampling at Former PCB Transformer Sites

Transformer Code	Location	Size (kVA)	Remarks	Description	Sampling
CW010	Building 2276-W side on Bataan Ave., pole	37	Replaced by CW261, CW262, and CW263.	Pole over grass-covered soil. No stain.	Collected soil sample (CWAE-TR01) at pole under former location of transformer.
CW035	Building 2000-NE side, pad	300	Replaced by CW268, CW269, and CW270.	On old approximately 4-ft by 6-ft concrete pad. Dark stains on pad.	Concrete pad had been removed. Collected four soil samples (CW07-TR01 to TR04) downgradient of former pad location (see Figure 3.5-2).
CW039, CW040	Building 2018-S side, pole	25	Replaced by CW265.	Pole over grass-covered soil. No visible stains.	Collected soil samples (CW07-TR05 and TR06) at poles. Because of uncertainty of exact location of former PCB transformers, sampled two pole sites (see Figure 3.5-2).
MP-007	Building 718, pole located approx. 75 ft east of Wilson.	37	Replaced by MP-495.	Pole located over grass-covered soil. No visible stain.	Collected soil sample (MPT4-TR01) at pole under former location of transformer.
MP-062	Building 292-NW side, pole	75	Removed, replaced.	Three on pole replaced by 3 on old pad that is directly under pole. No visible oil stain on pad.	Collected soil sample (MPT5-TR01) at pole under former location of transformer.
MP-104	Building 686-east, pole	37	Replaced by MP-489.	Located over grass-covered soil. No visible stain.	Collected soil sample (MPT6-TR01) at pole under former location of transformer.
MP-124	Building 1220-west side, pad	500	Replaced by MP-493.	On old approximately 8-ft by 10-ft concrete pad. Approximately 1-ft diameter brown stain on west side of pad.	Collected four soil samples and one concrete chip sample from pad (see Figure 3.5-1).
MP-280	Building 1002, indoor vault	750	Replaced by MP-494.	Concrete floor not refurbished; in good condition. Stains visible under front and back of new transformer. Stains may be connected, in which case stain would be about 5 ft in diameter.	Collected concrete sample from stained area under transformer (MPT7-CC01).

Table 3.5-1

Sampling at Former PCB Transformer Sites (Continued)

Transformer Code	Location	Size (kVA)	Remarks	Description	Sampling
MP-282, MP-283	Building 1004, pole located approx. 50 ft west of corner of Razor and Stephenson	10	Removed, no replacement.	Pole over pavement and grass-covered soil. No visible stain.	Collected soil sample (MPT8-TR01) at pole under former location of transformer.
MP-347, MP-348, MP-349	Building 1208, indoor vault	250	Replaced by MP-496.	Two small stains about 1 ft in diameter, one between MP-347 and MP-348 and one on NE side of MP-349.	Collected concrete sample from stained area (MPT2-CC01).
MP350, MP351, MP352	Building 1209, indoor vault	250	Replaced by MP-499.	Concrete was not refurbished; it is in good condition. Very slight stain, about 1 ft in diameter, between MP-352 and wall.	Collected concrete sample from stained area (MPT1-CC01).

Location:

CW — Charles Wood
MP — Main Post

3.5.2 Sample Collection Procedures

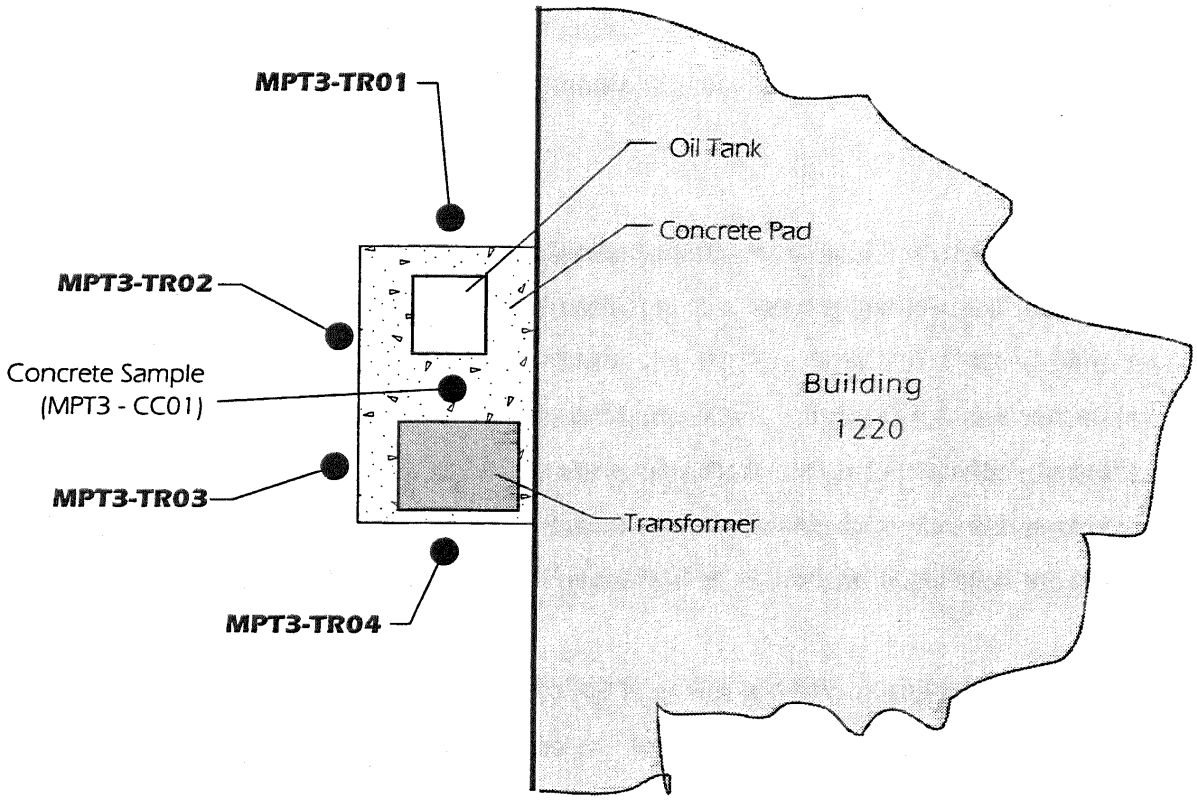
A soil sample was collected for PCB screening underneath each pole-mounted unit. Four discrete soil samples were taken at the sides of the concrete pad at Building 1220 (Figure 3.5-1). The pad at Building 2000 on Charles Wood had been removed prior to sampling, so four surface soil samples were taken along a natural drainage swale north and west of the former pad location (Figure 3.5-2).

Because a leak from a pole-mounted transformer could have occurred at any point on the transformer, a screening process was performed to detect soil contamination. Soil samples for screening were taken at three points immediately below the location of the pole-mounted transformer and were mixed. The samplers were directed to take a sample at any location with stressed vegetation, but no stressed areas were found. This process increases the likelihood of detecting small areas of contamination. Additional sampling will be conducted at locations where PCBs were detected in the soil at levels above or close to the NJDEP soil criteria.

At each soil sampling location a soil sample from 0 to 6 inches was collected with a stainless-steel scoop and placed in a mixing bowl. Stones and vegetation were removed from the soil matrix, and the remaining soil was mixed in a stainless-steel bowl. The sample was placed in a glass bottle with a Teflon-lined cap. A clean pair of disposable sample gloves was worn by the sampler during collection of each separate sample.

A concrete chip sample was taken in the middle of each stain on the concrete of a pad or vault. An electronic chipping hammer was used to chip the concrete to a depth of up to ½ inch and to pulverize the concrete for analysis. Chips were pulverized as fine as possible to facilitate laboratory extraction and analysis. A clean pair of disposable sample gloves was worn by the sampler during collection of each discrete sample.

Stainless-steel bowls and trowels were used and decontaminated prior to use in accordance with instructions in the CDAP (WESTON, 1994). Trip and field blanks and duplicate samples were prepared and submitted for analysis.



NOT TO SCALE

Legend

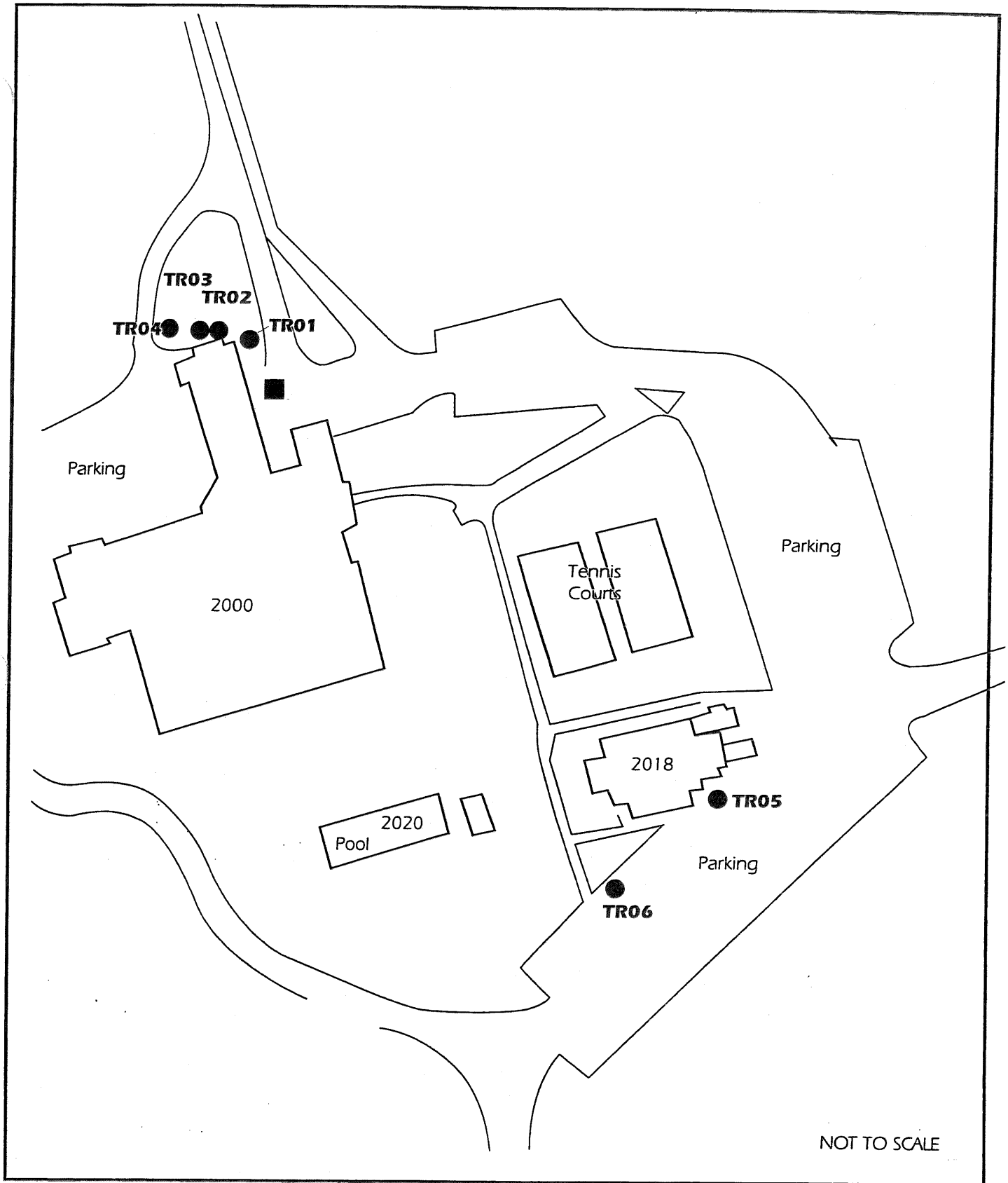
● Sampling Location

N

95P-3360 9/26/95

Fort Monmouth, Main Post

FIGURE 3.5-1
TRANSFORMER SITE SAMPLING LOCATIONS
AT BUILDING 1220, MAIN POST



Legend

- Sampling Location
- Former Transformer Pad

N

95P-3359 9/26/95

Fort Monmouth

FIGURE 3.5-2

TRANSFORMER SITE SAMPLING LOCATIONS AT BUILDING 2000 AND 2018, CHARLES WOOD

3.6 SOIL BORINGS

Soil borings were drilled at the following Main Post sites: M-16, M-18, and AOC-3; and Charles Wood sites: CW-1, CW-2, CW-4, CW-5, CW-6, CW-9, and AOC-7. The borings were completed to site-specific depths using hollow-stem auger drilling techniques to collect soil samples for laboratory analysis. Site-specific soil samples were analyzed for the parameters listed in Table 3.6-1. Lithologic logs are presented in Appendix A.

The borings were drilled using either 4.25-in. or 8-in. inside diameter (ID) hollow stem augers. Borings that were converted into monitor wells were drilled using the larger auger. Continuous split-spoon samples were collected according to the techniques specified in American Society for Testing and Materials (ASTM) Method 1586. All drilling was conducted by a New Jersey licensed driller.

Soil samples were collected from the soil borings using the following procedures:

1. Soil samples submitted for laboratory analysis were collected from borings using a 2-ft long, 2- or 3-in. diameter split spoon.

2. After retrieval, the split spoon was opened and immediately scanned with an organic vapor detector as a preliminary assessment of the amount of organic compounds present in the soils. Field screening for headspace was conducted according to the protocols outlined in the *NJDEP Field Sampling Procedures Manual*, May 1992.

3. If required by the site-specific sampling protocol, a portion of the soil sample was taken directly from the split spoon and placed in the sample bottle for VOC analysis to minimize volatilization of the sample. VOC samples were collected from discrete 6-in. intervals prior to organic vapor scanning of the soil samples.

4. Samples submitted for laboratory analysis were collected from intervals where high organic vapor monitor (OVM) readings were measured, visible staining was observed, or as specified in Section 4 of the CDAP.

5. The remaining sample was then homogenized in a stainless-steel bowl after a lithologic description of the soil sample and other pertinent drilling information was recorded according to the procedures outlined in the *NJDEP Field Sampling Procedures Manual*, May 1992.

Table 3.6-1
Fort Monmouth - Main Post and Charles Wood
Soil Sampling Analytical Parameters

SITE SAMPLE LOCATION	TCL VOC	TCL SVOC	TCL PEST/ PCB	TAL METALS	TPH	CYANIDE
Main Post						
M-15		X	X	X		
M-16	X	X	X			
M-18	X	X *	X	X	X	
AOC-3	X	X	X	X		
Background	X	X	X	X		X
Charles Wood						
CW-1	X	X	X	X		
CW-2	X	X	X	X		
CW-4	X	X	X	X		
CW-5	X	X	X			
CW-6	X	X	X	X**		
CW-9	X	X	X	X		
AOC-7	X	X	X	X		
Background	X	X	X	X		X

Notes:
* = Only sampled SVOCs at SB-06.
** = Only sampled at SS-01.
SVOC - Semi-Volatile Organic Compound
PEST - Pesticides
PCB - Polychlorinated biphenyls
TAL - Target Analyte List
TCL - Target Compound List
TPH - Total Petroleum Hydrocarbons
VOC - Volatile Organic Compound
See Table 5.1-1 for analytical methods.

6. The soil was then placed in the appropriate sample containers.

7. Field QA/QC samples were collected at a frequency of 1 set per 10 samples as specified in the CDAP.

A total of 16 trip blanks, 3 duplicates, and 3 equipment blanks were collected during the soil sampling program. Extra soil for laboratory MS/MSD analysis was also obtained as part of the QA/QC program. One split sample was collected and sent to the USACE New England Division Environmental Laboratory for analysis. Specific sampling protocols were in accordance with the procedures outlined in the CDAP.

After sampling was completed, the shallow borings were allowed to fill by the natural collapse of surrounding soil, and then further backfilled with a cement/bentonite mixture to ground surface. Split spoons and stainless-steel bowls were decontaminated prior to each use according to the procedures specified in the CDAP. Field blanks consisted of chromatography-grade distilled water rinsed over the inside of a decontaminated split spoon and bowl. Field blanks were collected once every 10 soil samples collected per analysis to verify the effectiveness of the decontamination process. All nonsampling, downhole drilling equipment was decontaminated between boring locations at each site, as described in the CDAP. Filled sample bottles were handled in the same manner as sediment sample bottles (Subsection 3.2).

3.7 GROUNDWATER MONITOR WELL INSTALLATION

A total of 45 shallow groundwater monitor wells were installed at both the Main Post and Charles Wood areas between 13 December 1994 and 23 January 1995 in accordance with the procedures and materials specified in the CDAP (December 1994). A total of 29 monitor wells were installed at the Main Post location and 16 monitor wells were installed at Charles Wood (these numbers include background wells). All monitor wells were drilled using an auger-type drilling rig equipped with 8-in. and 4.25-in. ID hollow-stem augers.

Continuous split-spoon samples were collected using ASTM Method 1586. A complete lithologic profile was recorded for each well by the WESTON site geologist from the split-spoon sample.

Monitor wells were installed within the shallow unconfined hydrogeologic water-bearing zone at depths ranging from 14 to 28 ft bgs. The shallow monitor wells were constructed with 4-in. diameter Schedule 40 polyvinyl chloride (PVC) casing and screen. Well screens were placed approximately 2 feet above the noted saturation depth to monitor seasonal fluctuations. However, where saturation was observed in boreholes immediately below ground surface (1 to 4 ft) screens were placed entirely in the saturation zone in order to get the proper sand pack and seal above the slotted screened interval. Screen lengths varied from 10 to 15 feet (screen slot size is 0.01 in.). The annular space around the well screen was filled with sand pack to approximately 1 to 2 feet above the top of the screen. A minimum 2.5- to 3-ft bentonite slurry was placed above the sand pack and a bentonite/cement grout mixture was used to seal the remaining annular space. All wells were secured with a locking steel protective casing. Summaries of well completion specifications for Main Post and Charles Wood are presented in Tables 3.7-1 and 3.7-2, respectively. Individual lithologic logs and well construction summaries are presented in Appendix A.

Well permit numbers and site identification numbers were stamped on the 6-in. diameter steel outer protective casing. The top of the PVC casing and ground surface was surveyed by a New Jersey-licensed surveyor and was referenced in feet above msl. Appendix B presents the survey data for site monitor and stilling wells. All well permit numbers and survey information are also included with each lithologic log and are summarized in Tables 3.7-1 and 3.7-2.

All drilling equipment was decontaminated in accordance with the decontamination procedures described in the CDAP prior to use at each well location. Drill cuttings were spread on the ground near the well location since no OVM readings above background were recorded. Holes, ruts, or divots developed during drilling were backfilled.

3.7.1 Well Development

Following installation, wells were developed according to the procedures described in the CDAP. The development procedures consisted of manually surging with a PVC surge block for 15 to 30 minutes. After surging, the wells were purged using a PVC bailer to remove any fine particles

Table 3.7-1
Fort Monmouth - Main Post
Well Completion Summary

Site and Location ID	Well Permit No.	Completion Date	Surveyed GS Elev. (Ft. MSL)	Surveyed PVC Elev. (Ft. MSL)	Total Depth (Ft. BGS)	Total Depth (Ft. TOIC)	Screened Interval (Ft. BGS)	Top of Sand Pack (Ft. BGS)	Top of Seal (Ft. BGS)
SITE M-2									
MW-01	2932584	14-Dec-94	19.44	21.04	22.75	24.35	7.00-22.29	5.75	3.75
MW-02	2932585	13-Dec-94	13.36	15.5	17.46	19.6	7.46-17.00	5.46	3.46
MW-03	2932586	13-Dec-94	10.98	12.63	15.6	17.25	5.60-15.14	4.6	2.6
SITE M-3									
MW-04	2932568	5-Jan-95	17.34	19.02	23.72	25.40	8.72-23.26	6.72	3.72
MW-05	2932569	9-Jan-95	11.28	13.30	16.43	18.45	6.43-15.97	4.43	2.43
MW-06	2932570	11-Jan-95	10.25	12.42	15.33	17.50	5.33-14.87	3.33	1.33
SITE M-4									
MW-07	2932571	14-Dec-94	14.83	16.75	16.01	17.93	6.01-15.55	4.01	1.51
MW-08	2932572	13-Dec-94	9.02	10.68	18.64	20.30	3.64-18.18	1.64	0.20
MW-09	2932573	13-Dec-94	7.77	9.69	22.69	24.61	7.69-22.23	5.69	3.19
SITE M-5									
MW-10	2932574	14-Dec-94	5.13	6.91	15.00	16.78	5.00-14.54	3.00	0.80
MW-11	2932575	15-Dec-94	9.77	11.70	15.00	16.93	5.00-14.54	3.00	0.80
SITE M-8									
MW-12	2932560	20-Dec-94	13.47	15.20	15.00	16.73	5.00-14.54	3.00	0.50
MW-13	2932560	17-Jan-95	6.02	7.80	15.00	16.78	5.00-14.54	3.50	1.00
MW-14	2932562	16-Jan-95	12.88	14.91	15.00	17.03	5.00-14.54	3.00	0.50
MW-15	2932563	17-Jan-95	5.01	7.01	15.00	17.00	5.00-14.54	3.50	1.00
SITE M-12									
MW-16	2932576	4-Jan-95	6.33	8.35	14.50	16.52	4.50-14.01	3.00	0.50
MW-17	2932577	11-Jan-95	5.90	7.87	14.50	16.47	4.50-14.04	3.00	0.50
MW-18	2932578	11-Jan-95	4.78	6.62	14.50	16.34	4.50-14.04	3.00	0.50
SITE M-14									
MW-19	2932579	4-Jan-95	7.98	9.68	15.00	16.70	5.00-14.54	3.50	0.50
MW-20	2932580	4-Jan-95	7.43	9.29	14.50	16.36	4.50-14.04	3.00	1.00
MW-21	2932581	4-Jan-95	7.50	9.57	16.00	18.07	6.00-15.54	4.00	1.00
SITE M-16									
MW-22	2932582	15-Dec-94	5.5	7.25	14.50	16.25	4.50-14.04	3.00	1.00
SITE M-18									
MW-24	2932565	12-Jan-95	6.78	8.16	15.00	16.38	5.00-14.54	3.50	1.00
MW-25	2932566	13-Jan-95	6.35	8.28	15.00	16.93	5.00-14.54	3.00	0.50
BACKGROUND									
MW1B	2932587	9-Jan-95	22.48	24.59	14.00	16.11	4.00-13.54	3.00	0.50
MW2B	2932588	6-Jan-95	19.44	20.23	20.00	20.79	19.54-20.00	8.00	5.00
MW3B	2932589	9-Jan-95	19.2	21.09	26.00	27.89	16.00-25.54	14.00	11.00
MW4B	2932567	9-Jan-95	9.78	12.08	15.00	17.30	5.00-14.54	3.00	1.00
MW5B	2932583	11-Jan-95	13.4	15.4	14.50	16.50	4.50-14.04	3.00	1.00

Notes:

All wells were completed as 4 inch PVC single cased wells with 10-slot screen (0.010 -inches) and have a 6-inch diameter outer steel protective casing.

GS - Ground surface
TOIC - Top of Inner Casing
Elev. - Elevation
MSL - Mean Sea Level
Ft - Feet
BGS - Below Ground Surface

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Table 3.7-2
Fort Monmouth - Charles Wood
Well Completion Summary

Site and Location ID	Well Permit No.	Completion Date	Surveyed GS Elev. (Ft. MSL)	Surveyed PVC Elev. (Ft. MSL)	Total Depth (Ft. BGS)	Total Depth (Ft. TOIC)	Screened Interval (Ft. BGS)	Top of Sand Pack (Ft. BGS)	Top of Seal (Ft. BGS)
SITE CW-1									
MW-26	2932591	19-Dec-94	60.54	62.46	15.00	17.01	5.00-14.54	4.00	2.00
MW-27	2932592	19-Dec-94	60.81	62.56	15.00	16.75	5.00-14.54	4.00	2.00
MW-28	2932593	19-Dec-94	60.73	62.89	15.00	17.16	5.00-14.54	5.00	0.50
MW-29	2932590	19-Dec-94	60.41	62.44	15.00	17.03	5.00-14.54	3.00	0.50
SITE CW-2									
MW-30	2932594	16-Dec-94	49.47	51.71	16.00	18.24	6.00-15.54	4.00	2.00
MW-31	2932595	16-Dec-94	49.67	51.58	15.00	16.91	5.00-14.54	3.00	1.00
MW-32	2932596	16-Dec-94	49.47	51.38	15.00	16.91	5.00-14.54	3.00	0.80
MW-33	2932597	15-Dec-94	49.18	51.09	15.00	16.91	5.00-14.54	3.00	0.50
SITE CW-6									
MW-34	2932599	3-Jan-95	31.97	33.76	14.50	16.29	4.50-14.04	3.00	1.00
SITE CW-9									
MW-35	2932600	4-Jan-95	29.27	31.43	14.50	16.66	4.50-14.01	3.00	0.50
MW-36	2932601	4-Jan-95	31.22	33.21	14.00	15.99	4.00-13.54	3.00	1.00
BACKGROUND									
MW-6B	2932602	10-Jan-95	35.19	37.37	14.00	16.18	4.00-13.54	3.00	1.00
MW-7B	2932604	10-Jan-95	64.27	66.31	15.00	17.04	5.00-14.54	3.00	1.00
MW-8B	2932598	10-Jan-95	47.04	48.9	15.00	16.86	5.00-14.54	3.00	0.50
MW-9B	2932603	23-Jan-95	43.13	45.31	15.00	17.18	5.00-14.54	3.00	1.00
MW-10B	2932605	10-Jan-95	51.36	53.14	14.50	16.28	4.50-14.04	3.00	0.50

All wells were completed as 4-inch PVC single cased wells with 10-slot screen (0.010-inches) and have a 6-inch diameter outer steel protective casing.

Notes:

GS - Ground surface
Elev. - Elevation
Ft - Feet
TOIC - Top of Inner Casing
MSL - Mean Sea Level
BGS - Below Ground Surface

that may have accumulated in the well column and were then purged by bailing or pumping with a submersible pump to remove the fine particles from the sand pack. Monitor wells MW-1, MW-24, MW-25, MW-30 through MW-33, MW-03B, MW-05B, and MW-09B were developed by bailing; all other wells had sufficient yield to sustain pumping. Throughout the development process, the temperature, pH, and specific conductance of the purge water were measured and recorded in the field at a minimum of once per well volume of water removed. The well development sheets are included in Appendix C. Well development continued until moderately low turbidity was visually observed or where well turbidity was believed to be a result of natural conditions after a maximum of 2 hours of purging. However, well development continued after 2 hours of purging at several locations where high turbidity was believed to be a result of inadequate well yields. Consequently, low volumes of water were removed. After a sufficient volume of water was removed and ample time was applied toward well development, development ceased (see Appendix C).

All development equipment was decontaminated prior to use in each well in accordance with the procedures described in the CDAP. Since no OVM readings above background were recorded during development, the purge water was discharged to the ground, as directed in the CDAP.

3.7.2 Well Abandonment

All existing monitor wells and piezometers at Landfill 8 were abandoned in accordance with the requirements specified in the CDAP. Several site reconnaissance efforts were conducted in an effort to locate all of the previously installed monitor wells and piezometers, in or around Landfill 8. A total of 11 wells, six 4-in. monitor wells and five 2-in. piezometers, were identified for abandonment (Figure 4.2-12). Access to the locations was made with the use of an all terrain vehicle (ATV) rig. The wells were abandoned by a New Jersey licensed driller in accordance with the NJDEP procedures for wells screened across an aquifer (unconfined). Abandonment procedures consisted of:

1. Recording field observations of well construction details, if available.
2. Pulling the outer protective casing out of the ground.

3. Cutting the inner PVC casing stick-up off to ground surface.

4. Tremie-grouting the well from the bottom of the PVC screen to the ground surface with a cement/bentonite mixture.

3.8 GROUNDWATER SAMPLING

Two groundwater sampling rounds were conducted at the Main Post and Charles Wood areas between 13 through 22 February 1995 and 7 through 15 March 1995. A complete set of depth to water readings at all well locations on the Main Post and Charles Wood areas were collected prior to start of the groundwater sampling round. The full set of depth to water readings and elevations, which are provided in the discussion of site groundwater flow, are presented in Appendix C, Tables C-1 and C-2. The groundwater sampling was conducted in accordance with the *NJDEP Field Sampling Procedures Manual* (May 1992), as indicated in the CDAP, to ensure that water samples were representative of subsurface conditions. Groundwater samples were collected from the 45 newly installed monitor wells after a minimum of 2 to 3 weeks following well development. Site-specific groundwater samples were analyzed for the constituents presented in Table 3.8-1. Two existing monitor wells were also sampled; one at site M-18 on the Main Post, and one at site CW-6 on Charles Wood.

Prior to sampling, all monitor wells were purged with a variable rate stainless-steel submersible pump at rates between 0.5 and 1.0 gpm. Well yield data collected during well development were used to estimate the purge rate for each well. Prior to well purging, pH, temperature, and specific conductance measurements were recorded to compare to subsequent measurements taken during purging as each well volume was evacuated. Purging was continued until parameters stabilized and a minimum of three well volumes were evacuated. Monitor wells that purged dry were allowed to recover and purged again to remove a minimum of 1.5 well volumes before sampling. Groundwater samples from all wells were collected from the monitor wells using dedicated, disposable Teflon bailers. Groundwater was transferred from the bailers directly into the appropriate sample containers. Sample portions designated for soluble metals analyses were field-filtered. Field QA/QC samples were collected at a frequency of 1 set per 10 samples. A total of seven trip blanks, three duplicates, and seven equipment blanks were collected during

Table 3.8-1
Fort Monmouth - Main Post and Charles Wood
Sampling Parameters Table for
February & March 1995 Sampling Rounds

SITE SAMPLE LOCATION	TCL VOC (8240)	TCL SVOC	TCL PEST/ PCB	TAL Metals Total	TAL Metals Dissolved	TPH	Cyanide	Sulfate	Ammonia
Main Post									
M-2	X	X	X	X	X		X		
M-3	X	X	X	X	X		X		
M-4	X	X	X	X	X		X		
M-5	X	X	X	X	X		X	X	
M-8	X	X	X	X	X		X	X	X
M-12	X	X	X	X	X		X		
M-14	X	X	X	X	X		X		
M-16	X	X	X						
M-18	X	X	X	X	X	X			
Background	X	X	X	X	X		X		
Charles Wood									
CW-1	X	X	X	X	X				
CW-2	X	X	X	X	X				
CW-6	X	X	X						
CW-9	X	X	X	X	X				
Background	X	X	X	X	X		X		

Notes:

PCB - Polychlorinated biphenyls
PEST - Pesticides
SVOC - Semi-Volatile Organic Compounds
TAL - Target Analyte List
TCL - Target Compound List
TPH - Total Petroleum Hydrocarbons
VOC - Volatile Organic Compound
See table 5.1-1 for analytical methods.

each sampling round. Extra groundwater for laboratory MS/MSD analysis was also obtained as part of the QA/QC program. One split sample per sampling round was collected and sent to the USACE New England Division Environmental Laboratory for analysis. Specific sampling protocols were in accordance with the procedures outlined in the CDAP. Filled sample bottles were handled in the same manner as sediment sample bottles (Subsection 3.2). Appendix D presents the analytical results of the field sampling activities at both the Main Post and Charles Wood areas.

3.9 TIDAL MONITORING

Two 72-hr tidal monitoring tests were conducted in three areas at the Main Post: Landfill 2, Landfill 8, and Landfills 12 and 14. The tests were conducted the week of 30 January through 3 February 1995, prior to the February 1995 groundwater sampling round, and the week of 20 through 24 March following the March 1995 groundwater sampling round in an effort to evaluate the effect of tidal fluctuations on water levels in the monitor wells. A total of four stilling wells were installed; one at Landfill 2, one at Landfill 8, and two at the Landfill 12 and 14 areas.

The stilling wells at Fort Monmouth are temporarily installed measuring points that are used to monitor water-level fluctuations in surface-water bodies (creeks). The stilling wells were installed using a 2-in. diameter, 5-ft long stainless-steel slotted screen with a conical drive shoe. The drive shoe was used to insert the screen approximately 2 to 3 feet into the surface-water sediments. Once the steel screen was secured, a 2-in. diameter, 5-ft long PVC slotted screen was added to the steel screen to ensure that the top of the stilling well was above creek water levels during high tides. The top of the PVC casing was surveyed by a New Jersey-licensed surveyor. The data collected are presented in Appendix B, along with the stream bed elevations. The data were collected from the stilling wells using pressure transducers with an electronic data logger (In-Situ Model SE-1000C) and were then compared to the subsequent site monitor wells to gauge the influence of the tides on water levels in the monitor wells. Water-level fluctuations in the monitor wells were collected using pressure transducers (In-Situ Model SE 1000C) and well sentinels (Model LTM 3000). Appendix E presents the results (hydrographs) and conductivity

and salinity measurements collected during the individual tidal monitoring tests. The stilling wells were located in accordance with the CDAP.

SECTION 4
RESULTS OF INVESTIGATION

SECTION 4

RESULTS OF INVESTIGATION

4.1 COMPARISON WITH NEW JERSEY STANDARDS AND BACKGROUND

The results of the sampling effort were evaluated by comparing them with the results of background samples and with NJDEP regulatory standards. In general, for each compound of each environmental sample, the analytical results were compared against the NJDEP regulatory criteria. If the analytical result exceeded the regulatory criteria, then it was compared against the maximum background concentration. Those compounds that exceeded the regulatory standard and established background at a particular site were classified as a compound of concern.

The concentration of each compound was first compared with NJDEP standards. The New Jersey regulatory standards used for this evaluation are summarized in the following paragraphs:

- Groundwater — NJAC 7:9-6, *Groundwater Quality Standards*, establishes groundwater criteria for different classes of groundwater. Class II-A, which is defined as all groundwater that is not classified as one of the other special classes, is the class for groundwater at Fort Monmouth. Table 1 of this regulation presents the regulatory limit as the higher of the groundwater quality criteria and the practical quantitation levels (PQL). The PQL is the lowest concentration that can be reliably measured in a laboratory analysis. These values are presented in Table 4.1-1.

- Soil — NJDEP currently uses the Soil Cleanup Criteria (SCC) that have been published as an interim regulation and in the NJDEP publication, *Site Remediation News*. Criteria have been developed for future residential and nonresidential uses, and potential impacts to groundwater. The residential direct contact soil criteria were used to evaluate soil analytical results. Although soil criteria exist that are based on potential impacts to groundwater, it is more appropriate to use actual groundwater monitoring results, which exist for most of the sites in this investigation. The criteria for residential direct contact and impact to groundwater are presented in Table 4.1-2. They were published in March 1994, except for lead, which was revised in the winter 1995 *Site Remediation News*.

Table 4.1-1
Ft. Monmouth - Main Post and Charles Wood
NJDEP Groundwater Quality Criteria - Class II - A and Practical Quantitation Levels
February 1993

ANALYSIS	STANDARD		
	GROUND WATER QUALITY CRITERIA (µg/L)	PRACTICAL QUANTITATION LEVELS (PQLs) (µg/L)	HIGHER OF PQL AND GW CRITERIA (µg/L)
1,1,1-Trichloroethane	30	1	30
1,1,2,2-Tetrachloroethane	2	1	2
1,1,2-Trichloroethane	3	2	3
1,1-Dichloroethane	70	NA	70
1,1-Dichloroethene	-	-	-
1,2,4-Trichlorobenzene	9	1	9
1,2-Dichlorobenzene	600	5	600
1,2-Dichloroethane	0.3	2	2
1,2-Dichloroethene (total)	-	-	-
1,2-Dichloropropane	0.5	1	1
1,3-Dichlorobenzene	600	5	600
1,4-Dichlorobenzene	75	5	75
2,2'-oxybis(1-Chloropropane)	-	-	-
2,4,5-Trichlorophenol	700	10	700
2,4,6-Trichlorophenol	-	-	-
2,4-Dichlorophenol	20	10	20
2,4-Dimethylphenol	100	20	100
2,4-Dinitrophenol	10	40	40
2,4-Dinitrotoluene	0.05	10	10
2,6-Dinitrotoluene	NA	10	10
2-Butanone	-	-	-
2-Chloronaphthalene	-	-	-
2-Chlorophenol	40	20	40
2-Hexanone	-	-	-
2-Methylnaphthalene	-	-	-
2-Methylphenol	-	-	-
2-Nitroaniline	-	-	-
2-Nitrophenol	-	-	-
3,3'-Dichlorobenzidine	0.08	60	60
3-Nitroaniline	-	-	-
4,4'-DDD	0.1	0.04	0.1
4,4'-DDE	0.1	0.04	0.1
4,4'-DDT	0.1	0.06	0.1
4,6-Dinitro-2-methylphenol	-	-	-
4-Bromophenyl-phenylether	-	-	-
4-Chloro-3-methylphenol	NA	20	20
4-Chloroaniline	-	-	-
4-Chlorophenyl-phenylether	-	-	-
4-Methyl-2-pentanone	400	NA	400
4-Methylphenol	-	-	-
4-Nitroaniline	-	-	-
4-Nitrophenol	-	-	-
Acenaphthene	400	10	400
Acenapthylene	NA	10	10
Acetone	700	NA	700
Aldrin	0.002	0.04	0.04
alpha-BHC	0.006	0.02	0.02
alpha-Chlordane	-	-	-

Table 4.1-1
Ft. Monmouth - Main Post and Charles Wood
NJDEP Groundwater Quality Criteria - Class II - A and Practical Quantitation Levels
February 1993

ANALYSIS	STANDARD		
	GROUND WATER QUALITY CRITERIA (µg/L)	PRACTICAL QUANTITATION LEVELS (PQLs) (µg/L)	HIGHER OF PQL AND GW CRITERIA (µg/L)
Aluminum	200	200	200
Anthracene	2000	10	2000
Antimony	2	20	20
Aroclor-1016	0.43	2	2
Aroclor-1221	0.43	2	2
Aroclor-1232	0.43	2	2
Aroclor-1242	0.43	2	2
Aroclor-1248	0.43	2	2
Aroclor-1254	0.43	2	2
Aroclor-1260	0.43	2	2
Arsenic	0.02	8	8
Barium	2000	200	2000
Benzene	0.2	1	1
Benzo(a)anthracene	0.03	10	10
Benzo(a)pyrene	0.003	20	20
Benzo(b)fluoranthene	0.03	2	2
Benzo(g,h,i)perylene	NA	20	20
Benzo(k)fluoranthene	0.03	2	2
Beryllium	0.008	20	20
beta-BHC	0.2	0.04	0.2
bis(2-Chloroethoxy) methane	-	-	-
bis(2-Chloroethyl) ether	0.03	10	10
bis(2-Ethylhexyl)phthalate	3	30	30
Bromodichloromethane	0.3	1	1
Bromoform	4	0.8	4
Bromomethane	-	-	-
Butylbenzylphthalate	100	20	100
Cadmium	4	2	4
Calcium	-	-	-
Carbazole	-	-	-
Carbon Disulfide	-	-	-
Carbon Tetrachloride	0.4	2	2
Chlordane	0.01	0.5	0.5
Chlorobenzene	4	2	4
Chloroethane	-	-	-
Chloroform	6	1	6
Chloromethane	-	-	-
Chromium (total)	100	10	100
Chrysene	0.03	20	20
cis-1,3-Dichloropropene	0.2	NA	0.2
Cobalt	-	-	-
Copper	1000	1000	1000
Cyanide	200	40	200
delta-BHC	-	-	-
Di-n-butylphthalate	900	20	900
Di-n-octyl phthalate	100	NA	100
Dibenzo(a,h)anthracene	0.003	20	20
Dibenzofuran	-	-	-

Table 4.1-1
Ft. Monmouth - Main Post and Charles Wood
NJDEP Groundwater Quality Criteria - Class II - A and Practical Quantitation Levels
February 1993

ANALYSIS	STANDARD		
	GROUND WATER QUALITY CRITERIA (µg/L)	PRACTICAL QUANTITATION LEVELS (PQLs) (µg/L)	HIGHER OF PQL AND GW CRITERIA (µg/L)
Dibromochloromethane	10	1	10
Dieldrin	0.002	0.03	0.03
Diethylphthalate	5000	10	5000
Dimethylphthalate	7000	10	7000
Endosulfan I	0.4	0.02	0.4
Endosulfan II	0.4	0.04	0.4
Endosulfan sulfate	0.4	0.08	0.4
Endrin	2	0.04	2
Endrin aldehyde	-	-	-
Endrin ketone	-	-	-
Ethylbenzene	700	5	700
Fluoranthene	300	10	300
Fluorene	300	10	300
gamma-BHC (Lindane)	0.2	0.2	0.2
gamma-Chlordane	0.01	0.5	0.5
Heptachlor	0.008	0.4	0.4
Heptachlor epoxide	0.004	0.2	0.2
Hexachlorobenzene	0.02	10	10
Hexachlorobutadiene	1	1	1
Hexachlorocyclopentadiene	50	10	50
Hexachloroethane	0.7	10	10
Indeno(1,2,3-cd)pyrene	0.03	20	20
Iron	300	100	300
Isophorone	100	10	100
Lead (total)	5	10	10
Magnesium	-	-	-
Manganese	50	6	50
Mercury	2	0.5	2
Methoxychlor	40	10	40
Methylene Chloride	2	2	2
N-Nitrosodi-n-propylamine	0.005	20	20
N-Nitrosodiphenylamine (1)	7	20	20
Naphthalene	-	-	-
Nickel (soluble salts)	100	10	100
Nitrobenzene	3	10	10
Pentachlorophenol	0.3	1	1
Phenanthrene	NA	10	10
Phenol	4000	10	4000
Potassium	-	-	-
Pyrene	200	20	200
Selenium (total)	50	10	50
Silver	20	2	20
Sodium	50000	400	50000
Styrene	100	5	100
Tetrachloroethene	0.4	1	1
Thallium	0.5	10	10
Toluene	1000	5	1000
Toxaphene	0.03	3	3

Table 4.1-1
Ft. Monmouth - Main Post and Charles Wood
NJDEP Groundwater Quality Criteria - Class II - A and Practical Quantitation Levels
February 1993

ANALYSIS	STANDARD		
	GROUND WATER QUALITY CRITERIA (µg/L)	PRACTICAL QUANTITATION LEVELS (PQLs) (µg/L)	HIGHER OF PQL AND GW CRITERIA (µg/L)
trans-1,3-Dichloropropene	0.2	NA	0.2
Trichloroethene	1	1	1
Vanadium	-	-	-
Vinyl Chloride	0.08	5	5
Xylene (total)	40	2	40
Zinc	5000	30	5000

- = No level established

Table 4.1-2

Forth Monmouth - Main Post and Charles Wood
NJDEP Soil Cleanup Criteria
February 1994

ANALYSIS	STANDARD	
	RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA (mg/kg)	IMPACT TO GROUND WATER SOIL CLEANUP CRITERIA (mg/kg)
1,1,1-Trichloroethane	210	50
1,1,2,2-Tetrachloroethane	34	1
1,1,2-Trichloroethane	22	1
1,1-Dichloroethane	570	10(i)
1,1-Dichloroethene	8	10
1,2,4-Trichlorobenzene	68	100
1,2-Dichlorobenzene	5100	50
1,2-Dichloroethane	6	1
1,2-Dichloroethene (trans)	1000(d)	50
1,2-Dichloroethene (cis)	79	1(i)
1,2-Dichloropropane	10	(r)
1,3-Dichlorobenzene	5100	100
1,4-Dichlorobenzene	570	100
2,2'-oxybis(1-Chloropropane)	-	-
2,4,5-Trichlorophenol	5600	50
2,4,6-Trichlorophenol	62	10(i)
2,4-Dichlorophenol	170	10
2,4-Dimethylphenol	1100	10
2,4-Dinitrophenol	110	10
2,4-Dinitrotoluene	1(l)	10(l)
2,6-Dinitrotoluene	1(l)	10(l)
2-Butanone (MEK)	1000 (d)	50
2-Chloronaphthalene	-	-
2-Chlorophenol	280	10 (j)
2-Hexanone	-	-
2-Methylnaphthalene	-	-
2-Methylphenol	2800	(r)
2-Nitroaniline	-	-
2-Nitrophenol	-	-
3,3'-Dichlorobenzidine	2	100
3-Nitroaniline	-	-
4,4'-DDD	3	50(i)
4,4'-DDE	2	50(i)
4,4'-DDT	2	500(i)
4,6-Dinitro-2-methylphenol	-	-
4-Bromophenyl-phenylether	-	-
4-Chloro-3-methylphenol	10000(c)	100
4-Chloroaniline	230	(r)
4-Chlorophenyl-phenylether	-	-
4-Methyl-2-pentanone	1000(d)	50
4-Methylphenol	2800	(r)
4-Nitroaniline	-	-
4-Nitrophenol	-	-
Acenaphthene	3400	100
Acenaphthylene	-	-
Acetone	1000(d)	100(i)

Table 4.1-2 (continued)

Forth Monmouth - Main Post and Charles Wood
NJDEP Soil Cleanup Criteria
February 1994

ANALYSIS	STANDARD	
	RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA (mg/kg)	IMPACT TO GROUND WATER SOIL CLEANUP CRITERIA (mg/kg)
Aldrin	0.040	50
alpha-BHC	-	-
alpha-Chlordane	-	-
Aluminum	-	-
Anthracene	10000(c)	100(i)
Antimony	14	(h)
Aroclor-1016	0.49	50(i)
Aroclor-1221	0.49	50(i)
Aroclor-1232	0.49	50(i)
Aroclor-1242	0.49	50(i)
Aroclor-1248	0.49	50(i)
Aroclor-1254	0.49	50(i)
Aroclor-1260	0.49	50(i)
Arsenic	20(e)	(h)
Barium	700	(h)
Benzene	3	1
Benzo(a)anthracene	0.9	500
Benzo(a)pyrene	0.66(f)	100
Benzo(b)fluoranthene	0.9	50(i)
Benzo(g,h,i)perylene	-	-
Benzo(k)fluoranthene	0.9	500
Beryllium	1(f)	(h)
beta-BHC	-	-
bis(2-Chloroethoxy) methane	-	-
bis(2-Chloroethyl) ether	0.66(f)	10(j)
bis(2-Ethylhexyl)phthalate	49	100
Bromodichloromethane	11(g)	1
Bromoform	86	1
Bromomethane	79	1
Butylbenzylphthalate	1100	100
Cadmium	1	(h)
Calcium	-	-
Carbazole	-	-
Carbon Disulfide	-	-
Carbon Tetrachloride	2(k)	1
Chlorobenzene	37	1
Chloroethane	-	-
Chloroform	19(k)	1
Chloromethane	520	10
Chromium	-	-
Chrysene	9	500
cis-1,3-Dichloropropene	4	1
Cobalt	-	-
Copper	600(m)	(h)
Cyanide	1100	(h)
delta-BHC	-	-

Table 4.1-2 (continued)

Forth Monmouth - Main Post and Charles Wood
NJDEP Soil Cleanup Criteria
February 1994

ANALYSIS	STANDARD	
	RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA (mg/kg)	IMPACT TO GROUND WATER SOIL CLEANUP CRITERIA (mg/kg)
Di-n-butylphthalate	5700	100
Di-n-octyl phthalate	1100	100
Dibenzo(a,h)anthracene	0.66(f)	100(j)
Dibenzofuran	-	-
Dibromochloromethane	110	1
Dieldrin	0.042	50
Diethylphthalate	10000(c)	50
Dimethylphthalate	10000(c)	50
Endosulfan	340(g)	50
Endosulfan sulfate	-	-
Endrin	17	50
Endrin aldehyde	-	-
Endrin ketone	-	-
Ethylbenzene	1000(d)	100
Fluoranthene	2300	100(i)
Fluorene	2300	100
gamma-BHC (Lindane)	0.52	50(j)
gamma-Chlordane	-	-
Heptachlor	0.15	50(j)
Heptachlor epoxide	-	-
Hexachlorobenzene	0.66(f)	100(i)
Hexachlorobutadiene	1(g)	100(g)
Hexachlorocyclopentadiene	400	100
Hexachloroethane	6	100
Indeno(1,2,3-cd)pyrene	0.9	500
Iron	-	-
Isophorone	1100	50(j)
Lead	400 [1]	(h)
Magnesium	-	-
Manganese	-	-
Mercury	14	(h)
Methoxychlor	280	50(j)
Methylene Chloride	49	1(j)
N-Nitroso-di-n-propylamine	0.66(f)	10(j)
N-Nitrosodiphenylamine (1)	140	100
Naphthalene	230	100
Nickel	250	(h)
Nitrobenzene	28	10(i)
Pentachlorophenol	6	100
Phenanthrene	-	-
Phenol	10000(c)	50
Potassium	-	-
Pyrene	1700	100(j)
Selenium	63	(h)
Silver	110	(h)
Sodium	-	-

Table 4.1-2 (continued)

Forth Monmouth - Main Post and Charles Wood
NJDEP Soil Cleanup Criteria
February 1994

ANALYSIS	STANDARD	
	RESIDENTIAL DIRECT CONTACT SOIL CLEANUP CRITERIA (mg/kg)	IMPACT TO GROUND WATER SOIL CLEANUP CRITERIA (mg/kg)
Trichloroethene	23	1
Vanadium	370	(h)
Vinyl Chloride	2	10(i)
Xylene (total)	410	10
Zinc	1500(m)	(h)

(c) Health based criterion exceeds the 10000 mg/kg maximum for total organic contaminants.
(d) Health based criterion exceeds the 1000 mg/kg maximum for total volatile organic contaminants.
(e) Cleanup standard proposal was based on natural background.
(f) Health based criterion is lower than analytical limits; cleanup criterion based on practical quantitation level.
(g) Criterion has been recalculated based on new toxicological data.
(h) The impact to ground water values for inorganics will be developed based upon site specific chemical and physical parameters.
(i) Original criterion was incorrectly calculated and has been recalculated.
(j) Typographical error.
(k) Criterion based on inhalation exposure pathway which yielded a more stringent criterion than the incidental ingestion exposure pathway.
(l) New criterion derived using methodology in the basis and background document.
(m) Criterion based on ecological (phytotoxicity) effects.
(p) criterion based on the goal that children should be exposed to the minimal amount of lead that is practicable and is reflective of natural background as altered by diffuse anthropogenic pollution. Criterion corresponds to both a median value for urban land which has not been impacted by any local point source of lead and a 90th percentile value for similar suburban land.
- = No level established.
[1] = NJDEP criteria as referenced in Site Remediation News, Winter 1995.
NJDEP criteria for Total Volatile Organics and Total Organics is 1,000 mg/kg and 10,000 mg/kg, respectively.

- Surface water — NJAC 7:9-1, *Surface Water Quality Standards,* contains surface-water quality criteria for chemicals detected at the Main Post and Charles Wood. Surface water is classified based on the designated uses of the surface water, the biota present, and the type of aquatic system (e.g., freshwater or saltwater). Generally, separate criteria were established for freshwater and saltwater. Although the classifications of some surface waters are defined in the regulation, the surface water at Fort Monmouth has not been classified. Based on observations by field personnel during this investigation, the on-site surface water has been designated as either freshwater or saltwater. The sample-specific designation is discussed in Subsections 4.2 and 4.3. Surface-water criteria are presented in Table 4.1-3.

- Sediment — The NJDEP *Guidance for Sediment Quality Evaluations* (1991), which references National Oceanic and Atmospheric Administration (NOAA) biological effects screening criteria, and ERL guideline values from Long et al. (1995), were used to evaluate sediment concentrations at the Main Post and Charles Wood. The use of these criteria is discussed in Subsection 4.1.2. The sediment quality criteria are presented in Table 4.1-4.

- PCB transformers — The proposed NJDEP rule NJAC 7:26D, *Cleanup Standards for Contaminated Sites,* was used for PCB cleanup criteria in soil and interior surfaces. These criteria are presented in Table 4.1-5.

Two groundwater sampling rounds were conducted at the Main Post and Charles Wood areas. As specified in the NJDEP regulation *Technical Requirements for Site Remediation* (NJAC 7:26E), the results of the two groundwater sampling rounds were averaged since the samples were collected within a 30-day period. The averaged concentrations were compared with the NJDEP criteria and then with the maximum background concentrations. If the concentration in only one of the samples was above the detection limit, then that result was averaged with half of the quantitation limit.

Analytical results that were reported as a "J," i.e., below the quantitation limit but above the method detection limit, were still compared against NJDEP criteria to determine if the criteria were exceeded. The laboratory quantitation limit is the lowest concentration of an analyte determined by a given method in a given matrix that the laboratory feels can be reported with acceptable quantitative error. The method detection limit is the lowest concentration that can be seen for a given analytical method and sample matrix with 99% confidence that the analyte is present. Laboratory quantitation limits are typically about three times the value of the method

Table 4.1-3
Fort Monmouth - Main Post and Charles Wood
Surface Water Quality Standards for Fresh and Saline Waters

ANALYSIS	STANDARD	
	FRESH WATER (µg/L)	SALT WATER (µg/L)
1,1,1-Trichloroethane	127(h)	-
1,1,2,2-Tetrachloroethane	1.72(hcc)	-
1,1,2-Trichloroethane	13.5(h)	-
1,1-Dichloroethane	-	-
1,1-Dichloroethene	4.81(h)	-
1,2,4-Trichlorobenzene	30.6(h)	113(h)
1,2-Dichlorobenzene	2,520(h)	16,500(h)
1,2-Dichloroethane	0.291(hc)	99(hc)
1,2-Dichloroethene (total)	-	-
1,2-Dichloropropane	-	-
1,3-Dichlorobenzene	2,620(h)	22,200(h)
1,4-Dichlorobenzene	343(h)	3,159(h)
2,2'-oxybis(1-Chloropropane)	-	-
2,4,5-Trichlorophenol	2,580(h)	9,790(h)
2,4,6-Trichlorophenol	2.14(hc)	6.53(hc)
2,4-Dichlorophenol	92.7(h)	794(h)
2,4-Dimethylphenol	-	-
2,4-Dinitrophenol	69.7(h)	14,000(h)
2,4-Dinitrotoluene	0.11(hc)	9.1(hc)
2,6-Dinitrotoluene	-	-
2-Butanone	-	-
2-Chloronaphthalene	-	-
2-Chlorophenol	122(h)	402(h)
2-Hexanone	-	-
2-Methylnaphthalene	-	-
2-Methylphenol	-	-
2-Nitroaniline	-	-
2-Nitrophenol	-	-
3,3'-Dichlorobenzidine	0.0386(hc)	0.0767(hc)
3-Nitroaniline	-	-
4,4'-DDD	0.000832(hc)	0.000837(hc)
4,4'-DDE	0.000588(hc)	0.000591(hc)
4,4'-DDT	1.1(a); 0.0010(c); 0.000588(hc)	0.13(a); 0.0010(c); 0.000591(hc)
4,6-Dinitro-2-methylphenol	-	-
4-Bromophenyl-phenylether	-	-
4-Chloro-3-methylphenol	-	-
4-Chloroaniline	-	-
4-Chlorophenyl-phenylether	-	-
4-Methyl-2-pentanone	-	-
4-Methylphenol	-	-
4-Nitroaniline	-	-
4-Nitrophenol	-	-
Acenaphthene	-	-
Acenaphthylene	-	*Reserved*

Table 4.1-3 (continued)
Fort Monmouth - Main Post and Charles Wood
Surface Water Quality Standards for Fresh and Saline Waters

ANALYSIS	STANDARD	
	FRESH WATER (µg/L)	SALT WATER (µg/L)
Acetone	-	-
Aldrin	3.0(a); 0.000135(hc)	1.3(a) 0.000144(hc)
alpha-BHC	0.00391(hc)	0.0131(hc)
alpha-Chlordane	2.4(a); 0.0043(c); 0.000277(hc)	0.09(a); 0.0040(c); 0.000283(hc)
Aluminum	-	*Reserved*
Anthracene	9,570(h)	108,000(h)
Antimony	12.2(h)	4,300(h)
Aroclor-1016	.014(c); .000244(hc)	.30(c); .000247(hc)
Aroclor-1221	.014(c); .000244(hc)	.30(c); .000247(hc)
Aroclor-1232	.014(c); .000244(hc)	.30(c); .000247(hc)
Aroclor-1242	.014(c); .000244(hc)	.30(c); .000247(hc)
Aroclor-1248	.014(c); .000244(hc)	.30(c); .000247(hc)
Aroclor-1254	.014(c); .000244(hc)	.30(c); .000247(hc)
Aroclor-1260	.014(c); .000244(hc)	.30(c); .000247(hc)
Arsenic	0.0170(hc)	0.136(hc)
Barium	2,000(h)	-
Benzene	0.150(hc)	71(hc)
Benzo(a)anthracene	0.0028(hc)	0.031(hc)
Benzo(a)pyrene	0.0028(hc)	0.031(hc)
Benzo(b)fluoranthene	0.0028(hc)	0.031(hc)
Benzo(g,h,i)perylene	-	*Reserved*
Benzo(k)fluoranthene	0.0028(hc)	0.031(hc)
Beryllium	-	*Reserved*
beta-BHC	0.137(hcc)	0.460(hcc)
bis(2-Chloroethoxy) methane	-	-
bis(2-Chloroethyl) ether	.0311(hc)	1.4(hc)
bis(2-Ethylhexyl)phthalate	1.76(hc)	5.92(hc)
Bromodichloromethane	.266(hc)	22(hc)
Bromoform	4.38(hc)	360(hc)
Bromomethane	48.4(h)	4,000(h)
Butylbenzylphthalate	239(h)	416(h)
Cadmium	10(h)	-
Calcium	-	-
Carbazole	-	-
Carbon Disulfide	-	-
Carbon Tetrachloride	0.363(hc)	6.31(hc)
Chlorobenzene	22.0(h)	21,000(h)
Chloroethane	-	-
Chloroform	5.67(hc)	470(hc)
Chloromethane	5.7(hc); 470(hc)	*Reserved*
Chromium	160(h)	3,230(h)
Chrysene	0.0028(hc)	0.031(hc)
cis-1,3-Dichloropropene	-	-
Cobalt	-	-

Table 4.1-3 (continued)
Fort Monmouth - Main Post and Charles Wood
Surface Water Quality Standards for Fresh and Saline Waters

ANALYSIS	STANDARD	
	FRESH WATER (µg/L)	SALT WATER (µg/L)
Copper	-	*Reserved*
Cyanide	22(a); 5.2(c) 768(h)	1.0(a); 1.0(c); 220,000(h)
delta-BHC	-	-
Di-n-butylphthalate	3,530(h)	15,700(h)
Di-n-octyl phthalate	-	-
Dibenzo(a,h)anthracene	0.0028(hc)	0.031(hc)
Dibenzofuran	-	-
Dibromochloromethane	72.6(h)	-
Dieldrin	2.5(a) 0.0019(c); 0.000135(hc)	0.71(a); 0.0019(c); 0.000144(hc)
Diethylphthalate	21,200(h)	111,000(h)
Dimethylphthalate	313,000(h)	2,900,000(h)
Endosulfan I	-	-
Endosulfan II	-	-
Endosulfan sulfate	0.93(h)	2.0(h)
Endrin	0.18(a); 0.0023(c); 0.629(h)	0.037(a); 0.0023(c) 0.678(h)
Endrin aldehyde	0.76(h)	0.081(h)
Endrin ketone	-	-
Ethylbenzene	3,030(h)	27,900(h)
Fluoranthene	310(h)	393(h)
Fluorene	1,340(h)	
gamma-BHC (Lindane)	2.0(a); 0.080(c)	0.16(a)
gamma-Chlordane	-	-
Heptachlor	0.52(a); 0.0038(c); 0.000208(hc)	0.053(a); 0.0036(c); 0.000214(hc)
Heptachlor epoxide	0.52(a); 0.0038(c); 0.000103(hc)	0.053(a); 0.0036(c); 0.000106(hc)
Hexachlorobenzene	0.000748(hc)	0.000775(hc)
Hexachlorobutadiene	6.94(h)	
Hexachlorocyclopentadiene	245(h)	17,000(h)
Hexachloroethane	2.73(h)	12.4(h)
Indeno(1,2,3-cd)pyrene	0.0028(hc)	0.031(hc)
Iron	-	*Reserved*
Isophorone	552(h)	-
Lead	5(h)	-
Magnesium	-	-
Manganese	100(h)	-
Mercury	0.144(h)	0.146(h)
Methoxychlor	0.03(c); 40(h)	0.03(c)
Methylene Chloride	2.49(hc)	1,600(hc)
N-Nitroso-di-n-propylamine	-	-
N-Nitrosodiphenylamine (1)	-	-
Naphthalene	-	-
Nickel	516(h)	3,900(h)

Table 4.1-3 (continued)
Fort Monmouth - Main Post and Charles Wood
Surface Water Quality Standards for Fresh and Saline Waters

ANALYSIS	STANDARD	
	FRESH WATER (µg/L)	SALT WATER (µg/L)
Nitrobenzene	16.0(h)	1,900(h)
Pentachlorophenol	e(1.005(pH)-4.830)(a); e(1.005(pH)-5.290)(c); 0.282(c)	13(a); 7.9(c); 8.2(hc)
Phenanthrene	-	*Reserved*
Phenol	20,900(h)	4,600,000(h)
Potassium	-	-
Pyrene	797(h)	8,970(h)
Selenium	10(h)	300(a); 71(c); 6,800(h)
Silver	164(h)	-
Sodium	-	-
Styrene	-	-
Tetrachloroethene	0.388(hc)	4.29(hc)
Thallium	1.70(h)	6.22(h)
Toluene	7,440(h)	200,000(h)
Toxaphene	0.73(a); 0.0002(c); 0.000730(hc)	0.21(a); 0.0002(c); 0.000747(hc)
trans-1,3-Dichloropropene	.193(hc)	1,700(h)
Trichloroethene	1.09(hc)	81(hc)
Vanadium	-	-
Vinyl Chloride	0.0830(hc)	525(hc)
Xylene (total)	-	-
Zinc	-	*Reserved*

NOTE: Except as noted, aquatic life criteria followed by an (a) represent acute aquatic life protection criteria as a one-hour average and aquatic life criteria followed by (C) represent chronic aquatic life protection criteria as a four-day average. No exceedance of aquatic life criteria shall be permitted at or above the design flows specified in section N.J.A.C. 7:9B-1.5(c) 2. Criteria followed by an (h) are noncarcinogenic effect-based human health criteria as a 30-day average with no frequency of exceedance at or above the design flows specified in section N.J.A.C. 7:9B-1.5(c)2. Criteria followed by an (hc) are carcinogenic effect-based human health criteria as a 70-year average with no frequency of exceedance at or above the design flows specified in section N.J.A.C. 7:9B-1.5(c)2 and are based on a risk level of one-in-one-million. Criteria followed by an (hcc) are for toxic substances considered to be possible human carcinogens as a 70-year average with no frequency of exceedance at or above the design flows specified in section N.J.A.C. 7:9B-1.5(c)2 and are based on a risk level of one-in-one hundred thousand Criteria followed by and (OL) are organoleptic effect-based criteria and are maximum concentrations.

- = No level established

Table 4.1-4
Fort Monmouth - Main Post and Charles Wood
Sediment Guidance Values for Detected Contaminants

COMPOUND	NJDEP SEDIMENT GUIDANCE [a] (mg/kg)	MARINE/ESTUARINE BIOLOGICAL EFFECTS LEVEL (ERL)[b] (mg/kg)
VOC's (mg/kg)		
Acetone	NLE	NLE
2-Butanone	NLE	NLE
1,2-Dichloroethene (total)	NLE	NLE
Vinyl Chloride	NLE	NLE
SVOCs (mg/kg)		
bis-(2-Ethylhexyl)phthalate	NLE	NLE
Dimethylphthalate	NLE	NLE
Di-n-butylphthalate	NLE	NLE
Di-n-octyl phthalate	NLE	NLE
2,2'-oxybis(1-Chloropropane)	NLE	NLE
PAHs (mg/kg)		
Benzo (a)anthracene	0.23	0.261
Benzo(a)pyrene	0.4	0.43
Benzo (b)fluoranthene	NLE	NLE
Chrysene	0.4	0.984
Fluoranthene	0.6	0.6
Phenanthrene *	0.225, 0.326	0.74
Pyrene	0.35	0.665
PESTICIDES/PCBs (mg/kg)		
4,4'-DDD	0.002	NLE
4,4'-DDE	0.002	0.0022
4,4'-DDT *	0.003, 0.00183	0.00158
Heptachlor epoxide	NLE	NLE
METALS TOTAL (mg/kg)		
Aluminum	NLE	NLE
Arsenic	33	8.2
Barium	NLE	NLE
Beryllium	NLE	NLE
Cadmium	5	1.2
Calcium	NLE	NLE
Chromium	80	81
Cobalt	NLE	NLE
Copper	70	34
Iron	NLE	NLE
Lead	35	46.7
Magnesium	NLE	NLE
Manganese	NLE	NLE
Mercury	0.15	0.15
Nickel	30	20.9
Potassium	NLE	NLE
Selenium	NLE	NLE
Silver	1	1
Sodium	NLE	NLE
Vanadium	NLE	NLE
Zinc	120	150

a NJDEP Sediment Guidance (1991), based on NOAA (1990) ER-L guidance. Values provided are for freshwater sediments. Criteria for DDE and DDD are not presented in NJDEP Sediment Quality Evaluations (1991).

b Long et. al (1995).

* - Standards developed using equilibrium partioning approach in accordance with NJDEP Guidance for Sediment Quality Evaluation (1991). Total organic carbon concentrations of 1% assumed based on organic carbon content detected in adjacent sample.

NLE - No Level Established

Table 4.1-5

Potentially Applicable PCB Cleanup Levels

New Jersey (Proposed 7:26D)

- Building interior:
  - Porous surface (from floor to 6 feet): chip sample < 0.055 µg/g
  - Porous surface (higher than 6 feet): chip sample < 0.11 mg/g
  - Nonporous surface (from floor to 6 feet): wipe sample < 0.27 mg/m^2 (2.7 mg/100 cm^2)
  - Nonporous surface (higher than 6 feet): wipe sample < 0.54 mg/m^2 (5.4 µg/100 cm^2)
- Soil:
  - Surface soil*: Soil sample < 0.49 mg/kg (ppm)
  - Subsurface soil: Soil sample < 100 mg/kg (ppm)

*Surface soil is top 2 feet of soil.

detection limit to ensure the confidence of the value reported. When a concentration is detected below the laboratory quantitation limit but above the method detection limit, the letter "J" is assigned to that concentration. The J indicates that the concentration is estimated due to detection at or below the laboratory quantitation limit (but above the method detection limit). The method detection limits are reported in the summary tables in Section 4 and Appendix D, but the quantitation limits are reported only in Appendix D.

Many of the inorganic compounds in soil and groundwater that were analyzed for occur in nature or commonly exist because of human activities. For example, naturally occurring inorganic compounds are always present in groundwater and soil samples. Lead is generally found at elevated levels near heavily traveled roads because it was formerly used in gasoline. Pesticides and herbicides are commonly found in suburban settings because of past applications of these substances.

The background concentration, therefore, is the concentration of a compound in the environment that occurs naturally or as the result of unrelated base activities. The estimate of background is based on analytical results of sampling at background locations and a review of published material.

There is no generally accepted method for determining the background concentration. For this investigation, a total of 10 groundwater and soil background samples and 2 sediment and surface-water background samples were taken on both Charles Wood and Main Post. Background sampling locations were selected as specified in the document *Investigations of Suspected Hazardous Waste Sites at Fort Monmouth, New Jersey* (WESTON, 1993), which was approved by NJDEP. The U.S. Environmental Protection Agency (EPA) has provided some guidance in its document *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities.* It provides a number of scenarios for comparing groundwater analytical data against background well data. In discussing the tolerance interval method, the document suggests that the groundwater data be compared with the 95% confidence limit for the 95th percentile of the background data; however, the method specified can be strictly applied only when the data have a normal distribution or a log normal distribution. Neither of these is true for the background

data collected at Fort Monmouth. Nonparametric methods that are similar to the tolerance interval method involve simply selecting the data value that is at the 95th percentile of the data set. Since there are 10 data points, the equivalent method for the background samples at Fort Monmouth is to use the maximum background value. Each environmental sample concentration was compared against the maximum value that was measured in the background samples. If a compound was not detected in the background samples, then any measurement above the detection limit for that compound in an environmental sample was considered to be above background. This practice was followed at other New Jersey sites.

An outlier screening was conducted to identify background concentrations that were not consistent with other background concentrations. Based on the screening, outliers were rejected for beryllium, chromium, cobalt, lead, vanadium, and zinc in groundwater on the Main Post, and manganese in soil on Charles Wood.

The Monmouth County and site-specific background concentrations for total metals at Fort Monmouth were determined using literature values and on-site background data. The values in Tables 4.1-6 and 4.1-7 are based on the maximum concentrations of inorganic analytes in background wells and soil borings at Main Post and Charles Wood. These data are compared with the maximum Monmouth County background values, based on published data. The Monmouth County values for soil are from Fields et al., 1992, and the Monmouth County background values for groundwater are from Harriman and Sargent, 1985.

The Monmouth County background concentrations for soils are based on the analyses of samples from the vicinity of Fort Monmouth (see Table 9 and the locations of samples 35 and 36 in Figure 1 in Fields et al., 1992). Sample 36 (Fields et al., 1992) was collected near Charles Wood and sample 35 (Fields et al., 1992) was collected northeast of the Main Post. The site-specific background concentrations are based on samples from the two areas collected during this investigation. Most of the soil samples were from landscaping fill and natural deposits in Fort Monmouth. The screened intervals in the background monitor wells are also in landscaping fill

Table 4.1-6

Fort Monmouth - Main Post

Summary of Site-Specific and Monmouth County

Soil and Groundwater Maximum Background Concentrations

COMPOUNDS	SOILS		GROUNDWATER	
	Site Specific (maximum)	Monmouth County[1] (maximum)	Site Specific (maximum)	Monmouth County[2] (maximum)
SVOC'S	(mg/kg)	(mg/kg)	(µg/L)	(µg/L)
Phenol	0.420 J	-	ND	-
Acenaphthylene	0.041 J	-	ND	-
Acenaphthene	0.100 J	-	ND	-
Dibenzofuran	0.060 J	-	ND	-
Diethylphthalate	ND	-	ND	-
Fluorene	0.074 J	-	ND	-
Phenanthrene	0.39	-	ND	-
Anthracene	0.100 J	-	ND	-
Di-n-butylphthalate	2.2 B	-	ND	-
Fluoranthene	0.46	-	ND	-
Pyrene	1.5	-	ND	-
Benzo(a)anthracene	0.65	-	ND	-
Chrysene	0.65	-	3 J	-
bis(2-Ethylhexyl)phthalate	.19 J	-	5 J	-
Benzo(b)fluoranthene	0.9	-	ND	-
Benzo(k)fluoranthene	0.43	-	ND	-
Benzo(a)pyrene	0.6	-	ND	-
Indeno(1,2,3-cd)pyrene	0.46	-	ND	-
Dibenzo(a,h)anthracene	0.079 JB	-	ND	-
Benzo(g,h,i)perylene	0.64 B	-	ND	-
PESTICIDE / PCB	(mg/kg)	(mg/kg)	(µg/L)	(µg/L)
Heptachlor epoxide	ND	-	0.041 J	-
4,4-DDD	0.0096 P	-	ND	-
4,4'-DDE	0.0096 P	-	ND	-
4,4'-DDT	0.11	-	ND	-
METALS TOTAL	(mg/kg)	(mg/kg)	(µg/L)	(µg/L)
Aluminum	15200	NLE	121000	NLE
Antimony	ND	NLE	20.7	NLE
Arsenic	22.9	4.56	89.3	NLE
Barium	32.3	NLE	699	400
Beryllium	2	0.09	2.1	7
Calcium	921	NLE	45400	7300
Cadmium	ND	0.116	9.5	6
Cobalt	2.5	NLE	18.3	NLE
Chromium	269	0.104	191	< 50
Copper	8	6.05	65.6	730
Cyanide	ND	NLE	ND	NLE
Iron	55800	11	431000	27000
Lead	19.5	25.9	22.7	< 100
Magnesium	7230	NLE	62700	25000
Mercury	ND	NLE	0.26	NLE
Manganese	90.7	59	331	480
Nickel	8.4	3.2	187	NLE
Potassium	15400	NLE	137000	10000
Silver	1.1	0.21	ND	< 10
Sodium	51.6	NLE	21500	197000
Selenium	1.9	0.11	29.6	NLE
Thallium	ND	NLE	5.5	NLE
Vanadium	94.1	1.3	108	NLE
Zinc	81.4	44.6	233	60

ND - Not detected at the quantification limits

NLE - No level established

[1] - Sample 35 in Fields et al., 1992

[2] - From Table 9 in Harriman and Sargent, 1985

- Literature search was not completed for SVOC and Pest/PCB compounds.

Table 4.1-7

Fort Monmouth - Charles Wood

Summary of Site Specific and Monmouth County

Soil and Groundwater Maximum Background Concentrations

COMPOUNDS	SOILS		GROUNDWATER	
	Site Specific (maximum)	Monmouth County[1] (maximum)	Site Specific (maximum)	Monmouth County[2] (maximum)
SVOC'S	(mg/kg)	(mg/kg)	(µg/L)	(µg/L)
Phenol	ND	-	ND	-
Acenaphthylene	ND	-	ND	-
Acenaphthene	ND	-	ND	-
Dibenzofuran	ND	-	ND	-
Diethylphthalate	ND	-	1 J	-
Fluorene	ND	-	ND	-
Phenanthrene	ND	-	ND	-
Anthracene	ND	-	ND	-
Di-n-butylphthalate	2 B	-	ND	-
Fluoranthene	0.042 J	-	ND	-
Pyrene	0.048 J	-	ND	-
Benzo(a)anthracene	0.046 J	-	ND	-
Chrysene	0.083 J	-	ND	-
bis(2-Ethylhexyl)phthalate	0.170 J	-	600	-
Benzo(b)fluoranthene	0.078 J	-	ND	-
Benzo(k)fluoranthene	0.041 J	-	ND	-
Benzo(a)pyrene	0.047 J	-	ND	-
Indeno(1,2,3-cd)pyrene	ND	-	ND	-
Dibenzo(a,h)anthracene	ND	-	ND	-
Benzo(g,h,i)perylene	0.042 J	-	ND	-
PESTICIDE / PCB	(mg/kg)	(mg/kg)	(µg/L)	(µg/L)
Heptachlor epoxide	ND	-	ND	-
4,4-DDD	ND	-	ND	-
4,4'-DDE	0.071	-	ND	-
4,4'-DDT	0.053	-	ND	-
METALS TOTAL	(mg/kg)	(mg/kg)	(µg/L)	(µg/L)
Aluminum	15700	NLE	8210	NLE
Antimony	ND	NLE	ND	NLE
Arsenic	31.6	10.7	25.1	NLE
Barium	26	NLE	192	400
Beryllium	1.7	0.88	2.8	7
Calcium	653	NLE	8700	7300
Cadmium	ND	0.135	3.7	6
Cobalt	4.5	NLE	30.6	NLE
Chromium	128	0.14	49.6	< 50
Copper	6.6	7.27	9.8	730
Cyanide	0.41	NLE	ND	NLE
Iron	45500	23.7	19600	27000
Lead	11.1	15.1	7.3	< 100
Magnesium	3960	NLE	7160	25000
Mercury	ND	NLE	ND	NLE
Manganese	48.7	120	232	480
Nickel	8.3	8.3	48.3	NLE
Potassium	10600	NLE	4630	10000
Silver	ND	0.26	ND	< 10
Sodium	56.8	NLE	36400	197000
Selenium	0.85	0.17	3.8	NLE
Thallium	ND	NLE	ND	NLE
Vanadium	59.6	14	28.9	NLE
Zinc	55.6	28.1	133	60

ND - Not detected at the quantification limits

NLE - No level established

[1] - Sample 36 in Fields et al., 1992

[2] - From Table 9 in Harriman and Sargent, 1985

- Literature search was not completed for SVOC and Pest/PCB compounds.

and natural deposits. The Monmouth County and site-specific background concentrations are provided in Tables 4.1-6 and 4.1-7.

Table 4.1-6 summarizes the Monmouth County and site-specific background concentrations for the Main Post area. The background concentrations of metals in soils at the Main Post site are generally below regional concentrations, except for arsenic, chromium, beryllium, selenium, iron, manganese, nickel, zinc, silver, and vanadium.

Nine analytes exceeded maximum Monmouth County values for groundwater in the Main Post area: barium, beryllium, calcium, cadmium, chromium, iron, magnesium, potassium, and zinc (Table 4.1-6).

Table 4.1-7 summarizes the Monmouth County and site-specific background concentrations for the Charles Wood area. The background concentrations in soils at Charles Wood are generally below Monmouth County concentrations, except for arsenic, beryllium, chromium, iron, selenium, vanadium, and zinc.

For the background groundwater concentration established for this investigation, two analytes exceeded the maximum values established for Monmouth County: calcium and zinc (Table 4.1-7). Calcium concentrations in groundwater at Charles Wood are 12% higher than the Monmouth County concentrations. Zinc concentrations are twice as high as the Monmouth County concentrations.

Several factors, both natural and anthropogenic, contribute to the wide range in the concentrations of metals in the soils at the Main Post and Charles Wood areas. The primary natural influence on the chemical characteristics of the overburden at Fort Monmouth is parent material. The parent material is glauconitic quartzose sands of the Tinton and Red Bank sands and their fluvially- and tidally-reworked equivalents. The mineral glauconite is a potassium-, sodium-, calcium-, iron-, aluminum-, magnesium-rich hydrosilicate (Klein et al., 1985). Soils derived from the glauconitic sands contain abundant iron, aluminum, calcium, magnesium, manganese, and potassium (Tedrow, 1986). The tidal sediments probably contained iron and manganese concretions. As

noted by Fields et al. (1992, p. 19), manganese is a highly variable soil constituent. Groundwater flowing through glauconitic formations contains calcium and magnesium (Meisler et al., 1988, p. 215).

An additional natural influence on background groundwater chemistry is saltwater intrusion. As noted in Section 2, the Main Post and Charles Wood areas are underlain by dissected unconsolidated Coastal Plain sediments. The Coastal Plain aquifers are susceptible to saltwater encroachment, particularly near the coast and along tidal rivers and streams (Gill, 1962; Harriman et al., 1989; Harriman and Sargent, 1985).

Saltwater encroaches several miles inland on tidal streams, particularly during periods of low flow (Gill, 1962). Saltwater encroachment will lead to saltwater intrusion into the adjacent aquifers. Husky Brook and Lafetra Creek are tributary estuaries to the estuaries of Oceanport and Parkers Creeks. Saltwater will encroach several miles up these estuaries.

The area of Monmouth County where Fort Monmouth is located is underlain by groundwater with relatively high manganese and iron concentrations. The manganese and iron concentrations reported for eastern Monmouth County in Harriman et al. (1989) range from 110 to 200 µg/L for manganese and 7,900 to 14,000 µg/L for iron. These concentrations are reported for the Upper Potomac Raritan-Magothy aquifer, but the concentrations are expected to be comparable in the shallower, lithologically similar Tinton and Red Bank sands.

Anthropogenic influences on the background metals include deposition of airborne dust, and fertilizers, pesticides, and herbicides (Fields et al., 1992). The Fort Monmouth area is located downwind from farms (Jablonski, 1989). Vanadium can be a result of oil burning (Fields et al., 1992, p. 20). Arsenic was a common constituent of herbicides and pesticides in the past.

Concentrations detected in surface-water samples collected at Fort Monmouth (Main Post and Charles Wood) in December 1994 were compared to fresh and saltwater NJDEP Surface Water Standards (NJDEP, 1993). Based on observations by field personnel, sample locations were designated as saltwater if the area was tidally influenced. All surface-water and sediment

sampling locations at the Main Post were determined to be saltwater, with the exception of site M-2 (M2SW-1 and M2SW-2) and background locations (SS-B1 and SS-B2). However, all sampling locations at Charles Wood were designated as freshwater. Detected concentrations were also compared to maximum background concentrations for surface water collected at each site. Because many contaminants are readily sorbed to sediment and particles suspended in the water column, and may significantly augment concentrations of contaminants detected in surface water, total (unfiltered) as well as soluble (filtered) surface-water concentrations were compared to criteria and background. Note, however, that the criteria are developed based on the total concentration in surface-water. Surface-water locations sampled at the Main Post were M-2, M-3, and M-14: background surface-water samples were collected at two areas (SS-B1 and SS-B2). Only background surface-water samples were collected at Charles Wood (CW-2 and CW-5). Surface-water criteria are presented in Table 4.1-4. Maximum background concentrations are presented in Table 4.1-8 for the Main Post and in Table 4.1-9 for Charles Wood.

Concentrations of chemicals detected in freshwater and saltwater sediment samples collected at Fort Monmouth, NJ (Main Post and Charles Wood) in December 1994 were compared to NJDEP freshwater sediment guidance values (NJDEP, 1991), or marine/estuarine biological effects screening levels for saltwater (Long et al., 1995), as well as maximum detected background concentrations detected from each site. Concentrations from two sediment sample locations at the Main Post, AOC-3 and the pre-1941 STP, and one location at Charles Wood, CW-5, were compared to the appropriate sediment criteria and background. Sediment criteria are presented in Table 4.1-4. No background sediment samples were collected at saltwater locations on the Main Post. Maximum background concentrations are presented in Tables 4.1-8 and 4.1-9.

NJDEP sediment guidance values incorporate National Oceanic and Atmospheric Administration (NOAA) sediment guidance values (NOAA, 1990) and NJDEP's equilibrium partitioning (EqP) approach for evaluating toxicity and bioavailability of sediment-bound, nonionic organic chemicals. For this screening evaluation, concentrations in sediment were compared to sediment NOAA Effects Range-Low (ER-L) levels (i.e., the lower 10th percentile of the chemical concentration associated with toxicity) and EqP-based criteria, which are adjusted to reflect site-specific total organic carbon (TOC) content (Table 4.1-4).

Background sediment samples were collected from two areas at the Main Post (SS-B1 and SS-B2), and two areas at Charles Wood (CW-2 and CW-5).

Table 4.1-8
Fort Monmouth - Main Post
Surface Water and Sediment Maximum Background Concentrations

COMPOUND	SEDIMENTS (mg/kg)	SURFACE WATER	
		Total	Soluable
VOCs			
Acetone	0.47 B	ND	ND
2-Butanone	0.1	ND	ND
SVOCs			
Phenanthrene	0.39 J	ND	ND
Anthracene	0.061 J	ND	ND
Carbazole	0.051 J	ND	ND
Di-n-butylphthalate	0.26 JB	ND	ND
Fluoranthene	1.5	ND	ND
Pyrene	2	ND	ND
Benzo(a)anthracene	1.3	ND	ND
Chrysene	0.37 J	ND	ND
bis(2-Ethylhexyl)phthalate	0.43 J	ND	ND
Benzo(b)fluoranthene	1.8	ND	ND
Benzo(k)fluoranthene	0.58	ND	ND
Benzo(a)pyrene	1.2	ND	ND
Indeno(1,2,3-cd)pyrene	0.7	ND	ND
Dibenzo(a,h)anthracene	0.12 J	ND	ND
Benzo(g,h,i)perylene	0.67	ND	ND
Total Organic Carbon	5.7	ND	ND
PESTICIDES/PCBs			
Heptachlor epoxide	0.014 P	ND	ND
Endosulfan I	0.0024 J	ND	ND
4,4'-DDE	0.0092 J	ND	ND
4,4'-DDD	0.013	ND	ND
4,4'-DDT	0.0057 JP	ND	ND
alpha-Chlordane	0.011 P	ND	ND
gamma-Chlordane	0.0092 P	ND	ND
METALS			
Aluminum	9060	748	ND
Arsenic	14.5	2.6	ND
Barium	87.6	44.7	39.4
Beryllium	3.2	ND	ND
Calcium	3180	31600	30900
Cobalt	119	8.1	4.1
Chromium	88.1	7.5	ND
Copper	48.4	3.2	4
Iron	61900	6210	405
Mercury	1.7	ND	ND
Potassium	10200	5060	4280
Magnesium	3280	5440	5120
Manganese	70.2	113	98.6
Sodium	189	26700	26200
Nickel	131	22.9	16.1
Lead	64.1	10	ND
Selenium	1.7	ND	ND
Vanadium	49.1	5.8	ND
Zinc	162	35.1	23.8
Cyanide	3.1	ND	ND

Table 4.1-9
Fort Monmouth - Charles Wood
Surface Water and Sediment Maximum Background Concentrations

COMPOUND	SEDIMENT	SURFACE WATER	
		(Total)	(Soluble)
SVOCs (mg/kg)			
bis-(2-Ethylhexy)phthalate	0.23 J	1 J	ND
Di-n-butylphthalate	0.12 J	ND	ND
PAHs (mg/kg)			
Benzo (a)anthracene	0.09 J	ND	ND
Benzo (a)pyrene	0.1 J	ND	ND
Benzo (b)fluoranthene	0.16 J	ND	ND
Benzo (g,h,i)perylene	0.21 J	ND	ND
Chrysene	0.14 J	ND	ND
Fluoranthene	0.12 J	ND	ND
Indeno (1,2,3-cd)perylene	0.19 J	ND	ND
Phenanthrene	0.079 J	ND	ND
Pyrene	0.41 J	ND	ND
PESTICIDES/PCBs (mg/kg)			
4,4'-DDD	0.015 PD	ND	ND
4,4'-DDE	0.096	ND	ND
4,4'-DDT	0.11	ND	ND
METALS TOTAL (mg/kg)			
Aluminum	6660	265	160
Antimony	ND	26.8	ND
Arsenic	5.8	ND	ND
Barium	45.7	77.1	78.2
Calcium	2960	22900	24000
Chromium	36.9	ND	ND
Cobalt	4.2	2.8	ND
Copper	24.5	8	10.2
Iron	19600	715	435
Lead	142	5.3	65.9
Magnesium	2560	7050	7390
Manganese	65.1	97.4	100
Nickel	11.3	ND	ND
Potassium	1700	3590	4040
Selenium	0.68	ND	ND
Sodium	271	156000	164000
Vanadium	39.5	ND	ND
Zinc	126	204	215

J - Estimated Concentrations

D - Diluted Analysis

P - Percent difference between two columns, the smaller of two is reported

ND - Compound was not detected at or above the quantification limit.

Main Post
Background Samples

4.2 MAIN POST

Subsection 4.2 presents a description of each Main Post site, the sampling rationale, and the results of sampling activities. The sites and the sampling effort are summarized in Table 4.2-1. Additional historical information on each site may be obtained from the *Investigation of Suspected Waste Sites at Fort Monmouth, New Jersey*, 1993.

This subsection also summarizes the results of the sediment, surface-water, soil, and groundwater sampling program that was implemented to characterize site conditions on the Main Post, as identified in the WESTON report titled *Site Investigation, Chemical Data Acquisition Plan* (CDAP). A total of 4 sediment and 8 surface-water samples were taken on the Main Post. In addition, a total of 15 soil borings and 29 monitor wells were installed on Main Post sites. Soil and groundwater samples were collected from the borings and monitor wells and were analyzed for compounds determined to be characteristic of the wastes associated with each area, i.e., TCL and TAL analytes (Tables 3.6-1 and 3.8-1).

The field effort was conducted in accordance with the scope and procedures outlined in the CDAP. However, there were slight differences, which are summarized in Table 4.2-2. Appendix D presents the analytical results of the Main Post sampling activities. Detailed information regarding the specific sampling protocols for each site is provided in the subsections that follow. In addition to the results of groundwater and soil analyses, the lithologic descriptions and water-level information are used to provide a hydrogeologic interpretation of the site, where appropriate.

Figure 4.2-1 shows the location of the 13 Main Post sites discussed in this subsection.

4.2.1 Background Samples

The background sample locations were selected prior to the initiation of field activities in areas believed to be unaffected by base activities. These locations were as specified in the

Table 4.2-1

Site Investigation Summary — Main Post

Site Number	Site Type	Description	Potential Waste/ Contaminants	Previous Sampling Activities[a]	Investigation Activities
M-2	Landfill	Operated 1964-1968. Currently used for leaf composting and to store wood chips. Debris protrudes from bank of Mill Creek. Was unfenced — covered with soil and gravel from Earle.	Domestic and industrial waste, oil in cans, filters, soot, and building rubble.	NJPDES sampling upstream (SW-1) and downstream (SW-2) on Mill Creek. Detected VOCs, metals, and inorganics.	Installed and sampled 3 monitor wells. Sampled surface water at the NJPDES locations (M2SW-1 and M2SW-2) and a new upstream surface-water location (SS-B1). Analyzed for TCL +30[b]/TAL/CN. Tidal water-level monitoring.
M-3	Landfill	Operated 1959-1964. Was fenced; had skeet shooting range. Burned wood debris. Had tear gas training in tent. Currently grass-covered; no visible debris.	Domestic and industrial waste. Wood and coal ash from stoves, boiler.	NJPDES sampling locations SS-3, SS-4. Detected VOCs, metals, and inorganics.	Sampled surface water at the NJPDES locations (M10SW-1 and M6SW-1) and upstream surface-water sampling location (SS-B2). Used GPR and magnetics to define extent of landfill. Installed and sampled 3 monitor wells. Analyzed for TCL +30/TAL/CN.
M-4	Landfill	Operated 1956 only. Currently grass-covered; no visible debris.	Building rubble.	None.	Installed and sampled 3 monitor wells. Analyzed for TCL +30/TAL/CN.
M-5	Landfill	Operated 1952-1959. Currently grass-covered; no visible debris.	Domestic and industrial waste.	NJPDES sampling locations SS-5, SS-6. Detected VOCs, metals, and inorganics.	Installed and sampled 2 monitor wells. Analyzed for TCL +30/TAL/CN/sulfate.
M-6	Burning area	Located on Landfill M-3. Operated until 1970s. Burned general trash. Currently no visible contamination.	General trash.	None.	See M-3.
M-8	Landfill	Operated 1962-1981. Currently has leaf-composting operation. Was fenced and controlled during operation.	Domestic and industrial waste including pesticide/herbicide cans, batteries, asbestos, sludge from STP, and miscellaneous chemicals.	Four monitor wells, NJPDES sampling location SS-7.	Abandoned existing wells and piezometers; installed 4 new monitor wells. Analyzed for TCL +30/TAL/CN/NH_3/sulfate. Tidal water-level monitoring.
M-12	Landfill	Date of operation unknown. Located across Husky Brook from M-14.	Domestic and industrial waste, automobiles, oil, and building rubble.	NJPDES sampling locations SS-8, SS-9, and SS-10.	Used GPR and magnetics to locate landfill and define boundaries. Installed 3 monitor wells. Analyzed for TCL +30/TAL/CN. Tidal monitoring with M-14.
M-14	Landfill	Operated from 1965-1966. Has NJPDES permit.	Building rubble and dredgings from Husky Brook Lake.	NJPDES sampling upstream and downstream on Husky Brook Creek, SS-8, SS-9, and SS-10.	Used GPR and magnetics in western area. Installed and sampled 3 monitor wells for TCL +30/TAL/CN. Tidal monitoring with M-12. Sampled M14SW-8 and M14SW-9 surface-water locations.

Table 4.2-1

Site Investigation Summary — Main Post (Continued)

Site Number	Site Type	Description	Potential Waste/ Contaminants	Previous Sampling Activities[a]	Investigation Activities
M-15	Water tank	Used for fire-fighting water. Built in 1940s. Paint chips on ground surrounding tank. Stressed vegetation around base of tank.	Lead.	None.	Collected 2 surface soil samples. Analyzed for TCL SVOCs, TAL, and pesticides.
M-16	Former Pesticide Storage Bldg. 498	Misidentified as Bldg. 167 in 1980 report. Building 498 used for pesticide control shop in the 1940s and 1950s: disposal to sink, which discharged to sanitary sewer. No apparent outside disposal.	Pesticides and herbicides.	None.	Collected 4 soil samples from 0 to 6 inches bgs. Installed soil boring and 1 monitor well. Analyzed for TCL +30. Analyzed for TAL in SB-01.
M-18	Former training area	Army Signal School. Diesel and gasoline generators.	Diesel and oil spilled on ground. PAHs, VOCs, TPHs, lead.	None.	Conducted geophysical surveys, completed 9 soil borings, sampled 6 to 12 inches or 12 to 18 inches, stained areas, and/or just above water table. Installed 2 monitor wells in soil borings. Sampled soil for VOCs and TPHs. In addition, sampled for SVOCs and TAL at SB-06 only. Sampled groundwater for TCL +30/TAL/TPHs.
AOC-3	Former sewage treatment plant	Operated 1941-1975. Sludge drying bed located on concrete base. Sludge transported to golf course and landfills. 1935 map shows pistol range on this location.	Heavy metals, cyanide, and pesticides.	Monitor wells installed west of site. Sludge sampled in 1981; no heavy metals detected.	Sampled outfall sediments and 2 soil borings in sludge bed area for TCL + 30/TAL/CN.
New Site, Not Noted in IA Report	Former treatment plant	Operated until 1941. Located approximately where Bldg. 250 is today. Labeled on 1935 map.	Heavy metals.	None.	Sampled outfall sediment for metals.
PCB Trans-formers	Buildings (see Table 4.2-22)	Several transformers in this area were tested for PCBs in 1990. Those with PCBs >500 ppm were removed or remediated.	PCBs	Transformers sampled — several > 500 ppm. See Table 4.2-22.	Sampled PCB transformer locations.

[a]Results of previous investigation were presented on the report titled *Investigation of Suspected Waste Sites at Fort Monmouth, New Jersey* (1993).
[b]TCL +30 = Target Compound List; includes volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, and polychlorinated biphenyls (PCBs).

Table 4.2-2

Differences Between the Proposed and Actual Work at Main Post

Site	Differences
M-15	Soil samples from SS-01 and SS-02 were collected and analyzed for TCL SVOCs; however, TCL SVOC analyses were not proposed in the CDAP.
M-16	Soil samples from SB-01 were collected and analyzed for TAL metals; however, TAL metals analyses were not proposed in the CDAP.
M-18	Installed 9 soil borings instead of 12, and 2 monitor wells instead of 3 because marshy conditions made some of the planned sampling locations inaccessible. Sampled one existing monitor well in addition to the 2 newly installed wells. In eight of nine soil borings, no soil staining was observed so no SVOC analysis was performed as per the CDAP.

Investigation of Suspected Waste Sites at Fort Monmouth, New Jersey, 1993, which was approved by NJDEP. Background characterization data were collected to evaluate soil, groundwater, surface water, and sediment in areas of the base considered to be representative of natural materials or upgradient conditions.

Sediment and surface-water samples were taken upgradient of the Main Post on Lafetra Creek and Mill Creek. Five background soil borings, which were converted into monitor wells, were installed and two discrete soil intervals were sampled from each boring. Two rounds of groundwater samples were collected from each location. Soil and groundwater samples were analyzed for the parameters listed in Section 3, Tables 3.6-1 and 3.8-1. Background monitor wells were labeled as "B" wells, i.e., MW-01B. Main Post background locations are shown in Figure 4.2-2 and labeled B-1, B-2, etc. Monitor well MW-01B was installed at background location B-1 and a similar practice was followed at the other background locations.

4.2.1.1 Hydrogeologic Interpretation

The five monitor wells installed at the Main Post were installed to depths ranging from 14 ft below ground surface (bgs) to 26 ft bgs. Total depths were determined during drilling and were based on the depth at which water was encountered. The lithology and depth to water varied between background locations, as presented on the lithologic logs in Appendix A. Monitor wells were screened across the water table.

4.2.1.2 Soil Sampling Results

As outlined in the CDAP, soil samples were collected from two discrete intervals: 0 to 2 ft bgs and between 2 and 10 ft bgs or to groundwater. Soil-boring depths varied among the background locations, depending on the depth to groundwater. The compounds detected in background soil samples at the specific sampling intervals, with the corresponding sample identifications, are presented in Appendix D. Table 4.1-6 summarizes the maximum concentrations detected in background soil at the Main Post and presents published maximum concentrations for Monmouth County.

VOCs

VOCs were analyzed for but were not detected in Main Post background soil samples.

SVOCs

A total of 19 SVOCs were detected in Main Post background soil samples (Table 4.1-6).

Pesticides/PCBs

Three pesticides (4,4'-DDE, 4,4-DDD, and 4,4'-DDT) were detected above the laboratory quantitation limit in Main Post background soils.

Metals

A total of 19 metals were detected above laboratory quantitation limits in Main Post background soils.

Cyanide

Cyanide was not detected in any of the Main Post background soil samples.

4.2.1.3 Groundwater Sampling Results

Two rounds of groundwater samples were collected at the Main Post. The compounds detected in groundwater samples from the individual sampling rounds, with the corresponding sample identifications, are listed in Appendix D. Table 4.1-6 summarizes the maximum background concentrations detected in groundwater at the Main Post.

VOCs

VOCs were not detected in any of the background samples from the Main Post.

SVOCs

Two SVOCs [bis(2-ethylhexyl) phthalate and chrysene] were detected in concentrations above or below the laboratory quantitation limits. However, bis(2-ethylhexyl) phthalate is a common laboratory contaminant.

Pesticides/PCBs

One pesticide (heptachlor epoxide) was detected in the background groundwater samples in a concentration below the laboratory quantitation limit. PCBs were not detected at the background locations.

Metals

As indicated in Table 4.1-6, 22 metals (total) were detected in concentrations above laboratory quantitation limits in background groundwater at the Main Post.

Cyanide

Cyanide was not detected in the background groundwater at the Main Post.

4.2.1.4 Surface-Water Sampling Results

Two surface-water samples collected at locations upgradient from on-site drainage (SS-B1 and SS-B2) were selected as background samples (Figure 4.2-2). The analytes detected in background surface water and corresponding sample identifications are presented in Appendix D.

Table 4.1-8 summarizes the maximum detected concentrations in total and soluble background surface water at the Main Post.

VOCs

VOCs were analyzed for but not detected in background surface water (total) at the Main Post. VOC analysis was not performed for the soluble background surface-water samples.

SVOCs

SVOCs were analyzed for but not detected in background surface water (total) at the Main Post. SVOC analysis was not performed for the soluble background surface-water samples.

Metals

A total of 13 metals were detected above laboratory quantitation limits at the Main Post. Similarly, 11 metals were detected above laboratory quantitation limits in the filtered (soluble) background surface-water samples (Table 4.1-8).

4.2.1.5 Sediment Sampling Results

Two sediment sampling locations at the Main Post, SS-B1 and SS-B2, were selected as background because they are located upgradient of on-site drainage (Figure 4.2-2). Analytes detected in background sediment and corresponding sample identifications are presented in Appendix D. Table 4.1-8 summarizes the maximum detected concentrations in background sediment at the Main Post.

VOCs

Four VOCs (acetone, 2-butanone, 1,2-dichloroethene, and vinyl chloride) were detected above the laboratory quantitation limits in Main Post background sediments. However, acetone and 2-butanone are common laboratory contaminants.

SVOCs

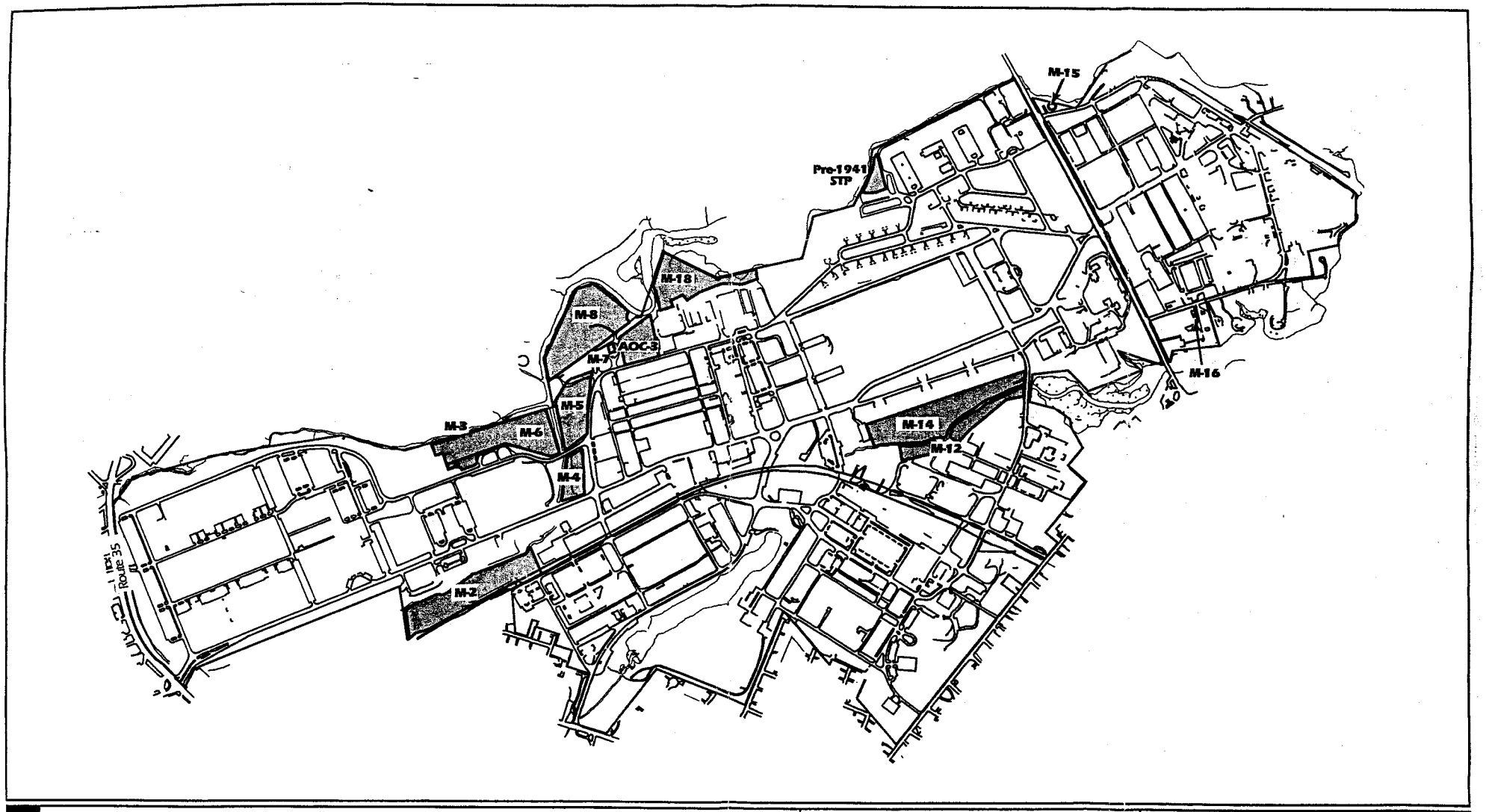
One SVOC, di-n-butyl phthalate, was detected in concentrations above the laboratory quantitation limits in Main Post background sediment. Benzo(a)pyrene was the only polyaromatic hydrocarbon (PAH) compound detected in concentrations above the laboratory quantitation limits in Main Post background sediment.

Pesticides

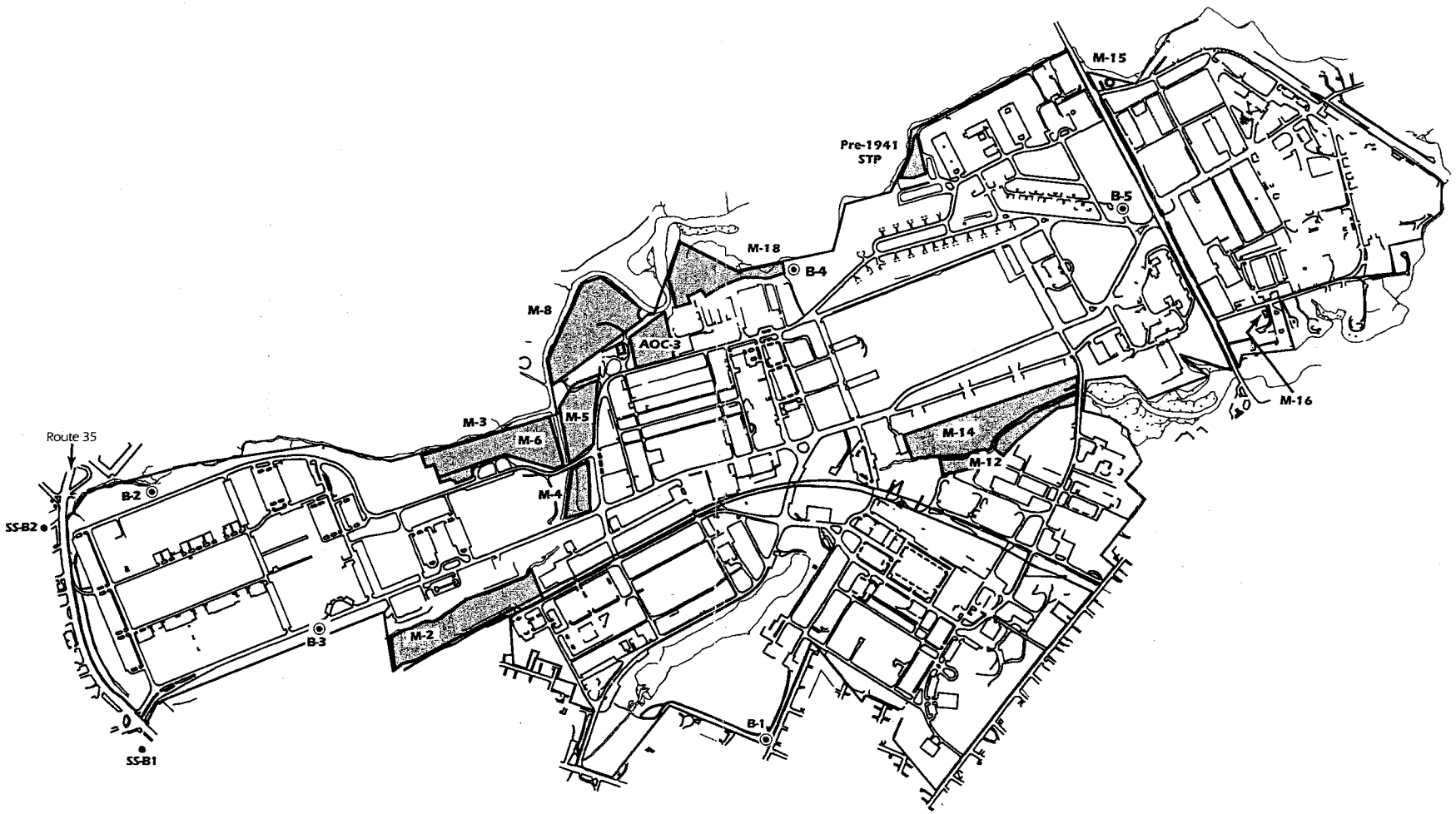
Pesticides were analyzed for but not detected in background sediments at the Main Post.

Metals

A total of 19 metals in background sediment at the Main Post were detected above laboratory quantitation limits (see Table 4.1-8).


M-15
Pre-1941 STP
M-18
M-8
DAOC-3
M-7
M-16
M-5
M-3
M-6
M-14
M-12
M-4
M-2
Route 35
LEGEND
Road (paved)
Building
Site
Lake
Marshy Area
usrd/fort/main/newmain.dgn Sep. 26, 1995 10:07:01
0
800
1600
SCALE IN FEET
95P-3194
9/28.95
Fort Monmouth, Main Post
FIGURE 4.2-1
MAIN POST SITE LOCATION MAP

/FORT/MAIN/MAINSITE.DGN



LEGEND

Road (paved)
Building
Site
Lake
Marshy Area
Background Soil Boring/Monitor Well
Upgradient Surface Water and Sediment

0 800 1600
SCALE IN FEET

95P.3194 5/23/94

Fort Monmouth, Main Post

FIGURE 4.2-2
MAIN POST BACKGROUND SAMPLE LOCATIONS

Site M-2

4.2.2 Landfill 2 (M-2)

4.2.2.1 Site Location

Landfill 2 (M-2) is located in the southwestern corner of the Main Post, on the south bank of Mill Creek (Figures 4.2-1 and 4.2-3). The approximate area of Landfill 2 is 280,400 ft^2 (6.5 acres).

4.2.2.2 Site History

According to the Installation Assessment (IA) (USATHAMA, 1980), Landfill 2 was in use between 1964 and 1968. A review of aerial photographs suggests that the landfill was still in use in 1969. The 1969 aerial photograph shows that the western three-quarters of the site is mostly bare ground with abundant wheel tracks; a 50- by 300-ft area in the center of this western area is covered with small piles of debris; vegetation is visible between some of the piles, suggesting that the piles had been there for some time. The eastern quarter of the site is vegetated; a small square building and a steel storage igloo were located near the entrance to the landfill. At present, the Landfill 2 area is used for storage of wood chips.

Materials generally found in Main Post landfills include unwashed pesticide/herbicide cans, batteries, fluorescent tubes, electronic components, garbage, asbestos wrappings from pipes, soot and boiler scale, sludge from sanitary treatment plants (STPs), small quantities of outdated drugs, outdated photographic chemicals in glass bottles, building rubble [including asbestos-containing materials (ACM)], incinerator ash, sand from oil spill cleanups, and other debris (IA). According to the IA, specific wastes known to have been put in Landfill 2 include oil in cans, oil burner filters (with approximately 0.5 liter of oil in each), and soot. The banks along Mill Creek near the west end of Landfill 2 were reportedly covered with building rubble (concrete, cinder blocks, etc.) to stabilize the bank. Metal and concrete protrude from the banks of Mill Creek.

As part of a New Jersey Pollutant Discharge Elimination System (NJPDES) permit (permit No. 0057274), surface-water samples have been taken at two locations in Mill Creek since February 1986. The results are summarized in the recent report (WESTON, 1993). Two VOCs

(tetrachloroethene and trichloroethene) were detected in concentrations above the NJDEP surface-water criteria.

4.2.2.3 Sampling Effort

To identify the source of the halogenated hydrocarbons (HHCs) detected in surface-water samples collected from a previous investigation (WESTON, 1993), two new surface-water samples (M2SW-1 and M2SW-2) were collected (Figures 4.2-2 and 4.2-3). In addition, three shallow monitor wells (MW-1, MW-2, and MW-3) were installed. Monitor well locations (MW-1 through MW-3) and surface-water locations are presented in Figure 4.2-3. Tidal water-level monitoring was conducted for a minimum of 72 hours in the three monitor wells and at stilling well-1 and stilling well-2 prior to the collection of analytical samples. Two rounds of groundwater samples and one round of surface-water samples were analyzed for TCL +30 parameters (which include VOCs, SVOCs, pesticides, and PCBs), TAL metals, and cyanide.

4.2.2.4 Hydrogeologic Interpretation

Lithologic logs from MW-2 and MW-3 indicate that the lithology consists of a thin soil cover (0.2 ft) underlain by fill material. The components of the filled materials observed in both borings consist of coal and wood fragments, roof shingles, paper, and miscellaneous debris. Natural quartz sand, silt, and clays were intermixed with the manmade materials. Monitor well MW-1, located upgradient of the landfill boundary, indicates a lithology consisting primarily of silty medium-fine-grained sand that overlies a fine-medium-grained sandy silt.

Groundwater saturation was observed at approximately 8 ft bgs at all of the well locations. The three monitor wells were screened across the water table, with total depths of 23, 18, and 16 feet bgs in MW-1, MW-2, and MW-3, respectively. Water-level elevation data, measured on 6 March 1995, indicate that local groundwater flow is north toward Mill Creek (Figure 4.2-4). Based on groundwater elevation measurements, monitor wells MW-2 and MW-3 are downgradient of the M-2 area.

4.2.2.5 Groundwater Sampling Results

Monitor wells at site M-2 were sampled for the analytical parameters listed in Table 3.8-1. The analytical results in groundwater samples from the individual sampling rounds are listed in Appendix D. Table 4.2-3 compares the average concentrations of the detected compounds from the February and March sampling rounds with the NJDEP Groundwater Quality Criteria (GWQC), and then compares the results to the subsequent site-specific maximum background and/or Monmouth County background concentrations, where appropriate. Figure 4.2-5 presents the locations and averaged concentrations of compounds detected above both the NJDEP GWQC and the background concentrations established for the Main Post.

VOCs

Chlorobenzene was the only VOC detected in site M-2 groundwater (Figure 4.2-5). However, chlorobenzene was detected in concentrations exceeding the NJDEP GWQC from both sampling rounds in MW-2 and MW-3. Chlorobenzene was not detected in the February sampling round in MW-1, but was detected in the March sampling round in exceedance of the NJDEP GWQC.

SVOCs

SVOCs were not detected in site monitor wells above laboratory quantitation limits from either sampling round.

Pesticides/PCBs

Pesticides/PCBs were not detected in site monitor wells from either sampling round.

Metals

As indicated in Table 4.2-3, of the 20 metals detected in site groundwater, only 5 (aluminum, arsenic, iron, manganese, and lead) were found in concentrations exceeding the NJDEP GWQC.

Table 4.2-3
Fort Monmouth - Main Post
Summary of Average Concentrations of Detected Compounds in Groundwater - Site M-2

COMPOUND	METHOD DETECTION LIMIT (µg/L)	NJDEP GROUNDWATER QUALITY CRITERIA (µg/L)	MAXIMUM BACKGROUND CONCENTRATIONS (µg/L)	ANALYTICAL RESULTS (µg/L) SAMPLING DATE		
				MW1 2/15/95, 3/8/95 (avg.)	MW2 2/15/95, 3/8/95 (avg.)	MW3 2/15/95, 3/8/95 (avg.)
VOC's (µg/L)						
Chlorobenzene	2.7	4	ND	**17.5**	**29**	**10**
SVOCs (µg/L)						
1,4-Dichlorobenzene	4.8	75	ND	ND	3J	ND
4-Methylphenol	12.9	NLE	ND	ND	4J	ND
Naphthalene	8.4	NLE	ND	ND	3J	ND
2-Methylnaphthalene	8.7	NLE	ND	ND	2J	ND
METALS TOTAL (µg/L)						
Aluminum	24	200	121000	**5355 R**	**2061.5**	**1616.5**
Arsenic	1.9	8*	89.3	**8.95**	4.325	3.4
Barium	1.7	2000	699	135	440.5	105.55
Beryllium	0.9	20*	7[1]	0.775	ND	ND
Calcium	10.4	NLE	45400	14150	89350	64550
Cadmium	2.8	4	9.5	ND	2.7	ND
Cobalt	2.3	NLE	18.3	6.75	3.85	2.5
Chromium	2.9	100	191	66 R	22.5	15.25
Copper	1.9	1000	730[1]	5.3	6.575	5.85
Iron	6.4	300	431000	**15900 R**	**61250**	**20450**
Mercury	0.2	2	0.26	ND	0.25	0.195
Potassium	685	NLE	137000	7195	12000	11150
Magnesium	18.3	NLE	62700	8315	11400	5570
Manganese	1.8	50	480[1]	**78.55**	**286.5**	**483.5**
Sodium	30.5	50000	197000[1]	13100	10390	9170
Nickel	10.8	100	187	19.8	ND	ND
Lead	1.1	10*	22.7	4.4	**11.55**	**14.8**
Selenium	1.5	50	29.6	1.9	ND	ND
Vanadium	2.3	NLE	108	21.25	13.65	9.7
Zinc	3.8	5000	233	472	47.35	79.3

Compounds exceeding NJDEP groundwater quality criteria are noted by bold numbers.
NJDEP groundwater quality criteria consist of the higher number between the PQL or STANDARD
*PQL -Practical Quantitation Limit was used as the NJDEP groundwater quality criteria
NLE - No Level Established
ND - Indicates that the compound was not detected at the noted quantification limit
J - Indicates that the concentration value was estimated due to detection at or near the quantification limits

[1] - Monmouth County maximum background concentration.

R - Data rejected , URS the Data Validator

However, all five metals, with the exception of iron in MW-2 and manganese in MW-3, were found in concentrations below those determined for both site-specific and Monmouth County background at the Main Post. Although iron was found in samples collected from MW-2 in concentrations greater than the range established in the Monmouth County study, the concentrations were well below the site-specific maximum background concentration established at Main Post. Manganese was found in MW-3 in a concentration only slightly greater than the site-specific and Monmouth County background concentrations. As discussed in Subsection 4.1, groundwater flowing through glauconitic formations contains abundant manganese. In addition, manganese is a common metal found in tidally influenced environments. Therefore, manganese is not identified as a compound of concern.

Cyanide

Cyanide was not detected in site monitor wells from either sampling round.

4.2.2.6 Surface-Water Sampling Results

Figure 4.2-6 presents the Main Post surface-water and sediment sampling locations. Surface-water samples were collected from two locations at M-2: M2SW-1 and M2SW-2 (Figures 4.2-3 and 4.2-6). M2SW-1 is upgradient of M2SW-2. Both samples were determined to be freshwater, based on conductivity data, salinity data, and field observations. Total (unfiltered) and soluble (filtered) concentrations were compared to NJDEP freshwater criteria and background and are presented in Table 4.2-4.

VOCs

Two VOCs (tetrachloroethene and trichloroethene) were found in concentrations in the unfiltered samples greater than the NJDEP freshwater criteria and background at locations SW-1 and SW-2. Figure 4.2-5 presents the locations of the compounds detected above the established criteria and maximum background.

Table 4.2-4
Fort Monmouth - Main Post
Summary of Detected Compounds in Site Surface Water
Total and Soluble - Site M-2

COMPOUND	METHOD DETECTION LIMIT	NJDEP SURFACE WATER CRITERIA* FRESH WATER	MAXIMUM BACKGROUND CONCENTRATION (TOTAL)	MAXIMUM BACKGROUND CONCENTRATION (SOLUBLE)	ANALYTICAL RESULTS (µg/L) SAMPLING DATE - 12/1/1994			
					M2 (Total)		M2 (Soluble)	
					SW-1	SW-2	SW-1	SW-2
VOC's (µg/L)								
1,2-Dichloroethene (total)	4.4	592 (h)	ND	ND	3 J	2 J	NA	NA
Tetrachloroethene (PCE)	4.0	0.388 (hc)	ND	ND	**5 J**	**5 J**	NA	NA
Trichloroethene[1]	2.0	1.09 (hc)	ND	ND	**2 J**	**2 J**	NA	NA
SVOCs (µg/L)								
bis-(2-Ethylhexyl)phthalate	9.7	1.76 (hc)	ND	ND	ND	**4 J**	NA	NA
METALS TOTAL (µg/L)								
Aluminum	26.7	NLE	748	ND	258	263	ND	ND
Barium	2.1	2000 (h)	44.7	39.4	42.7	47	38.2	41.8
Calcium	12	NLE	31600	30900	18000	19400	17700	19000
Cobalt	2.4	NLE	8.1	4.1	4.5	4.8	4.1	ND
Copper	2.4	NLE	3.2	4	3.1	2.9	4.2	4.9
Iron	4.7	NLE	6210	405	2760	3020	493	681
Lead	1.6	5 (h)	10	ND	3.1	2.3	**7.6**	ND
Magnesium	38.2	NLE	5440	5120	2930	2860	2860	3070
Manganese	2.0	NLE	113	98.6	89.9	97.6	86.1	92.8
Nickel	12.8	516 (h)	22.9	16.1	ND	ND	14.7	ND
Potassium	821	NLE	5060	4280	2840	2860	2860	3180
Sodium	15.4	NLE	26700	26200	25400	27500	25200	26900
Zinc	2.8	NLE	35.1	23.8	29.1	19.4	19.4	21.1

[1] - Same compound as listed by NJDEP tetrachloroethylene.

* - NJDEP Surface Water Quality Standards (1993).

h -Non carcinogen effect-based human health criteria as a 30 day average.

hc - Carcinogen effect-based human health criteria as 70 year average.

ND - Indicates that the compound was not detected at the noted quantification limit.

J - Indicates that the concentration value was estimated due to detection at or near the quantification limit.

NLE - No Level Established.

NA - Not Analyzed.

Compounds detected above NJDEP Surface Water Criteria are noted by bold numbers.

SVOCs

Bis(2-ethylhexyl) phthalate was the only SVOC detected in site M-2 surface water. In addition, the compound was found in a concentration greater than the NJDEP freshwater criteria and background at location SW-2. Bis(2-ethylhexyl) phthalate is a common laboratory contaminant and can be attributed to sampling or laboratory contamination.

Pesticides/PCBs

Pesticides/PCBs were analyzed for but were not detected in site surface water.

Metals

Of the 13 metals detected in site surface water, only one (lead) was found in a concentration greater than the NJDEP freshwater criteria and maximum background. The compound exceeded the criteria in the filtered sample, but was not detected above criteria in the unfiltered sample (Figure 4.2-5).

4.2.2.7 Tidal Monitoring

Appendix E presents hydrographs of the comparisons between the monitor wells (MW-1 though MW-3) and the stilling wells (1 and 2) during the tidal monitoring tests.

Tidal fluctuations in Mill Creek and in site monitor wells were monitored at upstream tidal monitoring station (stilling well-2), downstream tidal monitoring station (stilling well-1), and site monitor wells (MW-1 through MW-3) (Figure 4.2-3). (Hydrographs are presented in Appendix E.) The tidal monitoring stations are approximately 2,400 ft apart. Changes in creek levels at the upstream location were compared to changes in water levels measured at well MW-2, and changes in creek levels at the downstream location were compared to changes in water levels measured at well MW-3. Wells MW-2 and MW-3 are approximately 150 feet from the creek.

Tidal fluctuations in the creek were also compared to water levels measured at well MW-1, approximately 1,100 feet from the creek. Monitor wells were screened below sea level.

The tidal monitoring data collected at Landfill 2 (M-2) suggest that the stream is influenced by incoming tides. Peaks representing the high tides at stilling well-1 and stilling well-2 are observed, but low tide peaks are not apparent because the elevation of the stream bed at Landfill 2 (M-2) is higher than the elevation of sea level at low tide. The streambed elevation is 1.37 feet above mean sea level (ft msl) at stilling well-1 and 1.28 ft msl at stilling well-2. The maximum change in creek stage at Landfill 2 (M-2) was 1.2 feet, and the maximum change in water level in the monitor wells was 0.2 foot.

Data collected from well MW-1 were useful as baseline data during the tidal monitoring study at Landfill 2 (M-2). The data suggest that there is no apparent tidal effect on the water levels at well MW-1 and creek levels measured at stilling well-1 or -2. Well MW-1 is approximately 1,100 feet from the creek and is too distant to be influenced by changing creek stage. Water levels in the water-bearing unit and creek levels declined by about 0.1 foot over the course of the monitoring study in March 1995.

The water levels recorded at MW-2 and MW-3 appear to be tidally influenced (see Appendix E). Water levels measured at both wells respond almost instantaneously to rising creek levels. The peak in water levels measured at both wells occurs approximately 20 to 40 minutes after the peak in creek stage. At both monitoring locations (stilling well-1, MW-2 and stilling well-2, MW-3) water-level peaks at each well are approximately 15% to 20% of the tidal peak in creek levels.

4.2.2.7.1 Conductivity and Salinity Results

Conductivity and salinity were measured in surface-water and groundwater samples at Landfill 2 (M-2) in January and March 1995, and are presented in tables in Appendix E. Measurements were collected at low tide and high tide each month to evaluate the extent of saltwater intrusion at each site. High conductivity and salinity readings indicate salty or brackish water, whereas low readings indicate freshwater.

The data indicate the presence of freshwater in the creek at Landfill 2 (M-2). Specific conductance measured in the creek at Landfill 2 (M-2) is consistently less than 240 μmhos. In addition, salinity measured in the creek at Landfill 2 (M-2) is consistently less than 0.2 parts per thousand (ppth). The results are consistent with the higher streambed elevation at Landfill 2 (M-2) when compared to Landfill 8 (M-8) and Landfills 12 and 14 (M-12, M-14).

Groundwater sampled from monitor wells MW-1 and MW-3 generally exhibits low conductivity and zero salinity, except well MW-2 at Landfill 2 (M-2). The moderate to high specific conductance at well MW-2 at Landfill 2 (M-2) is unexplained, but is likely caused by saltwater intrusion from Parkers Creek.

4.2.2.8 Recommendations

The surface-water sampling results indicate that two VOCs were detected at the two surface-water locations at concentrations greater than NJDEP surface-water criteria, and above maximum background concentrations. In addition, soluble lead was detected at a concentration greater than NJDEP criteria and the maximum background concentrations. Because the site formerly had an NJPDES permit (permit No. 0057274), surface water has been sampled since 1986. The results from the current round of surface-water sampling for VOCs are less than the maximum results from previous rounds.

Chlorobenzene was detected in the groundwater at concentrations exceeding the NJDEP GWQC and background in both downgradient monitor wells from both sampling rounds and in the upgradient well during one sampling round.

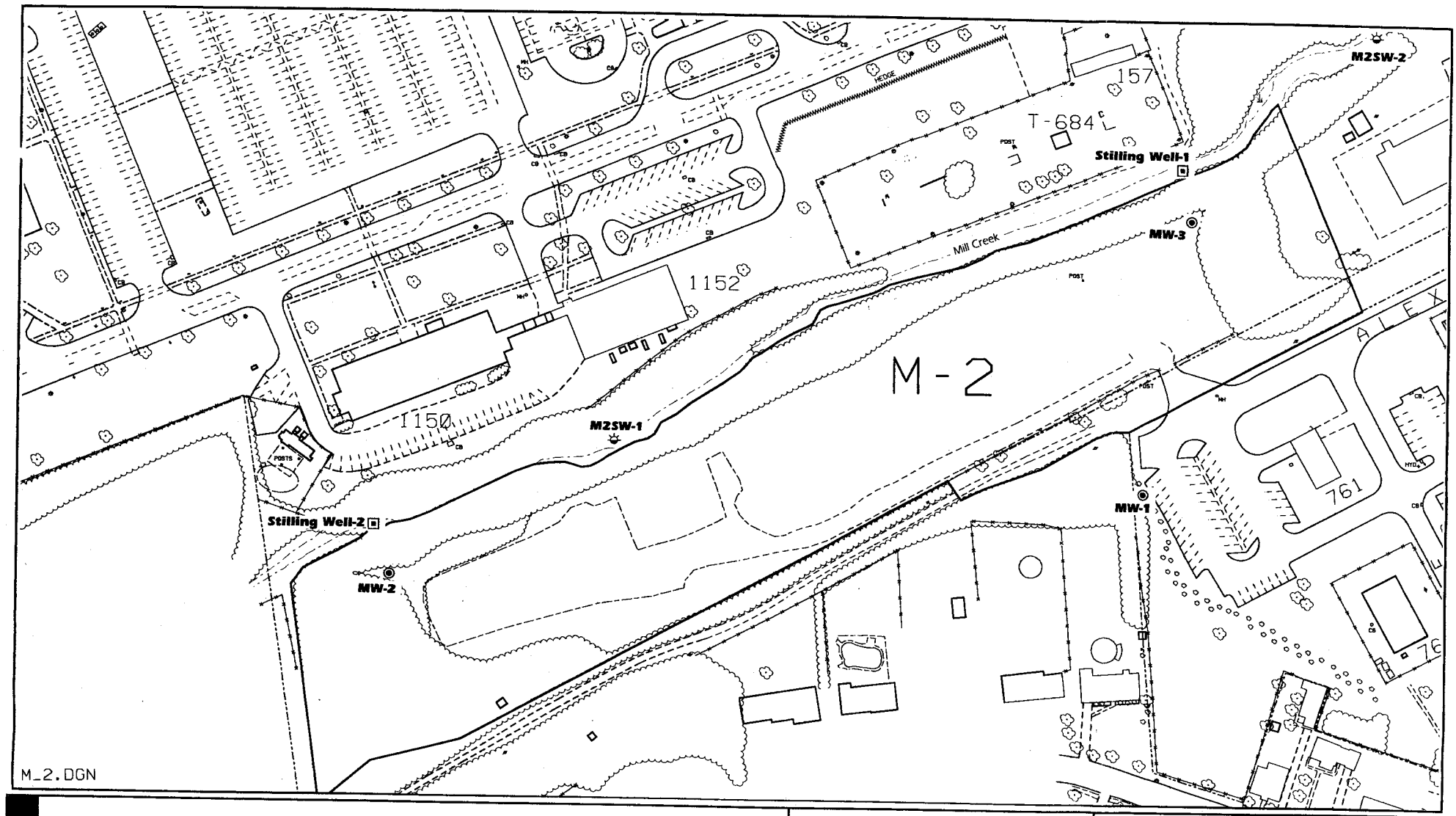
The results of the tidal monitoring indicate that there is no apparent relationship between the changing creek levels and the water levels in upgradient monitor well MW-1; however, a direct relationship was observed between changing creek levels and the water levels in downgradient monitor wells MW-2 and MW-3. Conductivity and salinity results indicate the presence of freshwater in the creek at site M-2. Freshwater was indicated at monitor wells MW-1 and

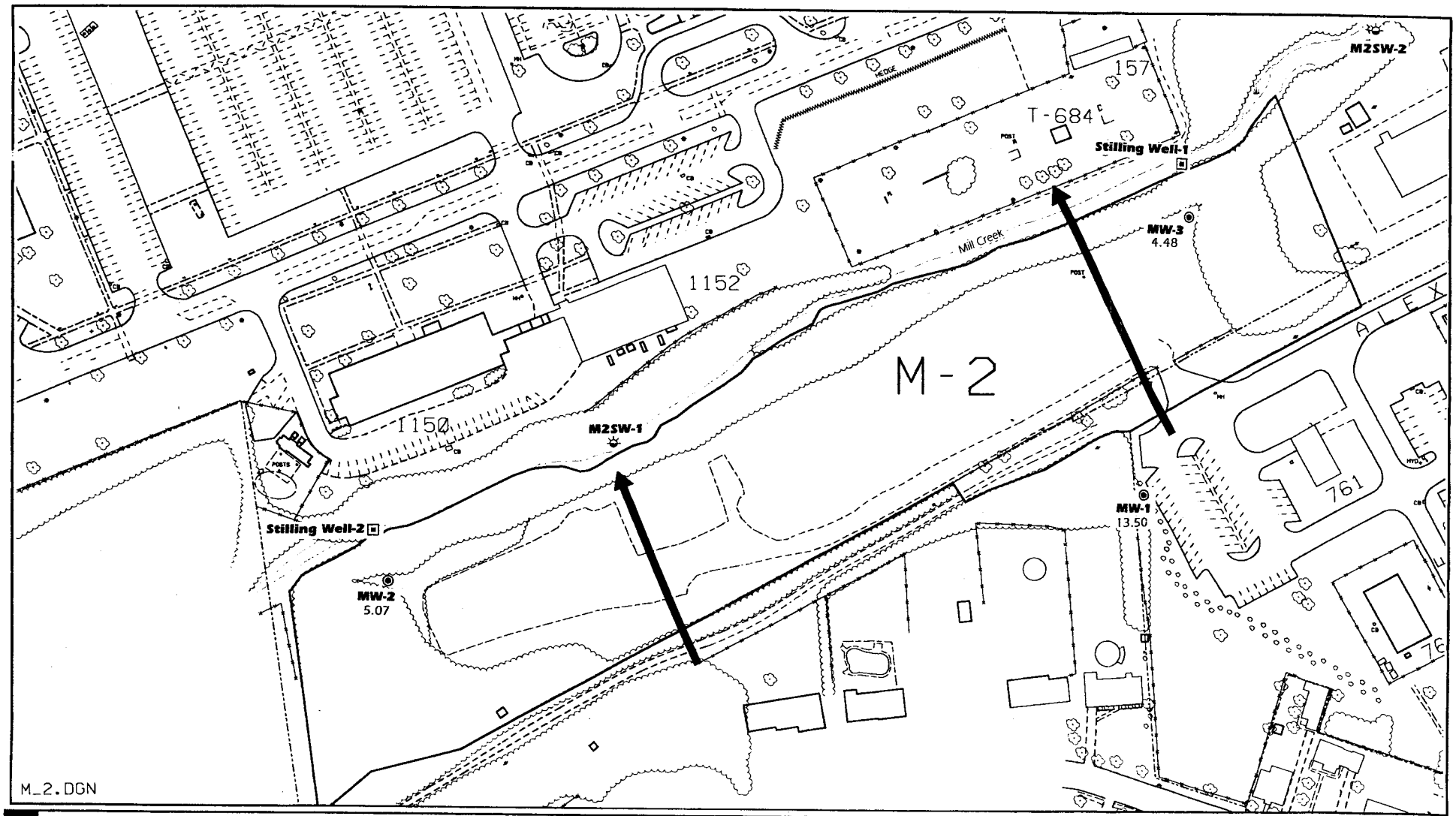
MW-3. A moderate to high specific conductance was measured at monitor well MW-2, which is unexplained.

Although groundwater sample results at site M-2 exceeded NJDEP criteria for one VOC, and surface-water results were slightly exceeded by two VOCs, immediate remedial action is not required for several reasons. Immediate remedial action is usually based on an immediate threat to human health. At this site, shallow groundwater flows toward and discharges to Mill Creek, as indicated by water-level measurements in site monitor wells. Also, there are no known uses of groundwater at or downgradient of the site. Although there is slight VOC contamination in Mill Creek, there is no use of this water for human consumption. In fact, Mill Creek becomes saline immediately downgradient of site M-2. Therefore, the groundwater and surface waters are not used for drinking water.

In addition, surface-water sampling has been performed at this site since 1986, and since the landfill has not been used for decades, the concentrations of VOCs seem, at worst, to be stable and possibly decreasing. Presumably, since no material is being added to the source (the landfill), natural degradation will decrease groundwater and surface-water contamination levels in the future. Although downgradient surface-water samples were not taken during this round, previous sampling at site M-8 indicated that NJDEP surface-water criteria were not exceeded for VOCs. Therefore, the only portion of Mill Creek for which NJDEP surface-water criteria are exceeded is the portion between sites M-2 and M-8. All of this portion is on Fort Monmouth property and, therefore, access to it is restricted.

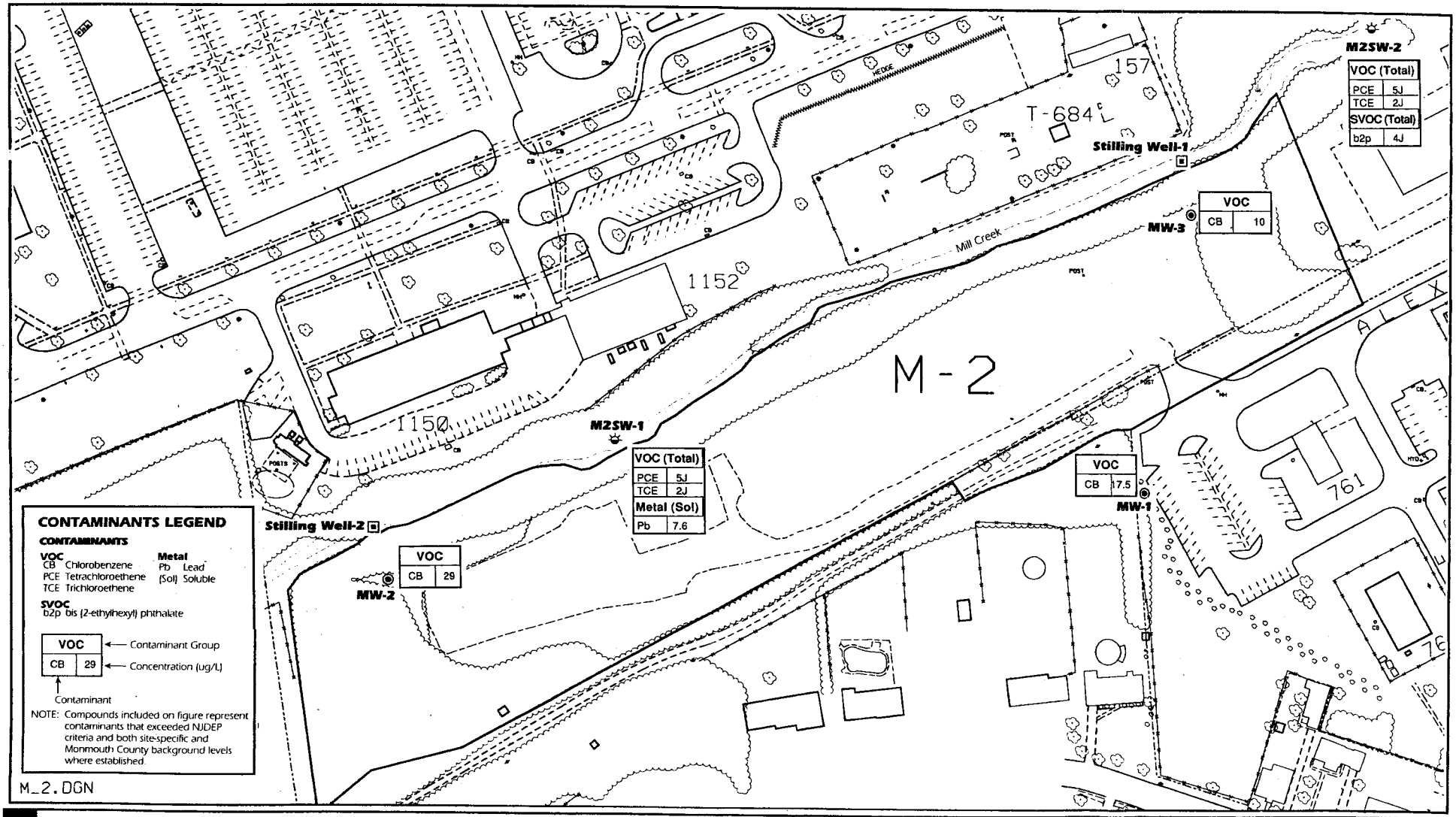
Since the existing monitor wells and surface-water sampling locations are adequately placed to monitor downgradient groundwater and surface water, the Fort Monmouth Directorate of Public Works (DPW) proposes that a long-term surface-water and groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells, and surface-water samples would be collected from points yet to be determined. Compounds of concern identified in the first two rounds of sampling would be targeted for the monitoring program.


M2SW-2
Stilling Well-1
MW-3
Mill Creek
M-2
M2SW-1
MW-1
Stilling Well-2
MW-2
M_2.DGN
LEGEND
Monitor Well
Existing Surface Water Sampling Location
Stilling Well
Road (paved)
Road/Trails (unpaved)
Fence
Building
Wooded Area
Tree/Bush
Light Pole
Utility Pole
Site
Brook/Creek
Base Boundary
Marshy Area
Approximate Boundary
0
100
200
SCALE IN FEET
95P-3183
6/23/95
Fort Monmouth, Main Post
FIGURE 4.2-3
LANDFILL 2 (M-2)
SAMPLING LOCATIONS



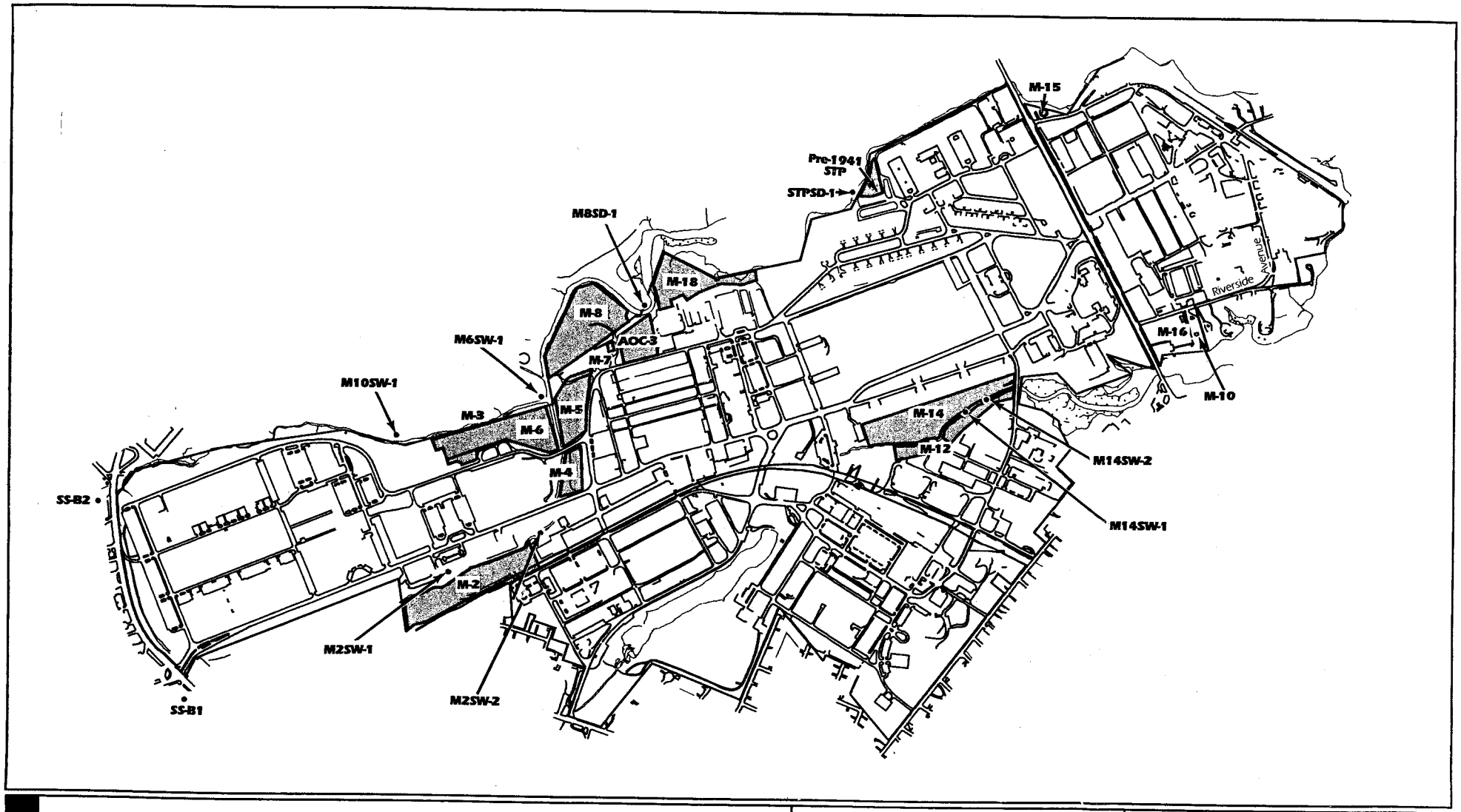
Fort Monmouth, Main Post

FIGURE 4.2-4
LANDFILL 2 (M-2)
APPROXIMATE GROUNDWATER FLOW DIRECTIONS
(Groundwater Elevations Recorded from March 1995 Sampling Round)



Fort Monmouth, Main Post

FIGURE 4.2-5
DISTRIBUTION OF CONTAMINANTS IN SITE GROUNDWATER AND SURFACE WATER SAMPLES


M-15
Pre-1941 STP
STPSD-1
M8SD-1
M-18
M-8
AOC-3
M-7
M6SW-1
M10SW-1
M-3
M-5
M-6
M-4
SS-B2
SS-B1
M-2
M2SW-1
M2SW-2
Riverside Avenue
M-16
M-10
M-14
M-12
M14SW-2
M14SW-1
LEGEND
Road (paved)
Building
Site
Lake
Marshy Area
Surface Water and/or Sediment Location
SW = Surface Water
SD = Sediment
Note: SS-B1 and SS-B2 are background locations. Samples for both surface water and sediment were collected.
0
800
1600
SCALE IN FEET
95P3194
9/28/95
Fort Monmouth, Main Post
FIGURE 4.2-6
MAIN POST SURFACE WATER AND SEDIMENT SAMPLING LOCATIONS

4.2.3 Landfill 3 (M-3)

4.2.3.1 Site Location

Landfill 3 (M-3) is located between North Drive and Lafetra Creek in the west-central part of the Main Post. The actual boundaries of the landfill are not clear, but have been approximated in Figure 4.2-7. The approximate area of site M-3 is 257,890 ft^2 (5.9 acres). Burning Area M-6, which is discussed later, is located within Landfill 3.

4.2.3.2 Site History

According to the IA, Landfill 3 was in use between 1959 and 1964, and was used for general purpose disposal of domestic and industrial wastes. The 1969 aerial photograph shows that, with the exception of a few areas with vehicle tracks, this area was covered with vegetation. At present, the surface is hummocky and covered with grass.

Landfill 3 (M-3) most likely contained materials similar to those generally found in other Main Post landfills. According to long-term Fort Monmouth employees, this landfill also contains wood and coal ash from furnaces and boilers.

As part of an NJPDES permit (permit No. 0057274), surface-water samples have been taken at two locations in Lafetra Creek since February 1986. The results are summarized in the recent report (WESTON, 1993). One VOC (tetrachloroethene) was detected in concentrations above the NJDEP surface-water criteria.

4.2.3.3 Sampling Effort

Surface geophysics surveys were conducted to confirm the location and investigate the extent of the former landfill. First, a magnetometer survey, including both vertical magnetic gradient and total magnetic field, was conducted. After completion of the magnetometer survey, GPR was used in accessible areas to provide additional definition of landfill boundaries.

The source of the HHCs detected in surface-water samples from a previous investigation could not be determined (WESTON, 1993). Therefore, surface-water locations M6SW-1 and M10SW-1 on Lafetra Creek were sampled (Figure 4.2-6). In addition, three monitor well locations (MW-4 through MW-6), as shown in Figure 4.2-7, were installed. The location of monitor well M-6 was slightly adjusted based on the geophysical interpretations. The well was repositioned to monitor groundwater quality downgradient of the exposed drum area. The monitor wells were sampled twice and surface-water locations were sampled once for TCL +30 parameters, TAL metals, and cyanide.

4.2.3.4 Geophysical Results

The magnetometer survey performed at M-3 indicated buried ferrous material, as depicted in Figures 4.2-8 and 4.2-9, within the suspected boundary of the landfill. The total magnetic field contour plot (Figure 4.2-8) shows background readings of approximately 54,000 nT and is represented by the green contour interval. High and low excursions from this value, represented by the violet and blue contour intervals, respectively, reveal anomalous magnetic signatures indicative of buried ferrous objects. The boundary between the background and anomalous magnetic readings is interpreted as the landfill boundary. Cultural features along the north side of the site include buried and overhead power lines and a chainlink fence. These features limited the magnetic data acquisition and anomalous magnetic influences that could be seen on the magnetic gradient plot (shown in Figure 4.2-9). The northern edge of the plot shows these cultural anomalies as a "low" reading from background, and is represented by the blue contour interval.

The GPR survey performed at M-3 confirmed the potential landfill boundary and expanded the geophysical survey underneath the overhead power lines and up to the northern fenceline. The GPR system is not heavily influenced by these types of cultural features like magnetometer methods. A typical radar profile, such as along the 600E traverse, reveals "normal" horizontal reflectors, indicative of nonfill areas, from 100S to approximately 100N (Figure 4.2-9A). Continuing from 65N to 160N the radar waveform becomes very chaotic in nature. This chaotic waveform is typical of buried waste material.

Hyperbolic radar signatures, typical of buried drums, were observed in the vicinity of grid coordinate 160N/800E. This was confirmed visually by observing a partially exposed drum at the surface at approximately 160N/800E. As shown on the radar profile in Figure 4.2-9B, the hyperbolic waveforms are found within chaotic radar reflectors. With the exception of these hyperbolic radar signatures, the geophysical surveys indicate that the waste material is within the suspected landfill boundary. Monitor wells have been installed in appropriate locations to monitor groundwater quality upgradient and downgradient of the site.

4.2.3.5 Hydrogeologic Interpretation

Lithologic logs from MW-5 and MW-6 indicate that the lithology consists of a thin soil cover (0.3 ft) underlain by fill material. The components of the filled materials observed in both borings consisted of a black slag material with camera film, rebar, and paper debris. Natural quartz sand, gravel, silt, and clay were intermixed with the manmade materials. MW-4 is located upgradient of the fill locations and consists of tight olive-green silty fine-grained sand with a clay matrix.

Groundwater saturation was observed in the borehole during drilling activities between 8 and 10 ft bgs. Monitor wells were screened across the water table, and total depths varied from approximately 23, 16, and 15 ft bgs in MW-4, MW-5, and MW-6, respectively. Water-level elevation data measured on 6 March 1995, indicate that local groundwater flow is to the north in the direction of Lafetra Creek (Figure 4.2-10). Based on groundwater elevation measurements, monitor wells MW-5 and MW-6 are downgradient of the site M-3 area.

4.2.3.6 Groundwater Sampling Results

Monitor wells at site M-3 were sampled for the analytical parameters listed in Table 3.8-1. The analytical results for groundwater samples from the individual sampling rounds are listed in Appendix D. Table 4.2-5 compares the average concentrations of the detected compounds from the February and March sampling rounds with the NJDEP GWQC, and then compares the results to subsequent site-specific maximum background and/or Monmouth County background

Table 4.2-5
Fort Monmouth - Main Post
Summary of Average Concentrations of Detected Compounds in Groundwater - Site M-3

COMPOUND	METHOD DETECTION LIMIT (µg/L)	NJDEP GROUNDWATER QUALITY CRITERIA (µg/L)	MAXIMUM BACKGROUND CONCENTRATION (µg/L)	ANALYTICAL RESULTS (µg/L) SAMPLING DATE		
				MW4 2/16/95, 3/8/95 (avg.)	MW5 2/16/95, 3/9/95 (avg.)	MW6 2/16/95, 3/9/95 (avg.)
VOC's (µg/L)						
Chlorobenzene	2.7	4	ND	ND	**5 J**	ND
Toluene	2.7	1000	ND	ND	4.5 J	4 J
SVOCs (µg/L)						
4-Methylphenol	12.9	NLE	ND	ND	4 J	ND
Naphthalene	8.4	NLE	ND	ND	3 J	ND
2-Methylnaphthalene	8.7	NLE	ND	ND	1.5 J	ND
Acenaphthene	6.0	400	ND	ND	2 J	ND
Fluorene	6.3	300	ND	ND	1.5 J	ND
Phenanthrene	5.0	NLE	ND	ND	3 J	ND
Anthracene	4.6	2000	ND	ND	3 J	ND
Pyrene	5.4	200	ND	ND	3 J	ND
bis-(2-Ethylhexyl)phthalate	9.7	30*	100B	ND	ND	4 J
Carbazol	4.4	NLE	ND	ND	3 J	ND
METALS TOTAL (µg/L)						
Aluminum	24.0	200	121000	**705**	**2494**	**474**
Arsenic	1.9	8*	89.3	1.425	2.625	ND
Barium	1.7	2000	699	47.4	584	124
Calcium	10.4	NLE	45400	33750	95600	122500
Cadmium	2.8	4	9.5	ND	2.825	ND
Cobalt	3.0	NLE	18.3	ND	2.075	ND
Chromium	2.9	100	191	9.05	20.1	7.75
Copper	1.9	1000	730[1]	2	22.7	ND
Iron	6.4	300	431000	**2965**	**89850**	**20500**
Mercury	0.2	2	0.26	ND	0.365	ND
Potassium	685	NLE	137000	7825	13300	10300
Magnesium	18.3	NLE	62700	4590	17950	28800
Manganese	1.8	50	480[1]	34.3	**1115**	**686**
Sodium	30.5	50000	197000[1]	13150	15800	34300
Nickel	10.8	100	187	4	ND	ND
Lead	1.6	10*	22.7	ND	**78.3**	**21.2**
Vanadium	2.3	NLE	108	3.3	12	3.625
Zinc	3.8	5000	233	17.85	234.05	62.05

Compounds exceeding NJDEP groundwater quality criteria are noted by bold numbers
NJDEP groundwater quality criteria consist of the higher number between the PQL or STANDARD
*PQL - Practical Quantitation Limit was used as the NJDEP groundwater quality criteria.
NLE - No Level Established
ND - Indicates that the compound was not detected at the noted quantification limit
J - Indicates that the concentration value was estimated due to detection at or near the quantification limits
[1] - Monmouth County maximum background concentration.

concentrations, where appropriate. Figure 4.2-11 presents the locations and average concentrations of compounds detected above the NJDEP GWQC, and above both site-specific and Monmouth County background concentrations established at the Main Post.

VOCs

Although chlorobenzene was detected below the laboratory quantitation limit but above the method detection limit in a sample collected at MW-5 from the March sampling round, the value slightly exceeds the NJDEP GWQC. As discussed in Subsection 4.1, the analytical results that are reported with a "J" are estimated values that are below the quantitation limit but above the method detection limit.

SVOCs

SVOCs were not detected above laboratory quantitation limits in the site monitor wells from either sampling round. The levels of compounds that could be estimated (below the laboratory quantitation limit) were well below the NJDEP GWQC, where established.

Pesticides/PCBs

Pesticides/PCBs were not detected in the site monitor wells from either sampling round.

Metals

As indicated in Table 4.2-5, of the 18 metals detected in site groundwater, 4 metals (aluminum, iron, manganese, and lead) were found in concentrations exceeding the NJDEP GWQC. However, aluminum and iron were found in concentrations below those determined for site-specific and/or Monmouth County background. Manganese was detected (at MW-5 and MW-6) in concentrations greater than the site-specific and Monmouth County background levels. In addition, lead was found in concentrations greater than those determined for maximum background in MW-5 (Figure 4.2-11), but below background in MW-6. However, lead was not

detected in the filtered sample above NJDEP GWQC. As discussed in Subsection 4.1, groundwater flowing through glauconitic formations contains abundant manganese. In addition, manganese is a common metal found in tidally influenced environments. Therefore, manganese is not identified as a compound of concern. The relatively high sodium concentrations in groundwater samples from site M-3 are from saltwater intrusion from the Parkers Creek estuary via Lafetra Creek.

Cyanide

Cyanide was analyzed for but not detected in the site monitor wells from either sampling round.

4.2.3.7 Surface-Water Sampling Results

Two surface-water samples were collected at M-3: M10SW-1 and M6SW-1 (Figures 4.2-6 and 4.2-7). M10SW-1 is upgradient of M-3 and M6SW-1 is downgradient. Both samples were determined to be saltwater, based on conductivity results and field observations. Total (unfiltered) and soluble (filtered) concentrations were compared to NJDEP saltwater criteria and background and are presented in Table 4.2-6.

VOCs

VOCs were analyzed for but were not detected in site surface-water samples.

SVOCs

SVOCs were analyzed for but were not detected in site surface-water samples.

Pesticides/PCBs

Pesticides/PCBs were analyzed for but were not detected in site surface-water samples.

Table 4.2-6
Summary of Detected Compounds in Site Surface Water
Total and Soluble - Site M-3

COMPOUND	METHOD DETECTION LIMIT	NJDEP SURFACE WATER CRITERIA[a] SALINE WATER	MAXIMUM BACKGROUND CONCENTRATION (TOTAL)	MAXIMUM BACKGROUND CONCENTRATION (SOLUBLE)	ANALYTICAL RESULTS (µg/L) 12/1/94			
					MP6SW-1 (Total)	MP6SW-1 (Soluble)	M10SW-1 (Total)	M10SW-1 (Soluble)
METALS TOTAL (µg/L)								
Aluminum	26.7	NLE	748	ND	179	ND	69	ND
Barium	2.1	NLE	44.7	39.4	33.3	27.7	34.6	29.1
Calcium	12	NLE	31600	30900	32100	30400	30000	29400
Copper	2.4	NLE	32	4	ND	4.3	ND	3.9
Iron	4.7	NLE	6210	405	2940	465	2180	355
Lead	1.6	NLE	10	ND	4.8	ND	1.6	ND
Magnesium	38.2	NLE	5440	5120	9790	9030	5340	5160
Manganese	2.0	100 (h)	113	98.6	**102**	94.3	98.7	96.2
Potassium	821	NLE	5060	4280	6260	5840	4320	4280
Selenium	0.9	NLE	ND	ND	1.1	ND	ND	ND
Sodium	15.4	NLE	26700	26200	56500	52300	18200	17700
Zinc	2.8	NLE	35.1	23.8	12.2	7.8	16	7.9

[a] - NJDEP Surface Water Quality Standards (1993).

h -Non carcinogen effect-based human health criteria as a 30 day average.

ND - Indicates that the compound was not detected at the noted quantification limit.

NLE - No Level Established

Compounds dectected above NJDEP Surface Water Criteria are bolded.

Metals

As indicated in Table 4.2-6, of the 12 metals detected in site surface water, only one (manganese, unfiltered) was found in a concentration slightly exceeding the NJDEP surface-water criteria (saline) in sample MP6SW1. However, the concentration of manganese was detected below the maximum background levels established at the Main Post for total metals. In addition, manganese was found in a concentration below the established criteria and background in the filtered sample.

As presented in Table 4.2-6 (soluble), no soluble concentrations of contaminants detected in M6SW-1 surface-water were greater than NJDEP surface-water criteria.

None of the total or soluble concentrations of chemicals detected in M10SW-1 surface water exceeded NJDEP surface-water guidance (Table 4.2-6 total and soluble).

4.2.3.8 Recommendations

The geophysical surveys indicate that the extent of the identified waste material is within the suspected boundaries of the landfill and the monitor wells have been installed in appropriate locations to monitor shallow groundwater quality upgradient and downgradient of the site. In an isolated area of the site the GPR results indicated hyperbolic radar signatures typical of a buried drum or drums. A partially exposed drum was also observed at this location.

Groundwater quality results indicate that chlorobenzene was detected in one downgradient well below laboratory quantitation limits, but just above NJDEP GWQC and background from one sampling round. Lead was also detected at levels above NJDEP GWQC and background.

The surface-water quality results indicate that no organic or inorganic concentrations exceeded both NJDEP surface-water criteria and the maximum background concentration. Because the site formerly had an NJPDES permit, surface water has been sampled since 1986. The results from

the current round of surface-water sampling for VOCs are less than the maximum results from previous rounds.

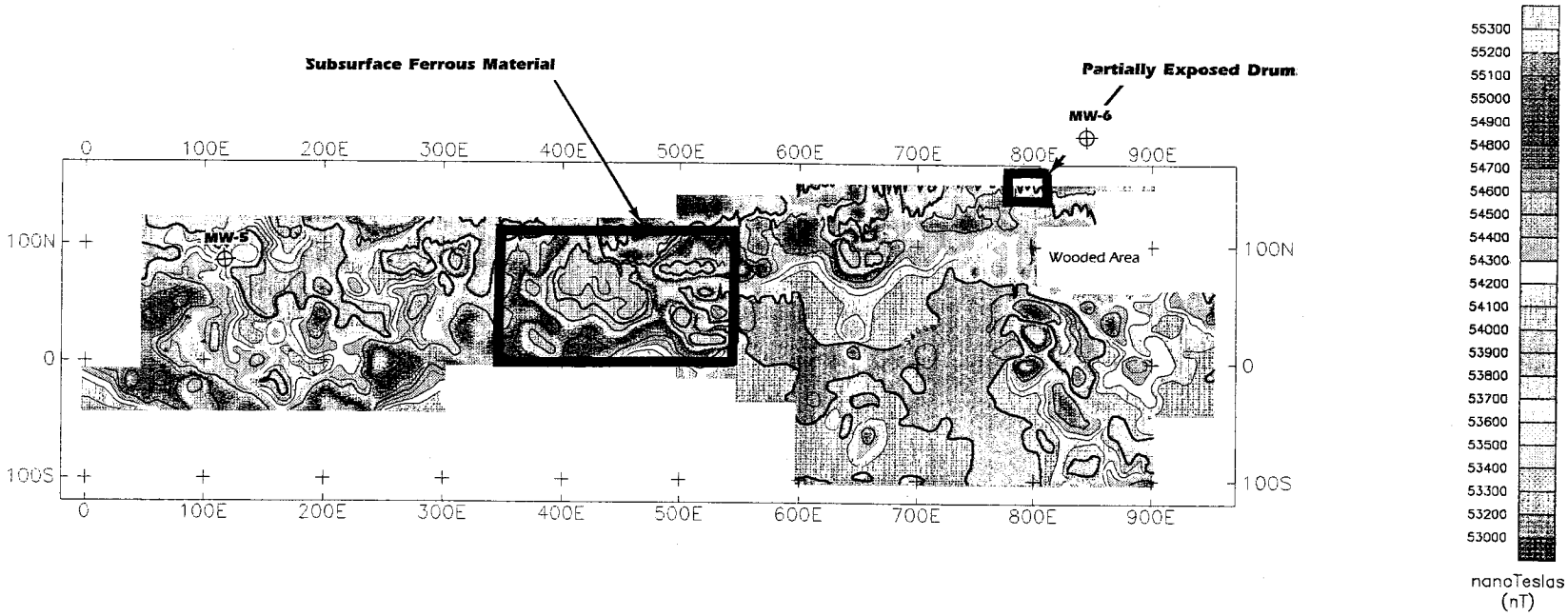
Although NJDEP groundwater criteria were exceeded for one VOC, immediate remedial action is not required for several reasons. First, the measured value for the VOC was below the quantitation limit and just slightly above the GWQC. In addition, the groundwater flows toward Lafetra Creek, and since the water table is higher than the creek bed and groundwater flow tends to follow surface topography, the shallow groundwater probably flows into Lafetra Creek. There are no uses of groundwater between the source and Lafetra Creek. Surface-water samples did not exceed NJDEP surface-water criteria. Therefore, there is no immediate threat to human health.

In addition, because surface-water sampling has been performed at this site since 1986, and the landfill has not been used for decades, the concentrations of VOCs seem, at worst, to be stable and possibly decreasing. Presumably, since no material is being added to the source (the landfill), natural degradation will decrease groundwater and surface-water contamination levels in the future.

Since the existing monitor wells and surface-water sampling locations are adequately placed to monitor downgradient groundwater and surface water, DPW proposes that a long-term surface-water and groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells, and surface-water samples would be collected from points yet to be determined. Compounds of concern identified in the first two rounds of sampling would be the targeted for the monitoring program.

The partially exposed drum will be excavated. The area immediately around and under the drum will be investigated for additional drums. Any excavated drums will be examined to determine if hazardous materials were present or still exist. The drum and the excavation will be monitored with a photoionization detector (PID). NJDEP will be requested to send a representative to

monitor the excavation. If there is no indication that the drum contained, or still contains, hazardous materials and if elevated readings are not observed on the PID, the excavation will be backfilled and no further action will be taken. If contamination is identified, additional sampling will be conducted in accordance with the *Technical Requirements for Site Remediation* (NJDEP, 1993).



LEGEND

Monitor Well

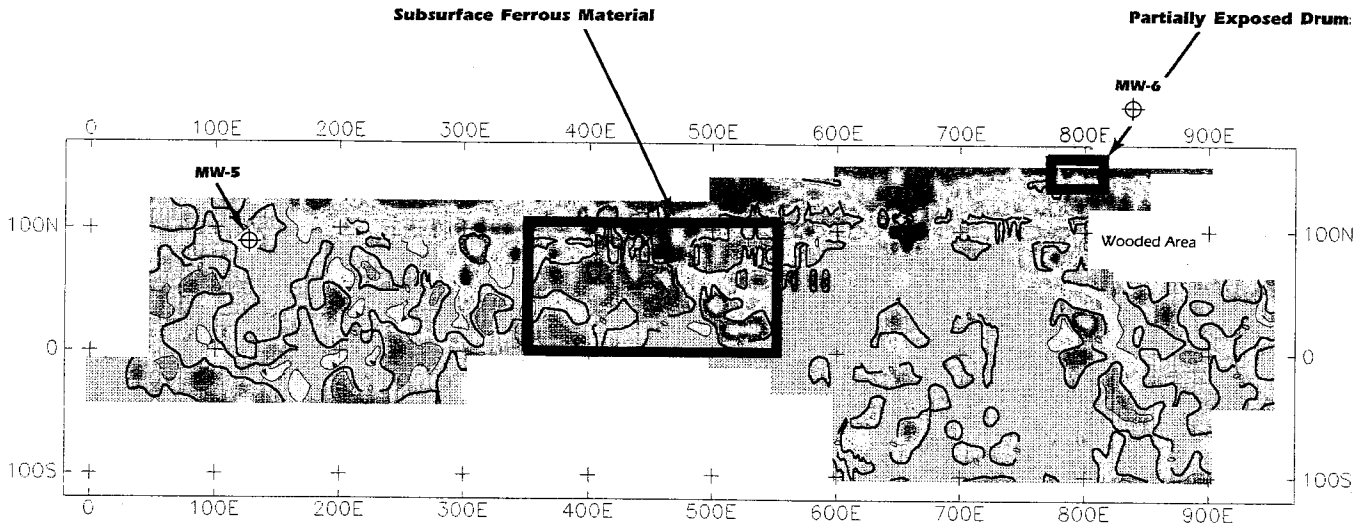
0 50 100 150 200

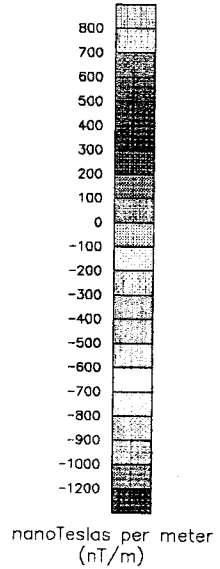
SCALE IN FEET

Fort Monmouth, Main Post Site M-3

FIGURE 4.2-8
MAGNETOMETER SURVEY
TOTAL MAGNETIC FIELD – SITE M-3

95P-3233 6/26/95





LEGEND

Monitor Well

0 50 100 150 200
SCALE IN FEET

Fort Monmouth, Main Post Site M-3

FIGURE 4.2-9
MAGNETOMETER SURVEY
MAGNETIC GRADIENT – SITE M-3

95P-3234 6/27/95

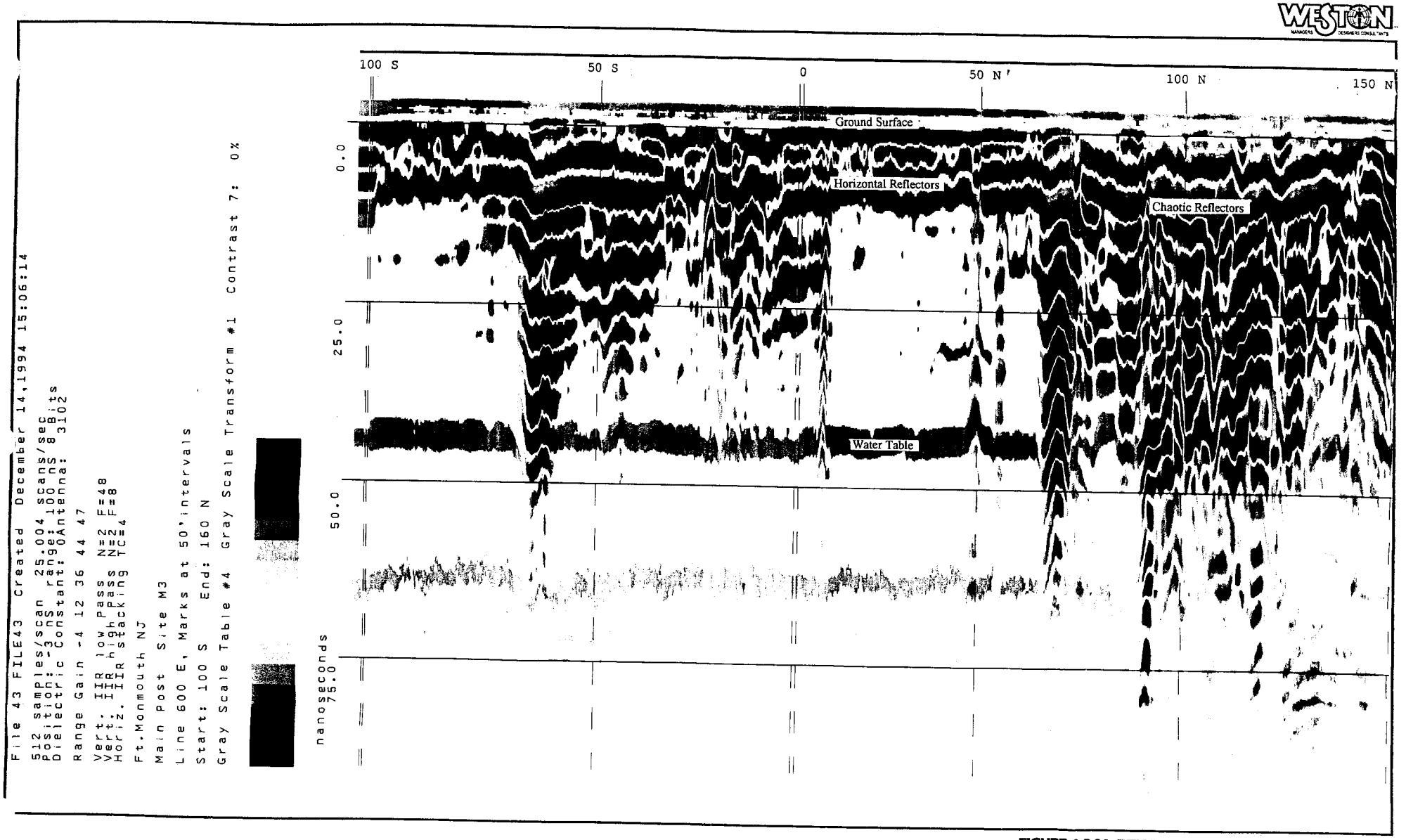
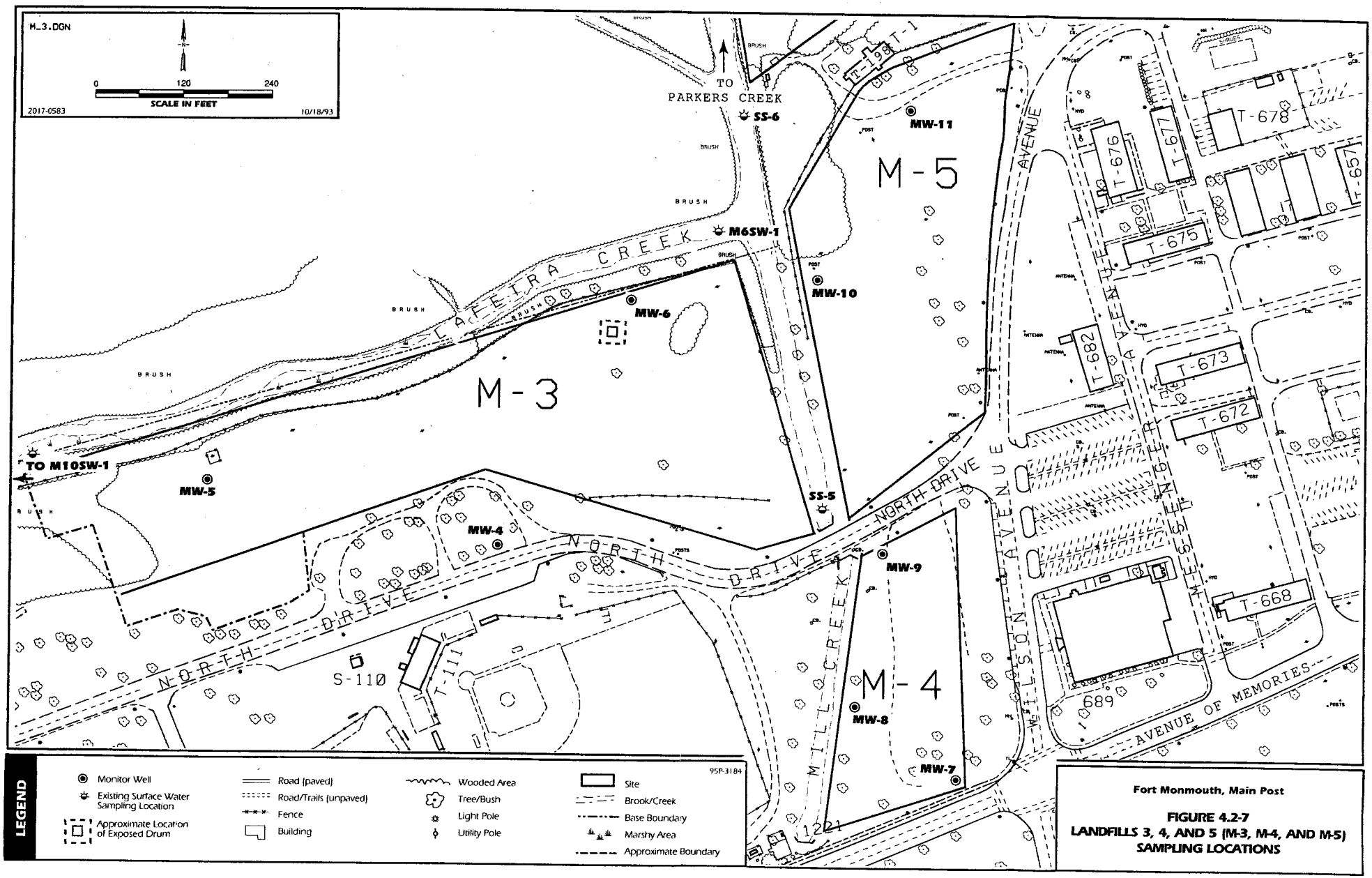


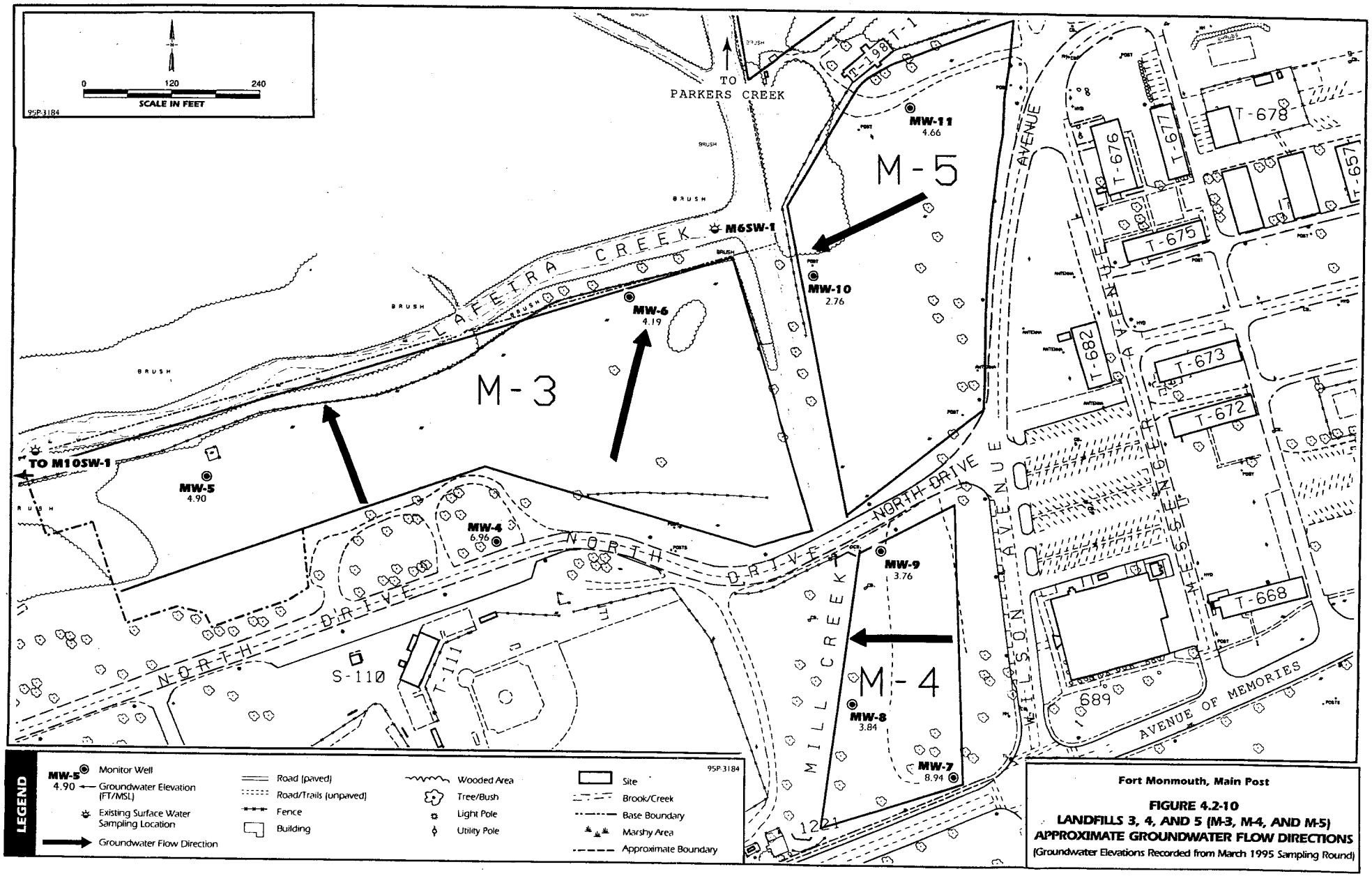
FIGURE 4.2-9A REPRESENTATIVE RADAR PROFILE DEPICTING LANDFILL BOUNDARY AT SITE M-3

FIGURE 4.2-9B RADAR PROFILE SHOWING SURFACE DRUM AND HYPERBOLIC RADAR SIGNATURES AT SITE M-3



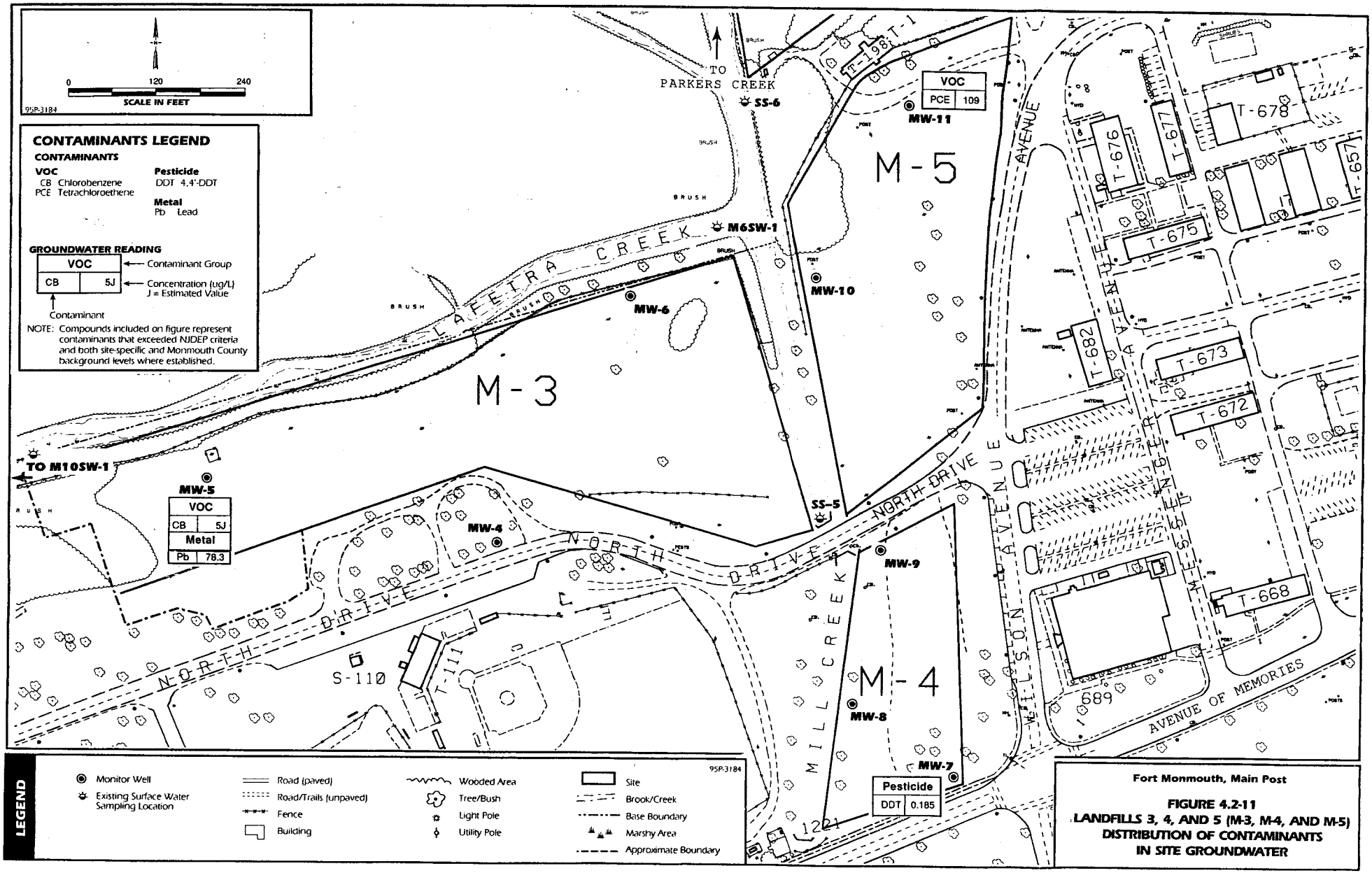
Fort Monmouth, Main Post

FIGURE 4.2-7
LANDFILLS 3, 4, AND 5 (M-3, M-4, AND M-5)
SAMPLING LOCATIONS



Fort Monmouth, Main Post

FIGURE 4.2-10
LANDFILLS 3, 4, AND 5 (M-3, M-4, AND M-5)
APPROXIMATE GROUNDWATER FLOW DIRECTIONS
(Groundwater Elevations Recorded from March 1995 Sampling Round)



Fort Monmouth, Main Post

FIGURE 4.2-11
LANDFILLS 3, 4, AND 5 (M-3, M-4, AND M-5)
DISTRIBUTION OF CONTAMINANTS IN SITE GROUNDWATER

Site M-4

4.2.4 Landfill 4 (M-4)

4.2.4.1 Site Location

Landfill 4 (M-4) is located in the area bounded by the Avenue of Memories to the south, North Drive to the north, Mill Creek to the west, and Wilson Avenue to the east (Figure 4.2-7). The approximate area of site M-4 is 61,800 ft^2 (1.4 acres).

4.2.4.2 Site History

Landfill 4 was used in 1956 for the disposal of building demolition debris. The 1940 aerial photograph shows a swamp at this location. In the latter part of 1955 and during 1956, 72 World War II buildings were demolished on Main Post (*Concise History; History and Place Names*). Potential contaminants associated with demolition debris include lead from paints and piping and asbestos. At present, the surface is flat and grass covered. There are trees in the southeast corner.

As part of an NJPDES permit, surface-water samples have been taken upstream and downstream of this site on Mill Creek. The results are discussed in Subsection 4.2.2 (site M-2) and 4.2.5 (site M-5).

4.2.4.3 Sampling Effort

Three shallow monitor wells (MW-7 through MW-9) were installed around the landfill, and two rounds of groundwater sampling were conducted to evaluate groundwater quality. Monitor well MW-7 is an upgradient well and monitor wells MW-8 and MW-9 are downgradient wells. The monitor wells were sampled twice for TCL +30 parameters, TAL metals, and cyanide.

4.2.4.4 Hydrogeologic Interpretation

Lithologic logs from MW-8 and MW-9 indicate that the lithology consists of a thin soil cover (0.4 ft) underlain by alternating layers of reworked sand, silt, and broken concrete gravel pieces,

with interbeds of plant-root fragments. Borehole logs from MW-7 indicate a lithology consisting of an orange-olive-brown fine-coarse sand with little silt.

Groundwater saturation was observed at approximately 7 ft bgs at each well location. The three monitor wells were screened across the unconfined water table, at total depths of 16, 18, and 22 ft bgs in MW-7, MW-8, and MW-9, respectively. Water elevation data, measured on 6 March 1995, indicate that local groundwater flow is west toward Mill Creek (Figure 4.2-10). Based on groundwater elevation measurements, monitor wells MW-8 and MW-9 are downgradient of the M-4 area.

4.2.4.5 Groundwater Sampling Results

Monitor wells at site M-4 were sampled for the analytical parameters listed in Table 3.8-1. The analytical results for groundwater samples from the individual sampling rounds are listed in Appendix D. Table 4.2-7 compares the average concentrations of the detected compounds from the February and March sampling rounds with the NJDEP GWQC, and then compares the results to the subsequent site-specific background and/or Monmouth County background concentrations, where appropriate. Figure 4.2-11 presents the locations and average concentrations of compounds detected above the NJDEP GWQC and the established maximum background concentrations at the Main Post.

VOCs

VOCs were not detected in the site monitor wells from either sampling round.

SVOCs

SVOCs were not detected above laboratory quantitation limits in the site monitor wells from either sampling round. The levels of compounds that could be estimated (below the laboratory quantitation limit) were well below the NJDEP GWQC.

Table 4.2-7
Fort Monmouth - Main Post
Summary of Average Concentrations of Detected Compounds in Groundwater - Site M-4

COMPOUND	METHOD DETECTION LIMIT (µg/L)	NJDEP GROUNDWATER QUALITY CRITERIA (µg/L)	MAXIMUM BACKGROUND CONCENTRATION (µg/L)	ANALYTICAL RESULTS (µg/L) SAMPLING DATE		
				MW7 2/16/95, 3/9/95 (avg.)	MW8 2/16/95, 3/8/95 (avg.)	MW9 2/16/95, 3/9/95 (avg.)
SVOC's (µg/L)						
bis-(2-Ethylhexyl)phthalate	9.7	30*	5 J	ND	4J	ND
Pesticides/PCBs (µg/L)						
4,4'-DDT	0.1**	0.1	ND	**0.185**	ND	ND
METALS TOTAL (µg/L)						
Aluminum	24.0	200	121000	**6550**	**1605**	129.1
Arsenic	1.9	8*	89.3	5.1	1.525	ND
Barium	1.7	2000	699	80.95	39.9	57.9
Beryllium	0.9	20*	7[1]	0.84	ND	ND
Calcium	10.4	NLE	45400	18800	33100	46500
Cobalt	3.0	NLE	18.3	4.7	3.3	ND
Chromium	2.9	100	191	62.55	17.25	4.175
Copper	1.9	1000	730[1]	5.75	2.5	ND
Iron	6.4	300	431000	**18435**	**17900**	**21700**
Potassium	685	NLE	137000	5020	7585	8925
Magnesium	18.3	NLE	62700	8400	6145	6245
Manganese	1.8	50	480[1]	**61.9**	**110.5**	**85**
Sodium	30.5	50000	197000[1]	**50950**	9500	10280
Nickel	10.8	100	187	7.9	ND	ND
Lead	1.6	10*	22.7	9	7.05	ND
Vanadium	2.3	NLE	108	34.95	6.95	ND
Zinc	3.8	5000	233	49.65	31.75	2.43

Compounds exceeding NJDEP groundwater quality criteria are noted by bold numbers.
NJDEP groundwater quality criteria consist of the higher number between the PQL or STANDARD
*PQL -Practical Quantitation Limit was used as the NJDEP groundwater quality criteria
NLE - No Level Established
ND - Indicates that the compound was not detected at the noted quantification limit
J - Indicates that the concentration value was estimated due to detection at or near the quantification limits
** - Method detection limit equals or exceeds NJDEP groundwater quality criteria.
[1] - Monmouth County maximum background concentration.

Pesticides/PCBs

One pesticide (4-4'-DDT) was detected in a concentration slightly exceeding the NJDEP GWQC in the upgradient well MW-7 from the February sampling round only (Table 4.2-7). This concentration was confirmed in a duplicate sample collected in MW-7 during the same sampling round. However, pesticides were not detected in a downstream surface-water location (SS-5) collected from a previous investigation (Figures 4.2-7 and 4.2-11). The results of that investigation are presented in WESTON, 1993. PCBs were not detected in the site monitor wells from either sampling round.

Metals

As indicated in Table 4.2-7, of the 17 metals detected in site groundwater, 4 metals (aluminum, iron, manganese, and sodium) were found in concentrations exceeding the NJDEP GWQC. However, aluminum, iron, and manganese were found in concentrations below those determined for site-specific and Monmouth County maximum background levels. Although sodium in MW-7 was detected in a concentration greater than the level established as site-specific background, the concentration was well below the Monmouth County maximum background level.

Cyanide

Cyanide was not detected in the site monitor wells from either sampling round.

4.2.4.6 Recommendations

One pesticide compound was detected at a concentration just above the NJDEP GWQC and background in the upgradient well in both the routine and duplicate samples. The pesticide was not detected in downgradient monitor wells, and also was not detected during previous sampling at downgradient location SS-5 (WESTON, 1993).

Although NJDEP groundwater criteria were exceeded for one pesticide, no immediate remedial action is required. The measured value of the pesticide was just slightly above the GWQC. Shallow groundwater flows toward and discharges into Mill Creek, as indicated by water-level measurements in site monitor wells. Also, there are no known uses of groundwater at or downgradient of the site. No surface-water sampling was performed at this site during this project. The surface water was previously sampled downstream but was not analyzed for pesticides. Since Mill Creek flows on Fort Monmouth property between sites M-4 and M-8, access to this stream is restricted. Presumably, since no material is being added to the source (the landfill), natural degradation will decrease groundwater and surface-water contamination levels in the future.

Since the existing monitor well locations are adequately placed to monitor downgradient groundwater, DPW proposes that a long-term groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells. Compounds of concern (including pesticides) identified in the first two rounds of sampling would be targeted for the groundwater and surface-water monitoring program.

Site M-5

4.2.5 Landfill 5 (M-5)

4.2.5.1 Site Location

Landfill 5 (M-5) is located just north of Landfill 4 in the area bounded by North Drive to the south, an unpaved road south of Building T-198 to the north, Wilson Avenue to the east, and Mill and Parkers Creeks to the west (Figure 4.2-7). The approximate area of site M-5 is 138,200 ft^2 (3.2 acres).

4.2.5.2 Site History

According to the IA, Landfill 5 was in use between 1952 and 1959, and was reportedly used for the disposal of automobiles as well as for domestic and industrial wastes similar to those mentioned in Subsection 4.2.2.2. Like Landfill 4, this landfill was also constructed in a former swamp and is presently flat and grass covered.

As part of an NJPDES permit, surface-water samples have been taken at two locations (one upstream on Mill Creek and one downstream on Lafetra Creek) since February 1986. The results are summarized in the recent report (WESTON, 1993). One VOC (tetrachloroethene) was detected in concentrations above the NJDEP surface-water criteria.

4.2.5.3 Sampling Effort

Two shallow monitor wells (MW-10 and MW-11) were installed (Figure 4.2-7), and two rounds of groundwater sampling were conducted in an effort to further evaluate the presence of VOCs, metals, and inorganics detected from samples collected during a previous investigation. Monitor wells MW-10 and MW-11 were sampled twice for TCL +30 parameters, TAL metals, sulfate, and cyanide.

4.2.5.4 Hydrogeologic Interpretation

Borehole logs from MW-10 and MW-11 indicate that the lithology consists of a thin soil cover (0.5 ft) partially underlain by fill and interbedded sand with silt and clay laminae. The components of the fill materials observed in both borings consist of coal, glass, and plastic fragments found interspersed within a silty sand and clay matrix and overlie a dark-green-brown silty/clayey medium-coarse-grained sand with silt and clay laminae.

Groundwater saturation was encountered at approximately 4 ft bgs at both well locations. The two monitor wells were screened across the water table, with total depths of 15 ft bgs. Water-level elevation data, measured on 6 March 1995, indicate that approximate local groundwater flow is west toward Mill Creek (Figure 4.2-10). Based on groundwater elevation measurements, monitor well MW-10 is downgradient of the area under investigation.

4.2.5.5 Groundwater Sampling Results

Monitor wells at site M-5 were sampled for the analytical parameters listed in Table 3.8-1. The compounds detected in groundwater samples from the individual sampling rounds, with the corresponding sample identifications, are listed in Appendix D. Table 4.2-8 compares the average concentrations of the detected compounds from the February and March sampling rounds with the NJDEP GWQC, and then compares the results to the site-specific and Monmouth County maximum background concentrations, where appropriate. Figure 4.2-11 presents the locations and average concentrations of compounds detected above the NJDEP GWQC and the established maximum background concentrations.

VOCs

Tetrachloroethene (PCE) was the only VOC detected in site groundwater. However, the PCE concentrations exceeded the NJDEP GWQC and background from both sampling rounds in MW-11, the upgradient well (Figure 4.2-11). In addition, tetrachloroethene was detected in

Table 4.2-8
Fort Monmouth - Main Post
Summary of Average Concentration of Detected Compounds in Groundwater - Site M-5

COMPOUND	METHOD DETECTION LIMIT (µg/L)	NJDEP GROUNDWATER QUALITY CRITERIA (µg/L)	MAXIMUM BACKGROUND CONCENTRATION (µg/L)	ANALYTICAL RESULTS (µg/L) SAMPLING DATE	
				MW10 2/17/95, 3/9/95 (avg.)	MW11 2/17/95, 3/9/95 (avg.)
VOC's (µg/L)					
Tetrachloroethene (PCE)[1]	4.0**	1*	ND	ND	**109**
SVOCs (µg/L)					
bis-(2-Ethylhexyl)phthalate	9.7	30*	ND	ND	3.5J
METALS TOTAL (µg/L)					
Aluminum	24	200	121000	155.8	**1052.5**
Barium	1.7	2000	699	116	16.05
Calcium	10.4	NLE	45400	16500	11100
Chromium	2.9	100	191	3.925	12.9
Copper	1.9	1000	730[2]	7.05	2.9
Iron	6.4	300	431000	**9205**	**4685**
Potassium	685	NLE	137000	8850	3305
Magnesium	18.3	NLE	62700	13550	4220
Manganese	1.8	50	480[2]	**146.5**	14.5
Sodium	30.5	50000	197000[2]	**82800**	17950
Lead	1.6	10*	22.7	5.65	2.2
Vanadium	2.1	NLE	108	1.825	5.85
Zinc	3.8	5000	233	7.75	173
OTHER INORGANICS (µg/L)					
Sulfate	5.0	250000	NA	14.8	43.75

[1] - same compound as listed by NJDEP tetrachloroethylene

Compounds exceeding NJDEP groundwater quality criteria are noted by bold numbers.

NJDEP groundwater quality criteria consist of the higher number between the PQL or STANDARD

*PQL - Practical Quantitation Limit -was used as the NJDEP groundwater quality criteria

NLE - No Level Established

ND - Indicates that the compound was not detected above quantification limits

J - Indicates that the concentration value was estimated due to detection at or near the quantification limits

NA - Not Analyzed

** - Method detection limit exceeds NJDEP groundwater quality criteria

[2] - Monmouth County maximum background concentration.

exceedance of the established surface-water criteria in a surface-water sample (SS-6) collected downgradient of site M-5 from a previous investigation.

SVOCs

SVOCs were not detected above laboratory quantitation limits in the site monitor wells from either sampling round. The level of bis(2-ethylhexyl) phthalate that could be estimated below the laboratory quantitation limit was well below the NJDEP GWQC.

Pesticides/PCBs

Pesticides/PCBs were not detected in the site monitor wells from either sampling round.

Metals

As indicated in Table 4.2-8, of the 13 metals detected in site groundwater, 4 metals (aluminum, iron, manganese, and sodium) were found in concentrations exceeding the NJDEP GWQC. However, aluminum, iron, and manganese were found in concentrations below those determined for site-specific and Monmouth County maximum background levels. Although sodium was detected in a concentration in MW-10 greater than the level established as site-specific background, the concentration was well below the Monmouth County maximum background level.

Cyanide and Sulfate

Cyanide and sulfate were analyzed in site groundwater samples. Cyanide was not detected in the site monitor wells from either sampling round. Sulfate was detected at low levels in MW-10 and MW-11 from both sampling rounds, well below the NJDEP GWQC.

4.2.5.6 Recommendations

PCE was detected in the upgradient well in concentrations exceeding NJDEP GWQC and background from both sampling rounds. Because the site formerly had an NJPDES permit, surface water has been sampled since 1986. During previous investigations, PCE was also detected at downgradient surface-water sampling location SS-6 (WESTON, 1993). Surface water was not sampled at site M-5 during this investigation because the maximum VOC concentrations at this site during previous rounds of sampling were less than the maximum concentrations at site M-2, which is upgradient. For site M-2, the results of the current round of surface-water sampling for VOCs are less than the maximum results from previous rounds.

Although groundwater sample results exceeded NJDEP criteria for one VOC, immediate remedial action is not required. Groundwater flows toward and discharges into Mill Creek and Lafetra Creek, as indicated by water-level measurements in site monitor wells. Also, there are no known uses of groundwater between the source and the streams. No surface-water sampling was performed at this site during this project. Previous sampling rounds have indicated that some VOC concentrations exceed NJDEP surface-water criteria in Mill Creek adjacent to site M-5. However, previous rounds of sampling have indicated that VOC concentrations do not exceed surface-water criteria at site M-8, which is downgradient of site M-5. Therefore, there is little immediate threat to human health.

In addition, since the landfill has not been used for decades, the concentrations of VOCs seem, at worst, to be stable and possibly decreasing. Presumably, since no material is being added to the source (the landfill), natural degradation will decrease groundwater and surface-water contamination levels in the future.

Since the existing monitor wells and surface-water sampling locations are adequately placed to monitor downgradient groundwater and surface water, DPW proposes that a long-term surface-water and groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells and

surface-water samples would be collected from points yet to be determined. Compounds of concern identified in the first two rounds of sampling would be targeted for the monitoring program.

Site M-6

4.2.6 Burning Area (M-6)

4.2.6.1 Site Location

According to interviews with Fort Monmouth personnel, Burning Area M-6 consisted of open-air wood burning in small pits located on Landfill 3. Specific pit locations could not be discerned from aerial photograph review and site reconnaissance.

4.2.6.2 Site History

It is likely that the burning areas on Landfill 3 were used throughout the period when the landfill was in operation, 1959 through 1964. Specific burn areas have not been identified. At present, the surface in the eastern part of Landfill 3 is hummocky and grass covered.

4.2.6.3 Sampling Effort

This site was included in the Landfill 3 (M-3) investigation (see Subsection 4.3.3).

Site M-8

4.2.7 Landfill 8 (M-8)

4.2.7.1 Site Location

Landfill 8 (M-8) is located north of Buildings T-692 and S-697 in a bend of Parkers Creek (Figure 4.2-12). According to the *Phase I Engineering Study and Compliance Plan, Fort Monmouth Solid Waste Landfill* (Cosulich, 1981), a masonry dike was constructed around the landfill perimeter adjacent to Parkers Creek. The area within the dike is 9.5 acres, of which approximately 7.2 acres contain waste material. The approximate area of site M-8 is 315,000 ft^2 (7.2 acres).

4.2.7.2 Site History

Landfill 8 was operated from 1962 through 1981. In preparation for landfill operations, as mentioned previously, a masonry dike was constructed around the perimeter. According to Cosulich (1981), in the southern part of the landfill area, an approximately 0.9-acre area was excavated to 12 feet below grade prior to filling with solid waste. Waste material was deposited directly on the existing surface over the rest of the site. Cosulich found the bottom of fill to be 3 feet below sea level. The 1969 aerial photographs show an uneven surface with both pit-type disposal and piled-up debris. A number of drums stacked near the entrance just west of the STP are visible in the 1969 photos. The area just west of the stacked drums appears to have randomly strewn drums. In the western half of the site, there were two separate piles of telephone poles. One area in the south-central part of the landfill was used for the disposal of trees and brush.

The photos also show that soil was used to cover the trash. In 1969 part of the area was covered with vegetation.

At present, the landfill is covered with heavy brush and small trees. There is no visible evidence of the drums observed in the 1969 aerial photographs. Four monitor wells and several piezometers of unknown construction were found during the site walkover in 1993.

According to the IA in 1979, materials observed in Landfill 8 and determined from interviews, included unwashed pesticide/herbicide cans, batteries, fluorescent tubes, electronic components, garbage, asbestos wrappings from pipes, soot and boiler scale, sludge from STPs, small quantities of outdated drugs, outdated photographic chemicals in glass bottles, building rubble (including ACM), incinerator ash, sand from oil spill cleanups, and other debris. Cosulich reported that incinerator ash from the classified document incinerator (site M-7) ranging in thickness from 2.5 to 6.5 feet was found along the southern boundary of the landfill. Cosulich also reports that leaves and brush were placed in this landfill. From 1992 through the present, an adjacent area to the southeast of Landfill M-8 has been used for a leaf-composting operation. This operation has an NJDEP permit.

As part of an NJPDES permit, surface-water samples have been taken at two locations in Lafetra Creek since February 1986. The results are summarized in the recent report (WESTON, 1993). No compounds were detected in concentrations above the NJDEP surface-water criteria.

4.2.7.3 Sampling Effort

Because of the poor recovery of the original Landfill 8 monitor wells and the highly turbid conditions in the wells, all existing wells and piezometers were abandoned. Four new monitor wells (MW-12 through MW-15), shown in Figure 4.2-12, were installed and sampled twice for TCL +30 parameters, TAL metals, sulfate, ammonia, and cyanide in an effort to evaluate the impacts of previous site activities on groundwater quality. The new wells were surveyed and tidal water-elevation monitoring was conducted in the four new monitor wells and at stilling well-7 (Figure 4.2-12).

4.2.7.4 Hydrogeologic Interpretation

Lithologic logs from downgradient wells MW-13, MW-14, and MW-15 indicate that the lithology consists of a thin soil cover (0.4 ft) underlain by fill material. The components of the filled materials observed in the borings consisted of large wood chip fragments, amber glass chips, and traces of wires. Natural sandy silt with trace amounts of clay were intermixed with the manmade

materials. Monitor well MW-12, located upgradient of the landfill boundary, indicates a lithology consisting of an orange-brown medium-fine-grained sand with trace amounts of silt and clay.

Groundwater saturation observed during drilling operations ranged from 2 to 8 ft bgs, depending on the proximity to Parkers Creek. Monitor wells were screened across the water table and were drilled to 15 ft bgs at all well locations. Water-level elevation data, measured on 6 March 1995, indicate that local groundwater flow is generally north toward Parkers Creek (Figure 4.2-13). Based on groundwater elevation measurements, monitor wells MW-13, MW-14, and MW-15 are downgradient and MW-12 is upgradient of the area under investigation.

4.2.7.5 Groundwater Sampling Results

Monitor wells at site M-8 were sampled for the analytical parameters listed in Table 3.8-1. The analytical results for groundwater samples from the individual sampling rounds are listed in Appendix D. Table 4.2-9 compares the average concentrations of the detected compounds from the February and March sampling rounds with the NJDEP GWQC, and then compares the results with the subsequent site-specific and Monmouth County maximum background concentrations, where appropriate. Figure 4.2-14 presents the locations and average concentrations of compounds detected above the NJDEP GWQC and established maximum background at the Main Post.

VOCs

Three VOCs (tetrachloroethene, benzene, and chlorobenzene) were detected in site groundwater in one or both sampling rounds in concentrations exceeding the NJDEP GWQC. Tetrachloroethene was detected in MW-12, the upgradient well, from both sampling rounds. Benzene was detected below the laboratory quantitation limit in MW-15 from both sampling rounds; however, the level is estimated to be above the NJDEP GWQC of 1 µg/L. Chlorobenzene was detected in MW-15 from both sampling rounds and in MW-14 below laboratory quantitation limits, from the March sampling round only. VOC compounds were not detected in MW-13.

Table 4.2-9
Fort Monmouth - Main Post
Summary of Average Concentrations of Detected Compounds in Groundwater - Site M-8

COMPOUND	METHOD DETECTION LIMIT (µg/L)	NJDEP GROUNDWATER QUALITY CRITERIA (µg/L)	MAXIMUM BACKGROUND CONCENTRATION (µg/L)	ANALYTICAL RESULTS (µg/L) SAMPLING DATE			
				MW12 2/17/95, 3/15/95 (avg.)	MW13 2/22/95, 3/15/95 (avg.)	MW14 2/16/95, 3/15/95 (avg.)	MW15 2/22/95, 3/15/95 (avg.)
VOC's (µg/L)							
Tetrachloroethene (PCE)[1]	4.0**	1*	ND	**47**	ND	ND	ND
Benzene	3.3**	1*	ND	ND	ND	ND	**4.5J**
Chlorobenzene	2.7	4	ND	ND	ND	**6.5J**	**37.5**
Toluene	2.7	1000	ND	ND	ND	4.5J	ND
SVOCs (µg/L)							
1,4-Dichlorobenzene	4.8	75	ND	ND	ND	3J	4.5J
1,3-Dichlorobenzene	5.3	600	ND	ND	ND	ND	3.5J
1,2-Dichlorobenzene	5.7	600	ND	ND	ND	ND	3J
Naphthalene	8.4	NLE	ND	ND	ND	3J	3J
2-Methylnaphthalene	8.7	NLE	ND	ND	ND	1J	1.5J
Acenaphthene	6.7	400	ND	ND	ND	2J	15.5
Dibenzofuran	6.5	NLE	ND	ND	ND	ND	6J
Fluorene	6.3	300	ND	ND	ND	ND	8J
Carbazol	4.4	NLE	ND	ND	ND	ND	3J
METALS TOTAL (µg/L)							
Aluminum	24.0	200	121000	**738**	**512**	**2350**	**568**
Arsenic	1.9	8*	89.3	ND	ND	3.75	ND
Barium	1.7	2000	699	8.8	232	410	269
Beryllium	0.9	20*	7[1]	ND	ND	0.7	ND
Calcium	10.4	NLE	45400	8980	157500	159500	336000
Cadmium	2.8	4	9.5	ND	ND	2.95	ND
Cobalt	3.0	NLE	18.3	ND	ND	4.3	ND
Chromium	2.9	100	191	8.425	4.2	24	4.25
Copper	1.9	1000	730[2]	2.6	6.5	5.2	ND
Iron	6.4	300	431000	**2979.5**	**40000**	**57350**	**25800**
Mercury	0.2	2	0.26	ND	0.36	ND	ND
Potassium	685	NLE	137000	2815	19950	65150	35450
Magnesium	18.3	NLE	62700	2485	63950	77050	74000
Manganese	1.8	50	480[2]	10.25	**655**	**276**	**381**
Sodium	30.5	50000	197000[2]	21550	**156050**	**383500**	**229000**
Nickel	10.8	100	187	ND	ND	3.5	ND
Lead	1.6	10*	22.7	0.9	3.25	9.75	2.1
Vanadium	2.3	NLE	108	6.225	4.7	14.15	7.7
Zinc	3.8	5000	233	6.55	19.6	53.4	21.1
OTHER INORGANICS (µg/L)							
Ammonia as Nitrogen	0.2	500	NA	ND	2.75	36.3	30.25
Sulfate	5.0	250000	NA	40.9	24.15	11.4	81.35

[1] - same compound as listed by NJDEP tetrachloroethylene
Compounds exceeding NJDEP groundwater quality criteria are noted by bold numbers.
NJDEP groundwater quality criteria consist of the higher number between the PQL or STANDARD
*PQL - Practical Quantitation Limit -was used as the NJDEP groundwater quality criteria
NLE - No Level Established
ND - Indicates that the compound was not detected at the noted quantification limit
J - Indicates that the concentration value was estimated due to detection at or near the quantification limits
** - Method detection limit exceeds NJDEP groundwater quality criteria.
NA - Not Analyzed
[2] - Monmouth County maximum background concentrations.

SVOCs

One SVOC (acenaphthene) was detected above the laboratory quantitation limit in monitor well MW-15. Acenaphthene was detected in a concentration well below the NJDEP GWQC.

Pesticides/PCBs

Pesticides/PCBs were not detected in the site monitor wells from either sampling round.

Metals

As indicated in Table 4.2-9, of the 19 metals detected in site groundwater, 4 metals (aluminum, iron, manganese, and sodium) were found in concentrations exceeding the NJDEP GWQC. However, aluminum was found in concentrations below those determined for site-specific and Monmouth County maximum background levels. Although iron was found in concentrations well below site-specific maximum background levels, iron was detected in concentrations in MW-13 and MW-14 above Monmouth County maximum background levels. The presence of iron in exceedance of the criteria may be attributable to the high concentrations found in site background soils and is not a compound of concern. Manganese in MW-13 and sodium in MW-14 and MW-15 were detected in concentrations greater than both established background levels (Figure 4.2-14). Elevated sodium concentrations may be the result of saline water intrusion into the groundwater. These wells are near the Parkers Creek estuary. Saltwater has invaded the estuary (see Subsection 4.2.7.6.1) and intruded the aquifer monitored by these wells. Sodium is not a compound of concern. As discussed in Subsection 4.1, groundwater flowing through glauconitic formations contains abundant manganese. In addition, manganese is a common metal found in tidally influenced environments. Therefore, manganese is not identified as a compound of concern.

Cyanide, Sulfate, and Ammonia

Cyanide, sulfate, and ammonia as nitrogen were analyzed for in site M-8 groundwater. Cyanide was not detected in the site monitor wells from either sampling round. Sulfate was detected above the laboratory quantitation limit in both sampling rounds in MW-12, MW-13, MW-14, and MW-15. Ammonia as nitrogen was detected above the laboratory quantitation limit in both sampling rounds in MW-13 and MW-15. Ammonia, not detected from the February sampling round in MW-14, was detected in the March sampling round. Sulfate and ammonia were detected well below the NJDEP GWQC.

4.2.7.6 Tidal Monitoring

Tidal fluctuations in Parkers Creek were monitored at one station (stilling well-7) at Landfill 8 (M-8) (Figure 4.2-12). (Hydrographs are presented in Appendix E.) Changes in creek stage were compared to changes in water levels measured at the following monitor wells: MW-12, MW-13, MW-14, and MW-15. Wells MW-13, MW-14, and MW-15 are located within 100 feet of Parkers Creek, and well MW-12 is approximately 1,300 feet from Parkers Creek. The tidal monitoring station at Landfill 8 (M-8) records incoming and outgoing tides, but the lowest tidal effects are subdued. Peaks in creek levels corresponding to high tides are sharp, but peaks in creek levels corresponding to low tides are rounded because the elevation of the stream bed is higher than the elevation of sea level at low tide. The elevation of the stream bed is -1.02 ft msl at stilling well-7. The maximum change in creek levels at Landfill 8 (M-8) was 3.3 feet, and the maximum change in water level in the monitor well was 1.4 feet during the time of study. All site monitor wells were screened below sea level.

Data collected from well MW-12 are useful as baseline data during the tidal monitoring study conducted at Landfill 8 (M-8). There is no apparent relationship between water levels measured at well MW-12 and creek levels measured at stilling well-7. Well MW-12 is approximately 1,300 feet from the creek and is too distant to be influenced by changing creek levels. Water levels in the water-bearing unit and creek levels were slowly declining by about 0.1 foot during the tidal monitoring study in March 1995.

The response of water levels measured at well MW-14 is dampened, indicating a poor to moderate hydraulic connection between the water-bearing unit at MW-14 and the creek levels. The peak in water levels measured at well MW-14 occurs from 60 to 200 minutes after the peak in creek level at stilling well-7, and the water-level peaks at MW-14 are only about 10% of the tidal peak in creek levels.

There is an apparent hydraulic influence between the water-bearing unit at MW-13 and creek levels. Water levels measured at MW-13 respond quickly to high tides recorded in the creek. The response of water levels at MW-13 to low tides in the creek is subdued probably because low tides have less effect on Parkers Creek in the area of MW-13. This is expected because MW-13 is approximately 2,400 feet upstream from stilling well-7, and tidal changes in the creek diminish in the upstream direction, as documented at Landfill 2 (M-2). The ratio of change in water level in the water-bearing unit to change in creek levels was not calculated for this location because of the distance between the well and the tidal monitoring station.

There is an apparent hydraulic connection between the water-bearing unit at MW-15 and creek levels. Water levels measured at well MW-15 respond quickly to rising and falling creek levels. The peak in water levels measured at well MW-15 occurs at approximately the same time as the peak in creek levels at stilling well-7. The response of water levels at MW-15 to low tides in the creek is slightly subdued. At this location (stilling well-7, MW-15) water-level peaks at MW-15 are approximately 30 to 40% of the tidal peak in creek levels.

4.2.7.6.1 Conductivity and Salinity Results

Conductivity and salinity were measured at Parkers Creek and monitor wells (MW-12 through MW-15) at Landfill 8 (M-8) in January and March 1995. Measurements were collected at low tide and high tide each month to evaluate the extent of saltwater intrusion at each site (see Tables E-1 through E-3 in Appendix E).

The results indicate the presence of brackish to salty water in Parkers Creek at Landfill 8 (M-8). Specific conductance measured in Parkers Creek at Landfill 8 (M-8) is consistently greater than

2,000 µmhos. In addition, salinity measured in Parkers Creek at Landfill 8 (M-8) is consistently greater than 1.5 ppth.

Groundwater sampled from monitor well MW-12 exhibited low conductivity and zero salinity. Monitor wells MW-13, MW-14, and MW-15 indicate possible brackish to saltwater intrusion in an area of the water-bearing unit close to Parkers Creek.

4.2.7.7 Recommendations

Due to highly turbid conditions and poor water-level recovery of the original monitor wells, all original monitor wells and piezometers were abandoned.

Groundwater sampling results indicate low concentrations of benzene and chlorobenzene were detected in two downgradient monitor wells, and PCE concentrations were detected in the upgradient well (MW-12) exceeding NJDEP GWQC. Additionally, PCE and other VOCs were previously detected in surface-water samples at location SS-7, downstream of site M-8.

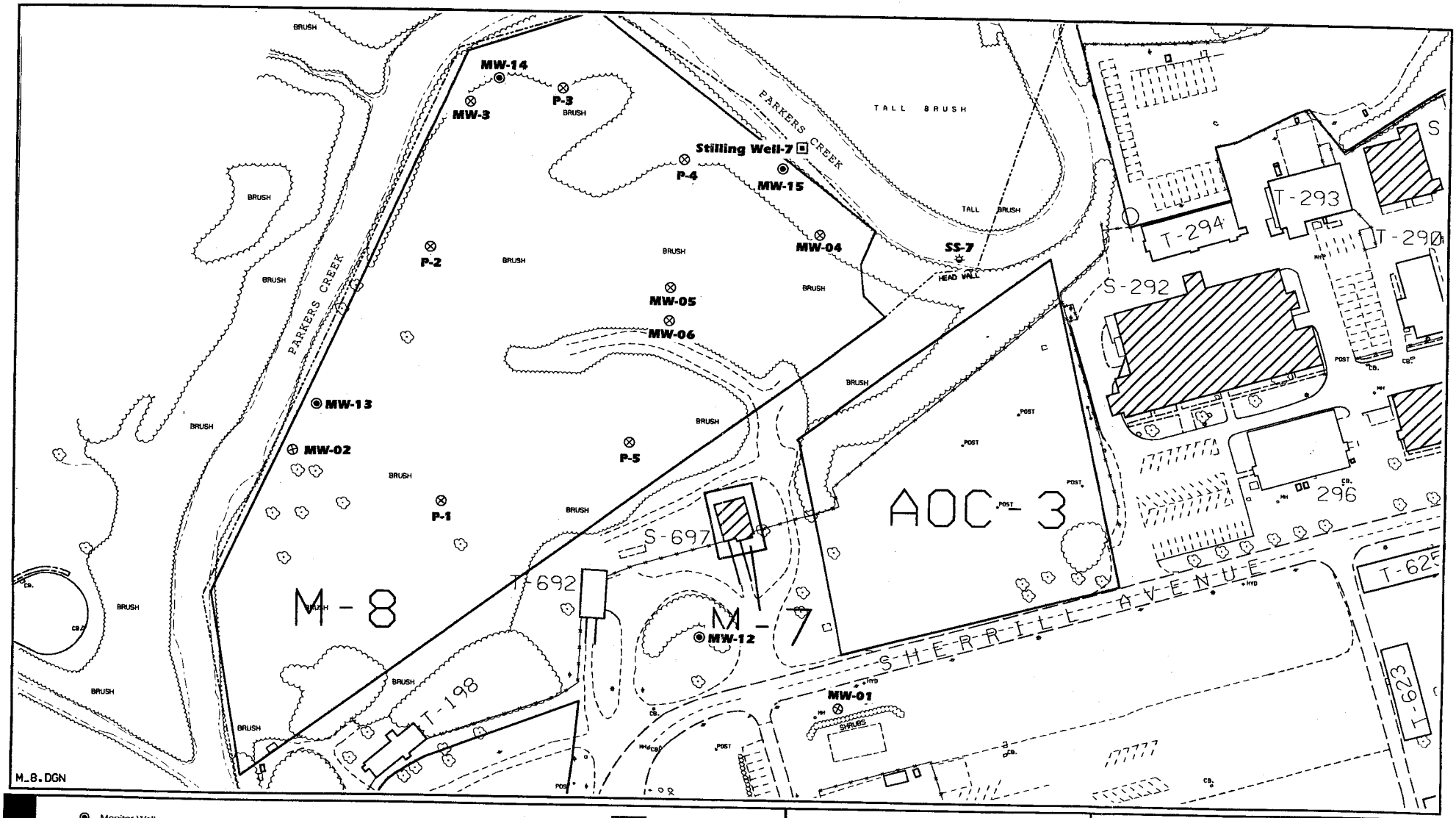
Because the site formerly had an NJPDES permit, surface water has been sampled since 1986. However, surface water was not sampled at site M-8 during this investigation because the maximum VOC concentrations at this site during previous rounds of sampling were less than the maximum concentrations at sites M-2 and M-3, which are upstream. The concentrations of VOCs at site M-8 for previous rounds were less than the NJDEP surface-water criteria.

The results of the tidal monitoring indicate that there is no apparent relationship between creek levels and water levels in MW-12 because of its distance from the creek. A poor to moderate relationship was measured between MW-14 and creek levels. A direct relationship was observed between creek levels and MW-13 and MW-15. The conductivity and salinity measurements in Parkers Creek indicate the presence of brackish to salty water at site M-8. Groundwater sampled from MW-12 indicates freshwater. Monitor wells MW-13, MW-14, and MW-15 indicate brackish to salty water in an area of the water-bearing unit close to Parkers Creek.

Although groundwater sample results exceeded NJDEP criteria for three VOCs, immediate remedial action is not required. Shallow groundwater flows toward and discharges to Lafetra Creek, as indicated by water-level measurements in site monitor wells. There are no known uses of groundwater at or downgradient of the site. In fact, groundwater at three of the four monitor wells is brackish and unsuitable for drinking. No surface-water sampling was performed at this site during this project. Previous sampling rounds have indicated that VOC concentrations did not exceed NJDEP surface-water criteria in the stream. Therefore, there is little immediate threat to human health.

In addition, since the landfill has not been used for decades, the concentrations of VOCs seem, at worst, to be stable and possibly decreasing. Presumably, since no material is being added to the source (the landfill), natural degradation will decrease groundwater and surface-water contamination levels in the future.

Since the existing monitor wells and surface-water sampling locations are adequately placed to monitor downgradient groundwater and surface water, DPW proposes that a long-term surface-water and groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells and surface-water samples would be collected from points yet to be determined. Compounds of concern identified in the first two rounds of sampling would be targeted for the monitoring program.



LEGEND

- Monitor Well
- Existing Surface Water Sampling Location
- Abandoned Monitor Well/ Piezometer
- Stilling Well
- Road (paved)
- Road/Trails (unpaved)
- Fence
- Building
- Wooded Area
- Tree/Bush
- Light Pole
- Utility Pole
- Site
- Brook/Creek
- Base Boundary
- Marshy Area
- Approximate Boundary

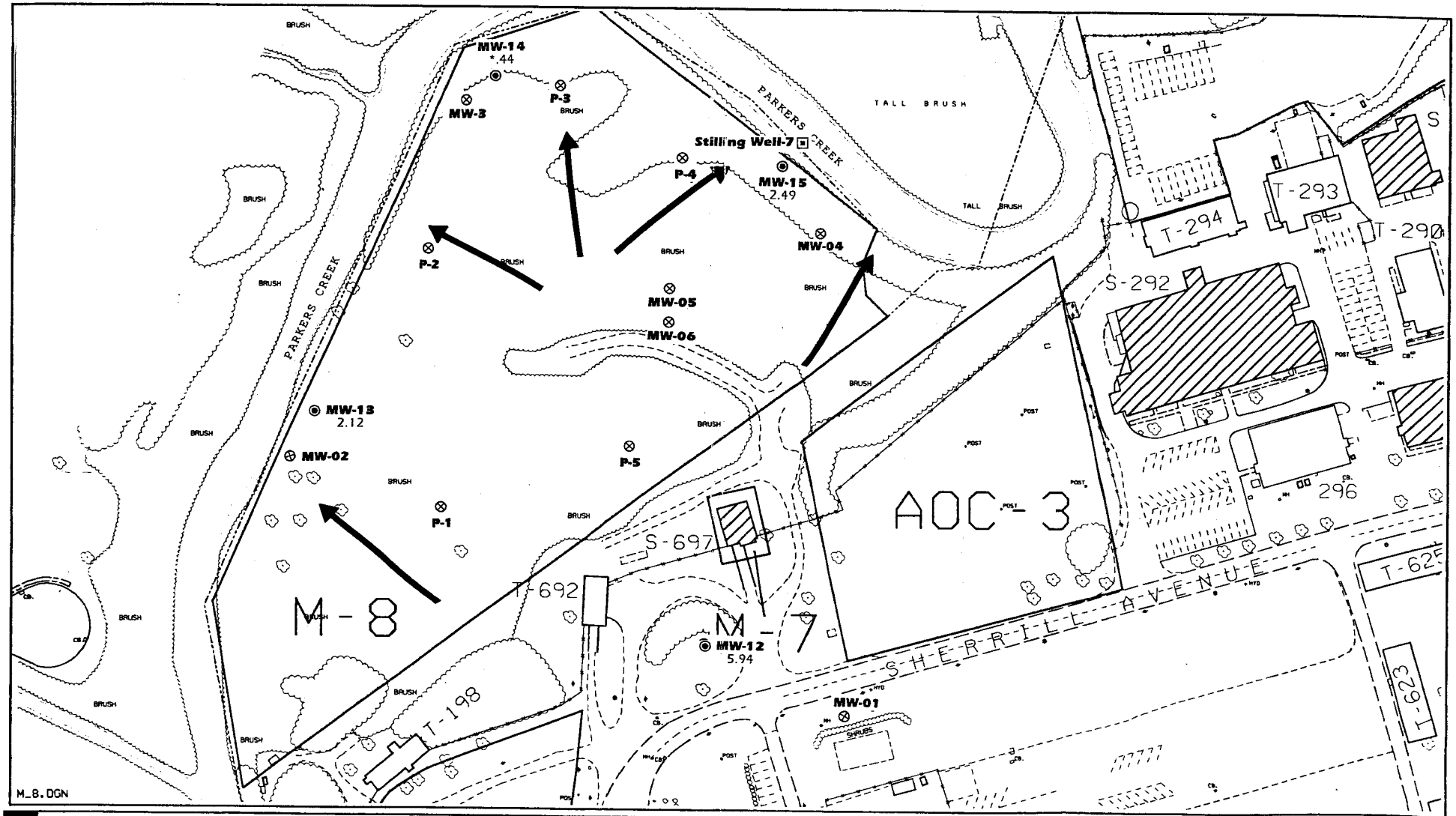
0 100 200
SCALE IN FEET

95P-3185 6/23/95

Fort Monmouth, Main Post

FIGURE 4.2-12

INCINERATOR (M-7) AND LANDFILL 8 (M-8) SAMPLING LOCATIONS



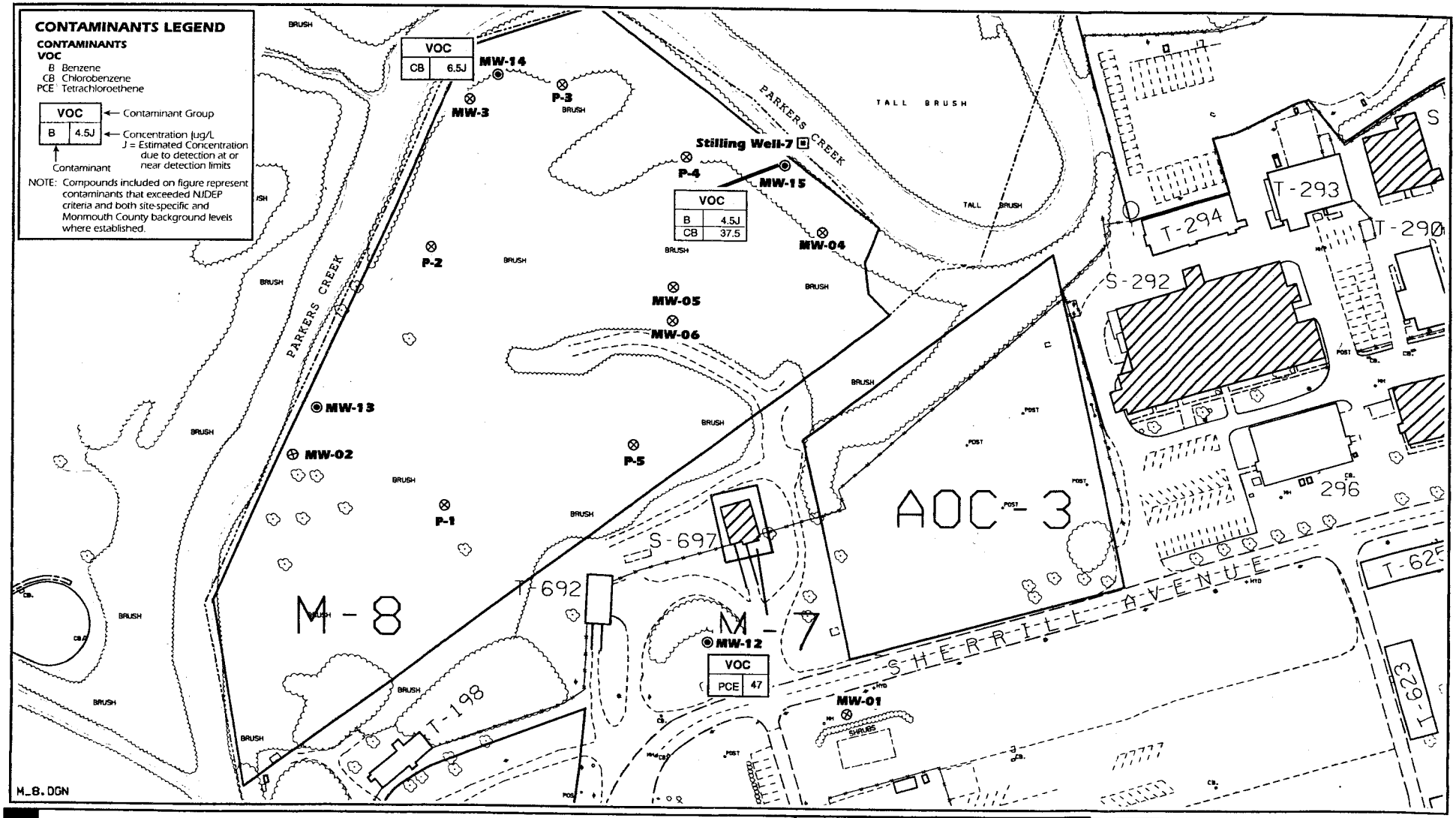
Fort Monmouth, Main Post

FIGURE 4.2-13

INCINERATOR (M-7) AND LANDFILL 8 (M-8)

APPROXIMATE GROUNDWATER FLOW DIRECTIONS

(Groundwater Elevations Recorded from March 1995 Sampling Round)



Fort Monmouth, Main Post

FIGURE 4.2-14
INCINERATOR (M-7) AND LANDFILL 8 (M-8)
DISTRIBUTION OF CONTAMINANTS
IN SITE GROUNDWATER

Site M-12

4.2.8 Landfill 12 (M-12)

4.2.8.1 Site Location

Landfill 12 (M-12) is located on the south side of Husky Brook, west of Murphy Drive (Figure 4.2-15). The approximate northwest area of site M-12 is 60,100 ft^2 (1.4 acres) and the approximate southwest area is 29,200 ft^2 (0.7 acre).

4.2.8.2 Site History

The period of operation of Landfill 12 is unknown. Landfill 12 most likely contains domestic and industrial wastes similar to that found in other Main Post landfills. This landfill may also have been used for automobile disposal. At present, the southern bank of Husky Brook is flat and grass covered.

4.2.8.3 Sampling Effort

GPR and magnetometer surveys were conducted to locate the landfill boundaries. Three monitor wells, MW-16, MW-17, and MW-18, were installed at the locations shown in Figure 4.2-15. The original locations of monitor wells MW-16 and MW-18 were repositioned during the field investigation activities. Monitor well MW-16 was moved because of possible accessibility problems (the proposed location of the well was inside the locked boat yard parking lot). Monitor well MW-18 was moved based on geophysical interpretations.

These wells were sampled twice for TCL +30 parameters, TAL metals, and cyanide. Tidal monitoring was conducted at the same time as tidal monitoring for Landfill 14.

4.2.8.4 Geophysical Results

The magnetometer survey conducted at the northeast portion of site M-12, i.e., M-12NE, revealed elevated total magnetic field readings located at relative grid coordinates 40N to 70N/335E to 400E and 70N to 80N/175E to 225E. As shown in Figure 4.2-16, the high magnetometer

readings are represented by the violet contour interval and are indicative of buried ferrous material. Another anomalous area indicating ferrous material was revealed at the southwest corner of site M12NE and is located at approximate grid coordinates 0N to 60S/50W to 100E. Cultural features affecting the magnetometer survey are the tower and guy wires centered about coordinate 60N/100E and the chainlink fence to the south of the survey area. As shown in Figure 4.2-17, the magnetic gradient anomalies coincide with the total magnetic field results, also suggesting the presence of buried ferrous material within the suspected landfill boundary.

The GPR survey at M-12NE revealed chaotic radar reflectors throughout the area. These radar waveforms may be indicative of coarse-grained fill material or naturally occurring sands and gravel. However, the radar data collected collaborates the existing magnetometer anomalies at grid coordinates 30N to 70N/335E to 350E and 30N to 70N/390E to 400E, suggesting buried ferrous material within the suspected landfill boundary.

Hyperbolic radar signatures appear traversing the site from approximately 280E to 300E at a depth of 3 ft bgs. These hyperbolic waveforms are interpreted to be an 18-in. diameter drainage pipe that was observed discharging to the stream.

Site M-12SW contained many cultural features scattered throughout the site, including overhead power lines and metallic surface debris, prohibiting total site coverage and producing anomalous magnetic signatures. The magnetometer survey revealed anomalous total magnetic field and gradient anomalies at the northwest portion of the survey area. Located within grid coordinates 0N to 50N and 50E to 120E, the anomalies are probably due to metallic debris observed on the surface. As shown in Figure 4.2-18, total magnetic field anomalies exist at grid coordinates 0N to 20N/140E to 180E and centered about coordinate 10S/200E. The magnetic gradient contour plot (Figure 4.2-19) confirms these anomalous magnetic signatures and reveals smaller discrete high and low gradient readings indicative of buried ferrous material from 10N to 10S and 120E to 240E.

The GPR survey revealed hyperbolic diffraction patterns at 10N/160E and 10S/200E, confirming the presence of the magnetometer anomalies at a depth of approximately 2 ft bgs. These

hyperbolic radar signatures are typical of buried manmade metallic cyclindrical objects such as pipe, utilities, and other metallic objects, as well as naturally occurring cobbles and large gravel. Chaotic radar reflectors were also found at the northeast quadrant of the site within grid coordinates 10N to 50N/250E to 300E. These chaotic waveforms are indicative of coarse-grained materials such as sand and gravel or disturbed subsurface conditions.

The results of the geophysical survey at M-12NE and M-12SW indicate that fill and buried ferrous material are present within the suspected boundaries of the landfill. Monitor wells and surface-water sample locations are positioned to adequately monitor groundwater downgradient of these areas.

4.2.8.5 Hydrogeologic Interpretation

Lithologic logs from the wells installed at M-12 indicate that the lithology consists of a thin soil cover (0.3 ft) underlain by fill material. The components of the filled materials observed in the borings consisted of organic debris and coal fragments intermixed with a moderate to poorly sorted olive-green-brown silty medium-fine-grained sand with little clay.

Saturation was observed at approximately 2 ft bgs across the site. The three monitor wells were screened across the water table and set at 14.5 ft bgs. Water-level elevation data, measured on 6 March 1995, prior to the March sampling round, indicate that local groundwater flows north toward Husky Brook (Figure 4.2-20). Based on groundwater elevation measurements, monitor wells MW-17 and MW-18 are located downgradient of the M-12 area.

4.2.8.6 Groundwater Sampling Results

Monitor wells at site M-12 were sampled for the analytical parameters listed in Table 3.8-1. The analytical results for groundwater samples from the individual sampling rounds are listed in Appendix D. Table 4.2-10 compares the average concentrations of the detected compounds from the February and March sampling rounds with the NJDEP GWQC, and then compares the results

Table 4.2-10
Fort Monmouth - Main Post
Summary of Average Concentrations of Detected Compounds in Groundwater - Site M-12

COMPOUND	METHOD DETECTION LIMIT (µg/L)	NJDEP GROUNDWATER QUALITY CRITERIA (µg/L)	MAXIMUM BACKGROUND CONCENTRATION (µg/L)	ANALYTICAL RESULTS (µg/L) SAMPLING DATE		
				MW16 2/20/95, 3/10/95 (avg.)	MW17 2/20/95, 3/10/95 (avg.)	MW18 2/20/95, 3/10/95 (avg.)
SVOCs (µg/L)						
bis-(2-Ethylhexyl)phthalate	9.7	30*	ND	3 J	2J	4 J
METALS TOTAL (µg/L)						
Aluminum	24.0	200	121000	**961**	173.5	**733**
Arsenic	1.9	8*	89.3	4.05	ND	1.475
Barium	1.7	2000	699	47.1	184	133.5
Calcium	10.4	NLE	45400	7860	50200	6235
Cadmium	2.8	4	9.5	2.475	ND	3.4
Cobalt	3.0	NLE	18.3	2.025	ND	2.675
Chromium	2.9	100	191	12.025	4.425	7.675
Copper	1.9	1000	730[1]	ND	14.1	5.1
Iron	6.4	300	431000	**19650**	**31250**	**1795**
Mercury	0.2	2	0.26	0.205	ND	ND
Potassium	685	NLE	137000	3040	4380	5115
Magnesium	18.3	NLE	62700	6120	4405	3935
Manganese	1.8	50	480[1]	46.05	**256**	16.8
Sodium	30.5	50000	197000[1]	17150	10285	21050
Nickel	10.8	100	187	3.75	ND	7.8
Lead	1.6	10*	22.7	1.1	1.3	3.1
Vanadium	2.3	NLE	108	6.35	ND	2.775
Zinc	3.8	5000	233	20.75	9.6	45.3

Compounds exceeding NJDEP groundwater quality criteria are noted by bold numbers.

NJDEP groundwater quality criteria consist of the higher number between the PQL or STANDARD

*PQL - Practical Quantitation Limit -was used as the NJDEP groundwater criteria

NLE - No Level Established

ND - Indicates that the compound was not detected at noted quantification limit

J - Indicates that the concentration value was estimated due to detection at or near the quantification limits

[1] - Monmouth County maximum background concentration.

with the subsequent site-specific and Monmouth County maximum background concentrations, where appropriate.

VOCs

VOCs were not detected in the site monitor wells from either sampling round.

SVOCs

SVOCs were not detected in the site monitor wells above laboratory quantitation limits from either sampling round. The estimated value for bis(2-ethylhexyl) phthalate is below NJDEP GWQC.

Pesticides/PCBs

Pesticides/PCBs were not detected in the site monitor wells from either sampling round.

Metals

As indicated in Table 4.2-10, of the 18 metals detected in site groundwater, 3 (aluminum, iron, and manganese) were found in concentrations exceeding the NJDEP GWQC. However, all metals were found in concentrations below those determined for site-specific or Monmouth County maximum background levels. Although the concentration of aluminum exceeded the Monmouth County background level in MW-17, the concentration was well below the site-specific background level established at the Main Post.

Cyanide

Cyanide was not detected in the site monitor wells from either sampling round.

4.2.8.7 Tidal Monitoring — Landfill 12 and Landfill 14 (M-12 and M-14)

Tidal fluctuations in Husky Brook were monitored at an upstream tidal monitoring station (stilling well-8) and at a downstream tidal monitoring station (stilling well-9) at Landfills 12 and 14 (Figure 4.2-15). The tidal monitoring stations are approximately 400 feet apart and tidal changes at both stations are similar. Changes in creek levels measured at station stilling well-8 were compared to changes in water levels measured at monitor wells MW-16 through MW-21 (see Appendix E).

Monitor wells MW-17, MW-18, MW-19, and MW-21 are located within 150 feet of the creek, and wells MW-16 and MW-20 are located 150 feet or more from the creek. The tidal monitoring station at Landfills 12 and 14 records high and low tides, but the lowest tidal peaks are slightly subdued. The stream bed elevation at Landfills 12 and 14 is the lowest of the three areas studied and is more affected by low tides. Stream bed elevation is -1.71 ft msl at stilling well-8 and -1.63 ft msl at stilling well-9. The maximum change in creek levels during the study was 3.3 feet. The maximum change in water level in the monitor well was approximately 1.6 feet during the time of study.

Data collected from wells MW-19 and MW-20 are useful as baseline data during the tidal monitoring study conducted at Landfills 12 and 14. There is no apparent relationship between water levels measured at wells MW-19 and MW-20 and creek levels measured at stilling well-8. Well MW-19 is approximately 150 feet from the creek, but is about 1,600 feet upgradient from stilling well-8. Well MW-20 is approximately 700 feet from the creek and is too distant to be influenced by changing creek levels. Water levels in the water-bearing unit and creek levels were fluctuating by less than 0.1 foot during the tidal monitoring study in March 1995.

The response of water levels measured at wells MW-16, MW-17, and MW-18 indicates a poor to moderate degree of hydraulic connection between the water-bearing unit in the area around these wells and the creek levels. There is a small lag time between tidal peaks in the creek and water-level peaks in each of the three wells. The magnitude of water-level changes in these three wells is small, between 5% and 15% of the magnitude of tidal changes in the creek.

There is an apparent hydraulic influence between the water-bearing unit at MW-21 and creek levels. Water-level data from monitor well MW-21 were compared with creek level data from station stilling well-8. The peak in water levels measured at well MW-1 occurs approximately 70 to 120 minutes after the peak in creek levels at stilling well-8, but the ratio of change in water level in the water-bearing unit to change in creek levels at this location (stilling well-8, MW-21) is approximately 40% to 50%. This high ratio indicates a high degree of hydraulic influence.

4.2.8.7.1 Conductivity and Salinity Results

Conductivity and salinity were measured in Husky Brook and in the monitor wells at Landfill 12 (M-12) and Landfill 14 (M-14) in January and March 1995 and are presented in Appendix E. Measurements were collected at low tide and high tide each month to evaluate the extent of saltwater intrusion at each site.

The results indicate the presence of brackish to salty water in Husky Brook at Landfills 12 and 14 (M-12, M-14).

Specific conductance measured in Husky Brook at Landfills 12 and 14 (M-12, M-14) is consistently greater than 2,000 µmhos. In addition, salinity measured in Husky Brook at Landfills 12 and 14 (M-12, M-14) is consistently greater than 1.5 ppth. The results are consistent with the higher streambed elevation at Landfill 2 (M-2) compared to Landfill 8 (M-8) and Landfills 12 and 14 (M-12, M-14).

Groundwater sampled from monitor wells at each location generally exhibit low conductivity and zero salinity.

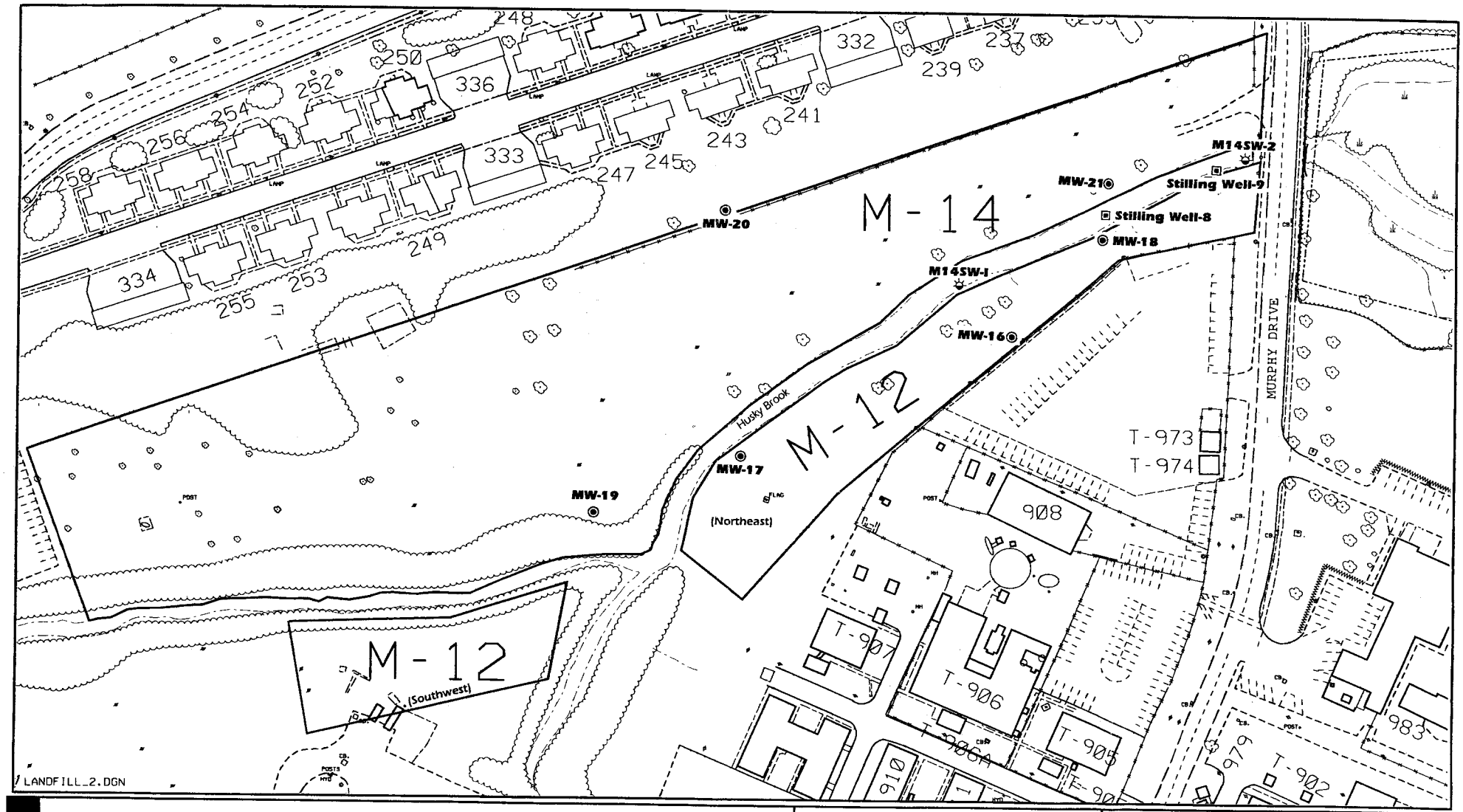
4.2.8.8 Recommendations

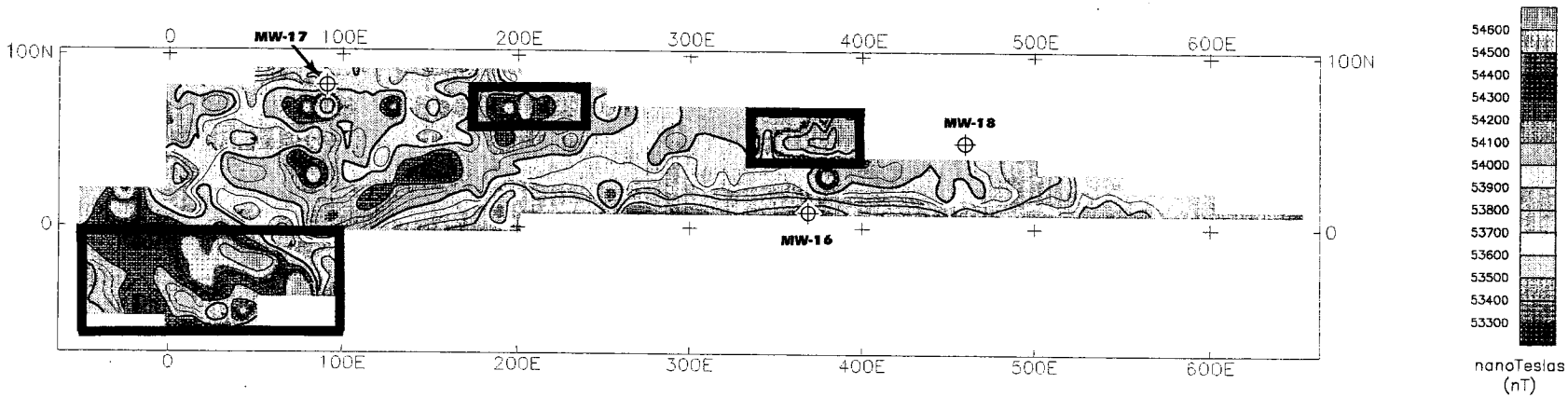
The results of the geophysical surveys indicate that the identified fill and buried ferrous material are present within the suspected boundaries of the landfill. Monitor wells are positioned to adequately monitor groundwater downgradient of these areas.

Groundwater sampling results indicate that no compounds of concern exceeded NJDEP GWQC from upgradient and downgradient wells.

The results of the tidal monitoring relate to both sites M-12 and M-14. The data indicate that there is no apparent relationship between creek levels and water levels in MW-19 and MW-20. A poor to moderate relationship was measured between MW-16, MW-17, and MW-18 and creek levels. A direct relationship was observed between creek levels and MW-21. The conductivity and salinity measurements in Husky Brook indicate the presence of brackish to salty water at sites M-12 and M-14. Groundwater sampled from monitor wells at each location indicates freshwater.

Although no compounds of concern were identified at site M-12, because of the site's history of being used as a landfill, DPW proposes that a long-term groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells. Contaminants identified in the first two rounds of sampling would be targeted for the monitoring program.


M-14
M-12
M-12
(Northeast)
(Southwest)
MW-20
MW-21
MW-18
MW-16
MW-17
MW-19
M14SW-1
M14SW-2
Stilling Well-8
Stilling Well-9
Husky Brook
MURPHY DRIVE
T-973
T-974
T-907
T-906
T-906A
T-905
T-902
908
910
976
983
LANDFILL_2.DGN
LEGEND
Monitor Well
Existing Surface Water Sampling Location
Stilling Well
Road (paved)
Road/Trails (unpaved)
Fence
Building
Wooded Area
Tree/Bush
Light Pole
Utility Pole
Site
Brook/Creek
Base Boundary
Marshy Area
Approximate Boundary
0
100
200
SCALE IN FEET
95P-3186
6/23/95
Fort Monmouth, Main Post
FIGURE 4.2-15
LANDFILLS 12 (M-12) AND 14 (M-14)
SAMPLING LOCATIONS



LEGEND

Monitor Well

Buried Ferrous Material

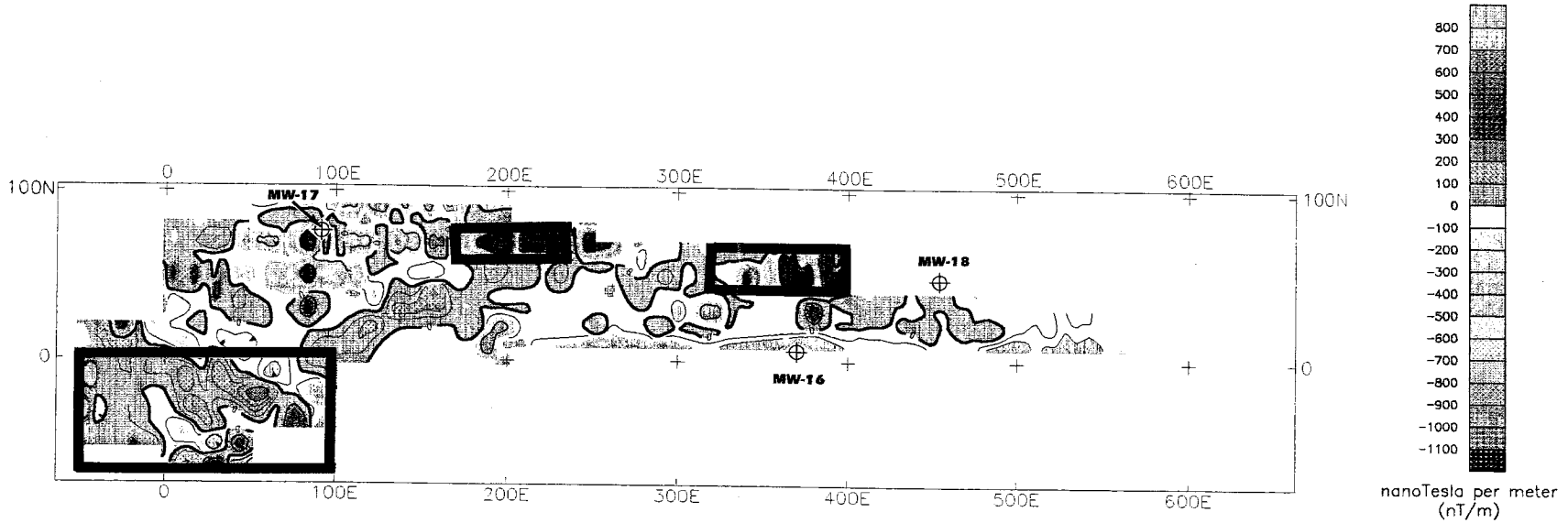
0 50 100 150

SCALE IN FEET

Fort Monmouth, Main Post Site M-12 NE

FIGURE 4.2-16
MAGNETOMETER SURVEY
TOTAL MAGNETIC FIELD – SITE M-12 NE

95P-3235 6/27/95



LEGEND

Monitor Well

Buried Ferrous Material

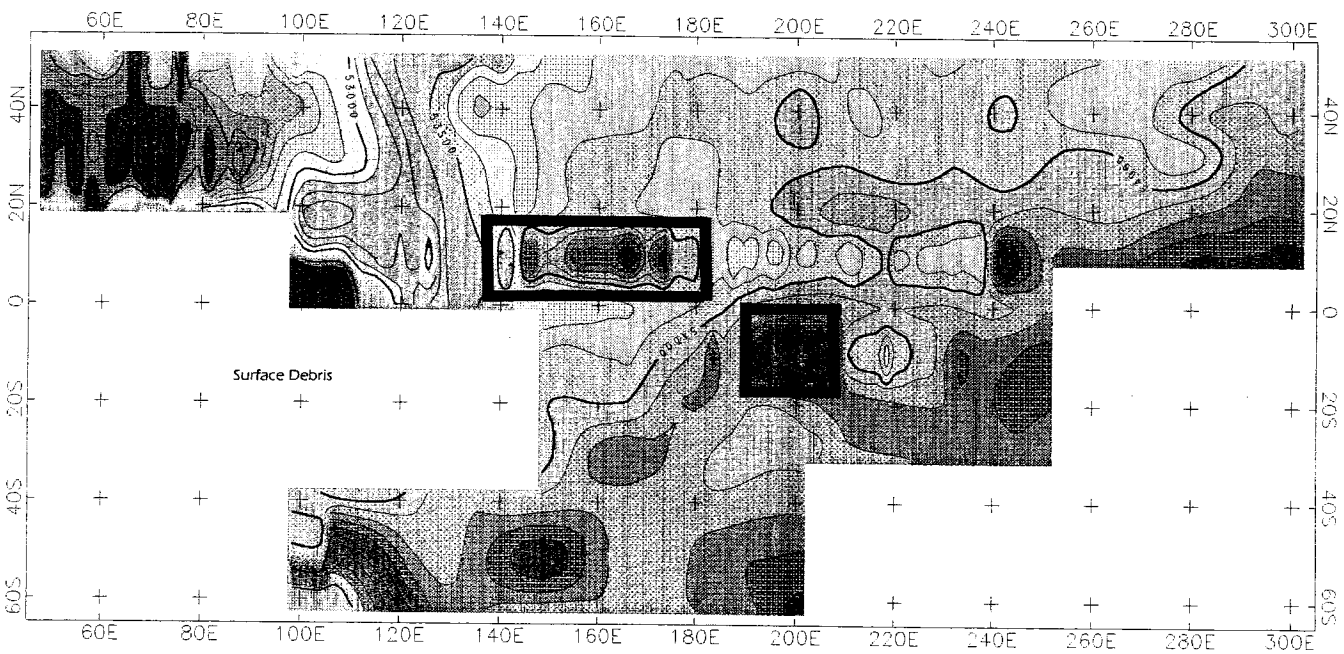
0 50 100 150

SCALE IN FEET

Fort Monmouth, Main Post Site M-12 NE

FIGURE 4.2-17
MAGNETOMETER SURVEY
MAGNETIC GRADIENT – SITE M-12 NE

95P-3236 6/27/95



LEGEND

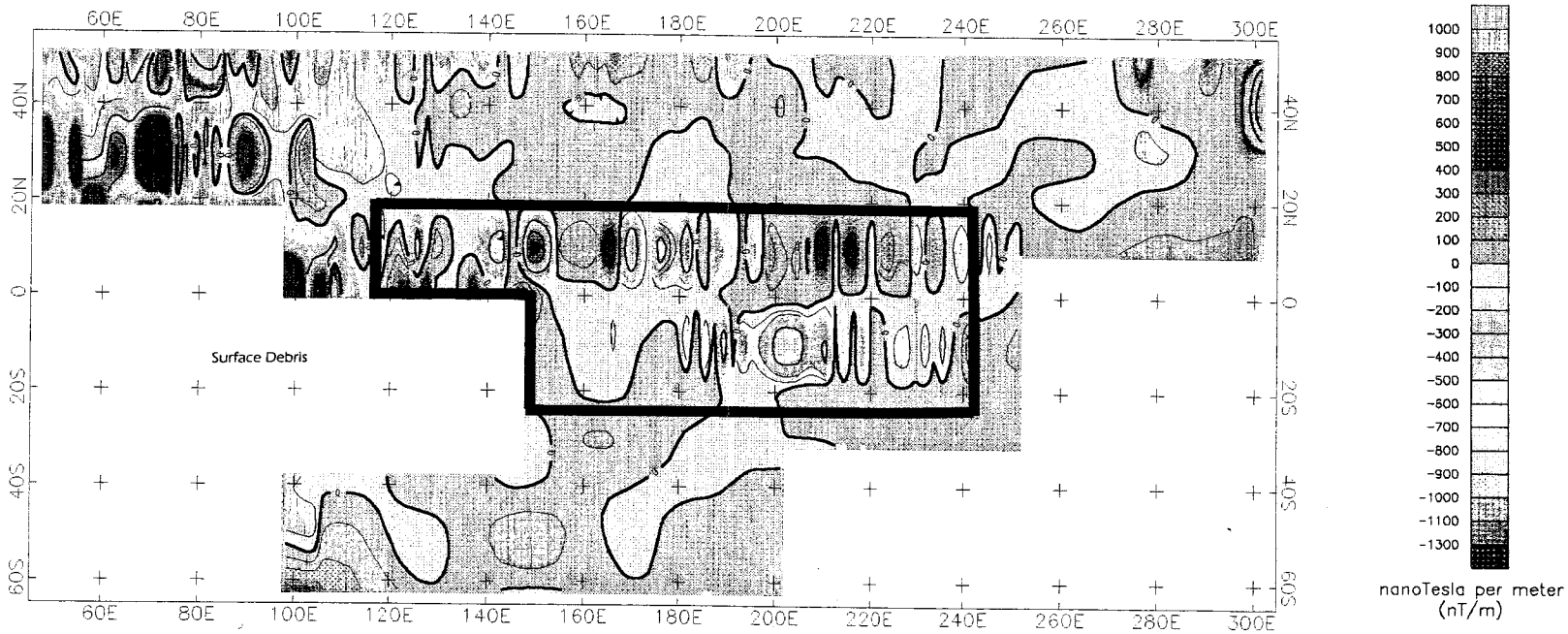
Possible Fill Area Boundary

0 10 20 30 40 50
SCALE IN FEET

Fort Monmouth, Main Post Site M-12 SW

FIGURE 4.2-18
MAGNETOMETER SURVEY
TOTAL MAGNETIC FIELD – SITE M-12 SW

95P3737 6/27/95



LEGEND

Possible Fill Area Boundary

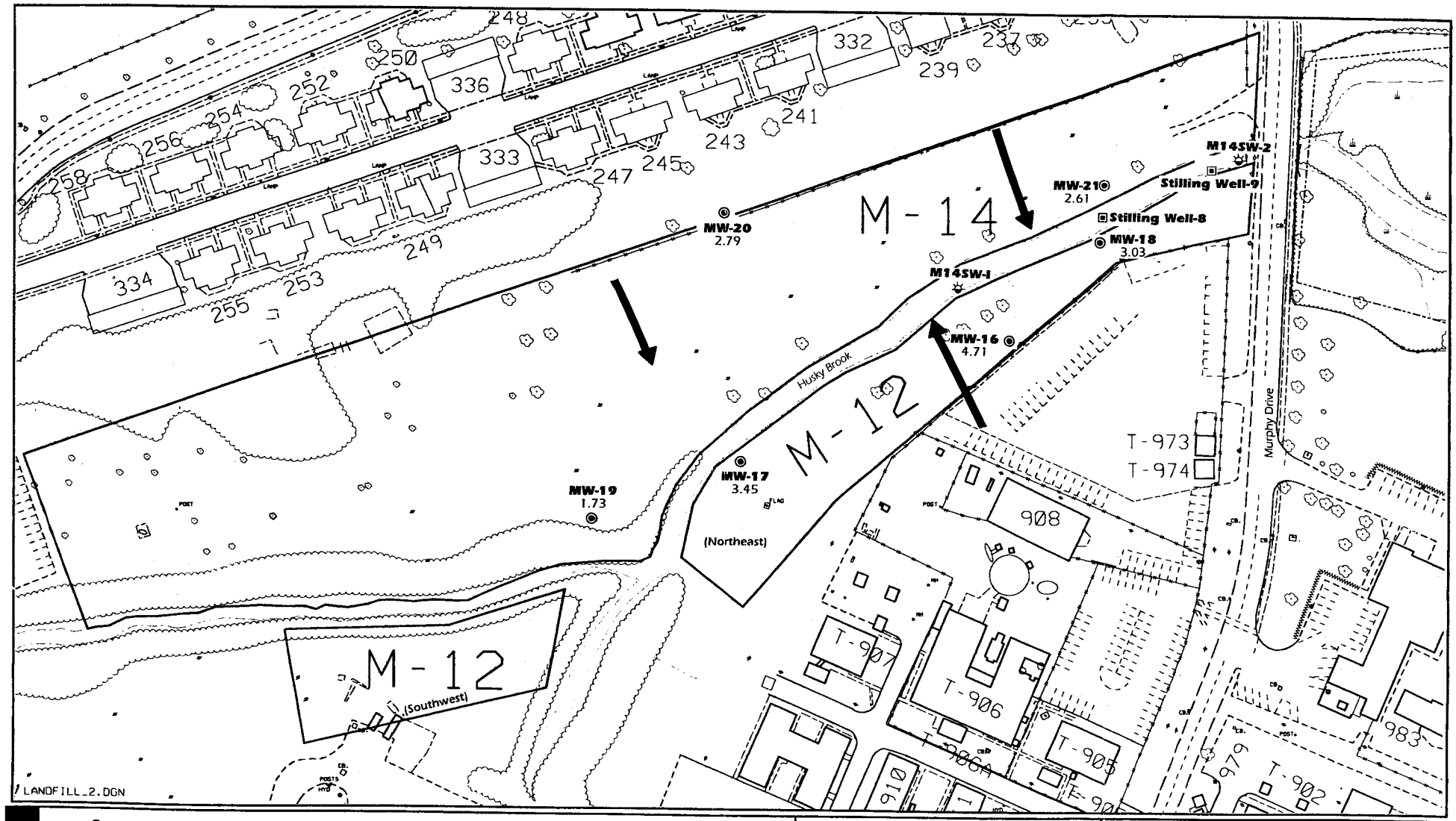
0 10 20 30 40 50

SCALE IN FEET

Fort Monmouth, Main Post Site M-12 SW

FIGURE 4.2-19
MAGNETOMETER SURVEY
MAGNETIC GRADIENT – SITE M-12 SW

95P-323B 6/27/95



Fort Monmouth, Main Post

FIGURE 4.2-20
LANDFILLS 12 (M-12) AND 14 (M-14)
APPROXIMATE GROUNDWATER FLOW DIRECTIONS
(Groundwater Elevations Recorded from March 1995 Sampling Round)

Site M-14

4.2.9 Landfill 14 (M-14)

4.2.9 1 Site Location

Landfill 14 (M-14) is located on the north bank of Husky Brook in the area west of Murphy Drive (Figure 4.2-15). This area is north of the suspected location of Landfill 12. The approximate area of site M-14 is 300,000 ft^2 (6.9 acres).

4.2.9.2 Site History

Both a 1935 Fort Monmouth map and the 1940s aerial photograph show a marshy area in this location. According to the IA, Landfill 14 was used in 1965 and 1966 for the disposal of building rubble that was covered by dredgings from Husky Brook Lake. A figure in Cosulich shows a 1940s-era landfill in the western part of the area. This 1940s landfill may have contained general domestic and industrial wastes similar to that found in other Main Post landfills.

As part of an NJPDES permit, surface-water samples have been taken at two locations in Husky Brook since February 1986. The results are summarized in the recent report (WESTON, 1993). No compounds were detected in concentrations above the NJDEP surface-water criteria.

4.2.9.3 Sampling Effort

GPR and magnetometer surveys were conducted in the western half of this site to ascertain whether the landfill extends into this area. Three monitor wells (MW-19 through MW-21), shown in Figure 4.2-15, were installed and sampled twice for TCL +30 parameters, TAL metals, and cyanide. Tidal monitoring was conducted at the same time as the tidal monitoring at Landfill 12. Surface-water samples were taken at M14SW-1 and M14SW-2.

4.2.9.4 Geophysical Results

The magnetometer survey at site M-14 shows the majority of the site to have background total magnetic field readings of approximately 54,000 nT, as shown on the total magnetic field contour plot in Figure 4.2-21. However, anomalous readings exist at grid coordinates along the 100N traverse from 0E to 700E, 20N/100E, 40N/760E, 40N/810E, and 0 to 90S/300E to 700E. These anomalies, mostly represented by the blue contour interval or approximately 48,000 nT, can be attributed to cultural features such as a buried gas main, a fence, playground apparatus, and overhead power lines, respectively. The magnetic gradient component confirms the total field anomalies as shown in Figure 4.2-22. A smaller discrete anomaly exists at grid coordinate 40N from 420E to 470E, which is indicative of buried ferrous material.

The overhead power lines could be masking the magnetic response that any potential buried ferrous material may have, however, the GPR survey was conducted to identify any subsurface "disturbances" such as metallic fill material. Chaotic radar reflectors, indicative of fill material, coarse-grained soils, or disturbed soils, were found mainly along the treeline at grid coordinates 0 to 60S/150E to 250E, and 75S to 120S/400E to 475E. Chaotic radar reflectors, corresponding to a magnetic gradient anomaly, exist at 0 to 20N/450E to 575E, and are indicative of ferrous material. Hyperbolic radar signatures, identified as the gas main, were revealed along the 100N traverse at a depth of approximately 3 ft bgs.

While magnetometer and GPR anomalies exist throughout the site, a discrete landfill boundary was not identified at site M-14. This may be due in part to the composition of the fill material, as described in the lithologic logs, and the lack of metallic material.

4.2.9.5 Hydrogeologic Interpretation

Lithologic logs from site monitor wells indicate that the lithology consists of a thin soil cover (0.4 ft) underlain by fill material. The components of the filled materials observed in the borings consisted of concrete rubble, charcoal, wood, and glass fragments intermixed with a gray-green silty fine-coarse-grained sand with little clay and gravel.

Groundwater saturation was observed in the boreholes during activities between 4 and 6 ft bgs. The three monitor wells were screened across the water table, with total depths of 14, 15, and 16 ft bgs in MW-19, MW-20, and MW-21, respectively. Water-level elevation data, measured on 6 March 1995, indicate that local groundwater flow is south toward Husky Brook (Figure 4.2-20). Based on groundwater elevation measurements, monitor wells MW-19 and MW-21 are downgradient of the M-14 area.

4.2.9.6 Groundwater Sampling Results

Monitor wells at site M-14 were sampled for the analytical parameters listed in Table 3.8-1. The compounds detected in groundwater samples from the individual sampling rounds, with the corresponding sample identifications, are listed in Appendix D. Table 4.2-11 compares the average concentrations of the detected compounds from the February and March sampling rounds with the NJDEP GWQC, and then compares the results to the subsequent site-specific and Monmouth County maximum background concentration, where appropriate.

VOCs

VOCs were not detected in the site monitor wells from either sampling round.

SVOCs

SVOCs were not detected in the site monitor wells from either sampling round.

Pesticides/PCBs

Pesticides/PCBs were not detected in the site monitor wells in either sampling round.

Table 4.2-11
Fort Monmouth - Main Post
Summary of Average Concentrations of Detected Compounds in Groundwater - Site M-14

COMPOUND	METHOD DETECTION LIMIT (µg/L)	NJDEP GROUNDWATER QUALITY CRITERIA (µg/L)	MAXIMUM BACKGROUND CONCENTRATION (µg/L)	ANALYTICAL RESULTS (µg/L) SAMPLING DATE		
				MW19 2/20/95, 3/10/95 (avg.)	MW20 2/22/95, 3/13/95 (avg.)	MW21 2/22/95, 3/9/95 (avg.)
METALS TOTAL (µg/L)						
Aluminum	24.0	200	121000	**393**	**903.5**	**1380**
Arsenic	1.9	8*	89.3	ND	6.3	2.33
Barium	1.7	2000	699	214.5	48.7	35.2
Beryllium	0.9	20*	7[1]	ND	0.245	ND
Calcium	10.4	NLE	45400	38700	31850	32800
Cobalt	3.0	NLE	18.3	2.03	ND	ND
Chromium	2.9	100	191	4.925	9.625	12.65
Copper	1.9	1000	730[1]	8.15	8.3	2.35
Iron	6.4	300	431000	**41400**	**7960**	**5685**
Potassium	685	NLE	137000	4660	5316	7490
Magnesium	18.3	NLE	62700	5185	4270	4060
Manganese	1.8	50	480[1]	**550.5**	**199.5**	**64.45**
Sodium	30.5	50000	197000[1]	8815	22600	6700
Nickel	10.8	100	187	3.35	5.65	ND
Lead	1.6	10*	22.7	**18.75**	4.65	3.45
Vanadium	2.3	NLE	108	ND	6.25	8.75
Zinc	3.8	5000	233	89.5	14.5	13.5

Compounds exceding NJDEP groundwater quality criteria are noted by bold numbers.

NJDEP groundwater quality criteria consist of the higher number between the PQL or STANDARD

*PQL - Practical Quantitation Limit -was used as the NJDEP groundwater quality criteria

ND - Indicates that the compound was not detected at the noted quantification limits

NLE - No Level Established

[1] - Monmouth County maximum background concentration.

Metals

As indicated in Table 4.2-11, of the 17 metals detected in site groundwater, 4 (aluminum, iron, manganese, and lead) were found in concentrations exceeding the NJDEP GWQC. In addition, manganese was found in a concentration greater than both the site-specific and the Monmouth County maximum background level in MW-19 only. As discussed in Subsection 4.1, groundwater flowing through glauconitic formations contains abundant manganese. In addition, manganese is a common metal found in tidally influenced environments. Therefore, manganese is not identified as a compound of concern. Aluminum and lead were found in concentrations below those determined for site-specific and Monmouth County maximum background levels.

Although the concentration of iron exceeded the Monmouth County background level in MW-19, the concentration was well below the site-specific background level established at the Main Post.

The lower reaches of Husky Brook are tidal. The sodium content of surface water is saline (Subsection 4.2.9.7), suggesting that saltwater has encroached upon this section of Husky Brook. The relatively high sodium content of the monitor wells in the vicinity of Husky Brook is caused by the saltwater encroachment.

Cyanide

Cyanide was not detected in the site monitor wells from either sampling round.

4.2.9.7 Surface-Water Sampling Results

Two surface-water samples, M14SW-1 and M14SW-2 were collected at M-14 (Figure 4.2-15). Both samples were determined to be saltwater based on conductivity and salinity results, and total (unfiltered) and soluble (filtered) concentrations were compared to NJDEP saltwater criteria and background (Table 4.2-12).

Table 4.2-12
Fort Monmouth - Main Post
Summary of Detected Compounds in Surface Water
Total and Soluble - Site M-14

COMPOUND	METHOD DETECTION LIMIT	NJDEP SURFACE WATER CRITERIA[a] SALINE WATER	MAXIMUM BACKGROUND CONCENTRATION (TOTAL)	MAXIMUM BACKGROUND CONCENTRATION (SOLUBLE)	ANALYTICAL RESULTS SAMPLING DATE - 12/1/1994			
					M14 (Total)		M14 (Soluble)	
					SW-1	SW-2	SW-1	SW-2
VOC's (µg/L)								
1,2-Dichloroethene (total)	4.4	NLE	ND	ND	4 J	5 J	NA	NA
SVOCs (µg/L)								
bis-(2-Ethylhexyl)phthalate	9.7	5.92 (hc)	ND	ND	ND	2 J	NA	NA
METALS TOTAL (µg/L)								
Aluminum	26.7	NLE	748	ND	188	205	ND	26.7
Barium	2.1	NLE	44.7	39.4	30	33.1	27.2	31.2
Calcium	12	NLE	31600	30900	16200	20400	16300	20300
Cobalt	2.4	NLE	8.1	4.1	ND	ND	ND	ND
Copper	2.4	NLE	3.2	4	2.9	5.3	5.6	4.9
Iron	4.7	NLE	6210	405	1920	2070	839	999
Lead	1.6	NLE	10	ND	3.4	2.8	3.1	3.2
Magnesium	38.2	NLE	5440	5120	9770	21400	9540	21600
Manganese	2.0	100 (h)	113	98.6	65.6	68.4	63.6	66.1
Nickel	12.8	NLE	22.9	16.1	14.2	ND	ND	ND
Potassium	821	NLE	5060	4280	4840	8320	4240	8220
Sodium	15.4	NLE	26700	26200	70100	168000	69100	171000
Zinc	2.8	NLE	35.1	23.8	23.7	23.4	14.4	13.2

[a] - NJDEP Surface Water Quality Standards (1993).
h -Non carcinogen effect-based human health criteria as a 30 day average.
hc - Carcinogen effect-based human health criteria as 70 year average.
ND - Indicates that the compound was not detected at the noted quantification limit.
J - Indicates that the concentration value was estimated due to detection at or near the quantification limit.
NLE - No Level Established
NA - Not Analyzed.
Compounds dectected above NJDEP Surface Water Criteria are noted by bold numbers.

VOCs

VOCs were analyzed for but were not detected above the laboratory quantitation limit in site surface-water samples.

SVOCs

SVOCs were analyzed for but were not detected above the laboratory quantitation limit in site surface-water samples.

Pesticides/PCBs

Pesticides/PCBs were analyzed for but were not detected in site surface-water samples.

Metals

As indicated in Table 4.2-12, no metals were found in concentrations exceeding the NJDEP surface-water criteria (saline).

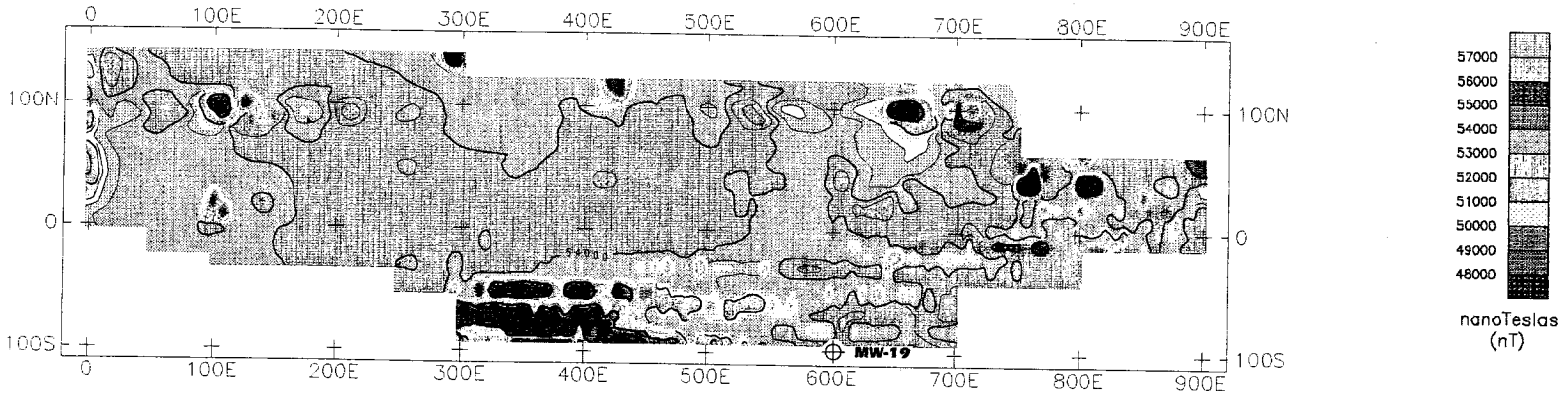
4.2.9.8 Recommendations

The results of the geophysical surveys indicate that fill and some metallic debris exist throughout the site; however, a discrete landfill boundary was not identified at site M-14. This may be due in part to the composition of the fill material and the small amount of subsurface metallic material present at the site.

The groundwater and surface-water sampling results indicate that no compounds of concern were detected above NJDEP GWQC and surface-water criteria.

Tidal monitoring was conducted at site M-12 and site M-14 simultaneously. The results of the tidal monitoring are discussed in Subsection 6.1.6.

Although no compounds of concern were identified at site M-14, because of the site's history of being used as a landfill, DPW proposes that a long-term surface-water and groundwater monitoring program be developed and implemented for the site. Aqueous samples would be collected and analyzed on a quarterly basis to further evaluate water quality conditions at the site. Groundwater samples would be collected from existing monitor wells and surface-water samples would be collected from points yet to be determined. Contaminants identified in the first two rounds of sampling would be targeted for the monitoring program.



LEGEND

Monitor Well

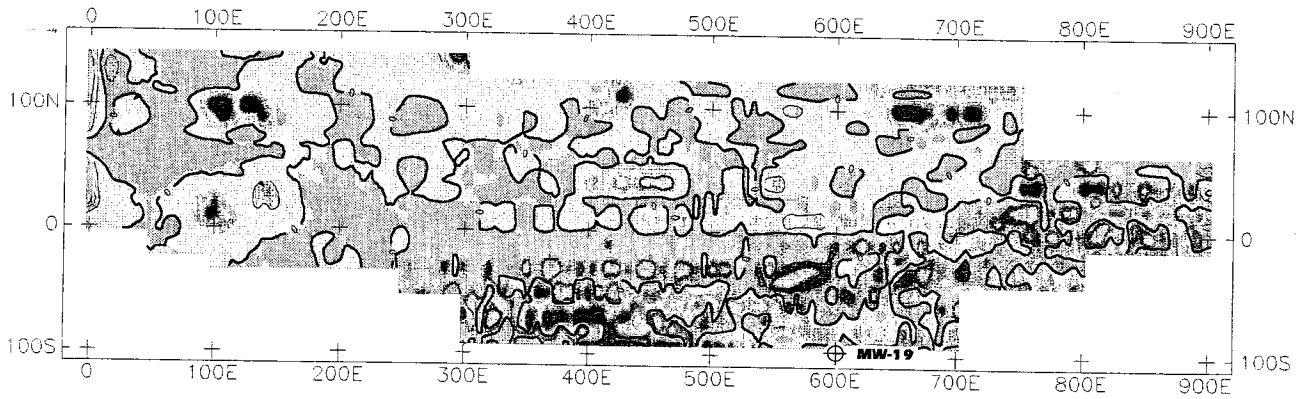
0 50 100 150 200

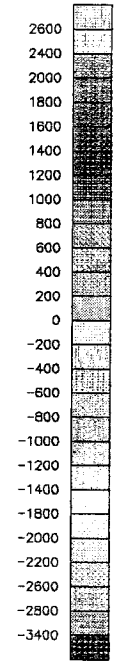
SCALE IN FEET

Fort Monmouth, Main Post Site M-14

FIGURE 4.2-21
MAGNETOMETER SURVEY
TOTAL MAGNETIC FIELD – SITE M-14

95P-3239 6/27/95





nanoTeslas per meter
(nT/m)

LEGEND

Monitor Well

0 50 100 150 200
SCALE IN FEET

Fort Monmouth, Main Post Site M-14

FIGURE 4.2-22
MAGNETOMETER SURVEY
MAGNETIC GRADIENT – SITE M-14

95P-3240 6/27/95

Site M-15

4.2.10 Water Tank (M-15)

4.2.10.1 Site Location

The water tank is located on the eastern portion of the Main Post (Figure 4.2-23). The tank is a vertical aboveground tank mounted on a concrete pad. The approximate area of site M-15 is 3,000 ft^2 (0.07 acre). There are soil patches without vegetation along the eastern circumference of the tank and visible paint chips.

4.2.10.2 Site History

Interviews with site personnel indicate that the tank was constructed in the 1940s and was always used as a water tank. The IA described the site as the "Water Tank," but did not discuss why the tank was identified as a hazardous waste site.

4.2.10.3 Sampling Effort

There is no evidence that the water tank or its contents are potential sources of contamination; however, the stressed vegetation may have been caused by the use of herbicides and the paint chips may contain lead. Therefore, two surface soil samples (0 to 6 inches) were collected, one at the bottom of the grade and one halfway up the grade, and were analyzed for TCL SVOCs, TAL metals, and pesticides (Figure 4.2-23). The SVOCs were analyzed for even though this was not proposed in the original scope of work (CDAP).

4.2.10.4 Soil Sampling Results

Two surface soil samples were collected (0 to 0.5 ft bgs), one at the bottom of the grade and one halfway up the grade, and were analyzed for the parameters listed in Table 3.6-1. The analytical results are listed in Appendix D. Table 4.2-13 compares the detected compounds in site soil with the NJDEP Residential Direct Contact Soil Cleanup Criteria (SCC), and then compares the results to the subsequent site-specific and Monmouth County background levels, where appropriate. In

APPENDIX B

UTILITY WORKER AND RECREATIONAL USER SCREENING LEVEL EQUATIONS AND CALCULATIONS; PROUCL OUTPUT

The equations used to calculate screening values for exposure to soil are shown below.

The following abbreviations are used:

- SL = Screening Level
- nc = noncarcinogenic
- ing = ingestion
- der = dermal
- inh = inhalation
- ca = carcinogenic
- adl = adolescent
- adjust = adjusted

Units definitions:

- mg = milligram
- kg = kilogram
- cm = centimeter
- cm^2 = square centimeter
- cm^3 = cubic centimeter
- m^3 = cubic meter
- m^2 = square meter
- s = second
- g = gram
- L = liter
- µg = microgram

UTILITY WORKER

The utility workers would be exposed to surface soil and subsurface soil (e.g. during trenching activities) through incidental ingestion of soil, dermal contact with soil, and inhalation of volatiles and particulates from soil.

The soil screening levels for the utility worker, in mg/kg, are calculated as:

Noncarcinogenic - adult

Ingestion

$$SL_{nc-ing} = \frac{(THQ)\ (AT_{nc})\,(BW_{adult})}{(EF_{adult})\,(ED_{adult})\left(\frac{1}{RfD_O}\right)\,(IRS_{adult})\ (CF_s)}$$

Dermal

$$SL_{nc-der} = \frac{(THQ)\,(AT_{nc})\,(BW_{adult})}{(EF_{adult})\,(ED_{adult})\left(\frac{1}{(RfD_O)\,(GIABS)}\right)\,(SA_{adult})\,(AF_{adult})\,(ABS_d)\,(CF_s)}$$

Inhalation

$$SL_{nc-inh} = \frac{(THQ)\,(AT_{nc})}{(EF_{adult})\,(ED_{adult})\,(ET)\left(\frac{1}{RfC}\right)\left(\frac{1}{VF_s} + \frac{1}{PEF}\right)}$$

Total

$$SL_{nc-total} = \frac{1}{\left(\frac{1}{SL_{nc-ing}} + \frac{1}{SL_{nc-der}} + \frac{1}{SL_{nc-inh}}\right)}$$

Carcinogenic - adult

Ingestion

$$SL_{ca-ing} = \frac{(TR)\,(AT_c)\,(BW_{adult})}{(EF_{adult})\,(ED_{adult})\,(CSF_o)\,(IRS_{adult})\,(CF_s)}$$

Dermal

$$SL_{ca-der} = \frac{(TR)\,(AT_c)\,(BW_{adult})}{(EF_{adult})\,(ED_{adult})\left(\frac{CSF_O}{GIABS}\right)(SA_{adult})\,(AF_{adult})\,(ABS_d)\,(CF_s)}$$

Inhalation

$$SL_{ca-inh} = \frac{(TR)\,(AT_c)}{(EF_{adult})\,(ED_{adult})\,(ET)\;\;(IUR)\left(\frac{1000\mu g}{mg}\right)\left(\frac{1}{VF_s} + \frac{1}{PEF}\right)}$$

Total

$$SL_{ca-total} = \frac{1}{\left(\frac{1}{SL_{ca-ing}} + \frac{1}{SL_{ca-der}} + \frac{1}{SL_{ca-inh}}\right)}$$

RECREATIONAL USER

The utility workers would be exposed to surface soil through incidental ingestion of soil, dermal contact with soil, and inhalation of volatiles and particulates from soil, in part as an adolescent (aged 6-16) and in part as an adult (aged 16-30).

Non-carcinogenic adolescent

Ingestion

$$SL_{nc-ing} = \frac{(THQ)\,(AT)\,(ED_{adl})\,(BW_{adl})}{(EF)\,(ED)\left(\frac{1}{RfD_O}\right)\,(IR_{adl})\,(CF_s)}$$

Dermal

$$SL_{nc-der} = \frac{(THQ)\,(AT)(ED_{adl})\,(BW_{adl})}{(EF)\,(ED)\left(\frac{1}{RfD_O \times GIABS}\right)\,(SA_{adl})\,(AF_{adl})\,(ABS_d)\,(CF_s)}$$

Inhalation

$$SL_{nc-inh} = \frac{(THQ)\,(AT)\,(ED_{adl})}{(EF)\,(ED_{adl})\,(ET_{adl})\left(\frac{1}{RfC}\right)\left(\frac{1}{VF_s} + \frac{1}{PEF}\right)}$$

Total

$$SL_{nc-total} = \frac{1}{\left(\frac{1}{SL_{nc-ing}} + \frac{1}{SL_{nc-der}} + \frac{1}{SL_{nc-inh}}\right)}$$

Non-carcinogenic adult

Ingestion

$$SL_{nc-ing} = \frac{(THQ)\,(AT)\,(ED_{adult})\,(BW_{adult})}{(EF)\,(ED)\left(\frac{1}{RfD_O}\right)\,(IR_{adult})\,(CF_{soil})}$$

Dermal

$$SL_{nc-der} = \frac{(THQ)\,(AT)\,(ED_{adult})\,(BW_{adult})}{(EF)\,(ED)\left(\frac{1}{RfD_O \times GIABS}\right)\,(SA_{adult})\,(AF_{adult})\,(ABS_d)\,(CF_s)}$$

Inhalation

$$SL_{nc-inh} = \frac{(THQ)\,(AT)\,(ED_{adult})}{(EF)\,(ED_{adult})\,(ET_{adult})\left(\frac{1}{RfC}\right)\left(\frac{1}{VF_s}+\frac{1}{PEF}\right)}$$

Total

$$SL_{nc-total} = \frac{1}{\left(\frac{1}{SL_{nc-ing}}+\frac{1}{SL_{nc-der}}+\frac{1}{SL_{nc-inh}}\right)}$$

Carcinogenic

Ingestion

$$SL_{ca-ing} = \frac{(TR)\,(AT)\,(LT)}{(CfS_O)\left(IFS_{adj}\right)(CF_s)}$$

Where:

$$IFS_{adjust} = \frac{(ED_{adl})\,(EF_{adl})\,(IRS_{adl})}{BW_{adl}} + \frac{(ED_{adult})\,(EF_{adult})\,(IRS_{adult})}{BW_{adult}}$$

Dermal

$$SL_{ca-der} = \frac{(TR)\,(AT)\,(LT)}{\left(\frac{CsF_O}{GIABS}\right)\left(DFS_{adj}\right)(ABS_d)\,(CF_s)}$$

Where:

$$DFS_{adjust} = \frac{(ED_{adl})(\,EF_{adl})\,(SA_{adl})\,(AF_{adl})}{BW_{adl}} + \frac{(ED_{adult})\,(EF_{adult})\,(SA_{adult})\;(AF_{adult})}{BW_{adult}}$$

Inhalation

$$SL_{ca-inh} = \frac{(TR)\,(AT)\,(LT)}{(EF_{rec})\,(ED_{rec})\,(ET_{rec})\left(\frac{1\ day}{24\ hours}\right)(IUR)\left(\frac{1000\mu g}{mg}\right)\left(\frac{1}{VF_s}+\frac{1}{PEF}\right)}$$

Total

$$SL_{ca-total} = \frac{1}{\frac{1}{SL_{ca-ing}} + \frac{1}{SL_{ca-der}} + \frac{1}{SL_{ca-inh}}}$$

Supporting Equations

Particulate Emission Factor, in m^3 air / kg soil

$$PEF = \left({}^{Q}/_{C}\right)\left(\frac{3{,}600\ {}^{seconds}/_{hour}}{(0.036)\ (1-V)\left(\left(\frac{U_m}{U_t}\right)^3\right)[F(x)]}\right)$$

Volatilization Factor, in m^3 air / kg soil

$$VF_s = \left({}^{Q}/_{C}\right)\left(\frac{\left((3.14)\ (D_A)\ (T)\right)^{1/2}\ (CF_{vol})}{\left((2\ )\ (\rho_b)\ \ (D_A)\right)}\right)$$

Where:

$$D_A = \frac{\left(\left(\theta_a^{10/3}\right)\ (D_i)\ \left(H'\right)\right) + \left(\left(\theta_w^{10/3}\right)\ (D_w)\right)}{(n^2)\ \left(\left((\rho_b)\ (K_d)\right) + \ \theta_w + \ \left((\theta_a)\ (H')\right)\right)}$$

Summary of Exposure Assumptions for Soil for each Potential Receptor

Abbreviation	Parameter	Units	Outdoor Worker	Sources	Rationale	Utility Worker	Sources	Rationale	Recreational User	Sources	Rationale
THQ	Target Hazard Quotient	unitless	1	USEPA, 2014b	USEPA RSL Users Guide, Table 1	1	USEPA, 2014b	USEPA RSL Users Guide, Table 1	1	USEPA, 2014b	USEPA RSL Users Guide, Table 1
AT_{nc}	Averaging Time – noncarcinogens	days	9,125	USEPA, 1989	Exhibit 6-9; Period over which exposure is averaged; ED expressed in days (25 years x 365 days)	365	USEPA, 2014c	Source references USEPA, 1989, page 6-23; ED expressed in days (1 year x 365 days)	5,110 (adult) 3,650 (adl)	USEPA, 1989	Exhibit 6-9; Period over which exposure is averaged; ED expressed in days (14 years adult x 365 days or 10 years adl x 365 days)
AT_c	Averaging Time – carcinogens	days	25,550	USEPA, 2014c as "lifetime"	70-year lifetime expressed in days (70 years x 365 days)	25,550	USEPA, 2014c as "lifetime"	70-year lifetime expressed in days (70 years x 365 days)	25,550	USEPA, 2014c as "lifetime"	70-year lifetime expressed in days (70 years x 365 days)
ED	Exposure Duration	years	25	USEPA, 2014c	Source references USEPA, 1991a, Page 15; RME scenario for industrial worker	1	USEPA, 2002	Exhibit 5-1; USEPA, default value for construction workers	14 (adult) 10 (adl)	Professional judgment	Adult: Represents the number of years returning to the same location as an adult, assumes 16 to <30 years of age Adl: Represents the number of years returning to the same location as an adolescent; assumes 6 to <16 years of age
BW	Body Weight	kg	80	USEPA, 2014c	Source references USEPA, 2011, Table 8-3; weighted mean values for adults 21 – 78	80	USEPA, 2014c	Source references USEPA, 2011, Table 8-3; weighted mean values for adults 21 – 78	80 (adult) 44 (adl)	Adult: USEPA, 2014c Adl: USEPA, 2011	Adult: Source references USEPA, 2011, Table 8-3; weighted mean values for adults 21 to 78 years of age Adl: Table 8-3, mean of body weights for 6 to <11 and 11 to <16 years
EF	Exposure Frequency	days/year	225	USEPA, 2014c	Source references USEPA, 1991, page 15, outdoor worker RME scenario	30	Professional judgment	Assumes project of one month duration	50	Professional judgment	Assumes recreational user on site once per week every week of the year, except for 2 weeks vacation
IRS	Soil Ingestion Rate	mg/day	100	USEPA, 2014c	Source references USEPA, 1991, page 15, same as adult resident	330	USEPA, 2014b	Source references USEPA, 2002, Exhibit 5-1, USEPA recommended value for construction worker	50 (adult) 100 (adl)	USEPA, 2011	Adult: Table 5-1, General Population Central Tendency, Adult soil and dust ingestion Adl: Table 5-1, General Population Central Tendency, soil and dust ingestion for 6 to <21 years of age
EV	Event Frequency	events/day	1	USEPA, 2004a	Exhibit 3-5, industrial RME scenario	1	USEPA, 2004a	Exhibit 3-5, industrial RME scenario	1	Professional judgment	Recreational users are expected to be onsite one event per day
FI	Fraction Ingested	unitless	1	USEPA, 1989, page 6-39	Assumes that all of contaminated soil contacted is from the site	1	USEPA, 1989, page 6-39	Assumes that all of contaminated soil contacted is from the site	1	USEPA, 1989, page 6-39	Assumes that all of contaminated soil contacted is from the site
CF_s	Conversion Factor-soil	kg/mg	1E-06	USEPA, 1989	Exhibit 6-14	1E-06	USEPA, 1989	Exhibit 6-14	1E-06	USEPA, 1989	Exhibit 6-14

Summary of Exposure Assumptions for Soil for each Potential Receptor (Continued)

Abbreviation	Parameter	Units	Outdoor Worker	Sources	Rationale	Utility Worker	Sources	Rationale	Recreational User	Sources	Rationale
GIABS	Gastrointestinal Absorption Factor (also, OAF = Oral Absorption Factor)	unitless	Chemical-specific	USEPA, 2015b	Fraction of contaminant absorbed in gastrointestinal tract	Chemical-specific	USEPA, 2015b	Fraction of contaminant absorbed in gastrointestinal tract	Chemical-specific	USEPA, 2015b	Fraction of contaminant absorbed in gastrointestinal tract
SA	Exposed Skin Surface Area	cm^2	3,470	USEPA, 2014c	Source references USEPA, 2011, Table 7-2; weighted average of mean values for head, hands, and forearms (male and female adults); assumes wearing shoes and long pants	3,470	USEPA, 2014c	Source references USEPA, 2011, Table 7-2; weighted average of mean values for head, hands, and forearms (male and female adults); assumes wearing shoes and long pants	3,470 (adult) 2,160 (adl)	USEPA, 2014c; USEPA, 2011	Adult: Source references USEPA, 2011, Table 7-2; weighted average of mean values for head, hands, and forearms (male and female adults); assume wearing shoes and long pants Adl: Table 7-2, weighted average of mean values for head, hands, and arms (mean value for arm times 45% to account for forearm) (Age 6 to <16 years of age); assume wearing shoes and long pants
AF	Adherence Factor	mg/cm^2	0.12 (1)	USEPA, 2014c	Source references USEPA, 2011, Table 7-2, Table 7-20 and Section 7.2.2; arithmetic mean of weighted average of body part-specific (hands, forearms, and face) mean adherence factors for adult commercial/ industrial activities	0.20	USEPA, 2011	Table 7-2, Table 7-20 and Section 7.2.2; arithmetic mean of weighted average of body part-specific (hands, forearms, and face) mean adherence factors for adult utility worker number 1	0.09 (adult) 0.04 (adl) (1)	USEPA, 2011	Adult: Table 7-2, Table 7-20 and Section 7.2.2; arithmetic mean of weighted average of body part-specific (hands, forearms, and face) mean adherence factors for adult Gardener number 1 Adl: Table 7-2, Table 7-4, and Section 7.2.2; arithmetic mean of weighted average of body part-specific (hands, forearms, face, mean adherence factors for child playing outdoor sports
ABS_d	Dermal Absorption Factor	unitless	Chemical-specific	USEPA, 2015b	Fraction of contaminant absorbed dermally; USPEA RSL Summary Table-	Chemical-specific	USEPA, 2015b	Fraction of contaminant absorbed dermally; USPEA RSL Summary Table -	Chemical-specific	USEPA, 2015b	Fraction of contaminant absorbed dermally; USPEA RSL Summary Table -
ET	Exposure Time	hour/day	8	USEPA, 2014c	The work day	8	USEPA, 2014c	The work day	2	Professional judgment	Assumes recreational users on site for two hours each event
VF	Volatilization Factor-soil	m^3/kg	Chemical Specific	USEPA, 2002, 2014b	Calculated using inputs in Table 4 of this document	Chemical Specific	USEPA, 2002, 2014b	Calculated using inputs in Table 4 of this document	Chemical specific	USEPA, 2002, 2014b	Calculated using inputs in Table 4 of this document
PEF	Particulate Emission Factor	m^3/kg	3.23E+09	USEPA, 2002, 2014b	Calculated using inputs in Table 4 of this document	3.23E+09	USEPA, 2002, 2014b	Calculated using inputs in Table 4 of this document	3.23E+09	USEPA, 2002, 2014b	Calculated using inputs in Table 4 of this document

1
2
3

Summary of Exposure Parameters for VF / PEF

Abbreviation	Parameter	Units	All Receptors	Sources	Rationale
Q/C	Inverse of mean concentration at center of square source area for Philadelphia, Pennsylvania	g/m^2-s per kg/m^3	87.36898	USEPA, 2014b	Source references USEPA, 2002, Exhibit D-2
V	Fraction of vegetative cover	unitless	0.5 (50%)	USEPA, 2014b	Source references USEPA, 2002, Equation 4-5
U_m	Mean annual wind speed	m/s	4.69	USEPA, 2014b	Source references USEPA, 2002, Equation 4-5
U_t	Equivalent threshold value of wind speed at 7m	m/s	11.32	USEPA, 2014b	Source references USEPA, 2002, Equation 4-5
F(x)	Function Dependent on U_m / U_t	unitless	0.194	USEPA, 2014b, Cowherd et. al. 1985	Source references USEPA, 2002, Equation 4-5

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Summary of Exposure Parameters for VF / PEF (Continued)					
Abbreviation	**Parameter**	**Units**	**All Receptors**	**Sources**	**Rationale**
D_A	Apparent diffusivity	cm^2/s	Chemical-specific	USEPA, 2014b	Source references USEPA, 2002, Equation 4-8
C_{sat}	Soil saturation concentration	mg/kg	Chemical-specific	USEPA, 2014b	Source references USEPA, 2002, Equation 4-8
T	Exposure interval	seconds	9.5E+08	USEPA, 2002	USEPA, 2002, Equation 4-8
ρ_b	Dry soil bulk density	g/cm^3	1.5	USEPA, 2014b	Source references USEPA, 2002, Equation 4-8
θ_a	Air-filled Soil Porosity	L_{air}/L_{soil}, calculated as $n - \theta_w$	0.28	USEPA, 2014b	Source references USEPA, 2002, Equation 4-8
n	Total Soil Porosity	L_{pore}/L_{soil}	0.43	USEPA, 2014b	Source references USEPA, 2002, Equation 4-8
θ_w	Water-filled Soil Porosity	L_{water}/L_{soil}	0.15	USEPA, 2014b	Source references USEPA, 2002, Equation 4-8

1

Summary of Exposure Parameters for VF / PEF (Continued)					
Abbreviation	**Parameter**	**Units**	**All Receptors**	**Sources**	**Rationale**
ρ_s	Soil particle density	g/cm^3	2.65	USEPA, 2014b	Source references USEPA, 2002, Equation 4-8
D_i	Diffusivity in Air	cm^2/second	Chemical-specific	USEPA, 2015c	--
H'	Henry's law constant	Dimensionless	Chemical-specific	USEPA, 2015c	--
D_w	Diffusivity in Water	cm^2/second	Chemical-specific	USEPA, 2015c	--
K_d	Soil-water Partition Coefficient	L/kg	Chemical-specific	USEPA, 2015c	Calculated as K_{OC} X f_{OC}
K_{OC}	Soil organic carbon-water Partition Coefficient	L/kg	Chemical-specific	USEPA, 2015c	--
f_{OC}	Organic Carbon Content of Soil	g/g	0.006 (0.006%)	USEPA, 2014b	Source references USEPA, 2002, Equation 5-14
S	Water Solubility	mg/L	Chemical-specific	USEPA, 2015c	--

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Summary of Exposure Parameters for Groundwater or Surface Water

Abbreviation	Parameter	Units	Outdoor Worker	Sources	Rationale	Utility Worker	Sources	Rational	Recreational User	Sources	Rationale
IRW	Groundwater or Surface Water Ingestion	L/day	0.02	USEPA, 2014d	Section 4.5; During wading activities, water ingestion of 10 ml/hour for adults, converted to L/day assuming the outdoor worker is in contact with surface water for 2 hours per day	0.02	USEPA, 2014d	Section 4.5; During wading activities, water ingestion of 10 ml/hour for adults, converted to L/day assuming the utility worker is in contact with groundwater in a trench for 2 hours per day	0.02 (adult) 0.02(adl)	USEPA, 2014d	Section 4-5; During wading activities, water ingestion of 10 ml/hour for adolescents and adults, converted to L/day assuming the recreational user is in contact with surface water for 2 hours per day
K_p	Permeability Constant	cm/hour	Chemical-specific	USEPA, 2015c	Dermal permeability coefficient of compound in water	Chemical-specific	USEPA, 2015c	Dermal permeability coefficient of compound in water	Chemical-specific	USEPA, 2015c	Dermal permeability coefficient of compound in water
SA	Skin Surface Area	cm^2	4,835	USEPA, 2011	Table 7-2; weighted average of mean values for hands, feet, and lower legs (mean value for legs times 40% to account for lower leg) (male and female, 21+years)	4,840	USEPA, 2011	Table 7-2; weighted average of mean values for hands, feet, and lower legs (mean value for legs times 40% to account for lower leg) (male and female, 21+years)	4,835 (adult) 3093 (adl)	USEPA, 2011	Adult: Table 7-2; weighted average of mean values for hands, feet, and lower legs (mean value for legs times 40% to account for lower leg) (male and female, 21+years). Adl: Table 7-2; weighted average of mean values for hands, feet, and lower legs (mean value for legs times 40% to account for lower leg) (6 to <16 years of age)
VF_{air}	Volatilization Factor	L/m^3	0.5	USEPA, 2014b	Source references USEPA, 1991b, page 20	0.5	USEPA, 2014b	Source references USEPA, 1991b, page 20	0.5	USEPA, 2014b	Source references USEPA, 1991b, page 20
EV	Event Frequency	events/day	1	Professional judgment	Assumes an outdoor worker may come into contact with surface water during routine maintenance activities, for one event per day.	1	USEPA, 2002	Exhibit 1-2. Assumes a worker may come into contact with groundwater during excavation or trenching activities, for one event per day.	1	Professional judgment	Assumes a recreational user may come into contact with surface water during wading activities, for one event per day.
ET	Exposure time as a fraction of the day spent at the site	unitless	0.083 (2 hours/day)	Professional judgment	Assumes an outdoor worker may come into contact with surface water during work activities, for one event per day, 2 hours per event.	0.083 (2 hours/day)	Professional judgment	Assumes an utility worker may come into contact with groundwater during work activities, for one event per day, 2 hours per event.	0.083 (2 hours/day)	Professional judgment	Assumes a recreational user may come into contact with surface water during wading activities, for one event per day, 2 hours per event.

Summary of Exposure Parameters for Groundwater or Surface Water (Continued)

Abbreviation	Parameter	Units	Outdoor Worker	Sources	Rationale	Utility Worker	Sources	Rational	Recreational User	Sources	Rationale
t_{event}	Event Duration	hours/event	2	Professional judgment	Assumes an outdoor worker may come into contact with surface water during work activities, for one event per day, 2 hours per event.	2	Professional judgment	Assumes an utility worker may come into contact with groundwater during work activities, for one event per day, 2 hours per event.	2	Professional judgment	Assumes a recreational user may come into contact with surface water during wading activities, for one event per day, 2 hours per event.
EF	Exposure Frequency	days/year	225	USEPA, 2014c	Source references USEPA, 1991aa, page 15, outdoor worker RME scenario	30	Professional judgment	Assumes project of one month duration	50	Professional judgment	Assumes recreational user on site once per week every week of the year, except for 2 weeks vacation
ED	Exposure Duration	year	25	USEPA, 2014c	Source references USEPA, 1991a, Page 15; RME scenario for industrial worker	1	USEPA, 2002	Exhibit 5-1; USEPA, default value for construction workers	14 (adult) 10 (adl)	Professional judgment	Adult: Represents the number of years returning to the same location as an adult, age 16 to <30 years of age Adl: Represents the number of years returning to the same location as an adolescent; assumes adolescent recreational user 6 to <16 years of age
ED	Exposure Duration-for inhalation	year	--	--	--	--	--	--	23	Professional judgment	Combined 10 years as adolescent and 14 years as adult
BW	Body Weight	kg	80	USEPA, 2014c	Source references USEPA, 2011, Table 8-3; weighted mean values for adults 21 – 78	80	USEPA, 2014c	Source references USEPA, 2011, Table 8-3; weighted mean values for adults 21 – 78	80 (adult) 44 (adl)	USEPA, 2014c, USEPA, 2011	Adult: Source references USEPA, 2011, Table 8-3; weighted mean values for adults 21 – 78 Adl: Table 8-3, weighted mean value for adolescent age 6 to <16 years of age
AT_{nc}	Averaging Time – noncarcinogens	days	9,125	USEPA, 1989	Exhibit 6-9; Period over which exposure is averaged; ED expressed in days (25 years x 365 days)	365	USEPA, 2014c	Source references USEPA, 1989, page 6-23; ED expressed in days (1 year x 365 days)	5,110 (adult) 3,650 (adl)	USEPA, 1989	Exhibit 6-9; Period over which exposure is averaged; ED expressed in days (14 years adult x 365 days or 10 years adl x 365 days)
AT_c	Averaging Time – carcinogens	days	25,550	USEPA, 2014c as “lifetime”	70-year lifetime expressed in days (70 years x 365 days)	25,550	USEPA, 2014c as “lifetime”	70-year lifetime expressed in days (70 years x 365 days)	25,550	USEPA, 2014c as “lifetime”	70-year lifetime expressed in days (70 years x 365 days)

Summary of Exposure Parameters for Groundwater or Surface Water (Continued)

Abbreviation	Parameter	Units	Outdoor Worker	Sources	Rationale	Utility Worker	Sources	Rational	Recreational User	Sources	Rationale
FA	Fraction absorbed	unitless	Chemical-specific	USEPA, 2004	Exhibit B-3	Chemical-specific	USEPA, 2004	Exhibit B-3	Chemical-specific	USEPA, 2004	Exhibit B-3
B	Relative contribution of permeability coefficient	unitless	Chemical-specific	USEPA, 2015c	--	Chemical-specific	USEPA, 2015c	--	Chemical-specific	USEPA, 2015c	--
t^*	Time it takes to reach steady state	hours	Chemical-specific	USEPA, 2004	Exhibit B-3	Chemical-specific	USEPA, 2004	Exhibit B-3	Chemical-specific	USEPA, 2004	Exhibit B-3
τ_{event}	Lag Time per Event	hr/event	Chemical-specific	USEPA, 2015c	--	Chemical-specific	USEPA, 2015c	--	Chemical-specific	USEPA, 2015c	--

Site-specific
Outdoor Worker Equation Inputs for Soil
MODIFIED FOR UTILITY WORKER

Variable	Value
TR (target cancer risk) unitless	0.000001
THQ (target hazard quotient) unitless	1
AT_{ow} (averaging time)	365
EF_{ow} (exposure frequency) d/yr	30
ED_{ow} (exposure duration) yr	1
ET_{ow} (exposure time) hr	8
LT (lifetime) yr	70
BW_{ow} (body weight)	80
IR_{ow} (soil ingestion rate) mg/day	330
SA_{ow} (surface area) cm^2/day	3470
AF_{ow} (skin adherence factor) mg/cm^2	0.12
City (Climate Zone) PEF Selection	Philadelphia, P
A_s (acres) PEF Selection	0.5
Q/C_{wp} (g/m^2-s per kg/m^3) PEF Selection	87.36898
PEF (particulate emission factor) m^3/kg	3232997857
A (PEF Dispersion Constant)	14.0111
B (PEF Dispersion Constant)	19.6154
C (PEF Dispersion Constant)	225.3397
V (fraction of vegetative cover) unitless	0.5
U_m (mean annual wind speed) m/s	4.29
U_t (equivalent threshold value)	11.32
F(x) (function dependant on U_m/U_t) unitless	0.0993
City (Climate Zone) VF Selection	Philadelphia, P
A_s (acres) VF Selection	0.5
Q/C_{wp} (g/m^2-s per kg/m^3) VF Selection	87.36898
foc (fraction organic carbon in soil) g/g	0.006

ρ$_b$ (dry soil bulk density) g/cm^3	1.5
ρ$_s$ (soil particle density) g/cm^3	2.65
θ$_w$ (water-filled soil porosity) L_{water}/L_{soil}	0.15
T (exposure interval) s	950000000
A (VF Dispersion Constant)	14.0111
B (VF Dispersion Constant)	19.6154
C (VF Dispersion Constant)	225.3397

Output generated 18MAY2015:09:10:02

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR UTILITY WORKER
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
ALAR	1596-84-5	No	No	1.80E-02	U	5.10E-06	U	1.50E-01	U	-		1
Acenaphthene	83-32-9	No	Yes	-		-		6.00E-02	U	-		1
Acenaphthylene	208-96-8	No	Yes	-		-		-		-		1
Acephate	30560-19-1	No	No	8.70E-03	U	-		4.00E-03	U	-		1
Acetaldehyde	75-07-0	No	Yes	-		2.20E-06	U	-		9.00E-03	U	1
Acetochlor	34256-82-1	No	No	-		-		2.00E-02	U	-		1
Acetone	67-64-1	No	Yes	-		-		9.00E-01	U	3.09E+01	U	1
Acetone Cyanohydrin	75-86-5	No	Yes	-		-		-		2.00E-03	U	1
Acetonitrile	75-05-8	No	Yes	-		-		-		6.00E-02	U	1
Acetophenone	98-86-2	No	Yes	-		-		1.00E-01	U	-		1
Acetylaminofluorene, 2-	53-96-3	No	No	3.80E+00	U	1.30E-03	U	-		-		1
Acifluorofen	50594-66-6	No	No	-		-		-		-		1
Acridine	260-94-6	No	No	-		-		-		-		1
Acrolein	107-02-8	No	Yes	-		-		5.00E-04	U	2.00E-05	U	1
Acrylamide	79-06-1	Yes	No	5.00E-01	U	1.00E-04	U	2.00E-03	U	6.00E-03	U	1
Acrylic Acid	79-10-7	No	Yes	-		-		5.00E-01	U	1.00E-03	U	1
Acrylonitrile	107-13-1	No	Yes	5.40E-01	U	6.80E-05	U	4.00E-02	U	2.00E-03	U	1
Adiponitrile	111-69-3	No	No	-		-		-		6.00E-03	U	1
Alachlor	15972-60-8	No	No	5.60E-02	U	-		1.00E-02	U	-		1
Aldicarb	116-06-3	No	No	-		-		1.00E-03	U	-		1
Aldicarb Sulfone	1646-88-4	No	No	-		-		1.00E-03	U	-		1
Aldicarb sulfoxide	1646-87-3	No	No	-		-		-		-		1
Aldrin	309-00-2	No	Yes	1.70E+01	U	4.90E-03	U	3.00E-05	U	-		1
Aliphatic Chlorinated Hydrocarbons (each)	NA	No	No	-		-		-		-		1
Aliphatic Chlorinated Hydrocarbons (total)	NA	No	No	-		-		-		-		1
Alizarin Red Compounds	NA	No	No	-		-		-		-		1
Ally	74223-64-6	No	No	-		-		2.50E-01	U	-		1
Allyl Alcohol	107-18-6	No	Yes	-		-		5.00E-03	U	1.00E-04	U	1
Allyl Chloride	107-05-1	No	Yes	2.10E-02	U	6.00E-06	U	-		1.00E-03	U	1
Aluminum	7429-90-5	No	No	-		-		1.00E+00	U	5.00E-03	U	1
Aluminum Phosphide	20859-73-8	No	No	-		-		4.00E-04	U	-		1
Aluminum metaphosphate	13776-88-0	No	No	-		-		4.86E+01	U	-		1
Amdro	67485-29-4	No	No	-		-		3.00E-04	U	-		1
Ametryn	834-12-8	No	No	-		-		9.00E-03	U	-		1

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
ALAR	1596-84-5	0.1	1	-	-	3.23E+09	1.15E+04	9.09E+04	1.62E+09	1.02E+04	4.42E+05
Acenaphthene	83-32-9	0.13	1	1.94E+05	-	3.23E+09	-	-	-	-	1.77E+05
Acenaphthylene	208-96-8	0.13	1	2.61E+05	-	3.23E+09	-	-	-	-	-
Acephate	30560-19-1	0.1	1	-	-	3.23E+09	2.37E+04	1.88E+05	-	2.11E+04	1.18E+04
Acetaldehyde	75-07-0	-	1	1.20E+04	1.07E+05	3.23E+09	-	-	1.39E+04	1.39E+04	-
Acetochlor	34256-82-1	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Acetone	67-64-1	-	1	1.88E+04	1.14E+05	3.23E+09	-	-	-	-	2.65E+06
Acetone Cyanohydrin	75-86-5	-	1	3.28E+04	1.06E+05	3.23E+09	-	-	-	-	-
Acetonitrile	75-05-8	-	1	1.79E+04	1.28E+05	3.23E+09	-	-	-	-	-
Acetophenone	98-86-2	-	1	8.24E+04	2.52E+03	3.23E+09	-	-	-	-	2.95E+05
Acetylaminofluorene, 2-	53-96-3	0.1	1	-	-	3.23E+09	5.43E+01	4.31E+02	6.35E+06	4.82E+01	-
Acifluorofen	50594-66-6	0.1	1	-	-	3.23E+09	-	-	-	-	-
Acridine	260-94-6	0.1	1	-	-	3.23E+09	-	-	-	-	-
Acrolein	107-02-8	-	1	9.52E+03	2.27E+04	3.23E+09	-	-	-	-	1.47E+03
Acrylamide	79-06-1	0.1	1	-	-	3.23E+09	4.13E+02	3.27E+03	8.26E+07	3.67E+02	5.90E+03
Acrylic Acid	79-10-7	-	1	1.31E+05	1.09E+05	3.23E+09	-	-	-	-	1.47E+06
Acrylonitrile	107-13-1	-	1	1.06E+04	1.13E+04	3.23E+09	3.82E+02	-	3.98E+02	1.95E+02	1.18E+05
Adiponitrile	111-69-3	0.1	1	-	-	3.23E+09	-	-	-	-	-
Alachlor	15972-60-8	0.1	1	-	-	3.23E+09	3.69E+03	2.92E+04	-	3.27E+03	2.95E+04
Aldicarb	116-06-3	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+03
Aldicarb Sulfone	1646-88-4	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+03
Aldicarb sulfoxide	1646-87-3	0.1	1	-	-	3.23E+09	-	-	-	-	-
Aldrin	309-00-2	-	1	2.37E+06	-	3.23E+09	1.21E+01	-	1.23E+03	1.20E+01	8.85E+01
Aliphatic Chlorinated Hydrocarbons (each)	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Aliphatic Chlorinated Hydrocarbons (total)	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Alizarin Red Compounds	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Ally	74223-64-6	0.1	1	-	-	3.23E+09	-	-	-	-	7.37E+05
Allyl Alcohol	107-18-6	-	1	4.71E+04	1.11E+05	3.23E+09	-	-	-	-	1.47E+04
Allyl Chloride	107-05-1	-	1	2.18E+03	1.42E+03	3.23E+09	9.83E+03	-	9.30E+02	8.49E+02	-
Aluminum	7429-90-5	-	1	-	-	3.23E+09	-	-	-	-	2.95E+06
Aluminum Phosphide	20859-73-8	-	1	-	-	3.23E+09	-	-	-	-	1.18E+03
Aluminum metaphosphate	13776-88-0	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Amdro	67485-29-4	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+02
Ametryn	834-12-8	0.1	1	-	-	3.23E+09	-	-	-	-	2.65E+04

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
ALAR	1596-84-5	3.51E+06	-	3.93E+05	1.02E+04 ca*
Acenaphthene	83-32-9	1.08E+06	-	1.52E+05	1.52E+05 max
Acenaphthylene	208-96-8	-	-	-	
Acephate	30560-19-1	9.35E+04	-	1.05E+04	1.05E+04 nc
Acetaldehyde	75-07-0	-	3.94E+03	3.94E+03	3.94E+03 nc
Acetochlor	34256-82-1	4.67E+05	-	5.24E+04	5.24E+04 nc
Acetone	67-64-1	-	2.13E+07	2.36E+06	2.36E+06 sat
Acetone Cyanohydrin	75-86-5	-	2.39E+03	2.39E+03	2.39E+03 nc
Acetonitrile	75-05-8	-	3.92E+04	3.92E+04	3.92E+04 nc
Acetophenone	98-86-2	-	-	2.95E+05	2.95E+05 sat
Acetylaminofluorene, 2-	53-96-3	-	-	-	4.82E+01 ca
Acifluorofen	50594-66-6	-	-	-	
Acridine	260-94-6	-	-	-	
Acrolein	107-02-8	-	6.95E+00	6.92E+00	6.92E+00 nc
Acrylamide	79-06-1	4.67E+04	7.08E+08	5.24E+03	3.67E+02 ca*
Acrylic Acid	79-10-7	-	4.80E+03	4.78E+03	4.78E+03 nc
Acrylonitrile	107-13-1	-	7.73E+02	7.68E+02	1.95E+02 ca**
Adiponitrile	111-69-3	-	7.08E+08	7.08E+08	7.08E+08 max
Alachlor	15972-60-8	2.34E+05	-	2.62E+04	3.27E+03 ca**
Aldicarb	116-06-3	2.34E+04	-	2.62E+03	2.62E+03 nc
Aldicarb Sulfone	1646-88-4	2.34E+04	-	2.62E+03	2.62E+03 nc
Aldicarb sulfoxide	1646-87-3	-	-	-	
Aldrin	309-00-2	-	-	8.85E+01	1.20E+01 ca**
Aliphatic Chlorinated Hydrocarbons (each)	NA	-	-	-	
Aliphatic Chlorinated Hydrocarbons (total)	NA	-	-	-	
Alizarin Red Compounds	NA	-	-	-	
Ally	74223-64-6	5.84E+06	-	6.55E+05	6.55E+05 max
Allyl Alcohol	107-18-6	-	1.72E+02	1.70E+02	1.70E+02 nc
Allyl Chloride	107-05-1	-	7.97E+01	7.97E+01	7.97E+01 nc
Aluminum	7429-90-5	-	5.90E+08	2.93E+06	2.93E+06 max
Aluminum Phosphide	20859-73-8	-	-	1.18E+03	1.18E+03 nc
Aluminum metaphosphate	13776-88-0	-	-	1.43E+08	1.43E+08 max
Amdro	67485-29-4	7.01E+03	-	7.86E+02	7.86E+02 nc
Ametryn	834-12-8	2.10E+05	-	2.36E+04	2.36E+04 nc

Site-specific
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ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Amino-4-chlorobenzotrifluoride, 3-	121-50-6	No	Yes	-		-		-		-		1
Aminoazobenzene, p-	60-09-3	No	No	-		-		-		-		1
Aminobiphenyl, 4-	92-67-1	No	No	2.10E+01	U	6.00E-03	U	-		-		1
Aminophenol, m-	591-27-5	No	No	-		-		8.00E-02	U	-		1
Aminophenol, o-	95-55-6	No	No	-		-		-		-		1
Aminophenol, p-	123-30-8	No	No	-		-		2.00E-02	U	-		1
Aminopyridine, 4-	504-24-5	No	No	-		-		-		-		1
Amitraz	33089-61-1	No	No	-		-		2.50E-03	U	-		1
Ammonium Perchlorate	7790-98-9	No	No	-		-		7.00E-04	U	-		1
Ammonium Sulfamate	7773-06-0	No	No	-		-		2.00E-01	U	-		1
Ammonium polyphosphate	68333-79-9	No	No	-		-		4.86E+01	U	-		1
Amyl Alcohol, tert-	75-85-4	No	Yes	-		-		-		3.00E-03	U	1
Aniline	62-53-3	No	No	5.70E-03	U	1.60E-06	U	7.00E-03	U	1.00E-03	U	1
Anilinobenzothiazole	1843-21-6	No	No	-		-		-		-		1
Anthracene	120-12-7	No	Yes	-		-		3.00E-01	U	-		1
Anthraquinone, 9,10-	84-65-1	No	No	4.00E-02	U	-		2.00E-03	U	-		1
Antimony (metallic)	7440-36-0	No	No	-		-		4.00E-04	U	-		0.15
Antimony Pentoxide	1314-60-9	No	No	-		-		5.00E-04	U	-		0.15
Antimony Potassium Tartrate	11071-15-1	No	No	-		-		9.00E-04	U	-		0.15
Antimony Tetroxide	1332-81-6	No	No	-		-		4.00E-04	U	-		0.15
Antimony Trichloride	10025-91-9	No	No	-		-		-		-		1
Antimony Trioxide	1309-64-4	No	No	-		-		-		2.00E-04	U	0.15
Apollo	74115-24-5	No	No	-		-		1.30E-02	U	-		1
Aramite	140-57-8	No	No	2.50E-02	U	7.10E-06	U	5.00E-02	U	-		1
Aroclor 1016	12674-11-2	No	Yes	7.00E-02	U	2.00E-05	U	7.00E-05	U	-		1
Aroclor 1221	11104-28-2	No	Yes	2.00E+00	U	5.71E-04	U	-		-		1
Aroclor 1232	11141-16-5	No	Yes	2.00E+00	U	5.71E-04	U	-		-		1
Aroclor 1242	53469-21-9	No	Yes	2.00E+00	U	5.71E-04	U	-		-		1
Aroclor 1248	12672-29-6	No	Yes	2.00E+00	U	5.71E-04	U	-		-		1
Aroclor 1254	11097-69-1	No	Yes	2.00E+00	U	5.71E-04	U	2.00E-05	U	-		1
Aroclor 1260	11096-82-5	No	Yes	2.00E+00	U	5.71E-04	U	-		-		1
Aroclor 5460	11126-42-4	No	Yes	-		-		6.00E-04	U	-		1
Arsenic Salts	NA	No	No	-		-		-		-		1
Arsenic, Inorganic	7440-38-2	No	No	1.50E+00	U	4.30E-03	U	3.00E-04	U	1.50E-05	U	1

Site-specific
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Amino-4-chlorobenzotrifluoride, 3-	121-50-6	-	1	3.69E+05	-	3.23E+09	-	-	-	-	-
Aminoazobenzene, p-	60-09-3	0.1	1	-	-	3.23E+09	-	-	-	-	-
Aminobiphenyl, 4-	92-67-1	0.1	1	-	-	3.23E+09	9.83E+00	7.79E+01	1.38E+06	8.73E+00	-
Aminophenol, m-	591-27-5	0.1	1	-	-	3.23E+09	-	-	-	-	2.36E+05
Aminophenol, o-	95-55-6	0.1	1	-	-	3.23E+09	-	-	-	-	-
Aminophenol, p-	123-30-8	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Aminopyridine, 4-	504-24-5	0.1	1	-	-	3.23E+09	-	-	-	-	-
Amitraz	33089-61-1	0.1	1	-	-	3.23E+09	-	-	-	-	7.37E+03
Ammonium Perchlorate	7790-98-9	-	1	-	-	3.23E+09	-	-	-	-	2.06E+03
Ammonium Sulfamate	7773-06-0	-	1	-	-	3.23E+09	-	-	-	-	5.90E+05
Ammonium polyphosphate	68333-79-9	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Amyl Alcohol, tert-	75-85-4	-	1	3.62E+04	1.37E+04	3.23E+09	-	-	-	-	-
Aniline	62-53-3	0.1	1	-	-	3.23E+09	3.62E+04	2.87E+05	5.16E+09	3.22E+04	2.06E+04
Anilinobenzothiazole	1843-21-6	0.1	1	-	-	3.23E+09	-	-	-	-	-
Anthracene	120-12-7	0.13	1	7.23E+05	-	3.23E+09	-	-	-	-	8.85E+05
Anthraquinone, 9,10-	84-65-1	0.1	1	-	-	3.23E+09	5.16E+03	4.09E+04	-	4.58E+03	5.90E+03
Antimony (metallic)	7440-36-0	-	1	-	-	3.23E+09	-	-	-	-	1.18E+03
Antimony Pentoxide	1314-60-9	-	1	-	-	3.23E+09	-	-	-	-	1.47E+03
Antimony Potassium Tartrate	11071-15-1	-	1	-	-	3.23E+09	-	-	-	-	2.65E+03
Antimony Tetroxide	1332-81-6	-	1	-	-	3.23E+09	-	-	-	-	1.18E+03
Antimony Trichloride	10025-91-9	-	1	-	-	3.23E+09	-	-	-	-	-
Antimony Trioxide	1309-64-4	-	1	-	-	3.23E+09	-	-	-	-	-
Apollo	74115-24-5	0.1	1	-	-	3.23E+09	-	-	-	-	3.83E+04
Aramite	140-57-8	0.1	1	-	-	3.23E+09	8.26E+03	6.54E+04	1.16E+09	7.33E+03	1.47E+05
Aroclor 1016	12674-11-2	0.14	1	8.07E+05	-	3.23E+09	2.95E+03	1.67E+04	1.03E+05	2.45E+03	2.06E+02
Aroclor 1221	11104-28-2	0.14	1	1.57E+05	-	3.23E+09	1.03E+02	5.84E+02	7.00E+02	7.80E+01	-
Aroclor 1232	11141-16-5	0.14	1	1.54E+05	-	3.23E+09	1.03E+02	5.84E+02	6.91E+02	7.78E+01	-
Aroclor 1242	53469-21-9	0.14	1	1.09E+06	-	3.23E+09	1.03E+02	5.84E+02	4.89E+03	8.62E+01	-
Aroclor 1248	12672-29-6	0.14	1	7.08E+05	-	3.23E+09	1.03E+02	5.84E+02	3.17E+03	8.54E+01	-
Aroclor 1254	11097-69-1	0.14	1	1.16E+06	-	3.23E+09	1.03E+02	5.84E+02	5.21E+03	8.63E+01	5.90E+01
Aroclor 1260	11096-82-5	0.14	1	1.82E+06	-	3.23E+09	1.03E+02	5.84E+02	8.13E+03	8.68E+01	-
Aroclor 5460	11126-42-4	0.14	1	9.89E+05	-	3.23E+09	-	-	-	-	1.77E+03
Arsenic Salts	NA	0.03	0.6	-	-	3.23E+09	-	-	-	-	-
Arsenic, Inorganic	7440-38-2	0.03	0.6	-	-	3.23E+09	2.29E+02	3.64E+03	1.92E+06	2.16E+02	1.47E+03

Site-specific
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Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Amino-4-chlorobenzotrifluoride, 3-	121-50-6	-	-	-	
Aminoazobenzene, p-	60-09-3	-	-	-	
Aminobiphenyl, 4-	92-67-1	-	-	-	8.73E+00 ca
Aminophenol, m-	591-27-5	1.87E+06	-	2.10E+05	2.10E+05 max
Aminophenol, o-	95-55-6	-	-	-	
Aminophenol, p-	123-30-8	4.67E+05	-	5.24E+04	5.24E+04 nc
Aminopyridine, 4-	504-24-5	-	-	-	
Amitraz	33089-61-1	5.84E+04	-	6.55E+03	6.55E+03 nc
Ammonium Perchlorate	7790-98-9	-	-	2.06E+03	2.06E+03 nc
Ammonium Sulfamate	7773-06-0	-	-	5.90E+05	5.90E+05 max
Ammonium polyphosphate	68333-79-9	-	-	1.43E+08	1.43E+08 max
Amyl Alcohol, tert-	75-85-4	-	3.96E+03	3.96E+03	3.96E+03 nc
Aniline	62-53-3	1.64E+05	1.18E+08	1.83E+04	1.83E+04 nc
Anilinobenzothiazole	1843-21-6	-	-	-	
Anthracene	120-12-7	5.39E+06	-	7.60E+05	7.60E+05 max
Anthraquinone, 9,10-	84-65-1	4.67E+04	-	5.24E+03	4.58E+03 ca**
Antimony (metallic)	7440-36-0	-	-	1.18E+03	1.18E+03 nc
Antimony Pentoxide	1314-60-9	-	-	1.47E+03	1.47E+03 nc
Antimony Potassium Tartrate	11071-15-1	-	-	2.65E+03	2.65E+03 nc
Antimony Tetroxide	1332-81-6	-	-	1.18E+03	1.18E+03 nc
Antimony Trichloride	10025-91-9	-	-	-	
Antimony Trioxide	1309-64-4	-	2.36E+07	2.36E+07	2.36E+07 max
Apollo	74115-24-5	3.04E+05	-	3.40E+04	3.40E+04 nc
Aramite	140-57-8	1.17E+06	-	1.31E+05	7.33E+03 ca*
Aroclor 1016	12674-11-2	1.17E+03	-	1.75E+02	1.75E+02 nc
Aroclor 1221	11104-28-2	-	-	-	7.80E+01 ca
Aroclor 1232	11141-16-5	-	-	-	7.78E+01 ca
Aroclor 1242	53469-21-9	-	-	-	8.62E+01 ca
Aroclor 1248	12672-29-6	-	-	-	8.54E+01 ca
Aroclor 1254	11097-69-1	3.34E+02	-	5.01E+01	5.01E+01 nc
Aroclor 1260	11096-82-5	-	-	-	8.68E+01 ca
Aroclor 5460	11126-42-4	1.00E+04	-	1.50E+03	1.50E+03 nc
Arsenic Salts	NA	-	-	-	
Arsenic, Inorganic	7440-38-2	2.34E+04	1.77E+06	1.39E+03	2.16E+02 ca**

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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Arsine	7784-42-1	No	No	-		-		3.50E-06	U	5.00E-05	U	1
Assure	76578-14-8	No	No	-		-		9.00E-03	U	-		1
Asulam	3337-71-1	No	No	-		-		5.00E-02	U	-		1
Atrazine	1912-24-9	No	No	2.30E-01	U	-		3.50E-02	U	-		1
Auramine	492-80-8	No	No	8.80E-01	U	2.50E-04	U	-		-		1
Avermectin B1	65195-55-3	No	No	-		-		4.00E-04	U	-		1
Azobenzene	103-33-3	No	Yes	1.10E-01	U	3.10E-05	U	-		-		1
Azodicarbonamide	123-77-3	No	No	-		-		1.00E+00	U	7.00E-06	U	1
Barium	7440-39-3	No	No	-		-		2.00E-01	U	5.00E-04	U	0.07
Barium Chromate	10294-40-3	Yes	No	5.00E-01	U	1.50E-01	U	2.00E-02	U	2.00E-04	U	0.025
Barium Cyanide	542-62-1	No	No	-		-		-		-		0.07
Baygon	114-26-1	No	No	-		-		4.00E-03	U	-		1
Bayleton	43121-43-3	No	No	-		-		3.00E-02	U	-		1
Baythroid	68359-37-5	No	No	-		-		2.50E-02	U	-		1
Benefin	1861-40-1	No	Yes	-		-		3.00E-01	U	-		1
Benomyl	17804-35-2	No	No	-		-		5.00E-02	U	-		1
Bentazon	25057-89-0	No	No	-		-		3.00E-02	U	-		1
Benz[a]anthracene	56-55-3	Yes	Yes	7.30E-01	U	1.10E-04	U	-		-		1
Benzaldehyde	100-52-7	No	Yes	-		-		1.00E-01	U	-		1
Benzene	71-43-2	No	Yes	5.50E-02	U	7.80E-06	U	4.00E-03	U	3.00E-02	U	1
Benzene, Ethyldimethyl	29224-55-3	No	Yes	-		-		-		-		1
Benzene, Ethylmethyl	25550-14-5	No	Yes	-		-		-		-		1
Benzene, Methylpropenyl	768-00-3	No	Yes	-		-		-		-		1
Benzene, Methylpropyl	28729-54-6	No	No	-		-		-		-		1
Benzene, Trimethyl	25551-13-7	No	Yes	-		-		-		-		1
Benzenediamine-2-methyl sulfate, 1,4-	6369-59-1	No	No	1.00E-01	U	-		3.00E-04	U	-		1
Benzenethiol	108-98-5	No	Yes	-		-		1.00E-03	U	-		1
Benzidine	92-87-5	Yes	No	2.30E+02	U	6.70E-02	U	3.00E-03	U	-		1
Benzo(j)fluoranthene	205-82-3	No	No	1.20E+00	U	1.10E-04	U	-		-		1
Benzo[a]pyrene	50-32-8	Yes	No	7.30E+00	U	1.10E-03	U	-		-		1
Benzo[b]fluoranthene	205-99-2	Yes	No	7.30E-01	U	1.10E-04	U	-		-		1
Benzo[g,h,i]perylene	191-24-2	No	No	-		-		-		-		1
Benzo[k]fluoranthene	207-08-9	Yes	No	7.30E-02	U	1.10E-04	U	-		-		1
Benzofluoranthenes, total	NA	No	No	-		-		-		-		1

Site-specific
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Arsine	7784-42-1	-	1	-	-	3.23E+09	-	-	-	-	1.03E+01
Assure	76578-14-8	0.1	1	-	-	3.23E+09	-	-	-	-	2.65E+04
Asulam	3337-71-1	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+05
Atrazine	1912-24-9	0.1	1	-	-	3.23E+09	8.98E+02	7.11E+03	-	7.97E+02	1.03E+05
Auramine	492-80-8	0.1	1	-	-	3.23E+09	2.35E+02	1.86E+03	3.30E+07	2.08E+02	-
Avermectin B1	65195-55-3	0.1	1	-	-	3.23E+09	-	-	-	-	1.18E+03
Azobenzene	103-33-3	-	1	7.21E+05	-	3.23E+09	1.88E+03	-	5.94E+04	1.82E+03	-
Azodicarbonamide	123-77-3	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+06
Barium	7440-39-3	-	1	-	-	3.23E+09	-	-	-	-	5.90E+05
Barium Chromate	10294-40-3	-	1	-	-	3.23E+09	4.13E+02	-	5.51E+04	4.10E+02	5.90E+04
Barium Cyanide	542-62-1	-	1	-	-	3.23E+09	-	-	-	-	-
Baygon	114-26-1	0.1	1	-	-	3.23E+09	-	-	-	-	1.18E+04
Bayleton	43121-43-3	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+04
Baythroid	68359-37-5	0.1	1	-	-	3.23E+09	-	-	-	-	7.37E+04
Benefin	1861-40-1	-	1	4.23E+05	-	3.23E+09	-	-	-	-	8.85E+05
Benomyl	17804-35-2	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+05
Bentazon	25057-89-0	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+04
Benz[a]anthracene	56-55-3	0.13	1	6.09E+06	-	3.23E+09	2.83E+02	1.72E+03	1.41E+05	2.43E+02	-
Benzaldehyde	100-52-7	-	1	3.10E+04	1.16E+03	3.23E+09	-	-	-	-	2.95E+05
Benzene	71-43-2	-	1	4.88E+03	1.82E+03	3.23E+09	3.75E+03	-	1.60E+03	1.12E+03	1.18E+04
Benzene, Ethyldimethyl	29224-55-3	-	1	1.26E+04	1.31E+02	3.23E+09	-	-	-	-	-
Benzene, Ethylmethyl	25550-14-5	-	1	1.30E+04	3.30E+02	3.23E+09	-	-	-	-	-
Benzene, Methylpropenyl	768-00-3	-	1	1.58E+04	4.90E+02	3.23E+09	-	-	-	-	-
Benzene, Methylpropyl	28729-54-6	0.1	1	-	-	3.23E+09	-	-	-	-	-
Benzene, Trimethyl	25551-13-7	-	1	9.03E+03	1.82E+02	3.23E+09	-	-	-	-	-
Benzenediamine-2-methyl sulfate, 1,4-	6369-59-1	0.1	1	-	-	3.23E+09	2.06E+03	1.64E+04	-	1.83E+03	8.85E+02
Benzenethiol	108-98-5	-	1	2.67E+04	1.26E+03	3.23E+09	-	-	-	-	2.95E+03
Benzidine	92-87-5	0.1	1	-	-	3.23E+09	8.98E-01	7.11E+00	1.23E+05	7.97E-01	8.85E+03
Benzo(j)fluoranthene	205-82-3	0.13	1	-	-	3.23E+09	1.72E+02	1.05E+03	7.51E+07	1.48E+02	-
Benzo[a]pyrene	50-32-8	0.13	1	-	-	3.23E+09	2.83E+01	1.72E+02	7.51E+06	2.43E+01	-
Benzo[b]fluoranthene	205-99-2	0.13	1	-	-	3.23E+09	2.83E+02	1.72E+03	7.51E+07	2.43E+02	-
Benzo[g,h,i]perylene	191-24-2	0.13	1	-	-	3.23E+09	-	-	-	-	-
Benzo[k]fluoranthene	207-08-9	0.13	1	-	-	3.23E+09	2.83E+03	1.72E+04	7.51E+07	2.43E+03	-
Benzofluoranthenes, total	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Arsine	7784-42-1	-	5.90E+06	1.03E+01	1.03E+01 nc
Assure	76578-14-8	2.10E+05	-	2.36E+04	2.36E+04 nc
Asulam	3337-71-1	1.17E+06	-	1.31E+05	1.31E+05 max
Atrazine	1912-24-9	8.18E+05	-	9.17E+04	7.97E+02 ca
Auramine	492-80-8	-	-	-	2.08E+02 ca
Avermectin B1	65195-55-3	9.35E+03	-	1.05E+03	1.05E+03 nc
Azobenzene	103-33-3	-	-	-	1.82E+03 ca
Azodicarbonamide	123-77-3	2.34E+07	8.26E+05	6.28E+05	6.28E+05 max
Barium	7440-39-3	-	5.90E+07	5.84E+05	5.84E+05 max
Barium Chromate	10294-40-3	-	2.36E+07	5.88E+04	4.10E+02 ca
Barium Cyanide	542-62-1	-	-	-	
Baygon	114-26-1	9.35E+04	-	1.05E+04	1.05E+04 nc
Bayleton	43121-43-3	7.01E+05	-	7.86E+04	7.86E+04 nc
Baythroid	68359-37-5	5.84E+05	-	6.55E+04	6.55E+04 nc
Benefin	1861-40-1	-	-	8.85E+05	8.85E+05 max
Benomyl	17804-35-2	1.17E+06	-	1.31E+05	1.31E+05 max
Bentazon	25057-89-0	7.01E+05	-	7.86E+04	7.86E+04 nc
Benz[a]anthracene	56-55-3	-	-	-	2.43E+02 ca
Benzaldehyde	100-52-7	-	-	2.95E+05	2.95E+05 sat
Benzene	71-43-2	-	5.34E+03	3.68E+03	1.12E+03 ca**
Benzene, Ethyldimethyl	29224-55-3	-	-	-	
Benzene, Ethylmethyl	25550-14-5	-	-	-	
Benzene, Methylpropenyl	768-00-3	-	-	-	
Benzene, Methylpropyl	28729-54-6	-	-	-	
Benzene, Trimethyl	25551-13-7	-	-	-	
Benzenediamine-2-methyl sulfate, 1,4-	6369-59-1	7.01E+03	-	7.86E+02	7.86E+02 nc
Benzenethiol	108-98-5	-	-	2.95E+03	2.95E+03 sat
Benzidine	92-87-5	7.01E+04	-	7.86E+03	7.97E-01 ca
Benzo(j)fluoranthene	205-82-3	-	-	-	1.48E+02 ca
Benzo[a]pyrene	50-32-8	-	-	-	2.43E+01 ca
Benzo[b]fluoranthene	205-99-2	-	-	-	2.43E+02 ca
Benzo[g,h,i]perylene	191-24-2	-	-	-	
Benzo[k]fluoranthene	207-08-9	-	-	-	2.43E+03 ca
Benzofluoranthenes, total	NA	-	-	-	

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR UTILITY WORKER
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Benzofluorene, 2,3-	243-17-4	No	No	-		-		-		-		1
Benzoic Acid	65-85-0	No	No	-		-		4.00E+00	U	-		1
Benzoic acid, 3,5-dichloro-	51-36-5	No	No	-		-		-		-		1
Benzoic acid, 4-hydroxy-, methyl ester	99-76-3	No	No	-		-		-		-		1
Benzothiazole	95-16-9	No	No	-		-		-		-		1
Benzotrichloride	98-07-7	No	Yes	1.30E+01	U	-		-		-		1
Benzyl Alcohol	100-51-6	No	No	-		-		1.00E-01	U	-		1
Benzyl Chloride	100-44-7	No	Yes	1.70E-01	U	4.90E-05	U	2.00E-03	U	1.00E-03	U	1
Beryllium and compounds	7440-41-7	No	No	-		2.40E-03	U	2.00E-03	U	2.00E-05	U	0.007
Bidrin	141-66-2	No	No	-		-		1.00E-04	U	-		1
Bifenox	42576-02-3	No	No	-		-		9.00E-03	U	-		1
Biphenthrin	82657-04-3	No	No	-		-		1.50E-02	U	-		1
Biphenyl, 1,1'-	92-52-4	No	Yes	8.00E-03	U	-		5.00E-01	U	4.00E-04	U	1
Bis(2-chloro-1-methylethyl) ether	108-60-1	No	Yes	7.00E-02	U	1.00E-05	U	4.00E-02	U	-		1
Bis(2-chloroethoxy)methane	111-91-1	No	No	-		-		3.00E-03	U	-		1
Bis(2-chloroethyl)ether	111-44-4	No	Yes	1.10E+00	U	3.30E-04	U	-		-		1
Bis(2-ethylhexyl)phthalate	117-81-7	No	No	1.40E-02	U	2.40E-06	U	2.00E-02	U	-		1
Bis(Octanoyloxy)Di-N-Butyl Stannane	4731-77-5	No	Yes	-		-		-		-		1
Bis(chloromethyl)ether	542-88-1	No	Yes	2.20E+02	U	6.20E-02	U	-		-		1
Bis(oleoyloxy)dibutyl tin	13323-62-1	No	Yes	-		-		-		-		1
Bisphenol A	80-05-7	No	No	-		-		5.00E-02	U	-		1
Boron And Borates Only	7440-42-8	No	No	-		-		2.00E-01	U	2.00E-02	U	1
Boron Trichloride	10294-34-5	No	Yes	-		-		2.00E+00	U	2.00E-02	U	1
Boron Trifluoride	7637-07-2	No	Yes	-		-		4.00E-02	U	1.30E-02	U	1
Bromacil	314-40-9	No	No	-		-		-		-		1
Bromate	15541-45-4	No	No	7.00E-01	U	-		4.00E-03	U	-		1
Bromine	7726-95-6	No	Yes	-		-		-		-		1
Bromo-2-chloroethane, 1-	107-04-0	No	Yes	2.00E+00	U	6.00E-04	U	-		-		1
Bromo-3-fluorobenzene, 1-	1073-06-9	No	Yes	-		-		-		-		1
Bromo-4-Ethylbenzene, 1-	1585-07-5	No	Yes	-		-		-		-		1
Bromoacetic acid	79-08-3	No	No	-		-		-		-		1
Bromoacetophenone, 3-	2142-63-4	No	No	-		-		-		-		1
Bromobenzene	108-86-1	No	Yes	-		-		8.00E-03	U	6.00E-02	U	1
Bromochloromethane	74-97-5	No	Yes	-		-		-		4.00E-02	U	1

Site-specific
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Benzofluorene, 2,3-	243-17-4	0.1	1	-	-	3.23E+09	-	-	-	-	-
Benzoic Acid	65-85-0	0.1	1	-	-	3.23E+09	-	-	-	-	1.18E+07
Benzoic acid, 3,5-dichloro-	51-36-5	0.1	1	-	-	3.23E+09	-	-	-	-	-
Benzoic acid, 4-hydroxy-, methyl ester	99-76-3	0.1	1	-	-	3.23E+09	-	-	-	-	-
Benzothiazole	95-16-9	0.1	1	-	-	3.23E+09	-	-	-	-	-
Benzotrichloride	98-07-7	-	1	9.33E+04	3.23E+02	3.23E+09	1.59E+01	-	-	1.59E+01	-
Benzyl Alcohol	100-51-6	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+05
Benzyl Chloride	100-44-7	-	1	3.52E+04	1.46E+03	3.23E+09	1.21E+03	-	1.83E+03	7.31E+02	5.90E+03
Beryllium and compounds	7440-41-7	-	1	-	-	3.23E+09	-	-	3.44E+06	3.44E+06	5.90E+03
Bidrin	141-66-2	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+02
Bifenox	42576-02-3	0.1	1	-	-	3.23E+09	-	-	-	-	2.65E+04
Biphenthrin	82657-04-3	0.1	1	-	-	3.23E+09	-	-	-	-	4.42E+04
Biphenyl, 1,1'-	92-52-4	-	1	1.57E+05	-	3.23E+09	2.58E+04	-	-	2.58E+04	1.47E+06
Bis(2-chloro-1-methylethyl) ether	108-60-1	-	1	4.83E+04	1.02E+03	3.23E+09	2.95E+03	-	1.23E+04	2.38E+03	1.18E+05
Bis(2-chloroethoxy)methane	111-91-1	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+03
Bis(2-chloroethyl)ether	111-44-4	-	1	5.87E+04	5.05E+03	3.23E+09	1.88E+02	-	4.54E+02	1.33E+02	-
Bis(2-ethylhexyl)phthalate	117-81-7	0.1	1	-	-	3.23E+09	1.47E+04	1.17E+05	3.44E+09	1.31E+04	5.90E+04
Bis(Octanoyloxy)Di-N-Butyl Stannane	4731-77-5	-	1	8.48E+04	-	3.23E+09	-	-	-	-	-
Bis(chloromethyl)ether	542-88-1	-	1	2.59E+03	4.22E+03	3.23E+09	9.38E-01	-	1.07E-01	9.58E-02	-
Bis(oleoyloxy)dibutyl tin	13323-62-1	-	1	2.64E+06	-	3.23E+09	-	-	-	-	-
Bisphenol A	80-05-7	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+05
Boron And Borates Only	7440-42-8	-	1	-	-	3.23E+09	-	-	-	-	5.90E+05
Boron Trichloride	10294-34-5	-	1	-	-	3.23E+09	-	-	-	-	5.90E+06
Boron Trifluoride	7637-07-2	-	1	-	-	3.23E+09	-	-	-	-	1.18E+05
Bromacil	314-40-9	0.1	1	-	-	3.23E+09	-	-	-	-	-
Bromate	15541-45-4	-	1	-	-	3.23E+09	2.95E+02	-	-	2.95E+02	1.18E+04
Bromine	7726-95-6	-	1	-	-	3.23E+09	-	-	-	-	-
Bromo-2-chloroethane, 1-	107-04-0	-	1	8.17E+03	2.38E+03	3.23E+09	1.03E+02	-	3.48E+01	2.60E+01	-
Bromo-3-fluorobenzene, 1-	1073-06-9	-	1	9.79E+03	9.07E+02	3.23E+09	-	-	-	-	-
Bromo-4-Ethylbenzene, 1-	1585-07-5	-	1	1.96E+04	2.06E+02	3.23E+09	-	-	-	-	-
Bromoacetic acid	79-08-3	0.1	1	-	-	3.23E+09	-	-	-	-	-
Bromoacetophenone, 3-	2142-63-4	0.1	1	-	-	3.23E+09	-	-	-	-	-
Bromobenzene	108-86-1	-	1	1.15E+04	6.79E+02	3.23E+09	-	-	-	-	2.36E+04
Bromochloromethane	74-97-5	-	1	4.94E+03	4.03E+03	3.23E+09	-	-	-	-	-

Site-specific
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Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Benzofluorene, 2,3-	243-17-4	-	-	-	
Benzoic Acid	65-85-0	9.35E+07	-	1.05E+07	1.05E+07 max
Benzoic acid, 3,5-dichloro-	51-36-5	-	-	-	
Benzoic acid, 4-hydroxy-, methyl ester	99-76-3	-	-	-	
Benzothiazole	95-16-9	-	-	-	
Benzotrichloride	98-07-7	-	-	-	1.59E+01 ca
Benzyl Alcohol	100-51-6	2.34E+06	-	2.62E+05	2.62E+05 max
Benzyl Chloride	100-44-7	-	1.28E+03	1.05E+03	7.31E+02 ca**
Beryllium and compounds	7440-41-7	-	2.36E+06	5.88E+03	5.88E+03 nc
Bidrin	141-66-2	2.34E+03	-	2.62E+02	2.62E+02 nc
Bifenox	42576-02-3	2.10E+05	-	2.36E+04	2.36E+04 nc
Biphenthrin	82657-04-3	3.51E+05	-	3.93E+04	3.93E+04 nc
Biphenyl, 1,1'-	92-52-4	-	2.29E+03	2.29E+03	2.29E+03 nc
Bis(2-chloro-1-methylethyl) ether	108-60-1	-	-	1.18E+05	2.38E+03 sat
Bis(2-chloroethoxy)methane	111-91-1	7.01E+04	-	7.86E+03	7.86E+03 nc
Bis(2-chloroethyl)ether	111-44-4	-	-	-	1.33E+02 ca
Bis(2-ethylhexyl)phthalate	117-81-7	4.67E+05	-	5.24E+04	1.31E+04 ca**
Bis(Octanoyloxy)Di-N-Butyl Stannane	4731-77-5	-	-	-	
Bis(chloromethyl)ether	542-88-1	-	-	-	9.58E-02 ca
Bis(oleoyloxy)dibutyl tin	13323-62-1	-	-	-	
Bisphenol A	80-05-7	1.17E+06	-	1.31E+05	1.31E+05 max
Boron And Borates Only	7440-42-8	-	2.36E+09	5.90E+05	5.90E+05 max
Boron Trichloride	10294-34-5	-	2.36E+09	5.88E+06	5.88E+06 max
Boron Trifluoride	7637-07-2	-	1.53E+09	1.18E+05	1.18E+05 max
Bromacil	314-40-9	-	-	-	
Bromate	15541-45-4	-	-	1.18E+04	2.95E+02 ca*
Bromine	7726-95-6	-	-	-	
Bromo-2-chloroethane, 1-	107-04-0	-	-	-	2.60E+01 ca
Bromo-3-fluorobenzene, 1-	1073-06-9	-	-	-	
Bromo-4-Ethylbenzene, 1-	1585-07-5	-	-	-	
Bromoacetic acid	79-08-3	-	-	-	
Bromoacetophenone, 3-	2142-63-4	-	-	-	
Bromobenzene	108-86-1	-	2.53E+04	1.22E+04	1.22E+04 sat
Bromochloromethane	74-97-5	-	7.21E+03	7.21E+03	7.21E+03 sat

Site-specific
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Bromodichloromethane	75-27-4	No	Yes	6.20E-02	U	3.70E-05	U	2.00E-02	U	-		1
Bromodiphenyl Ether, p-	101-55-3	No	Yes	-		-		-		-		1
Bromofluorobenzene, p-	460-00-4	No	Yes	-		-		-		-		1
Bromoform	75-25-2	No	Yes	7.90E-03	U	1.10E-06	U	2.00E-02	U	-		1
Bromomethane	74-83-9	No	Yes	-		-		1.40E-03	U	5.00E-03	U	1
Bromophenol, p-	106-41-2	No	No	-		-		-		-		1
Bromophenyl-phenyl phthalate, 4-	NA	No	No	-		-		-		-		1
Bromophos	2104-96-3	No	Yes	-		-		5.00E-03	U	-		1
Bromopyridine, 2-	109-04-6	No	No	-		-		-		-		1
Bromotrichloromethane	75-62-7	No	Yes	-		-		-		-		1
Bromoxynil	1689-84-5	No	No	-		-		2.00E-02	U	-		1
Bromoxynil Octanoate	1689-99-2	No	Yes	-		-		2.00E-02	U	-		1
Butadiene, 1,3-	106-99-0	No	Yes	3.40E+00	U	3.00E-05	U	-		2.00E-03	U	1
Butanediol, 2,3-	513-85-9	No	No	-		-		-		-		1
Butanol	35296-72-1	No	Yes	-		-		-		-		1
Butanol, N-	71-36-3	No	Yes	-		-		1.00E-01	U	-		1
Butanone-2, 4-chloro-4,4-difluoro	NA	No	No	-		-		-		-		1
Butyl Alcohol, t-	75-65-0	No	Yes	-		-		-		-		1
Butyl Benzyl Phthlate	85-68-7	No	No	1.90E-03	U	-		2.00E-01	U	-		1
Butyl Formate, tert-	762-75-4	No	Yes	-		-		-		-		1
Butyl alcohol, sec-	78-92-2	No	Yes	-		-		2.00E+00	U	3.00E+01	U	1
Butylacetate	123-86-4	No	Yes	-		-		-		-		1
Butylate	2008-41-5	No	Yes	-		-		5.00E-02	U	-		1
Butylated hydroxyanisole	25013-16-5	No	No	2.00E-04	U	5.70E-08	U	-		-		1
Butylated hydroxytoluene	128-37-0	No	No	3.60E-03	U	-		3.00E-01	U	-		1
Butylbenzene, n-	104-51-8	No	Yes	-		-		5.00E-02	U	-		1
Butylbenzene, sec-	135-98-8	No	Yes	-		-		1.00E-01	U	-		1
Butylbenzene, tert-	98-06-6	No	Yes	-		-		1.00E-01	U	-		1
Butylchloride, t-	507-20-0	No	Yes	-		-		-		-		1
Butylphthalyl Butylglycolate	85-70-1	No	No	-		-		1.00E+00	U	-		1
Butyltin	NA	No	No	-		-		-		-		1
Cacodylic Acid	75-60-5	No	No	-		-		2.00E-02	U	-		1
Cadmium (Diet)	7440-43-9	No	No	-		1.80E-03	U	1.00E-03	U	1.00E-05	U	0.025
Calcium	7440-70-2	No	No	-		-		-		-		1

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Bromodichloromethane	75-27-4	-	1	5.47E+03	9.31E+02	3.23E+09	3.33E+03	-	3.77E+02	3.39E+02	5.90E+04
Bromodiphenyl Ether, p-	101-55-3	-	1	2.57E+05	1.06E+02	3.23E+09	-	-	-	-	-
Bromofluorobenzene, p-	460-00-4	-	1	9.95E+03	1.06E+03	3.23E+09	-	-	-	-	-
Bromoform	75-25-2	-	1	1.34E+04	9.14E+02	3.23E+09	2.61E+04	-	3.11E+04	1.42E+04	5.90E+04
Bromomethane	74-83-9	-	1	1.93E+03	3.59E+03	3.23E+09	-	-	-	-	4.13E+03
Bromophenol, p-	106-41-2	0.1	1	-	-	3.23E+09	-	-	-	-	-
Bromophenyl-phenyl phthalate, 4-	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Bromophos	2104-96-3	-	1	1.71E+05	-	3.23E+09	-	-	-	-	1.47E+04
Bromopyridine, 2-	109-04-6	0.1	1	-	-	3.23E+09	-	-	-	-	-
Bromotrichloromethane	75-62-7	-	1	1.80E+04	4.25E+02	3.23E+09	-	-	-	-	-
Bromoxynil	1689-84-5	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Bromoxynil Octanoate	1689-99-2	-	1	6.55E+05	-	3.23E+09	-	-	-	-	5.90E+04
Butadiene, 1,3-	106-99-0	-	1	1.20E+03	6.67E+02	3.23E+09	6.07E+01	-	1.02E+02	3.81E+01	-
Butanediol, 2,3-	513-85-9	0.1	1	-	-	3.23E+09	-	-	-	-	-
Butanol	35296-72-1	-	1	4.02E+04	1.47E+04	3.23E+09	-	-	-	-	-
Butanol, N-	71-36-3	-	1	4.13E+04	7.64E+03	3.23E+09	-	-	-	-	2.95E+05
Butanone-2, 4-chloro-4,4-difluoro	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Butyl Alcohol, t-	75-65-0	-	1	3.96E+04	-	3.23E+09	-	-	-	-	-
Butyl Benzyl Phthlate	85-68-7	0.1	1	-	-	3.23E+09	1.09E+05	8.61E+05	-	9.65E+04	5.90E+05
Butyl Formate, tert-	762-75-4	-	1	6.00E+03	2.99E+03	3.23E+09	-	-	-	-	-
Butyl alcohol, sec-	78-92-2	-	1	4.03E+04	2.13E+04	3.23E+09	-	-	-	-	5.90E+06
Butylacetate	123-86-4	-	1	1.18E+04	1.79E+03	3.23E+09	-	-	-	-	-
Butylate	2008-41-5	-	1	1.19E+05	-	3.23E+09	-	-	-	-	1.47E+05
Butylated hydroxyanisole	25013-16-5	0.1	1	-	-	3.23E+09	1.03E+06	8.18E+06	1.45E+11	9.17E+05	-
Butylated hydroxytoluene	128-37-0	0.1	1	-	-	3.23E+09	5.74E+04	4.55E+05	-	5.09E+04	8.85E+05
Butylbenzene, n-	104-51-8	-	1	1.12E+04	1.07E+02	3.23E+09	-	-	-	-	1.47E+05
Butylbenzene, sec-	135-98-8	-	1	1.01E+04	1.45E+02	3.23E+09	-	-	-	-	2.95E+05
Butylbenzene, tert-	98-06-6	-	1	1.01E+04	1.83E+02	3.23E+09	-	-	-	-	2.95E+05
Butylchloride, t-	507-20-0	-	1	2.34E+03	1.33E+03	3.23E+09	-	-	-	-	-
Butylphthalyl Butylglycolate	85-70-1	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+06
Butyltin	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Cacodylic Acid	75-60-5	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Cadmium (Diet)	7440-43-9	0.001	1	-	-	3.23E+09	-	-	4.59E+06	4.59E+06	2.95E+03
Calcium	7440-70-2	-	1	-	-	3.23E+09	-	-	-	-	-

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
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ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Bromodichloromethane	75-27-4	-	-	5.90E+04	3.39E+02 ca
Bromodiphenyl Ether, p-	101-55-3	-	-	-	
Bromofluorobenzene, p-	460-00-4	-	-	-	
Bromoform	75-25-2	-	-	5.90E+04	1.42E+04 sat
Bromomethane	74-83-9	-	3.53E+02	3.25E+02	3.25E+02 nc
Bromophenol, p-	106-41-2	-	-	-	
Bromophenyl-phenyl phthalate, 4-	NA	-	-	-	
Bromophos	2104-96-3	-	-	1.47E+04	1.47E+04 nc
Bromopyridine, 2-	109-04-6	-	-	-	
Bromotrichloromethane	75-62-7	-	-	-	
Bromoxynil	1689-84-5	4.67E+05	-	5.24E+04	5.24E+04 nc
Bromoxynil Octanoate	1689-99-2	-	-	5.90E+04	5.90E+04 nc
Butadiene, 1,3-	106-99-0	-	8.73E+01	8.73E+01	3.81E+01 ca**
Butanediol, 2,3-	513-85-9	-	-	-	
Butanol	35296-72-1	-	-	-	
Butanol, N-	71-36-3	-	-	2.95E+05	2.95E+05 sat
Butanone-2, 4-chloro-4,4-difluoro	NA	-	-	-	
Butyl Alcohol, t-	75-65-0	-	-	-	
Butyl Benzyl Phthlate	85-68-7	4.67E+06	-	5.24E+05	9.65E+04 ca**
Butyl Formate, tert-	762-75-4	-	-	-	
Butyl alcohol, sec-	78-92-2	-	4.41E+07	5.20E+06	5.20E+06 sat
Butylacetate	123-86-4	-	-	-	
Butylate	2008-41-5	-	-	1.47E+05	1.47E+05 max
Butylated hydroxyanisole	25013-16-5	-	-	-	9.17E+05 max
Butylated hydroxytoluene	128-37-0	7.01E+06	-	7.86E+05	5.09E+04 ca*
Butylbenzene, n-	104-51-8	-	-	1.47E+05	1.47E+05 sat
Butylbenzene, sec-	135-98-8	-	-	2.95E+05	2.95E+05 sat
Butylbenzene, tert-	98-06-6	-	-	2.95E+05	2.95E+05 sat
Butylchloride, t-	507-20-0	-	-	-	
Butylphthalyl Butylglycolate	85-70-1	2.34E+07	-	2.62E+06	2.62E+06 max
Butyltin	NA	-	-	-	
Cacodylic Acid	75-60-5	4.67E+05	-	5.24E+04	5.24E+04 nc
Cadmium (Diet)	7440-43-9	5.84E+04	1.18E+06	2.80E+03	2.80E+03 nc
Calcium	7440-70-2	-	-	-	

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR UTILITY WORKER
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Calcium Chlorate	10137-74-3	No	No	-		-		-		-		1
Calcium Chromate	13765-19-0	Yes	No	5.00E-01	U	1.50E-01	U	2.00E-02	U	2.00E-04	U	0.025
Calcium Cyanide	592-01-8	No	No	-		-		1.00E-03	U	-		1
Calcium pyrophosphate	7790-76-3	No	No	-		-		4.86E+01	U	-		1
Caprolactam	105-60-2	No	No	-		-		5.00E-01	U	2.20E-03	U	1
Captafol	2425-06-1	No	No	1.50E-01	U	4.30E-05	U	2.00E-03	U	-		1
Captan	133-06-2	No	No	2.30E-03	U	6.60E-07	U	1.30E-01	U	-		1
Carbaryl	63-25-2	No	No	-		-		1.00E-01	U	-		1
Carbazole	86-74-8	No	No	-		-		-		-		1
Carbofuran	1563-66-2	No	No	-		-		5.00E-03	U	-		1
Carbon Disulfide	75-15-0	No	Yes	-		-		1.00E-01	U	7.00E-01	U	1
Carbon Tetrachloride	56-23-5	No	Yes	7.00E-02	U	6.00E-06	U	4.00E-03	U	1.00E-01	U	1
Carbosulfan	55285-14-8	No	No	-		-		1.00E-02	U	-		1
Carboxin	5234-68-4	No	No	-		-		1.00E-01	U	-		1
Catechol	120-80-9	No	No	-		-		-		-		1
Ceric oxide	1306-38-3	No	No	-		-		-		9.00E-04	U	1
Cerium, Stable	7440-45-1	No	No	-		-		-		-		1
Chloral	75-87-6	No	Yes	-		-		-		-		1
Chloral Hydrate	302-17-0	No	Yes	-		-		1.00E-01	U	-		1
Chloramben	133-90-4	No	No	-		-		1.50E-02	U	-		1
Chloramine	127-65-1	No	No	-		-		-		-		1
Chloranil	118-75-2	No	No	4.03E-01	U	-		-		-		1
Chlorate (ClO3) as	14866-68-3	No	No	-		-		-		-		1
Chlordane	12789-03-6	No	Yes	3.50E-01	U	1.00E-04	U	5.00E-04	U	7.00E-04	U	1
Chlordane (alpha)	5103-71-9	No	Yes	-		-		-		-		1
Chlordane (gamma)	5103-74-2	No	Yes	-		-		-		-		1
Chlordecone (Kepone)	143-50-0	No	No	1.00E+01	U	4.60E-03	U	3.00E-04	U	-		1
Chlorfenvinphos	470-90-6	No	No	-		-		7.00E-04	U	-		1
Chloride	16887-00-6	No	No	-		-		-		-		1
Chlorimuron, Ethyl-	90982-32-4	No	No	-		-		2.00E-02	U	-		1
Chlorinated Hydrocarbons (total)	NA	No	No	-		-		-		-		1
Chlorine	7782-50-5	No	Yes	-		-		1.00E-01	U	1.45E-04	U	1
Chlorine Dioxide	10049-04-4	No	Yes	-		-		3.00E-02	U	2.00E-04	U	1
Chlorite	14998-27-7	No	No	-		-		-		-		1

Site-specific
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Calcium Chlorate	10137-74-3	-	1	-	-	3.23E+09	-	-	-	-	-
Calcium Chromate	13765-19-0	-	1	-	-	3.23E+09	4.13E+02	-	5.51E+04	4.10E+02	5.90E+04
Calcium Cyanide	592-01-8	-	1	-	-	3.23E+09	-	-	-	-	2.95E+03
Calcium pyrophosphate	7790-76-3	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Caprolactam	105-60-2	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+06
Captafol	2425-06-1	0.1	1	-	-	3.23E+09	1.38E+03	1.09E+04	1.92E+08	1.22E+03	5.90E+03
Captan	133-06-2	0.1	1	-	-	3.23E+09	8.98E+04	7.11E+05	1.25E+10	7.97E+04	3.83E+05
Carbaryl	63-25-2	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+05
Carbazole	86-74-8	0.1	1	-	-	3.23E+09	-	-	-	-	-
Carbofuran	1563-66-2	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+04
Carbon Disulfide	75-15-0	-	1	1.61E+03	7.38E+02	3.23E+09	-	-	-	-	2.95E+05
Carbon Tetrachloride	56-23-5	-	1	2.06E+03	4.58E+02	3.23E+09	2.95E+03	-	8.78E+02	6.76E+02	1.18E+04
Carbosulfan	55285-14-8	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+04
Carboxin	5234-68-4	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+05
Catechol	120-80-9	0.1	1	-	-	3.23E+09	-	-	-	-	-
Ceric oxide	1306-38-3	-	1	-	-	3.23E+09	-	-	-	-	-
Cerium, Stable	7440-45-1	-	1	-	-	3.23E+09	-	-	-	-	-
Chloral	75-87-6	-	1	2.14E+05	3.39E+03	3.23E+09	-	-	-	-	-
Chloral Hydrate	302-17-0	-	1	2.02E+05	-	3.23E+09	-	-	-	-	2.95E+05
Chloramben	133-90-4	0.1	1	-	-	3.23E+09	-	-	-	-	4.42E+04
Chloramine	127-65-1	-	1	-	-	3.23E+09	-	-	-	-	-
Chloranil	118-75-2	0.1	1	-	-	3.23E+09	5.12E+02	4.06E+03	-	4.55E+02	-
Chlorate (ClO3) as	14866-68-3	-	1	-	-	3.23E+09	-	-	-	-	-
Chlordane	12789-03-6	0.04	1	1.49E+06	-	3.23E+09	5.90E+02	1.17E+04	3.81E+04	5.53E+02	1.47E+03
Chlordane (alpha)	5103-71-9	-	1	2.05E+06	-	3.23E+09	-	-	-	-	-
Chlordane (gamma)	5103-74-2	-	1	2.05E+06	-	3.23E+09	-	-	-	-	-
Chlordecone (Kepone)	143-50-0	0.1	1	-	-	3.23E+09	2.06E+01	1.64E+02	1.80E+06	1.83E+01	8.85E+02
Chlorfenvinphos	470-90-6	0.1	1	-	-	3.23E+09	-	-	-	-	2.06E+03
Chloride	16887-00-6	-	1	-	-	3.23E+09	-	-	-	-	-
Chlorimuron, Ethyl-	90982-32-4	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Chlorinated Hydrocarbons (total)	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Chlorine	7782-50-5	-	1	1.69E+03	2.78E+03	3.23E+09	-	-	-	-	2.95E+05
Chlorine Dioxide	10049-04-4	-	1	-	-	3.23E+09	-	-	-	-	8.85E+04
Chlorite	14998-27-7	-	1	-	-	3.23E+09	-	-	-	-	-

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
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Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Calcium Chlorate	10137-74-3	-	-	-	
Calcium Chromate	13765-19-0	-	2.36E+07	5.88E+04	4.10E+02 ca
Calcium Cyanide	592-01-8	-	-	2.95E+03	2.95E+03 nc
Calcium pyrophosphate	7790-76-3	-	-	1.43E+08	1.43E+08 max
Caprolactam	105-60-2	1.17E+07	2.60E+08	1.30E+06	1.30E+06 max
Captafol	2425-06-1	4.67E+04	-	5.24E+03	1.22E+03 ca**
Captan	133-06-2	3.04E+06	-	3.40E+05	7.97E+04 ca**
Carbaryl	63-25-2	2.34E+06	-	2.62E+05	2.62E+05 max
Carbazole	86-74-8	-	-	-	
Carbofuran	1563-66-2	1.17E+05	-	1.31E+04	1.31E+04 nc
Carbon Disulfide	75-15-0	-	4.12E+04	3.61E+04	3.61E+04 sat
Carbon Tetrachloride	56-23-5	-	7.52E+03	4.59E+03	6.76E+02 sat
Carbosulfan	55285-14-8	2.34E+05	-	2.62E+04	2.62E+04 nc
Carboxin	5234-68-4	2.34E+06	-	2.62E+05	2.62E+05 max
Catechol	120-80-9	-	-	-	
Ceric oxide	1306-38-3	-	1.06E+08	1.06E+08	1.06E+08 max
Cerium, Stable	7440-45-1	-	-	-	
Chloral	75-87-6	-	-	-	
Chloral Hydrate	302-17-0	-	-	2.95E+05	2.95E+05 max
Chloramben	133-90-4	3.51E+05	-	3.93E+04	3.93E+04 nc
Chloramine	127-65-1	-	-	-	
Chloranil	118-75-2	-	-	-	4.55E+02 ca
Chlorate (ClO3) as	14866-68-3	-	-	-	
Chlordane	12789-03-6	2.92E+04	3.81E+04	1.35E+03	5.53E+02 ca**
Chlordane (alpha)	5103-71-9	-	-	-	
Chlordane (gamma)	5103-74-2	-	-	-	
Chlordecone (Kepone)	143-50-0	7.01E+03	-	7.86E+02	1.83E+01 ca*
Chlorfenvinphos	470-90-6	1.64E+04	-	1.83E+03	1.83E+03 nc
Chloride	16887-00-6	-	-	-	
Chlorimuron, Ethyl-	90982-32-4	4.67E+05	-	5.24E+04	5.24E+04 nc
Chlorinated Hydrocarbons (total)	NA	-	-	-	
Chlorine	7782-50-5	-	8.92E+00	8.92E+00	8.92E+00 nc
Chlorine Dioxide	10049-04-4	-	2.36E+07	8.82E+04	8.82E+04 nc
Chlorite	14998-27-7	-	-	-	

Site-specific
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Chlorite (Sodium Salt)	7758-19-2	No	No	-		-		3.00E-02	U	-		1
Chloro-1,1-difluoroethane, 1-	75-68-3	No	Yes	-		-		-		5.00E+01	U	1
Chloro-1,3-butadiene, 2-	126-99-8	No	Yes	-		3.00E-04	U	2.00E-02	U	2.00E-02	U	1
Chloro-2-methylaniline HCl, 4-	3165-93-3	No	No	4.60E-01	U	-		-		-		1
Chloro-2-methylaniline, 4-	95-69-2	No	No	1.00E-01	U	7.70E-05	U	3.00E-03	U	-		1
Chloro-2-methylphenol, 4-	1570-64-5	No	No	-		-		-		-		1
Chloro-4-methylphenol	35421-08-0	No	No	-		-		-		-		1
Chloro-6-fluorophenol, 2-	2040-90-6	No	No	-		-		-		-		1
Chloroacetaldehyde, 2-	107-20-0	No	Yes	2.70E-01	U	-		-		-		1
Chloroacetamide	79-07-2	No	No	-		-		-		-		1
Chloroacetic Acid	79-11-8	No	No	-		-		2.00E-03	U	-		1
Chloroacetophenone, 2-	532-27-4	No	No	-		-		-		3.00E-05	U	1
Chloroaniline	27134-26-5	No	No	-		-		-		-		1
Chloroaniline, 3-	108-42-9	No	No	-		-		-		-		1
Chloroaniline, p-	106-47-8	No	No	2.00E-01	U	-		4.00E-03	U	-		1
Chlorobenzene	108-90-7	No	Yes	-		-		2.00E-02	U	5.00E-02	U	1
Chlorobenzene sulfonic acid, p-	98-66-8	No	No	-		-		-		-		1
Chlorobenzenes (total)	NA	No	No	-		-		-		-		1
Chlorobenzilate	510-15-6	No	No	1.10E-01	U	3.10E-05	U	2.00E-02	U	-		1
Chlorobenzoic Acid, p-	74-11-3	No	No	-		-		3.00E-02	U	-		1
Chlorobenzotrifluoride, 3-nitro-4-	121-17-5	No	Yes	-		-		-		-		1
Chlorobenzotrifluoride, 4-	98-56-6	No	Yes	-		-		3.00E-03	U	3.00E-01	U	1
Chlorobiphenyl, p-	2051-62-9	No	Yes	-		-		-		-		1
Chlorobutane, 1-	109-69-3	No	Yes	-		-		4.00E-02	U	-		1
Chlorobutane, 2-	78-86-4	No	Yes	-		-		-		-		1
Chlorocyclopentadiene	41851-50-7	No	Yes	-		-		-		-		1
Chlorodibromoethane	73506-94-2	No	No	-		-		-		-		1
Chlorodifluoromethane	75-45-6	No	Yes	-		-		-		5.00E+01	U	1
Chloroethanol, 2-	107-07-3	No	Yes	-		-		2.00E-02	U	-		1
Chloroethylvinyl ether, 2-	110-75-8	No	Yes	-		-		-		-		1
Chloroform	67-66-3	No	Yes	3.10E-02	U	2.30E-05	U	1.00E-02	U	9.77E-02	U	1
Chloromethane	74-87-3	No	Yes	-		-		-		9.00E-02	U	1
Chloromethyl Methyl Ether	107-30-2	No	Yes	2.40E+00	U	6.90E-04	U	-		-		1
Chloronaphthalene, Beta-	91-58-7	No	Yes	-		-		8.00E-02	U	-		1

Site-specific
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Chlorite (Sodium Salt)	7758-19-2	-	1	-	-	3.23E+09	-	-	-	-	8.85E+04
Chloro-1,1-difluoroethane, 1-	75-68-3	-	1	1.42E+03	1.14E+03	3.23E+09	-	-	-	-	-
Chloro-1,3-butadiene, 2-	126-99-8	-	1	1.49E+03	7.51E+02	3.23E+09	-	-	1.27E+01	1.27E+01	5.90E+04
Chloro-2-methylaniline HCl, 4-	3165-93-3	0.1	1	-	-	3.23E+09	4.49E+02	3.56E+03	-	3.99E+02	-
Chloro-2-methylaniline, 4-	95-69-2	0.1	1	-	-	3.23E+09	2.06E+03	1.64E+04	1.07E+08	1.83E+03	8.85E+03
Chloro-2-methylphenol, 4-	1570-64-5	0.1	1	-	-	3.23E+09	-	-	-	-	-
Chloro-4-methylphenol	35421-08-0	0.1	1	-	-	3.23E+09	-	-	-	-	-
Chloro-6-fluorophenol, 2-	2040-90-6	0.1	1	-	-	3.23E+09	-	-	-	-	-
Chloroacetaldehyde, 2-	107-20-0	-	1	2.56E+04	2.83E+04	3.23E+09	7.65E+02	-	-	7.65E+02	-
Chloroacetamide	79-07-2	0.1	1	-	-	3.23E+09	-	-	-	-	-
Chloroacetic Acid	79-11-8	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+03
Chloroacetophenone, 2-	532-27-4	0.1	1	-	-	3.23E+09	-	-	-	-	-
Chloroaniline	27134-26-5	0.1	1	-	-	3.23E+09	-	-	-	-	-
Chloroaniline, 3-	108-42-9	0.1	1	-	-	3.23E+09	-	-	-	-	-
Chloroaniline, p-	106-47-8	0.1	1	-	-	3.23E+09	1.03E+03	8.18E+03	-	9.17E+02	1.18E+04
Chlorobenzene	108-90-7	-	1	8.90E+03	7.61E+02	3.23E+09	-	-	-	-	5.90E+04
Chlorobenzene sulfonic acid, p-	98-66-8	0.1	1	-	-	3.23E+09	-	-	-	-	-
Chlorobenzenes (total)	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Chlorobenzilate	510-15-6	0.1	1	-	-	3.23E+09	1.88E+03	1.49E+04	2.66E+08	1.67E+03	5.90E+04
Chlorobenzoic Acid, p-	74-11-3	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+04
Chlorobenzotrifluoride, 3-nitro-4-	121-17-5	-	1	2.14E+05	9.07E+01	3.23E+09	-	-	-	-	-
Chlorobenzotrifluoride, 4-	98-56-6	-	1	9.33E+03	1.17E+02	3.23E+09	-	-	-	-	8.85E+03
Chlorobiphenyl, p-	2051-62-9	-	1	1.78E+05	-	3.23E+09	-	-	-	-	-
Chlorobutane, 1-	109-69-3	-	1	2.42E+03	7.29E+02	3.23E+09	-	-	-	-	1.18E+05
Chlorobutane, 2-	78-86-4	-	1	2.01E+03	6.51E+02	3.23E+09	-	-	-	-	-
Chlorocyclopentadiene	41851-50-7	-	1	2.60E+03	9.88E+02	3.23E+09	-	-	-	-	-
Chlorodibromoethane	73506-94-2	0.1	1	-	-	3.23E+09	-	-	-	-	-
Chlorodifluoromethane	75-45-6	-	1	1.30E+03	1.68E+03	3.23E+09	-	-	-	-	-
Chloroethanol, 2-	107-07-3	-	1	1.08E+05	1.11E+05	3.23E+09	-	-	-	-	5.90E+04
Chloroethylvinyl ether, 2-	110-75-8	-	1	2.21E+03	1.64E+03	3.23E+09	-	-	-	-	-
Chloroform	67-66-3	-	1	3.62E+03	2.54E+03	3.23E+09	6.66E+03	-	4.03E+02	3.80E+02	2.95E+04
Chloromethane	74-87-3	-	1	1.62E+03	1.32E+03	3.23E+09	-	-	-	-	-
Chloromethyl Methyl Ether	107-30-2	-	1	7.35E+03	2.58E+04	3.23E+09	8.60E+01	-	2.72E+01	2.07E+01	-
Chloronaphthalene, Beta-	91-58-7	0.13	1	1.10E+05	-	3.23E+09	-	-	-	-	2.36E+05

Site-specific
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Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Chlorite (Sodium Salt)	7758-19-2	-	-	8.85E+04	8.85E+04 nc
Chloro-1,1-difluoroethane, 1-	75-68-3	-	2.59E+06	2.59E+06	2.59E+06 sat
Chloro-1,3-butadiene, 2-	126-99-8	-	1.09E+03	1.07E+03	1.27E+01 ca*
Chloro-2-methylaniline HCl, 4-	3165-93-3	-	-	-	3.99E+02 ca
Chloro-2-methylaniline, 4-	95-69-2	7.01E+04	-	7.86E+03	1.83E+03 ca**
Chloro-2-methylphenol, 4-	1570-64-5	-	-	-	
Chloro-4-methylphenol	35421-08-0	-	-	-	
Chloro-6-fluorophenol, 2-	2040-90-6	-	-	-	
Chloroacetaldehyde, 2-	107-20-0	-	-	-	7.65E+02 ca
Chloroacetamide	79-07-2	-	-	-	
Chloroacetic Acid	79-11-8	4.67E+04	-	5.24E+03	5.24E+03 nc
Chloroacetophenone, 2-	532-27-4	-	3.54E+06	3.54E+06	3.54E+06 max
Chloroaniline	27134-26-5	-	-	-	
Chloroaniline, 3-	108-42-9	-	-	-	
Chloroaniline, p-	106-47-8	9.35E+04	-	1.05E+04	9.17E+02 ca*
Chlorobenzene	108-90-7	-	1.62E+04	1.27E+04	1.27E+04 sat
Chlorobenzene sulfonic acid, p-	98-66-8	-	-	-	
Chlorobenzenes (total)	NA	-	-	-	
Chlorobenzilate	510-15-6	4.67E+05	-	5.24E+04	1.67E+03 ca*
Chlorobenzoic Acid, p-	74-11-3	7.01E+05	-	7.86E+04	7.86E+04 nc
Chlorobenzotrifluoride, 3-nitro-4-	121-17-5	-	-	-	
Chlorobenzotrifluoride, 4-	98-56-6	-	1.02E+05	8.14E+03	8.14E+03 sat
Chlorobiphenyl, p-	2051-62-9	-	-	-	
Chlorobutane, 1-	109-69-3	-	-	1.18E+05	1.18E+05 sat
Chlorobutane, 2-	78-86-4	-	-	-	
Chlorocyclopentadiene	41851-50-7	-	-	-	
Chlorodibromoethane	73506-94-2	-	-	-	
Chlorodifluoromethane	75-45-6	-	2.37E+06	2.37E+06	2.37E+06 sat
Chloroethanol, 2-	107-07-3	-	-	5.90E+04	5.90E+04 nc
Chloroethylvinyl ether, 2-	110-75-8	-	-	-	
Chloroform	67-66-3	-	1.29E+04	8.99E+03	3.80E+02 ca*
Chloromethane	74-87-3	-	5.32E+03	5.32E+03	5.32E+03 sat
Chloromethyl Methyl Ether	107-30-2	-	-	-	2.07E+01 ca
Chloronaphthalene, Beta-	91-58-7	1.44E+06	-	2.03E+05	2.03E+05 max

Site-specific
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Chloronaphthalene, alpha-	90-13-1	No	Yes	-		-		-		-		1
Chloronitrobenzene, o-	88-73-3	No	No	3.00E-01	U	-		3.00E-03	U	1.00E-05	U	1
Chloronitrobenzene, p-	100-00-5	No	No	6.30E-03	U	-		1.00E-03	U	6.00E-04	U	1
Chlorophenol, 2-	95-57-8	No	Yes	-		-		5.00E-03	U	-		1
Chlorophenol, 3-	108-43-0	No	No	-		-		-		-		1
Chlorophenol, 4-	106-48-9	No	No	-		-		-		-		1
Chlorophenols (each)	NA	No	No	-		-		-		-		1
Chlorophenols (total)	NA	No	No	-		-		-		-		1
Chlorophenyl Methyl Sulfide, p-	123-09-1	No	Yes	-		-		-		-		1
Chlorophenyl Methyl Sulfoxide	934-73-6	No	No	-		-		-		-		1
Chlorophenyl phenyl ether, 4-	7005-72-3	No	Yes	-		-		-		-		1
Chloropicrin	76-06-2	No	Yes	-		-		-		4.00E-04	U	1
Chloropropane, 2-	75-29-6	No	Yes	-		-		-		-		1
Chlorothalonil	1897-45-6	No	No	3.10E-03	U	8.90E-07	U	1.50E-02	U	-		1
Chlorotoluene, o-	95-49-8	No	Yes	-		-		2.00E-02	U	-		1
Chlorotoluene, p-	106-43-4	No	Yes	-		-		2.00E-02	U	-		1
Chlorozotocin	54749-90-5	No	No	2.40E+02	U	6.90E-02	U	-		-		1
Chlorpropham	101-21-3	No	No	-		-		2.00E-01	U	-		1
Chlorpyrifos	2921-88-2	No	No	-		-		1.00E-03	U	-		1
Chlorpyrifos Methyl	5598-13-0	No	No	-		-		1.00E-02	U	-		1
Chlorsulfuron	64902-72-3	No	No	-		-		5.00E-02	U	-		1
Chlorthiophos	60238-56-4	No	No	-		-		8.00E-04	U	-		1
Chromium(III), Insoluble Salts	16065-83-1	No	No	-		-		1.50E+00	U	-		0.013
Chromium(VI)	18540-29-9	Yes	No	5.00E-01	U	8.40E-02	U	3.00E-03	U	1.00E-04	U	0.025
Chromium, Total	7440-47-3	No	No	-		-		-		-		0.013
Chrysene	218-01-9	Yes	No	7.30E-03	U	1.10E-05	U	-		-		1
Cobalt	7440-48-4	No	No	-		9.00E-03	U	3.00E-04	U	6.00E-06	U	1
Complex Mixtures of Aliphatic and Aromatic Hydrocarbons	NA	No	No	-		-		-		-		1
Copper	7440-50-8	No	No	-		-		4.00E-02	U	-		1
Copper Cyanide	544-92-3	No	No	-		-		5.00E-03	U	-		1
Coronene	191-07-1	No	No	-		-		-		-		1
Creosote	8001-58-9	No	No	-		-		-		-		1
Cresol, m-	108-39-4	No	No	-		-		5.00E-02	U	6.00E-01	U	1

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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Chloronaphthalene, alpha-	90-13-1	-	1	1.05E+05	2.66E+02	3.23E+09	-	-	-	-	-
Chloronitrobenzene, o-	88-73-3	0.1	1	-	-	3.23E+09	6.88E+02	5.45E+03	-	6.11E+02	8.85E+03
Chloronitrobenzene, p-	100-00-5	0.1	1	-	-	3.23E+09	3.28E+04	2.60E+05	-	2.91E+04	2.95E+03
Chlorophenol, 2-	95-57-8	-	1	1.71E+05	2.19E+04	3.23E+09	-	-	-	-	1.47E+04
Chlorophenol, 3-	108-43-0	0.1	1	-	-	3.23E+09	-	-	-	-	-
Chlorophenol, 4-	106-48-9	0.1	1	-	-	3.23E+09	-	-	-	-	-
Chlorophenols (each)	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Chlorophenols (total)	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Chlorophenyl Methyl Sulfide, p-	123-09-1	-	1	6.97E+04	2.73E+02	3.23E+09	-	-	-	-	-
Chlorophenyl Methyl Sulfoxide	934-73-6	0.1	1	-	-	3.23E+09	-	-	-	-	-
Chlorophenyl phenyl ether, 4-	7005-72-3	-	1	1.83E+05	-	3.23E+09	-	-	-	-	-
Chloropicrin	76-06-2	-	1	6.46E+03	6.17E+02	3.23E+09	-	-	-	-	-
Chloropropane, 2-	75-29-6	-	1	1.79E+03	1.32E+03	3.23E+09	-	-	-	-	-
Chlorothalonil	1897-45-6	0.1	1	-	-	3.23E+09	6.66E+04	5.28E+05	9.28E+09	5.91E+04	4.42E+04
Chlorotoluene, o-	95-49-8	-	1	1.12E+04	9.07E+02	3.23E+09	-	-	-	-	5.90E+04
Chlorotoluene, p-	106-43-4	-	1	1.01E+04	2.53E+02	3.23E+09	-	-	-	-	5.90E+04
Chlorozotocin	54749-90-5	0.1	1	-	-	3.23E+09	8.60E-01	6.82E+00	1.20E+05	7.64E-01	-
Chlorpropham	101-21-3	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+05
Chlorpyrifos	2921-88-2	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+03
Chlorpyrifos Methyl	5598-13-0	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+04
Chlorsulfuron	64902-72-3	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+05
Chlorthiophos	60238-56-4	0.1	1	-	-	3.23E+09	-	-	-	-	2.36E+03
Chromium(III), Insoluble Salts	16065-83-1	-	1	-	-	3.23E+09	-	-	-	-	4.42E+06
Chromium(VI)	18540-29-9	-	1	-	-	3.23E+09	4.13E+02	-	9.83E+04	4.11E+02	8.85E+03
Chromium, Total	7440-47-3	-	1	-	-	3.23E+09	-	-	-	-	-
Chrysene	218-01-9	0.13	1	-	-	3.23E+09	2.83E+04	1.72E+05	7.51E+08	2.43E+04	-
Cobalt	7440-48-4	-	1	-	-	3.23E+09	-	-	9.18E+05	9.18E+05	8.85E+02
Complex Mixtures of Aliphatic and Aromatic Hydrocarbons	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Copper	7440-50-8	-	1	-	-	3.23E+09	-	-	-	-	1.18E+05
Copper Cyanide	544-92-3	-	1	-	-	3.23E+09	-	-	-	-	1.47E+04
Coronene	191-07-1	0.13	1	-	-	3.23E+09	-	-	-	-	-
Creosote	8001-58-9	0.1	1	-	-	3.23E+09	-	-	-	-	-
Cresol, m-	108-39-4	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+05

Site-specific
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Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Chloronaphthalene, alpha-	90-13-1	-	-	-	
Chloronitrobenzene, o-	88-73-3	7.01E+04	1.18E+06	7.81E+03	6.11E+02 ca*
Chloronitrobenzene, p-	100-00-5	2.34E+04	7.08E+07	2.62E+03	2.62E+03 nc
Chlorophenol, 2-	95-57-8	-	-	1.47E+04	1.47E+04 nc
Chlorophenol, 3-	108-43-0	-	-	-	
Chlorophenol, 4-	106-48-9	-	-	-	
Chlorophenols (each)	NA	-	-	-	
Chlorophenols (total)	NA	-	-	-	
Chlorophenyl Methyl Sulfide, p-	123-09-1	-	-	-	
Chlorophenyl Methyl Sulfoxide	934-73-6	-	-	-	
Chlorophenyl phenyl ether, 4-	7005-72-3	-	-	-	
Chloropicrin	76-06-2	-	9.43E+01	9.43E+01	9.43E+01 nc
Chloropropane, 2-	75-29-6	-	-	-	
Chlorothalonil	1897-45-6	3.51E+05	-	3.93E+04	3.93E+04 nc
Chlorotoluene, o-	95-49-8	-	-	5.90E+04	5.90E+04 sat
Chlorotoluene, p-	106-43-4	-	-	5.90E+04	5.90E+04 sat
Chlorozotocin	54749-90-5	-	-	-	7.64E-01 ca
Chlorpropham	101-21-3	4.67E+06	-	5.24E+05	5.24E+05 max
Chlorpyrifos	2921-88-2	2.34E+04	-	2.62E+03	2.62E+03 nc
Chlorpyrifos Methyl	5598-13-0	2.34E+05	-	2.62E+04	2.62E+04 nc
Chlorsulfuron	64902-72-3	1.17E+06	-	1.31E+05	1.31E+05 max
Chlorthiophos	60238-56-4	1.87E+04	-	2.10E+03	2.10E+03 nc
Chromium(III), Insoluble Salts	16065-83-1	-	-	4.42E+06	4.42E+06 max
Chromium(VI)	18540-29-9	-	1.18E+07	8.84E+03	4.11E+02 ca*
Chromium, Total	7440-47-3	-	-	-	
Chrysene	218-01-9	-	-	-	2.43E+04 ca
Cobalt	7440-48-4	-	7.08E+05	8.84E+02	8.84E+02 nc
Complex Mixtures of Aliphatic and Aromatic Hydrocarbons	NA	-	-	-	
Copper	7440-50-8	-	-	1.18E+05	1.18E+05 max
Copper Cyanide	544-92-3	-	-	1.47E+04	1.47E+04 nc
Coronene	191-07-1	-	-	-	
Creosote	8001-58-9	-	-	-	
Cresol, m-	108-39-4	1.17E+06	7.08E+10	1.31E+05	1.31E+05 max

Site-specific
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Cresol, o-	95-48-7	No	No	-		-		5.00E-02	U	6.00E-01	U	1
Cresol, p-	106-44-5	No	No	-		-		1.00E-01	U	6.00E-01	U	1
Cresol, p-chloro-m-	59-50-7	No	No	-		-		1.00E-01	U	-		1
Cresols	1319-77-3	No	No	-		-		1.00E-01	U	6.00E-01	U	1
Crotonaldehyde	4170-30-3	No	Yes	-		-		-		-		1
Crotonaldehyde, trans-	123-73-9	No	Yes	1.90E+00	U	-		1.00E-03	U	-		1
Cumene	98-82-8	No	Yes	-		-		1.00E-01	U	4.00E-01	U	1
Cupferron	135-20-6	No	No	2.20E-01	U	6.30E-05	U	-		-		1
Cyanazine	21725-46-2	No	No	8.40E-01	U	-		2.00E-03	U	-		1
Cyanide (CN-)	57-12-5	No	Yes	-		-		6.00E-04	U	8.00E-04	U	1
Cyanide (total complex)	NA	No	No	-		-		-		-		1
Cyanogen	460-19-5	No	Yes	-		-		1.00E-03	U	-		1
Cyanogen Bromide	506-68-3	No	Yes	-		-		9.00E-02	U	-		1
Cyanogen Chloride	506-77-4	No	Yes	-		-		5.00E-02	U	-		1
Cyclohexane	110-82-7	No	Yes	-		-		-		6.00E+00	U	1
Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	87-84-3	No	No	2.30E-02	U	-		-		-		1
Cyclohexanone	108-94-1	No	Yes	-		-		5.00E+00	U	7.00E-01	U	1
Cyclohexene	110-83-8	No	Yes	-		-		5.00E-03	U	1.00E+00	U	1
Cyclohexylamine	108-91-8	No	Yes	-		-		2.00E-01	U	-		1
Cyclopentadiene	542-92-7	No	Yes	-		-		-		-		1
Cyhalothrin/karate	68085-85-8	No	No	-		-		5.00E-03	U	-		1
Cypermethrin	52315-07-8	No	No	-		-		1.00E-02	U	-		1
Cyromazine	66215-27-8	No	No	-		-		7.50E-03	U	-		1
DDD	72-54-8	No	No	2.40E-01	U	6.90E-05	U	-		-		1
DDD, o,p'-	53-19-0	No	No	-		-		-		-		1
DDE, p,p'-	72-55-9	No	Yes	3.40E-01	U	9.70E-05	U	-		-		1
DDT	50-29-3	No	No	3.40E-01	U	9.70E-05	U	5.00E-04	U	-		1
DDT, o,p'-	789-02-6	No	No	-		-		-		-		1
DDT/DDE/DDD (total)	NA	No	No	-		-		-		-		1
Dacthal	1861-32-1	No	No	-		-		1.00E-02	U	-		1
Dalapon	75-99-0	No	No	-		-		3.00E-02	U	-		1
Decabromodiphenyl ether, 2,2',3,3',4,4',5,5',6,6'- (BDE-209)	1163-19-5	No	No	7.00E-04	U	-		7.00E-03	U	-		1
Decane	124-18-5	No	Yes	-		-		-		-		1

Site-specific
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Cresol, o-	95-48-7	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+05
Cresol, p-	106-44-5	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+05
Cresol, p-chloro-m-	59-50-7	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+05
Cresols	1319-77-3	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+05
Crotonaldehyde	4170-30-3	-	1	2.61E+04	2.00E+04	3.23E+09	-	-	-	-	-
Crotonaldehyde, trans-	123-73-9	-	1	2.61E+04	1.66E+04	3.23E+09	1.09E+02	-	-	1.09E+02	2.95E+03
Cumene	98-82-8	-	1	8.56E+03	2.68E+02	3.23E+09	-	-	-	-	2.95E+05
Cupferron	135-20-6	0.1	1	-	-	3.23E+09	9.38E+02	7.44E+03	1.31E+08	8.33E+02	-
Cyanazine	21725-46-2	0.1	1	-	-	3.23E+09	2.46E+02	1.95E+03	-	2.18E+02	5.90E+03
Cyanide (CN-)	57-12-5	-	1	6.42E+04	1.00E+07	3.23E+09	-	-	-	-	1.77E+03
Cyanide (total complex)	NA	-	1	-	-	3.23E+09	-	-	-	-	-
Cyanogen	460-19-5	-	1	-	-	3.23E+09	-	-	-	-	2.95E+03
Cyanogen Bromide	506-68-3	-	1	-	-	3.23E+09	-	-	-	-	2.65E+05
Cyanogen Chloride	506-77-4	-	1	-	-	3.23E+09	-	-	-	-	1.47E+05
Cyclohexane	110-82-7	-	1	1.44E+03	1.18E+02	3.23E+09	-	-	-	-	-
Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	87-84-3	0.1	1	-	-	3.23E+09	8.98E+03	7.11E+04	-	7.97E+03	-
Cyclohexanone	108-94-1	-	1	5.75E+04	5.11E+03	3.23E+09	-	-	-	-	1.47E+07
Cyclohexene	110-83-8	-	1	2.02E+03	2.83E+02	3.23E+09	-	-	-	-	1.47E+04
Cyclohexylamine	108-91-8	-	1	1.03E+05	2.93E+05	3.23E+09	-	-	-	-	5.90E+05
Cyclopentadiene	542-92-7	-	1	2.05E+03	1.34E+03	3.23E+09	-	-	-	-	-
Cyhalothrin/karate	68085-85-8	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+04
Cypermethrin	52315-07-8	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+04
Cyromazine	66215-27-8	0.1	1	-	-	3.23E+09	-	-	-	-	2.21E+04
DDD	72-54-8	0.1	1	-	-	3.23E+09	8.60E+02	6.82E+03	1.20E+08	7.64E+02	-
DDD, o,p'-	53-19-0	0.1	1	-	-	3.23E+09	-	-	-	-	-
DDE, p,p'-	72-55-9	-	1	2.91E+06	-	3.23E+09	6.07E+02	-	7.65E+04	6.02E+02	-
DDT	50-29-3	0.03	1	-	-	3.23E+09	6.07E+02	1.60E+04	8.52E+07	5.85E+02	1.47E+03
DDT, o,p'-	789-02-6	0.1	1	-	-	3.23E+09	-	-	-	-	-
DDT/DDE/DDD (total)	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dacthal	1861-32-1	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+04
Dalapon	75-99-0	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+04
Decabromodiphenyl ether, 2,2',3,3',4,4',5,5',6,6'- (BDE-209)	1163-19-5	0.1	1	-	-	3.23E+09	2.95E+05	2.34E+06	-	2.62E+05	2.06E+04
Decane	124-18-5	-	1	1.56E+03	2.53E+00	3.23E+09	-	-	-	-	-

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Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Cresol, o-	95-48-7	1.17E+06	7.08E+10	1.31E+05	1.31E+05 max
Cresol, p-	106-44-5	2.34E+06	7.08E+10	2.62E+05	2.62E+05 max
Cresol, p-chloro-m-	59-50-7	2.34E+06	-	2.62E+05	2.62E+05 max
Cresols	1319-77-3	2.34E+06	7.08E+10	2.62E+05	2.62E+05 max
Crotonaldehyde	4170-30-3	-	-	-	
Crotonaldehyde, trans-	123-73-9	-	-	2.95E+03	1.09E+02 ca*
Cumene	98-82-8	-	1.25E+05	8.78E+04	8.78E+04 sat
Cupferron	135-20-6	-	-	-	8.33E+02 ca
Cyanazine	21725-46-2	4.67E+04	-	5.24E+03	2.18E+02 ca*
Cyanide (CN-)	57-12-5	-	1.88E+03	9.11E+02	9.11E+02 nc
Cyanide (total complex)	NA	-	-	-	
Cyanogen	460-19-5	-	-	2.95E+03	2.95E+03 nc
Cyanogen Bromide	506-68-3	-	-	2.65E+05	2.65E+05 max
Cyanogen Chloride	506-77-4	-	-	1.47E+05	1.47E+05 max
Cyclohexane	110-82-7	-	3.15E+05	3.15E+05	3.15E+05 sat
Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	87-84-3	-	-	-	7.97E+03 ca
Cyclohexanone	108-94-1	-	1.47E+06	1.34E+06	1.34E+06 sat
Cyclohexene	110-83-8	-	7.37E+04	1.23E+04	1.23E+04 sat
Cyclohexylamine	108-91-8	-	-	5.90E+05	5.90E+05 sat
Cyclopentadiene	542-92-7	-	-	-	
Cyhalothrin/karate	68085-85-8	1.17E+05	-	1.31E+04	1.31E+04 nc
Cypermethrin	52315-07-8	2.34E+05	-	2.62E+04	2.62E+04 nc
Cyromazine	66215-27-8	1.75E+05	-	1.96E+04	1.96E+04 nc
DDD	72-54-8	-	-	-	7.64E+02 ca
DDD, o,p'-	53-19-0	-	-	-	
DDE, p,p'-	72-55-9	-	-	-	6.02E+02 ca
DDT	50-29-3	3.90E+04	-	1.42E+03	5.85E+02 ca**
DDT, o,p'-	789-02-6	-	-	-	
DDT/DDE/DDD (total)	NA	-	-	-	
Dacthal	1861-32-1	2.34E+05	-	2.62E+04	2.62E+04 nc
Dalapon	75-99-0	7.01E+05	-	7.86E+04	7.86E+04 nc
Decabromodiphenyl ether, 2,2',3,3',4,4',5,5',6,6'- (BDE-209)	1163-19-5	1.64E+05	-	1.83E+04	1.83E+04 nc
Decane	124-18-5	-	-	-	

Site-specific
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Decanol, n-	112-30-1	No	Yes	-		-		-		-		1
Deltamethrin	52918-63-5	No	No	-		-		-		-		1
Demeton	8065-48-3	No	No	-		-		4.00E-05	U	-		1
Di(2-ethylhexyl)adipate	103-23-1	No	No	1.20E-03	U	-		6.00E-01	U	-		1
Di-n-butyltin bis(2-ethylhexanoate)	2781-10-4	No	Yes	-		-		-		-		1
Di-n-butyltin bis(methyl maleate)	15546-11-9	No	No	-		-		-		-		1
Di-n-butyltin bis(n-butyl maleate)	15546-16-4	No	No	-		-		-		-		1
Di-n-butyltin dilaurate	77-58-7	No	Yes	-		-		-		-		1
Di-n-butyltin distearate	5847-55-2	No	Yes	-		-		-		-		1
Di-n-hexylphthalate	84-75-3	No	Yes	-		-		-		-		1
Diallate	2303-16-4	No	No	6.10E-02	U	-		-		-		1
Diammonium phosphate	7783-28-0	No	No	-		-		4.86E+01	U	-		1
Diazinon	333-41-5	No	No	-		-		7.00E-04	U	-		1
Dibenz[a,h]anthracene	53-70-3	Yes	No	7.30E+00	U	1.20E-03	U	-		-		1
Dibenzo(a,e)pyrene	192-65-4	No	No	1.20E+01	U	1.10E-03	U	-		-		1
Dibenzofuran	132-64-9	No	Yes	-		-		1.00E-03	U	-		1
Dibenzothiophene	132-65-0	No	Yes	-		-		1.00E-02	U	-		1
Dibromo-3-chloropropane, 1,2-	96-12-8	Yes	Yes	8.00E-01	U	6.00E-03	U	2.00E-04	U	2.00E-04	U	1
Dibromoacetic acid	631-64-1	No	No	-		-		-		-		1
Dibromobenzene, 1,3-	108-36-1	No	Yes	-		-		4.00E-04	U	-		1
Dibromobenzene, 1,4-	106-37-6	No	Yes	-		-		1.00E-02	U	-		1
Dibromochloromethane	124-48-1	No	Yes	8.40E-02	U	2.70E-05	U	2.00E-02	U	-		1
Dibromodichloromethane	594-18-3	No	Yes	-		-		-		-		1
Dibromodiphenyl Ether, p,p'-	2050-47-7	No	Yes	-		-		-		-		1
Dibromoethane, 1,2-	106-93-4	No	Yes	2.00E+00	U	6.00E-04	U	9.00E-03	U	9.00E-03	U	1
Dibromomethane (Methylene Bromide)	74-95-3	No	Yes	-		-		1.00E-02	U	4.00E-03	U	1
Dibutoxy di-n-butyltin	3349-36-8	No	Yes	-		-		-		-		1
Dibutyl Phthalate	84-74-2	No	No	-		-		1.00E-01	U	-		1
Dibutylbis((1-oxoisooctyl)oxy)stannane	85702-74-5	No	No	-		-		-		-		1
Dibutylbis(octadeca-9(Z),12(Z),15(Z)-trienoyloxy)stannane	95873-60-2	No	Yes	-		-		-		-		1
Dibutylbis(octadeca-9(Z),12(Z)-dienoyloxy)stannane	85391-79-3	No	No	-		-		-		-		1
Dibutylbis(palmitoyloxy)stannane	13323-63-2	No	Yes	-		-		-		-		1

Site-specific
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ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Decanol, n-	112-30-1	-	1	8.71E+04	3.19E+01	3.23E+09	-	-	-	-	-
Deltamethrin	52918-63-5	0.1	1	-	-	3.23E+09	-	-	-	-	-
Demeton	8065-48-3	0.1	1	-	-	3.23E+09	-	-	-	-	1.18E+02
Di(2-ethylhexyl)adipate	103-23-1	0.1	1	-	-	3.23E+09	1.72E+05	1.36E+06	-	1.53E+05	1.77E+06
Di-n-butyltin bis(2-ethylhexanoate)	2781-10-4	-	1	1.29E+05	-	3.23E+09	-	-	-	-	-
Di-n-butyltin bis(methyl maleate)	15546-11-9	0.1	1	-	-	3.23E+09	-	-	-	-	-
Di-n-butyltin bis(n-butyl maleate)	15546-16-4	0.1	1	-	-	3.23E+09	-	-	-	-	-
Di-n-butyltin dilaurate	77-58-7	-	1	4.40E+05	-	3.23E+09	-	-	-	-	-
Di-n-butyltin distearate	5847-55-2	-	1	2.33E+06	-	3.23E+09	-	-	-	-	-
Di-n-hexylphthalate	84-75-3	-	1	1.33E+06	3.85E+00	3.23E+09	-	-	-	-	-
Diallate	2303-16-4	0.1	1	-	-	3.23E+09	3.38E+03	2.68E+04	-	3.01E+03	-
Diammonium phosphate	7783-28-0	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Diazinon	333-41-5	0.1	1	-	-	3.23E+09	-	-	-	-	2.06E+03
Dibenz[a,h]anthracene	53-70-3	0.13	1	-	-	3.23E+09	2.83E+01	1.72E+02	6.88E+06	2.43E+01	-
Dibenzo(a,e)pyrene	192-65-4	0.13	1	-	-	3.23E+09	1.72E+01	1.05E+02	7.51E+06	1.48E+01	-
Dibenzofuran	132-64-9	0.03	1	2.70E+05	-	3.23E+09	-	-	-	-	2.95E+03
Dibenzothiophene	132-65-0	-	1	7.24E+05	-	3.23E+09	-	-	-	-	2.95E+04
Dibromo-3-chloropropane, 1,2-	96-12-8	-	1	4.42E+04	9.80E+02	3.23E+09	2.58E+02	-	1.88E+01	1.75E+01	5.90E+02
Dibromoacetic acid	631-64-1	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dibromobenzene, 1,3-	108-36-1	-	1	2.66E+04	1.59E+02	3.23E+09	-	-	-	-	1.18E+03
Dibromobenzene, 1,4-	106-37-6	-	1	3.03E+04	-	3.23E+09	-	-	-	-	2.95E+04
Dibromochloromethane	124-48-1	-	1	1.10E+04	8.02E+02	3.23E+09	2.46E+03	-	1.04E+03	7.30E+02	5.90E+04
Dibromodichloromethane	594-18-3	-	1	3.20E+04	-	3.23E+09	-	-	-	-	-
Dibromodiphenyl Ether, p,p'-	2050-47-7	-	1	5.22E+05	-	3.23E+09	-	-	-	-	-
Dibromoethane, 1,2-	106-93-4	-	1	1.19E+04	1.34E+03	3.23E+09	1.03E+02	-	5.08E+01	3.40E+01	2.65E+04
Dibromomethane (Methylene Bromide)	74-95-3	-	1	7.79E+03	2.82E+03	3.23E+09	-	-	-	-	2.95E+04
Dibutoxy di-n-butyltin	3349-36-8	-	1	8.25E+04	-	3.23E+09	-	-	-	-	-
Dibutyl Phthalate	84-74-2	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+05
Dibutylbis((1-oxoisooctyl)oxy)stannane	85702-74-5	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dibutylbis(octadeca-9(Z),12(Z),15(Z)-trienoyloxy)stannane	95873-60-2	-	1	3.40E+06	-	3.23E+09	-	-	-	-	-
Dibutylbis(octadeca-9(Z),12(Z)-dienoyloxy)stannane	85391-79-3	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dibutylbis(palmitoyloxy)stannane	13323-63-2	-	1	1.20E+06	-	3.23E+09	-	-	-	-	-

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
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ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Decanol, n-	112-30-1	-	-	-	
Deltamethrin	52918-63-5	-	-	-	
Demeton	8065-48-3	9.35E+02	-	1.05E+02	1.05E+02 nc
Di(2-ethylhexyl)adipate	103-23-1	1.40E+07	-	1.57E+06	1.53E+05 max
Di-n-butyltin bis(2-ethylhexanoate)	2781-10-4	-	-	-	
Di-n-butyltin bis(methyl maleate)	15546-11-9	-	-	-	
Di-n-butyltin bis(n-butyl maleate)	15546-16-4	-	-	-	
Di-n-butyltin dilaurate	77-58-7	-	-	-	
Di-n-butyltin distearate	5847-55-2	-	-	-	
Di-n-hexylphthalate	84-75-3	-	-	-	
Diallate	2303-16-4	-	-	-	3.01E+03 ca
Diammonium phosphate	7783-28-0	-	-	1.43E+08	1.43E+08 max
Diazinon	333-41-5	1.64E+04	-	1.83E+03	1.83E+03 nc
Dibenz[a,h]anthracene	53-70-3	-	-	-	2.43E+01 ca
Dibenzo(a,e)pyrene	192-65-4	-	-	-	1.48E+01 ca
Dibenzofuran	132-64-9	7.79E+04	-	2.84E+03	2.84E+03 nc
Dibenzothiophene	132-65-0	-	-	2.95E+04	2.95E+04 nc
Dibromo-3-chloropropane, 1,2-	96-12-8	-	3.22E+02	2.08E+02	1.75E+01 ca*
Dibromoacetic acid	631-64-1	-	-	-	
Dibromobenzene, 1,3-	108-36-1	-	-	1.18E+03	1.18E+03 sat
Dibromobenzene, 1,4-	106-37-6	-	-	2.95E+04	2.95E+04 nc
Dibromochloromethane	124-48-1	-	-	5.90E+04	7.30E+02 ca*
Dibromodichloromethane	594-18-3	-	-	-	
Dibromodiphenyl Ether, p,p'-	2050-47-7	-	-	-	
Dibromoethane, 1,2-	106-93-4	-	3.92E+03	3.41E+03	3.40E+01 ca
Dibromomethane (Methylene Bromide)	74-95-3	-	1.14E+03	1.09E+03	1.09E+03 nc
Dibutoxy di-n-butyltin	3349-36-8	-	-	-	
Dibutyl Phthalate	84-74-2	2.34E+06	-	2.62E+05	2.62E+05 max
Dibutylbis((1-oxoisooctyl)oxy)stannane	85702-74-5	-	-	-	
Dibutylbis(octadeca-9(Z),12(Z),15(Z)-trienoyloxy)stannane	95873-60-2	-	-	-	
Dibutylbis(octadeca-9(∠),12(∠)-dienoyloxy)stannane	85391-79-3	-	-	-	
Dibutylbis(palmitoyloxy)stannane	13323-63-2	-	-	-	

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR UTILITY WORKER
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Dibutyltin Compounds	NA	No	No	-		-		3.00E-04	U	-		1
Dibutyltin diacetate	1067-33-0	No	Yes	-		-		-		-		1
Dibutyltin dichloride	683-18-1	No	Yes	-		-		-		-		1
Dibutyltin oxide	818-08-6	No	Yes	-		-		-		-		1
Dicalcium phosphate	7757-93-9	No	No	-		-		4.86E+01	U	-		1
Dicamba	1918-00-9	No	No	-		-		3.00E-02	U	-		1
Dichloro-2-butene, 1,4-	764-41-0	No	Yes	-		4.20E-03	U	-		-		1
Dichloro-2-butene, cis-1,4-	1476-11-5	No	Yes	-		4.20E-03	U	-		-		1
Dichloro-2-butene, trans-1,4-	110-57-6	No	Yes	-		4.20E-03	U	-		-		1
Dichloroacetic Acid	79-43-6	No	No	5.00E-02	U	-		4.00E-03	U	-		1
Dichloroaniline, 2,4-	554-00-7	No	No	-		-		-		-		1
Dichloroaniline, 3,4-	95-76-1	No	Yes	-		-		-		-		1
Dichlorobenzene	25321-22-6	No	Yes	-		-		-		-		1
Dichlorobenzene, 1,2-	95-50-1	No	Yes	-		-		9.00E-02	U	2.00E-01	U	1
Dichlorobenzene, 1,3-	541-73-1	No	Yes	-		-		-		-		1
Dichlorobenzene, 1,4-	106-46-7	No	Yes	5.40E-03	U	1.10E-05	U	7.00E-02	U	8.00E-01	U	1
Dichlorobenzidine, 3,3'-	91-94-1	No	No	4.50E-01	U	3.40E-04	U	-		-		1
Dichlorobenzoic acid, -3,5	51-36-5	No	No	-		-		-		-		1
Dichlorobenzophenone, 4,4'-	90-98-2	No	No	-		-		9.00E-03	U	-		1
Dichlorobenzotrifluoride, 3,4-	328-84-7	No	Yes	-		-		-		-		1
Dichlorodifluoromethane	75-71-8	No	Yes	-		-		2.00E-01	U	1.00E-01	U	1
Dichlorodiisopropyl ether, 2,2'-	39638-32-9	No	Yes	-		-		-		-		1
Dichloroethane, 1,1-	75-34-3	No	Yes	5.70E-03	U	1.60E-06	U	2.00E-01	U	-		1
Dichloroethane, 1,2-	107-06-2	No	Yes	9.10E-02	U	2.60E-05	U	6.00E-03	U	7.00E-03	U	1
Dichloroethylene, 1,1-	75-35-4	No	Yes	-		-		5.00E-02	U	2.00E-01	U	1
Dichloroethylene, 1,2-cis-	156-59-2	No	Yes	-		-		2.00E-03	U	-		1
Dichloroethylene, 1,2-trans-	156-60-5	No	Yes	-		-		2.00E-02	U	-		1
Dichlorophenol, 2,3-	576-24-9	Yes	No	-		-		-		-		1
Dichlorophenol, 2,4-	120-83-2	No	No	-		-		3.00E-03	U	-		1
Dichlorophenol, 2,5-	583-78-8	No	No	-		-		-		-		1
Dichlorophenol, 2,6-	87-65-0	No	No	-		-		-		-		1
Dichlorophenol, 3,4-	95-77-2	No	No	-		-		-		-		1
Dichlorophenols (total)	NA	No	No	-		-		-		-		1
Dichlorophenoxy Acetic Acid, 2,4-	94-75-7	No	No	-		-		1.00E-02	U	-		1

Site-specific
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Dibutyltin Compounds	NA	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+02
Dibutyltin diacetate	1067-33-0	-	1	1.75E+04	1.86E+00	3.23E+09	-	-	-	-	-
Dibutyltin dichloride	683-18-1	-	1	3.93E+04	-	3.23E+09	-	-	-	-	-
Dibutyltin oxide	818-08-6	-	1	-	-	3.23E+09	-	-	-	-	-
Dicalcium phosphate	7757-93-9	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Dicamba	1918-00-9	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+04
Dichloro-2-butene, 1,4-	764-41-0	-	1	1.54E+04	5.20E+02	3.23E+09	-	-	9.35E+00	9.35E+00	-
Dichloro-2-butene, cis-1,4-	1476-11-5	-	1	1.54E+04	5.20E+02	3.23E+09	-	-	9.35E+00	9.35E+00	-
Dichloro-2-butene, trans-1,4-	110-57-6	-	1	1.54E+04	7.63E+02	3.23E+09	-	-	9.36E+00	9.36E+00	-
Dichloroacetic Acid	79-43-6	0.1	1	-	-	3.23E+09	4.13E+03	3.27E+04	-	3.67E+03	1.18E+04
Dichloroaniline, 2,4-	554-00-7	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dichloroaniline, 3,4-	95-76-1	-	1	1.39E+05	-	3.23E+09	-	-	-	-	-
Dichlorobenzene	25321-22-6	-	1	1.61E+04	1.93E+02	3.23E+09	-	-	-	-	-
Dichlorobenzene, 1,2-	95-50-1	-	1	1.61E+04	3.76E+02	3.23E+09	-	-	-	-	2.65E+05
Dichlorobenzene, 1,3-	541-73-1	-	1	1.37E+04	2.96E+02	3.23E+09	-	-	-	-	-
Dichlorobenzene, 1,4-	106-46-7	-	1	1.44E+04	-	3.23E+09	3.82E+04	-	3.35E+03	3.08E+03	2.06E+05
Dichlorobenzidine, 3,3'-	91-94-1	0.1	1	-	-	3.23E+09	4.59E+02	3.64E+03	2.43E+07	4.07E+02	-
Dichlorobenzoic acid, -3,5	51-36-5	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dichlorobenzophenone, 4,4'-	90-98-2	0.1	1	-	-	3.23E+09	-	-	-	-	2.65E+04
Dichlorobenzotrifluoride, 3,4-	328-84-7	-	1	1.59E+04	4.57E+01	3.23E+09	-	-	-	-	-
Dichlorodifluoromethane	75-71-8	-	1	1.16E+03	8.44E+02	3.23E+09	-	-	-	-	5.90E+05
Dichlorodiisopropyl ether, 2,2'-	39638-32-9	-	1	1.81E+04	2.35E+02	3.23E+09	-	-	-	-	-
Dichloroethane, 1,1-	75-34-3	-	1	2.87E+03	1.69E+03	3.23E+09	3.62E+04	-	4.59E+03	4.07E+03	5.90E+05
Dichloroethane, 1,2-	107-06-2	-	1	6.31E+03	2.98E+03	3.23E+09	2.27E+03	-	6.20E+02	4.87E+02	1.77E+04
Dichloroethylene, 1,1-	75-35-4	-	1	1.59E+03	1.19E+03	3.23E+09	-	-	-	-	1.47E+05
Dichloroethylene, 1,2-cis-	156-59-2	-	1	3.45E+03	2.37E+03	3.23E+09	-	-	-	-	5.90E+03
Dichloroethylene, 1,2-trans-	156-60-5	-	1	3.46E+03	1.67E+03	3.23E+09	-	-	-	-	5.90E+04
Dichlorophenol, 2,3-	576-24-9	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dichlorophenol, 2,4-	120-83-2	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+03
Dichlorophenol, 2,5-	583-78-8	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dichlorophenol, 2,6-	87-65-0	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dichlorophenol, 3,4-	95-77-2	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dichlorophenols (total)	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dichlorophenoxy Acetic Acid, 2,4-	94-75-7	0.05	1	-	-	3.23E+09	-	-	-	-	2.95E+04

Site-specific
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Dibutyltin Compounds	NA	7.01E+03	-	7.86E+02	7.86E+02 nc
Dibutyltin diacetate	1067-33-0	-	-	-	
Dibutyltin dichloride	683-18-1	-	-	-	
Dibutyltin oxide	818-08-6	-	-	-	
Dicalcium phosphate	7757-93-9	-	-	1.43E+08	1.43E+08 max
Dicamba	1918-00-9	7.01E+05	-	7.86E+04	7.86E+04 nc
Dichloro-2-butene, 1,4-	764-41-0	-	-	-	9.35E+00 ca
Dichloro-2-butene, cis-1,4-	1476-11-5	-	-	-	9.35E+00 ca
Dichloro-2-butene, trans-1,4-	110-57-6	-	-	-	9.36E+00 ca
Dichloroacetic Acid	79-43-6	9.35E+04	-	1.05E+04	3.67E+03 ca**
Dichloroaniline, 2,4-	554-00-7	-	-	-	
Dichloroaniline, 3,4-	95-76-1	-	-	-	
Dichlorobenzene	25321-22-6	-	-	-	
Dichlorobenzene, 1,2-	95-50-1	-	1.18E+05	8.15E+04	8.15E+04 sat
Dichlorobenzene, 1,3-	541-73-1	-	-	-	
Dichlorobenzene, 1,4-	106-46-7	-	4.21E+05	1.38E+05	3.08E+03 ca*
Dichlorobenzidine, 3,3'-	91-94-1	-	-	-	4.07E+02 ca
Dichlorobenzoic acid, -3,5	51-36-5	-	-	-	
Dichlorobenzophenone, 4,4'-	90-98-2	2.10E+05	-	2.36E+04	2.36E+04 nc
Dichlorobenzotrifluoride, 3,4-	328-84-7	-	-	-	
Dichlorodifluoromethane	75-71-8	-	4.23E+03	4.20E+03	4.20E+03 sat
Dichlorodiisopropyl ether, 2,2'-	39638-32-9	-	-	-	
Dichloroethane, 1,1-	75-34-3	-	-	5.90E+05	4.07E+03 sat
Dichloroethane, 1,2-	107-06-2	-	1.61E+03	1.48E+03	4.87E+02 ca**
Dichloroethylene, 1,1-	75-35-4	-	1.16E+04	1.08E+04	1.08E+04 sat
Dichloroethylene, 1,2-cis-	156-59-2	-	-	5.90E+03	5.90E+03 sat
Dichloroethylene, 1,2-trans-	156-60-5	-	-	5.90E+04	5.90E+04 sat
Dichlorophenol, 2,3-	576-24-9	-	-	-	
Dichlorophenol, 2,4-	120-83-2	7.01E+04	-	7.86E+03	7.86E+03 nc
Dichlorophenol, 2,5-	583-78-8	-	-	-	
Dichlorophenol, 2,6-	87-65-0	-	-	-	
Dichlorophenol, 3,4-	95-77-2	-	-	-	
Dichlorophenols (total)	NA	-	-	-	
Dichlorophenoxy Acetic Acid, 2,4-	94-75-7	4.67E+05	-	2.77E+04	2.77E+04 nc

Site-specific
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ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Dichlorophenoxy)butyric Acid, 4-(2,4-	94-82-6	No	No	-		-		8.00E-03	U	-		1
Dichloropropane, 1,2-	78-87-5	No	Yes	3.60E-02	U	1.00E-05	U	9.00E-02	U	4.00E-03	U	1
Dichloropropane, 1,3-	142-28-9	No	Yes	-		-		2.00E-02	U	-		1
Dichloropropane, 2,2-	594-20-7	Yes	Yes	-		-		-		-		1
Dichloropropanol, 2,3-	616-23-9	No	No	-		-		3.00E-03	U	-		1
Dichloropropene, 1,3-	542-75-6	No	Yes	1.00E-01	U	4.00E-06	U	3.00E-02	U	2.00E-02	U	1
Dichloropropene, 2,3-	78-88-6	No	Yes	-		-		-		-		1
Dichloropropene, cis-1,3-	10061-01-5	No	Yes	-		-		-		-		1
Dichloropropene, trans-1,3-	10061-02-6	No	Yes	-		-		-		-		1
Dichlorvos	62-73-7	No	No	2.90E-01	U	8.30E-05	U	5.00E-04	U	5.00E-04	U	1
Diclofop-methyl	51338-27-3	No	No	-		-		-		-		1
Dicofol	115-32-2	No	No	-		-		-		-		1
Dicyclohexylamine	101-83-7	No	Yes	-		-		-		-		1
Dicyclopentadiene	77-73-6	No	Yes	-		-		8.00E-02	U	3.00E-04	U	1
Didecyl dimethyl ammonium chloride	7173-51-5	No	No	-		-		-		-		1
Dieldrin	60-57-1	No	No	1.60E+01	U	4.60E-03	U	5.00E-05	U	-		1
Diepoxybutane	1464-53-5	No	Yes	-		-		-		-		1
Diethanolamine	111-42-2	No	No	-		-		2.00E-03	U	2.00E-04	U	1
Diethyl Phthalate	84-66-2	No	No	-		-		8.00E-01	U	-		1
Diethyl sulfate	64-67-5	No	No	-		-		-		-		1
Diethyl-p-nitrophenylphosphate	311-45-5	No	No	-		-		-		-		1
Diethylene Glycol Dinitrate (DEGDN)	693-21-0	No	No	-		-		-		-		1
Diethylene Glycol Monobutyl Ether	112-34-5	No	No	-		-		3.00E-02	U	1.00E-04	U	1
Diethylene Glycol Monoethyl Ether	111-90-0	No	No	-		-		6.00E-02	U	3.00E-04	U	1
Diethylene-glycol	111-46-6	No	No	-		-		-		-		1
Diethylformamide	617-84-5	No	Yes	-		-		1.00E-03	U	-		1
Diethylphosphorodithioate	298-06-6	No	Yes	-		-		-		-		1
Diethylstilbestrol	56-53-1	No	No	3.50E+02	U	1.00E-01	U	-		-		1
Difenzoquat	43222-48-6	No	No	-		-		8.00E-02	U	-		1
Diflubenzuron	35367-38-5	No	No	-		-		2.00E-02	U	-		1
Difluoroethane, 1,1-	75-37-6	No	Yes	-		-		-		4.00E+01	U	1
Difluoropropane, 2,2-	420-45-1	No	Yes	-		-		-		-		1
Dihydrosafrole	94-58-6	No	Yes	4.40E-02	U	1.30E-05	U	-		-		1
Diisopropyl Ether	108-20-3	No	Yes	-		-		-		7.00E-01	U	1

Site-specific
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Dichlorophenoxy)butyric Acid, 4-(2,4-	94-82-6	0.1	1	-	-	3.23E+09	-	-	-	-	2.36E+04
Dichloropropane, 1,2-	78-87-5	-	1	5.23E+03	1.36E+03	3.23E+09	5.74E+03	-	1.34E+03	1.08E+03	2.65E+05
Dichloropropane, 1,3-	142-28-9	-	1	9.33E+03	1.49E+03	3.23E+09	-	-	-	-	5.90E+04
Dichloropropane, 2,2-	594-20-7	-	1	2.21E+03	5.27E+02	3.23E+09	-	-	-	-	-
Dichloropropanol, 2,3-	616-23-9	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+03
Dichloropropene, 1,3-	542-75-6	-	1	4.91E+03	1.57E+03	3.23E+09	2.06E+03	-	3.13E+03	1.24E+03	8.85E+04
Dichloropropene, 2,3-	78-88-6	-	1	4.27E+03	1.07E+03	3.23E+09	-	-	-	-	-
Dichloropropene, cis-1,3-	10061-01-5	-	1	4.90E+03	1.22E+03	3.23E+09	-	-	-	-	-
Dichloropropene, trans-1,3-	10061-02-6	-	1	4.91E+03	1.57E+03	3.23E+09	-	-	-	-	-
Dichlorvos	62-73-7	0.1	1	-	-	3.23E+09	7.12E+02	5.64E+03	9.95E+07	6.32E+02	1.47E+03
Diclofop-methyl	51338-27-3	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dicofol	115-32-2	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dicyclohexylamine	101-83-7	-	1	8.62E+04	2.16E+03	3.23E+09	-	-	-	-	-
Dicyclopentadiene	77-73-6	-	1	5.67E+03	-	3.23E+09	-	-	-	-	2.36E+05
Didecyl dimethyl ammonium chloride	7173-51-5	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dieldrin	60-57-1	0.1	1	-	-	3.23E+09	1.29E+01	1.02E+02	1.80E+06	1.15E+01	1.47E+02
Diepoxybutane	1464-53-5	-	1	2.02E+05	1.15E+05	3.23E+09	-	-	-	-	-
Diethanolamine	111-42-2	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+03
Diethyl Phthalate	84-66-2	0.1	1	-	-	3.23E+09	-	-	-	-	2.36E+06
Diethyl sulfate	64-67-5	0.1	1	-	-	3.23E+09	-	-	-	-	-
Diethyl-p-nitrophenylphosphate	311-45-5	0.1	1	-	-	3.23E+09	-	-	-	-	-
Diethylene Glycol Dinitrate (DEGDN)	693-21-0	0.1	1	-	-	3.23E+09	-	-	-	-	-
Diethylene Glycol Monobutyl Ether	112-34-5	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+04
Diethylene Glycol Monoethyl Ether	111-90-0	0.1	1	-	-	3.23E+09	-	-	-	-	1.77E+05
Diethylene-glycol	111-46-6	0.1	1	-	-	3.23E+09	-	-	-	-	-
Diethylformamide	617-84-5	-	1	1.91E+05	1.12E+05	3.23E+09	-	-	-	-	2.95E+03
Diethylphosphorodithioate	298-06-6	-	1	1.79E+04	2.15E-02	3.23E+09	-	-	-	-	-
Diethylstilbestrol	56-53-1	0.1	1	-	-	3.23E+09	5.90E-01	4.67E+00	8.26E+04	5.24E-01	-
Difenzoquat	43222-48-6	0.1	1	-	-	3.23E+09	-	-	-	-	2.36E+05
Diflubenzuron	35367-38-5	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Difluoroethane, 1,1-	75-37-6	-	1	1.59E+03	1.43E+03	3.23E+09	-	-	-	-	-
Difluoropropane, 2,2-	420-45-1	-	1	1.01E+03	4.63E+04	3.23E+09	-	-	-	-	-
Dihydrosafrole	94-58-6	-	1	2.08E+03	-	3.23E+09	4.69E+03	-	4.09E+02	3.76E+02	-
Diisopropyl Ether	108-20-3	-	1	4.21E+03	2.26E+03	3.23E+09	-	-	-	-	-

Site-specific
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Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Dichlorophenoxy)butyric Acid, 4-(2,4-	94-82-6	1.87E+05	-	2.10E+04	2.10E+04 nc
Dichloropropane, 1,2-	78-87-5	-	7.64E+02	7.62E+02	7.62E+02 nc
Dichloropropane, 1,3-	142-28-9	-	-	5.90E+04	5.90E+04 sat
Dichloropropane, 2,2-	594-20-7	-	-	-	
Dichloropropanol, 2,3-	616-23-9	7.01E+04	-	7.86E+03	7.86E+03 nc
Dichloropropene, 1,3-	542-75-6	-	3.58E+03	3.44E+03	1.24E+03 ca**
Dichloropropene, 2,3-	78-88-6	-	-	-	
Dichloropropene, cis-1,3-	10061-01-5	-	-	-	
Dichloropropene, trans-1,3-	10061-02-6	-	-	-	
Dichlorvos	62-73-7	1.17E+04	5.90E+07	1.31E+03	6.32E+02 ca**
Diclofop-methyl	51338-27-3	-	-	-	
Dicofol	115-32-2	-	-	-	
Dicyclohexylamine	101-83-7	-	-	-	
Dicyclopentadiene	77-73-6	-	6.21E+01	6.20E+01	6.20E+01 nc
Didecyl dimethyl ammonium chloride	7173-51-5	-	-	-	
Dieldrin	60-57-1	1.17E+03	-	1.31E+02	1.15E+01 ca*
Diepoxybutane	1464-53-5	-	-	-	
Diethanolamine	111-42-2	4.67E+04	2.36E+07	5.24E+03	5.24E+03 nc
Diethyl Phthalate	84-66-2	1.87E+07	-	2.10E+06	2.10E+06 max
Diethyl sulfate	64-67-5	-	-	-	
Diethyl-p-nitrophenylphosphate	311-45-5	-	-	-	
Diethylene Glycol Dinitrate (DEGDN)	693-21-0	-	-	-	
Diethylene Glycol Monobutyl Ether	112-34-5	7.01E+05	1.18E+07	7.81E+04	7.81E+04 nc
Diethylene Glycol Monoethyl Ether	111-90-0	1.40E+06	3.54E+07	1.56E+05	1.56E+05 max
Diethylene-glycol	111-46-6	-	-	-	
Diethylformamide	617-84-5	-	-	2.95E+03	2.95E+03 nc
Diethylphosphorodithioate	298-06-6	-	-	-	
Diethylstilbestrol	56-53-1	-	-	-	5.24E-01 ca
Difenzoquat	43222-48-6	1.87E+06	-	2.10E+05	2.10E+05 max
Diflubenzuron	35367-38-5	4.67E+05	-	5.24E+04	5.24E+04 nc
Difluoroethane, 1,1-	75-37-6	-	2.31E+06	2.31E+06	2.31E+06 sat
Difluoropropane, 2,2-	420-45-1	-	-	-	
Dihydrosafrole	94-58-6	-	-	-	3.76E+02 ca
Diisopropyl Ether	108-20-3	-	1.08E+05	1.08E+05	1.08E+05 sat

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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Diisopropyl Methylphosphonate	1445-75-6	No	Yes	-		-		8.00E-02	U	-		1
Dimagnesium phosphate	7782-75-4	No	No	-		-		4.86E+01	U	-		1
Dimethipin	55290-64-7	No	No	-		-		2.00E-02	U	-		1
Dimethoate	60-51-5	No	No	-		-		2.00E-04	U	-		1
Dimethoxybenzidine, 3,3'-	119-90-4	No	No	1.60E+00	U	-		-		-		1
Dimethyl Sulfate	77-78-1	No	No	-		-		-		-		1
Dimethyl Sulfide	75-18-3	No	Yes	-		-		-		-		1
Dimethyl methylphosphonate	756-79-6	No	No	1.70E-03	U	-		6.00E-02	U	-		1
Dimethylamino azobenzene [p-]	60-11-7	No	No	4.60E+00	U	1.30E-03	U	-		-		1
Dimethylaniline HCl, 2,4-	21436-96-4	No	No	5.80E-01	U	-		-		-		1
Dimethylaniline, 2,4-	95-68-1	No	No	2.00E-01	U	-		2.00E-03	U	-		1
Dimethylaniline, N,N-	121-69-7	No	Yes	-		-		2.00E-03	U	-		1
Dimethylbenz(a)anthracene, 7,12-	57-97-6	Yes	No	2.50E+02	U	7.10E-02	U	-		-		1
Dimethylbenzidine, 3,3'-	119-93-7	No	No	1.10E+01	U	-		-		-		1
Dimethylcyclohexylamine, n,n-	98-94-2	No	Yes	-		-		-		-		1
Dimethylethyl Lead	107584-40-7	No	No	-		-		-		-		1
Dimethylformamide	68-12-2	No	Yes	-		-		1.00E-01	U	3.00E-02	U	1
Dimethylhydrazine, 1,1-	57-14-7	No	Yes	-		-		1.00E-04	U	2.00E-06	U	1
Dimethylhydrazine, 1,2-	540-73-8	No	Yes	5.50E+02	U	1.60E-01	U	-		-		1
Dimethylmercury	593-74-8	No	Yes	-		-		-		-		1
Dimethylphenethylamine	122-09-8	No	No	-		-		-		-		1
Dimethylphenol, 2,4-	105-67-9	No	No	-		-		2.00E-02	U	-		1
Dimethylphenol, 2,6-	576-26-1	No	No	-		-		6.00E-04	U	-		1
Dimethylphenol, 3,4-	95-65-8	No	No	-		-		1.00E-03	U	-		1
Dimethylphthalate	131-11-3	No	No	-		-		-		-		1
Dimethylterephthalate	120-61-6	No	Yes	-		-		1.00E-01	U	-		1
Dimethylvinylchloride	513-37-1	No	Yes	4.50E-02	U	1.30E-05	U	-		-		1
Dinitro-o-cresol, 4,6-	534-52-1	No	No	-		-		8.00E-05	U	-		1
Dinitro-o-cyclohexyl Phenol, 4,6-	131-89-5	No	No	-		-		2.00E-03	U	-		1
Dinitroaniline, 3,5-	618-87-1	No	No	-		-		-		-		1
Dinitrobenzene, 1,2-	528-29-0	No	No	-		-		1.00E-04	U	-		1
Dinitrobenzene, 1,3-	99-65-0	No	No	-		-		1.00E-04	U	-		1
Dinitrobenzene, 1,4-	100-25-4	No	No	-		-		1.00E-04	U	-		1
Dinitrophenol, 2,4-	51-28-5	No	No	-		-		2.00E-03	U	-		1

Site-specific
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Diisopropyl Methylphosphonate	1445-75-6	-	1	5.26E+04	5.30E+02	3.23E+09	-	-	-	-	2.36E+05
Dimagnesium phosphate	7782-75-4	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Dimethipin	55290-64-7	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Dimethoate	60-51-5	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+02
Dimethoxybenzidine, 3,3'-	119-90-4	0.1	1	-	-	3.23E+09	1.29E+02	1.02E+03	-	1.15E+02	-
Dimethyl Sulfate	77-78-1	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dimethyl Sulfide	75-18-3	-	1	4.10E+03	5.34E+03	3.23E+09	-	-	-	-	-
Dimethyl methylphosphonate	756-79-6	0.1	1	-	-	3.23E+09	1.21E+05	9.62E+05	-	1.08E+05	1.77E+05
Dimethylamino azobenzene [p-]	60-11-7	0.1	1	-	-	3.23E+09	4.49E+01	3.56E+02	6.35E+06	3.99E+01	-
Dimethylaniline HCl, 2,4-	21436-96-4	0.1	1	-	-	3.23E+09	3.56E+02	2.82E+03	-	3.16E+02	-
Dimethylaniline, 2,4-	95-68-1	0.1	1	-	-	3.23E+09	1.03E+03	8.18E+03	-	9.17E+02	5.90E+03
Dimethylaniline, N,N-	121-69-7	-	1	4.32E+04	8.30E+02	3.23E+09	-	-	-	-	5.90E+03
Dimethylbenz(a)anthracene, 7,12-	57-97-6	0.13	1	-	-	3.23E+09	8.26E-01	5.03E+00	1.16E+05	7.09E-01	-
Dimethylbenzidine, 3,3'-	119-93-7	0.1	1	-	-	3.23E+09	1.88E+01	1.49E+02	-	1.67E+01	-
Dimethylcyclohexylamine, n,n-	98-94-2	-	1	5.23E+04	-	3.23E+09	-	-	-	-	-
Dimethylethyl Lead	107584-40-7	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dimethylformamide	68-12-2	-	1	1.76E+05	1.06E+05	3.23E+09	-	-	-	-	2.95E+05
Dimethylhydrazine, 1,1-	57-14-7	-	1	2.23E+05	1.72E+05	3.23E+09	-	-	-	-	2.95E+02
Dimethylhydrazine, 1,2-	540-73-8	-	1	2.31E+05	1.89E+05	3.23E+09	3.75E-01	-	3.69E+00	3.41E-01	-
Dimethylmercury	593-74-8	-	1	5.88E+03	4.14E+03	3.23E+09	-	-	-	-	-
Dimethylphenethylamine	122-09-8	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dimethylphenol, 2,4-	105-67-9	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Dimethylphenol, 2,6-	576-26-1	0.1	1	-	-	3.23E+09	-	-	-	-	1.77E+03
Dimethylphenol, 3,4-	95-65-8	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+03
Dimethylphthalate	131-11-3	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dimethylterephthalate	120-61-6	-	1	2.95E+04	-	3.23E+09	-	-	-	-	2.95E+05
Dimethylvinylchloride	513-37-1	-	1	1.39E+03	1.09E+03	3.23E+09	4.59E+03	-	2.73E+02	2.58E+02	-
Dinitro-o-cresol, 4,6-	534-52-1	0.1	1	-	-	3.23E+09	-	-	-	-	2.36E+02
Dinitro-o-cyclohexyl Phenol, 4,6-	131-89-5	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+03
Dinitroaniline, 3,5-	618-87-1	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dinitrobenzene, 1,2-	528-29-0	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+02
Dinitrobenzene, 1,3-	99-65-0	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+02
Dinitrobenzene, 1,4-	100-25-4	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+02
Dinitrophenol, 2,4-	51-28-5	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+03

Site-specific
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Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Diisopropyl Methylphosphonate	1445-75-6	-	-	2.36E+05	2.36E+05 sat
Dimagnesium phosphate	7782-75-4	-	-	1.43E+08	1.43E+08 max
Dimethipin	55290-64-7	4.67E+05	-	5.24E+04	5.24E+04 nc
Dimethoate	60-51-5	4.67E+03	-	5.24E+02	5.24E+02 nc
Dimethoxybenzidine, 3,3'-	119-90-4	-	-	-	1.15E+02 ca
Dimethyl Sulfate	77-78-1	-	-	-	
Dimethyl Sulfide	75-18-3	-	-	-	
Dimethyl methylphosphonate	756-79-6	1.40E+06	-	1.57E+05	1.08E+05 max
Dimethylamino azobenzene [p-]	60-11-7	-	-	-	3.99E+01 ca
Dimethylaniline HCl, 2,4-	21436-96-4	-	-	-	3.16E+02 ca
Dimethylaniline, 2,4-	95-68-1	4.67E+04	-	5.24E+03	9.17E+02 ca**
Dimethylaniline, N,N-	121-69-7	-	-	5.90E+03	5.90E+03 sat
Dimethylbenz(a)anthracene, 7,12-	57-97-6	-	-	-	7.09E-01 ca
Dimethylbenzidine, 3,3'-	119-93-7	-	-	-	1.67E+01 ca
Dimethylcyclohexylamine, n,n-	98-94-2	-	-	-	
Dimethylethyl Lead	107584-40-7	-	-	-	
Dimethylformamide	68-12-2	-	1.93E+05	1.16E+05	1.16E+05 sat
Dimethylhydrazine, 1,1-	57-14-7	-	1.63E+01	1.54E+01	1.54E+01 nc
Dimethylhydrazine, 1,2-	540-73-8	-	-	-	3.41E-01 ca
Dimethylmercury	593-74-8	-	-	-	
Dimethylphenethylamine	122-09-8	-	-	-	
Dimethylphenol, 2,4-	105-67-9	4.67E+05	-	5.24E+04	5.24E+04 nc
Dimethylphenol, 2,6-	576-26-1	1.40E+04	-	1.57E+03	1.57E+03 nc
Dimethylphenol, 3,4-	95-65-8	2.34E+04	-	2.62E+03	2.62E+03 nc
Dimethylphthalate	131-11-3	-	-	-	
Dimethylterephthalate	120-61-6	-	-	2.95E+05	2.95E+05 max
Dimethylvinylchloride	513-37-1	-	-	-	2.58E+02 ca
Dinitro-o-cresol, 4,6-	534-52-1	1.87E+03	-	2.10E+02	2.10E+02 nc
Dinitro-o-cyclohexyl Phenol, 4,6-	131-89-5	4.67E+04	-	5.24E+03	5.24E+03 nc
Dinitroaniline, 3,5-	618-87-1	-	-	-	
Dinitrobenzene, 1,2-	528-29-0	2.34E+03	-	2.62E+02	2.62E+02 nc
Dinitrobenzene, 1,3-	99-65-0	2.34E+03	-	2.62E+02	2.62E+02 nc
Dinitrobenzene, 1,4-	100-25-4	2.34E+03	-	2.62E+02	2.62E+02 nc
Dinitrophenol, 2,4-	51-28-5	4.67E+04	-	5.24E+03	5.24E+03 nc

Site-specific
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Dinitrophenols	25550-58-7	Yes	No	-		-		-		-		1
Dinitrosopentamethylenetetramine, N,N-	101-25-7	No	No	-		-		-		-		1
Dinitrotoluene Mixture, 2,4/2,6-	NA	No	No	6.80E-01	U	-		-		-		1
Dinitrotoluene, 2,4-	121-14-2	No	No	3.10E-01	U	8.90E-05	U	2.00E-03	U	-		1
Dinitrotoluene, 2,6-	606-20-2	No	No	1.50E+00	U	-		3.00E-04	U	-		1
Dinitrotoluene, 2-Amino-4,6-	35572-78-2	No	No	-		-		2.00E-03	U	-		1
Dinitrotoluene, 4-Amino-2,6-	19406-51-0	No	No	-		-		2.00E-03	U	-		1
Dinitrotoluene, Technical grade	25321-14-6	No	No	4.50E-01	U	-		9.00E-04	U	-		1
Dinoseb	88-85-7	No	No	-		-		1.00E-03	U	-		1
Dioxane, 1,4-	123-91-1	No	Yes	1.00E-01	U	5.00E-06	U	3.00E-02	U	3.00E-02	U	1
Diphenamid	957-51-7	No	No	-		-		3.00E-02	U	-		1
Diphenyl Sulfone	127-63-9	No	No	-		-		8.00E-04	U	-		1
Diphenylamine	122-39-4	No	No	-		-		2.50E-02	U	-		1
Diphenylhydrazine, 1,2-	122-66-7	No	No	8.00E-01	U	2.20E-04	U	-		-		1
Dipotassium phosphate	7758-11-4	No	No	-		-		4.86E+01	U	-		1
Diquat	85-00-7	No	No	-		-		2.20E-03	U	-		1
Direct Black 38	1937-37-7	No	No	7.10E+00	U	1.40E-01	U	-		-		1
Direct Blue 6	2602-46-2	No	No	7.40E+00	U	1.40E-01	U	-		-		1
Direct Brown 95	16071-86-6	No	No	6.70E+00	U	1.40E-01	U	-		-		1
Direct Sky Blue	2610-05-1	No	No	-		-		-		-		1
Disodium phosphate	7558-79-4	No	No	-		-		4.86E+01	U	-		1
Disulfoton	298-04-4	No	No	-		-		4.00E-05	U	-		1
Dithiane, 1,4-	505-29-3	No	Yes	-		-		1.00E-02	U	-		1
Diuron	330-54-1	No	No	-		-		2.00E-03	U	-		1
Dodecyl benzenesulfonic acid	27176-87-0	No	No	-		-		-		-		1
Dodine	2439-10-3	No	No	-		-		4.00E-03	U	-		1
EPTC	759-94-4	No	Yes	-		-		2.50E-02	U	-		1
Endosulfan	115-29-7	No	Yes	-		-		6.00E-03	U	-		1
Endosulfan I	959-98-8	No	Yes	-		-		-		-		1
Endosulfan II	33213-65-9	No	Yes	-		-		-		-		1
Endosulfan Sulfate	1031-07-8	No	No	-		-		-		-		1
Endothall	145-73-3	No	No	-		-		2.00E-02	U	-		1
Endrin	72-20-8	No	No	-		-		3.00E-04	U	-		1
Endrin aldehyde	7421-93-4	No	No	-		-		-		-		1

Site-specific
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Dinitrophenols	25550-58-7	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dinitrosopentamethylenetetramine, N,N-	101-25-7	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dinitrotoluene Mixture, 2,4/2,6-	NA	0.1	1	-	-	3.23E+09	3.04E+02	2.41E+03	-	2.70E+02	-
Dinitrotoluene, 2,4-	121-14-2	0.102	1	-	-	3.23E+09	6.66E+02	5.17E+03	9.28E+07	5.90E+02	5.90E+03
Dinitrotoluene, 2,6-	606-20-2	0.099	1	-	-	3.23E+09	1.38E+02	1.10E+03	-	1.22E+02	8.85E+02
Dinitrotoluene, 2-Amino-4,6-	35572-78-2	0.006	1	-	-	3.23E+09	-	-	-	-	5.90E+03
Dinitrotoluene, 4-Amino-2,6-	19406-51-0	0.009	1	-	-	3.23E+09	-	-	-	-	5.90E+03
Dinitrotoluene, Technical grade	25321-14-6	0.1	1	-	-	3.23E+09	4.59E+02	3.64E+03	-	4.07E+02	2.65E+03
Dinoseb	88-85-7	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+03
Dioxane, 1,4-	123-91-1	-	1	5.47E+04	1.16E+05	3.23E+09	2.06E+03	-	2.80E+04	1.92E+03	8.85E+04
Diphenamid	957-51-7	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+04
Diphenyl Sulfone	127-63-9	0.1	1	-	-	3.23E+09	-	-	-	-	2.36E+03
Diphenylamine	122-39-4	0.1	1	-	-	3.23E+09	-	-	-	-	7.37E+04
Diphenylhydrazine, 1,2-	122-66-7	0.1	1	-	-	3.23E+09	2.58E+02	2.05E+03	3.75E+07	2.29E+02	-
Dipotassium phosphate	7758-11-4	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Diquat	85-00-7	0.1	1	-	-	3.23E+09	-	-	-	-	6.49E+03
Direct Black 38	1937-37-7	0.1	1	-	-	3.23E+09	2.91E+01	2.30E+02	5.90E+04	2.58E+01	-
Direct Blue 6	2602-46-2	0.1	1	-	-	3.23E+09	2.79E+01	2.21E+02	5.90E+04	2.48E+01	-
Direct Brown 95	16071-86-6	0.1	1	-	-	3.23E+09	3.08E+01	2.44E+02	5.90E+04	2.74E+01	-
Direct Sky Blue	2610-05-1	0.1	1	-	-	3.23E+09	-	-	-	-	-
Disodium phosphate	7558-79-4	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Disulfoton	298-04-4	0.1	1	-	-	3.23E+09	-	-	-	-	1.18E+02
Dithiane, 1,4-	505-29-3	-	1	6.26E+04	-	3.23E+09	-	-	-	-	2.95E+04
Diuron	330-54-1	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+03
Dodecyl benzenesulfonic acid	27176-87-0	0.1	1	-	-	3.23E+09	-	-	-	-	-
Dodine	2439-10-3	0.1	1	-	-	3.23E+09	-	-	-	-	1.18E+04
EPTC	759-94-4	-	1	1.62E+05	-	3.23E+09	-	-	-	-	7.37E+04
Endosulfan	115-29-7	-	1	5.65E+05	-	3.23E+09	-	-	-	-	1.77E+04
Endosulfan I	959-98-8	-	1	5.65E+05	-	3.23E+09	-	-	-	-	-
Endosulfan II	33213-65-9	-	1	5.51E+05	-	3.23E+09	-	-	-	-	-
Endosulfan Sulfate	1031-07-8	0.1	1	-	-	3.23E+09	-	-	-	-	-
Endothall	145-73-3	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Endrin	72-20-8	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+02
Endrin aldehyde	7421-93-4	0.1	1	-	-	3.23E+09	-	-	-	-	-

Site-specific
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Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Dinitrophenols	25550-58-7	-	-	-	
Dinitrosopentamethylenetetramine, N,N-	101-25-7	-	-	-	
Dinitrotoluene Mixture, 2,4/2,6-	NA	-	-	-	2.70E+02 ca
Dinitrotoluene, 2,4-	121-14-2	4.58E+04	-	5.23E+03	5.90E+02 ca**
Dinitrotoluene, 2,6-	606-20-2	7.08E+03	-	7.87E+02	1.22E+02 ca**
Dinitrotoluene, 2-Amino-4,6-	35572-78-2	7.79E+05	-	5.85E+03	5.85E+03 nc
Dinitrotoluene, 4-Amino-2,6-	19406-51-0	5.19E+05	-	5.83E+03	5.83E+03 nc
Dinitrotoluene, Technical grade	25321-14-6	2.10E+04	-	2.36E+03	4.07E+02 ca**
Dinoseb	88-85-7	2.34E+04	-	2.62E+03	2.62E+03 nc
Dioxane, 1,4-	123-91-1	-	5.99E+04	3.57E+04	1.92E+03 ca*
Diphenamid	957-51-7	7.01E+05	-	7.86E+04	7.86E+04 nc
Diphenyl Sulfone	127-63-9	1.87E+04	-	2.10E+03	2.10E+03 nc
Diphenylamine	122-39-4	5.84E+05	-	6.55E+04	6.55E+04 nc
Diphenylhydrazine, 1,2-	122-66-7	-	-	-	2.29E+02 ca
Dipotassium phosphate	7758-11-4	-	-	1.43E+08	1.43E+08 max
Diquat	85-00-7	5.14E+04	-	5.76E+03	5.76E+03 nc
Direct Black 38	1937-37-7	-	-	-	2.58E+01 ca
Direct Blue 6	2602-46-2	-	-	-	2.48E+01 ca
Direct Brown 95	16071-86-6	-	-	-	2.74E+01 ca
Direct Sky Blue	2610-05-1	-	-	-	
Disodium phosphate	7558-79-4	-	-	1.43E+08	1.43E+08 max
Disulfoton	298-04-4	9.35E+02	-	1.05E+02	1.05E+02 nc
Dithiane, 1,4-	505-29-3	-	-	2.95E+04	2.95E+04 nc
Diuron	330-54-1	4.67E+04	-	5.24E+03	5.24E+03 nc
Dodecyl benzenesulfonic acid	27176-87-0	-	-	-	
Dodine	2439-10-3	9.35E+04	-	1.05E+04	1.05E+04 nc
EPTC	759-94-4	-	-	7.37E+04	7.37E+04 nc
Endosulfan	115-29-7	-	-	1.77E+04	1.77E+04 nc
Endosulfan I	959-98-8	-	-	-	
Endosulfan II	33213-65-9	-	-	-	
Endosulfan Sulfate	1031-07-8	-	-	-	
Endothall	145-73-3	4.67E+05	-	5.24E+04	5.24E+04 nc
Endrin	72-20-8	7.01E+03	-	7.86E+02	7.86E+02 nc
Endrin aldehyde	7421-93-4	-	-	-	

Site-specific
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Endrin ketone	53494-70-5	No	No	-		-		-		-		1
Epichlorohydrin	106-89-8	No	Yes	9.90E-03	U	1.20E-06	U	6.00E-03	U	1.00E-03	U	1
Epoxybutane, 1,2-	106-88-7	No	Yes	-		-		-		2.00E-02	U	1
Ethanol	64-17-5	No	Yes	-		-		-		-		1
Ethanol, 2-(2-methoxyethoxy)-	111-77-3	No	No	-		-		-		-		1
Ethephon	16672-87-0	No	No	-		-		5.00E-03	U	-		1
Ethion	563-12-2	No	No	-		-		5.00E-04	U	-		1
Ethoxy Propanol	52125-53-8	No	Yes	-		-		-		-		1
Ethoxyethanol Acetate, 2-	111-15-9	No	Yes	-		-		1.00E-01	U	6.00E-02	U	1
Ethoxyethanol, 2-	110-80-5	No	Yes	-		-		9.00E-02	U	2.00E-01	U	1
Ethyl Acetate	141-78-6	No	Yes	-		-		9.00E-01	U	7.00E-02	U	1
Ethyl Acrylate	140-88-5	No	Yes	4.80E-02	U	-		5.00E-03	U	8.00E-03	U	1
Ethyl Chloride	75-00-3	No	Yes	-		-		-		1.00E+01	U	1
Ethyl Ether	60-29-7	No	Yes	-		-		2.00E-01	U	-		1
Ethyl Methacrylate	97-63-2	No	Yes	-		-		9.00E-02	U	3.00E-01	U	1
Ethyl methane sulfonate	62-50-0	No	No	-		-		-		-		1
Ethyl-p-nitrophenyl Phosphonate	2104-64-5	No	No	-		-		1.00E-05	U	-		1
Ethylbenzene	100-41-4	No	Yes	1.10E-02	U	2.50E-06	U	1.00E-01	U	1.00E+00	U	1
Ethylene Cyanohydrin	109-78-4	No	No	-		-		7.00E-02	U	-		1
Ethylene Diamine	107-15-3	No	Yes	-		-		9.00E-02	U	-		1
Ethylene Glycol	107-21-1	No	No	-		-		2.00E+00	U	4.00E-01	U	1
Ethylene Glycol Monobutyl Ether	111-76-2	No	No	-		-		1.00E-01	U	1.60E+00	U	1
Ethylene Oxide	75-21-8	No	Yes	3.10E-01	U	8.80E-05	U	-		3.00E-02	U	1
Ethylene Thiourea	96-45-7	No	No	4.50E-02	U	1.30E-05	U	8.00E-05	U	-		1
Ethyleneimine	151-56-4	No	Yes	6.50E+01	U	1.90E-02	U	-		-		1
Ethylphenol, 4-	123-07-9	No	No	-		-		-		-		1
Ethylphthalyl Ethyl Glycolate	84-72-0	No	No	-		-		3.00E+00	U	-		1
Express	101200-48-0	No	No	-		-		8.00E-03	U	-		1
Famphur	52-85-7	No	No	-		-		-		-		1
Fenamiphos	22224-92-6	No	No	-		-		2.50E-04	U	-		1
Fenpropathrin	39515-41-8	No	No	-		-		2.50E-02	U	-		1
Fluometuron	2164-17-2	No	No	-		-		1.30E-02	U	-		1
Fluoranthene	206-44-0	No	No	-		-		4.00E-02	U	-		1
Fluorene	86-73-7	No	Yes	-		-		4.00E-02	U	-		1

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Endrin ketone	53494-70-5	0.1	1	-	-	3.23E+09	-	-	-	-	-
Epichlorohydrin	106-89-8	-	1	2.61E+04	1.05E+04	3.23E+09	2.09E+04	-	5.55E+04	1.52E+04	1.77E+04
Epoxybutane, 1,2-	106-88-7	-	1	1.06E+04	1.53E+04	3.23E+09	-	-	-	-	-
Ethanol	64-17-5	-	1	4.34E+04	1.06E+05	3.23E+09	-	-	-	-	-
Ethanol, 2-(2-methoxyethoxy)-	111-77-3	0.1	1	-	-	3.23E+09	-	-	-	-	-
Ethephon	16672-87-0	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+04
Ethion	563-12-2	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+03
Ethoxy Propanol	52125-53-8	-	1	1.26E+05	8.55E+04	3.23E+09	-	-	-	-	-
Ethoxyethanol Acetate, 2-	111-15-9	-	1	8.47E+04	3.14E+04	3.23E+09	-	-	-	-	2.95E+05
Ethoxyethanol, 2-	110-80-5	-	1	1.36E+05	1.06E+05	3.23E+09	-	-	-	-	2.65E+05
Ethyl Acetate	141-78-6	-	1	1.19E+04	1.08E+04	3.23E+09	-	-	-	-	2.65E+06
Ethyl Acrylate	140-88-5	-	1	8.74E+03	2.50E+03	3.23E+09	4.30E+03	-	-	4.30E+03	1.47E+04
Ethyl Chloride	75-00-3	-	1	1.78E+03	2.12E+03	3.23E+09	-	-	-	-	-
Ethyl Ether	60-29-7	-	1	4.31E+03	1.01E+04	3.23E+09	-	-	-	-	5.90E+05
Ethyl Methacrylate	97-63-2	-	1	7.97E+03	1.11E+03	3.23E+09	-	-	-	-	2.65E+05
Ethyl methane sulfonate	62-50-0	0.1	1	-	-	3.23E+09	-	-	-	-	-
Ethyl-p-nitrophenyl Phosphonate	2104-64-5	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+01
Ethylbenzene	100-41-4	-	1	7.82E+03	4.79E+02	3.23E+09	1.88E+04	-	7.99E+03	5.60E+03	2.95E+05
Ethylene Cyanohydrin	109-78-4	0.1	1	-	-	3.23E+09	-	-	-	-	2.06E+05
Ethylene Diamine	107-15-3	-	1	2.48E+05	1.89E+05	3.23E+09	-	-	-	-	2.65E+05
Ethylene Glycol	107-21-1	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+06
Ethylene Glycol Monobutyl Ether	111-76-2	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+05
Ethylene Oxide	75-21-8	-	1	8.40E+03	1.21E+05	3.23E+09	6.66E+02	-	2.44E+02	1.78E+02	-
Ethylene Thiourea	96-45-7	0.1	1	-	-	3.23E+09	4.59E+03	3.64E+04	6.35E+08	4.07E+03	2.36E+02
Ethyleneimine	151-56-4	-	1	3.29E+04	1.54E+05	3.23E+09	3.18E+00	-	4.43E+00	1.85E+00	-
Ethylphenol, 4-	123-07-9	0.1	1	-	-	3.23E+09	-	-	-	-	-
Ethylphthalyl Ethyl Glycolate	84-72-0	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+06
Express	101200-48-0	0.1	1	-	-	3.23E+09	-	-	-	-	2.36E+04
Famphur	52-85-7	0.1	1	-	-	3.23E+09	-	-	-	-	-
Fenamiphos	22224-92-6	0.1	1	-	-	3.23E+09	-	-	-	-	7.37E+02
Fenpropathrin	39515-41-8	0.1	1	-	-	3.23E+09	-	-	-	-	7.37E+04
Fluometuron	2164-17-2	0.1	1	-	-	3.23E+09	-	-	-	-	3.83E+04
Fluoranthene	206-44-0	0.13	1	-	-	3.23E+09	-	-	-	-	1.18E+05
Fluorene	86-73-7	0.13	1	3.88E+05	-	3.23E+09	-	-	-	-	1.18E+05

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Endrin ketone	53494-70-5	-	-	-	
Epichlorohydrin	106-89-8	-	9.52E+02	9.03E+02	9.03E+02 nc
Epoxybutane, 1,2-	106-88-7	-	7.71E+03	7.71E+03	7.71E+03 nc
Ethanol	64-17-5	-	-	-	
Ethanol, 2-(2-methoxyethoxy)-	111-77-3	-	-	-	
Ethephon	16672-87-0	1.17E+05	-	1.31E+04	1.31E+04 nc
Ethion	563-12-2	1.17E+04	-	1.31E+03	1.31E+03 nc
Ethoxy Propanol	52125-53-8	-	-	-	
Ethoxyethanol Acetate, 2-	111-15-9	-	1.86E+05	1.14E+05	1.14E+05 sat
Ethoxyethanol, 2-	110-80-5	-	9.91E+05	2.09E+05	2.09E+05 sat
Ethyl Acetate	141-78-6	-	3.04E+04	3.00E+04	3.00E+04 sat
Ethyl Acrylate	140-88-5	-	2.55E+03	2.18E+03	2.18E+03 nc
Ethyl Chloride	75-00-3	-	6.51E+05	6.51E+05	6.51E+05 sat
Ethyl Ether	60-29-7	-	-	5.90E+05	5.90E+05 sat
Ethyl Methacrylate	97-63-2	-	8.73E+04	6.57E+04	6.57E+04 sat
Ethyl methane sulfonate	62-50-0	-	-	-	
Ethyl-p-nitrophenyl Phosphonate	2104-64-5	2.34E+02	-	2.62E+01	2.62E+01 nc
Ethylbenzene	100-41-4	-	2.85E+05	1.45E+05	5.60E+03 sat
Ethylene Cyanohydrin	109-78-4	1.64E+06	-	1.83E+05	1.83E+05 max
Ethylene Diamine	107-15-3	-	-	2.65E+05	2.65E+05 sat
Ethylene Glycol	107-21-1	4.67E+07	4.72E+10	5.24E+06	5.24E+06 max
Ethylene Glycol Monobutyl Ether	111-76-2	2.34E+06	1.89E+11	2.62E+05	2.62E+05 max
Ethylene Oxide	75-21-8	-	9.19E+03	9.19E+03	1.78E+02 ca*
Ethylene Thiourea	96-45-7	1.87E+03	-	2.10E+02	2.10E+02 nc
Ethyleneimine	151-56-4	-	-	-	1.85E+00 ca
Ethylphenol, 4-	123-07-9	-	-	-	
Ethylphthalyl Ethyl Glycolate	84-72-0	7.01E+07	-	7.86E+06	7.86E+06 max
Express	101200-48-0	1.87E+05	-	2.10E+04	2.10E+04 nc
Famphur	52-85-7	-	-	-	
Fenamiphos	22224-92-6	5.84E+03	-	6.55E+02	6.55E+02 nc
Fenpropathrin	39515-41-8	5.84E+05	-	6.55E+04	6.55E+04 nc
Fluometuron	2164-17-2	3.04E+05	-	3.40E+04	3.40E+04 nc
Fluoranthene	206-44-0	7.19E+05	-	1.01E+05	1.01E+05 max
Fluorene	86-73-7	7.19E+05	-	1.01E+05	1.01E+05 max

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR UTILITY WORKER
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Fluoride	16984-48-8	No	No	-		-		4.00E-02	U	1.30E-02	U	1
Fluorine (Soluble Fluoride)	7782-41-4	No	No	-		-		6.00E-02	U	1.30E-02	U	1
Fluorobenzene	462-06-6	No	Yes	-		-		-		-		1
Fluorobiphenyl, 2-	321-60-8	No	Yes	-		-		-		-		1
Fluorophenol, 2-	367-12-4	No	Yes	-		-		-		-		1
Fluridone	59756-60-4	No	No	-		-		8.00E-02	U	-		1
Flurprimidol	56425-91-3	No	No	-		-		2.00E-02	U	-		1
Flutolanil	66332-96-5	No	No	-		-		6.00E-02	U	-		1
Fluvalinate	69409-94-5	No	No	-		-		1.00E-02	U	-		1
Folpet	133-07-3	No	No	3.50E-03	U	-		1.00E-01	U	-		1
Fomesafen	72178-02-0	No	No	1.90E-01	U	-		-		-		1
Fonofos	944-22-9	No	No	-		-		2.00E-03	U	-		1
Formaldehyde	50-00-0	No	Yes	-		1.30E-05	U	2.00E-01	U	9.83E-03	U	1
Formic Acid	64-18-6	No	Yes	-		-		9.00E-01	U	3.00E-04	U	1
Fosetyl-AL	39148-24-8	No	No	-		-		3.00E+00	U	-		1
Fuel Oil Number 2	68476-30-2	No	No	-		-		-		-		1
Furan	110-00-9	No	Yes	-		-		1.00E-03	U	-		1
Furazolidone	67-45-8	No	No	3.80E+00	U	-		-		-		1
Furfural	98-01-1	No	Yes	-		-		3.00E-03	U	5.00E-02	U	1
Furium	531-82-8	No	No	1.50E+00	U	4.30E-04	U	-		-		1
Furmecyclox	60568-05-0	No	No	3.00E-02	U	8.60E-06	U	-		-		1
Gadolinium	7440-54-2	No	No	-		-		-		-		1
Gallium	7440-55-3	No	No	-		-		-		-		1
Germanium	7440-56-4	No	No	-		-		-		-		1
Glufosinate, Ammonium	77182-82-2	No	No	-		-		4.00E-04	U	-		1
Glutaraldehyde	111-30-8	No	No	-		-		-		8.00E-05	U	1
Glycerol	56-81-5	No	No	-		-		-		-		1
Glycidyl	765-34-4	No	Yes	-		-		4.00E-04	U	1.00E-03	U	1
Glyphosate	1071-83-6	No	No	-		-		1.00E-01	U	-		1
Goal	42874-03-3	No	No	-		-		3.00E-03	U	-		1
Guanidine	113-00-8	No	Yes	-		-		1.00E-02	U	-		1
Guanidine Chloride	50-01-1	No	No	-		-		2.00E-02	U	-		1
Guanidine Nitrate	506-93-4	No	No	-		-		-		-		1
Guthion	86-50-0	No	No	-		-		3.00E-03	U	1.00E-02	U	1

Site-specific
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Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Fluoride	16984-48-8	-	1	-	-	3.23E+09	-	-	-	-	1.18E+05
Fluorine (Soluble Fluoride)	7782-41-4	-	1	-	-	3.23E+09	-	-	-	-	1.77E+05
Fluorobenzene	462-06-6	-	1	6.49E+03	2.39E+03	3.23E+09	-	-	-	-	-
Fluorobiphenyl, 2-	321-60-8	-	1	1.08E+05	-	3.23E+09	-	-	-	-	-
Fluorophenol, 2-	367-12-4	-	1	2.93E+05	9.21E+04	3.23E+09	-	-	-	-	-
Fluridone	59756-60-4	0.1	1	-	-	3.23E+09	-	-	-	-	2.36E+05
Flurprimidol	56425-91-3	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Flutolanil	66332-96-5	0.1	1	-	-	3.23E+09	-	-	-	-	1.77E+05
Fluvalinate	69409-94-5	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+04
Folpet	133-07-3	0.1	1	-	-	3.23E+09	5.90E+04	4.67E+05	-	5.24E+04	2.95E+05
Fomesafen	72178-02-0	0.1	1	-	-	3.23E+09	1.09E+03	8.61E+03	-	9.65E+02	-
Fonofos	944-22-9	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+03
Formaldehyde	50-00-0	-	1	1.07E+05	4.24E+04	3.23E+09	-	-	2.11E+04	2.11E+04	5.90E+05
Formic Acid	64-18-6	-	1	1.28E+05	1.06E+05	3.23E+09	-	-	-	-	2.65E+06
Fosetyl-AL	39148-24-8	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+06
Fuel Oil Number 2	68476-30-2	0.1	1	-	-	3.23E+09	-	-	-	-	-
Furan	110-00-9	0.03	1	3.60E+03	6.22E+03	3.23E+09	-	-	-	-	2.95E+03
Furazolidone	67-45-8	0.1	1	-	-	3.23E+09	5.43E+01	4.31E+02	-	4.82E+01	-
Furfural	98-01-1	-	1	6.71E+04	1.01E+04	3.23E+09	-	-	-	-	8.85E+03
Furium	531-82-8	0.1	1	-	-	3.23E+09	1.38E+02	1.09E+03	1.92E+07	1.22E+02	-
Furmecyclox	60568-05-0	0.1	1	-	-	3.23E+09	6.88E+03	5.45E+04	9.61E+08	6.11E+03	-
Gadolinium	7440-54-2	-	1	-	-	3.23E+09	-	-	-	-	-
Gallium	7440-55-3	-	1	-	-	3.23E+09	-	-	-	-	-
Germanium	7440-56-4	-	1	-	-	3.23E+09	-	-	-	-	-
Glufosinate, Ammonium	77182-82-2	0.1	1	-	-	3.23E+09	-	-	-	-	1.18E+03
Glutaraldehyde	111-30-8	0.1	1	-	-	3.23E+09	-	-	-	-	-
Glycerol	56-81-5	0.1	1	-	-	3.23E+09	-	-	-	-	-
Glycidyl	765-34-4	-	1	1.01E+05	1.06E+05	3.23E+09	-	-	-	-	1.18E+03
Glyphosate	1071-83-6	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+05
Goal	42874-03-3	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+03
Guanidine	113-00-8	-	1	2.00E+05	-	3.23E+09	-	-	-	-	2.95E+04
Guanidine Chloride	50-01-1	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Guanidine Nitrate	506-93-4	0.1	1	-	-	3.23E+09	-	-	-	-	-
Guthion	86-50-0	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+03

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Fluoride	16984-48-8	-	1.53E+09	1.18E+05	1.18E+05 max
Fluorine (Soluble Fluoride)	7782-41-4	-	1.53E+09	1.77E+05	1.77E+05 max
Fluorobenzene	462-06-6	-	-	-	
Fluorobiphenyl, 2-	321-60-8	-	-	-	
Fluorophenol, 2-	367-12-4	-	-	-	
Fluridone	59756-60-4	1.87E+06	-	2.10E+05	2.10E+05 max
Flurprimidol	56425-91-3	4.67E+05	-	5.24E+04	5.24E+04 nc
Flutolanil	66332-96-5	1.40E+06	-	1.57E+05	1.57E+05 max
Fluvalinate	69409-94-5	2.34E+05	-	2.62E+04	2.62E+04 nc
Folpet	133-07-3	2.34E+06	-	2.62E+05	5.24E+04 ca**
Fomesafen	72178-02-0	-	-	-	9.65E+02 ca
Fonofos	944-22-9	4.67E+04	-	5.24E+03	5.24E+03 nc
Formaldehyde	50-00-0	-	3.85E+04	3.61E+04	2.11E+04 ca**
Formic Acid	64-18-6	-	1.40E+03	1.40E+03	1.40E+03 nc
Fosetyl-AL	39148-24-8	7.01E+07	-	7.86E+06	7.86E+06 max
Fuel Oil Number 2	68476-30-2	-	-	-	
Furan	110-00-9	7.79E+04	-	2.84E+03	2.84E+03 nc
Furazolidone	67-45-8	-	-	-	4.82E+01 ca
Furfural	98-01-1	-	1.22E+05	8.25E+03	8.25E+03 nc
Furium	531-82-8	-	-	-	1.22E+02 ca
Furmecyclox	60568-05-0	-	-	-	6.11E+03 ca
Gadolinium	7440-54-2	-	-	-	
Gallium	7440-55-3	-	-	-	
Germanium	7440-56-4	-	-	-	
Glufosinate, Ammonium	77182-82-2	9.35E+03	-	1.05E+03	1.05E+03 nc
Glutaraldehyde	111-30-8	-	9.44E+06	9.44E+06	9.44E+06 max
Glycerol	56-81-5	-	-	-	
Glycidyl	765-34-4	-	3.70E+03	8.94E+02	8.94E+02 nc
Glyphosate	1071-83-6	2.34E+06	-	2.62E+05	2.62E+05 max
Goal	42874-03-3	7.01E+04	-	7.86E+03	7.86E+03 nc
Guanidine	113-00-8	-	-	2.95E+04	2.95E+04 nc
Guanidine Chloride	50-01-1	4.67E+05	-	5.24E+04	5.24E+04 nc
Guanidine Nitrate	506-93-4	-	-	-	
Guthion	86-50-0	7.01E+04	1.18E+09	7.86E+03	7.86E+03 nc

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR UTILITY WORKER
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
HCDD, 1,2,3,4,6,7,8,-	35822-46-9	No	Yes	1.30E+03	U	3.80E-01	U	1.00E-06	U	4.00E-06	U	1
Haloacetic acids	NA	No	No	-		-		-		-		1
Haloxyfop, Methyl	69806-40-2	No	No	-		-		5.00E-05	U	-		1
Harmony	79277-27-3	No	No	-		-		1.30E-02	U	-		1
Heptachlor	76-44-8	No	Yes	4.50E+00	U	1.30E-03	U	5.00E-04	U	-		1
Heptachlor Epoxide	1024-57-3	No	Yes	9.10E+00	U	2.60E-03	U	1.30E-05	U	-		1
Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	39635-31-9	No	Yes	3.90E+00	U	1.14E-03	U	2.33E-05	U	1.33E-03	U	1
Heptachlorodibenzofuran, 1,2,3,4,6,7,8-	67562-39-4	No	Yes	1.30E+03	U	3.80E-01	U	7.00E-08	U	4.00E-06	U	1
Heptanal, n-	111-71-7	No	Yes	-		-		-		-		1
Heptane, N-	142-82-5	No	Yes	-		-		-		-		1
Heptanol, n-	111-70-6	No	Yes	-		-		-		-		1
Hexabromobenzene	87-82-1	No	Yes	-		-		2.00E-03	U	-		1
Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	68631-49-2	No	No	-		-		2.00E-04	U	-		1
Hexachlorobenzene	118-74-1	No	Yes	1.60E+00	U	4.60E-04	U	8.00E-04	U	-		1
Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	52663-72-6	No	Yes	3.90E+00	U	1.14E-03	U	2.33E-05	U	1.33E-03	U	1
Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	69782-90-7	No	Yes	3.90E+00	U	1.14E-03	U	2.33E-05	U	1.33E-03	U	1
Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	38380-08-4	No	Yes	3.90E+00	U	1.14E-03	U	2.33E-05	U	1.33E-03	U	1
Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	32774-16-6	No	Yes	3.90E+03	U	1.14E+00	U	2.33E-08	U	1.33E-06	U	1
Hexachlorobutadiene	87-68-3	No	Yes	7.80E-02	U	2.20E-05	U	1.00E-03	U	-		1
Hexachlorocyclohexane, Alpha-	319-84-6	No	No	6.30E+00	U	1.80E-03	U	8.00E-03	U	-		1
Hexachlorocyclohexane, Beta-	319-85-7	No	No	1.80E+00	U	5.30E-04	U	-		-		1
Hexachlorocyclohexane, Delta-	319-86-8	No	No	-		-		-		-		1
Hexachlorocyclohexane, Epsilon	6108-10-7	No	No	-		-		-		-		1
Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9	No	No	1.10E+00	U	3.10E-04	U	3.00E-04	U	-		1
Hexachlorocyclohexane, Technical	608-73-1	No	No	1.80E+00	U	5.10E-04	U	-		-		1
Hexachlorocyclopentadiene	77-47-4	No	Yes	-		-		6.00E-03	U	2.00E-04	U	1
Hexachlorodibenzo-p-dioxin	34465-46-8	No	No	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
Hexachlorodibenzo-p-dioxin, 1,2,3,4,7,8-	39227-28-6	No	Yes	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
Hexachlorodibenzo-p-dioxin, Mixture	NA	No	No	6.20E+03	U	1.30E+00	U	-		-		1
Hexachlorodibenzofuran, 1,2,3,4,7,8-	70648-26-9	No	Yes	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
Hexachloroethane	67-72-1	No	Yes	4.00E-02	U	1.10E-05	U	7.00E-04	U	3.00E-02	U	1
Hexachlorophene	70-30-4	No	No	-		-		3.00E-04	U	-		1

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
HCDD, 1,2,3,4,6,7,8,-	35822-46-9	-	1	4.52E+06	-	3.23E+09	1.59E-01	-	3.04E+01	1.58E-01	2.95E+00
Haloacetic acids	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Haloxyfop, Methyl	69806-40-2	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+02
Harmony	79277-27-3	0.1	1	-	-	3.23E+09	-	-	-	-	3.83E+04
Heptachlor	76-44-8	-	1	6.62E+05	-	3.23E+09	4.59E+01	-	1.30E+03	4.43E+01	1.47E+03
Heptachlor Epoxide	1024-57-3	-	1	1.16E+06	-	3.23E+09	2.27E+01	-	1.14E+03	2.22E+01	3.83E+01
Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	39635-31-9	0.14	1	2.81E+06	-	3.23E+09	5.29E+01	3.00E+02	6.29E+03	4.47E+01	6.87E+01
Heptachlorodibenzofuran, 1,2,3,4,6,7,8-	67562-39-4	0.03	1	1.15E+07	-	3.23E+09	1.59E-01	4.20E+00	7.74E+01	1.53E-01	2.06E-01
Heptanal, n-	111-71-7	-	1	1.08E+04	2.09E+02	3.23E+09	-	-	-	-	-
Heptane, N-	142-82-5	-	1	1.23E+03	5.79E+01	3.23E+09	-	-	-	-	-
Heptanol, n-	111-70-6	-	1	4.73E+04	3.78E+02	3.23E+09	-	-	-	-	-
Hexabromobenzene	87-82-1	-	1	5.24E+05	-	3.23E+09	-	-	-	-	5.90E+03
Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	68631-49-2	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+02
Hexachlorobenzene	118-74-1	-	1	9.37E+04	-	3.23E+09	1.29E+02	-	5.21E+02	1.03E+02	2.36E+03
Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	52663-72-6	0.14	1	1.98E+06	-	3.23E+09	5.29E+01	3.00E+02	4.43E+03	4.45E+01	6.87E+01
Hexachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 157)	69782-90-7	0.14	1	2.00E+06	-	3.23E+09	5.29E+01	3.00E+02	4.48E+03	4.45E+01	6.87E+01
Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	38380-08-4	0.14	1	2.13E+06	-	3.23E+09	5.29E+01	3.00E+02	4.77E+03	4.46E+01	6.87E+01
Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	32774-16-6	0.14	1	1.98E+06	-	3.23E+09	5.29E-02	3.00E-01	4.43E+00	4.45E-02	6.87E-02
Hexachlorobutadiene	87-68-3	-	1	1.49E+04	1.68E+01	3.23E+09	2.65E+03	-	1.73E+03	1.05E+03	2.95E+03
Hexachlorocyclohexane, Alpha-	319-84-6	0.1	1	-	-	3.23E+09	3.28E+01	2.60E+02	4.59E+06	2.91E+01	2.36E+04
Hexachlorocyclohexane, Beta-	319-85-7	0.1	1	-	-	3.23E+09	1.15E+02	9.09E+02	1.56E+07	1.02E+02	-
Hexachlorocyclohexane, Delta-	319-86-8	0.1	1	-	-	3.23E+09	-	-	-	-	-
Hexachlorocyclohexane, Epsilon	6108-10-7	0.1	1	-	-	3.23E+09	-	-	-	-	-
Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9	0.04	1	-	-	3.23E+09	1.88E+02	3.72E+03	2.66E+07	1.79E+02	8.85E+02
Hexachlorocyclohexane, Technical	608-73-1	0.1	1	-	-	3.23E+09	1.15E+02	9.09E+02	1.62E+07	1.02E+02	-
Hexachlorocyclopentadiene	77-47-4	-	1	1.18E+04	1.57E+01	3.23E+09	-	-	-	-	1.77E+04
Hexachlorodibenzo-p-dioxin	34465-46-8	0.03	1	-	-	3.23E+09	1.59E-02	4.20E-01	2.17E+03	1.53E-02	2.06E-02
Hexachlorodibenzo-p-dioxin, 1,2,3,4,7,8-	39227-28-6	0.03	1	6.59E+06	-	3.23E+09	1.59E-02	4.20E-01	4.42E+00	1.52E-02	2.06E-02
Hexachlorodibenzo-p-dioxin, Mixture	NA	0.03	1	-	-	3.23E+09	3.33E-02	8.80E-01	6.35E+03	3.21E-02	-
Hexachlorodibenzofuran, 1,2,3,4,7,8-	70648-26-9	0.03	1	5.38E+06	-	3.23E+09	1.59E-02	4.20E-01	3.61E+00	1.52E-02	2.06E-02
Hexachloroethane	67-72-1	-	1	1.10E+04	-	3.23E+09	5.16E+03	-	2.57E+03	1.71E+03	2.06E+03
Hexachlorophene	70-30-4	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+02

Site-specific
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Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
HCDD, 1,2,3,4,6,7,8,-	35822-46-9	-	6.59E+02	2.94E+00	1.58E-01 ca*
Haloacetic acids	NA	-	-	-	
Haloxyfop, Methyl	69806-40-2	1.17E+03	-	1.31E+02	1.31E+02 nc
Harmony	79277-27-3	3.04E+05	-	3.40E+04	3.40E+04 nc
Heptachlor	76-44-8	-	-	1.47E+03	4.43E+01 ca*
Heptachlor Epoxide	1024-57-3	-	-	3.83E+01	2.22E+01 ca**
Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	39635-31-9	3.89E+02	1.36E+05	5.84E+01	4.47E+01 ca**
Heptachlorodibenzofuran, 1,2,3,4,6,7,8-	67562-39-4	5.45E+00	1.68E+03	1.99E-01	1.53E-01 ca**
Heptanal, n-	111-71-7	-	-	-	
Heptane, N-	142-82-5	-	-	-	
Heptanol, n-	111-70-6	-	-	-	
Hexabromobenzene	87-82-1	-	-	5.90E+03	5.90E+03 nc
Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	68631-49-2	4.67E+03	-	5.24E+02	5.24E+02 nc
Hexachlorobenzene	118-74-1	-	-	2.36E+03	1.03E+02 ca*
Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	52663-72-6	3.89E+02	9.59E+04	5.84E+01	4.45E+01 ca**
Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	69782-90-7	3.89E+02	9.71E+04	5.84E+01	4.45E+01 ca**
Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	38380-08-4	3.89E+02	1.03E+05	5.84E+01	4.46E+01 ca**
Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	32774-16-6	3.89E-01	9.59E+01	5.84E-02	4.45E-02 ca**
Hexachlorobutadiene	87-68-3	-	-	2.95E+03	1.05E+03 sat
Hexachlorocyclohexane, Alpha-	319-84-6	1.87E+05	-	2.10E+04	2.91E+01 ca
Hexachlorocyclohexane, Beta-	319-85-7	-	-	-	1.02E+02 ca
Hexachlorocyclohexane, Delta-	319-86-8	-	-	-	
Hexachlorocyclohexane, Epsilon	6108-10-7	-	-	-	
Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9	1.75E+04	-	8.42E+02	1.79E+02 ca**
Hexachlorocyclohexane, Technical	608-73-1	-	-	-	1.02E+02 ca
Hexachlorocyclopentadiene	77-47-4	-	8.58E+01	8.54E+01	8.54E+01 sat
Hexachlorodibenzo-p-dioxin	34465-46-8	5.45E-01	4.72E+04	1.99E-02	1.53E-02 ca**
Hexachlorodibenzo-p-dioxin, 1,2,3,4,7,8-	39227-28-6	5.45E-01	9.61E+01	1.99E-02	1.52E-02 ca**
Hexachlorodibenzo-p-dioxin, Mixture	NA	-	-	-	3.21E-02 ca
Hexachlorodibenzofuran, 1,2,3,4,7,8-	70648-26-9	5.45E-01	7.85E+01	1.99E-02	1.52E-02 ca**
Hexachloroethane	67-72-1	-	1.21E+04	1.76E+03	1.71E+03 ca**
Hexachlorophene	70-30-4	7.01E+03	-	7.86E+02	7.86E+02 nc

Site-specific
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Hexachloropropene	1888-71-7	No	Yes	-		-		-		-		1
Hexadecanoic Acid	57-10-3	No	Yes	-		-		-		-		1
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4	No	No	1.10E-01	U	-		3.00E-03	U	-		1
Hexamethylene Diisocyanate, 1,6-	822-06-0	No	Yes	-		-		-		1.00E-05	U	1
Hexamethylphosphoramide	680-31-9	No	No	-		-		4.00E-04	U	-		1
Hexane, N-	110-54-3	No	Yes	-		-		6.00E-02	U	7.00E-01	U	1
Hexanedioic Acid	124-04-9	No	No	-		-		2.00E+00	U	-		1
Hexanol, n-	111-27-3	No	Yes	-		-		-		-		1
Hexanone, 2-	591-78-6	No	Yes	-		-		5.00E-03	U	3.00E-02	U	1
Hexazinone	51235-04-2	No	No	-		-		3.30E-02	U	-		1
HpCDD, 2,3,7,8-	37871-00-4	No	Yes	1.30E+03	U	3.80E-01	U	7.00E-08	U	4.00E-06	U	1
HpCDF, 1,2,3,4,7,8,9-	55673-89-7	No	Yes	1.30E+03	U	3.80E-01	U	7.00E-08	U	4.00E-06	U	1
HpCDF, 2,3,7,8-	38998-75-3	No	Yes	1.30E+03	U	3.80E-01	U	7.00E-08	U	4.00E-06	U	1
HxCDD, 1,2,3,6,7,8-	57653-85-7	No	Yes	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
HxCDD, 1,2,3,7,8,9-	19408-74-3	No	Yes	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
HxCDF, 1,2,3,6,7,8-	57117-44-9	No	Yes	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
HxCDF, 1,2,3,7,8,9-	72918-21-9	No	No	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
HxCDF, 2,3,4,6,7,8-	60851-34-5	No	Yes	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
HxCDF, 2,3,7,8-	55684-94-1	No	No	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
Hydrazine	302-01-2	No	Yes	3.00E+00	U	4.90E-03	U	-		3.00E-05	U	1
Hydrazine Sulfate	10034-93-2	No	No	3.00E+00	U	4.90E-03	U	-		-		1
Hydrogen Chloride	7647-01-0	No	Yes	-		-		-		2.00E-02	U	1
Hydrogen Cyanide	74-90-8	No	Yes	-		-		6.00E-04	U	8.00E-04	U	1
Hydrogen Fluoride	7664-39-3	No	Yes	-		-		4.00E-02	U	1.40E-02	U	1
Hydrogen Selenide	77830-70-5	No	No	-		-		-		-		1
Hydrogen Sulfate	12143-45-2	No	No	-		-		-		-		1
Hydrogen Sulfide	7783-06-4	No	Yes	-		-		-		2.00E-03	U	1
Hydroquinone	123-31-9	No	No	6.00E-02	U	-		4.00E-02	U	-		1
Imazalil	35554-44-0	No	No	-		-		1.30E-02	U	-		1
Imazaquin	81335-37-7	No	No	-		-		2.50E-01	U	-		1
Indeno[1,2,3-cd]pyrene	193-39-5	Yes	No	7.30E-01	U	1.10E-04	U	-		-		1
Indium	7440-74-6	No	No	-		-		-		-		1
Iodide	20461-54-5	No	No	-		-		-		-		1
Iodine	7553-56-2	No	No	-		-		1.00E-02	U	-		1

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Hexachloropropene	1888-71-7	-	1	1.48E+04	4.37E+01	3.23E+09	-	-	-	-	-
Hexadecanoic Acid	57-10-3	-	1	7.66E+05	-	3.23E+09	-	-	-	-	-
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4	0.015	1	-	-	3.23E+09	1.88E+03	9.92E+04	-	1.84E+03	8.85E+03
Hexamethylene Diisocyanate, 1,6-	822-06-0	-	1	4.15E+05	5.19E+03	3.23E+09	-	-	-	-	-
Hexamethylphosphoramide	680-31-9	0.1	1	-	-	3.23E+09	-	-	-	-	1.18E+03
Hexane, N-	110-54-3	-	1	1.14E+03	1.41E+02	3.23E+09	-	-	-	-	1.77E+05
Hexanedioic Acid	124-04-9	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+06
Hexanol, n-	111-27-3	-	1	4.03E+04	9.98E+02	3.23E+09	-	-	-	-	-
Hexanone, 2-	591-78-6	-	1	1.83E+04	3.28E+03	3.23E+09	-	-	-	-	1.47E+04
Hexazinone	51235-04-2	0.1	1	-	-	3.23E+09	-	-	-	-	9.73E+04
HpCDD, 2,3,7,8-	37871-00-4	0.03	1	3.36E+06	-	3.23E+09	1.59E-01	4.20E+00	2.26E+01	1.52E-01	2.06E-01
HpCDF, 1,2,3,4,7,8,9-	55673-89-7	0.03	1	1.15E+07	-	3.23E+09	1.59E-01	4.20E+00	7.74E+01	1.53E-01	2.06E-01
HpCDF, 2,3,7,8-	38998-75-3	0.03	1	1.15E+07	-	3.23E+09	1.59E-01	4.20E+00	7.74E+01	1.53E-01	2.06E-01
HxCDD, 1,2,3,6,7,8-	57653-85-7	0.03	1	6.59E+06	-	3.23E+09	1.59E-02	4.20E-01	4.42E+00	1.52E-02	2.06E-02
HxCDD, 1,2,3,7,8,9-	19408-74-3	0.03	1	6.59E+06	-	3.23E+09	1.59E-02	4.20E-01	4.42E+00	1.52E-02	2.06E-02
HxCDF, 1,2,3,6,7,8-	57117-44-9	0.03	1	5.38E+06	-	3.23E+09	1.59E-02	4.20E-01	3.61E+00	1.52E-02	2.06E-02
HxCDF, 1,2,3,7,8,9-	72918-21-9	0.03	1	-	-	3.23E+09	1.59E-02	4.20E-01	2.17E+03	1.53E-02	2.06E-02
HxCDF, 2,3,4,6,7,8-	60851-34-5	0.03	1	5.38E+06	-	3.23E+09	1.59E-02	4.20E-01	3.61E+00	1.52E-02	2.06E-02
HxCDF, 2,3,7,8-	55684-94-1	0.03	1	-	-	3.23E+09	1.59E-02	4.20E-01	2.17E+03	1.53E-02	2.06E-02
Hydrazine	302-01-2	-	1	-	-	3.23E+09	6.88E+01	-	1.69E+06	6.88E+01	-
Hydrazine Sulfate	10034-93-2	-	1	-	-	3.23E+09	6.88E+01	-	1.69E+06	6.88E+01	-
Hydrogen Chloride	7647-01-0	-	1	-	-	3.23E+09	-	-	-	-	-
Hydrogen Cyanide	74-90-8	-	1	7.20E+04	1.00E+07	3.23E+09	-	-	-	-	1.77E+03
Hydrogen Fluoride	7664-39-3	-	1	-	-	3.23E+09	-	-	-	-	1.18E+05
Hydrogen Selenide	77830-70-5	-	1	-	-	3.23E+09	-	-	-	-	-
Hydrogen Sulfate	12143-45-2	-	1	-	-	3.23E+09	-	-	-	-	-
Hydrogen Sulfide	7783-06-4	-	1	-	-	3.23E+09	-	-	-	-	-
Hydroquinone	123-31-9	0.1	1	-	-	3.23E+09	3.44E+03	2.73E+04	-	3.06E+03	1.18E+05
Imazalil	35554-44-0	0.1	1	-	-	3.23E+09	-	-	-	-	3.83E+04
Imazaquin	81335-37-7	0.1	1	-	-	3.23E+09	-	-	-	-	7.37E+05
Indeno[1,2,3-cd]pyrene	193-39-5	0.13	1	-	-	3.23E+09	2.83E+02	1.72E+03	7.51E+07	2.43E+02	-
Indium	7440-74-6	-	1	-	-	3.23E+09	-	-	-	-	-
Iodide	20461-54-5	-	1	-	-	3.23E+09	-	-	-	-	-
Iodine	7553-56-2	-	1	-	-	3.23E+09	-	-	-	-	2.95E+04

Site-specific
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Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Hexachloropropene	1888-71-7	-	-	-	
Hexadecanoic Acid	57-10-3	-	-	-	
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4	4.67E+05	-	8.68E+03	1.84E+03 ca**
Hexamethylene Diisocyanate, 1,6-	822-06-0	-	1.51E+02	1.51E+02	1.51E+02 nc
Hexamethylphosphoramide	680-31-9	9.35E+03	-	1.05E+03	1.05E+03 nc
Hexane, N-	110-54-3	-	2.92E+04	2.51E+04	2.51E+04 sat
Hexanedioic Acid	124-04-9	4.67E+07	-	5.24E+06	5.24E+06 max
Hexanol, n-	111-27-3	-	-	-	
Hexanone, 2-	591-78-6	-	2.01E+04	8.50E+03	8.50E+03 sat
Hexazinone	51235-04-2	7.71E+05	-	8.64E+04	8.64E+04 nc
HpCDD, 2,3,7,8-	37871-00-4	5.45E+00	4.90E+02	1.99E-01	1.52E-01 ca**
HpCDF, 1,2,3,4,7,8,9-	55673-89-7	5.45E+00	1.68E+03	1.99E-01	1.53E-01 ca**
HpCDF, 2,3,7,8-	38998-75-3	5.45E+00	1.68E+03	1.99E-01	1.53E-01 ca**
HxCDD, 1,2,3,6,7,8-	57653-85-7	5.45E-01	9.61E+01	1.99E-02	1.52E-02 ca**
HxCDD, 1,2,3,7,8,9-	19408-74-3	5.45E-01	9.61E+01	1.99E-02	1.52E-02 ca**
HxCDF, 1,2,3,6,7,8-	57117-44-9	5.45E-01	7.85E+01	1.99E-02	1.52E-02 ca**
HxCDF, 1,2,3,7,8,9-	72918-21-9	5.45E-01	4.72E+04	1.99E-02	1.53E-02 ca**
HxCDF, 2,3,4,6,7,8-	60851-34-5	5.45E-01	7.85E+01	1.99E-02	1.52E-02 ca**
HxCDF, 2,3,7,8-	55684-94-1	5.45E-01	4.72E+04	1.99E-02	1.53E-02 ca**
Hydrazine	302-01-2	-	3.54E+06	3.54E+06	6.88E+01 ca
Hydrazine Sulfate	10034-93-2	-	-	-	6.88E+01 ca
Hydrogen Chloride	7647-01-0	-	2.36E+09	2.36E+09	2.36E+09 max
Hydrogen Cyanide	74-90-8	-	2.10E+03	9.61E+02	9.61E+02 nc
Hydrogen Fluoride	7664-39-3	-	1.65E+09	1.18E+05	1.18E+05 max
Hydrogen Selenide	77830-70-5	-	-	-	
Hydrogen Sulfate	12143-45-2	-	-	-	
Hydrogen Sulfide	7783-06-4	-	2.36E+08	2.36E+08	2.36E+08 max
Hydroquinone	123-31-9	9.35E+05	-	1.05E+05	3.06E+03 ca*
Imazalil	35554-44-0	3.04E+05	-	3.40E+04	3.40E+04 nc
Imazaquin	81335-37-7	5.84E+06	-	6.55E+05	6.55E+05 max
Indeno[1,2,3-cd]pyrene	193-39-5	-	-	-	2.43E+02 ca
Indium	7440-74-6	-	-	-	
Iodide	20461-54-5	-	-	-	
Iodine	7553-56-2	-	-	2.95E+04	2.95E+04 nc

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR UTILITY WORKER
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Iodomethane	74-88-4	No	Yes	-		-		-		-		1
Iodopropynyl Butylcarbamate (IPBC)	55406-53-6	No	No	-		-		-		-		1
Iprodione	36734-19-7	No	No	-		-		4.00E-02	U	-		1
Iron	7439-89-6	No	No	-		-		7.00E-01	U	-		1
Iron Sulfide	11126-12-8	No	No	-		-		-		-		1
Isobutyl Alcohol	78-83-1	No	Yes	-		-		3.00E-01	U	-		1
Isodrin	465-73-6	No	Yes	-		-		-		-		1
Isophorone	78-59-1	No	No	9.50E-04	U	-		2.00E-01	U	2.00E+00	U	1
Isopropalin	33820-53-0	No	Yes	-		-		1.50E-02	U	-		1
Isopropanol	67-63-0	No	Yes	-		-		2.00E+00	U	2.00E-01	U	1
Isopropyl Methyl Phosphonic Acid	1832-54-8	No	No	-		-		1.00E-01	U	-		1
Isopropyltoluene, p-	99-87-6	No	Yes	-		-		-		-		1
Isosafrole	120-58-1	No	Yes	-		-		-		-		1
Isoxaben	82558-50-7	No	No	-		-		5.00E-02	U	-		1
JP-4	50815-00-4	No	Yes	-		-		-		-		1
JP-5/JP-8	8002-20-6	No	Yes	-		-		-		-		1
JP-7	NA	No	Yes	-		-		-		3.00E-01	U	1
Kerb	23950-58-5	No	No	-		-		7.50E-02	U	-		1
Kerosene	8008-20-6	No	Yes	-		-		-		-		1
Lactofen	77501-63-4	No	No	-		-		2.00E-03	U	-		1
Lactonitrile	78-97-7	No	No	-		-		-		-		1
Lanthanum	7439-91-0	No	No	-		-		-		-		1
Lead Alkyls	NA	No	No	-		-		-		-		1
Lead Chromate	7758-97-6	Yes	No	5.00E-01	U	1.50E-01	U	2.00E-02	U	2.00E-04	U	0.025
Lead Phosphate	7446-27-7	No	No	8.50E-03	U	1.20E-05	U	-		-		1
Lead acetate	301-04-2	No	No	2.80E-01	U	8.00E-05	U	-		-		1
Lead and Compounds	7439-92-1	No	No	-		-		-		-		1
Lead subacetate	1335-32-6	No	No	8.50E-03	U	1.20E-05	U	-		-		1
Linuron	330-55-2	No	No	-		-		2.00E-03	U	-		1
Lithium	7439-93-2	No	No	-		-		2.00E-03	U	-		1
Lithium Perchlorate	7791-03-9	No	No	-		-		7.00E-04	U	-		1
Londax	83055-99-6	No	No	-		-		2.00E-01	U	-		1
Lutetium	7439-94-3	No	No	-		-		-		-		1

Site-specific
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Iodomethane	74-88-4	-	1	2.55E+03	3.03E+03	3.23E+09	-	-	-	-	-
Iodopropynyl Butylcarbamate (IPBC)	55406-53-6	0.1	1	-	-	3.23E+09	-	-	-	-	-
Iprodione	36734-19-7	0.1	1	-	-	3.23E+09	-	-	-	-	1.18E+05
Iron	7439-89-6	-	1	-	-	3.23E+09	-	-	-	-	2.06E+06
Iron Sulfide	11126-12-8	-	1	-	-	3.23E+09	-	-	-	-	-
Isobutyl Alcohol	78-83-1	-	1	3.88E+04	1.00E+04	3.23E+09	-	-	-	-	8.85E+05
Isodrin	465-73-6	-	1	2.32E+06	-	3.23E+09	-	-	-	-	-
Isophorone	78-59-1	0.1	1	-	-	3.23E+09	2.17E+05	1.72E+06	-	1.93E+05	5.90E+05
Isopropalin	33820-53-0	-	1	5.78E+05	-	3.23E+09	-	-	-	-	4.42E+04
Isopropanol	67-63-0	-	1	3.83E+04	1.09E+05	3.23E+09	-	-	-	-	5.90E+06
Isopropyl Methyl Phosphonic Acid	1832-54-8	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+05
Isopropyltoluene, p-	99-87-6	-	1	1.18E+04	1.62E+02	3.23E+09	-	-	-	-	-
Isosafrole	120-58-1	-	1	3.42E+03	2.04E+01	3.23E+09	-	-	-	-	-
Isoxaben	82558-50-7	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+05
JP-4	50815-00-4	-	1	-	-	3.23E+09	-	-	-	-	-
JP-5/JP-8	8002-20-6	-	1	-	-	3.23E+09	-	-	-	-	-
JP-7	NA	-	1	-	-	3.23E+09	-	-	-	-	-
Kerb	23950-58-5	0.1	1	-	-	3.23E+09	-	-	-	-	2.21E+05
Kerosene	8008-20-6	-	1	-	-	3.23E+09	-	-	-	-	-
Lactofen	77501-63-4	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+03
Lactonitrile	78-97-7	0.1	1	-	-	3.23E+09	-	-	-	-	-
Lanthanum	7439-91-0	-	1	-	-	3.23E+09	-	-	-	-	-
Lead Alkyls	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Lead Chromate	7758-97-6	-	1	-	-	3.23E+09	4.13E+02	-	5.51E+04	4.10E+02	5.90E+04
Lead Phosphate	7446-27-7	-	1	-	-	3.23E+09	2.43E+04	-	6.88E+08	2.43E+04	-
Lead acetate	301-04-2	0.1	1	-	-	3.23E+09	7.37E+02	5.84E+03	1.03E+08	6.55E+02	-
Lead and Compounds	7439-92-1	-	1	-	-	3.23E+09	-	-	-	-	-
Lead subacetate	1335-32-6	0.1	1	-	-	3.23E+09	2.43E+04	1.92E+05	6.88E+08	2.16E+04	-
Linuron	330-55-2	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+03
Lithium	7439-93-2	-	1	-	-	3.23E+09	-	-	-	-	5.90E+03
Lithium Perchlorate	7791-03-9	-	1	-	-	3.23E+09	-	-	-	-	2.06E+03
Londax	83055-99-6	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+05
Lutetium	7439-94-3	-	1	-	-	3.23E+09	-	-	-	-	-

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Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Iodomethane	74-88-4	-	-	-	
Iodopropynyl Butylcarbamate (IPBC)	55406-53-6	-	-	-	
Iprodione	36734-19-7	9.35E+05	-	1.05E+05	1.05E+05 max
Iron	7439-89-6	-	-	2.06E+06	2.06E+06 max
Iron Sulfide	11126-12-8	-	-	-	
Isobutyl Alcohol	78-83-1	-	-	8.85E+05	8.85E+05 sat
Isodrin	465-73-6	-	-	-	
Isophorone	78-59-1	4.67E+06	2.36E+11	5.24E+05	1.93E+05 max
Isopropalin	33820-53-0	-	-	4.42E+04	4.42E+04 nc
Isopropanol	67-63-0	-	2.79E+05	2.67E+05	2.67E+05 sat
Isopropyl Methyl Phosphonic Acid	1832-54-8	2.34E+06	-	2.62E+05	2.62E+05 max
Isopropyltoluene, p-	99-87-6	-	-	-	
Isosafrole	120-58-1	-	-	-	
Isoxaben	82558-50-7	1.17E+06	-	1.31E+05	1.31E+05 max
JP-4	50815-00-4	-	-	-	
JP-5/JP-8	8002-20-6	-	-	-	
JP-7	NA	-	3.54E+10	3.54E+10	3.54E+10 max
Kerb	23950-58-5	1.75E+06	-	1.96E+05	1.96E+05 max
Kerosene	8008-20-6	-	-	-	
Lactofen	77501-63-4	4.67E+04	-	5.24E+03	5.24E+03 nc
Lactonitrile	78-97-7	-	-	-	
Lanthanum	7439-91-0	-	-	-	
Lead Alkyls	NA	-	-	-	
Lead Chromate	7758-97-6	-	2.36E+07	5.88E+04	4.10E+02 ca
Lead Phosphate	7446-27-7	-	-	-	2.43E+04 ca
Lead acetate	301-04-2	-	-	-	6.55E+02 ca
Lead and Compounds	7439-92-1	-	-	8.00E+02	8.00E+02 nc
Lead subacetate	1335-32-6	-	-	-	2.16E+04 ca
Linuron	330-55-2	4.67E+04	-	5.24E+03	5.24E+03 nc
Lithium	7439-93-2	-	-	5.90E+03	5.90E+03 nc
Lithium Perchlorate	7791-03-9	-	-	2.06E+03	2.06E+03 nc
Londax	83055-99-6	4.67E+06	-	5.24E+05	5.24E+05 max
Lutetium	7439-94-3	-	-	-	

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Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
MCPA	94-74-6	No	No	-		-		5.00E-04	U	-		1
MCPB	94-81-5	No	No	-		-		1.00E-02	U	-		1
MCPP	93-65-2	No	No	-		-		1.00E-03	U	-		1
Magnesium	7439-95-4	No	No	-		-		-		-		1
Magnesium Chlorate	10326-21-3	No	No	-		-		-		-		1
Malathion	121-75-5	No	No	-		-		2.00E-02	U	-		1
Maleic Anhydride	108-31-6	No	No	-		-		1.00E-01	U	7.00E-04	U	1
Maleic Hydrazide	123-33-1	No	No	-		-		5.00E-01	U	-		1
Malononitrile	109-77-3	No	No	-		-		1.00E-04	U	-		1
Mancozeb	8018-01-7	No	No	-		-		3.00E-02	U	-		1
Maneb	12427-38-2	No	No	-		-		5.00E-03	U	-		1
Manganese (Non-diet)	7439-96-5	No	No	-		-		2.40E-02	U	5.00E-05	U	0.04
Mechlorethamine	51-75-2	No	No	-		-		-		-		1
Mephosfolan	950-10-7	No	No	-		-		9.00E-05	U	-		1
Mepiquat Chloride	24307-26-4	No	No	-		-		3.00E-02	U	-		1
Mercuric Chloride	7487-94-7	No	No	-		-		3.00E-04	U	3.00E-04	U	0.07
Mercury (elemental)	7439-97-6	No	Yes	-		-		-		3.00E-04	U	1
Merphos	150-50-5	No	Yes	-		-		3.00E-05	U	-		1
Merphos Oxide	78-48-8	No	No	-		-		3.00E-05	U	-		1
Metalaxyl	57837-19-1	No	No	-		-		6.00E-02	U	-		1
Methacrylonitrile	126-98-7	No	Yes	-		-		1.00E-04	U	3.00E-02	U	1
Methamidophos	10265-92-6	No	No	-		-		5.00E-05	U	-		1
Methanol	67-56-1	No	Yes	-		-		2.00E+00	U	2.00E+01	U	1
Methapyrilene	91-80-5	No	No	-		-		-		-		1
Methidathion	950-37-8	No	No	-		-		1.00E-03	U	-		1
Methomyl	16752-77-5	No	No	-		-		2.50E-02	U	-		1
Methoxy-5-nitroaniline, 2-	99-59-2	No	No	4.90E-02	U	1.40E-05	U	-		-		1
Methoxychlor	72-43-5	No	No	-		-		5.00E-03	U	-		1
Methoxyethanol Acetate, 2-	110-49-6	No	Yes	-		-		8.00E-03	U	1.00E-03	U	1
Methoxyethanol, 2-	109-86-4	No	Yes	-		-		5.00E-03	U	2.00E-02	U	1
Methyl Acetate	79-20-9	No	Yes	-		-		1.00E+00	U	-		1
Methyl Acrylate	96-33-3	No	Yes	-		-		3.00E-02	U	2.00E-02	U	1
Methyl Ethyl Ketone (2-Butanone)	78-93-3	No	Yes	-		-		6.00E-01	U	5.00E+00	U	1
Methyl Hydrazine	60-34-4	No	Yes	-		1.00E-03	U	1.00E-03	U	2.00E-05	U	1

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
MCPA	94-74-6	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+03
MCPB	94-81-5	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+04
MCPP	93-65-2	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+03
Magnesium	7439-95-4	-	1	-	-	3.23E+09	-	-	-	-	-
Magnesium Chlorate	10326-21-3	-	1	-	-	3.23E+09	-	-	-	-	-
Malathion	121-75-5	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Maleic Anhydride	108-31-6	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+05
Maleic Hydrazide	123-33-1	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+06
Malononitrile	109-77-3	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+02
Mancozeb	8018-01-7	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+04
Maneb	12427-38-2	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+04
Manganese (Non-diet)	7439-96-5	-	1	-	-	3.23E+09	-	-	-	-	7.08E+04
Mechlorethamine	51-75-2	0.1	1	-	-	3.23E+09	-	-	-	-	-
Mephosfolan	950-10-7	0.1	1	-	-	3.23E+09	-	-	-	-	2.65E+02
Mepiquat Chloride	24307-26-4	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+04
Mercuric Chloride	7487-94-7	-	1	-	-	3.23E+09	-	-	-	-	8.85E+02
Mercury (elemental)	7439-97-6	-	1	4.16E+04	3.13E+00	3.23E+09	-	-	-	-	-
Merphos	150-50-5	-	1	2.67E+06	-	3.23E+09	-	-	-	-	8.85E+01
Merphos Oxide	78-48-8	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+01
Metalaxyl	57837-19-1	0.1	1	-	-	3.23E+09	-	-	-	-	1.77E+05
Methacrylonitrile	126-98-7	-	1	9.38E+03	4.59E+03	3.23E+09	-	-	-	-	2.95E+02
Methamidophos	10265-92-6	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+02
Methanol	67-56-1	-	1	4.01E+04	1.06E+05	3.23E+09	-	-	-	-	5.90E+06
Methapyrilene	91-80-5	0.1	1	-	-	3.23E+09	-	-	-	-	-
Methidathion	950-37-8	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+03
Methomyl	16752-77-5	0.1	1	-	-	3.23E+09	-	-	-	-	7.37E+04
Methoxy-5-nitroaniline, 2-	99-59-2	0.1	1	-	-	3.23E+09	4.21E+03	3.34E+04	5.90E+08	3.74E+03	-
Methoxychlor	72-43-5	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+04
Methoxyethanol Acetate, 2-	110-49-6	-	1	1.71E+05	1.15E+05	3.23E+09	-	-	-	-	2.36E+04
Methoxyethanol, 2-	109-86-4	-	1	1.39E+05	1.06E+05	3.23E+09	-	-	-	-	1.47E+04
Methyl Acetate	79-20-9	-	1	1.12E+04	2.90E+04	3.23E+09	-	-	-	-	2.95E+06
Methyl Acrylate	96-33-3	-	1	9.62E+03	6.75E+03	3.23E+09	-	-	-	-	8.85E+04
Methyl Ethyl Ketone (2-Butanone)	78-93-3	-	1	1.68E+04	2.84E+04	3.23E+09	-	-	-	-	1.77E+06
Methyl Hydrazine	60-34-4	-	1	2.16E+05	1.80E+05	3.23E+09	-	-	5.51E+02	5.51E+02	2.95E+03

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
MCPA	94-74-6	1.17E+04	-	1.31E+03	1.31E+03 nc
MCPB	94-81-5	2.34E+05	-	2.62E+04	2.62E+04 nc
MCPP	93-65-2	2.34E+04	-	2.62E+03	2.62E+03 nc
Magnesium	7439-95-4	-	-	-	
Magnesium Chlorate	10326-21-3	-	-	-	
Malathion	121-75-5	4.67E+05	-	5.24E+04	5.24E+04 nc
Maleic Anhydride	108-31-6	2.34E+06	8.26E+07	2.61E+05	2.61E+05 max
Maleic Hydrazide	123-33-1	1.17E+07	-	1.31E+06	1.31E+06 max
Malononitrile	109-77-3	2.34E+03	-	2.62E+02	2.62E+02 nc
Mancozeb	8018-01-7	7.01E+05	-	7.86E+04	7.86E+04 nc
Maneb	12427-38-2	1.17E+05	-	1.31E+04	1.31E+04 nc
Manganese (Non-diet)	7439-96-5	-	5.90E+06	6.99E+04	6.99E+04 nc
Mechlorethamine	51-75-2	-	-	-	
Mephosfolan	950-10-7	2.10E+03	-	2.36E+02	2.36E+02 nc
Mepiquat Chloride	24307-26-4	7.01E+05	-	7.86E+04	7.86E+04 nc
Mercuric Chloride	7487-94-7	-	3.54E+07	8.85E+02	8.85E+02 nc
Mercury (elemental)	7439-97-6	-	4.55E+02	4.55E+02	4.55E+02 sat
Merphos	150-50-5	-	-	8.85E+01	8.85E+01 nc
Merphos Oxide	78-48-8	7.01E+02	-	7.86E+01	7.86E+01 nc
Metalaxyl	57837-19-1	1.40E+06	-	1.57E+05	1.57E+05 max
Methacrylonitrile	126-98-7	-	1.03E+04	2.87E+02	2.87E+02 nc
Methamidophos	10265-92-6	1.17E+03	-	1.31E+02	1.31E+02 nc
Methanol	67-56-1	-	2.93E+07	4.91E+06	4.91E+06 sat
Methapyrilene	91-80-5	-	-	-	
Methidathion	950-37-8	2.34E+04	-	2.62E+03	2.62E+03 nc
Methomyl	16752-77-5	5.84E+05	-	6.55E+04	6.55E+04 nc
Methoxy-5-nitroaniline, 2-	99-59-2	-	-	-	3.74E+03 ca
Methoxychlor	72-43-5	1.17E+05	-	1.31E+04	1.31E+04 nc
Methoxyethanol Acetate, 2-	110-49-6	-	6.23E+03	4.93E+03	4.93E+03 nc
Methoxyethanol, 2-	109-86-4	-	1.02E+05	1.29E+04	1.29E+04 nc
Methyl Acetate	79-20-9	-	-	2.95E+06	2.95E+06 sat
Methyl Acrylate	96-33-3	-	7.02E+03	6.50E+03	6.50E+03 nc
Methyl Ethyl Ketone (2-Butanone)	78-93-3	-	3.07E+06	1.12E+06	1.12E+06 sat
Methyl Hydrazine	60-34-4	-	1.57E+02	1.49E+02	1.49E+02 nc

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR UTILITY WORKER
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1	No	Yes	-		-		8.00E-02	U	3.00E+00	U	1
Methyl Isocyanate	624-83-9	No	Yes	-		-		-		1.00E-03	U	1
Methyl Mercaptan	74-93-1	No	Yes	-		-		-		-		1
Methyl Mercury	22967-92-6	No	No	-		-		1.00E-04	U	-		1
Methyl Methacrylate	80-62-6	No	Yes	-		-		1.40E+00	U	7.00E-01	U	1
Methyl Parathion	298-00-0	No	No	-		-		2.50E-04	U	-		1
Methyl Phosphonic Acid	993-13-5	No	No	-		-		6.00E-02	U	-		1
Methyl Styrene (Mixed Isomers)	25013-15-4	No	Yes	-		-		6.00E-03	U	4.00E-02	U	1
Methyl dicyclohexylamine, n-	7560-83-0	No	Yes	-		-		-		-		1
Methyl methanesulfonate	66-27-3	No	No	9.90E-02	U	2.80E-05	U	-		-		1
Methyl tert-Butyl Ether (MTBE)	1634-04-4	No	Yes	1.80E-03	U	2.60E-07	U	-		3.00E+00	U	1
Methyl-1,4-benzenediamine dihydrochloride, 2-	615-45-2	No	No	-		-		3.00E-04	U	-		1
Methyl-2-Pentanol, 4-	108-11-2	No	Yes	-		-		-		-		1
Methyl-5-Nitroaniline, 2-	99-55-8	No	No	9.00E-03	U	-		2.00E-02	U	-		1
Methyl-N-nitro-N-nitrosoguanidine, N-	70-25-7	No	No	8.30E+00	U	2.40E-03	U	-		-		1
Methylaniline Hydrochloride, 2-	636-21-5	No	No	1.30E-01	U	3.70E-05	U	-		-		1
Methylarsonic acid	124-58-3	No	No	-		-		1.00E-02	U	-		1
Methylaziridine, 2-	75-55-8	No	Yes	-		-		-		-		1
Methylbenzene,1-4-diamine monohydrochloride, 2-	74612-12-7	No	No	-		-		2.00E-04	U	-		1
Methylbenzene-1,4-diamine sulfate, 2-	615-50-9	No	No	1.00E-01	U	-		3.00E-04	U	-		1
Methylcholanthrene, 3-	56-49-5	Yes	No	2.20E+01	U	6.30E-03	U	-		-		1
Methylcyclohexane	108-87-2	No	Yes	-		-		-		-		1
Methylcyclohexylamine, n-	100-60-7	No	Yes	-		-		-		-		1
Methylcyclopentane	96-37-7	No	Yes	-		-		-		-		1
Methylene Chloride	75-09-2	Yes	Yes	2.00E-03	U	1.00E-08	U	6.00E-03	U	6.00E-01	U	1
Methylene-bis(2-chloroaniline), 4,4'-	101-14-4	Yes	No	1.00E-01	U	4.30E-04	U	2.00E-03	U	-		1
Methylene-bis(N,N-dimethyl) Aniline, 4,4'-	101-61-1	No	No	4.60E-02	U	1.30E-05	U	-		-		1
Methylenebisbenzenamine, 4,4'-	101-77-9	No	No	1.60E+00	U	4.60E-04	U	-		2.00E-02	U	1
Methylenediphenyl Diisocyanate	101-68-8	No	No	-		-		-		6.00E-04	U	1
Methylisothiocyanate	556-61-6	No	Yes	-		-		-		-		1
Methylnaphthalene	1321-94-4	No	Yes	-		-		-		-		1

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1	-	1	1.46E+04	3.36E+03	3.23E+09	-	-	-	-	2.36E+05
Methyl Isocyanate	624-83-9	-	1	6.08E+03	1.67E+04	3.23E+09	-	-	-	-	-
Methyl Mercaptan	74-93-1	-	1	2.46E+03	3.13E+03	3.23E+09	-	-	-	-	-
Methyl Mercury	22967-92-6	-	1	-	-	3.23E+09	-	-	-	-	2.95E+02
Methyl Methacrylate	80-62-6	-	1	8.75E+03	2.36E+03	3.23E+09	-	-	-	-	4.13E+06
Methyl Parathion	298-00-0	0.1	1	-	-	3.23E+09	-	-	-	-	7.37E+02
Methyl Phosphonic Acid	993-13-5	0.1	1	-	-	3.23E+09	-	-	-	-	1.77E+05
Methyl Styrene (Mixed Isomers)	25013-15-4	-	1	1.65E+04	3.93E+02	3.23E+09	-	-	-	-	1.77E+04
Methyl dicyclohexylamine, n-	7560-83-0	-	1	6.54E+04	-	3.23E+09	-	-	-	-	-
Methyl methanesulfonate	66-27-3	0.1	1	-	-	3.23E+09	2.09E+03	1.65E+04	2.95E+08	1.85E+03	-
Methyl tert-Butyl Ether (MTBE)	1634-04-4	-	1	6.76E+03	8.88E+03	3.23E+09	1.15E+05	-	6.65E+04	4.21E+04	-
Methyl-1,4-benzenediamine dihydrochloride, 2-	615-45-2	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+02
Methyl-2-Pentanol, 4-	108-11-2	-	1	2.37E+04	2.45E+03	3.23E+09	-	-	-	-	-
Methyl-5-Nitroaniline, 2-	99-55-8	0.1	1	-	-	3.23E+09	2.29E+04	1.82E+05	-	2.04E+04	5.90E+04
Methyl-N-nitro-N-nitrosoguanidine, N-	70-25-7	0.1	1	-	-	3.23E+09	2.49E+01	1.97E+02	3.44E+06	2.21E+01	-
Methylaniline Hydrochloride, 2-	636-21-5	0.1	1	-	-	3.23E+09	1.59E+03	1.26E+04	2.23E+08	1.41E+03	-
Methylarsonic acid	124-58-3	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+04
Methylaziridine, 2-	75-55-8	-	1	4.41E+04	1.87E+05	3.23E+09	-	-	-	-	-
Methylbenzene,1-4-diamine monohydrochloride, 2-	74612-12-7	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+02
Methylbenzene-1,4-diamine sulfate, 2-	615-50-9	0.1	1	-	-	3.23E+09	2.06E+03	1.64E+04	-	1.83E+03	8.85E+02
Methylcholanthrene, 3-	56-49-5	0.1	1	-	-	3.23E+09	9.38E+00	7.44E+01	1.31E+06	8.33E+00	-
Methylcyclohexane	108-87-2	-	1	1.37E+03	6.77E+01	3.23E+09	-	-	-	-	-
Methylcyclohexylamine, n-	100-60-7	-	1	4.39E+04	2.81E+04	3.23E+09	-	-	-	-	-
Methylcyclopentane	96-37-7	-	1	1.22E+03	1.54E+02	3.23E+09	-	-	-	-	-
Methylene Chloride	75-09-2	-	1	3.02E+03	3.32E+03	3.23E+09	1.03E+05	-	7.72E+05	9.11E+04	1.77E+04
Methylene-bis(2-chloroaniline), 4,4'-	101-14-4	0.1	1	-	-	3.23E+09	2.06E+03	1.64E+04	1.92E+07	1.83E+03	5.90E+03
Methylene-bis(N,N-dimethyl) Aniline, 4,4'-	101-61-1	0.1	1	-	-	3.23E+09	4.49E+03	3.56E+04	6.35E+08	3.99E+03	-
Methylenebisbenzenamine, 4,4'-	101-77-9	0.1	1	-	-	3.23E+09	1.29E+02	1.02E+03	1.80E+07	1.15E+02	-
Methylenediphenyl Diisocyanate	101-68-8	0.1	1	-	-	3.23E+09	-	-	-	-	-
Methylisothiocyanate	556-61-6	-	1	2.04E+04	-	3.23E+09	-	-	-	-	-
Methylnaphthalene	1321-94-4	-	1	8.08E+04	-	3.23E+09	-	-	-	-	-

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1	-	1.60E+06	2.06E+05	2.06E+05 sat
Methyl Isocyanate	624-83-9	-	2.22E+02	2.22E+02	2.22E+02 nc
Methyl Mercaptan	74-93-1	-	-	-	
Methyl Mercury	22967-92-6	-	-	2.95E+02	2.95E+02 nc
Methyl Methacrylate	80-62-6	-	2.24E+05	2.12E+05	2.12E+05 sat
Methyl Parathion	298-00-0	5.84E+03	-	6.55E+02	6.55E+02 nc
Methyl Phosphonic Acid	993-13-5	1.40E+06	-	1.57E+05	1.57E+05 max
Methyl Styrene (Mixed Isomers)	25013-15-4	-	2.42E+04	1.02E+04	1.02E+04 sat
Methyl dicyclohexylamine, n-	7560-83-0	-	-	-	
Methyl methanesulfonate	66-27-3	-	-	-	1.85E+03 ca
Methyl tert-Butyl Ether (MTBE)	1634-04-4	-	7.41E+05	7.41E+05	4.21E+04 sat
Methyl-1,4-benzenediamine dihydrochloride, 2-	615-45-2	7.01E+03	-	7.86E+02	7.86E+02 nc
Methyl-2-Pentanol, 4-	108-11-2	-	-	-	
Methyl-5-Nitroaniline, 2-	99-55-8	4.67E+05	-	5.24E+04	2.04E+04 ca**
Methyl-N-nitro-N-nitrosoguanidine, N-	70-25-7	-	-	-	2.21E+01 ca
Methylaniline Hydrochloride, 2-	636-21-5	-	-	-	1.41E+03 ca
Methylarsonic acid	124-58-3	2.34E+05	-	2.62E+04	2.62E+04 nc
Methylaziridine, 2-	75-55-8	-	-	-	
Methylbenzene,1-4-diamine monohydrochloride, 2-	74612-12-7	4.67E+03	-	5.24E+02	5.24E+02 nc
Methylbenzene-1,4-diamine sulfate, 2-	615-50-9	7.01E+03	-	7.86E+02	7.86E+02 nc
Methylcholanthrene, 3-	56-49-5	-	-	-	8.33E+00 ca
Methylcyclohexane	108-87-2	-	-	-	
Methylcyclohexylamine, n-	100-60-7	-	-	-	
Methylcyclopentane	96-37-7	-	-	-	
Methylene Chloride	75-09-2	-	6.62E+04	1.40E+04	1.40E+04 sat
Methylene-bis(2-chloroaniline), 4,4'-	101-14-4	4.67E+04	-	5.24E+03	1.83E+03 ca**
Methylene-bis(N,N-dimethyl) Aniline, 4,4'-	101-61-1	-	-	-	3.99E+03 ca
Methylenebisbenzenamine, 4,4'-	101-77-9	-	2.36E+09	2.36E+09	1.15E+02 ca
Methylenediphenyl Diisocyanate	101-68-8	-	7.08E+07	7.08E+07	7.08E+07 max
Methylisothiocyanate	556-61-6	-	-	-	
Methylnaphthalene	1321-94-4	-	-	-	

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR UTILITY WORKER
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Methylnaphthalene, 1-	90-12-0	No	Yes	2.90E-02	U	-		7.00E-02	U	-		1
Methylnaphthalene, 2-	91-57-6	No	Yes	-		-		4.00E-03	U	-		1
Methylstyrene, Alpha-	98-83-9	No	Yes	-		-		7.00E-02	U	-		1
Methyltriethyl Lead	1762-28-3	No	Yes	-		-		-		-		1
Metolachlor	51218-45-2	No	No	-		-		1.50E-01	U	-		1
Metribuzin	21087-64-9	No	No	-		-		2.50E-02	U	-		1
Mineral oils	8012-95-1	No	Yes	-		-		3.00E+00	U	-		1
Mirex	2385-85-5	No	Yes	1.80E+01	U	5.10E-03	U	2.00E-04	U	-		1
Molinate	2212-67-1	No	No	-		-		2.00E-03	U	-		1
Molybdenum	7439-98-7	No	No	-		-		5.00E-03	U	-		1
Monoaluminum phosphate	13530-50-2	No	No	-		-		4.86E+01	U	-		1
Monochloramine	10599-90-3	No	No	-		-		1.00E-01	U	-		1
Monochlorobutanes	25154-42-1	No	No	-		-		-		-		1
Monochlorophenols (total)	NA	No	No	-		-		-		-		1
Monocyclic aromatic hydrocarbons (total)	NA	No	No	-		-		-		-		1
Monomagnesium phosphate	7757-86-0	No	No	-		-		4.86E+01	U	-		1
Monomethylaniline	100-61-8	No	No	-		-		2.00E-03	U	-		1
Monopotassium phosphate	7778-77-0	No	No	-		-		4.86E+01	U	-		1
Monosodium phosphate	7558-80-7	No	No	-		-		4.86E+01	U	-		1
N,N'-Diphenyl-1,4-benzenediamine	74-31-7	No	No	-		-		3.00E-04	U	-		1
N-Methyl dithiocarbamate	137-42-8	No	No	-		-		-		-		1
Naled	300-76-5	No	Yes	-		-		2.00E-03	U	-		1
Naphtha, High Flash Aromatic (HFAN)	64742-95-6	No	Yes	-		-		3.00E-02	U	1.00E-01	U	1
Naphthalene	91-20-3	No	Yes	-		3.40E-05	U	2.00E-02	U	3.00E-03	U	1
Naphthol, 2-	135-19-3	No	No	-		-		-		-		1
Naphthoquinone, 1,4-	130-15-4	No	No	-		-		-		-		1
Naphthylamine, 1-	134-32-7	No	No	-		-		-		-		1
Naphthylamine, 2-	91-59-8	No	No	1.80E+00	U	0.00E+00	U	-		-		1
Napropamide	15299-99-7	No	No	-		-		1.00E-01	U	-		1
Neodymium Chloride (Stable, Nonradioactive)	10024-93-8	No	No	-		-		-		-		1
Niagara Blue 4B	2429-74-5	No	No	-		-		-		-		1
Monobutyltin Compounds	NA	No	No	-		-		-		-		1
Monocalcium phosphate	7758-23-8	No	No	-		-		4.86E+01	U	-		1
Monochloramine	10599-90-3	No	No	-		-		1.00E-01	U	-		1
Monochlorobutanes	25154-42-1	No	No	-		-		-		-		1
Monochlorophenols (total)	NA	No	No	-		-		-		-		1
Monocyclic aromatic hydrocarbons (total)	NA	No	No	-		-		-		-		1
Monomagnesium phosphate	7757-86-0	No	No	-		-		4.86E+01	U	-		1
Monomethylaniline	100-61-8	No	No	-		-		2.00E-03	U	-		1
Monopotassium phosphate	7778-77-0	No	No	-		-		4.86E+01	U	-		1
Monosodium phosphate	7558-80-7	No	No	-		-		4.86E+01	U	-		1
N,N'-Diphenyl-1,4-benzenediamine	74-31-7	No	No	-		-		3.00E-04	U	-		1
N-Methyl dithiocarbamate	137-42-8	No	No	-		-		-		-		1
Naled	300-76-5	No	Yes	-		-		2.00E-03	U	-		1
Naphtha, High Flash Aromatic (HFAN)	64742-95-6	No	Yes	-		-		3.00E-02	U	1.00E-01	U	1
Naphthalene	91-20-3	No	Yes	-		3.40E-05	U	2.00E-02	U	3.00E-03	U	1
Naphthol, 2-	135-19-3	No	No	-		-		-		-		1
Naphthoquinone, 1,4-	130-15-4	No	No	-		-		-		-		1
Naphthylamine, 1-	134-32-7	No	No	-		-		-		-		1
Naphthylamine, 2-	91-59-8	No	No	1.80E+00	U	0.00E+00	U	-		-		1
Napropamide	15299-99-7	No	No	-		-		1.00E-01	U	-		1
Neodymium Chloride (Stable, Nonradioactive)	10024-93-8	No	No	-		-		-		-		1
Niagara Blue 4B	2429-74-5	No	No	-		-		-		-		1

Site-specific
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Methylnaphthalene, 1-	90-12-0	0.13	1	8.09E+04	-	3.23E+09	7.12E+03	4.34E+04	-	6.12E+03	2.06E+05
Methylnaphthalene, 2-	91-57-6	0.13	1	8.00E+04	-	3.23E+09	-	-	-	-	1.18E+04
Methylstyrene, Alpha-	98-83-9	-	1	1.77E+04	5.00E+02	3.23E+09	-	-	-	-	2.06E+05
Methyltriethyl Lead	1762-28-3	-	1	2.24E+03	4.81E+03	3.23E+09	-	-	-	-	-
Metolachlor	51218-45-2	0.1	1	-	-	3.23E+09	-	-	-	-	4.42E+05
Metribuzin	21087-64-9	0.1	1	-	-	3.23E+09	-	-	-	-	7.37E+04
Mineral oils	8012-95-1	-	1	1.90E+03	3.41E-01	3.23E+09	-	-	-	-	8.85E+06
Mirex	2385-85-5	-	1	1.18E+06	-	3.23E+09	1.15E+01	-	5.92E+02	1.13E+01	5.90E+02
Molinate	2212-67-1	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+03
Molybdenum	7439-98-7	-	1	-	-	3.23E+09	-	-	-	-	1.47E+04
Monoaluminum phosphate	13530-50-2	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Monoammonium phosphate	7722-76-1	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Monobutyltin Compounds	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Monocalcium phosphate	7758-23-8	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Monochloramine	10599-90-3	-	1	-	-	3.23E+09	-	-	-	-	2.95E+05
Monochlorobutanes	25154-42-1	0.1	1	-	-	3.23E+09	-	-	-	-	-
Monochlorophenols (total)	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Monocyclic aromatic hydrocarbons (total)	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Monomagnesium phosphate	7757-86-0	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Monomethylaniline	100-61-8	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+03
Monopotassium phosphate	7778-77-0	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Monosodium phosphate	7558-80-7	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
N,N'-Diphenyl-1,4-benzenediamine	74-31-7	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+02
N-Methyl dithiocarbamate	137-42-8	0.1	1	-	-	3.23E+09	-	-	-	-	-
Naled	300-76-5	-	1	7.87E+04	-	3.23E+09	-	-	-	-	5.90E+03
Naphtha, High Flash Aromatic (HFAN)	64742-95-6	-	1	-	-	3.23E+09	-	-	-	-	8.85E+04
Naphthalene	91-20-3	0.13	1	6.38E+04	-	3.23E+09	-	-	4.79E+03	4.79E+03	5.90E+04
Naphthol, 2-	135-19-3	0.1	1	-	-	3.23E+09	-	-	-	-	-
Naphthoquinone, 1,4-	130-15-4	0.1	1	-	-	3.23E+09	-	-	-	-	-
Naphthylamine, 1-	134-32-7	0.1	1	-	-	3.23E+09	-	-	-	-	-
Naphthylamine, 2-	91-59-8	0.1	1	-	-	3.23E+09	1.15E+02	9.09E+02	-	1.02E+02	-
Napropamide	15299-99-7	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+05
Neodymium Chloride (Stable, Nonradioactive)	10024-93-8	-	1	-	-	3.23E+09	-	-	-	-	-
Niagara Blue 4B	2429-74-5	0.1	1	-	-	3.23E+09	-	-	-	-	-

Site-specific
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Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Methylnaphthalene, 1-	90-12-0	1.26E+06	-	1.77E+05	6.12E+03 ca*
Methylnaphthalene, 2-	91-57-6	7.19E+04	-	1.01E+04	1.01E+04 nc
Methylstyrene, Alpha-	98-83-9	-	-	2.06E+05	2.06E+05 sat
Methyltriethyl Lead	1762-28-3	-	-	-	
Metolachlor	51218-45-2	3.51E+06	-	3.93E+05	3.93E+05 max
Metribuzin	21087-64-9	5.84E+05	-	6.55E+04	6.55E+04 nc
Mineral oils	8012-95-1	-	-	8.85E+06	8.85E+06 sat
Mirex	2385-85-5	-	-	5.90E+02	1.13E+01 ca*
Molinate	2212-67-1	4.67E+04	-	5.24E+03	5.24E+03 nc
Molybdenum	7439-98-7	-	-	1.47E+04	1.47E+04 nc
Monoaluminum phosphate	13530-50-2	-	-	1.43E+08	1.43E+08 max
Monoammonium phosphate	7722-76-1	-	-	1.43E+08	1.43E+08 max
Monobutyltin Compounds	NA	-	-	-	
Monocalcium phosphate	7758-23-8	-	-	1.43E+08	1.43E+08 max
Monochloramine	10599-90-3	-	-	2.95E+05	2.95E+05 max
Monochlorobutanes	25154-42-1	-	-	-	
Monochlorophenols (total)	NA	-	-	-	
Monocyclic aromatic hydrocarbons (total)	NA	-	-	-	
Monomagnesium phosphate	7757-86-0	-	-	1.43E+08	1.43E+08 max
Monomethylaniline	100-61-8	4.67E+04	-	5.24E+03	5.24E+03 nc
Monopotassium phosphate	7778-77-0	-	-	1.43E+08	1.43E+08 max
Monosodium phosphate	7558-80-7	-	-	1.43E+08	1.43E+08 max
N,N'-Diphenyl-1,4-benzenediamine	74-31-7	7.01E+03	-	7.86E+02	7.86E+02 nc
N-Methyl dithiocarbamate	137-42-8	-	-	-	
Naled	300-76-5	-	-	5.90E+03	5.90E+03 nc
Naphtha, High Flash Aromatic (HFAN)	64742-95-6	-	1.18E+10	8.85E+04	8.85E+04 nc
Naphthalene	91-20-3	3.60E+05	6.99E+03	6.14E+03	4.79E+03 ca**
Naphthol, 2-	135-19-3	-	-	-	
Naphthoquinone, 1,4-	130-15-4	-	-	-	
Naphthylamine, 1-	134-32-7	-	-	-	
Naphthylamine, 2-	91-59-8	-	-	-	1.02E+02 ca
Napropamide	15299-99-7	2.34E+06	-	2.62E+05	2.62E+05 max
Neodymium Chloride (Stable, Nonradioactive)	10024-93-8	-	-	-	
Niagara Blue 4B	2429-74-5	-	-	-	

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR UTILITY WORKER
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Nickel Acetate	373-02-4	No	No	-		2.60E-04	U	1.10E-02	U	1.40E-05	U	1
Nickel Carbonate	3333-67-3	No	No	-		2.60E-04	U	1.10E-02	U	1.40E-05	U	1
Nickel Carbonyl	13463-39-3	No	Yes	-		2.60E-04	U	1.10E-02	U	1.40E-05	U	1
Nickel Hydroxide	12054-48-7	No	No	-		2.60E-04	U	1.10E-02	U	1.40E-05	U	0.04
Nickel Oxide	1313-99-1	No	No	-		2.60E-04	U	1.10E-02	U	2.00E-05	U	0.04
Nickel Refinery Dust	NA	No	No	-		2.40E-04	U	1.10E-02	U	1.40E-05	U	0.04
Nickel Soluble Salts	7440-02-0	No	No	-		2.60E-04	U	2.00E-02	U	9.00E-05	U	0.04
Nickel Subsulfide	12035-72-2	No	No	1.70E+00	U	4.80E-04	U	1.10E-02	U	1.40E-05	U	0.04
Nickelocene	1271-28-9	No	No	-		2.60E-04	U	1.10E-02	U	1.40E-05	U	1
Nicotinonitrile	100-54-9	No	No	-		-		-		-		1
Niobium	7440-03-1	No	No	-		-		-		-		1
Nitrapyrin	1929-82-4	No	Yes	-		-		-		-		1
Nitrate	14797-55-8	No	No	-		-		1.60E+00	U	-		1
Nitrate + Nitrite (as N)	NA	No	No	-		-		-		-		1
Nitric Acid	7697-37-2	No	No	-		-		-		-		1
Nitric Oxide	10102-43-9	No	Yes	-		-		-		-		1
Nitrite	14797-65-0	No	No	-		-		1.00E-01	U	-		1
Nitroaniline, 2-	88-74-4	No	No	-		-		1.00E-02	U	5.00E-05	U	1
Nitroaniline, 3-	99-09-2	No	No	-		-		-		-		1
Nitroaniline, 4-	100-01-6	No	No	2.00E-02	U	-		4.00E-03	U	6.00E-03	U	1
Nitrobenzene	98-95-3	No	Yes	-		4.00E-05	U	2.00E-03	U	9.00E-03	U	1
Nitrobiphenyl, 4-	92-93-3	No	No	-		-		-		-		1
Nitrocellulose	9004-70-0	No	No	-		-		3.00E+03	U	-		1
Nitrodiphenylamine, 2-	119-75-5	No	No	-		-		-		-		1
Nitrofurantoin	67-20-9	No	No	-		-		7.00E-02	U	-		1
Nitrofurazone	59-87-0	No	No	1.30E+00	U	3.70E-04	U	-		-		1
Nitrogen Dioxide	10102-44-0	No	Yes	-		-		-		-		1
Nitroglycerin	55-63-0	No	No	1.70E-02	U	-		1.00E-04	U	-		1
Nitroguanidine	556-88-7	No	No	-		-		1.00E-01	U	-		1
Nitromethane	75-52-5	No	Yes	-		8.80E-06	U	-		5.00E-03	U	1
Nitrophenol, 2-	88-75-5	No	Yes	-		-		-		-		1
Nitrophenol, 2-amino-4-	99-57-0	No	No	-		-		-		-		1
Nitrophenol, 3-	554-84-7	No	No	-		-		-		-		1
Nitrophenol, 4-	100-02-7	No	No	-		-		-		-		1

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Nickel Acetate	373-02-4	0.1	1	-	-	3.23E+09	-	-	3.18E+07	3.18E+07	3.24E+04
Nickel Carbonate	3333-67-3	0.1	1	-	-	3.23E+09	-	-	3.18E+07	3.18E+07	3.24E+04
Nickel Carbonyl	13463-39-3	-	1	-	-	3.23E+09	-	-	3.18E+07	3.18E+07	3.24E+04
Nickel Hydroxide	12054-48-7	-	1	-	-	3.23E+09	-	-	3.18E+07	3.18E+07	3.24E+04
Nickel Oxide	1313-99-1	-	1	-	-	3.23E+09	-	-	3.18E+07	3.18E+07	3.24E+04
Nickel Refinery Dust	NA	-	1	-	-	3.23E+09	-	-	3.44E+07	3.44E+07	3.24E+04
Nickel Soluble Salts	7440-02-0	-	1	-	-	3.23E+09	-	-	3.18E+07	3.18E+07	5.90E+04
Nickel Subsulfide	12035-72-2	-	1	-	-	3.23E+09	1.21E+02	-	1.72E+07	1.21E+02	3.24E+04
Nickelocene	1271-28-9	0.1	1	-	-	3.23E+09	-	-	3.18E+07	3.18E+07	3.24E+04
Nicotinonitrile	100-54-9	0.1	1	-	-	3.23E+09	-	-	-	-	-
Niobium	7440-03-1	-	1	-	-	3.23E+09	-	-	-	-	-
Nitrapyrin	1929-82-4	-	1	3.05E+05	-	3.23E+09	-	-	-	-	-
Nitrate	14797-55-8	-	1	-	-	3.23E+09	-	-	-	-	4.72E+06
Nitrate + Nitrite (as N)	NA	-	1	-	-	3.23E+09	-	-	-	-	-
Nitric Acid	7697-37-2	0.1	1	-	-	3.23E+09	-	-	-	-	-
Nitric Oxide	10102-43-9	-	1	-	-	3.23E+09	-	-	-	-	-
Nitrite	14797-65-0	-	1	-	-	3.23E+09	-	-	-	-	2.95E+05
Nitroaniline, 2-	88-74-4	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+04
Nitroaniline, 3-	99-09-2	0.1	1	-	-	3.23E+09	-	-	-	-	-
Nitroaniline, 4-	100-01-6	0.1	1	-	-	3.23E+09	1.03E+04	8.18E+04	-	9.17E+03	1.18E+04
Nitrobenzene	98-95-3	-	1	1.01E+05	3.04E+03	3.23E+09	-	-	6.44E+03	6.44E+03	5.90E+03
Nitrobiphenyl, 4-	92-93-3	0.1	1	-	-	3.23E+09	-	-	-	-	-
Nitrocellulose	9004-70-0	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+09
Nitrodiphenylamine, 2-	119-75-5	0.1	1	-	-	3.23E+09	-	-	-	-	-
Nitrofurantoin	67-20-9	0.1	1	-	-	3.23E+09	-	-	-	-	2.06E+05
Nitrofurazone	59-87-0	0.1	1	-	-	3.23E+09	1.59E+02	1.26E+03	2.23E+07	1.41E+02	-
Nitrogen Dioxide	10102-44-0	-	1	-	-	3.23E+09	-	-	-	-	-
Nitroglycerin	55-63-0	0.1	1	-	-	3.23E+09	1.21E+04	9.62E+04	-	1.08E+04	2.95E+02
Nitroguanidine	556-88-7	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+05
Nitromethane	75-52-5	-	1	2.34E+04	1.80E+04	3.23E+09	-	-	6.78E+03	6.78E+03	-
Nitrophenol, 2-	88-75-5	-	1	1.65E+05	-	3.23E+09	-	-	-	-	-
Nitrophenol, 2-amino-4-	99-57-0	0.1	1	-	-	3.23E+09	-	-	-	-	-
Nitrophenol, 3-	554-84-7	0.1	1	-	-	3.23E+09	-	-	-	-	-
Nitrophenol, 4-	100-02-7	0.1	1	-	-	3.23E+09	-	-	-	-	-

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Nickel Acetate	373-02-4	2.57E+05	1.65E+06	2.83E+04	2.83E+04 nc
Nickel Carbonate	3333-67-3	2.57E+05	1.65E+06	2.83E+04	2.83E+04 nc
Nickel Carbonyl	13463-39-3	-	1.65E+06	3.18E+04	3.18E+04 nc
Nickel Hydroxide	12054-48-7	-	1.65E+06	3.18E+04	3.18E+04 nc
Nickel Oxide	1313-99-1	-	2.36E+06	3.20E+04	3.20E+04 nc
Nickel Refinery Dust	NA	-	1.65E+06	3.18E+04	3.18E+04 nc
Nickel Soluble Salts	7440-02-0	-	1.06E+07	5.87E+04	5.87E+04 nc
Nickel Subsulfide	12035-72-2	-	1.65E+06	3.18E+04	1.21E+02 ca
Nickelocene	1271-28-9	2.57E+05	1.65E+06	2.83E+04	2.83E+04 nc
Nicotinonitrile	100-54-9	-	-	-	
Niobium	7440-03-1	-	-	-	
Nitrapyrin	1929-82-4	-	-	-	
Nitrate	14797-55-8	-	-	4.72E+06	4.72E+06 max
Nitrate + Nitrite (as N)	NA	-	-	-	
Nitric Acid	7697-37-2	-	-	-	
Nitric Oxide	10102-43-9	-	-	-	
Nitrite	14797-65-0	-	-	2.95E+05	2.95E+05 max
Nitroaniline, 2-	88-74-4	2.34E+05	5.90E+06	2.61E+04	2.61E+04 nc
Nitroaniline, 3-	99-09-2	-	-	-	
Nitroaniline, 4-	100-01-6	9.35E+04	7.08E+08	1.05E+04	9.17E+03 ca**
Nitrobenzene	98-95-3	-	3.31E+04	5.01E+03	5.01E+03 sat
Nitrobiphenyl, 4-	92-93-3	-	-	-	
Nitrocellulose	9004-70-0	7.01E+10	-	7.86E+09	7.86E+09 max
Nitrodiphenylamine, 2-	119-75-5	-	-	-	
Nitrofurantoin	67-20-9	1.64E+06	-	1.83E+05	1.83E+05 max
Nitrofurazone	59-87-0	-	-	-	1.41E+02 ca
Nitrogen Dioxide	10102-44-0	-	-	-	
Nitroglycerin	55-63-0	2.34E+03	-	2.62E+02	2.62E+02 nc
Nitroguanidine	556-88-7	2.34E+06	-	2.62E+05	2.62E+05 max
Nitromethane	75-52-5	-	4.26E+03	4.26E+03	4.26E+03 nc
Nitrophenol, 2-	88-75-5	-	-	-	
Nitrophenol, 2-amino-4-	99-57-0	-	-	-	
Nitrophenol, 3-	554-84-7	-	-	-	
Nitrophenol, 4-	100-02-7	-	-	-	

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR UTILITY WORKER
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Nitrophenol, 4-amino-2-	119-34-6	No	No	-		-		-		-		1
Nitropropane, 2-	79-46-9	No	Yes	-		2.70E-03	U	-		2.00E-02	U	1
Nitropyrene, 4-	57835-92-4	No	No	1.20E+00	U	1.10E-04	U	-		-		1
Nitroquinoline-1-oxide. 4-	56-57-5	No	No	-		-		-		-		1
Nitroso-N-ethylurea, N-	759-73-9	Yes	No	2.70E+01	U	7.70E-03	U	-		-		1
Nitroso-N-methylurea, N-	684-93-5	Yes	No	1.20E+02	U	3.40E-02	U	-		-		1
Nitroso-di-N-butylamine, N-	924-16-3	No	Yes	5.40E+00	U	1.60E-03	U	-		-		1
Nitroso-di-N-propylamine, N-	621-64-7	No	No	7.00E+00	U	2.00E-03	U	-		-		1
Nitrosodiethanolamine, N-	1116-54-7	No	No	2.80E+00	U	8.00E-04	U	-		-		1
Nitrosodiethylamine, N-	55-18-5	Yes	No	1.50E+02	U	4.30E-02	U	-		-		1
Nitrosodimethylamine, N-	62-75-9	Yes	Yes	5.10E+01	U	1.40E-02	U	8.00E-06	U	4.00E-05	U	1
Nitrosodiphenylamine, N-	86-30-6	No	No	4.90E-03	U	2.60E-06	U	-		-		1
Nitrosomethylethylamine, N-	10595-95-6	No	Yes	2.20E+01	U	6.30E-03	U	-		-		1
Nitrosomethylvinylamine, N-	4549-40-0	No	Yes	-		-		-		-		1
Nitrosomorpholine [N-]	59-89-2	No	No	6.70E+00	U	1.90E-03	U	-		-		1
Nitrosopiperidine [N-]	100-75-4	No	No	9.40E+00	U	2.70E-03	U	-		-		1
Nitrosopyrrolidine, N-	930-55-2	No	No	2.10E+00	U	6.10E-04	U	-		-		1
Nitrotoluene, 4-Amino-2-	119-32-4	No	No	-		-		-		-		1
Nitrotoluene, m-	99-08-1	No	No	-		-		1.00E-04	U	-		1
Nitrotoluene, o-	88-72-2	No	Yes	2.20E-01	U	-		9.00E-04	U	-		1
Nitrotoluene, p-	99-99-0	No	No	1.60E-02	U	-		4.00E-03	U	-		1
Nonachlor, trans-	39765-80-5	No	Yes	-		-		-		-		1
Nonane, n-	111-84-2	No	Yes	-		-		3.00E-04	U	2.00E-02	U	1
Nonanol, n-	143-08-8	No	Yes	-		-		-		-		1
Norflurazon	27314-13-2	No	No	-		-		4.00E-02	U	-		1
Nustar	85509-19-9	No	No	-		-		7.00E-04	U	-		1
OCDD	3268-87-9	No	No	3.90E+01	U	1.14E-02	U	2.33E-06	U	1.33E-04	U	1
OCDF	39001-02-0	No	No	3.90E+01	U	1.14E-02	U	2.33E-06	U	1.33E-04	U	1
Octabromodiphenyl Ether	32536-52-0	No	No	-		-		3.00E-03	U	-		1
Octachlorostyrene	29082-74-4	No	Yes	-		-		-		-		1
Octadecanoic Acid	57-11-4	No	No	-		-		-		-		1
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2691-41-0	No	No	-		-		5.00E-02	U	-		1
Octahydrotrimethylmethylethylphenanthrenol	511-15-9	No	No	-		-		-		-		1

Site-specific
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Nitrophenol, 4-amino-2-	119-34-6	0.1	1	-	-	3.23E+09	-	-	-	-	-
Nitropropane, 2-	79-46-9	-	1	1.81E+04	4.86E+03	3.23E+09	-	-	1.71E+01	1.71E+01	-
Nitropyrene, 4-	57835-92-4	0.13	1	-	-	3.23E+09	1.72E+02	1.05E+03	7.51E+07	1.48E+02	-
Nitroquinoline-1-oxide. 4-	56-57-5	0.1	1	-	-	3.23E+09	-	-	-	-	-
Nitroso-N-ethylurea, N-	759-73-9	0.1	1	-	-	3.23E+09	7.65E+00	6.06E+01	1.07E+06	6.79E+00	-
Nitroso-N-methylurea, N-	684-93-5	0.1	1	-	-	3.23E+09	1.72E+00	1.36E+01	2.43E+05	1.53E+00	-
Nitroso-di-N-butylamine, N-	924-16-3	-	1	3.35E+05	-	3.23E+09	3.82E+01	-	5.35E+02	3.57E+01	-
Nitroso-di-N-propylamine, N-	621-64-7	0.1	1	-	-	3.23E+09	2.95E+01	2.34E+02	4.13E+06	2.62E+01	-
Nitrosodiethanolamine, N-	1116-54-7	0.1	1	-	-	3.23E+09	7.37E+01	5.84E+02	1.03E+07	6.55E+01	-
Nitrosodiethylamine, N-	55-18-5	0.1	1	-	-	3.23E+09	1.38E+00	1.09E+01	1.92E+05	1.22E+00	-
Nitrosodimethylamine, N-	62-75-9	-	1	1.14E+05	2.37E+05	3.23E+09	4.05E+00	-	2.07E+01	3.39E+00	2.36E+01
Nitrosodiphenylamine, N-	86-30-6	0.1	1	-	-	3.23E+09	4.21E+04	3.34E+05	3.18E+09	3.74E+04	-
Nitrosomethylethylamine, N-	10595-95-6	-	1	1.67E+05	1.08E+05	3.23E+09	9.38E+00	-	6.77E+01	8.24E+00	-
Nitrosomethylvinylamine, N-	4549-40-0	-	1	1.12E+05	1.08E+04	3.23E+09	-	-	-	-	-
Nitrosomorpholine [N-]	59-89-2	0.1	1	-	-	3.23E+09	3.08E+01	2.44E+02	4.35E+06	2.74E+01	-
Nitrosopiperidine [N-]	100-75-4	0.1	1	-	-	3.23E+09	2.20E+01	1.74E+02	3.06E+06	1.95E+01	-
Nitrosopyrrolidine, N-	930-55-2	0.1	1	-	-	3.23E+09	9.83E+01	7.79E+02	1.35E+07	8.73E+01	-
Nitrotoluene, 4-Amino-2-	119-32-4	0.1	1	-	-	3.23E+09	-	-	-	-	-
Nitrotoluene, m-	99-08-1	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+02
Nitrotoluene, o-	88-72-2	-	1	1.89E+05	1.51E+03	3.23E+09	9.38E+02	-	-	9.38E+02	2.65E+03
Nitrotoluene, p-	99-99-0	0.1	1	-	-	3.23E+09	1.29E+04	1.02E+05	-	1.15E+04	1.18E+04
Nonachlor, trans-	39765-80-5	-	1	3.73E+06	-	3.23E+09	-	-	-	-	-
Nonane, n-	111-84-2	-	1	1.44E+03	6.86E+00	3.23E+09	-	-	-	-	8.85E+02
Nonanol, n-	143-08-8	-	1	6.41E+04	7.27E+01	3.23E+09	-	-	-	-	-
Norflurazon	27314-13-2	0.1	1	-	-	3.23E+09	-	-	-	-	1.18E+05
Nustar	85509-19-9	0.1	1	-	-	3.23E+09	-	-	-	-	2.06E+03
OCDD	3268-87-9	0.03	1	-	-	3.23E+09	5.29E+00	1.40E+02	7.25E+05	5.10E+00	6.87E+00
OCDF	39001-02-0	0.03	1	-	-	3.23E+09	5.29E+00	1.40E+02	7.25E+05	5.10E+00	6.87E+00
Octabromodiphenyl Ether	32536-52-0	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+03
Octachlorostyrene	29082-74-4	-	1	8.40E+05	-	3.23E+09	-	-	-	-	-
Octadecanoic Acid	57-11-4	0.1	1	-	-	3.23E+09	-	-	-	-	-
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2691-41-0	0.006	1	-	-	3.23E+09	-	-	-	-	1.47E+05
Octahydrotrimethylmethylethylphenanthrenol	511-15-9	0.1	1	-	-	3.23E+09	-	-	-	-	-

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Nitrophenol, 4-amino-2-	119-34-6	-	-	-	
Nitropropane, 2-	79-46-9	-	1.32E+04	1.32E+04	1.71E+01 ca
Nitropyrene, 4-	57835-92-4	-	-	-	1.48E+02 ca
Nitroquinoline-1-oxide. 4-	56-57-5	-	-	-	
Nitroso-N-ethylurea, N-	759-73-9	-	-	-	6.79E+00 ca
Nitroso-N-methylurea, N-	684-93-5	-	-	-	1.53E+00 ca
Nitroso-di-N-butylamine, N-	924-16-3	-	-	-	3.57E+01 ca
Nitroso-di-N-propylamine, N-	621-64-7	-	-	-	2.62E+01 ca
Nitrosodiethanolamine, N-	1116-54-7	-	-	-	6.55E+01 ca
Nitrosodiethylamine, N-	55-18-5	-	-	-	1.22E+00 ca
Nitrosodimethylamine, N-	62-75-9	-	1.66E+02	2.07E+01	3.39E+00 ca**
Nitrosodiphenylamine, N-	86-30-6	-	-	-	3.74E+04 ca
Nitrosomethylethylamine, N-	10595-95-6	-	-	-	8.24E+00 ca
Nitrosomethylvinylamine, N-	4549-40-0	-	-	-	
Nitrosomorpholine [N-]	59-89-2	-	-	-	2.74E+01 ca
Nitrosopiperidine [N-]	100-75-4	-	-	-	1.95E+01 ca
Nitrosopyrrolidine, N-	930-55-2	-	-	-	8.73E+01 ca
Nitrotoluene, 4-Amino-2-	119-32-4	-	-	-	
Nitrotoluene, m-	99-08-1	2.34E+03	-	2.62E+02	2.62E+02 nc
Nitrotoluene, o-	88-72-2	-	-	2.65E+03	9.38E+02 ca**
Nitrotoluene, p-	99-99-0	9.35E+04	-	1.05E+04	1.05E+04 nc
Nonachlor, trans-	39765-80-5	-	-	-	
Nonane, n-	111-84-2	-	1.05E+03	4.80E+02	4.80E+02 sat
Nonanol, n-	143-08-8	-	-	-	
Norflurazon	27314-13-2	9.35E+05	-	1.05E+05	1.05E+05 max
Nustar	85509-19-9	1.64E+04	-	1.83E+03	1.83E+03 nc
OCDD	3268-87-9	1.82E+02	1.57E+07	6.62E+00	5.10E+00 ca**
OCDF	39001-02-0	1.82E+02	1.57E+07	6.62E+00	5.10E+00 ca**
Octabromodiphenyl Ether	32536-52-0	7.01E+04	-	7.86E+03	7.86E+03 nc
Octachlorostyrene	29082-74-4	-	-	-	
Octadecanoic Acid	57-11-4	-	-	-	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2691-41-0	1.95E+07	-	1.46E+05	1.46E+05 max
Octahydrotrimethylmethylethylphenanthrenol	511-15-9	-	-	-	

Site-specific
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Octamethylpyrophosphoramide	152-16-9	No	No	-		-		2.00E-03	U	-		1
Octanol, n-	111-87-5	No	Yes	-		-		-		-		1
Octanone, 2-	111-13-7	No	Yes	-		-		-		-		1
Octanone, 3-	106-68-3	No	Yes	-		-		-		-		1
Octyl Phthalate, di-N-	117-84-0	No	No	-		-		1.00E-02	U	-		1
Oleic acid	112-80-1	No	Yes	-		-		-		-		1
Oleum	8014-95-7	Yes	No	-		-		-		-		1
Oryzalin	19044-88-3	No	No	-		-		5.00E-02	U	-		1
Oxadiazon	19666-30-9	No	No	-		-		5.00E-03	U	-		1
Oxamyl	23135-22-0	No	No	-		-		2.50E-02	U	-		1
Oxychlordane	27304-13-8	No	No	-		-		-		-		1
Ozone	10028-15-6	No	No	-		-		-		-		1
Paclobutrazol	76738-62-0	No	No	-		-		1.30E-02	U	-		1
Paraquat Dichloride	1910-42-5	No	No	-		-		4.50E-03	U	-		1
Parathion	56-38-2	No	No	-		-		6.00E-03	U	-		1
PeCDD, 2,3,7,8-	36088-22-9	No	No	1.30E+05	U	3.80E+01	U	7.00E-10	U	4.00E-08	U	1
PeCDF, 1,2,3,7,8-	57117-41-6	No	No	3.90E+03	U	1.14E+00	U	2.33E-08	U	1.33E-06	U	1
PeCDF, 2,3,4,7,8-	57117-31-4	No	No	3.90E+04	U	1.14E+01	U	2.33E-09	U	1.33E-07	U	1
Pebulate	1114-71-2	No	Yes	-		-		5.00E-02	U	-		1
Pendimethalin	40487-42-1	No	No	-		-		4.00E-02	U	-		1
Pentabromodiphenyl Ether	32534-81-9	No	No	-		-		2.00E-03	U	-		1
Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	60348-60-9	No	No	-		-		1.00E-04	U	-		1
Pentachloroaniline	527-20-8	No	No	-		-		-		-		1
Pentachlorobenzene	608-93-5	No	Yes	-		-		8.00E-04	U	-		1
Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	65510-44-3	No	Yes	3.90E+00	U	1.14E-03	U	2.33E-05	U	1.33E-03	U	1
Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	31508-00-6	No	Yes	3.90E+00	U	1.14E-03	U	2.33E-05	U	1.33E-03	U	1
Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	32598-14-4	No	Yes	3.90E+00	U	1.14E-03	U	2.33E-05	U	1.33E-03	U	1
Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	74472-37-0	No	Yes	3.90E+00	U	1.14E-03	U	2.33E-05	U	1.33E-03	U	1
Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	57465-28-8	No	Yes	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
Pentachlorocyclopentadiene	25329-35-5	No	Yes	-		-		-		-		1
Pentachlorodibenzo-p-dioxin, 1,2,3,7,8-	40321-76-4	No	Yes	1.30E+05	U	3.80E+01	U	7.00E-10	U	4.00E-08	U	1
Pentachloroethane	76-01-7	No	Yes	9.00E-02	U	-		-		-		1
Pentachloronitrobenzene	82-68-8	No	Yes	2.60E-01	U	-		3.00E-03	U	-		1

Site-specific
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Octamethylpyrophosphoramide	152-16-9	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+03
Octanol, n-	111-87-5	-	1	5.35E+04	1.78E+02	3.23E+09	-	-	-	-	-
Octanone, 2-	111-13-7	-	1	2.12E+04	3.60E+02	3.23E+09	-	-	-	-	-
Octanone, 3-	106-68-3	-	1	2.60E+04	1.08E+03	3.23E+09	-	-	-	-	-
Octyl Phthalate, di-N-	117-84-0	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+04
Oleic acid	112-80-1	-	1	1.43E+06	1.44E+00	3.23E+09	-	-	-	-	-
Oleum	8014-95-7	-	1	-	-	3.23E+09	-	-	-	-	-
Oryzalin	19044-88-3	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+05
Oxadiazon	19666-30-9	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+04
Oxamyl	23135-22-0	0.1	1	-	-	3.23E+09	-	-	-	-	7.37E+04
Oxychlordane	27304-13-8	0.1	1	-	-	3.23E+09	-	-	-	-	-
Ozone	10028-15-6	-	1	-	-	3.23E+09	-	-	-	-	-
Paclobutrazol	76738-62-0	0.1	1	-	-	3.23E+09	-	-	-	-	3.83E+04
Paraquat Dichloride	1910-42-5	0.1	1	-	-	3.23E+09	-	-	-	-	1.33E+04
Parathion	56-38-2	0.1	1	-	-	3.23E+09	-	-	-	-	1.77E+04
PeCDD, 2,3,7,8-	36088-22-9	0.03	1	-	-	3.23E+09	1.59E-03	4.20E-02	2.17E+02	1.53E-03	2.06E-03
PeCDF, 1,2,3,7,8-	57117-41-6	0.03	1	-	-	3.23E+09	5.29E-02	1.40E+00	7.25E+03	5.10E-02	6.87E-02
PeCDF, 2,3,4,7,8-	57117-31-4	0.03	1	-	-	3.23E+09	5.29E-03	1.40E-01	7.25E+02	5.10E-03	6.87E-03
Pebulate	1114-71-2	-	1	6.20E+04	-	3.23E+09	-	-	-	-	1.47E+05
Pendimethalin	40487-42-1	0.1	1	-	-	3.23E+09	-	-	-	-	1.18E+05
Pentabromodiphenyl Ether	32534-81-9	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+03
Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	60348-60-9	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+02
Pentachloroaniline	527-20-8	0.1	1	-	-	3.23E+09	-	-	-	-	-
Pentachlorobenzene	608-93-5	-	1	1.12E+05	-	3.23E+09	-	-	-	-	2.36E+03
Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	65510-44-3	0.14	1	1.42E+06	-	3.23E+09	5.29E+01	3.00E+02	3.19E+03	4.44E+01	6.87E+01
Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	31508-00-6	0.14	1	1.14E+06	-	3.23E+09	5.29E+01	3.00E+02	2.56E+03	4.42E+01	6.87E+01
Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	32598-14-4	0.14	1	1.17E+06	-	3.23E+09	5.29E+01	3.00E+02	2.61E+03	4.42E+01	6.87E+01
Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	74472-37-0	0.14	1	1.42E+06	-	3.23E+09	5.29E+01	3.00E+02	3.19E+03	4.44E+01	6.87E+01
Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	57465-28-8	0.14	1	1.41E+06	-	3.23E+09	1.59E-02	8.99E-02	9.46E-01	1.33E-02	2.06E-02
Pentachlorocyclopentadiene	25329-35-5	-	1	1.95E+04	-	3.23E+09	-	-	-	-	-
Pentachlorodibenzo-p-dioxin, 1,2,3,7,8-	40321-76-4	0.03	1	4.61E+06	-	3.23E+09	1.59E-03	4.20E-02	3.10E-01	1.52E-03	2.06E-03
Pentachloroethane	76-01-7	-	1	1.33E+04	4.47E+02	3.23E+09	2.29E+03	-	-	2.29E+03	-
Pentachloronitrobenzene	82-68-8	-	1	5.95E+05	-	3.23E+09	7.94E+02	-	-	7.94E+02	8.85E+03

Site-specific
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Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Octamethylpyrophosphoramide	152-16-9	4.67E+04	-	5.24E+03	5.24E+03 nc
Octanol, n-	111-87-5	-	-	-	
Octanone, 2-	111-13-7	-	-	-	
Octanone, 3-	106-68-3	-	-	-	
Octyl Phthalate, di-N-	117-84-0	2.34E+05	-	2.62E+04	2.62E+04 nc
Oleic acid	112-80-1	-	-	-	
Oleum	8014-95-7	-	-	-	
Oryzalin	19044-88-3	1.17E+06	-	1.31E+05	1.31E+05 max
Oxadiazon	19666-30-9	1.17E+05	-	1.31E+04	1.31E+04 nc
Oxamyl	23135-22-0	5.84E+05	-	6.55E+04	6.55E+04 nc
Oxychlordane	27304-13-8	-	-	-	
Ozone	10028-15-6	-	-	-	
Paclobutrazol	76738-62-0	3.04E+05	-	3.40E+04	3.40E+04 nc
Paraquat Dichloride	1910-42-5	1.05E+05	-	1.18E+04	1.18E+04 nc
Parathion	56-38-2	1.40E+05	-	1.57E+04	1.57E+04 nc
PeCDD, 2,3,7,8-	36088-22-9	5.45E-02	4.72E+03	1.99E-03	1.53E-03 ca**
PeCDF, 1,2,3,7,8-	57117-41-6	1.82E+00	1.57E+05	6.62E-02	5.10E-02 ca**
PeCDF, 2,3,4,7,8-	57117-31-4	1.82E-01	1.57E+04	6.62E-03	5.10E-03 ca**
Pebulate	1114-71-2	-	-	1.47E+05	1.47E+05 max
Pendimethalin	40487-42-1	9.35E+05	-	1.05E+05	1.05E+05 max
Pentabromodiphenyl Ether	32534-81-9	4.67E+04	-	5.24E+03	5.24E+03 nc
Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	60348-60-9	2.34E+03	-	2.62E+02	2.62E+02 nc
Pentachloroaniline	527-20-8	-	-	-	
Pentachlorobenzene	608-93-5	-	-	2.36E+03	2.36E+03 nc
Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	65510-44-3	3.89E+02	6.91E+04	5.84E+01	4.44E+01 ca**
Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	31508-00-6	3.89E+02	5.55E+04	5.83E+01	4.42E+01 ca**
Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	32598-14-4	3.89E+02	5.66E+04	5.83E+01	4.42E+01 ca**
Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	74472-37-0	3.89E+02	6.91E+04	5.84E+01	4.44E+01 ca**
Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	57465-28-8	1.17E-01	2.05E+01	1.75E-02	1.33E-02 ca**
Pentachlorocyclopentadiene	25329-35-5	-	-	-	
Pentachlorodibenzo-p-dioxin, 1,2,3,7,8-	40321-76-4	5.45E-02	6.72E+00	1.99E-03	1.52E-03 ca**
Pentachloroethane	76-01-7	-	-	-	2.29E+03 sat
Pentachloronitrobenzene	82-68-8	-	-	8.85E+03	7.94E+02 ca*

Site-specific
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Pentachlorophenol	87-86-5	No	No	4.00E-01	U	5.10E-06	U	5.00E-03	U	-		1
Pentaerythritol tetranitrate (PETN)	78-11-5	No	No	4.00E-03	U	-		2.00E-03	U	-		1
Pentamethyl dipropylenetriamine	3855-32-1	No	No	-		-		-		-		1
Pentane, n-	109-66-0	No	Yes	-		-		-		1.00E+00	U	1
Pentyl Alcohol, N-	71-41-0	No	Yes	-		-		-		-		1
Perchlorate and Perchlorate Salts	14797-73-0	No	No	-		-		7.00E-04	U	-		1
Perfluorobutane Sulfonate	375-73-5	No	Yes	-		-		2.00E-02	U	-		1
Perfluorooctane Sulphonic Acid	1763-23-1	No	Yes	-		-		-		-		1
Perfluorooctanoic acid	335-67-1	No	Yes	-		-		-		-		1
Permethrin	52645-53-1	No	No	-		-		5.00E-02	U	-		1
Perylene	198-55-0	No	No	-		-		-		-		1
Pesticides (total)	NA	No	No	-		-		-		-		1
Pesticides, organochlorinated (each)	NA	No	No	-		-		-		-		1
Pesticides, organochlorinated (total)	NA	No	No	-		-		-		-		1
Phenacetin	62-44-2	No	No	2.20E-03	U	6.30E-07	U	-		-		1
Phenanthrene	85-01-8	No	Yes	-		-		-		-		1
Phenmedipham	13684-63-4	No	No	-		-		2.50E-01	U	-		1
Phenol	108-95-2	No	No	-		-		3.00E-01	U	2.00E-01	U	1
Phenothiazine	92-84-2	No	No	-		-		5.00E-04	U	-		1
Phenyl Isothiocyanate	103-72-0	No	Yes	-		-		-		-		1
Phenylenediamine, m-	108-45-2	No	No	-		-		6.00E-03	U	-		1
Phenylenediamine, o-	95-54-5	No	No	4.70E-02	U	-		-		-		1
Phenylenediamine, p-	106-50-3	No	No	-		-		1.90E-01	U	-		1
Phenylmercuric Acetate	62-38-4	No	No	-		-		8.00E-05	U	-		1
Phenylphenol, 2-	90-43-7	No	No	1.94E-03	U	-		-		-		1
Phorate	298-02-2	No	No	-		-		2.00E-04	U	-		1
Phosgene	75-44-5	No	Yes	-		-		-		3.00E-04	U	1
Phosmet	732-11-6	No	No	-		-		2.00E-02	U	-		1
Phosphine	7803-51-2	No	Yes	-		-		3.00E-04	U	3.00E-04	U	1
Phosphoric Acid	7664-38-2	No	No	-		-		4.86E+01	U	1.00E-02	U	1
Phosphorus (total)	NA	No	No	-		-		-		-		1
Phosphorus pentoxide	1314-56-3	No	No	-		-		-		-		1
Phosphorus, White	7723-14-0	No	Yes	-		-		2.00E-05	U	-		1
Phthalates (total)	NA	No	No	-		-		-		-		1

Site-specific
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Pentachlorophenol	87-86-5	0.25	1	-	-	3.23E+09	5.16E+02	1.64E+03	1.62E+09	3.92E+02	1.47E+04
Pentaerythritol tetranitrate (PETN)	78-11-5	0.1	1	-	-	3.23E+09	5.16E+04	4.09E+05	-	4.58E+04	5.90E+03
Pentamethyl dipropylenetriamine	3855-32-1	0.1	1	-	-	3.23E+09	-	-	-	-	-
Pentane, n-	109-66-0	-	1	1.07E+03	3.88E+02	3.23E+09	-	-	-	-	-
Pentyl Alcohol, N-	71-41-0	-	1	3.91E+04	3.04E+03	3.23E+09	-	-	-	-	-
Perchlorate and Perchlorate Salts	14797-73-0	-	1	-	-	3.23E+09	-	-	-	-	2.06E+03
Perfluorobutane Sulfonate	375-73-5	-	1	1.82E+05	-	3.23E+09	-	-	-	-	5.90E+04
Perfluorooctane Sulphonic Acid	1763-23-1	-	1	1.48E+05	-	3.23E+09	-	-	-	-	-
Perfluorooctanoic acid	335-67-1	-	1	3.00E+04	-	3.23E+09	-	-	-	-	-
Permethrin	52645-53-1	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+05
Perylene	198-55-0	0.13	1	-	-	3.23E+09	-	-	-	-	-
Pesticides (total)	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Pesticides, organochlorinated (each)	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Pesticides, organochlorinated (total)	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Phenacetin	62-44-2	0.1	1	-	-	3.23E+09	9.38E+04	7.44E+05	1.31E+10	8.33E+04	-
Phenanthrene	85-01-8	0.13	1	8.87E+05	-	3.23E+09	-	-	-	-	-
Phenmedipham	13684-63-4	0.1	1	-	-	3.23E+09	-	-	-	-	7.37E+05
Phenol	108-95-2	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+05
Phenothiazine	92-84-2	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+03
Phenyl Isothiocyanate	103-72-0	-	1	9.76E+03	1.29E+02	3.23E+09	-	-	-	-	-
Phenylenediamine, m-	108-45-2	0.1	1	-	-	3.23E+09	-	-	-	-	1.77E+04
Phenylenediamine, o-	95-54-5	0.1	1	-	-	3.23E+09	4.39E+03	3.48E+04	-	3.90E+03	-
Phenylenediamine, p-	106-50-3	0.1	1	-	-	3.23E+09	-	-	-	-	5.60E+05
Phenylmercuric Acetate	62-38-4	0.1	1	-	-	3.23E+09	-	-	-	-	2.36E+02
Phenylphenol, 2-	90-43-7	0.1	1	-	-	3.23E+09	1.06E+05	8.43E+05	-	9.45E+04	-
Phorate	298-02-2	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+02
Phosgene	75-44-5	-	1	1.35E+03	1.61E+03	3.23E+09	-	-	-	-	-
Phosmet	732-11-6	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Phosphine	7803-51-2	-	1	-	-	3.23E+09	-	-	-	-	8.85E+02
Phosphoric Acid	7664-38-2	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Phosphorus (total)	NA	-	1	-	-	3.23E+09	-	-	-	-	-
Phosphorus pentoxide	1314-56-3	-	1	-	-	3.23E+09	-	-	-	-	-
Phosphorus, White	7723-14-0	-	1	9.55E+03	-	3.23E+09	-	-	-	-	5.90E+01
Phthalates (total)	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-

Site-specific
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Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Pentachlorophenol	87-86-5	4.67E+04	-	1.12E+04	3.92E+02 ca*
Pentaerythritol tetranitrate (PETN)	78-11-5	4.67E+04	-	5.24E+03	5.24E+03 nc
Pentamethyl dipropylenetriamine	3855-32-1	-	-	-	
Pentane, n-	109-66-0	-	3.92E+04	3.92E+04	3.92E+04 sat
Pentyl Alcohol, N-	71-41-0	-	-	-	
Perchlorate and Perchlorate Salts	14797-73-0	-	-	2.06E+03	2.06E+03 nc
Perfluorobutane Sulfonate	375-73-5	-	-	5.90E+04	5.90E+04 nc
Perfluorooctane Sulphonic Acid	1763-23-1	-	-	-	
Perfluorooctanoic acid	335-67-1	-	-	-	
Permethrin	52645-53-1	1.17E+06	-	1.31E+05	1.31E+05 max
Perylene	198-55-0	-	-	-	
Pesticides (total)	NA	-	-	-	
Pesticides, organochlorinated (each)	NA	-	-	-	
Pesticides, organochlorinated (total)	NA	-	-	-	
Phenacetin	62-44-2	-	-	-	8.33E+04 ca
Phenanthrene	85-01-8	-	-	-	
Phenmedipham	13684-63-4	5.84E+06	-	6.55E+05	6.55E+05 max
Phenol	108-95-2	7.01E+06	2.36E+10	7.86E+05	7.86E+05 max
Phenothiazine	92-84-2	1.17E+04	-	1.31E+03	1.31E+03 nc
Phenyl Isothiocyanate	103-72-0	-	-	-	
Phenylenediamine, m-	108-45-2	1.40E+05	-	1.57E+04	1.57E+04 nc
Phenylenediamine, o-	95-54-5	-	-	-	3.90E+03 ca
Phenylenediamine, p-	106-50-3	4.44E+06	-	4.98E+05	4.98E+05 max
Phenylmercuric Acetate	62-38-4	1.87E+03	-	2.10E+02	2.10E+02 nc
Phenylphenol, 2-	90-43-7	-	-	-	9.45E+04 ca
Phorate	298-02-2	4.67E+03	-	5.24E+02	5.24E+02 nc
Phosgene	75-44-5	-	1.48E+01	1.48E+01	1.48E+01 nc
Phosmet	732-11-6	4.67E+05	-	5.24E+04	5.24E+04 nc
Phosphine	7803-51-2	-	3.54E+07	8.85E+02	8.85E+02 nc
Phosphoric Acid	7664-38-2	-	1.18E+09	1.28E+08	1.28E+08 max
Phosphorus (total)	NA	-	-	-	
Phosphorus pentoxide	1314-56-3	-	-	-	
Phosphorus, White	7723-14-0	-	-	5.90E+01	5.90E+01 nc
Phthalates (total)	NA	-	-	-	

Site-specific
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Phthalic Acid, P-	100-21-0	No	No	-		-		1.00E+00	U	-		1
Phthalic Acid, m-	121-91-5	No	No	-		-		-		-		1
Phthalic Acid, o-	88-99-3	No	No	-		-		-		-		1
Phthalic Anhydride	85-44-9	No	No	-		-		2.00E+00	U	2.00E-02	U	1
Picloram	1918-02-1	No	No	-		-		7.00E-02	U	-		1
Picoline, 2-	109-06-8	No	Yes	-		-		-		-		1
Picramic Acid (2-Amino-4,6-dinitrophenol)	96-91-3	No	No	-		-		1.00E-04	U	-		1
Picric Acid (2,4,6-Trinitrophenol)	88-89-1	No	No	-		-		-		-		1
Piperidine	110-89-4	No	Yes	-		-		-		-		1
Pirimiphos, Methyl	29232-93-7	No	No	-		-		1.00E-02	U	-		1
Polybrominated Biphenyls	59536-65-1	No	No	3.00E+01	U	8.60E-03	U	7.00E-06	U	-		1
Polychlorinated Biphenyls (high risk)	1336-36-3	No	Yes	2.00E+00	U	5.71E-04	U	-		-		1
Polycyclic aromatic hydrocarbons (PAH), Total	NA	No	No	-		-		-		-		1
Polycyclic aromatic hydrocarbons (PAH), Total (high molecular weight)	NA	No	No	-		-		-		-		1
Polycyclic aromatic hydrocarbons (PAH), Total (low molecular weight)	NA	No	No	-		-		-		-		1
Polycyclic chlorinated hydrocarbons (total)	NA	No	No	-		-		-		-		1
Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9	No	No	-		-		-		6.00E-04	U	1
Polyphosphoric acid	8017-16-1	No	No	-		-		4.86E+01	U	-		1
Potassium	7440-09-7	No	No	-		-		-		-		1
Potassium Cyanide	151-50-8	No	No	-		-		2.00E-03	U	-		1
Potassium Perchlorate	7778-74-7	No	No	-		-		7.00E-04	U	-		1
Potassium Perfluorobutane Sulfonate	29420-49-3	No	No	-		-		2.00E-02	U	-		1
Potassium Silver Cyanide	506-61-6	No	No	-		-		5.00E-03	U	-		0.04
Potassium chlorate	3811-04-9	No	No	-		-		-		-		1
Potassium tripolyphosphate	13845-36-8	No	No	-		-		4.86E+01	U	-		1
Praseodymium	7440-10-0	No	No	-		-		-		-		1
Praseodymium Chloride (Stable, Nonradioactive)	10361-79-2	No	No	-		-		-		-		1
Prochloraz	67747-09-5	No	No	1.50E-01	U	-		9.00E-03	U	-		1
Profluralin	26399-36-0	No	Yes	-		-		6.00E-03	U	-		1
Promethium	7440-12-2	No	No	-		-		-		-		1

Site-specific
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Phthalic Acid, P-	100-21-0	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+06
Phthalic Acid, m-	121-91-5	0.1	1	-	-	3.23E+09	-	-	-	-	-
Phthalic Acid, o-	88-99-3	0.1	1	-	-	3.23E+09	-	-	-	-	-
Phthalic Anhydride	85-44-9	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+06
Picloram	1918-02-1	0.1	1	-	-	3.23E+09	-	-	-	-	2.06E+05
Picoline, 2-	109-06-8	-	1	1.05E+05	7.90E+05	3.23E+09	-	-	-	-	-
Picramic Acid (2-Amino-4,6-dinitrophenol)	96-91-3	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+02
Picric Acid (2,4,6-Trinitrophenol)	88-89-1	0.1	1	-	-	3.23E+09	-	-	-	-	-
Piperidine	110-89-4	-	1	1.12E+05	1.96E+05	3.23E+09	-	-	-	-	-
Pirimiphos, Methyl	29232-93-7	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+04
Polybrominated Biphenyls	59536-65-1	0.1	1	-	-	3.23E+09	6.88E+00	5.45E+01	9.61E+05	6.11E+00	2.06E+01
Polychlorinated Biphenyls (high risk)	1336-36-3	0.14	1	1.08E+06	-	3.23E+09	1.03E+02	5.84E+02	4.85E+03	8.62E+01	-
Polycyclic aromatic hydrocarbons (PAH), Total	NA	0.13	1	-	-	3.23E+09	-	-	-	-	-
Polycyclic aromatic hydrocarbons (PAH), Total (high molecular weight)	NA	0.13	1	-	-	3.23E+09	-	-	-	-	-
Polycyclic aromatic hydrocarbons (PAH), Total (low molecular weight)	NA	0.13	1	-	-	3.23E+09	-	-	-	-	-
Polycyclic chlorinated hydrocarbons (total)	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9	0.1	1	-	-	3.23E+09	-	-	-	-	-
Polyphosphoric acid	8017-16-1	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Potassium	7440-09-7	-	1	-	-	3.23E+09	-	-	-	-	-
Potassium Cyanide	151-50-8	-	1	-	-	3.23E+09	-	-	-	-	5.90E+03
Potassium Perchlorate	7778-74-7	-	1	-	-	3.23E+09	-	-	-	-	2.06E+03
Potassium Perfluorobutane Sulfonate	29420-49-3	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Potassium Silver Cyanide	506-61-6	-	1	-	-	3.23E+09	-	-	-	-	1.47E+04
Potassium chlorate	3811-04-9	-	1	-	-	3.23E+09	-	-	-	-	-
Potassium tripolyphosphate	13845-36-8	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Praseodymium	7440-10-0	-	1	-	-	3.23E+09	-	-	-	-	-
Praseodymium Chloride (Stable, Nonradioactive)	10361-79-2	-	1	-	-	3.23E+09	-	-	-	-	-
Prochloraz	67747-09-5	0.1	1	-	-	3.23E+09	1.38E+03	1.09E+04	-	1.22E+03	2.65E+04
Profluralin	26399-36-0	-	1	5.78E+05	-	3.23E+09	-	-	-	-	1.77E+04
Promethium	7440-12-2	-	1	-	-	3.23E+09	-	-	-	-	-

Site-specific
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Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Phthalic Acid, P-	100-21-0	2.34E+07	-	2.62E+06	2.62E+06 max
Phthalic Acid, m-	121-91-5	-	-	-	
Phthalic Acid, o-	88-99-3	-	-	-	
Phthalic Anhydride	85-44-9	4.67E+07	2.36E+09	5.23E+06	5.23E+06 max
Picloram	1918-02-1	1.64E+06	-	1.83E+05	1.83E+05 max
Picoline, 2-	109-06-8	-	-	-	
Picramic Acid (2-Amino-4,6-dinitrophenol)	96-91-3	2.34E+03	-	2.62E+02	2.62E+02 nc
Picric Acid (2,4,6-Trinitrophenol)	88-89-1	-	-	-	
Piperidine	110-89-4	-	-	-	
Pirimiphos, Methyl	29232-93-7	2.34E+05	-	2.62E+04	2.62E+04 nc
Polybrominated Biphenyls	59536-65-1	1.64E+02	-	1.83E+01	6.11E+00 ca**
Polychlorinated Biphenyls (high risk)	1336-36-3	-	-	-	8.62E+01 ca
Polycyclic aromatic hydrocarbons (PAH), Total	NA	-	-	-	
Polycyclic aromatic hydrocarbons (PAH), Total (high molecular weight)	NA	-	-	-	
Polycyclic aromatic hydrocarbons (PAH), Total (low molecular weight)	NA	-	-	-	
Polycyclic chlorinated hydrocarbons (total)	NA	-	-	-	
Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9	-	7.08E+07	7.08E+07	7.08E+07 max
Polyphosphoric acid	8017-16-1	-	-	1.43E+08	1.43E+08 max
Potassium	7440-09-7	-	-	-	
Potassium Cyanide	151-50-8	-	-	5.90E+03	5.90E+03 nc
Potassium Perchlorate	7778-74-7	-	-	2.06E+03	2.06E+03 nc
Potassium Perfluorobutane Sulfonate	29420-49-3	4.67E+05	-	5.24E+04	5.24E+04 nc
Potassium Silver Cyanide	506-61-6	-	-	1.47E+04	1.47E+04 nc
Potassium chlorate	3811-04-9	-	-	-	
Potassium tripolyphosphate	13845-36-8	-	-	1.43E+08	1.43E+08 max
Praseodymium	7440-10-0	-	-	-	
Praseodymium Chloride (Stable, Nonradioactive)	10361-79-2	-	-	-	
Prochloraz	67747-09-5	2.10E+05	-	2.36E+04	1.22E+03 ca*
Profluralin	26399-36-0	-	-	1.77E+04	1.77E+04 nc
Promethium	7440-12-2	-	-	-	

Site-specific
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Prometon	1610-18-0	No	No	-		-		1.50E-02	U	-		1
Prometryn	7287-19-6	No	No	-		-		4.00E-03	U	-		1
Propachlor	1918-16-7	No	No	-		-		1.30E-02	U	-		1
Propanil	709-98-8	No	No	-		-		5.00E-03	U	-		1
Propanoic acid, 2-(2,4-dichlorophenoxy)-	120-36-5	No	No	-		-		-		-		1
Propargite	2312-35-8	No	No	-		-		2.00E-02	U	-		1
Propargyl Alcohol	107-19-7	No	Yes	-		-		2.00E-03	U	-		1
Propazine	139-40-2	No	No	-		-		2.00E-02	U	-		1
Propham	122-42-9	No	No	-		-		2.00E-02	U	-		1
Propiconazole	60207-90-1	No	No	-		-		1.30E-02	U	-		1
Propionaldehyde	123-38-6	No	Yes	-		-		-		8.00E-03	U	1
Propionitrile	107-12-0	No	Yes	-		-		-		-		1
Propionitrile, 3-(NN-dimethylamino)	1738-25-6	No	Yes	-		-		-		-		1
Propyl Alcohol, n-	71-23-8	No	Yes	-		-		-		-		1
Propyl benzene	103-65-1	No	Yes	-		-		1.00E-01	U	1.00E+00	U	1
Propylene	115-07-1	No	Yes	-		-		-		3.00E+00	U	1
Propylene Glycol	57-55-6	No	No	-		-		2.00E+01	U	-		1
Propylene Glycol Dinitrate	6423-43-4	No	No	-		-		-		2.72E-04	U	1
Propylene Glycol Monoethyl Ether	1569-02-4	No	Yes	-		-		7.00E-01	U	-		1
Propylene Glycol Monomethyl Ether	107-98-2	No	Yes	-		-		7.00E-01	U	2.00E+00	U	1
Propylene Oxide	75-56-9	No	Yes	2.40E-01	U	3.70E-06	U	-		3.00E-02	U	1
Prussian Blue (Ferric Ferrocyanide)	14038-43-8	No	No	-		-		-		-		1
Pursuit	81335-77-5	No	No	-		-		2.50E-01	U	-		1
Pydrin	51630-58-1	No	No	-		-		2.50E-02	U	-		1
Pyrazinyl phosphorothioate, O,O-diethyl O-2-	297-97-2	No	No	-		-		-		-		1
Pyrene	129-00-0	No	Yes	-		-		3.00E-02	U	-		1
Pyridine	110-86-1	No	Yes	-		-		1.00E-03	U	-		1
Quinalphos	13593-03-8	No	No	-		-		5.00E-04	U	-		1
Quinoline	91-22-5	No	No	3.00E+00	U	-		-		-		1
Refractory Ceramic Fibers	NA	No	No	-		-		-		3.00E-02	U	1
Resmethrin	10453-86-8	No	No	-		-		3.00E-02	U	-		1
Resorcinol	108-46-3	No	No	-		-		-		-		1
Ronnel	299-84-3	No	Yes	-		-		5.00E-02	U	-		1
Rotenone	83-79-4	No	No	-		-		4.00E-03	U	-		1

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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Prometon	1610-18-0	0.1	1	-	-	3.23E+09	-	-	-	-	4.42E+04
Prometryn	7287-19-6	0.1	1	-	-	3.23E+09	-	-	-	-	1.18E+04
Propachlor	1918-16-7	0.1	1	-	-	3.23E+09	-	-	-	-	3.83E+04
Propanil	709-98-8	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+04
Propanoic acid, 2-(2,4-dichlorophenoxy)-	120-36-5	0.1	1	-	-	3.23E+09	-	-	-	-	-
Propargite	2312-35-8	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Propargyl Alcohol	107-19-7	-	1	8.66E+04	1.11E+05	3.23E+09	-	-	-	-	5.90E+03
Propazine	139-40-2	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Propham	122-42-9	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Propiconazole	60207-90-1	0.1	1	-	-	3.23E+09	-	-	-	-	3.83E+04
Propionaldehyde	123-38-6	-	1	1.24E+04	3.26E+04	3.23E+09	-	-	-	-	-
Propionitrile	107-12-0	-	1	2.07E+04	1.56E+04	3.23E+09	-	-	-	-	-
Propionitrile, 3-(NN-dimethylamino)	1738-25-6	-	1	2.62E+05	1.60E+05	3.23E+09	-	-	-	-	-
Propyl Alcohol, n-	71-23-8	-	1	4.01E+04	1.11E+05	3.23E+09	-	-	-	-	-
Propyl benzene	103-65-1	-	1	9.64E+03	2.64E+02	3.23E+09	-	-	-	-	2.95E+05
Propylene	115-07-1	-	1	9.70E+02	3.49E+02	3.23E+09	-	-	-	-	-
Propylene Glycol	57-55-6	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+07
Propylene Glycol Dinitrate	6423-43-4	0.1	1	-	-	3.23E+09	-	-	-	-	-
Propylene Glycol Monoethyl Ether	1569-02-4	-	1	2.14E+05	8.52E+04	3.23E+09	-	-	-	-	2.06E+06
Propylene Glycol Monomethyl Ether	107-98-2	-	1	1.08E+05	1.06E+05	3.23E+09	-	-	-	-	2.06E+06
Propylene Oxide	75-56-9	-	1	1.42E+04	7.77E+04	3.23E+09	8.60E+02	-	9.77E+03	7.91E+02	-
Prussian Blue (Ferric Ferrocyanide)	14038-43-8	0.1	1	-	-	3.23E+09	-	-	-	-	-
Pursuit	81335-77-5	0.1	1	-	-	3.23E+09	-	-	-	-	7.37E+05
Pydrin	51630-58-1	0.1	1	-	-	3.23E+09	-	-	-	-	7.37E+04
Pyrazinyl phosphorothioate, O,O-diethyl O-2-	297-97-2	0.1	1	-	-	3.23E+09	-	-	-	-	-
Pyrene	129-00-0	0.13	1	3.28E+06	-	3.23E+09	-	-	-	-	8.85E+04
Pyridine	110-86-1	-	1	7.64E+04	5.30E+05	3.23E+09	-	-	-	-	2.95E+03
Quinalphos	13593-03-8	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+03
Quinoline	91-22-5	0.1	1	-	-	3.23E+09	6.88E+01	5.45E+02	-	6.11E+01	-
Refractory Ceramic Fibers	NA	-	1	-	-	3.23E+09	-	-	-	-	-
Resmethrin	10453-86-8	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+04
Resorcinol	108-46-3	0.1	1	-	-	3.23E+09	-	-	-	-	-
Ronnel	299-84-3	-	1	6.40E+05	-	3.23E+09	-	-	-	-	1.47E+05
Rotenone	83-79-4	0.1	1	-	-	3.23E+09	-	-	-	-	1.18E+04

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Prometon	1610-18-0	3.51E+05	-	3.93E+04	3.93E+04 nc
Prometryn	7287-19-6	9.35E+04	-	1.05E+04	1.05E+04 nc
Propachlor	1918-16-7	3.04E+05	-	3.40E+04	3.40E+04 nc
Propanil	709-98-8	1.17E+05	-	1.31E+04	1.31E+04 nc
Propanoic acid, 2-(2,4-dichlorophenoxy)-	120-36-5	-	-	-	
Propargite	2312-35-8	4.67E+05	-	5.24E+04	5.24E+04 nc
Propargyl Alcohol	107-19-7	-	-	5.90E+03	5.90E+03 nc
Propazine	139-40-2	4.67E+05	-	5.24E+04	5.24E+04 nc
Propham	122-42-9	4.67E+05	-	5.24E+04	5.24E+04 nc
Propiconazole	60207-90-1	3.04E+05	-	3.40E+04	3.40E+04 nc
Propionaldehyde	123-38-6	-	3.61E+03	3.61E+03	3.61E+03 nc
Propionitrile	107-12-0	-	-	-	
Propionitrile, 3-(NN-dimethylamino)	1738-25-6	-	-	-	
Propyl Alcohol, n-	71-23-8	-	-	-	
Propyl benzene	103-65-1	-	3.52E+05	1.60E+05	1.60E+05 sat
Propylene	115-07-1	-	1.06E+05	1.06E+05	1.06E+05 sat
Propylene Glycol	57-55-6	4.67E+08	-	5.24E+07	5.24E+07 max
Propylene Glycol Dinitrate	6423-43-4	-	3.21E+07	3.21E+07	3.21E+07 max
Propylene Glycol Monoethyl Ether	1569-02-4	-	-	2.06E+06	2.06E+06 sat
Propylene Glycol Monomethyl Ether	107-98-2	-	7.89E+06	1.64E+06	1.64E+06 sat
Propylene Oxide	75-56-9	-	1.55E+04	1.55E+04	7.91E+02 ca*
Prussian Blue (Ferric Ferrocyanide)	14038-43-8	-	-	-	
Pursuit	81335-77-5	5.84E+06	-	6.55E+05	6.55E+05 max
Pydrin	51630-58-1	5.84E+05	-	6.55E+04	6.55E+04 nc
Pyrazinyl phosphorothioate, O,O-diethyl O-2-	297-97-2	-	-	-	
Pyrene	129-00-0	5.39E+05	-	7.60E+04	7.60E+04 nc
Pyridine	110-86-1	-	-	2.95E+03	2.95E+03 nc
Quinalphos	13593-03-8	1.17E+04	-	1.31E+03	1.31E+03 nc
Quinoline	91-22-5	-	-	-	6.11E+01 ca
Refractory Ceramic Fibers	NA	-	3.54E+09	3.54E+09	3.54E+09 max
Resmethrin	10453-86-8	7.01E+05	-	7.86E+04	7.86E+04 nc
Resorcinol	108-46-3	-	-	-	
Ronnel	299-84-3	-	-	1.47E+05	1.47E+05 max
Rotenone	83-79-4	9.35E+04	-	1.05E+04	1.05E+04 nc

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR UTILITY WORKER
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Safrole	94-59-7	Yes	No	2.20E-01	U	6.30E-05	U	-		-		1
Samarium Chloride (Stable, Nonradioactive)	10361-82-7	No	No	-		-		-		-		1
Samarium Nitrate (Stable, Nonradioactive)	10361-83-8	No	No	-		-		-		-		1
Savey	78587-05-0	No	No	-		-		2.50E-02	U	-		1
Scandium	7440-20-2	No	No	-		-		-		-		1
Selenious Acid	7783-00-8	No	No	-		-		5.00E-03	U	-		1
Selenite	14124-67-5	No	No	-		-		-		-		1
Selenium	7782-49-2	No	No	-		-		5.00E-03	U	2.00E-02	U	1
Selenium Sulfide	7446-34-6	No	No	-		-		5.00E-03	U	2.00E-02	U	1
Selenourea	630-10-4	No	No	-		-		-		-		1
Sethoxydim	74051-80-2	No	No	-		-		9.00E-02	U	-		1
Silica (crystalline, respirable)	7631-86-9	No	No	-		-		-		3.00E-03	U	1
Silicon	7440-21-3	No	No	-		-		-		-		1
Silver	7440-22-4	No	No	-		-		5.00E-03	U	-		0.04
Silver Cyanide	506-64-9	No	No	-		-		1.00E-01	U	-		0.04
Simazine	122-34-9	No	No	1.20E-01	U	-		5.00E-03	U	-		1
Sodium	7440-23-5	No	No	-		-		-		-		1
Sodium Acifluorfen	62476-59-9	No	No	-		-		1.30E-02	U	-		1
Sodium Azide	26628-22-8	No	No	-		-		4.00E-03	U	-		1
Sodium Chlorate	7775-09-9	No	No	-		-		-		-		1
Sodium Cyanide	143-33-9	No	No	-		-		1.00E-03	U	-		1
Sodium Dichromate	10588-01-9	Yes	No	5.00E-01	U	1.50E-01	U	2.00E-02	U	2.00E-04	U	0.025
Sodium Diethyldithiocarbamate	148-18-5	No	No	2.70E-01	U	-		3.00E-02	U	-		1
Sodium Fluoride	7681-49-4	No	No	-		-		5.00E-02	U	1.30E-02	U	1
Sodium Fluoroacetate	62-74-8	No	No	-		-		2.00E-05	U	-		1
Sodium Hydroxide	1310-73-2	No	No	-		-		-		-		1
Sodium Metavanadate	13718-26-8	No	No	-		-		1.00E-03	U	-		1
Sodium Perchlorate	7601-89-0	No	No	-		-		7.00E-04	U	-		1
Sodium acid pyrophosphate	7758-16-9	No	No	-		-		4.86E+01	U	-		1
Sodium aluminum phosphate (acidic)	7785-88-8	No	No	-		-		4.86E+01	U	-		1
Sodium aluminum phosphate (anhydrous)	10279-59-1	No	No	-		-		4.86E+01	U	-		1
Sodium aluminum phosphate (tetrahydrate)	10305-76-7	No	No	-		-		4.86E+01	U	-		1
Sodium hexametaphosphate	10124-56-8	No	No	-		-		4.86E+01	U	-		1
Sodium polyphosphate	68915-31-1	No	No	-		-		4.86E+01	U	-		1

Site-specific
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Safrole	94-59-7	0.1	1	-	-	3.23E+09	9.38E+02	7.44E+03	1.31E+08	8.33E+02	-
Samarium Chloride (Stable, Nonradioactive)	10361-82-7	-	1	-	-	3.23E+09	-	-	-	-	-
Samarium Nitrate (Stable, Nonradioactive)	10361-83-8	-	1	-	-	3.23E+09	-	-	-	-	-
Savey	78587-05-0	0.1	1	-	-	3.23E+09	-	-	-	-	7.37E+04
Scandium	7440-20-2	-	1	-	-	3.23E+09	-	-	-	-	-
Selenious Acid	7783-00-8	-	1	-	-	3.23E+09	-	-	-	-	1.47E+04
Selenite	14124-67-5	-	1	-	-	3.23E+09	-	-	-	-	-
Selenium	7782-49-2	-	1	-	-	3.23E+09	-	-	-	-	1.47E+04
Selenium Sulfide	7446-34-6	-	1	-	-	3.23E+09	-	-	-	-	1.47E+04
Selenourea	630-10-4	0.1	1	-	-	3.23E+09	-	-	-	-	-
Sethoxydim	74051-80-2	0.1	1	-	-	3.23E+09	-	-	-	-	2.65E+05
Silica (crystalline, respirable)	7631-86-9	-	1	-	-	3.23E+09	-	-	-	-	-
Silicon	7440-21-3	-	1	-	-	3.23E+09	-	-	-	-	-
Silver	7440-22-4	-	1	-	-	3.23E+09	-	-	-	-	1.47E+04
Silver Cyanide	506-64-9	-	1	-	-	3.23E+09	-	-	-	-	2.95E+05
Simazine	122-34-9	0.1	1	-	-	3.23E+09	1.72E+03	1.36E+04	-	1.53E+03	1.47E+04
Sodium	7440-23-5	-	1	-	-	3.23E+09	-	-	-	-	-
Sodium Acifluorfen	62476-59-9	0.1	1	-	-	3.23E+09	-	-	-	-	3.83E+04
Sodium Azide	26628-22-8	-	1	-	-	3.23E+09	-	-	-	-	1.18E+04
Sodium Chlorate	7775-09-9	-	1	-	-	3.23E+09	-	-	-	-	-
Sodium Cyanide	143-33-9	-	1	-	-	3.23E+09	-	-	-	-	2.95E+03
Sodium Dichromate	10588-01-9	-	1	-	-	3.23E+09	4.13E+02	-	5.51E+04	4.10E+02	5.90E+04
Sodium Diethyldithiocarbamate	148-18-5	0.1	1	-	-	3.23E+09	7.65E+02	6.06E+03	-	6.79E+02	8.85E+04
Sodium Fluoride	7681-49-4	-	1	-	-	3.23E+09	-	-	-	-	1.47E+05
Sodium Fluoroacetate	62-74-8	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+01
Sodium Hydroxide	1310-73-2	-	1	-	-	3.23E+09	-	-	-	-	-
Sodium Metavanadate	13718-26-8	-	1	-	-	3.23E+09	-	-	-	-	2.95E+03
Sodium Perchlorate	7601-89-0	-	1	-	-	3.23E+09	-	-	-	-	2.06E+03
Sodium acid pyrophosphate	7758-16-9	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Sodium aluminum phosphate (acidic)	7785-88-8	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Sodium aluminum phosphate (anhydrous)	10279-59-1	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Sodium aluminum phosphate (tetrahydrate)	10305-76-7	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Sodium hexametaphosphate	10124-56-8	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Sodium polyphosphate	68915-31-1	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08

Site-specific
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Safrole	94-59-7	-	-	-	8.33E+02 ca
Samarium Chloride (Stable, Nonradioactive)	10361-82-7	-	-	-	
Samarium Nitrate (Stable, Nonradioactive)	10361-83-8	-	-	-	
Savey	78587-05-0	5.84E+05	-	6.55E+04	6.55E+04 nc
Scandium	7440-20-2	-	-	-	
Selenious Acid	7783-00-8	-	-	1.47E+04	1.47E+04 nc
Selenite	14124-67-5	-	-	-	
Selenium	7782-49-2	-	2.36E+09	1.47E+04	1.47E+04 nc
Selenium Sulfide	7446-34-6	-	2.36E+09	1.47E+04	1.47E+04 nc
Selenourea	630-10-4	-	-	-	
Sethoxydim	74051-80-2	2.10E+06	-	2.36E+05	2.36E+05 max
Silica (crystalline, respirable)	7631-86-9	-	3.54E+08	3.54E+08	3.54E+08 max
Silicon	7440-21-3	-	-	-	
Silver	7440-22-4	-	-	1.47E+04	1.47E+04 nc
Silver Cyanide	506-64-9	-	-	2.95E+05	2.95E+05 max
Simazine	122-34-9	1.17E+05	-	1.31E+04	1.53E+03 ca**
Sodium	7440-23-5	-	-	-	
Sodium Acifluorfen	62476-59-9	3.04E+05	-	3.40E+04	3.40E+04 nc
Sodium Azide	26628-22-8	-	-	1.18E+04	1.18E+04 nc
Sodium Chlorate	7775-09-9	-	-	-	
Sodium Cyanide	143-33-9	-	-	2.95E+03	2.95E+03 nc
Sodium Dichromate	10588-01-9	-	2.36E+07	5.88E+04	4.10E+02 ca
Sodium Diethyldithiocarbamate	148-18-5	7.01E+05	-	7.86E+04	6.79E+02 ca
Sodium Fluoride	7681-49-4	-	1.53E+09	1.47E+05	1.47E+05 max
Sodium Fluoroacetate	62-74-8	4.67E+02	-	5.24E+01	5.24E+01 nc
Sodium Hydroxide	1310-73-2	-	-	-	
Sodium Metavanadate	13718-26-8	-	-	2.95E+03	2.95E+03 nc
Sodium Perchlorate	7601-89-0	-	-	2.06E+03	2.06E+03 nc
Sodium acid pyrophosphate	7758-16-9	-	-	1.43E+08	1.43E+08 max
Sodium aluminum phosphate (acidic)	7785-88-8	-	-	1.43E+08	1.43E+08 max
Sodium aluminum phosphate (anhydrous)	10279-59-1	-	-	1.43E+08	1.43E+08 max
Sodium aluminum phosphate (tetrahydrate)	10305-76-7	-	-	1.43E+08	1.43E+08 max
Sodium hexametaphosphate	10124-56-8	-	-	1.43E+08	1.43E+08 max
Sodium polyphosphate	68915-31-1	-	-	1.43E+08	1.43E+08 max

Site-specific
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Sodium trimetaphosphate	7785-84-4	No	No	-		-		4.86E+01	U	-		1
Sodium tripolyphosphate	7758-29-4	No	No	-		-		4.86E+01	U	-		1
Stearyl Acetate	822-23-1	No	Yes	-		-		-		-		1
Stirofos (Tetrachlorovinphos)	961-11-5	No	No	2.40E-02	U	-		3.00E-02	U	-		1
Strontium Chromate	7789-06-2	Yes	No	5.00E-01	U	1.50E-01	U	2.00E-02	U	2.00E-04	U	0.025
Strontium, Stable	7440-24-6	No	No	-		-		6.00E-01	U	-		1
Strychnine	57-24-9	No	No	-		-		3.00E-04	U	-		1
Styrene	100-42-5	No	Yes	-		-		2.00E-01	U	1.00E+00	U	1
Styrene-Acrylonitrile (SAN) Trimer	NA	No	No	-		-		3.00E-03	U	-		1
Sulfate	14808-79-8	No	No	-		-		-		-		1
Sulfide	18496-25-8	No	No	-		-		-		-		1
Sulfolane	126-33-0	No	No	-		-		1.00E-03	U	2.00E-03	U	1
Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9	No	No	-		-		8.00E-04	U	-		1
Sulfur	7704-34-9	No	No	-		-		-		-		1
Sulfur Dioxide	7446-09-5	No	Yes	-		-		-		-		1
Sulfur Mustard	505-60-2	No	Yes	-		-		-		-		1
Sulfur Trioxide	7446-11-9	No	Yes	-		-		-		1.00E-03	U	1
Sulfuric Acid	7664-93-9	No	No	-		-		-		1.00E-03	U	1
Systhane	88671-89-0	No	No	-		-		2.50E-02	U	-		1
TCDD, 2,3,7,8-	1746-01-6	No	Yes	1.30E+05	U	3.80E+01	U	7.00E-10	U	4.00E-08	U	1
TCDF, 2,3,7,8-	51207-31-9	No	Yes	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
TCMTB	21564-17-0	No	No	-		-		3.00E-02	U	-		1
Tebuthiuron	34014-18-1	No	No	-		-		7.00E-02	U	-		1
Technetium	7440-26-8	No	No	-		-		-		-		1
Tellurium	13494-80-9	No	No	-		-		-		-		1
Temephos	3383-96-8	No	No	-		-		2.00E-02	U	-		1
Terbacil	5902-51-2	No	No	-		-		1.30E-02	U	-		1
Terbufos	13071-79-9	No	Yes	-		-		2.50E-05	U	-		1
Terbutryn	886-50-0	No	No	-		-		1.00E-03	U	-		1
Tetrabutyl Lead	1920-90-7	No	Yes	-		-		-		-		1
Tetrachloroaniline, 2,3,5,6-	3481-20-7	No	No	-		-		-		-		1
Tetrachlorobenzene, 1,2,3,4-	634-66-2	No	Yes	-		-		-		-		1
Tetrachlorobenzene, 1,2,4,5-	95-94-3	No	Yes	-		-		3.00E-04	U	-		1

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Sodium trimetaphosphate	7785-84-4	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Sodium tripolyphosphate	7758-29-4	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Stearyl Acetate	822-23-1	-	1	8.92E+04	-	3.23E+09	-	-	-	-	-
Stirofos (Tetrachlorovinphos)	961-11-5	0.1	1	-	-	3.23E+09	8.60E+03	6.82E+04	-	7.64E+03	8.85E+04
Strontium Chromate	7789-06-2	-	1	-	-	3.23E+09	4.13E+02	-	5.51E+04	4.10E+02	5.90E+04
Strontium, Stable	7440-24-6	-	1	-	-	3.23E+09	-	-	-	-	1.77E+06
Strychnine	57-24-9	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+02
Styrene	100-42-5	-	1	1.29E+04	8.67E+02	3.23E+09	-	-	-	-	5.90E+05
Styrene-Acrylonitrile (SAN) Trimer	NA	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+03
Sulfate	14808-79-8	-	1	-	-	3.23E+09	-	-	-	-	-
Sulfide	18496-25-8	-	1	-	-	3.23E+09	-	-	-	-	-
Sulfolane	126-33-0	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+03
Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9	0.1	1	-	-	3.23E+09	-	-	-	-	2.36E+03
Sulfur	7704-34-9	-	1	-	-	3.23E+09	-	-	-	-	-
Sulfur Dioxide	7446-09-5	-	1	-	-	3.23E+09	-	-	-	-	-
Sulfur Mustard	505-60-2	-	1	1.21E+05	1.08E+03	3.23E+09	-	-	-	-	-
Sulfur Trioxide	7446-11-9	-	1	-	-	3.23E+09	-	-	-	-	-
Sulfuric Acid	7664-93-9	-	1	-	-	3.23E+09	-	-	-	-	-
Systhane	88671-89-0	0.1	1	-	-	3.23E+09	-	-	-	-	7.37E+04
TCDD, 2,3,7,8-	1746-01-6	0.03	1	2.71E+06	-	3.23E+09	1.59E-03	4.20E-02	1.82E-01	1.52E-03	2.06E-03
TCDF, 2,3,7,8-	51207-31-9	0.03	1	4.72E+06	-	3.23E+09	1.59E-02	4.20E-01	3.17E+00	1.52E-02	2.06E-02
TCMTB	21564-17-0	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+04
Tebuthiuron	34014-18-1	0.1	1	-	-	3.23E+09	-	-	-	-	2.06E+05
Technetium	7440-26-8	-	1	-	-	3.23E+09	-	-	-	-	-
Tellurium	13494-80-9	-	1	-	-	3.23E+09	-	-	-	-	-
Temephos	3383-96-8	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Terbacil	5902-51-2	0.1	1	-	-	3.23E+09	-	-	-	-	3.83E+04
Terbufos	13071-79-9	-	1	3.64E+05	3.09E+01	3.23E+09	-	-	-	-	7.37E+01
Terbutryn	886-50-0	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+03
Tetrabutyl Lead	1920-90-7	-	1	6.41E+03	-	3.23E+09	-	-	-	-	-
Tetrachloroaniline, 2,3,5,6-	3481-20-7	0.1	1	-	-	3.23E+09	-	-	-	-	-
Tetrachlorobenzene, 1,2,3,4-	634-66-2	-	1	8.26E+04	-	3.23E+09	-	-	-	-	-
Tetrachlorobenzene, 1,2,4,5-	95-94-3	-	1	6.99E+04	-	3.23E+09	-	-	-	-	8.85E+02

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Sodium trimetaphosphate	7785-84-4	-	-	1.43E+08	1.43E+08 max
Sodium tripolyphosphate	7758-29-4	-	-	1.43E+08	1.43E+08 max
Stearyl Acetate	822-23-1	-	-	-	
Stirofos (Tetrachlorovinphos)	961-11-5	7.01E+05	-	7.86E+04	7.64E+03 ca*
Strontium Chromate	7789-06-2	-	2.36E+07	5.88E+04	4.10E+02 ca
Strontium, Stable	7440-24-6	-	-	1.77E+06	1.77E+06 max
Strychnine	57-24-9	7.01E+03	-	7.86E+02	7.86E+02 nc
Styrene	100-42-5	-	4.71E+05	2.62E+05	2.62E+05 sat
Styrene-Acrylonitrile (SAN) Trimer	NA	7.01E+04	-	7.86E+03	7.86E+03 nc
Sulfate	14808-79-8	-	-	-	
Sulfide	18496-25-8	-	-	-	
Sulfolane	126-33-0	2.34E+04	2.36E+08	2.62E+03	2.62E+03 nc
Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9	1.87E+04	-	2.10E+03	2.10E+03 nc
Sulfur	7704-34-9	-	-	-	
Sulfur Dioxide	7446-09-5	-	-	-	
Sulfur Mustard	505-60-2	-	-	-	
Sulfur Trioxide	7446-11-9	-	1.18E+08	1.18E+08	1.18E+08 max
Sulfuric Acid	7664-93-9	-	1.18E+08	1.18E+08	1.18E+08 max
Systhane	88671-89-0	5.84E+05	-	6.55E+04	6.55E+04 nc
TCDD, 2,3,7,8-	1746-01-6	5.45E-02	3.95E+00	1.99E-03	1.52E-03 ca**
TCDF, 2,3,7,8-	51207-31-9	5.45E-01	6.88E+01	1.99E-02	1.52E-02 ca**
TCMTB	21564-17-0	7.01E+05	-	7.86E+04	7.86E+04 nc
Tebuthiuron	34014-18-1	1.64E+06	-	1.83E+05	1.83E+05 max
Technetium	7440-26-8	-	-	-	
Tellurium	13494-80-9	-	-	-	
Temephos	3383-96-8	4.67E+05	-	5.24E+04	5.24E+04 nc
Terbacil	5902-51-2	3.04E+05	-	3.40E+04	3.40E+04 nc
Terbufos	13071-79-9	-	-	7.37E+01	7.37E+01 sat
Terbutryn	886-50-0	2.34E+04	-	2.62E+03	2.62E+03 nc
Tetrabutyl Lead	1920-90-7	-	-	-	
Tetrachloroaniline, 2,3,5,6-	3481-20-7	-	-	-	
Tetrachlorobenzene, 1,2,3,4-	634-66-2	-	-	-	
Tetrachlorobenzene, 1,2,4,5-	95-94-3	-	-	8.85E+02	8.85E+02 nc

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR UTILITY WORKER
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	32598-13-3	No	No	1.30E+01	U	3.80E-03	U	7.00E-06	U	4.00E-04	U	1
Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	70362-50-4	No	Yes	3.90E+01	U	1.14E-02	U	2.33E-06	U	1.33E-04	U	1
Tetrachloroethane, 1,1,1,2-	630-20-6	No	Yes	2.60E-02	U	7.40E-06	U	3.00E-02	U	-		1
Tetrachloroethane, 1,1,2,2-	79-34-5	No	Yes	2.00E-01	U	5.80E-05	U	2.00E-02	U	-		1
Tetrachloroethylene	127-18-4	No	Yes	2.10E-03	U	2.60E-07	U	6.00E-03	U	4.00E-02	U	1
Tetrachlorophenol, 2,3,4,5-	4901-51-3	No	No	-		-		-		-		1
Tetrachlorophenol, 2,3,4,6-	58-90-2	No	No	-		-		3.00E-02	U	-		1
Tetrachlorophenols (total)	25167-83-3	No	No	-		-		-		-		1
Tetrachloroterephthalate, 2,3,5,6-	2136-79-0	No	No	-		-		-		-		1
Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1	No	Yes	2.00E+01	U	-		-		-		1
Tetraethyl Dithiopyrophosphate	3689-24-5	No	No	-		-		5.00E-04	U	-		1
Tetraethyl Lead	78-00-2	No	Yes	-		-		1.00E-07	U	-		1
Tetrafluoroethane, 1,1,1,2-	811-97-2	No	Yes	-		-		-		8.00E+01	U	1
Tetrahydrofuran	109-99-9	No	Yes	-		-		9.00E-01	U	2.00E+00	U	1
Tetrahydrothiophene	110-01-0	No	Yes	-		-		-		-		1
Tetramethyl Lead	75-74-1	No	Yes	-		-		-		-		1
Tetramethylcyclohexane	30501-43-0	No	Yes	-		-		-		-		1
Tetrapotassium phosphate	7320-34-5	No	No	-		-		4.86E+01	U	-		1
Tetrapropyl Lead	3440-75-3	No	Yes	-		-		-		-		1
Tetrasodium pyrophosphate	7722-88-5	No	No	-		-		4.86E+01	U	-		1
Tetryl (Trinitrophenylmethylnitramine)	479-45-8	No	No	-		-		2.00E-03	U	-		1
Thallic Oxide	1314-32-5	No	No	-		-		-		-		1
Thallium (I) Nitrate	10102-45-1	No	No	-		-		7.00E-06	U	-		1
Thallium (Soluble Salts)	7440-28-0	No	No	-		-		1.00E-05	U	-		1
Thallium Acetate	563-68-8	No	No	-		-		6.00E-06	U	-		1
Thallium Carbonate	6533-73-9	No	No	-		-		2.00E-05	U	-		1
Thallium Chloride	7791-12-0	No	No	-		-		6.00E-06	U	-		1
Thallium Selenite	12039-52-0	No	No	-		-		-		-		1
Thallium Sulfate	7446-18-6	No	No	-		-		2.00E-05	U	-		1
Thiobencarb	28249-77-6	No	No	-		-		1.00E-02	U	-		1
Thiocyanates	NA	No	No	-		-		2.00E-04	U	-		1
Thiocyanic Acid	463-56-9	No	Yes	-		-		2.00E-04	U	-		1
Thiodiglycol	111-48-8	No	No	-		-		7.00E-02	U	-		1
Thiofanox	39196-18-4	No	No	-		-		3.00E-04	U	-		1

Site-specific
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Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	32598-13-3	0.14	1	-	-	3.23E+09	1.59E+01	8.99E+01	2.17E+06	1.35E+01	2.06E+01
Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	70362-50-4	0.14	1	1.00E+06	-	3.23E+09	5.29E+00	3.00E+01	2.24E+02	4.41E+00	6.87E+00
Tetrachloroethane, 1,1,1,2-	630-20-6	-	1	7.83E+03	6.80E+02	3.23E+09	7.94E+03	-	2.70E+03	2.02E+03	8.85E+04
Tetrachloroethane, 1,1,2,2-	79-34-5	-	1	2.08E+04	1.90E+03	3.23E+09	1.03E+03	-	9.18E+02	4.86E+02	5.90E+04
Tetrachloroethylene	127-18-4	-	1	3.24E+03	1.66E+02	3.23E+09	9.83E+04	-	3.18E+04	2.40E+04	1.77E+04
Tetrachlorophenol, 2,3,4,5-	4901-51-3	0.1	1	-	-	3.23E+09	-	-	-	-	-
Tetrachlorophenol, 2,3,4,6-	58-90-2	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+04
Tetrachlorophenols (total)	25167-83-3	0.1	1	-	-	3.23E+09	-	-	-	-	-
Tetrachloroterephthalate, 2,3,5,6-	2136-79-0	0.1	1	-	-	3.23E+09	-	-	-	-	-
Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1	-	1	1.46E+05	-	3.23E+09	1.03E+01	-	-	1.03E+01	-
Tetraethyl Dithiopyrophosphate	3689-24-5	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+03
Tetraethyl Lead	78-00-2	-	1	2.64E+03	2.43E+00	3.23E+09	-	-	-	-	2.95E-01
Tetrafluoroethane, 1,1,1,2-	811-97-2	-	1	1.68E+03	1.09E+03	3.23E+09	-	-	-	-	-
Tetrahydrofuran	109-99-9	0.03	1	1.69E+04	1.65E+05	3.23E+09	-	-	-	-	2.65E+06
Tetrahydrothiophene	110-01-0	-	1	1.81E+04	3.44E+03	3.23E+09	-	-	-	-	-
Tetramethyl Lead	75-74-1	-	1	1.89E+03	3.64E+01	3.23E+09	-	-	-	-	-
Tetramethylcyclohexane	30501-43-0	-	1	-	-	3.23E+09	-	-	-	-	-
Tetrapotassium phosphate	7320-34-5	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Tetrapropyl Lead	3440-75-3	-	1	3.65E+03	-	3.23E+09	-	-	-	-	-
Tetrasodium pyrophosphate	7722-88-5	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Tetryl (Trinitrophenylmethylnitramine)	479-45-8	0.00065	1	-	-	3.23E+09	-	-	-	-	5.90E+03
Thallic Oxide	1314-32-5	-	1	-	-	3.23E+09	-	-	-	-	-
Thallium (I) Nitrate	10102-45-1	-	1	-	-	3.23E+09	-	-	-	-	2.06E+01
Thallium (Soluble Salts)	7440-28-0	-	1	-	-	3.23E+09	-	-	-	-	2.95E+01
Thallium Acetate	563-68-8	0.1	1	-	-	3.23E+09	-	-	-	-	1.77E+01
Thallium Carbonate	6533-73-9	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+01
Thallium Chloride	7791-12-0	-	1	-	-	3.23E+09	-	-	-	-	1.77E+01
Thallium Selenite	12039-52-0	-	1	-	-	3.23E+09	-	-	-	-	-
Thallium Sulfate	7446-18-6	-	1	-	-	3.23E+09	-	-	-	-	5.90E+01
Thiobencarb	28249-77-6	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+04
Thiocyanates	NA	-	1	-	-	3.23E+09	-	-	-	-	5.90E+02
Thiocyanic Acid	463-56-9	-	1	-	-	3.23E+09	-	-	-	-	5.90E+02
Thiodiglycol	111-48-8	0.0075	1	-	-	3.23E+09	-	-	-	-	2.06E+05
Thiofanox	39196-18-4	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+02

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	32598-13-3	1.17E+02	4.72E+07	1.75E+01	1.35E+01 ca**
Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	70362-50-4	3.89E+01	4.86E+03	5.83E+00	4.41E+00 ca**
Tetrachloroethane, 1,1,1,2-	630-20-6	-	-	8.85E+04	2.02E+03 sat
Tetrachloroethane, 1,1,2,2-	79-34-5	-	-	5.90E+04	4.86E+02 ca
Tetrachloroethylene	127-18-4	-	4.73E+03	3.73E+03	3.73E+03 sat
Tetrachlorophenol, 2,3,4,5-	4901-51-3	-	-	-	
Tetrachlorophenol, 2,3,4,6-	58-90-2	7.01E+05	-	7.86E+04	7.86E+04 nc
Tetrachlorophenols (total)	25167-83-3	-	-	-	
Tetrachloroterephthalate, 2,3,5,6-	2136-79-0	-	-	-	
Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1	-	-	-	1.03E+01 ca
Tetraethyl Dithiopyrophosphate	3689-24-5	1.17E+04	-	1.31E+03	1.31E+03 nc
Tetraethyl Lead	78-00-2	-	-	2.95E-01	2.95E-01 nc
Tetrafluoroethane, 1,1,1,2-	811-97-2	-	4.92E+06	4.92E+06	4.92E+06 sat
Tetrahydrofuran	109-99-9	7.01E+07	1.23E+06	8.31E+05	8.31E+05 sat
Tetrahydrothiophene	110-01-0	-	-	-	
Tetramethyl Lead	75-74-1	-	-	-	
Tetramethylcyclohexane	30501-43-0	-	-	-	
Tetrapotassium phosphate	7320-34-5	-	-	1.43E+08	1.43E+08 max
Tetrapropyl Lead	3440-75-3	-	-	-	
Tetrasodium pyrophosphate	7722-88-5	-	-	1.43E+08	1.43E+08 max
Tetryl (Trinitrophenylmethylnitramine)	479-45-8	7.19E+06	-	5.89E+03	5.89E+03 nc
Thallic Oxide	1314-32-5	-	-	-	
Thallium (I) Nitrate	10102-45-1	-	-	2.06E+01	2.06E+01 nc
Thallium (Soluble Salts)	7440-28-0	-	-	2.95E+01	2.95E+01 nc
Thallium Acetate	563-68-8	1.40E+02	-	1.57E+01	1.57E+01 nc
Thallium Carbonate	6533-73-9	4.67E+02	-	5.24E+01	5.24E+01 nc
Thallium Chloride	7791-12-0	-	-	1.77E+01	1.77E+01 nc
Thallium Selenite	12039-52-0	-	-	-	
Thallium Sulfate	7446-18-6	-	-	5.90E+01	5.90E+01 nc
Thiobencarb	28249-77-6	2.34E+05	-	2.62E+04	2.62E+04 nc
Thiocyanates	NA	-	-	5.90E+02	5.90E+02 nc
Thiocyanic Acid	463-56-9	-	-	5.90E+02	5.90E+02 nc
Thiodiglycol	111-48-8	2.18E+07	-	2.05E+05	2.05E+05 max
Thiofanox	39196-18-4	7.01E+03	-	7.86E+02	7.86E+02 nc

Site-specific
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Thiophanate, Methyl	23564-05-8	No	No	-		-		8.00E-02	U	-		1
Thiophene	110-02-1	No	Yes	-		-		-		-		1
Thiram	137-26-8	No	No	-		-		5.00E-03	U	-		1
Thorium	NA	No	No	-		-		-		-		1
Thymol	89-83-8	No	No	-		-		-		-		1
Tin	7440-31-5	No	No	-		-		6.00E-01	U	-		1
Titanium	7440-32-6	No	No	-		-		-		-		1
Titanium Tetrachloride	7550-45-0	No	Yes	-		-		-		1.00E-04	U	1
Toluene	108-88-3	No	Yes	-		-		8.00E-02	U	5.00E+00	U	1
Toluene-2,5-diamine	95-70-5	No	No	1.80E-01	U	-		2.00E-04	U	-		1
Toluenediamine, 2,3-	2687-25-4	No	No	-		-		-		-		1
Toluenediamine, 3,4-	496-72-0	No	No	-		-		-		-		1
Toluidine, p-	106-49-0	No	No	3.00E-02	U	-		4.00E-03	U	-		1
Total Petroleum Hydrocarbons (Aliphatic High)	NA	No	Yes	-		-		3.00E+00	U	-		1
Total Petroleum Hydrocarbons (Aliphatic Low)	NA	No	Yes	-		-		-		6.00E-01	U	1
Total Petroleum Hydrocarbons (Aliphatic Medium)	NA	No	Yes	-		-		1.00E-02	U	1.00E-01	U	1
Total Petroleum Hydrocarbons (Aromatic High)	NA	No	No	-		-		4.00E-02	U	-		1
Total Petroleum Hydrocarbons (Aromatic Low)	NA	No	Yes	-		-		4.00E-03	U	3.00E-02	U	1
Total Petroleum Hydrocarbons (Aromatic Medium)	NA	No	Yes	-		-		4.00E-03	U	3.00E-03	U	1
Toxaphene	8001-35-2	No	No	1.10E+00	U	3.20E-04	U	-		-		1
Tralomethrin	66841-25-6	No	No	-		-		7.50E-03	U	-		1
Tri-n-butyltin	688-73-3	No	Yes	-		-		3.00E-04	U	-		1
Triacetin	102-76-1	No	No	-		-		8.00E+01	U	-		1
Triallate	2303-17-5	No	Yes	-		-		1.30E-02	U	-		1
Trialuminum sodium tetra decahydrogenoctaorthophosphate (dihydrate)	15136-87-5	No	No	-		-		4.86E+01	U	-		1
Triasulfuron	82097-50-5	No	No	-		-		1.00E-02	U	-		1
Triaziquone	68-76-8	No	No	-		-		-		-		1
Tribromobenzene, 1,2,4-	615-54-3	No	Yes	-		-		5.00E-03	U	-		1
Tribromochloromethane	594-15-0	No	Yes	-		-		-		-		1

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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Thiophanate, Methyl	23564-05-8	0.1	1	-	-	3.23E+09	-	-	-	-	2.36E+05
Thiophene	110-02-1	-	1	5.77E+03	1.80E+03	3.23E+09	-	-	-	-	-
Thiram	137-26-8	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+04
Thorium	NA	-	1	-	-	3.23E+09	-	-	-	-	-
Thymol	89-83-8	0.1	1	-	-	3.23E+09	-	-	-	-	-
Tin	7440-31-5	-	1	-	-	3.23E+09	-	-	-	-	1.77E+06
Titanium	7440-32-6	-	1	-	-	3.23E+09	-	-	-	-	-
Titanium Tetrachloride	7550-45-0	-	1	-	-	3.23E+09	-	-	-	-	-
Toluene	108-88-3	-	1	5.92E+03	8.18E+02	3.23E+09	-	-	-	-	2.36E+05
Toluene-2,5-diamine	95-70-5	0.1	1	-	-	3.23E+09	1.15E+03	9.09E+03	-	1.02E+03	5.90E+02
Toluenediamine, 2,3-	2687-25-4	0.1	1	-	-	3.23E+09	-	-	-	-	-
Toluenediamine, 3,4-	496-72-0	0.1	1	-	-	3.23E+09	-	-	-	-	-
Toluidine, p-	106-49-0	0.1	1	-	-	3.23E+09	6.88E+03	5.45E+04	-	6.11E+03	1.18E+04
Total Petroleum Hydrocarbons (Aliphatic High)	NA	-	1	1.46E+03	3.41E-01	3.23E+09	-	-	-	-	8.85E+06
Total Petroleum Hydrocarbons (Aliphatic Low)	NA	-	1	1.14E+03	1.41E+02	3.23E+09	-	-	-	-	-
Total Petroleum Hydrocarbons (Aliphatic Medium)	NA	-	1	1.44E+03	6.86E+00	3.23E+09	-	-	-	-	2.95E+04
Total Petroleum Hydrocarbons (Aromatic High)	NA	0.1	1	-	-	3.23E+09	-	-	-	-	1.18E+05
Total Petroleum Hydrocarbons (Aromatic Low)	NA	-	1	4.88E+03	1.82E+03	3.23E+09	-	-	-	-	1.18E+04
Total Petroleum Hydrocarbons (Aromatic Medium)	NA	-	1	7.23E+04	-	3.23E+09	-	-	-	-	1.18E+04
Toxaphene	8001-35-2	0.1	1	-	-	3.23E+09	1.88E+02	1.49E+03	2.58E+07	1.67E+02	-
Tralomethrin	66841-25-6	0.1	1	-	-	3.23E+09	-	-	-	-	2.21E+04
Tri-n-butyltin	688-73-3	-	1	4.63E+03	-	3.23E+09	-	-	-	-	8.85E+02
Triacetin	102-76-1	0.1	1	-	-	3.23E+09	-	-	-	-	2.36E+08
Triallate	2303-17-5	-	1	5.00E+05	-	3.23E+09	-	-	-	-	3.83E+04
Trialuminum sodium tetra decahydrogenoctaorthophosphate (dihydrate)	15136-87-5	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Triasulfuron	82097-50-5	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+04
Triaziquone	68-76-8	0.1	1	-	-	3.23E+09	-	-	-	-	-
Tribromobenzene, 1,2,4-	615-54-3	-	1	6.24E+04	-	3.23E+09	-	-	-	-	1.47E+04
Tribromochloromethane	594-15-0	-	1	5.65E+04	-	3.23E+09	-	-	-	-	-

Site-specific
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Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Thiophanate, Methyl	23564-05-8	1.87E+06	-	2.10E+05	2.10E+05 max
Thiophene	110-02-1	-	-	-	
Thiram	137-26-8	1.17E+05	-	1.31E+04	1.31E+04 nc
Thorium	NA	-	-	-	
Thymol	89-83-8	-	-	-	
Tin	7440-31-5	-	-	1.77E+06	1.77E+06 max
Titanium	7440-32-6	-	-	-	
Titanium Tetrachloride	7550-45-0	-	1.18E+07	1.18E+07	1.18E+07 max
Toluene	108-88-3	-	1.08E+06	1.94E+05	1.94E+05 sat
Toluene-2,5-diamine	95-70-5	4.67E+03	-	5.24E+02	5.24E+02 nc
Toluenediamine, 2,3-	2687-25-4	-	-	-	
Toluenediamine, 3,4-	496-72-0	-	-	-	
Toluidine, p-	106-49-0	9.35E+04	-	1.05E+04	6.11E+03 ca**
Total Petroleum Hydrocarbons (Aliphatic High)	NA	-	-	8.85E+06	8.85E+06 sat
Total Petroleum Hydrocarbons (Aliphatic Low)	NA	-	2.51E+04	2.51E+04	2.51E+04 sat
Total Petroleum Hydrocarbons (Aliphatic Medium)	NA	-	5.26E+03	4.46E+03	4.46E+03 sat
Total Petroleum Hydrocarbons (Aromatic High)	NA	9.35E+05	-	1.05E+05	1.05E+05 max
Total Petroleum Hydrocarbons (Aromatic Low)	NA	-	5.34E+03	3.68E+03	3.68E+03 sat
Total Petroleum Hydrocarbons (Aromatic Medium)	NA	-	7.91E+03	4.74E+03	4.74E+03 nc
Toxaphene	8001-35-2	-	-	-	1.67E+02 ca
Tralomethrin	66841-25-6	1.75E+05	-	1.96E+04	1.96E+04 nc
Tri-n-butyltin	688-73-3	-	-	8.85E+02	8.85E+02 nc
Triacetin	102-76-1	1.87E+09	-	2.10E+08	2.10E+08 max
Triallate	2303-17-5	-	-	3.83E+04	3.83E+04 nc
Trialuminum sodium tetra decahydrogenoctaorthophosphate (dihydrate)	15136-87-5	-	-	1.43E+08	1.43E+08 max
Triasulfuron	82097-50-5	2.34E+05	-	2.62E+04	2.62E+04 nc
Triaziquone	68-76-8	-	-	-	
Tribromobenzene, 1,2,4-	615-54-3	-	-	1.47E+04	1.47E+04 nc
Tribromochloromethane	594-15-0	-	-	-	

Site-specific
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Tribromodiphenyl Ether	49690-94-0	No	Yes	-		-		-		-		1
Tribromophenol, 2,4,6-	118-79-6	No	No	-		-		-		-		1
Tributyl Phosphate	126-73-8	No	No	9.00E-03	U	-		1.00E-02	U	-		1
Tributyltin	56573-85-4	No	Yes	-		-		-		-		1
Tributyltin Compounds	NA	No	No	-		-		3.00E-04	U	-		1
Tributyltin Oxide	56-35-9	No	No	-		-		3.00E-04	U	-		1
Tributyltin chloride	1461-22-9	No	Yes	-		-		-		-		1
Tributyltin fluoride	1983-10-4	No	Yes	-		-		-		-		1
Tributyltin linoleate	24124-25-2	No	Yes	-		-		-		-		1
Tributyltin methacrylate	2155-70-6	No	Yes	-		-		-		-		1
Tributyltin naphthenate	85409-17-2	No	No	-		-		-		-		1
Tricaine Methanesulfonate	886-86-2	No	No	-		-		-		-		1
Tricalcium phosphate	7758-87-4	No	No	-		-		4.86E+01	U	-		1
Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1	No	Yes	-		-		3.00E+01	U	3.00E+01	U	1
Trichloro-2'-hydroxydiphenylether	3380-34-5	No	No	-		-		-		-		1
Trichloroacetic Acid	76-03-9	No	No	7.00E-02	U	-		2.00E-02	U	-		1
Trichloroaniline HCl, 2,4,6-	33663-50-2	No	No	2.90E-02	U	-		-		-		1
Trichloroaniline, 2,4,5-	636-30-6	No	No	-		-		-		-		1
Trichloroaniline, 2,4,6-	634-93-5	No	No	7.00E-03	U	-		3.00E-05	U	-		1
Trichlorobenzene	12002-48-1	No	Yes	-		-		-		-		1
Trichlorobenzene, 1,2,3-	87-61-6	No	Yes	-		-		8.00E-04	U	-		1
Trichlorobenzene, 1,2,4-	120-82-1	No	Yes	2.90E-02	U	-		1.00E-02	U	2.00E-03	U	1
Trichloroethane, 1,1,1-	71-55-6	No	Yes	-		-		2.00E+00	U	5.00E+00	U	1
Trichloroethane, 1,1,2-	79-00-5	No	Yes	5.70E-02	U	1.60E-05	U	4.00E-03	U	2.00E-04	U	1
Trichloroethylene	79-01-6	Yes	Yes	4.60E-02	U	4.10E-06	U	5.00E-04	U	2.00E-03	U	1
Trichlorofluoromethane	75-69-4	No	Yes	-		-		3.00E-01	U	7.00E-01	U	1
Trichlorophenol, 2,4,5-	95-95-4	No	No	-		-		1.00E-01	U	-		1
Trichlorophenol, 2,4,6-	88-06-2	No	No	1.10E-02	U	3.10E-06	U	1.00E-03	U	-		1
Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5	No	No	-		-		1.00E-02	U	-		1
Trichlorophenoxyacetic acid, 2,4,5- Amine Salts, PARENT (2,4,5-T)	NA	Yes	No	-		-		-		-		1
Trichlorophenoxypropionic acid, -2,4,5	93-72-1	No	No	-		-		8.00E-03	U	-		1
Trichloropropane, 1,1,2-	598-77-6	No	Yes	-		-		5.00E-03	U	-		1
Trichloropropane, 1,2,3-	96-18-4	Yes	Yes	3.00E+01	U	-		4.00E-03	U	3.00E-04	U	1

Site-specific
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Tribromodiphenyl Ether	49690-94-0	-	1	1.07E+06	-	3.23E+09	-	-	-	-	-
Tribromophenol, 2,4,6-	118-79-6	0.1	1	-	-	3.23E+09	-	-	-	-	-
Tributyl Phosphate	126-73-8	0.1	1	-	-	3.23E+09	2.29E+04	1.82E+05	-	2.04E+04	2.95E+04
Tributyltin	56573-85-4	-	1	4.95E+04	-	3.23E+09	-	-	-	-	-
Tributyltin Compounds	NA	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+02
Tributyltin Oxide	56-35-9	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+02
Tributyltin chloride	1461-22-9	-	1	5.94E+03	-	3.23E+09	-	-	-	-	-
Tributyltin fluoride	1983-10-4	-	1	8.59E+03	-	3.23E+09	-	-	-	-	-
Tributyltin linoleate	24124-25-2	-	1	1.67E+05	-	3.23E+09	-	-	-	-	-
Tributyltin methacrylate	2155-70-6	-	1	1.41E+04	-	3.23E+09	-	-	-	-	-
Tributyltin naphthenate	85409-17-2	0.1	1	-	-	3.23E+09	-	-	-	-	-
Tricaine Methanesulfonate	886-86-2	0.1	1	-	-	3.23E+09	-	-	-	-	-
Tricalcium phosphate	7758-87-4	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1	-	1	1.77E+03	9.10E+02	3.23E+09	-	-	-	-	8.85E+07
Trichloro-2'-hydroxydiphenylether	3380-34-5	0.1	1	-	-	3.23E+09	-	-	-	-	-
Trichloroacetic Acid	76-03-9	0.1	1	-	-	3.23E+09	2.95E+03	2.34E+04	-	2.62E+03	5.90E+04
Trichloroaniline HCl, 2,4,6-	33663-50-2	0.1	1	-	-	3.23E+09	7.12E+03	5.64E+04	-	6.32E+03	-
Trichloroaniline, 2,4,5-	636-30-6	0.1	1	-	-	3.23E+09	-	-	-	-	-
Trichloroaniline, 2,4,6-	634-93-5	0.1	1	-	-	3.23E+09	2.95E+04	2.34E+05	-	2.62E+04	8.85E+01
Trichlorobenzene	12002-48-1	-	1	3.55E+04	-	3.23E+09	-	-	-	-	-
Trichlorobenzene, 1,2,3-	87-61-6	-	1	4.44E+04	-	3.23E+09	-	-	-	-	2.36E+03
Trichlorobenzene, 1,2,4-	120-82-1	-	1	4.13E+04	4.05E+02	3.23E+09	7.12E+03	-	-	7.12E+03	2.95E+04
Trichloroethane, 1,1,1-	71-55-6	-	1	2.27E+03	6.40E+02	3.23E+09	-	-	-	-	5.90E+06
Trichloroethane, 1,1,2-	79-00-5	-	1	9.95E+03	2.16E+03	3.23E+09	3.62E+03	-	1.59E+03	1.10E+03	1.18E+04
Trichloroethylene	79-01-6	-	1	3.04E+03	6.92E+02	3.23E+09	4.49E+03	-	1.90E+03	1.33E+03	1.47E+03
Trichlorofluoromethane	75-69-4	-	1	1.43E+03	1.23E+03	3.23E+09	-	-	-	-	8.85E+05
Trichlorophenol, 2,4,5-	95-95-4	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+05
Trichlorophenol, 2,4,6-	88-06-2	0.1	1	-	-	3.23E+09	1.88E+04	1.49E+05	2.66E+09	1.67E+04	2.95E+03
Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+04
Trichlorophenoxyacetic acid, 2,4,5- Amine Salts, PARENT (2,4,5-T)	NA	-	1	-	-	3.23E+09	-	-	-	-	-
Trichlorophenoxypropionic acid, -2,4,5	93-72-1	0.1	1	-	-	3.23E+09	-	-	-	-	2.36E+04
Trichloropropane, 1,1,2-	598-77-6	-	1	2.07E+04	1.28E+03	3.23E+09	-	-	-	-	1.47E+04
Trichloropropane, 1,2,3-	96-18-4	-	1	2.17E+04	1.40E+03	3.23E+09	6.88E+00	-	-	6.88E+00	1.18E+04

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Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Tribromodiphenyl Ether	49690-94-0	-	-	-	
Tribromophenol, 2,4,6-	118-79-6	-	-	-	
Tributyl Phosphate	126-73-8	2.34E+05	-	2.62E+04	2.04E+04 ca**
Tributyltin	56573-85-4	-	-	-	
Tributyltin Compounds	NA	7.01E+03	-	7.86E+02	7.86E+02 nc
Tributyltin Oxide	56-35-9	7.01E+03	-	7.86E+02	7.86E+02 nc
Tributyltin chloride	1461-22-9	-	-	-	
Tributyltin fluoride	1983-10-4	-	-	-	
Tributyltin linoleate	24124-25-2	-	-	-	
Tributyltin methacrylate	2155-70-6	-	-	-	
Tributyltin naphthenate	85409-17-2	-	-	-	
Tricaine Methanesulfonate	886-86-2	-	-	-	
Tricalcium phosphate	7758-87-4	-	-	1.43E+08	1.43E+08 max
Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1	-	1.94E+06	1.90E+06	1.90E+06 sat
Trichloro-2'-hydroxydiphenylether	3380-34-5	-	-	-	
Trichloroacetic Acid	76-03-9	4.67E+05	-	5.24E+04	2.62E+03 ca*
Trichloroaniline HCl, 2,4,6-	33663-50-2	-	-	-	6.32E+03 ca
Trichloroaniline, 2,4,5-	636-30-6	-	-	-	
Trichloroaniline, 2,4,6-	634-93-5	7.01E+02	-	7.86E+01	7.86E+01 nc
Trichlorobenzene	12002-48-1	-	-	-	
Trichlorobenzene, 1,2,3-	87-61-6	-	-	2.36E+03	2.36E+03 nc
Trichlorobenzene, 1,2,4-	120-82-1	-	3.02E+03	2.74E+03	2.74E+03 sat
Trichloroethane, 1,1,1-	71-55-6	-	4.15E+05	3.88E+05	3.88E+05 sat
Trichloroethane, 1,1,2-	79-00-5	-	7.27E+01	7.22E+01	7.22E+01 nc
Trichloroethylene	79-01-6	-	2.22E+02	1.93E+02	1.93E+02 nc
Trichlorofluoromethane	75-69-4	-	3.65E+04	3.50E+04	3.50E+04 sat
Trichlorophenol, 2,4,5-	95-95-4	2.34E+06	-	2.62E+05	2.62E+05 max
Trichlorophenol, 2,4,6-	88-06-2	2.34E+04	-	2.62E+03	2.62E+03 nc
Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5	2.34E+05	-	2.62E+04	2.62E+04 nc
Trichlorophenoxyacetic acid, 2,4,5- Amine Salts, PARENT (2,4,5-T)	NA	-	-	-	
Trichlorophenoxypropionic acid, -2,4,5	93-72-1	1.87E+05	-	2.10E+04	2.10E+04 nc
Trichloropropane, 1,1,2-	598-77-6	-	-	1.47E+04	1.47E+04 sat
Trichloropropane, 1,2,3-	96-18-4	-	2.38E+02	2.33E+02	6.88E+00 ca*

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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Trichloropropene, 1,2,3-	96-19-5	No	Yes	-		-		3.00E-03	U	3.00E-04	U	1
Trichlorotoluene, 2,3,6-	2077-46-5	No	Yes	-		-		-		-		1
Trichlorotoluene, alpha 2,6-	2014-83-7	No	Yes	-		-		-		-		1
Triclorophenols (total)	NA	No	No	-		-		-		-		1
Tricresyl Phosphate (TCP)	1330-78-5	No	No	-		-		2.00E-02	U	-		1
Tridiphane	58138-08-2	No	No	-		-		3.00E-03	U	-		1
Tridymite	15468-32-3	No	No	-		-		-		-		1
Triethyl Lead	5224-23-7	No	Yes	-		-		-		-		1
Triethyl phosphorothioate [O,O,O-]	126-68-1	No	Yes	-		-		-		-		1
Triethylamine	121-44-8	No	Yes	-		-		-		7.00E-03	U	1
Triethylene Glycol	112-27-6	No	No	-		-		2.00E+00	U	-		1
Trifluralin	1582-09-8	No	Yes	7.70E-03	U	-		7.50E-03	U	-		1
Trimagnesium phosphate	7757-87-1	No	No	-		-		4.86E+01	U	-		1
Trimethyl Lead	7442-13-9	No	Yes	-		-		-		-		1
Trimethyl Phosphate	512-56-1	No	No	2.00E-02	U	-		1.00E-02	U	-		1
Trimethyl-4-Propenylnaphthalene, 1,2,3-	26137-53-1	No	Yes	-		-		-		-		1
Trimethylbenzene, 1,2,3-	526-73-8	No	Yes	-		-		-		5.00E-03	U	1
Trimethylbenzene, 1,2,4-	95-63-6	No	Yes	-		-		-		7.00E-03	U	1
Trimethylbenzene, 1,3,5-	108-67-8	No	Yes	-		-		1.00E-02	U	-		1
Trimethylethyl Lead	1762-26-1	No	Yes	-		-		-		-		1
Trimethylpentane, 2,2,4-	540-84-1	No	Yes	-		-		-		-		1
Trinitrobenzene, 1,3,5-	99-35-4	No	No	-		-		3.00E-02	U	-		1
Trinitrotoluene, 2,4,6-	118-96-7	No	No	3.00E-02	U	-		5.00E-04	U	-		1
Triphenylphosphine Oxide	791-28-6	No	No	-		-		2.00E-02	U	-		1
Triphenyltin	668-34-8	No	Yes	-		-		-		-		1
Tripotassium phosphate	7778-53-2	No	No	-		-		4.86E+01	U	-		1
Tripropyl Lead	6618-03-7	No	Yes	-		-		-		-		1
Tris(1,3-Dichloro-2-propyl) Phosphate	13674-87-8	No	No	-		-		2.00E-02	U	-		1
Tris(1-chloro-2-propyl)phosphate	13674-84-5	No	No	-		-		1.00E-02	U	-		1
Tris(2,3-dibromopropyl)phosphate	126-72-7	No	Yes	2.30E+00	U	6.60E-04	U	-		-		1
Tris(2-chloroethyl)phosphate	115-96-8	No	No	2.00E-02	U	-		7.00E-03	U	-		1
Tris(2-ethylhexyl)phosphate	78-42-2	No	No	3.20E-03	U	-		1.00E-01	U	-		1
Trisbutoxyethyl Phosphate	78-51-3	No	No	-		-		-		-		1
Trisodium phosphate	7601-54-9	No	No	-		-		4.86E+01	U	-		1

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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Trichloropropene, 1,2,3-	96-19-5	-	1	3.23E+03	4.51E+02	3.23E+09	-	-	-	-	8.85E+03
Trichlorotoluene, 2,3,6-	2077-46-5	-	1	5.83E+04	-	3.23E+09	-	-	-	-	-
Trichlorotoluene, alpha 2,6-	2014-83-7	-	1	9.70E+04	-	3.23E+09	-	-	-	-	-
Triclorophenols (total)	NA	0.1	1	-	-	3.23E+09	-	-	-	-	-
Tricresyl Phosphate (TCP)	1330-78-5	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Tridiphane	58138-08-2	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+03
Tridymite	15468-32-3	-	1	-	-	3.23E+09	-	-	-	-	-
Triethyl Lead	5224-23-7	-	1	1.80E+03	5.67E+03	3.23E+09	-	-	-	-	-
Triethyl phosphorothioate [O,O,O-]	126-68-1	-	1	3.87E+04	4.67E+02	3.23E+09	-	-	-	-	-
Triethylamine	121-44-8	-	1	2.18E+04	2.78E+04	3.23E+09	-	-	-	-	-
Triethylene Glycol	112-27-6	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+06
Trifluralin	1582-09-8	-	1	7.07E+05	-	3.23E+09	2.68E+04	-	-	2.68E+04	2.21E+04
Trimagnesium phosphate	7757-87-1	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Trimethyl Lead	7442-13-9	-	1	1.54E+03	6.92E+04	3.23E+09	-	-	-	-	-
Trimethyl Phosphate	512-56-1	0.1	1	-	-	3.23E+09	1.03E+04	8.18E+04	-	9.17E+03	2.95E+04
Trimethyl-4-Propenylnaphthalene, 1,2,3-	26137-53-1	-	1	6.96E+05	-	3.23E+09	-	-	-	-	-
Trimethylbenzene, 1,2,3-	526-73-8	-	1	1.30E+04	2.93E+02	3.23E+09	-	-	-	-	-
Trimethylbenzene, 1,2,4-	95-63-6	-	1	1.09E+04	2.18E+02	3.23E+09	-	-	-	-	-
Trimethylbenzene, 1,3,5-	108-67-8	-	1	9.11E+03	1.82E+02	3.23E+09	-	-	-	-	2.95E+04
Trimethylethyl Lead	1762-26-1	-	1	1.98E+03	2.51E+04	3.23E+09	-	-	-	-	-
Trimethylpentane, 2,2,4-	540-84-1	-	1	1.29E+03	6.10E+01	3.23E+09	-	-	-	-	-
Trinitrobenzene, 1,3,5-	99-35-4	0.019	1	-	-	3.23E+09	-	-	-	-	8.85E+04
Trinitrotoluene, 2,4,6-	118-96-7	0.032	1	-	-	3.23E+09	6.88E+03	1.70E+05	-	6.62E+03	1.47E+03
Triphenylphosphine Oxide	791-28-6	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Triphenyltin	668-34-8	-	1	2.79E+06	-	3.23E+09	-	-	-	-	-
Tripotassium phosphate	7778-53-2	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08
Tripropyl Lead	6618-03-7	-	1	2.30E+03	5.57E+02	3.23E+09	-	-	-	-	-
Tris(1,3-Dichloro-2-propyl) Phosphate	13674-87-8	0.1	1	-	-	3.23E+09	-	-	-	-	5.90E+04
Tris(1-chloro-2-propyl)phosphate	13674-84-5	0.1	1	-	-	3.23E+09	-	-	-	-	2.95E+04
Tris(2,3-dibromopropyl)phosphate	126-72-7	-	1	1.25E+06	4.67E+02	3.23E+09	8.98E+01	-	4.82E+03	8.81E+01	-
Tris(2-chloroethyl)phosphate	115-96-8	0.1	1	-	-	3.23E+09	1.03E+04	8.18E+04	-	9.17E+03	2.06E+04
Tris(2-ethylhexyl)phosphate	78-42-2	0.1	1	-	-	3.23E+09	6.45E+04	5.11E+05	-	5.73E+04	2.95E+05
Trisbutoxyethyl Phosphate	78-51-3	0.1	1	-	-	3.23E+09	-	-	-	-	-
Trisodium phosphate	7601-54-9	-	1	-	-	3.23E+09	-	-	-	-	1.43E+08

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Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Trichloropropene, 1,2,3-	96-19-5	-	3.53E+01	3.52E+01	3.52E+01 nc
Trichlorotoluene, 2,3,6-	2077-46-5	-	-	-	
Trichlorotoluene, alpha 2,6-	2014-83-7	-	-	-	
Triclorophenols (total)	NA	-	-	-	
Tricresyl Phosphate (TCP)	1330-78-5	4.67E+05	-	5.24E+04	5.24E+04 nc
Tridiphane	58138-08-2	7.01E+04	-	7.86E+03	7.86E+03 nc
Tridymite	15468-32-3	-	-	-	
Triethyl Lead	5224-23-7	-	-	-	
Triethyl phosphorothioate [O,O,O-]	126-68-1	-	-	-	
Triethylamine	121-44-8	-	5.57E+03	5.57E+03	5.57E+03 nc
Triethylene Glycol	112-27-6	4.67E+07	-	5.24E+06	5.24E+06 max
Trifluralin	1582-09-8	-	-	2.21E+04	2.21E+04 nc
Trimagnesium phosphate	7757-87-1	-	-	1.43E+08	1.43E+08 max
Trimethyl Lead	7442-13-9	-	-	-	
Trimethyl Phosphate	512-56-1	2.34E+05	-	2.62E+04	9.17E+03 ca**
Trimethyl-4-Propenylnaphthalene, 1,2,3-	26137-53-1	-	-	-	
Trimethylbenzene, 1,2,3-	526-73-8	-	2.38E+03	2.38E+03	2.38E+03 sat
Trimethylbenzene, 1,2,4-	95-63-6	-	2.79E+03	2.79E+03	2.79E+03 sat
Trimethylbenzene, 1,3,5-	108-67-8	-	-	2.95E+04	2.95E+04 sat
Trimethylethyl Lead	1762-26-1	-	-	-	
Trimethylpentane, 2,2,4-	540-84-1	-	-	-	
Trinitrobenzene, 1,3,5-	99-35-4	3.69E+06	-	8.64E+04	8.64E+04 nc
Trinitrotoluene, 2,4,6-	118-96-7	3.65E+04	-	1.42E+03	1.42E+03 nc
Triphenylphosphine Oxide	791-28-6	4.67E+05	-	5.24E+04	5.24E+04 nc
Triphenyltin	668-34-8	-	-	-	
Tripotassium phosphate	7778-53-2	-	-	1.43E+08	1.43E+08 max
Tripropyl Lead	6618-03-7	-	-	-	
Tris(1,3-Dichloro-2-propyl) Phosphate	13674-87-8	4.67E+05	-	5.24E+04	5.24E+04 nc
Tris(1-chloro-2-propyl)phosphate	13674-84-5	2.34E+05	-	2.62E+04	2.62E+04 nc
Tris(2,3-dibromopropyl)phosphate	126-72-7	-	-	-	8.81E+01 ca
Tris(2-chloroethyl)phosphate	115-96-8	1.64E+05	-	1.83E+04	9.17E+03 ca**
Tris(2-ethylhexyl)phosphate	78-42-2	2.34E+06	-	2.62E+05	5.73E+04 ca**
Trisbutoxyethyl Phosphate	78-51-3	-	-	-	
Trisodium phosphate	7601-54-9	-	-	1.43E+08	1.43E+08 max

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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Trithion	786-19-6	No	No	-		-		-		-		1
Tungsten	7440-33-7	No	No	-		-		-		-		1
Uranium (Soluble Salts)	NA	No	No	-		-		3.00E-03	U	4.00E-05	U	1
Urea	57-13-6	No	No	-		-		-		-		1
Urethane	51-79-6	Yes	No	1.00E+00	U	2.90E-04	U	-		-		1
Vanadium Pentoxide	1314-62-1	No	No	-		8.30E-03	U	9.00E-03	U	7.00E-06	U	0.026
Vanadium Sulfate	36907-42-3	No	No	-		-		-		-		0.026
Vanadium and Compounds	7440-62-2	No	No	-		-		5.04E-03	U	1.00E-04	U	0.026
Vanadyl Sulfate	27774-13-6	No	No	-		-		-		-		1
Vernolate	1929-77-7	No	Yes	-		-		1.00E-03	U	-		1
Vinclozolin	50471-44-8	No	No	-		-		2.50E-02	U	-		1
Vinyl Acetate	108-05-4	No	Yes	-		-		1.00E+00	U	2.00E-01	U	1
Vinyl Bromide	593-60-2	No	Yes	-		3.20E-05	U	-		3.00E-03	U	1
Vinyl Chloride	75-01-4	Yes	Yes	7.20E-01	U	4.40E-06	U	3.00E-03	U	1.00E-01	U	1
Warfarin	81-81-2	No	No	-		-		3.00E-04	U	-		1
Xylene, P-	106-42-3	No	Yes	-		-		2.00E-01	U	1.00E-01	U	1
Xylene, m-	108-38-3	No	Yes	-		-		2.00E-01	U	1.00E-01	U	1
Xylene, o-	95-47-6	No	Yes	-		-		2.00E-01	U	1.00E-01	U	1
Xylenes	1330-20-7	No	Yes	-		-		2.00E-01	U	1.00E-01	U	1
Ytterbium	7440-64-4	No	No	-		-		-		-		1
Yttrium	7440-65-5	No	No	-		-		-		-		1
Zinc Cyanide	557-21-1	No	No	-		-		5.00E-02	U	-		1
Zinc Phosphide	1314-84-7	No	No	-		-		3.00E-04	U	-		1
Zinc and Compounds	7440-66-6	No	No	-		-		3.00E-01	U	-		1
Zineb	12122-67-7	No	No	-		-		5.00E-02	U	-		1
Zirconium	7440-67-7	No	No	-		-		8.00E-05	U	-		1

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL HQ=1 (mg/kg)
Trithion	786-19-6	0.1	1	-	-	3.23E+09	-	-	-	-	-
Tungsten	7440-33-7	-	1	-	-	3.23E+09	-	-	-	-	-
Uranium (Soluble Salts)	NA	-	1	-	-	3.23E+09	-	-	-	-	8.85E+03
Urea	57-13-6	0.1	1	-	-	3.23E+09	-	-	-	-	-
Urethane	51-79-6	0.1	1	-	-	3.23E+09	2.06E+02	1.64E+03	2.85E+07	1.83E+02	-
Vanadium Pentoxide	1314-62-1	-	1	-	-	3.23E+09	-	-	9.95E+05	9.95E+05	2.65E+04
Vanadium Sulfate	36907-42-3	-	1	-	-	3.23E+09	-	-	-	-	-
Vanadium and Compounds	7440-62-2	-	1	-	-	3.23E+09	-	-	-	-	1.49E+04
Vanadyl Sulfate	27774-13-6	-	1	-	-	3.23E+09	-	-	-	-	-
Vernolate	1929-77-7	-	1	1.70E+05	-	3.23E+09	-	-	-	-	2.95E+03
Vinclozolin	50471-44-8	0.1	1	-	-	3.23E+09	-	-	-	-	7.37E+04
Vinyl Acetate	108-05-4	-	1	6.06E+03	2.75E+03	3.23E+09	-	-	-	-	2.95E+06
Vinyl Bromide	593-60-2	-	1	1.89E+03	3.38E+03	3.23E+09	-	-	1.51E+02	1.51E+02	-
Vinyl Chloride	75-01-4	-	1	1.32E+03	3.92E+03	3.23E+09	2.87E+02	-	7.65E+02	2.09E+02	8.85E+03
Warfarin	81-81-2	0.1	1	-	-	3.23E+09	-	-	-	-	8.85E+02
Xylene, P-	106-42-3	-	1	7.70E+03	3.89E+02	3.23E+09	-	-	-	-	5.90E+05
Xylene, m-	108-38-3	-	1	7.54E+03	3.87E+02	3.23E+09	-	-	-	-	5.90E+05
Xylene, o-	95-47-6	-	1	8.90E+03	4.34E+02	3.23E+09	-	-	-	-	5.90E+05
Xylenes	1330-20-7	-	1	8.93E+03	2.58E+02	3.23E+09	-	-	-	-	5.90E+05
Ytterbium	7440-64-4	-	1	-	-	3.23E+09	-	-	-	-	-
Yttrium	7440-65-5	-	1	-	-	3.23E+09	-	-	-	-	-
Zinc Cyanide	557-21-1	-	1	-	-	3.23E+09	-	-	-	-	1.47E+05
Zinc Phosphide	1314-84-7	-	1	-	-	3.23E+09	-	-	-	-	8.85E+02
Zinc and Compounds	7440-66-6	-	1	-	-	3.23E+09	-	-	-	-	8.85E+05
Zineb	12122-67-7	0.1	1	-	-	3.23E+09	-	-	-	-	1.47E+05
Zirconium	7440-67-7	-	1	-	-	3.23E+09	-	-	-	-	2.36E+02

Site-specific
Outdoor Worker Screening Levels (RSL) for Soil MODIFIED FOR U
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL HQ=1 (mg/kg)	Inhalation SL HQ=1 (mg/kg)	Noncarcinogenic SL HI=1 (mg/kg)	Screening Level (mg/kg)
Trithion	786-19-6	-	-	-	
Tungsten	7440-33-7	-	-	-	
Uranium (Soluble Salts)	NA	-	4.72E+06	8.83E+03	8.83E+03 nc
Urea	57-13-6	-	-	-	
Urethane	51-79-6	-	-	-	1.83E+02 ca
Vanadium Pentoxide	1314-62-1	-	8.26E+05	2.57E+04	2.57E+04 nc
Vanadium Sulfate	36907-42-3	-	-	-	
Vanadium and Compounds	7440-62-2	-	1.18E+07	1.48E+04	1.48E+04 nc
Vanadyl Sulfate	27774-13-6	-	-	-	
Vernolate	1929-77-7	-	-	2.95E+03	2.95E+03 nc
Vinclozolin	50471-44-8	5.84E+05	-	6.55E+04	6.55E+04 nc
Vinyl Acetate	108-05-4	-	4.43E+04	4.36E+04	4.36E+04 sat
Vinyl Bromide	593-60-2	-	2.07E+02	2.07E+02	1.51E+02 ca**
Vinyl Chloride	75-01-4	-	4.81E+03	3.12E+03	2.09E+02 ca*
Warfarin	81-81-2	7.01E+03	-	7.86E+02	7.86E+02 nc
Xylene, P-	106-42-3	-	2.81E+04	2.68E+04	2.68E+04 sat
Xylene, m-	108-38-3	-	2.75E+04	2.63E+04	2.63E+04 sat
Xylene, o-	95-47-6	-	3.25E+04	3.08E+04	3.08E+04 sat
Xylenes	1330-20-7	-	3.26E+04	3.09E+04	3.09E+04 sat
Ytterbium	7440-64-4	-	-	-	
Yttrium	7440-65-5	-	-	-	
Zinc Cyanide	557-21-1	-	-	1.47E+05	1.47E+05 max
Zinc Phosphide	1314-84-7	-	-	8.85E+02	8.85E+02 nc
Zinc and Compounds	7440-66-6	-	-	8.85E+05	8.85E+05 max
Zineb	12122-67-7	1.17E+06	-	1.31E+05	1.31E+05 max
Zirconium	7440-67-7	-	-	2.36E+02	2.36E+02 nc

Site-specific
Recreator Equation Inputs for Soil

Variable	Value
TR (target cancer risk) unitless	0.000001
SA_{recsc} (skin surface area - child) cm^2/day	0
SA_{recsa} (skin surface area - adult) cm^2/day	2924.2
SA_{0-2} (skin surface area - mutagenic) cm^2/day	0
SA_{2-6} (skin surface area - mutagenic) cm^2/day	0
SA_{6-16} (skin surface area - mutagenic) cm^2/day	2160
SA_{16-30} (skin surface area - mutagenic) cm^2/day	3470
SA_{recsa} (skin surface area - adult) cm^2/day	2924.2
THQ (target hazard quotient) unitless	1
LT (lifetime - recreator) year	70
$IFS_{rec-adj}$ (age-adjusted soil ingestion factor) mg/kg	1307.077
$DFS_{rec-adj}$ (age-adjusted soil dermal factor) mg/kg	3735.778
$IFSM_{rec-adj}$ (mutagenic age-adjusted soil ingestion factor) mg/kg	3846.591
$DFSM_{rec-adj}$ (mutagenic age-adjusted soil dermal factor) mg/kg	5678.08
EF_{0-2} (exposure frequency) day/year	0
EF_{2-6} (exposure frequency) day/year	0
EF_{6-16} (exposure frequency) day/year	50
EF_{16-30} (exposure frequency) day/year	50
EF_{recsc} (exposure frequency - child) day/year	0
EF_{recsa} (exposure frequency - adult) day/year	50
EF_{recsa} (exposure frequency - adult) day/year	50
EF_{recs} (exposure frequency - recreator) day/year	50
IRS_{0-2} (soil intake rate) mg/day	0
IRS_{2-6} (soil intake rate) mg/day	0
IRS_{6-16} (soil intake rate) mg/day	100
IRS_{16-30} (soil intake rate) mg/day	50

IRS_{recsc} (soil intake rate - child) mg/day	0
IRS_{recsa} (soil intake rate - adult) mg/day	70.8
IRS_{recsa} (soil intake rate - adult) mg/day	70.8
ED_{0-2} (exposure duration) year	0
ED_{2-6} (exposure duration) year	0
ED_{6-16} (exposure duration) year	10
ED_{16-30} (exposure duration) year	14
ED_{recsc} (exposure duration - child) year	0
ED_{recsa} (exposure duration - adult) year	24
ED_{recsa} (exposure duration - adult) year	24
ED_{recs} (exposure duration - recreator) year	24
ET_{0-2} (exposure time) hr/day	0
ET_{2-6} (exposure time) hr/day	0
ET_{6-16} (exposure time) hr/day	2
ET_{16-30} (exposure time) hr/day	2
ET_{recsc} (exposure time - child) hr/day	0
ET_{recsa} (exposure time - adult) hr/day	2
ET_{recsa} (exposure time - adult) hr/day	2
ET_{recs} (exposure time - recreator) hr/day	2
BW_{0-2} (body weight) kg	0
BW_{2-6} (body weight) kg	0
BW_{6-16} (body weight) kg	44
BW_{16-30} (body weight) kg	80
BW_{recsc} (body weight - child) kg	0
BW_{recsa} (body weight - adult) kg	65
BW_{recsa} (body weight - adult) kg	65
AF_{0-2} (skin adherence factor) mg/cm^2	0
AF_{2-6} (skin adherence factor) mg/cm^2	0
AF_{6-16} (skin adherence factor) mg/cm^2	0.04
AF_{16-30} (skin adherence factor) mg/cm^2	0.09
AF_{recsc} (skin adherence factor - child) mg/cm^2	0
AF_{recsa} (skin adherence factor - adult) mg/cm^2	0.0692

AF_{recsa} (skin adherence factor - adult) mg/cm^2	0.0692
City (Climate Zone) PEF Selection	Philadelphia, P
A_s (acres) PEF Selection	0.5
Q/C_{wp} (g/m^2-s per kg/m^3) PEF Selection	87.36898
PEF (particulate emission factor) m^3/kg	3232997857
A (PEF Dispersion Constant)	14.0111
B (PEF Dispersion Constant)	19.6154
C (PEF Dispersion Constant)	225.3397
V (fraction of vegetative cover) unitless	0.5
U_m (mean annual wind speed) m/s	4.29
U_t (equivalent threshold value)	11.32
F(x) (function dependant on U_m/U_t) unitless	0.0993
City (Climate Zone) VF Selection	Philadelphia, P
A_s (acres) VF Selection	0.5
Q/C_{wp} (g/m^2-s per kg/m^3) VF Selection	87.36898
foc (fraction organic carbon in soil) g/g	0.006
ρ$_b$ (dry soil bulk density) g/cm^3	1.5
ρ$_s$ (soil particle density) g/cm^3	2.65
θ$_w$ (water-filled soil porosity) L_{water}/L_{soil}	0.15
T (exposure interval) s	950000000
A (VF Dispersion Constant)	14.0111
B (VF Dispersion Constant)	19.6154
C (VF Dispersion Constant)	225.3397

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Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
ALAR	1596-84-5	No	No	1.80E-02	U	5.10E-06	U	1.50E-01	U			1
Acenaphthene	83-32-9	No	Yes					6.00E-02	U			1
Acenaphthylene	208-96-8	No	Yes									1
Acephate	30560-19-1	No	No	8.70E-03	U			4.00E-03	U			1
Acetaldehyde	75-07-0	No	Yes			2.20E-06	U			9.00E-03	U	1
Acetochlor	34256-82-1	No	No					2.00E-02	U			1
Acetone	67-64-1	No	Yes					9.00E-01	U	3.09E+01	U	1
Acetone Cyanohydrin	75-86-5	No	Yes							2.00E-03	U	1
Acetonitrile	75-05-8	No	Yes							6.00E-02	U	1
Acetophenone	98-86-2	No	Yes					1.00E-01	U			1
Acetylaminofluorene, 2-	53-96-3	No	No	3.80E+00	U	1.30E-03	U					1
Acifluorofen	50594-66-6	No	No									1
Acridine	260-94-6	No	No									1
Acrolein	107-02-8	No	Yes					5.00E-04	U	2.00E-05	U	1
Acrylamide	79-06-1	Yes	No	5.00E-01	U	1.00E-04	U	2.00E-03	U	6.00E-03	U	1
Acrylic Acid	79-10-7	No	Yes					5.00E-01	U	1.00E-03	U	1
Acrylonitrile	107-13-1	No	Yes	5.40E-01	U	6.80E-05	U	4.00E-02	U	2.00E-03	U	1
Adiponitrile	111-69-3	No	No							6.00E-03	U	1
Alachlor	15972-60-8	No	No	5.60E-02	U			1.00E-02	U			1
Aldicarb	116-06-3	No	No					1.00E-03	U			1
Aldicarb Sulfone	1646-88-4	No	No					1.00E-03	U			1
Aldicarb sulfoxide	1646-87-3	No	No									1
Aldrin	309-00-2	No	Yes	1.70E+01	U	4.90E-03	U	3.00E-05	U			1
Aliphatic Chlorinated Hydrocarbons (each)	NA	No	No									1
Aliphatic Chlorinated Hydrocarbons (total)	NA	No	No									1
Alizarin Red Compounds	NA	No	No									1
Ally	74223-64-6	No	No					2.50E-01	U			1
Allyl Alcohol	107-18-6	No	Yes					5.00E-03	U	1.00E-04	U	1
Allyl Chloride	107-05-1	No	Yes	2.10E-02	U	6.00E-06	U			1.00E-03	U	1
Aluminum	7429-90-5	No	No					1.00E+00	U	5.00E-03	U	1
Aluminum Phosphide	20859-73-8	No	No					4.00E-04	U			1
Aluminum metaphosphate	13776-88-0	No	No					4.86E+01	U			1
Amdro	67485-29-4	No	No					3.00E-04	U			1
Ametryn	834-12-8	No	No					9.00E-03	U			1
Amino-4-chlorobenzotrifluoride, 3-	121-50-6	No	Yes									1

Site-specific
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
ALAR	1596-84-5	0.1	1			3.23E+09	1.09E+03	3.80E+03	1.62E+08	8.45E+02	
Acenaphthene	83-32-9	0.13	1	1.94E+05		3.23E+09					
Acenaphthylene	208-96-8	0.13	1	2.61E+05		3.23E+09					
Acephate	30560-19-1	0.1	1			3.23E+09	2.25E+03	7.86E+03		1.75E+03	
Acetaldehyde	75-07-0		1	1.20E+04	1.07E+05	3.23E+09			1.39E+03	1.39E+03	
Acetochlor	34256-82-1	0.1	1			3.23E+09					
Acetone	67-64-1		1	1.88E+04	1.14E+05	3.23E+09					
Acetone Cyanohydrin	75-86-5		1	3.28E+04	1.06E+05	3.23E+09					
Acetonitrile	75-05-8		1	1.79E+04	1.28E+05	3.23E+09					
Acetophenone	98-86-2		1	8.24E+04	2.52E+03	3.23E+09					
Acetylaminofluorene, 2-	53-96-3	0.1	1			3.23E+09	5.14E+00	1.80E+01	6.35E+05	4.00E+00	
Acifluorofen	50594-66-6	0.1	1			3.23E+09					
Acridine	260-94-6	0.1	1			3.23E+09					
Acrolein	107-02-8		1	9.52E+03	2.27E+04	3.23E+09					
Acrylamide	79-06-1	0.1	1			3.23E+09	1.33E+01	9.00E+01	4.51E+06	1.16E+01	
Acrylic Acid	79-10-7		1	1.31E+05	1.09E+05	3.23E+09					
Acrylonitrile	107-13-1		1	1.06E+04	1.13E+04	3.23E+09	3.62E+01		3.98E+01	1.90E+01	
Adiponitrile	111-69-3	0.1	1			3.23E+09					
Alachlor	15972-60-8	0.1	1			3.23E+09	3.49E+02	1.22E+03		2.71E+02	
Aldicarb	116-06-3	0.1	1			3.23E+09					
Aldicarb Sulfone	1646-88-4	0.1	1			3.23E+09					
Aldicarb sulfoxide	1646-87-3	0.1	1			3.23E+09					
Aldrin	309-00-2		1	2.37E+06		3.23E+09	1.15E+00		1.23E+02	1.14E+00	
Aliphatic Chlorinated Hydrocarbons (each)	NA	0.1	1			3.23E+09					
Aliphatic Chlorinated Hydrocarbons (total)	NA	0.1	1			3.23E+09					
Alizarin Red Compounds	NA	0.1	1			3.23E+09					
Ally	74223-64-6	0.1	1			3.23E+09					
Allyl Alcohol	107-18-6		1	4.71E+04	1.11E+05	3.23E+09					
Allyl Chloride	107-05-1		1	2.18E+03	1.42E+03	3.23E+09	9.31E+02		9.30E+01	8.45E+01	
Aluminum	7429-90-5		1			3.23E+09					
Aluminum Phosphide	20859-73-8		1			3.23E+09					
Aluminum metaphosphate	13776-88-0		1			3.23E+09					
Amdro	67485-29-4	0.1	1			3.23E+09					
Ametryn	834-12-8	0.1	1			3.23E+09					
Amino-4-chlorobenzotrifluoride, 3-	121-50-6		1	3.69E+05		3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
ALAR	1596-84-5				1.01E+06	3.52E+06		7.82E+05	8.45E+02 ca
Acenaphthene	83-32-9				4.02E+05	1.08E+06		2.93E+05	2.93E+05 max
Acenaphthylene	208-96-8								
Acephate	30560-19-1				2.68E+04	9.38E+04		2.08E+04	1.75E+03 ca*
Acetaldehyde	75-07-0						9.46E+03	9.46E+03	1.39E+03 ca**
Acetochlor	34256-82-1				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Acetone	67-64-1				6.03E+06		5.10E+07	5.39E+06	5.39E+06 sat
Acetone Cyanohydrin	75-86-5						5.75E+03	5.75E+03	5.75E+03 nc
Acetonitrile	75-05-8						9.40E+04	9.40E+04	9.40E+04 nc
Acetophenone	98-86-2				6.70E+05			6.70E+05	6.70E+05 sat
Acetylaminofluorene, 2-	53-96-3								4.00E+00 ca
Acifluorofen	50594-66-6								
Acridine	260-94-6								
Acrolein	107-02-8				3.35E+03		1.67E+01	1.66E+01	1.66E+01 nc
Acrylamide	79-06-1				1.34E+04	4.69E+04	1.70E+09	1.04E+04	1.16E+01 ca
Acrylic Acid	79-10-7				3.35E+06		1.15E+04	1.15E+04	1.15E+04 nc
Acrylonitrile	107-13-1				2.68E+05		1.85E+03	1.84E+03	1.90E+01 ca*
Adiponitrile	111-69-3						1.70E+09	1.70E+09	1.70E+09 max
Alachlor	15972-60-8				6.70E+04	2.34E+05		5.21E+04	2.71E+02 ca
Aldicarb	116-06-3				6.70E+03	2.34E+04		5.21E+03	5.21E+03 nc
Aldicarb Sulfone	1646-88-4				6.70E+03	2.34E+04		5.21E+03	5.21E+03 nc
Aldicarb sulfoxide	1646-87-3								
Aldrin	309-00-2				2.01E+02			2.01E+02	1.14E+00 ca
Aliphatic Chlorinated Hydrocarbons (each)	NA								
Aliphatic Chlorinated Hydrocarbons (total)	NA								
Alizarin Red Compounds	NA								
Ally	74223-64-6				1.68E+06	5.86E+06		1.30E+06	1.30E+06 max
Allyl Alcohol	107-18-6				3.35E+04		4.12E+02	4.07E+02	4.07E+02 nc
Allyl Chloride	107-05-1						1.91E+02	1.91E+02	8.45E+01 ca**
Aluminum	7429-90-5				6.70E+06		1.42E+09	6.67E+06	6.67E+06 max
Aluminum Phosphide	20859-73-8				2.68E+03			2.68E+03	2.68E+03 nc
Aluminum metaphosphate	13776-88-0				3.26E+08			3.26E+08	3.26E+08 max
Amdro	67485-29-4				2.01E+03	7.03E+03		1.56E+03	1.56E+03 nc
Ametryn	834-12-8				6.03E+04	2.11E+05		4.69E+04	4.69E+04 nc
Amino-4-chlorobenzotrifluoride, 3-	121-50-6								

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Aminoazobenzene, p-	60-09-3	No	No									1
Aminobiphenyl, 4-	92-67-1	No	No	2.10E+01	U	6.00E-03	U					1
Aminophenol, m-	591-27-5	No	No					8.00E-02	U			1
Aminophenol, o-	95-55-6	No	No									1
Aminophenol, p-	123-30-8	No	No					2.00E-02	U			1
Aminopyridine, 4-	504-24-5	No	No									1
Amitraz	33089-61-1	No	No					2.50E-03	U			1
Ammonium Perchlorate	7790-98-9	No	No					7.00E-04	U			1
Ammonium Sulfamate	7773-06-0	No	No					2.00E-01	U			1
Ammonium polyphosphate	68333-79-9	No	No					4.86E+01	U			1
Amyl Alcohol, tert-	75-85-4	No	Yes							3.00E-03	U	1
Aniline	62-53-3	No	No	5.70E-03	U	1.60E-06	U	7.00E-03	U	1.00E-03	U	1
Anilinobenzothiazole	1843-21-6	No	No									1
Anthracene	120-12-7	No	Yes					3.00E-01	U			1
Anthraquinone, 9,10-	84-65-1	No	No	4.00E-02	U			2.00E-03	U			1
Antimony (metallic)	7440-36-0	No	No					4.00E-04	U			0.15
Antimony Pentoxide	1314-60-9	No	No					5.00E-04	U			0.15
Antimony Potassium Tartrate	11071-15-1	No	No					9.00E-04	U			0.15
Antimony Tetroxide	1332-81-6	No	No					4.00E-04	U			0.15
Antimony Trichloride	10025-91-9	No	No									1
Antimony Trioxide	1309-64-4	No	No							2.00E-04	U	0.15
Apollo	74115-24-5	No	No					1.30E-02	U			1
Aramite	140-57-8	No	No	2.50E-02	U	7.10E-06	U	5.00E-02	U			1
Aroclor 1016	12674-11-2	No	Yes	7.00E-02	U	2.00E-05	U	7.00E-05	U			1
Aroclor 1221	11104-28-2	No	Yes	2.00E+00	U	5.71E-04	U					1
Aroclor 1232	11141-16-5	No	Yes	2.00E+00	U	5.71E-04	U					1
Aroclor 1242	53469-21-9	No	Yes	2.00E+00	U	5.71E-04	U					1
Aroclor 1248	12672-29-6	No	Yes	2.00E+00	U	5.71E-04	U					1
Aroclor 1254	11097-69-1	No	Yes	2.00E+00	U	5.71E-04	U	2.00E-05	U			1
Aroclor 1260	11096-82-5	No	Yes	2.00E+00	U	5.71E-04	U					1
Aroclor 5460	11126-42-4	No	Yes					6.00E-04	U			1
Arsenic Salts	NA	No	No									1
Arsenic, Inorganic	7440-38-2	No	No	1.50E+00	U	4.30E-03	U	3.00E-04	U	1.50E-05	U	1
Arsine	7784-42-1	No	No					3.50E-06	U	5.00E-05	U	1
Assure	76578-14-8	No	No					9.00E-03	U			1

Site-specific
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ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Aminoazobenzene, p-	60-09-3	0.1	1			3.23E+09					
Aminobiphenyl, 4-	92-67-1	0.1	1			3.23E+09	9.31E-01	3.26E+00	1.38E+05	7.24E-01	
Aminophenol, m-	591-27-5	0.1	1			3.23E+09					
Aminophenol, o-	95-55-6	0.1	1			3.23E+09					
Aminophenol, p-	123-30-8	0.1	1			3.23E+09					
Aminopyridine, 4-	504-24-5	0.1	1			3.23E+09					
Amitraz	33089-61-1	0.1	1			3.23E+09					
Ammonium Perchlorate	7790-98-9		1			3.23E+09					
Ammonium Sulfamate	7773-06-0		1			3.23E+09					
Ammonium polyphosphate	68333-79-9		1			3.23E+09					
Amyl Alcohol, tert-	75-85-4		1	3.62E+04	1.37E+04	3.23E+09					
Aniline	62-53-3	0.1	1			3.23E+09	3.43E+03	1.20E+04	5.16E+08	2.67E+03	
Anilinobenzothiazole	1843-21-6	0.1	1			3.23E+09					
Anthracene	120-12-7	0.13	1	7.23E+05		3.23E+09					
Anthraquinone, 9,10-	84-65-1	0.1	1			3.23E+09	4.89E+02	1.71E+03		3.80E+02	
Antimony (metallic)	7440-36-0		1			3.23E+09					
Antimony Pentoxide	1314-60-9		1			3.23E+09					
Antimony Potassium Tartrate	11071-15-1		1			3.23E+09					
Antimony Tetroxide	1332-81-6		1			3.23E+09					
Antimony Trichloride	10025-91-9		1			3.23E+09					
Antimony Trioxide	1309-64-4		1			3.23E+09					
Apollo	74115-24-5	0.1	1			3.23E+09					
Aramite	140-57-8	0.1	1			3.23E+09	7.82E+02	2.74E+03	1.16E+08	6.08E+02	
Aroclor 1016	12674-11-2	0.14	1	8.07E+05		3.23E+09	2.79E+02	6.98E+02	1.03E+04	1.96E+02	
Aroclor 1221	11104-28-2	0.14	1	1.57E+05		3.23E+09	9.77E+00	2.44E+01	7.00E+01	6.35E+00	
Aroclor 1232	11141-16-5	0.14	1	1.54E+05		3.23E+09	9.77E+00	2.44E+01	6.91E+01	6.34E+00	
Aroclor 1242	53469-21-9	0.14	1	1.09E+06		3.23E+09	9.77E+00	2.44E+01	4.89E+02	6.88E+00	
Aroclor 1248	12672-29-6	0.14	1	7.08E+05		3.23E+09	9.77E+00	2.44E+01	3.17E+02	6.83E+00	
Aroclor 1254	11097-69-1	0.14	1	1.16E+06		3.23E+09	9.77E+00	2.44E+01	5.21E+02	6.89E+00	
Aroclor 1260	11096-82-5	0.14	1	1.82E+06		3.23E+09	9.77E+00	2.44E+01	8.13E+02	6.92E+00	
Aroclor 5460	11126-42-4	0.14	1	9.89E+05		3.23E+09					
Arsenic Salts	NA	0.03	0.6			3.23E+09					
Arsenic, Inorganic	7440-38-2	0.03	0.6			3.23E+09	2.17E+01	1.52E+02	1.92E+05	1.90E+01	
Arsine	7784-42-1		1			3.23E+09					
Assure	76578-14-8	0.1	1			3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Aminoazobenzene, p-	60-09-3								
Aminobiphenyl, 4-	92-67-1								7.24E-01 ca
Aminophenol, m-	591-27-5				5.36E+05	1.88E+06		4.17E+05	4.17E+05 max
Aminophenol, o-	95-55-6								
Aminophenol, p-	123-30-8				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Aminopyridine, 4-	504-24-5								
Amitraz	33089-61-1				1.68E+04	5.86E+04		1.30E+04	1.30E+04 nc
Ammonium Perchlorate	7790-98-9				4.69E+03			4.69E+03	4.69E+03 nc
Ammonium Sulfamate	7773-06-0				1.34E+06			1.34E+06	1.34E+06 max
Ammonium polyphosphate	68333-79-9				3.26E+08			3.26E+08	3.26E+08 max
Amyl Alcohol, tert-	75-85-4						9.50E+03	9.50E+03	9.50E+03 nc
Aniline	62-53-3				4.69E+04	1.64E+05	2.83E+08	3.65E+04	2.67E+03 ca*
Anilinobenzothiazole	1843-21-6								
Anthracene	120-12-7				2.01E+06	5.41E+06		1.47E+06	1.47E+06 max
Anthraquinone, 9,10-	84-65-1				1.34E+04	4.69E+04		1.04E+04	3.80E+02 ca*
Antimony (metallic)	7440-36-0				2.68E+03			2.68E+03	2.68E+03 nc
Antimony Pentoxide	1314-60-9				3.35E+03			3.35E+03	3.35E+03 nc
Antimony Potassium Tartrate	11071-15-1				6.03E+03			6.03E+03	6.03E+03 nc
Antimony Tetroxide	1332-81-6				2.68E+03			2.68E+03	2.68E+03 nc
Antimony Trichloride	10025-91-9								
Antimony Trioxide	1309-64-4						5.66E+07	5.66E+07	5.66E+07 max
Apollo	74115-24-5				8.71E+04	3.05E+05		6.78E+04	6.78E+04 nc
Aramite	140-57-8				3.35E+05	1.17E+06		2.61E+05	6.08E+02 ca
Aroclor 1016	12674-11-2				4.69E+02	1.17E+03		3.35E+02	1.96E+02 ca**
Aroclor 1221	11104-28-2								6.35E+00 ca
Aroclor 1232	11141-16-5								6.34E+00 ca
Aroclor 1242	53469-21-9								6.88E+00 ca
Aroclor 1248	12672-29-6								6.83E+00 ca
Aroclor 1254	11097-69-1				1.34E+02	3.35E+02		9.57E+01	6.89E+00 ca*
Aroclor 1260	11096-82-5								6.92E+00 ca
Aroclor 5460	11126-42-4				4.02E+03	1.00E+04		2.87E+03	2.87E+03 nc
Arsenic Salts	NA								
Arsenic, Inorganic	7440-38-2				3.35E+03	2.34E+04	4.25E+06	2.93E+03	1.90E+01 ca
Arsine	7784-42-1				2.35E+01		1.42E+07	2.35E+01	2.35E+01 nc
Assure	76578-14-8				6.03E+04	2.11E+05		4.69E+04	4.69E+04 nc

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Asulam	3337-71-1	No	No					5.00E-02	U			1
Atrazine	1912-24-9	No	No	2.30E-01	U			3.50E-02	U			1
Auramine	492-80-8	No	No	8.80E-01	U	2.50E-04	U					1
Avermectin B1	65195-55-3	No	No					4.00E-04	U			1
Azobenzene	103-33-3	No	Yes	1.10E-01	U	3.10E-05	U					1
Azodicarbonamide	123-77-3	No	No					1.00E+00	U	7.00E-06	U	1
Barium	7440-39-3	No	No					2.00E-01	U	5.00E-04	U	0.07
Barium Chromate	10294-40-3	Yes	No	5.00E-01	U	1.50E-01	U	2.00E-02	U	2.00E-04	U	0.025
Barium Cyanide	542-62-1	No	No									0.07
Baygon	114-26-1	No	No					4.00E-03	U			1
Bayleton	43121-43-3	No	No					3.00E-02	U			1
Baythroid	68359-37-5	No	No					2.50E-02	U			1
Benefin	1861-40-1	No	Yes					3.00E-01	U			1
Benomyl	17804-35-2	No	No					5.00E-02	U			1
Bentazon	25057-89-0	No	No					3.00E-02	U			1
Benz[a]anthracene	56-55-3	Yes	Yes	7.30E-01	U	1.10E-04	U					1
Benzaldehyde	100-52-7	No	Yes					1.00E-01	U			1
Benzene	71-43-2	No	Yes	5.50E-02	U	7.80E-06	U	4.00E-03	U	3.00E-02	U	1
Benzene, Ethyldimethyl	29224-55-3	No	Yes									1
Benzene, Ethylmethyl	25550-14-5	No	Yes									1
Benzene, Methylpropenyl	768-00-3	No	Yes									1
Benzene, Methylpropyl	28729-54-6	No	No									1
Benzene, Trimethyl	25551-13-7	No	Yes									1
Benzenediamine-2-methyl sulfate, 1,4-	6369-59-1	No	No	1.00E-01	U			3.00E-04	U			1
Benzenethiol	108-98-5	No	Yes					1.00E-03	U			1
Benzidine	92-87-5	Yes	No	2.30E+02	U	6.70E-02	U	3.00E-03	U			1
Benzo(j)fluoranthene	205-82-3	No	No	1.20E+00	U	1.10E-04	U					1
Benzo[a]pyrene	50-32-8	Yes	No	7.30E+00	U	1.10E-03	U					1
Benzo[b]fluoranthene	205-99-2	Yes	No	7.30E-01	U	1.10E-04	U					1
Benzo[g,h,i]perylene	191-24-2	No	No									1
Benzo[k]fluoranthene	207-08-9	Yes	No	7.30E-02	U	1.10E-04	U					1
Benzofluoranthenes, total	NA	No	No									1
Benzofluorene, 2,3-	243-17-4	No	No									1
Benzoic Acid	65-85-0	No	No					4.00E+00	U			1
Benzoic acid, 3,5-dichloro-	51-36-5	No	No									1

Site-specific
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Asulam	3337-71-1	0.1	1			3.23E+09					
Atrazine	1912-24-9	0.1	1			3.23E+09	8.50E+01	2.97E+02		6.61E+01	
Auramine	492-80-8	0.1	1			3.23E+09	2.22E+01	7.77E+01	3.30E+06	1.73E+01	
Avermectin B1	65195-55-3	0.1	1			3.23E+09					
Azobenzene	103-33-3		1	7.21E+05		3.23E+09	1.78E+02		5.94E+03	1.73E+02	
Azodicarbonamide	123-77-3	0.1	1			3.23E+09					
Barium	7440-39-3		1			3.23E+09					
Barium Chromate	10294-40-3		1			3.23E+09	1.33E+01		3.00E+03	1.32E+01	
Barium Cyanide	542-62-1		1			3.23E+09					
Baygon	114-26-1	0.1	1			3.23E+09					
Bayleton	43121-43-3	0.1	1			3.23E+09					
Baythroid	68359-37-5	0.1	1			3.23E+09					
Benefin	1861-40-1		1	4.23E+05		3.23E+09					
Benomyl	17804-35-2	0.1	1			3.23E+09					
Bentazon	25057-89-0	0.1	1			3.23E+09					
Benz[a]anthracene	56-55-3	0.13	1	6.09E+06		3.23E+09	9.10E+00	4.74E+01	7.70E+03	7.63E+00	
Benzaldehyde	100-52-7		1	3.10E+04	1.16E+03	3.23E+09					
Benzene	71-43-2		1	4.88E+03	1.82E+03	3.23E+09	3.55E+02		1.60E+02	1.10E+02	
Benzene, Ethyldimethyl	29224-55-3		1	1.26E+04	1.31E+02	3.23E+09					
Benzene, Ethylmethyl	25550-14-5		1	1.30E+04	3.30E+02	3.23E+09					
Benzene, Methylpropenyl	768-00-3		1	1.58E+04	4.90E+02	3.23E+09					
Benzene, Methylpropyl	28729-54-6	0.1	1			3.23E+09					
Benzene, Trimethyl	25551-13-7		1	9.03E+03	1.82E+02	3.23E+09					
Benzenediamine-2-methyl sulfate, 1,4-	6369-59-1	0.1	1			3.23E+09	1.95E+02	6.84E+02		1.52E+02	
Benzenethiol	108-98-5		1	2.67E+04	1.26E+03	3.23E+09					
Benzidine	92-87-5	0.1	1			3.23E+09	2.89E-02	1.96E-01	6.72E+03	2.52E-02	
Benzo(j)fluoranthene	205-82-3	0.13	1			3.23E+09	1.63E+01	4.38E+01	7.51E+06	1.19E+01	
Benzo[a]pyrene	50-32-8	0.13	1			3.23E+09	9.10E-01	4.74E+00	4.10E+05	7.63E-01	
Benzo[b]fluoranthene	205-99-2	0.13	1			3.23E+09	9.10E+00	4.74E+01	4.10E+06	7.63E+00	
Benzo[g,h,i]perylene	191-24-2	0.13	1			3.23E+09					
Benzo[k]fluoranthene	207-08-9	0.13	1			3.23E+09	9.10E+01	4.74E+02	4.10E+06	7.63E+01	
Benzofluoranthenes, total	NA	0.1	1			3.23E+09					
Benzofluorene, 2,3-	243-17-4	0.1	1			3.23E+09					
Benzoic Acid	65-85-0	0.1	1			3.23E+09					
Benzoic acid, 3,5-dichloro-	51-36-5	0.1	1			3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Asulam	3337-71-1				3.35E+05	1.17E+06		2.61E+05	2.61E+05 max
Atrazine	1912-24-9				2.35E+05	8.21E+05		1.82E+05	6.61E+01 ca
Auramine	492-80-8								1.73E+01 ca
Avermectin B1	65195-55-3				2.68E+03	9.38E+03		2.08E+03	2.08E+03 nc
Azobenzene	103-33-3								1.73E+02 ca
Azodicarbonamide	123-77-3				6.70E+06	2.34E+07	1.98E+06	1.44E+06	1.44E+06 max
Barium	7440-39-3				1.34E+06		1.42E+08	1.33E+06	1.33E+06 max
Barium Chromate	10294-40-3				1.34E+05		5.66E+07	1.34E+05	1.32E+01 ca
Barium Cyanide	542-62-1								
Baygon	114-26-1				2.68E+04	9.38E+04		2.08E+04	2.08E+04 nc
Bayleton	43121-43-3				2.01E+05	7.03E+05		1.56E+05	1.56E+05 max
Baythroid	68359-37-5				1.68E+05	5.86E+05		1.30E+05	1.30E+05 max
Benefin	1861-40-1				2.01E+06			2.01E+06	2.01E+06 max
Benomyl	17804-35-2				3.35E+05	1.17E+06		2.61E+05	2.61E+05 max
Bentazon	25057-89-0				2.01E+05	7.03E+05		1.56E+05	1.56E+05 max
Benz[a]anthracene	56-55-3								7.63E+00 ca
Benzaldehyde	100-52-7				6.70E+05			6.70E+05	6.70E+05 sat
Benzene	71-43-2				2.68E+04		1.28E+04	8.67E+03	1.10E+02 ca*
Benzene, Ethyldimethyl	29224-55-3								
Benzene, Ethylmethyl	25550-14-5								
Benzene, Methylpropenyl	768-00-3								
Benzene, Methylpropyl	28729-54-6								
Benzene, Trimethyl	25551-13-7								
Benzenediamine-2-methyl sulfate, 1,4-	6369-59-1				2.01E+03	7.03E+03		1.56E+03	1.52E+02 ca*
Benzenethiol	108-98-5				6.70E+03			6.70E+03	6.70E+03 sat
Benzidine	92-87-5				2.01E+04	7.03E+04		1.56E+04	2.52E-02 ca
Benzo(j)fluoranthene	205-82-3								1.19E+01 ca
Benzo[a]pyrene	50-32-8								7.63E-01 ca
Benzo[b]fluoranthene	205-99-2								7.63E+00 ca
Benzo[g,h,i]perylene	191-24-2								
Benzo[k]fluoranthene	207-08-9								7.63E+01 ca
Benzofluoranthenes, total	NA								
Benzofluorene, 2,3-	243-17-4								
Benzoic Acid	65-85-0				2.68E+07	9.38E+07		2.08E+07	2.08E+07 max
Benzoic acid, 3,5-dichloro-	51-36-5								

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Benzoic acid, 4-hydroxy-, methyl ester	99-76-3	No	No									1
Benzothiazole	95-16-9	No	No									1
Benzotrichloride	98-07-7	No	Yes	1.30E+01	U							1
Benzyl Alcohol	100-51-6	No	No					1.00E-01	U			1
Benzyl Chloride	100-44-7	No	Yes	1.70E-01	U	4.90E-05	U	2.00E-03	U	1.00E-03	U	1
Beryllium and compounds	7440-41-7	No	No			2.40E-03	U	2.00E-03	U	2.00E-05	U	0.007
Bidrin	141-66-2	No	No					1.00E-04	U			1
Bifenox	42576-02-3	No	No					9.00E-03	U			1
Biphenthrin	82657-04-3	No	No					1.50E-02	U			1
Biphenyl, 1,1'-	92-52-4	No	Yes	8.00E-03	U			5.00E-01	U	4.00E-04	U	1
Bis(2-chloro-1-methylethyl) ether	108-60-1	No	Yes	7.00E-02	U	1.00E-05	U	4.00E-02	U			1
Bis(2-chloroethoxy)methane	111-91-1	No	No					3.00E-03	U			1
Bis(2-chloroethyl)ether	111-44-4	No	Yes	1.10E+00	U	3.30E-04	U					1
Bis(2-ethylhexyl)phthalate	117-81-7	No	No	1.40E-02	U	2.40E-06	U	2.00E-02	U			1
Bis(Octanoyloxy)Di-N-Butyl Stannane	4731-77-5	No	Yes									1
Bis(chloromethyl)ether	542-88-1	No	Yes	2.20E+02	U	6.20E-02	U					1
Bis(oleoyloxy)dibutyl tin	13323-62-1	No	Yes									1
Bisphenol A	80-05-7	No	No					5.00E-02	U			1
Boron And Borates Only	7440-42-8	No	No					2.00E-01	U	2.00E-02	U	1
Boron Trichloride	10294-34-5	No	Yes					2.00E+00	U	2.00E-02	U	1
Boron Trifluoride	7637-07-2	No	Yes					4.00E-02	U	1.30E-02	U	1
Bromacil	314-40-9	No	No									1
Bromate	15541-45-4	No	No	7.00E-01	U			4.00E-03	U			1
Bromine	7726-95-6	No	Yes									1
Bromo-2-chloroethane, 1-	107-04-0	No	Yes	2.00E+00	U	6.00E-04	U					1
Bromo-3-fluorobenzene, 1-	1073-06-9	No	Yes									1
Bromo-4-Ethylbenzene, 1-	1585-07-5	No	Yes									1
Bromoacetic acid	79-08-3	No	No									1
Bromoacetophenone, 3-	2142-63-4	No	No									1
Bromobenzene	108-86-1	No	Yes					8.00E-03	U	6.00E-02	U	1
Bromochloromethane	74-97-5	No	Yes							4.00E-02	U	1
Bromodichloromethane	75-27-4	No	Yes	6.20E-02	U	3.70E-05	U	2.00E-02	U			1
Bromodiphenyl Ether, p-	101-55-3	No	Yes									1
Bromofluorobenzene, p-	460-00-4	No	Yes									1
Bromoform	75-25-2	No	Yes	7.90E-03	U	1.10E-06	U	2.00E-02	U			1

Site-specific
Recreator Screening Levels (RSL) for Soil
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ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Benzoic acid, 4-hydroxy-, methyl ester	99-76-3	0.1	1			3.23E+09					
Benzothiazole	95-16-9	0.1	1			3.23E+09					
Benzotrichloride	98-07-7		1	9.33E+04	3.23E+02	3.23E+09	1.50E+00			1.50E+00	
Benzyl Alcohol	100-51-6	0.1	1			3.23E+09					
Benzyl Chloride	100-44-7		1	3.52E+04	1.46E+03	3.23E+09	1.15E+02		1.83E+02	7.07E+01	
Beryllium and compounds	7440-41-7		1			3.23E+09			3.44E+05	3.44E+05	
Bidrin	141-66-2	0.1	1			3.23E+09					
Bifenox	42576-02-3	0.1	1			3.23E+09					
Biphenthrin	82657-04-3	0.1	1			3.23E+09					
Biphenyl, 1,1'-	92-52-4		1	1.57E+05		3.23E+09	2.44E+03			2.44E+03	
Bis(2-chloro-1-methylethyl) ether	108-60-1		1	4.83E+04	1.02E+03	3.23E+09	2.79E+02		1.23E+03	2.28E+02	
Bis(2-chloroethoxy)methane	111-91-1	0.1	1			3.23E+09					
Bis(2-chloroethyl)ether	111-44-4		1	5.87E+04	5.05E+03	3.23E+09	1.78E+01		4.54E+01	1.28E+01	
Bis(2-ethylhexyl)phthalate	117-81-7	0.1	1			3.23E+09	1.40E+03	4.89E+03	3.44E+08	1.09E+03	
Bis(Octanoyloxy)Di-N-Butyl Stannane	4731-77-5		1	8.48E+04		3.23E+09					
Bis(chloromethyl)ether	542-88-1		1	2.59E+03	4.22E+03	3.23E+09	8.89E-02		1.07E-02	9.53E-03	
Bis(oleoyloxy)dibutyl tin	13323-62-1		1	2.64E+06		3.23E+09					
Bisphenol A	80-05-7	0.1	1			3.23E+09					
Boron And Borates Only	7440-42-8		1			3.23E+09					
Boron Trichloride	10294-34-5		1			3.23E+09					
Boron Trifluoride	7637-07-2		1			3.23E+09					
Bromacil	314-40-9	0.1	1			3.23E+09					
Bromate	15541-45-4		1			3.23E+09	2.79E+01			2.79E+01	
Bromine	7726-95-6		1			3.23E+09					
Bromo-2-chloroethane, 1-	107-04-0		1	8.17E+03	2.38E+03	3.23E+09	9.77E+00		3.48E+00	2.57E+00	
Bromo-3-fluorobenzene, 1-	1073-06-9		1	9.79E+03	9.07E+02	3.23E+09					
Bromo-4-Ethylbenzene, 1-	1585-07-5		1	1.96E+04	2.06E+02	3.23E+09					
Bromoacetic acid	79-08-3	0.1	1			3.23E+09					
Bromoacetophenone, 3-	2142-63-4	0.1	1			3.23E+09					
Bromobenzene	108-86-1		1	1.15E+04	6.79E+02	3.23E+09					
Bromochloromethane	74-97-5		1	4.94E+03	4.03E+03	3.23E+09					
Bromodichloromethane	75-27-4		1	5.47E+03	9.31E+02	3.23E+09	3.15E+02		3.77E+01	3.37E+01	
Bromodiphenyl Ether, p-	101-55-3		1	2.57E+05	1.06E+02	3.23E+09					
Bromofluorobenzene, p-	460-00-4		1	9.95E+03	1.06E+03	3.23E+09					
Bromoform	75-25-2		1	1.34E+04	9.14E+02	3.23E+09	2.47E+03		3.11E+03	1.38E+03	

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Benzoic acid, 4-hydroxy-, methyl ester	99-76-3								
Benzothiazole	95-16-9								
Benzotrichloride	98-07-7								1.50E+00 ca
Benzyl Alcohol	100-51-6				6.70E+05	2.34E+06		5.21E+05	5.21E+05 max
Benzyl Chloride	100-44-7				1.34E+04		3.08E+03	2.51E+03	7.07E+01 ca*
Beryllium and compounds	7440-41-7				1.34E+04		5.66E+06	1.34E+04	1.34E+04 nc
Bidrin	141-66-2				6.70E+02	2.34E+03		5.21E+02	5.21E+02 nc
Bifenox	42576-02-3				6.03E+04	2.11E+05		4.69E+04	4.69E+04 nc
Biphenthrin	82657-04-3				1.01E+05	3.52E+05		7.82E+04	7.82E+04 nc
Biphenyl, 1,1'-	92-52-4				3.35E+06		5.50E+03	5.49E+03	2.44E+03 ca**
Bis(2-chloro-1-methylethyl) ether	108-60-1				2.68E+05			2.68E+05	2.28E+02 ca
Bis(2-chloroethoxy)methane	111-91-1				2.01E+04	7.03E+04		1.56E+04	1.56E+04 nc
Bis(2-chloroethyl)ether	111-44-4								1.28E+01 ca
Bis(2-ethylhexyl)phthalate	117-81-7				1.34E+05	4.69E+05		1.04E+05	1.09E+03 ca*
Bis(Octanoyloxy)Di-N-Butyl Stannane	4731-77-5								
Bis(chloromethyl)ether	542-88-1								9.53E-03 ca
Bis(oleoyloxy)dibutyl tin	13323-62-1								
Bisphenol A	80-05-7				3.35E+05	1.17E+06		2.61E+05	2.61E+05 max
Boron And Borates Only	7440-42-8				1.34E+06		5.66E+09	1.34E+06	1.34E+06 max
Boron Trichloride	10294-34-5				1.34E+07		5.66E+09	1.34E+07	1.34E+07 max
Boron Trifluoride	7637-07-2				2.68E+05		3.68E+09	2.68E+05	2.68E+05 max
Bromacil	314-40-9								
Bromate	15541-45-4				2.68E+04			2.68E+04	2.79E+01 ca
Bromine	7726-95-6								
Bromo-2-chloroethane, 1-	107-04-0								2.57E+00 ca
Bromo-3-fluorobenzene, 1-	1073-06-9								
Bromo-4-Ethylbenzene, 1-	1585-07-5								
Bromoacetic acid	79-08-3								
Bromoacetophenone, 3-	2142-63-4								
Bromobenzene	108-86-1				5.36E+04		6.07E+04	2.85E+04	2.85E+04 sat
Bromochloromethane	74-97-5						1.73E+04	1.73E+04	1.73E+04 sat
Bromodichloromethane	75-27-4				1.34E+05			1.34E+05	3.37E+01 ca
Bromodiphenyl Ether, p-	101-55-3								
Bromofluorobenzene, p-	460-00-4								
Bromoform	75-25-2				1.34E+05			1.34E+05	1.38E+03 sat

Site-specific
Recreator Screening Levels (RSL) for Soil
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Bromomethane	74-83-9	No	Yes					1.40E-03	U	5.00E-03	U	1
Bromophenol, p-	106-41-2	No	No									1
Bromophenyl-phenyl phthalate, 4-	NA	No	No									1
Bromophos	2104-96-3	No	Yes					5.00E-03	U			1
Bromopyridine, 2-	109-04-6	No	No									1
Bromotrichloromethane	75-62-7	No	Yes									1
Bromoxynil	1689-84-5	No	No					2.00E-02	U			1
Bromoxynil Octanoate	1689-99-2	No	Yes					2.00E-02	U			1
Butadiene, 1,3-	106-99-0	No	Yes	3.40E+00	U	3.00E-05	U			2.00E-03	U	1
Butanediol, 2,3-	513-85-9	No	No									1
Butanol	35296-72-1	No	Yes									1
Butanol, N-	71-36-3	No	Yes					1.00E-01	U			1
Butanone-2, 4-chloro-4,4-difluoro	NA	No	No									1
Butyl Alcohol, t-	75-65-0	No	Yes									1
Butyl Benzyl Phthlate	85-68-7	No	No	1.90E-03	U			2.00E-01	U			1
Butyl Formate, tert-	762-75-4	No	Yes									1
Butyl alcohol, sec-	78-92-2	No	Yes					2.00E+00	U	3.00E+01	U	1
Butylacetate	123-86-4	No	Yes									1
Butylate	2008-41-5	No	Yes					5.00E-02	U			1
Butylated hydroxyanisole	25013-16-5	No	No	2.00E-04	U	5.70E-08	U					1
Butylated hydroxytoluene	128-37-0	No	No	3.60E-03	U			3.00E-01	U			1
Butylbenzene, n-	104-51-8	No	Yes					5.00E-02	U			1
Butylbenzene, sec-	135-98-8	No	Yes					1.00E-01	U			1
Butylbenzene, tert-	98-06-6	No	Yes					1.00E-01	U			1
Butylchloride, t-	507-20-0	No	Yes									1
Butylphthalyl Butylglycolate	85-70-1	No	No					1.00E+00	U			1
Butyltin	NA	No	No									1
Cacodylic Acid	75-60-5	No	No					2.00E-02	U			1
Cadmium (Diet)	7440-43-9	No	No			1.80E-03	U	1.00E-03	U	1.00E-05	U	0.025
Calcium	7440-70-2	No	No									1
Calcium Chlorate	10137-74-3	No	No									1
Calcium Chromate	13765-19-0	Yes	No	5.00E-01	U	1.50E-01	U	2.00E-02	U	2.00E-04	U	0.025
Calcium Cyanide	592-01-8	No	No					1.00E-03	U			1
Calcium pyrophosphate	7790-76-3	No	No					4.86E+01	U			1
Caprolactam	105-60-2	No	No					5.00E-01	U	2.20E-03	U	1

Site-specific
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Bromomethane	74-83-9		1	1.93E+03	3.59E+03	3.23E+09					
Bromophenol, p-	106-41-2	0.1	1			3.23E+09					
Bromophenyl-phenyl phthalate, 4-	NA	0.1	1			3.23E+09					
Bromophos	2104-96-3		1	1.71E+05		3.23E+09					
Bromopyridine, 2-	109-04-6	0.1	1			3.23E+09					
Bromotrichloromethane	75-62-7		1	1.80E+04	4.25E+02	3.23E+09					
Bromoxynil	1689-84-5	0.1	1			3.23E+09					
Bromoxynil Octanoate	1689-99-2		1	6.55E+05		3.23E+09					
Butadiene, 1,3-	106-99-0		1	1.20E+03	6.67E+02	3.23E+09	5.75E+00		1.02E+01	3.68E+00	
Butanediol, 2,3-	513-85-9	0.1	1			3.23E+09					
Butanol	35296-72-1		1	4.02E+04	1.47E+04	3.23E+09					
Butanol, N-	71-36-3		1	4.13E+04	7.64E+03	3.23E+09					
Butanone-2, 4-chloro-4,4-difluoro	NA	0.1	1			3.23E+09					
Butyl Alcohol, t-	75-65-0		1	3.96E+04		3.23E+09					
Butyl Benzyl Phthlate	85-68-7	0.1	1			3.23E+09	1.03E+04	3.60E+04		8.00E+03	
Butyl Formate, tert-	762-75-4		1	6.00E+03	2.99E+03	3.23E+09					
Butyl alcohol, sec-	78-92-2		1	4.03E+04	2.13E+04	3.23E+09					
Butylacetate	123-86-4		1	1.18E+04	1.79E+03	3.23E+09					
Butylate	2008-41-5		1	1.19E+05		3.23E+09					
Butylated hydroxyanisole	25013-16-5	0.1	1			3.23E+09	9.77E+04	3.42E+05	1.45E+10	7.60E+04	
Butylated hydroxytoluene	128-37-0	0.1	1			3.23E+09	5.43E+03	1.90E+04		4.22E+03	
Butylbenzene, n-	104-51-8		1	1.12E+04	1.07E+02	3.23E+09					
Butylbenzene, sec-	135-98-8		1	1.01E+04	1.45E+02	3.23E+09					
Butylbenzene, tert-	98-06-6		1	1.01E+04	1.83E+02	3.23E+09					
Butylchloride, t-	507-20-0		1	2.34E+03	1.33E+03	3.23E+09					
Butylphthalyl Butylglycolate	85-70-1	0.1	1			3.23E+09					
Butyltin	NA	0.1	1			3.23E+09					
Cacodylic Acid	75-60-5	0.1	1			3.23E+09					
Cadmium (Diet)	7440-43-9	0.001	1			3.23E+09			4.59E+05	4.59E+05	
Calcium	7440-70-2		1			3.23E+09					
Calcium Chlorate	10137-74-3		1			3.23E+09					
Calcium Chromate	13765-19-0		1			3.23E+09	1.33E+01		3.00E+03	1.32E+01	
Calcium Cyanide	592-01-8		1			3.23E+09					
Calcium pyrophosphate	7790-76-3		1			3.23E+09					
Caprolactam	105-60-2	0.1	1			3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Bromomethane	74-83-9				9.38E+03		8.47E+02	7.76E+02	7.76E+02 nc
Bromophenol, p-	106-41-2								
Bromophenyl-phenyl phthalate, 4-	NA								
Bromophos	2104-96-3				3.35E+04			3.35E+04	3.35E+04 nc
Bromopyridine, 2-	109-04-6								
Bromotrichloromethane	75-62-7								
Bromoxynil	1689-84-5				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Bromoxynil Octanoate	1689-99-2				1.34E+05			1.34E+05	1.34E+05 max
Butadiene, 1,3-	106-99-0						2.10E+02	2.10E+02	3.68E+00 ca*
Butanediol, 2,3-	513-85-9								
Butanol	35296-72-1								
Butanol, N-	71-36-3				6.70E+05			6.70E+05	6.70E+05 sat
Butanone-2, 4-chloro-4,4-difluoro	NA								
Butyl Alcohol, t-	75-65-0								
Butyl Benzyl Phthlate	85-68-7				1.34E+06	4.69E+06		1.04E+06	8.00E+03 ca
Butyl Formate, tert-	762-75-4								
Butyl alcohol, sec-	78-92-2				1.34E+07		1.06E+08	1.19E+07	1.19E+07 sat
Butylacetate	123-86-4								
Butylate	2008-41-5				3.35E+05			3.35E+05	3.35E+05 max
Butylated hydroxyanisole	25013-16-5								7.60E+04 ca
Butylated hydroxytoluene	128-37-0				2.01E+06	7.03E+06		1.56E+06	4.22E+03 ca
Butylbenzene, n-	104-51-8				3.35E+05			3.35E+05	3.35E+05 sat
Butylbenzene, sec-	135-98-8				6.70E+05			6.70E+05	6.70E+05 sat
Butylbenzene, tert-	98-06-6				6.70E+05			6.70E+05	6.70E+05 sat
Butylchloride, t-	507-20-0								
Butylphthalyl Butylglycolate	85-70-1				6.70E+06	2.34E+07		5.21E+06	5.21E+06 max
Butyltin	NA								
Cacodylic Acid	75-60-5				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Cadmium (Diet)	7440-43-9				6.70E+03	5.86E+04	2.83E+06	6.00E+03	6.00E+03 nc
Calcium	7440-70-2								
Calcium Chlorate	10137-74-3								
Calcium Chromate	13765-19-0				1.34E+05		5.66E+07	1.34E+05	1.32E+01 ca
Calcium Cyanide	592-01-8				6.70E+03			6.70E+03	6.70E+03 nc
Calcium pyrophosphate	7790-76-3				3.26E+08			3.26E+08	3.26E+08 max
Caprolactam	105-60-2				3.35E+06	1.17E+07	6.23E+08	2.60E+06	2.60E+06 max

Site-specific
Recreator Screening Levels (RSL) for Soil
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ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Captafol	2425-06-1	No	No	1.50E-01	U	4.30E-05	U	2.00E-03	U			1
Captan	133-06-2	No	No	2.30E-03	U	6.60E-07	U	1.30E-01	U			1
Carbaryl	63-25-2	No	No					1.00E-01	U			1
Carbazole	86-74-8	No	No									1
Carbofuran	1563-66-2	No	No					5.00E-03	U			1
Carbon Disulfide	75-15-0	No	Yes					1.00E-01	U	7.00E-01	U	1
Carbon Tetrachloride	56-23-5	No	Yes	7.00E-02	U	6.00E-06	U	4.00E-03	U	1.00E-01	U	1
Carbosulfan	55285-14-8	No	No					1.00E-02	U			1
Carboxin	5234-68-4	No	No					1.00E-01	U			1
Catechol	120-80-9	No	No									1
Ceric oxide	1306-38-3	No	No							9.00E-04	U	1
Cerium, Stable	7440-45-1	No	No									1
Chloral	75-87-6	No	Yes									1
Chloral Hydrate	302-17-0	No	Yes					1.00E-01	U			1
Chloramben	133-90-4	No	No					1.50E-02	U			1
Chloramine	127-65-1	No	No									1
Chloranil	118-75-2	No	No	4.03E-01	U							1
Chlorate (ClO3) as	14866-68-3	No	No									1
Chlordane	12789-03-6	No	Yes	3.50E-01	U	1.00E-04	U	5.00E-04	U	7.00E-04	U	1
Chlordane (alpha)	5103-71-9	No	Yes									1
Chlordane (gamma)	5103-74-2	No	Yes									1
Chlordecone (Kepone)	143-50-0	No	No	1.00E+01	U	4.60E-03	U	3.00E-04	U			1
Chlorfenvinphos	470-90-6	No	No					7.00E-04	U			1
Chloride	16887-00-6	No	No									1
Chlorimuron, Ethyl-	90982-32-4	No	No					2.00E-02	U			1
Chlorinated Hydrocarbons (total)	NA	No	No									1
Chlorine	7782-50-5	No	Yes					1.00E-01	U	1.45E-04	U	1
Chlorine Dioxide	10049-04-4	No	Yes					3.00E-02	U	2.00E-04	U	1
Chlorite	14998-27-7	No	No									1
Chlorite (Sodium Salt)	7758-19-2	No	No					3.00E-02	U			1
Chloro-1,1-difluoroethane, 1-	75-68-3	No	Yes							5.00E+01	U	1
Chloro-1,3-butadiene, 2-	126-99-8	No	Yes			3.00E-04	U	2.00E-02	U	2.00E-02	U	1
Chloro-2-methylaniline HCl, 4-	3165-93-3	No	No	4.60E-01	U							1
Chloro-2-methylaniline, 4-	95-69-2	No	No	1.00E-01	U	7.70E-05	U	3.00E-03	U			1
Chloro-2-methylphenol, 4-	1570-64-5	No	No									1

Site-specific
Recreator Screening Levels (RSL) for Soil
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ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Captafol	2425-06-1	0.1	1			3.23E+09	1.30E+02	4.56E+02	1.92E+07	1.01E+02	
Captan	133-06-2	0.1	1			3.23E+09	8.50E+03	2.97E+04	1.25E+09	6.61E+03	
Carbaryl	63-25-2	0.1	1			3.23E+09					
Carbazole	86-74-8	0.1	1			3.23E+09					
Carbofuran	1563-66-2	0.1	1			3.23E+09					
Carbon Disulfide	75-15-0		1	1.61E+03	7.38E+02	3.23E+09					
Carbon Tetrachloride	56-23-5		1	2.06E+03	4.58E+02	3.23E+09	2.79E+02		8.78E+01	6.68E+01	
Carbosulfan	55285-14-8	0.1	1			3.23E+09					
Carboxin	5234-68-4	0.1	1			3.23E+09					
Catechol	120-80-9	0.1	1			3.23E+09					
Ceric oxide	1306-38-3		1			3.23E+09					
Cerium, Stable	7440-45-1		1			3.23E+09					
Chloral	75-87-6		1	2.14E+05	3.39E+03	3.23E+09					
Chloral Hydrate	302-17-0		1	2.02E+05		3.23E+09					
Chloramben	133-90-4	0.1	1			3.23E+09					
Chloramine	127-65-1		1			3.23E+09					
Chloranil	118-75-2	0.1	1			3.23E+09	4.85E+01	1.70E+02		3.77E+01	
Chlorate (ClO3) as	14866-68-3		1			3.23E+09					
Chlordane	12789-03-6	0.04	1	1.49E+06		3.23E+09	5.58E+01	4.89E+02	3.81E+03	4.95E+01	
Chlordane (alpha)	5103-71-9		1	2.05E+06		3.23E+09					
Chlordane (gamma)	5103-74-2		1	2.05E+06		3.23E+09					
Chlordecone (Kepone)	143-50-0	0.1	1			3.23E+09	1.95E+00	6.84E+00	1.80E+05	1.52E+00	
Chlorfenvinphos	470-90-6	0.1	1			3.23E+09					
Chloride	16887-00-6		1			3.23E+09					
Chlorimuron, Ethyl-	90982-32-4	0.1	1			3.23E+09					
Chlorinated Hydrocarbons (total)	NA	0.1	1			3.23E+09					
Chlorine	7782-50-5		1	1.69E+03	2.78E+03	3.23E+09					
Chlorine Dioxide	10049-04-4		1			3.23E+09					
Chlorite	14998-27-7		1			3.23E+09					
Chlorite (Sodium Salt)	7758-19-2		1			3.23E+09					
Chloro-1,1-difluoroethane, 1-	75-68-3		1	1.42E+03	1.14E+03	3.23E+09					
Chloro-1,3-butadiene, 2-	126-99-8		1	1.49E+03	7.51E+02	3.23E+09			1.27E+00	1.27E+00	
Chloro-2-methylaniline HCl, 4-	3165-93-3	0.1	1			3.23E+09	4.25E+01	1.49E+02		3.30E+01	
Chloro-2-methylaniline, 4-	95-69-2	0.1	1			3.23E+09	1.95E+02	6.84E+02	1.07E+07	1.52E+02	
Chloro-2-methylphenol, 4-	1570-64-5	0.1	1			3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Captafol	2425-06-1				1.34E+04	4.69E+04		1.04E+04	1.01E+02 ca
Captan	133-06-2				8.71E+05	3.05E+06		6.78E+05	6.61E+03 ca
Carbaryl	63-25-2				6.70E+05	2.34E+06		5.21E+05	5.21E+05 max
Carbazole	86-74-8								
Carbofuran	1563-66-2				3.35E+04	1.17E+05		2.61E+04	2.61E+04 nc
Carbon Disulfide	75-15-0				6.70E+05		9.89E+04	8.61E+04	8.61E+04 sat
Carbon Tetrachloride	56-23-5				2.68E+04		1.81E+04	1.08E+04	6.68E+01 ca
Carbosulfan	55285-14-8				6.70E+04	2.34E+05		5.21E+04	5.21E+04 nc
Carboxin	5234-68-4				6.70E+05	2.34E+06		5.21E+05	5.21E+05 max
Catechol	120-80-9								
Ceric oxide	1306-38-3						2.55E+08	2.55E+08	2.55E+08 max
Cerium, Stable	7440-45-1								
Chloral	75-87-6								
Chloral Hydrate	302-17-0				6.70E+05			6.70E+05	6.70E+05 max
Chloramben	133-90-4				1.01E+05	3.52E+05		7.82E+04	7.82E+04 nc
Chloramine	127-65-1								
Chloranil	118-75-2								3.77E+01 ca
Chlorate (ClO3) as	14866-68-3								
Chlordane	12789-03-6				3.35E+03	2.93E+04	9.15E+04	2.91E+03	4.95E+01 ca*
Chlordane (alpha)	5103-71-9								
Chlordane (gamma)	5103-74-2								
Chlordecone (Kepone)	143-50-0				2.01E+03	7.03E+03		1.56E+03	1.52E+00 ca
Chlorfenvinphos	470-90-6				4.69E+03	1.64E+04		3.65E+03	3.65E+03 nc
Chloride	16887-00-6								
Chlorimuron, Ethyl-	90982-32-4				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Chlorinated Hydrocarbons (total)	NA								
Chlorine	7782-50-5				6.70E+05		2.14E+01	2.14E+01	2.14E+01 nc
Chlorine Dioxide	10049-04-4				2.01E+05		5.66E+07	2.00E+05	2.00E+05 max
Chlorite	14998-27-7								
Chlorite (Sodium Salt)	7758-19-2				2.01E+05			2.01E+05	2.01E+05 max
Chloro-1,1-difluoroethane, 1-	75-68-3						6.21E+06	6.21E+06	6.21E+06 sat
Chloro-1,3-butadiene, 2-	126-99-8				1.34E+05		2.61E+03	2.56E+03	1.27E+00 ca
Chloro-2-methylaniline HCl, 4-	3165-93-3								3.30E+01 ca
Chloro-2-methylaniline, 4-	95-69-2				2.01E+04	7.03E+04		1.56E+04	1.52E+02 ca
Chloro-2-methylphenol, 4-	1570-64-5								

Site-specific
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Chloro-4-methylphenol	35421-08-0	No	No									1
Chloro-6-fluorophenol, 2-	2040-90-6	No	No									1
Chloroacetaldehyde, 2-	107-20-0	No	Yes	2.70E-01	U							1
Chloroacetamide	79-07-2	No	No									1
Chloroacetic Acid	79-11-8	No	No					2.00E-03	U			1
Chloroacetophenone, 2-	532-27-4	No	No							3.00E-05	U	1
Chloroaniline	27134-26-5	No	No									1
Chloroaniline, 3-	108-42-9	No	No									1
Chloroaniline, p-	106-47-8	No	No	2.00E-01	U			4.00E-03	U			1
Chlorobenzene	108-90-7	No	Yes					2.00E-02	U	5.00E-02	U	1
Chlorobenzene sulfonic acid, p-	98-66-8	No	No									1
Chlorobenzenes (total)	NA	No	No									1
Chlorobenzilate	510-15-6	No	No	1.10E-01	U	3.10E-05	U	2.00E-02	U			1
Chlorobenzoic Acid, p-	74-11-3	No	No					3.00E-02	U			1
Chlorobenzotrifluoride, 3-nitro-4-	121-17-5	No	Yes									1
Chlorobenzotrifluoride, 4-	98-56-6	No	Yes					3.00E-03	U	3.00E-01	U	1
Chlorobiphenyl, p-	2051-62-9	No	Yes									1
Chlorobutane, 1-	109-69-3	No	Yes					4.00E-02	U			1
Chlorobutane, 2-	78-86-4	No	Yes									1
Chlorocyclopentadiene	41851-50-7	No	Yes									1
Chlorodibromoethane	73506-94-2	No	No									1
Chlorodifluoromethane	75-45-6	No	Yes							5.00E+01	U	1
Chloroethanol, 2-	107-07-3	No	Yes					2.00E-02	U			1
Chloroethylvinyl ether, 2-	110-75-8	No	Yes									1
Chloroform	67-66-3	No	Yes	3.10E-02	U	2.30E-05	U	1.00E-02	U	9.77E-02	U	1
Chloromethane	74-87-3	No	Yes							9.00E-02	U	1
Chloromethyl Methyl Ether	107-30-2	No	Yes	2.40E+00	U	6.90E-04	U					1
Chloronaphthalene, Beta-	91-58-7	No	Yes					8.00E-02	U			1
Chloronaphthalene, alpha-	90-13-1	No	Yes									1
Chloronitrobenzene, o-	88-73-3	No	No	3.00E-01	U			3.00E-03	U	1.00E-05	U	1
Chloronitrobenzene, p-	100-00-5	No	No	6.30E-03	U			1.00E-03	U	6.00E-04	U	1
Chlorophenol, 2-	95-57-8	No	Yes					5.00E-03	U			1
Chlorophenol, 3-	108-43-0	No	No									1
Chlorophenol, 4-	106-48-9	No	No									1
Chlorophenols (each)	NA	No	No									1

Site-specific
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Chloro-4-methylphenol	35421-08-0	0.1	1			3.23E+09					
Chloro-6-fluorophenol, 2-	2040-90-6	0.1	1			3.23E+09					
Chloroacetaldehyde, 2-	107-20-0		1	2.56E+04	2.83E+04	3.23E+09	7.24E+01			7.24E+01	
Chloroacetamide	79-07-2	0.1	1			3.23E+09					
Chloroacetic Acid	79-11-8	0.1	1			3.23E+09					
Chloroacetophenone, 2-	532-27-4	0.1	1			3.23E+09					
Chloroaniline	27134-26-5	0.1	1			3.23E+09					
Chloroaniline, 3-	108-42-9	0.1	1			3.23E+09					
Chloroaniline, p-	106-47-8	0.1	1			3.23E+09	9.77E+01	3.42E+02		7.60E+01	
Chlorobenzene	108-90-7		1	8.90E+03	7.61E+02	3.23E+09					
Chlorobenzene sulfonic acid, p-	98-66-8	0.1	1			3.23E+09					
Chlorobenzenes (total)	NA	0.1	1			3.23E+09					
Chlorobenzilate	510-15-6	0.1	1			3.23E+09	1.78E+02	6.22E+02	2.66E+07	1.38E+02	
Chlorobenzoic Acid, p-	74-11-3	0.1	1			3.23E+09					
Chlorobenzotrifluoride, 3-nitro-4-	121-17-5		1	2.14E+05	9.07E+01	3.23E+09					
Chlorobenzotrifluoride, 4-	98-56-6		1	9.33E+03	1.17E+02	3.23E+09					
Chlorobiphenyl, p-	2051-62-9		1	1.78E+05		3.23E+09					
Chlorobutane, 1-	109-69-3		1	2.42E+03	7.29E+02	3.23E+09					
Chlorobutane, 2-	78-86-4		1	2.01E+03	6.51E+02	3.23E+09					
Chlorocyclopentadiene	41851-50-7		1	2.60E+03	9.88E+02	3.23E+09					
Chlorodibromoethane	73506-94-2	0.1	1			3.23E+09					
Chlorodifluoromethane	75-45-6		1	1.30E+03	1.68E+03	3.23E+09					
Chloroethanol, 2-	107-07-3		1	1.08E+05	1.11E+05	3.23E+09					
Chloroethylvinyl ether, 2-	110-75-8		1	2.21E+03	1.64E+03	3.23E+09					
Chloroform	67-66-3		1	3.62E+03	2.54E+03	3.23E+09	6.31E+02		4.03E+01	3.79E+01	
Chloromethane	74-87-3		1	1.62E+03	1.32E+03	3.23E+09					
Chloromethyl Methyl Ether	107-30-2		1	7.35E+03	2.58E+04	3.23E+09	8.14E+00		2.72E+00	2.04E+00	
Chloronaphthalene, Beta-	91-58-7	0.13	1	1.10E+05		3.23E+09					
Chloronaphthalene, alpha-	90-13-1		1	1.05E+05	2.66E+02	3.23E+09					
Chloronitrobenzene, o-	88-73-3	0.1	1			3.23E+09	6.52E+01	2.28E+02		5.07E+01	
Chloronitrobenzene, p-	100-00-5	0.1	1			3.23E+09	3.10E+03	1.09E+04		2.41E+03	
Chlorophenol, 2-	95-57-8		1	1.71E+05	2.19E+04	3.23E+09					
Chlorophenol, 3-	108-43-0	0.1	1			3.23E+09					
Chlorophenol, 4-	106-48-9	0.1	1			3.23E+09					
Chlorophenols (each)	NA	0.1	1			3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Chloro-4-methylphenol	35421-08-0								
Chloro-6-fluorophenol, 2-	2040-90-6								
Chloroacetaldehyde, 2-	107-20-0								7.24E+01 ca
Chloroacetamide	79-07-2								
Chloroacetic Acid	79-11-8				1.34E+04	4.69E+04		1.04E+04	1.04E+04 nc
Chloroacetophenone, 2-	532-27-4						8.50E+06	8.50E+06	8.50E+06 max
Chloroaniline	27134-26-5								
Chloroaniline, 3-	108-42-9								
Chloroaniline, p-	106-47-8				2.68E+04	9.38E+04		2.08E+04	7.60E+01 ca
Chlorobenzene	108-90-7				1.34E+05		3.90E+04	3.02E+04	3.02E+04 sat
Chlorobenzene sulfonic acid, p-	98-66-8								
Chlorobenzenes (total)	NA								
Chlorobenzilate	510-15-6				1.34E+05	4.69E+05		1.04E+05	1.38E+02 ca
Chlorobenzoic Acid, p-	74-11-3				2.01E+05	7.03E+05		1.56E+05	1.56E+05 max
Chlorobenzotrifluoride, 3-nitro-4-	121-17-5								
Chlorobenzotrifluoride, 4-	98-56-6				2.01E+04		2.45E+05	1.86E+04	1.86E+04 sat
Chlorobiphenyl, p-	2051-62-9								
Chlorobutane, 1-	109-69-3				2.68E+05			2.68E+05	2.68E+05 sat
Chlorobutane, 2-	78-86-4								
Chlorocyclopentadiene	41851-50-7								
Chlorodibromoethane	73506-94-2								
Chlorodifluoromethane	75-45-6						5.68E+06	5.68E+06	5.68E+06 sat
Chloroethanol, 2-	107-07-3				1.34E+05			1.34E+05	1.34E+05 sat
Chloroethylvinyl ether, 2-	110-75-8								
Chloroform	67-66-3				6.70E+04		3.10E+04	2.12E+04	3.79E+01 ca
Chloromethane	74-87-3						1.28E+04	1.28E+04	1.28E+04 sat
Chloromethyl Methyl Ether	107-30-2								2.04E+00 ca
Chloronaphthalene, Beta-	91-58-7				5.36E+05	1.44E+06		3.91E+05	3.91E+05 max
Chloronaphthalene, alpha-	90-13-1								
Chloronitrobenzene, o-	88-73-3				2.01E+04	7.03E+04	2.83E+06	1.56E+04	5.07E+01 ca
Chloronitrobenzene, p-	100-00-5				6.70E+03	2.34E+04	1.70E+08	5.21E+03	2.41E+03 ca**
Chlorophenol, 2-	95-57-8				3.35E+04			3.35E+04	3.35E+04 sat
Chlorophenol, 3-	108-43-0								
Chlorophenol, 4-	106-48-9								
Chlorophenols (each)	NA								

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Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Chlorophenols (total)	NA	No	No									1
Chlorophenyl Methyl Sulfide, p-	123-09-1	No	Yes									1
Chlorophenyl Methyl Sulfoxide	934-73-6	No	No									1
Chlorophenyl phenyl ether, 4-	7005-72-3	No	Yes									1
Chloropicrin	76-06-2	No	Yes							4.00E-04	U	1
Chloropropane, 2-	75-29-6	No	Yes									1
Chlorothalonil	1897-45-6	No	No	3.10E-03	U	8.90E-07	U	1.50E-02	U			1
Chlorotoluene, o-	95-49-8	No	Yes					2.00E-02	U			1
Chlorotoluene, p-	106-43-4	No	Yes					2.00E-02	U			1
Chlorozotocin	54749-90-5	No	No	2.40E+02	U	6.90E-02	U					1
Chlorpropham	101-21-3	No	No					2.00E-01	U			1
Chlorpyrifos	2921-88-2	No	No					1.00E-03	U			1
Chlorpyrifos Methyl	5598-13-0	No	No					1.00E-02	U			1
Chlorsulfuron	64902-72-3	No	No					5.00E-02	U			1
Chlorthiophos	60238-56-4	No	No					8.00E-04	U			1
Chromium(III), Insoluble Salts	16065-83-1	No	No					1.50E+00	U			0.013
Chromium(VI)	18540-29-9	Yes	No	5.00E-01	U	8.40E-02	U	3.00E-03	U	1.00E-04	U	0.025
Chromium, Total	7440-47-3	No	No									0.013
Chrysene	218-01-9	Yes	No	7.30E-03	U	1.10E-05	U					1
Cobalt	7440-48-4	No	No			9.00E-03	U	3.00E-04	U	6.00E-06	U	1
Complex Mixtures of Aliphatic and Aromatic Hydrocarbons	NA	No	No									1
Copper	7440-50-8	No	No					4.00E-02	U			1
Copper Cyanide	544-92-3	No	No					5.00E-03	U			1
Coronene	191-07-1	No	No									1
Creosote	8001-58-9	No	No									1
Cresol, m-	108-39-4	No	No					5.00E-02	U	6.00E-01	U	1
Cresol, o-	95-48-7	No	No					5.00E-02	U	6.00E-01	U	1
Cresol, p-	106-44-5	No	No					1.00E-01	U	6.00E-01	U	1
Cresol, p-chloro-m-	59-50-7	No	No					1.00E-01	U			1
Cresols	1319-77-3	No	No					1.00E-01	U	6.00E-01	U	1
Crotonaldehyde	4170-30-3	No	Yes									1
Crotonaldehyde, trans-	123-73-9	No	Yes	1.90E+00	U			1.00E-03	U			1
Cumene	98-82-8	No	Yes					1.00E-01	U	4.00E-01	U	1
Cupferron	135-20-6	No	No	2.20E-01	U	6.30E-05	U					1

Site-specific
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Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Chlorophenols (total)	NA	0.1	1			3.23E+09					
Chlorophenyl Methyl Sulfide, p-	123-09-1		1	6.97E+04	2.73E+02	3.23E+09					
Chlorophenyl Methyl Sulfoxide	934-73-6	0.1	1			3.23E+09					
Chlorophenyl phenyl ether, 4-	7005-72-3		1	1.83E+05		3.23E+09					
Chloropicrin	76-06-2		1	6.46E+03	6.17E+02	3.23E+09					
Chloropropane, 2-	75-29-6		1	1.79E+03	1.32E+03	3.23E+09					
Chlorothalonil	1897-45-6	0.1	1			3.23E+09	6.31E+03	2.21E+04	9.28E+08	4.90E+03	
Chlorotoluene, o-	95-49-8		1	1.12E+04	9.07E+02	3.23E+09					
Chlorotoluene, p-	106-43-4		1	1.01E+04	2.53E+02	3.23E+09					
Chlorozotocin	54749-90-5	0.1	1			3.23E+09	8.14E-02	2.85E-01	1.20E+04	6.33E-02	
Chlorpropham	101-21-3	0.1	1			3.23E+09					
Chlorpyrifos	2921-88-2	0.1	1			3.23E+09					
Chlorpyrifos Methyl	5598-13-0	0.1	1			3.23E+09					
Chlorsulfuron	64902-72-3	0.1	1			3.23E+09					
Chlorthiophos	60238-56-4	0.1	1			3.23E+09					
Chromium(III), Insoluble Salts	16065-83-1		1			3.23E+09					
Chromium(VI)	18540-29-9		1			3.23E+09	1.33E+01		5.36E+03	1.33E+01	
Chromium, Total	7440-47-3		1			3.23E+09					
Chrysene	218-01-9	0.13	1			3.23E+09	9.10E+02	4.74E+03	4.10E+07	7.63E+02	
Cobalt	7440-48-4		1			3.23E+09			9.18E+04	9.18E+04	
Complex Mixtures of Aliphatic and Aromatic Hydrocarbons	NA	0.1	1			3.23E+09					
Copper	7440-50-8		1			3.23E+09					
Copper Cyanide	544-92-3		1			3.23E+09					
Coronene	191-07-1	0.13	1			3.23E+09					
Creosote	8001-58-9	0.1	1			3.23E+09					
Cresol, m-	108-39-4	0.1	1			3.23E+09					
Cresol, o-	95-48-7	0.1	1			3.23E+09					
Cresol, p-	106-44-5	0.1	1			3.23E+09					
Cresol, p-chloro-m-	59-50-7	0.1	1			3.23E+09					
Cresols	1319-77-3	0.1	1			3.23E+09					
Crotonaldehyde	4170-30-3		1	2.61E+04	2.00E+04	3.23E+09					
Crotonaldehyde, trans-	123-73-9		1	2.61E+04	1.66E+04	3.23E+09	1.03E+01			1.03E+01	
Cumene	98-82-8		1	8.56E+03	2.68E+02	3.23E+09					
Cupferron	135-20-6	0.1	1			3.23E+09	8.89E+01	3.11E+02	1.31E+07	6.91E+01	

Site-specific
Recreator Screening Levels (RSL) for Soil
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Chlorophenols (total)	NA								
Chlorophenyl Methyl Sulfide, p-	123-09-1								
Chlorophenyl Methyl Sulfoxide	934-73-6								
Chlorophenyl phenyl ether, 4-	7005-72-3								
Chloropicrin	76-06-2						2.26E+02	2.26E+02	2.26E+02 nc
Chloropropane, 2-	75-29-6								
Chlorothalonil	1897-45-6				1.01E+05	3.52E+05		7.82E+04	4.90E+03 ca*
Chlorotoluene, o-	95-49-8				1.34E+05			1.34E+05	1.34E+05 sat
Chlorotoluene, p-	106-43-4				1.34E+05			1.34E+05	1.34E+05 sat
Chlorozotocin	54749-90-5								6.33E-02 ca
Chlorpropham	101-21-3				1.34E+06	4.69E+06		1.04E+06	1.04E+06 max
Chlorpyrifos	2921-88-2				6.70E+03	2.34E+04		5.21E+03	5.21E+03 nc
Chlorpyrifos Methyl	5598-13-0				6.70E+04	2.34E+05		5.21E+04	5.21E+04 nc
Chlorsulfuron	64902-72-3				3.35E+05	1.17E+06		2.61E+05	2.61E+05 max
Chlorthiophos	60238-56-4				5.36E+03	1.88E+04		4.17E+03	4.17E+03 nc
Chromium(III), Insoluble Salts	16065-83-1				1.01E+07			1.01E+07	1.01E+07 max
Chromium(VI)	18540-29-9				2.01E+04		2.83E+07	2.01E+04	1.33E+01 ca
Chromium, Total	7440-47-3								
Chrysene	218-01-9								7.63E+02 ca
Cobalt	7440-48-4				2.01E+03		1.70E+06	2.01E+03	2.01E+03 nc
Complex Mixtures of Aliphatic and Aromatic Hydrocarbons	NA								
Copper	7440-50-8				2.68E+05			2.68E+05	2.68E+05 max
Copper Cyanide	544-92-3				3.35E+04			3.35E+04	3.35E+04 nc
Coronene	191-07-1								
Creosote	8001-58-9								
Cresol, m-	108-39-4				3.35E+05	1.17E+06	1.70E+11	2.61E+05	2.61E+05 max
Cresol, o-	95-48-7				3.35E+05	1.17E+06	1.70E+11	2.61E+05	2.61E+05 max
Cresol, p-	106-44-5				6.70E+05	2.34E+06	1.70E+11	5.21E+05	5.21E+05 max
Cresol, p-chloro-m-	59-50-7				6.70E+05	2.34E+06		5.21E+05	5.21E+05 max
Cresols	1319-77-3				6.70E+05	2.34E+06	1.70E+11	5.21E+05	5.21E+05 max
Crotonaldehyde	4170-30-3								
Crotonaldehyde, trans-	123-73-9				6.70E+03			6.70E+03	1.03E+01 ca
Cumene	98-82-8				6.70E+05		3.00E+05	2.07E+05	2.07E+05 sat
Cupferron	135-20-6								6.91E+01 ca

Site-specific
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Cyanazine	21725-46-2	No	No	8.40E-01	U			2.00E-03	U			1
Cyanide (CN-)	57-12-5	No	Yes					6.00E-04	U	8.00E-04	U	1
Cyanide (total complex)	NA	No	No									1
Cyanogen	460-19-5	No	Yes					1.00E-03	U			1
Cyanogen Bromide	506-68-3	No	Yes					9.00E-02	U			1
Cyanogen Chloride	506-77-4	No	Yes					5.00E-02	U			1
Cyclohexane	110-82-7	No	Yes							6.00E+00	U	1
Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	87-84-3	No	No	2.30E-02	U							1
Cyclohexanone	108-94-1	No	Yes					5.00E+00	U	7.00E-01	U	1
Cyclohexene	110-83-8	No	Yes					5.00E-03	U	1.00E+00	U	1
Cyclohexylamine	108-91-8	No	Yes					2.00E-01	U			1
Cyclopentadiene	542-92-7	No	Yes									1
Cyhalothrin/karate	68085-85-8	No	No					5.00E-03	U			1
Cypermethrin	52315-07-8	No	No					1.00E-02	U			1
Cyromazine	66215-27-8	No	No					7.50E-03	U			1
DDD	72-54-8	No	No	2.40E-01	U	6.90E-05	U					1
DDD, o,p'-	53-19-0	No	No									1
DDE, p,p'-	72-55-9	No	Yes	3.40E-01	U	9.70E-05	U					1
DDT	50-29-3	No	No	3.40E-01	U	9.70E-05	U	5.00E-04	U			1
DDT, o,p'-	789-02-6	No	No									1
DDT/DDE/DDD (total)	NA	No	No									1
Dacthal	1861-32-1	No	No					1.00E-02	U			1
Dalapon	75-99-0	No	No					3.00E-02	U			1
Decabromodiphenyl ether, 2,2',3,3',4,4',5,5',6,6'- (BDE-209)	1163-19-5	No	No	7.00E-04	U			7.00E-03	U			1
Decane	124-18-5	No	Yes									1
Decanol, n-	112-30-1	No	Yes									1
Deltamethrin	52918-63-5	No	No									1
Demeton	8065-48-3	No	No					4.00E-05	U			1
Di(2-ethylhexyl)adipate	103-23-1	No	No	1.20E-03	U			6.00E-01	U			1
Di-n-butyltin bis(2-ethylhexanoate)	2781-10-4	No	Yes									1
Di-n-butyltin bis(methyl maleate)	15546-11-9	No	No									1
Di-n-butyltin bis(n-butyl maleate)	15546-16-4	No	No									1
Di-n-butyltin dilaurate	77-58-7	No	Yes									1
Di-n-butyltin distearate	5847-55-2	No	Yes									1
Di-n-hexylphthalate	84-75-3	No	Yes									1

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ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Cyanazine	21725-46-2	0.1	1			3.23E+09	2.33E+01	8.14E+01		1.81E+01	
Cyanide (CN-)	57-12-5		1	6.42E+04	1.00E+07	3.23E+09					
Cyanide (total complex)	NA		1			3.23E+09					
Cyanogen	460-19-5		1			3.23E+09					
Cyanogen Bromide	506-68-3		1			3.23E+09					
Cyanogen Chloride	506-77-4		1			3.23E+09					
Cyclohexane	110-82-7		1	1.44E+03	1.18E+02	3.23E+09					
Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	87-84-3	0.1	1			3.23E+09	8.50E+02	2.97E+03		6.61E+02	
Cyclohexanone	108-94-1		1	5.75E+04	5.11E+03	3.23E+09					
Cyclohexene	110-83-8		1	2.02E+03	2.83E+02	3.23E+09					
Cyclohexylamine	108-91-8		1	1.03E+05	2.93E+05	3.23E+09					
Cyclopentadiene	542-92-7		1	2.05E+03	1.34E+03	3.23E+09					
Cyhalothrin/karate	68085-85-8	0.1	1			3.23E+09					
Cypermethrin	52315-07-8	0.1	1			3.23E+09					
Cyromazine	66215-27-8	0.1	1			3.23E+09					
DDD	72-54-8	0.1	1			3.23E+09	8.14E+01	2.85E+02	1.20E+07	6.33E+01	
DDD, o,p'-	53-19-0	0.1	1			3.23E+09					
DDE, p,p'-	72-55-9		1	2.91E+06		3.23E+09	5.75E+01		7.65E+03	5.71E+01	
DDT	50-29-3	0.03	1			3.23E+09	5.75E+01	6.71E+02	8.52E+06	5.30E+01	
DDT, o,p'-	789-02-6	0.1	1			3.23E+09					
DDT/DDE/DDD (total)	NA	0.1	1			3.23E+09					
Dacthal	1861-32-1	0.1	1			3.23E+09					
Dalapon	75-99-0	0.1	1			3.23E+09					
Decabromodiphenyl ether, 2,2',3,3',4,4',5,5',6,6'- (BDE-209)	1163-19-5	0.1	1			3.23E+09	2.79E+04	9.77E+04		2.17E+04	
Decane	124-18-5		1	1.56E+03	2.53E+00	3.23E+09					
Decanol, n-	112-30-1		1	8.71E+04	3.19E+01	3.23E+09					
Deltamethrin	52918-63-5	0.1	1			3.23E+09					
Demeton	8065-48-3	0.1	1			3.23E+09					
Di(2-ethylhexyl)adipate	103-23-1	0.1	1			3.23E+09	1.63E+04	5.70E+04		1.27E+04	
Di-n-butyltin bis(2-ethylhexanoate)	2781-10-4		1	1.29E+05		3.23E+09					
Di-n-butyltin bis(methyl maleate)	15546-11-9	0.1	1			3.23E+09					
Di-n-butyltin bis(n-butyl maleate)	15546-16-4	0.1	1			3.23E+09					
Di-n-butyltin dilaurate	77-58-7		1	4.40E+05		3.23E+09					
Di-n-butyltin distearate	5847-55-2		1	2.33E+06		3.23E+09					
Di-n-hexylphthalate	84-75-3		1	1.33E+06	3.85E+00	3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Cyanazine	21725-46-2				1.34E+04	4.69E+04		1.04E+04	1.81E+01 ca
Cyanide (CN-)	57-12-5				4.02E+03		4.50E+03	2.12E+03	2.12E+03 nc
Cyanide (total complex)	NA								
Cyanogen	460-19-5				6.70E+03			6.70E+03	6.70E+03 nc
Cyanogen Bromide	506-68-3				6.03E+05			6.03E+05	6.03E+05 max
Cyanogen Chloride	506-77-4				3.35E+05			3.35E+05	3.35E+05 max
Cyclohexane	110-82-7						7.56E+05	7.56E+05	7.56E+05 sat
Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	87-84-3								6.61E+02 ca
Cyclohexanone	108-94-1				3.35E+07		3.53E+06	3.19E+06	3.19E+06 sat
Cyclohexene	110-83-8				3.35E+04		1.77E+05	2.82E+04	2.82E+04 sat
Cyclohexylamine	108-91-8				1.34E+06			1.34E+06	1.34E+06 sat
Cyclopentadiene	542-92-7								
Cyhalothrin/karate	68085-85-8				3.35E+04	1.17E+05		2.61E+04	2.61E+04 nc
Cypermethrin	52315-07-8				6.70E+04	2.34E+05		5.21E+04	5.21E+04 nc
Cyromazine	66215-27-8				5.03E+04	1.76E+05		3.91E+04	3.91E+04 nc
DDD	72-54-8								6.33E+01 ca
DDD, o,p'-	53-19-0								
DDE, p,p'-	72-55-9								5.71E+01 ca
DDT	50-29-3				3.35E+03	3.91E+04		3.09E+03	5.30E+01 ca*
DDT, o,p'-	789-02-6								
DDT/DDE/DDD (total)	NA								
Dacthal	1861-32-1				6.70E+04	2.34E+05		5.21E+04	5.21E+04 nc
Dalapon	75-99-0				2.01E+05	7.03E+05		1.56E+05	1.56E+05 max
Decabromodiphenyl ether, 2,2',3,3',4,4',5,5',6,6'-(BDE-209)	1163-19-5				4.69E+04	1.64E+05		3.65E+04	2.17E+04 ca**
Decane	124-18-5								
Decanol, n-	112-30-1								
Deltamethrin	52918-63-5								
Demeton	8065-48-3				2.68E+02	9.38E+02		2.08E+02	2.08E+02 nc
Di(2-ethylhexyl)adipate	103-23-1				4.02E+06	1.41E+07		3.13E+06	1.27E+04 ca
Di-n-butyltin bis(2-ethylhexanoate)	2781-10-4								
Di-n-butyltin bis(methyl maleate)	15546-11-9								
Di-n-butyltin bis(n-butyl maleate)	15546-16-4								
Di-n-butyltin dilaurate	77-58-7								
Di-n-butyltin distearate	5847-55-2								
Di-n-hexylphthalate	84-75-3								

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Diallate	2303-16-4	No	No	6.10E-02	U							1
Diammonium phosphate	7783-28-0	No	No					4.86E+01	U			1
Diazinon	333-41-5	No	No					7.00E-04	U			1
Dibenz[a,h]anthracene	53-70-3	Yes	No	7.30E+00	U	1.20E-03	U					1
Dibenzo(a,e)pyrene	192-65-4	No	No	1.20E+01	U	1.10E-03	U					1
Dibenzofuran	132-64-9	No	Yes					1.00E-03	U			1
Dibenzothiophene	132-65-0	No	Yes					1.00E-02	U			1
Dibromo-3-chloropropane, 1,2-	96-12-8	Yes	Yes	8.00E-01	U	6.00E-03	U	2.00E-04	U	2.00E-04	U	1
Dibromoacetic acid	631-64-1	No	No									1
Dibromobenzene, 1,3-	108-36-1	No	Yes					4.00E-04	U			1
Dibromobenzene, 1,4-	106-37-6	No	Yes					1.00E-02	U			1
Dibromochloromethane	124-48-1	No	Yes	8.40E-02	U	2.70E-05	U	2.00E-02	U			1
Dibromodichloromethane	594-18-3	No	Yes									1
Dibromodiphenyl Ether, p,p'-	2050-47-7	No	Yes									1
Dibromoethane, 1,2-	106-93-4	No	Yes	2.00E+00	U	6.00E-04	U	9.00E-03	U	9.00E-03	U	1
Dibromomethane (Methylene Bromide)	74-95-3	No	Yes					1.00E-02	U	4.00E-03	U	1
Dibutoxy di-n-butyltin	3349-36-8	No	Yes									1
Dibutyl Phthalate	84-74-2	No	No					1.00E-01	U			1
Dibutylbis((1-oxoisooctyl)oxy)stannane	85702-74-5	No	No									1
Dibutylbis(octadeca-9(Z),12(Z),15(Z)-trienoyloxy)stannane	95873-60-2	No	Yes									1
Dibutylbis(octadeca-9(Z),12(Z)-dienoyloxy)stannane	85391-79-3	No	No									1
Dibutylbis(palmitoyloxy)stannane	13323-63-2	No	Yes									1
Dibutyltin Compounds	NA	No	No					3.00E-04	U			1
Dibutyltin diacetate	1067-33-0	No	Yes									1
Dibutyltin dichloride	683-18-1	No	Yes									1
Dibutyltin oxide	818-08-6	No	Yes									1
Dicalcium phosphate	7757-93-9	No	No					4.86E+01	U			1
Dicamba	1918-00-9	No	No					3.00E-02	U			1
Dichloro-2-butene, 1,4-	764-41-0	No	Yes			4.20E-03	U					1
Dichloro-2-butene, cis-1,4-	1476-11-5	No	Yes			4.20E-03	U					1
Dichloro-2-butene, trans-1,4-	110-57-6	No	Yes			4.20E-03	U					1
Dichloroacetic Acid	79-43-6	No	No	5.00E-02	U			4.00E-03	U			1
Dichloroaniline, 2,4-	554-00-7	No	No									1
Dichloroaniline, 3,4-	95-76-1	No	Yes									1

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Diallate	2303-16-4	0.1	1			3.23E+09	3.20E+02	1.12E+03		2.49E+02	
Diammonium phosphate	7783-28-0		1			3.23E+09					
Diazinon	333-41-5	0.1	1			3.23E+09					
Dibenz[a,h]anthracene	53-70-3	0.13	1			3.23E+09	9.10E-01	4.74E+00	3.75E+05	7.63E-01	
Dibenzo(a,e)pyrene	192-65-4	0.13	1			3.23E+09	1.63E+00	4.38E+00	7.51E+05	1.19E+00	
Dibenzofuran	132-64-9	0.03	1	2.70E+05		3.23E+09					
Dibenzothiophene	132-65-0		1	7.24E+05		3.23E+09					
Dibromo-3-chloropropane, 1,2-	96-12-8		1	4.42E+04	9.80E+02	3.23E+09	8.30E+00		1.03E+00	9.13E-01	
Dibromoacetic acid	631-64-1	0.1	1			3.23E+09					
Dibromobenzene, 1,3-	108-36-1		1	2.66E+04	1.59E+02	3.23E+09					
Dibromobenzene, 1,4-	106-37-6		1	3.03E+04		3.23E+09					
Dibromochloromethane	124-48-1		1	1.10E+04	8.02E+02	3.23E+09	2.33E+02		1.04E+02	7.18E+01	
Dibromodichloromethane	594-18-3		1	3.20E+04		3.23E+09					
Dibromodiphenyl Ether, p,p'-	2050-47-7		1	5.22E+05		3.23E+09					
Dibromoethane, 1,2-	106-93-4		1	1.19E+04	1.34E+03	3.23E+09	9.77E+00		5.08E+00	3.34E+00	
Dibromomethane (Methylene Bromide)	74-95-3		1	7.79E+03	2.82E+03	3.23E+09					
Dibutoxy di-n-butyltin	3349-36-8		1	8.25E+04		3.23E+09					
Dibutyl Phthalate	84-74-2	0.1	1			3.23E+09					
Dibutylbis((1-oxoisooctyl)oxy)stannane	85702-74-5	0.1	1			3.23E+09					
Dibutylbis(octadeca-9(Z),12(Z),15(Z)-trienoyloxy)stannane	95873-60-2		1	3.40E+06		3.23E+09					
Dibutylbis(octadeca-9(Z),12(Z)-dienoyloxy)stannane	85391-79-3	0.1	1			3.23E+09					
Dibutylbis(palmitoyloxy)stannane	13323-63-2		1	1.20E+06		3.23E+09					
Dibutyltin Compounds	NA	0.1	1			3.23E+09					
Dibutyltin diacetate	1067-33-0		1	1.75E+04	1.86E+00	3.23E+09					
Dibutyltin dichloride	683-18-1		1	3.93E+04		3.23E+09					
Dibutyltin oxide	818-08-6		1			3.23E+09					
Dicalcium phosphate	7757-93-9		1			3.23E+09					
Dicamba	1918-00-9	0.1	1			3.23E+09					
Dichloro-2-butene, 1,4-	764-41-0		1	1.54E+04	5.20E+02	3.23E+09			9.35E-01	9.35E-01	
Dichloro-2-butene, cis-1,4-	1476-11-5		1	1.54E+04	5.20E+02	3.23E+09			9.35E-01	9.35E-01	
Dichloro-2-butene, trans-1,4-	110-57-6		1	1.54E+04	7.63E+02	3.23E+09			9.36E-01	9.36E-01	
Dichloroacetic Acid	79-43-6	0.1	1			3.23E+09	3.91E+02	1.37E+03		3.04E+02	
Dichloroaniline, 2,4-	554-00-7	0.1	1			3.23E+09					
Dichloroaniline, 3,4-	95-76-1		1	1.39E+05		3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Diallate	2303-16-4								2.49E+02 ca
Diammonium phosphate	7783-28-0				3.26E+08			3.26E+08	3.26E+08 max
Diazinon	333-41-5				4.69E+03	1.64E+04		3.65E+03	3.65E+03 nc
Dibenz[a,h]anthracene	53-70-3								7.63E-01 ca
Dibenzo(a,e)pyrene	192-65-4								1.19E+00 ca
Dibenzofuran	132-64-9				6.70E+03	7.82E+04		6.17E+03	6.17E+03 nc
Dibenzothiophene	132-65-0				6.70E+04			6.70E+04	6.70E+04 nc
Dibromo-3-chloropropane, 1,2-	96-12-8				1.34E+03		7.74E+02	4.91E+02	9.13E-01 ca
Dibromoacetic acid	631-64-1								
Dibromobenzene, 1,3-	108-36-1				2.68E+03			2.68E+03	2.68E+03 sat
Dibromobenzene, 1,4-	106-37-6				6.70E+04			6.70E+04	6.70E+04 nc
Dibromochloromethane	124-48-1				1.34E+05			1.34E+05	7.18E+01 ca
Dibromodichloromethane	594-18-3								
Dibromodiphenyl Ether, p,p'-	2050-47-7								
Dibromoethane, 1,2-	106-93-4				6.03E+04		9.40E+03	8.13E+03	3.34E+00 ca
Dibromomethane (Methylene Bromide)	74-95-3				6.70E+04		2.73E+03	2.62E+03	2.62E+03 nc
Dibutoxy di-n-butyltin	3349-36-8								
Dibutyl Phthalate	84-74-2				6.70E+05	2.34E+06		5.21E+05	5.21E+05 max
Dibutylbis((1-oxoisooctyl)oxy)stannane	85702-74-5								
Dibutylbis(octadeca-9(Z),12(Z),15(Z)-trienoyloxy)stannane	95873-60-2								
Dibutylbis(octadeca-9(Z),12(Z)-dienoyloxy)stannane	85391-79-3								
Dibutylbis(palmitoyloxy)stannane	13323-63-2								
Dibutyltin Compounds	NA				2.01E+03	7.03E+03		1.56E+03	1.56E+03 nc
Dibutyltin diacetate	1067-33-0								
Dibutyltin dichloride	683-18-1								
Dibutyltin oxide	818-08-6								
Dicalcium phosphate	7757-93-9				3.26E+08			3.26E+08	3.26E+08 max
Dicamba	1918-00-9				2.01E+05	7.03E+05		1.56E+05	1.56E+05 max
Dichloro-2-butene, 1,4-	764-41-0								9.35E-01 ca
Dichloro-2-butene, cis-1,4-	1476-11-5								9.35E-01 ca
Dichloro-2-butene, trans-1,4-	110-57-6								9.36E-01 ca
Dichloroacetic Acid	79-43-6				2.68E+04	9.38E+04		2.08E+04	3.04E+02 ca*
Dichloroaniline, 2,4-	554-00-7								
Dichloroaniline, 3,4-	95-76-1								

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Dichlorobenzene	25321-22-6	No	Yes									1
Dichlorobenzene, 1,2-	95-50-1	No	Yes					9.00E-02	U	2.00E-01	U	1
Dichlorobenzene, 1,3-	541-73-1	No	Yes									1
Dichlorobenzene, 1,4-	106-46-7	No	Yes	5.40E-03	U	1.10E-05	U	7.00E-02	U	8.00E-01	U	1
Dichlorobenzidine, 3,3'-	91-94-1	No	No	4.50E-01	U	3.40E-04	U					1
Dichlorobenzoic acid, -3,5	51-36-5	No	No									1
Dichlorobenzophenone, 4,4'-	90-98-2	No	No					9.00E-03	U			1
Dichlorobenzotrifluoride, 3,4-	328-84-7	No	Yes									1
Dichlorodifluoromethane	75-71-8	No	Yes					2.00E-01	U	1.00E-01	U	1
Dichlorodiisopropyl ether, 2,2'-	39638-32-9	No	Yes									1
Dichloroethane, 1,1-	75-34-3	No	Yes	5.70E-03	U	1.60E-06	U	2.00E-01	U			1
Dichloroethane, 1,2-	107-06-2	No	Yes	9.10E-02	U	2.60E-05	U	6.00E-03	U	7.00E-03	U	1
Dichloroethylene, 1,1-	75-35-4	No	Yes					5.00E-02	U	2.00E-01	U	1
Dichloroethylene, 1,2-cis-	156-59-2	No	Yes					2.00E-03	U			1
Dichloroethylene, 1,2-trans-	156-60-5	No	Yes					2.00E-02	U			1
Dichlorophenol, 2,3-	576-24-9	No	No									1
Dichlorophenol, 2,4-	120-83-2	No	No					3.00E-03	U			1
Dichlorophenol, 2,5-	583-78-8	Yes	No									1
Dichlorophenol, 2,6-	87-65-0	No	No									1
Dichlorophenol, 3,4-	95-77-2	No	No									1
Dichlorophenols (total)	NA	No	No									1
Dichlorophenoxy Acetic Acid, 2,4-	94-75-7	No	No					1.00E-02	U			1
Dichlorophenoxy)butyric Acid, 4-(2,4-	94-82-6	No	No					8.00E-03	U			1
Dichloropropane, 1,2-	78-87-5	No	Yes	3.60E-02	U	1.00E-05	U	9.00E-02	U	4.00E-03	U	1
Dichloropropane, 1,3-	142-28-9	No	Yes					2.00E-02	U			1
Dichloropropane, 2,2-	594-20-7	No	Yes									1
Dichloropropanol, 2,3-	616-23-9	No	No					3.00E-03	U			1
Dichloropropene, 1,3-	542-75-6	No	Yes	1.00E-01	U	4.00E-06	U	3.00E-02	U	2.00E-02	U	1
Dichloropropene, 2,3-	78-88-6	No	Yes									1
Dichloropropene, cis-1,3-	10061-01-5	No	Yes									1
Dichloropropene, trans-1,3-	10061-02-6	No	Yes									1
Dichlorvos	62-73-7	No	No	2.90E-01	U	8.30E-05	U	5.00E-04	U	5.00E-04	U	1
Diclofop-methyl	51338-27-3	No	No									1
Dicofol	115-32-2	No	No									1
Dicyclohexylamine	101-83-7	No	Yes									1

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Dichlorobenzene	25321-22-6		1	1.61E+04	1.93E+02	3.23E+09					
Dichlorobenzene, 1,2-	95-50-1		1	1.61E+04	3.76E+02	3.23E+09					
Dichlorobenzene, 1,3-	541-73-1		1	1.37E+04	2.96E+02	3.23E+09					
Dichlorobenzene, 1,4-	106-46-7		1	1.44E+04		3.23E+09	3.62E+03		3.35E+02	3.06E+02	
Dichlorobenzidine, 3,3'-	91-94-1	0.1	1			3.23E+09	4.34E+01	1.52E+02	2.43E+06	3.38E+01	
Dichlorobenzoic acid, -3,5	51-36-5	0.1	1			3.23E+09					
Dichlorobenzophenone, 4,4'-	90-98-2	0.1	1			3.23E+09					
Dichlorobenzotrifluoride, 3,4-	328-84-7		1	1.59E+04	4.57E+01	3.23E+09					
Dichlorodifluoromethane	75-71-8		1	1.16E+03	8.44E+02	3.23E+09					
Dichlorodiisopropyl ether, 2,2'-	39638-32-9		1	1.81E+04	2.35E+02	3.23E+09					
Dichloroethane, 1,1-	75-34-3		1	2.87E+03	1.69E+03	3.23E+09	3.43E+03		4.59E+02	4.05E+02	
Dichloroethane, 1,2-	107-06-2		1	6.31E+03	2.98E+03	3.23E+09	2.15E+02		6.20E+01	4.81E+01	
Dichloroethylene, 1,1-	75-35-4		1	1.59E+03	1.19E+03	3.23E+09					
Dichloroethylene, 1,2-cis-	156-59-2		1	3.45E+03	2.37E+03	3.23E+09					
Dichloroethylene, 1,2-trans-	156-60-5		1	3.46E+03	1.67E+03	3.23E+09					
Dichlorophenol, 2,3-	576-24-9	0.1	1			3.23E+09					
Dichlorophenol, 2,4-	120-83-2	0.1	1			3.23E+09					
Dichlorophenol, 2,5-	583-78-8	0.1	1			3.23E+09					
Dichlorophenol, 2,6-	87-65-0	0.1	1			3.23E+09					
Dichlorophenol, 3,4-	95-77-2	0.1	1			3.23E+09					
Dichlorophenols (total)	NA	0.1	1			3.23E+09					
Dichlorophenoxy Acetic Acid, 2,4-	94-75-7	0.05	1			3.23E+09					
Dichlorophenoxy)butyric Acid, 4-(2,4-	94-82-6	0.1	1			3.23E+09					
Dichloropropane, 1,2-	78-87-5		1	5.23E+03	1.36E+03	3.23E+09	5.43E+02		1.34E+02	1.07E+02	
Dichloropropane, 1,3-	142-28-9		1	9.33E+03	1.49E+03	3.23E+09					
Dichloropropane, 2,2-	594-20-7		1	2.21E+03	5.27E+02	3.23E+09					
Dichloropropanol, 2,3-	616-23-9	0.1	1			3.23E+09					
Dichloropropene, 1,3-	542-75-6		1	4.91E+03	1.57E+03	3.23E+09	1.95E+02		3.13E+02	1.20E+02	
Dichloropropene, 2,3-	78-88-6		1	4.27E+03	1.07E+03	3.23E+09					
Dichloropropene, cis-1,3-	10061-01-5		1	4.90E+03	1.22E+03	3.23E+09					
Dichloropropene, trans-1,3-	10061-02-6		1	4.91E+03	1.57E+03	3.23E+09					
Dichlorvos	62-73-7	0.1	1			3.23E+09	6.74E+01	2.36E+02	9.95E+06	5.24E+01	
Diclofop-methyl	51338-27-3	0.1	1			3.23E+09					
Dicofol	115-32-2	0.1	1			3.23E+09					
Dicyclohexylamine	101-83-7		1	8.62E+04	2.16E+03	3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Dichlorobenzene	25321-22-6								
Dichlorobenzene, 1,2-	95-50-1				6.03E+05		2.82E+05	1.92E+05	1.92E+05 sat
Dichlorobenzene, 1,3-	541-73-1								
Dichlorobenzene, 1,4-	106-46-7				4.69E+05		1.01E+06	3.20E+05	3.06E+02 ca
Dichlorobenzidine, 3,3'-	91-94-1								3.38E+01 ca
Dichlorobenzoic acid, -3,5	51-36-5								
Dichlorobenzophenone, 4,4'-	90-98-2				6.03E+04	2.11E+05		4.69E+04	4.69E+04 nc
Dichlorobenzotrifluoride, 3,4-	328-84-7								
Dichlorodifluoromethane	75-71-8				1.34E+06		1.02E+04	1.01E+04	1.01E+04 sat
Dichlorodiisopropyl ether, 2,2'-	39638-32-9								
Dichloroethane, 1,1-	75-34-3				1.34E+06			1.34E+06	4.05E+02 ca
Dichloroethane, 1,2-	107-06-2				4.02E+04		3.87E+03	3.53E+03	4.81E+01 ca*
Dichloroethylene, 1,1-	75-35-4				3.35E+05		2.79E+04	2.58E+04	2.58E+04 sat
Dichloroethylene, 1,2-cis-	156-59-2				1.34E+04			1.34E+04	1.34E+04 sat
Dichloroethylene, 1,2-trans-	156-60-5				1.34E+05			1.34E+05	1.34E+05 sat
Dichlorophenol, 2,3-	576-24-9								
Dichlorophenol, 2,4-	120-83-2				2.01E+04	7.03E+04		1.56E+04	1.56E+04 nc
Dichlorophenol, 2,5-	583-78-8								
Dichlorophenol, 2,6-	87-65-0								
Dichlorophenol, 3,4-	95-77-2								
Dichlorophenols (total)	NA								
Dichlorophenoxy Acetic Acid, 2,4-	94-75-7				6.70E+04	4.69E+05		5.86E+04	5.86E+04 nc
Dichlorophenoxy)butyric Acid, 4-(2,4-	94-82-6				5.36E+04	1.88E+05		4.17E+04	4.17E+04 nc
Dichloropropane, 1,2-	78-87-5				6.03E+05		1.83E+03	1.83E+03	1.07E+02 ca*
Dichloropropane, 1,3-	142-28-9				1.34E+05			1.34E+05	1.34E+05 sat
Dichloropropane, 2,2-	594-20-7								
Dichloropropanol, 2,3-	616-23-9				2.01E+04	7.03E+04		1.56E+04	1.56E+04 nc
Dichloropropene, 1,3-	542-75-6				2.01E+05		8.59E+03	8.24E+03	1.20E+02 ca*
Dichloropropene, 2,3-	78-88-6								
Dichloropropene, cis-1,3-	10061-01-5								
Dichloropropene, trans-1,3-	10061-02-6								
Dichlorvos	62-73-7				3.35E+03	1.17E+04	1.42E+08	2.61E+03	5.24E+01 ca*
Diclofop-methyl	51338-27-3								
Dicofol	115-32-2								
Dicyclohexylamine	101-83-7								

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Dicyclopentadiene	77-73-6	No	Yes					8.00E-02	U	3.00E-04	U	1
Didecyl dimethyl ammonium chloride	7173-51-5	No	No									1
Dieldrin	60-57-1	No	No	1.60E+01	U	4.60E-03	U	5.00E-05	U			1
Diepoxybutane	1464-53-5	No	Yes									1
Diethanolamine	111-42-2	No	No					2.00E-03	U	2.00E-04	U	1
Diethyl Phthalate	84-66-2	No	No					8.00E-01	U			1
Diethyl sulfate	64-67-5	No	No									1
Diethyl-p-nitrophenylphosphate	311-45-5	No	No									1
Diethylene Glycol Dinitrate (DEGDN)	693-21-0	No	No									1
Diethylene Glycol Monobutyl Ether	112-34-5	No	No					3.00E-02	U	1.00E-04	U	1
Diethylene Glycol Monoethyl Ether	111-90-0	No	No					6.00E-02	U	3.00E-04	U	1
Diethylene-glycol	111-46-6	No	No									1
Diethylformamide	617-84-5	No	Yes					1.00E-03	U			1
Diethylphosphorodithioate	298-06-6	No	Yes									1
Diethylstilbestrol	56-53-1	No	No	3.50E+02	U	1.00E-01	U					1
Difenzoquat	43222-48-6	No	No					8.00E-02	U			1
Diflubenzuron	35367-38-5	No	No					2.00E-02	U			1
Difluoroethane, 1,1-	75-37-6	No	Yes							4.00E+01	U	1
Difluoropropane, 2,2-	420-45-1	No	Yes									1
Dihydrosafrole	94-58-6	No	Yes	4.40E-02	U	1.30E-05	U					1
Diisopropyl Ether	108-20-3	No	Yes							7.00E-01	U	1
Diisopropyl Methylphosphonate	1445-75-6	No	Yes					8.00E-02	U			1
Dimagnesium phosphate	7782-75-4	No	No					4.86E+01	U			1
Dimethipin	55290-64-7	No	No					2.00E-02	U			1
Dimethoate	60-51-5	No	No					2.00E-04	U			1
Dimethoxybenzidine, 3,3'-	119-90-4	No	No	1.60E+00	U							1
Dimethyl Sulfate	77-78-1	No	No									1
Dimethyl Sulfide	75-18-3	No	Yes									1
Dimethyl methylphosphonate	756-79-6	No	No	1.70E-03	U			6.00E-02	U			1
Dimethylamino azobenzene [p-]	60-11-7	No	No	4.60E+00	U	1.30E-03	U					1
Dimethylaniline HCl, 2,4-	21436-96-4	No	No	5.80E-01	U							1
Dimethylaniline, 2,4-	95-68-1	No	No	2.00E-01	U			2.00E-03	U			1
Dimethylaniline, N,N-	121-69-7	No	Yes					2.00E-03	U			1
Dimethylbenz(a)anthracene, 7,12-	57-97-6	Yes	No	2.50E+02	U	7.10E-02	U					1
Dimethylbenzidine, 3,3'-	119-93-7	No	No	1.10E+01	U							1

Site-specific
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ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Dicyclopentadiene	77-73-6		1	5.67E+03		3.23E+09					
Didecyl dimethyl ammonium chloride	7173-51-5	0.1	1			3.23E+09					
Dieldrin	60-57-1	0.1	1			3.23E+09	1.22E+00	4.27E+00	1.80E+05	9.50E-01	
Diepoxybutane	1464-53-5		1	2.02E+05	1.15E+05	3.23E+09					
Diethanolamine	111-42-2	0.1	1			3.23E+09					
Diethyl Phthalate	84-66-2	0.1	1			3.23E+09					
Diethyl sulfate	64-67-5	0.1	1			3.23E+09					
Diethyl-p-nitrophenylphosphate	311-45-5	0.1	1			3.23E+09					
Diethylene Glycol Dinitrate (DEGDN)	693-21-0	0.1	1			3.23E+09					
Diethylene Glycol Monobutyl Ether	112-34-5	0.1	1			3.23E+09					
Diethylene Glycol Monoethyl Ether	111-90-0	0.1	1			3.23E+09					
Diethylene-glycol	111-46-6	0.1	1			3.23E+09					
Diethylformamide	617-84-5		1	1.91E+05	1.12E+05	3.23E+09					
Diethylphosphorodithioate	298-06-6		1	1.79E+04	2.15E-02	3.23E+09					
Diethylstilbestrol	56-53-1	0.1	1			3.23E+09	5.58E-02	1.95E-01	8.26E+03	4.34E-02	
Difenzoquat	43222-48-6	0.1	1			3.23E+09					
Diflubenzuron	35367-38-5	0.1	1			3.23E+09					
Difluoroethane, 1,1-	75-37-6		1	1.59E+03	1.43E+03	3.23E+09					
Difluoropropane, 2,2-	420-45-1		1	1.01E+03	4.63E+04	3.23E+09					
Dihydrosafrole	94-58-6		1	2.08E+03		3.23E+09	4.44E+02		4.09E+01	3.74E+01	
Diisopropyl Ether	108-20-3		1	4.21E+03	2.26E+03	3.23E+09					
Diisopropyl Methylphosphonate	1445-75-6		1	5.26E+04	5.30E+02	3.23E+09					
Dimagnesium phosphate	7782-75-4		1			3.23E+09					
Dimethipin	55290-64-7	0.1	1			3.23E+09					
Dimethoate	60-51-5	0.1	1			3.23E+09					
Dimethoxybenzidine, 3,3'-	119-90-4	0.1	1			3.23E+09	1.22E+01	4.27E+01		9.50E+00	
Dimethyl Sulfate	77-78-1	0.1	1			3.23E+09					
Dimethyl Sulfide	75-18-3		1	4.10E+03	5.34E+03	3.23E+09					
Dimethyl methylphosphonate	756-79-6	0.1	1			3.23E+09	1.15E+04	4.02E+04		8.94E+03	
Dimethylamino azobenzene [p-]	60-11-7	0.1	1			3.23E+09	4.25E+00	1.49E+01	6.35E+05	3.30E+00	
Dimethylaniline HCl, 2,4-	21436-96-4	0.1	1			3.23E+09	3.37E+01	1.18E+02		2.62E+01	
Dimethylaniline, 2,4-	95-68-1	0.1	1			3.23E+09	9.77E+01	3.42E+02		7.60E+01	
Dimethylaniline, N,N-	121-69-7		1	4.32E+04	8.30E+02	3.23E+09					
Dimethylbenz(a)anthracene, 7,12-	57-97-6	0.13	1			3.23E+09	2.66E-02	1.38E-01	6.35E+03	2.23E-02	
Dimethylbenzidine, 3,3'-	119-93-7	0.1	1			3.23E+09	1.78E+00	6.22E+00		1.38E+00	

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Dicyclopentadiene	77-73-6				5.36E+05		1.49E+02	1.49E+02	1.49E+02 nc
Didecyl dimethyl ammonium chloride	7173-51-5								
Dieldrin	60-57-1				3.35E+02	1.17E+03		2.61E+02	9.50E-01 ca
Diepoxybutane	1464-53-5								
Diethanolamine	111-42-2				1.34E+04	4.69E+04	5.66E+07	1.04E+04	1.04E+04 nc
Diethyl Phthalate	84-66-2				5.36E+06	1.88E+07		4.17E+06	4.17E+06 max
Diethyl sulfate	64-67-5								
Diethyl-p-nitrophenylphosphate	311-45-5								
Diethylene Glycol Dinitrate (DEGDN)	693-21-0								
Diethylene Glycol Monobutyl Ether	112-34-5				2.01E+05	7.03E+05	2.83E+07	1.56E+05	1.56E+05 max
Diethylene Glycol Monoethyl Ether	111-90-0				4.02E+05	1.41E+06	8.50E+07	3.12E+05	3.12E+05 max
Diethylene-glycol	111-46-6								
Diethylformamide	617-84-5				6.70E+03			6.70E+03	6.70E+03 nc
Diethylphosphorodithioate	298-06-6								
Diethylstilbestrol	56-53-1								4.34E-02 ca
Difenzoquat	43222-48-6				5.36E+05	1.88E+06		4.17E+05	4.17E+05 max
Diflubenzuron	35367-38-5				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Difluoroethane, 1,1-	75-37-6						5.55E+06	5.55E+06	5.55E+06 sat
Difluoropropane, 2,2-	420-45-1								
Dihydrosafrole	94-58-6								3.74E+01 ca
Diisopropyl Ether	108-20-3						2.58E+05	2.58E+05	2.58E+05 sat
Diisopropyl Methylphosphonate	1445-75-6				5.36E+05			5.36E+05	5.36E+05 sat
Dimagnesium phosphate	7782-75-4				3.26E+08			3.26E+08	3.26E+08 max
Dimethipin	55290-64-7				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Dimethoate	60-51-5				1.34E+03	4.69E+03		1.04E+03	1.04E+03 nc
Dimethoxybenzidine, 3,3'-	119-90-4								9.50E+00 ca
Dimethyl Sulfate	77-78-1								
Dimethyl Sulfide	75-18-3								
Dimethyl methylphosphonate	756-79-6				4.02E+05	1.41E+06		3.13E+05	8.94E+03 ca*
Dimethylamino azobenzene [p-]	60-11-7								3.30E+00 ca
Dimethylaniline HCl, 2,4-	21436-96-4								2.62E+01 ca
Dimethylaniline, 2,4-	95-68-1				1.34E+04	4.69E+04		1.04E+04	7.60E+01 ca
Dimethylaniline, N,N-	121-69-7				1.34E+04			1.34E+04	1.34E+04 sat
Dimethylbenz(a)anthracene, 7,12-	57-97-6								2.23E-02 ca
Dimethylbenzidine, 3,3'-	119-93-7								1.38E+00 ca

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Dimethylcyclohexylamine, n,n-	98-94-2	No	Yes									1
Dimethylethyl Lead	107584-40-7	No	No									1
Dimethylformamide	68-12-2	No	Yes					1.00E-01	U	3.00E-02	U	1
Dimethylhydrazine, 1,1-	57-14-7	No	Yes					1.00E-04	U	2.00E-06	U	1
Dimethylhydrazine, 1,2-	540-73-8	No	Yes	5.50E+02	U	1.60E-01	U					1
Dimethylmercury	593-74-8	No	Yes									1
Dimethylphenethylamine	122-09-8	No	No									1
Dimethylphenol, 2,4-	105-67-9	No	No					2.00E-02	U			1
Dimethylphenol, 2,6-	576-26-1	No	No					6.00E-04	U			1
Dimethylphenol, 3,4-	95-65-8	No	No					1.00E-03	U			1
Dimethylphthalate	131-11-3	No	No									1
Dimethylterephthalate	120-61-6	No	Yes					1.00E-01	U			1
Dimethylvinylchloride	513-37-1	No	Yes	4.50E-02	U	1.30E-05	U					1
Dinitro-o-cresol, 4,6-	534-52-1	No	No					8.00E-05	U			1
Dinitro-o-cyclohexyl Phenol, 4,6-	131-89-5	No	No					2.00E-03	U			1
Dinitroaniline, 3,5-	618-87-1	No	No									1
Dinitrobenzene, 1,2-	528-29-0	No	No					1.00E-04	U			1
Dinitrobenzene, 1,3-	99-65-0	No	No					1.00E-04	U			1
Dinitrobenzene, 1,4-	100-25-4	No	No					1.00E-04	U			1
Dinitrophenol, 2,4-	51-28-5	No	No					2.00E-03	U			1
Dinitrophenols	25550-58-7	Yes	No									1
Dinitrosopentamethylenetetramine, N,N-	101-25-7	No	No									1
Dinitrotoluene Mixture, 2,4/2,6-	NA	No	No	6.80E-01	U							1
Dinitrotoluene, 2,4-	121-14-2	No	No	3.10E-01	U	8.90E-05	U	2.00E-03	U			1
Dinitrotoluene, 2,6-	606-20-2	No	No	1.50E+00	U			3.00E-04	U			1
Dinitrotoluene, 2-Amino-4,6-	35572-78-2	No	No					2.00E-03	U			1
Dinitrotoluene, 4-Amino-2,6-	19406-51-0	No	No					2.00E-03	U			1
Dinitrotoluene, Technical grade	25321-14-6	No	No	4.50E-01	U			9.00E-04	U			1
Dinoseb	88-85-7	No	No					1.00E-03	U			1
Dioxane, 1,4-	123-91-1	No	Yes	1.00E-01	U	5.00E-06	U	3.00E-02	U	3.00E-02	U	1
Diphenamid	957-51-7	No	No					3.00E-02	U			1
Diphenyl Sulfone	127-63-9	No	No					8.00E-04	U			1
Diphenylamine	122-39-4	No	No					2.50E-02	U			1
Diphenylhydrazine, 1,2-	122-66-7	No	No	8.00E-01	U	2.20E-04	U					1
Dipotassium phosphate	7758-11-4	No	No					4.86E+01	U			1

Site-specific
Recreator Screening Levels (RSL) for Soil
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ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Dimethylcyclohexylamine, n,n-	98-94-2		1	5.23E+04		3.23E+09					
Dimethylethyl Lead	107584-40-7	0.1	1			3.23E+09					
Dimethylformamide	68-12-2		1	1.76E+05	1.06E+05	3.23E+09					
Dimethylhydrazine, 1,1-	57-14-7		1	2.23E+05	1.72E+05	3.23E+09					
Dimethylhydrazine, 1,2-	540-73-8		1	2.31E+05	1.89E+05	3.23E+09	3.55E-02		3.69E-01	3.24E-02	
Dimethylmercury	593-74-8		1	5.88E+03	4.14E+03	3.23E+09					
Dimethylphenethylamine	122-09-8	0.1	1			3.23E+09					
Dimethylphenol, 2,4-	105-67-9	0.1	1			3.23E+09					
Dimethylphenol, 2,6-	576-26-1	0.1	1			3.23E+09					
Dimethylphenol, 3,4-	95-65-8	0.1	1			3.23E+09					
Dimethylphthalate	131-11-3	0.1	1			3.23E+09					
Dimethylterephthalate	120-61-6		1	2.95E+04		3.23E+09					
Dimethylvinylchloride	513-37-1		1	1.39E+03	1.09E+03	3.23E+09	4.34E+02		2.73E+01	2.57E+01	
Dinitro-o-cresol, 4,6-	534-52-1	0.1	1			3.23E+09					
Dinitro-o-cyclohexyl Phenol, 4,6-	131-89-5	0.1	1			3.23E+09					
Dinitroaniline, 3,5-	618-87-1	0.1	1			3.23E+09					
Dinitrobenzene, 1,2-	528-29-0	0.1	1			3.23E+09					
Dinitrobenzene, 1,3-	99-65-0	0.1	1			3.23E+09					
Dinitrobenzene, 1,4-	100-25-4	0.1	1			3.23E+09					
Dinitrophenol, 2,4-	51-28-5	0.1	1			3.23E+09					
Dinitrophenols	25550-58-7	0.1	1			3.23E+09					
Dinitrosopentamethylenetetramine, N,N-	101-25-7	0.1	1			3.23E+09					
Dinitrotoluene Mixture, 2,4/2,6-	NA	0.1	1			3.23E+09	2.87E+01	1.01E+02		2.24E+01	
Dinitrotoluene, 2,4-	121-14-2	0.102	1			3.23E+09	6.31E+01	2.16E+02	9.28E+06	4.88E+01	
Dinitrotoluene, 2,6-	606-20-2	0.099	1			3.23E+09	1.30E+01	4.61E+01		1.02E+01	
Dinitrotoluene, 2-Amino-4,6-	35572-78-2	0.006	1			3.23E+09					
Dinitrotoluene, 4-Amino-2,6-	19406-51-0	0.009	1			3.23E+09					
Dinitrotoluene, Technical grade	25321-14-6	0.1	1			3.23E+09	4.34E+01	1.52E+02		3.38E+01	
Dinoseb	88-85-7	0.1	1			3.23E+09					
Dioxane, 1,4-	123-91-1		1	5.47E+04	1.16E+05	3.23E+09	1.95E+02		2.80E+03	1.83E+02	
Diphenamid	957-51-7	0.1	1			3.23E+09					
Diphenyl Sulfone	127-63-9	0.1	1			3.23E+09					
Diphenylamine	122-39-4	0.1	1			3.23E+09					
Diphenylhydrazine, 1,2-	122-66-7	0.1	1			3.23E+09	2.44E+01	8.55E+01	3.75E+06	1.90E+01	
Dipotassium phosphate	7758-11-4		1			3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Dimethylcyclohexylamine, n,n-	98-94-2								
Dimethylethyl Lead	107584-40-7								
Dimethylformamide	68-12-2				6.70E+05		4.62E+05	2.74E+05	2.74E+05 sat
Dimethylhydrazine, 1,1-	57-14-7				6.70E+02		3.91E+01	3.69E+01	3.69E+01 nc
Dimethylhydrazine, 1,2-	540-73-8								3.24E-02 ca
Dimethylmercury	593-74-8								
Dimethylphenethylamine	122-09-8								
Dimethylphenol, 2,4-	105-67-9				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Dimethylphenol, 2,6-	576-26-1				4.02E+03	1.41E+04		3.13E+03	3.13E+03 nc
Dimethylphenol, 3,4-	95-65-8				6.70E+03	2.34E+04		5.21E+03	5.21E+03 nc
Dimethylphthalate	131-11-3								
Dimethylterephthalate	120-61-6				6.70E+05			6.70E+05	6.70E+05 max
Dimethylvinylchloride	513-37-1								2.57E+01 ca
Dinitro-o-cresol, 4,6-	534-52-1				5.36E+02	1.88E+03		4.17E+02	4.17E+02 nc
Dinitro-o-cyclohexyl Phenol, 4,6-	131-89-5				1.34E+04	4.69E+04		1.04E+04	1.04E+04 nc
Dinitroaniline, 3,5-	618-87-1								
Dinitrobenzene, 1,2-	528-29-0				6.70E+02	2.34E+03		5.21E+02	5.21E+02 nc
Dinitrobenzene, 1,3-	99-65-0				6.70E+02	2.34E+03		5.21E+02	5.21E+02 nc
Dinitrobenzene, 1,4-	100-25-4				6.70E+02	2.34E+03		5.21E+02	5.21E+02 nc
Dinitrophenol, 2,4-	51-28-5				1.34E+04	4.69E+04		1.04E+04	1.04E+04 nc
Dinitrophenols	25550-58-7								
Dinitrosopentamethylenetetramine, N,N-	101-25-7								
Dinitrotoluene Mixture, 2,4/2,6-	NA								2.24E+01 ca
Dinitrotoluene, 2,4-	121-14-2				1.34E+04	4.60E+04		1.04E+04	4.88E+01 ca
Dinitrotoluene, 2,6-	606-20-2				2.01E+03	7.11E+03		1.57E+03	1.02E+01 ca
Dinitrotoluene, 2-Amino-4,6-	35572-78-2				1.34E+04	7.82E+05		1.32E+04	1.32E+04 nc
Dinitrotoluene, 4-Amino-2,6-	19406-51-0				1.34E+04	5.21E+05		1.31E+04	1.31E+04 nc
Dinitrotoluene, Technical grade	25321-14-6				6.03E+03	2.11E+04		4.69E+03	3.38E+01 ca
Dinoseb	88-85-7				6.70E+03	2.34E+04		5.21E+03	5.21E+03 nc
Dioxane, 1,4-	123-91-1				2.01E+05		1.44E+05	8.38E+04	1.83E+02 ca
Diphenamid	957-51-7				2.01E+05	7.03E+05		1.56E+05	1.56E+05 max
Diphenyl Sulfone	127-63-9				5.36E+03	1.88E+04		4.17E+03	4.17E+03 nc
Diphenylamine	122-39-4				1.68E+05	5.86E+05		1.30E+05	1.30E+05 max
Diphenylhydrazine, 1,2-	122-66-7								1.90E+01 ca
Dipotassium phosphate	7758-11-4				3.26E+08			3.26E+08	3.26E+08 max

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Diquat	85-00-7	No	No					2.20E-03	U			1
Direct Black 38	1937-37-7	No	No	7.10E+00	U	1.40E-01	U					1
Direct Blue 6	2602-46-2	No	No	7.40E+00	U	1.40E-01	U					1
Direct Brown 95	16071-86-6	No	No	6.70E+00	U	1.40E-01	U					1
Direct Sky Blue	2610-05-1	No	No									1
Disodium phosphate	7558-79-4	No	No					4.86E+01	U			1
Disulfoton	298-04-4	No	No					4.00E-05	U			1
Dithiane, 1,4-	505-29-3	No	Yes					1.00E-02	U			1
Diuron	330-54-1	No	No					2.00E-03	U			1
Dodecyl benzenesulfonic acid	27176-87-0	No	No									1
Dodine	2439-10-3	No	No					4.00E-03	U			1
EPTC	759-94-4	No	Yes					2.50E-02	U			1
Endosulfan	115-29-7	No	Yes					6.00E-03	U			1
Endosulfan I	959-98-8	No	Yes									1
Endosulfan II	33213-65-9	No	Yes									1
Endosulfan Sulfate	1031-07-8	No	No									1
Endothall	145-73-3	No	No					2.00E-02	U			1
Endrin	72-20-8	No	No					3.00E-04	U			1
Endrin aldehyde	7421-93-4	No	No									1
Endrin ketone	53494-70-5	No	No									1
Epichlorohydrin	106-89-8	No	Yes	9.90E-03	U	1.20E-06	U	6.00E-03	U	1.00E-03	U	1
Epoxybutane, 1,2-	106-88-7	No	Yes							2.00E-02	U	1
Ethanol	64-17-5	No	Yes									1
Ethanol, 2-(2-methoxyethoxy)-	111-77-3	No	No									1
Ethephon	16672-87-0	No	No					5.00E-03	U			1
Ethion	563-12-2	No	No					5.00E-04	U			1
Ethoxy Propanol	52125-53-8	No	Yes									1
Ethoxyethanol Acetate, 2-	111-15-9	No	Yes					1.00E-01	U	6.00E-02	U	1
Ethoxyethanol, 2-	110-80-5	No	Yes					9.00E-02	U	2.00E-01	U	1
Ethyl Acetate	141-78-6	No	Yes					9.00E-01	U	7.00E-02	U	1
Ethyl Acrylate	140-88-5	No	Yes	4.80E-02	U			5.00E-03	U	8.00E-03	U	1
Ethyl Chloride	75-00-3	No	Yes							1.00E+01	U	1
Ethyl Ether	60-29-7	No	Yes					2.00E-01	U			1
Ethyl Methacrylate	97-63-2	No	Yes					9.00E-02	U	3.00E-01	U	1
Ethyl methane sulfonate	62-50-0	No	No									1

Site-specific
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Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Diquat	85-00-7	0.1	1			3.23E+09					
Direct Black 38	1937-37-7	0.1	1			3.23E+09	2.75E+00	9.63E+00	5.90E+03	2.14E+00	
Direct Blue 6	2602-46-2	0.1	1			3.23E+09	2.64E+00	9.24E+00	5.90E+03	2.05E+00	
Direct Brown 95	16071-86-6	0.1	1			3.23E+09	2.92E+00	1.02E+01	5.90E+03	2.27E+00	
Direct Sky Blue	2610-05-1	0.1	1			3.23E+09					
Disodium phosphate	7558-79-4		1			3.23E+09					
Disulfoton	298-04-4	0.1	1			3.23E+09					
Dithiane, 1,4-	505-29-3		1	6.26E+04		3.23E+09					
Diuron	330-54-1	0.1	1			3.23E+09					
Dodecyl benzenesulfonic acid	27176-87-0	0.1	1			3.23E+09					
Dodine	2439-10-3	0.1	1			3.23E+09					
EPTC	759-94-4		1	1.62E+05		3.23E+09					
Endosulfan	115-29-7		1	5.65E+05		3.23E+09					
Endosulfan I	959-98-8		1	5.65E+05		3.23E+09					
Endosulfan II	33213-65-9		1	5.51E+05		3.23E+09					
Endosulfan Sulfate	1031-07-8	0.1	1			3.23E+09					
Endothall	145-73-3	0.1	1			3.23E+09					
Endrin	72-20-8	0.1	1			3.23E+09					
Endrin aldehyde	7421-93-4	0.1	1			3.23E+09					
Endrin ketone	53494-70-5	0.1	1			3.23E+09					
Epichlorohydrin	106-89-8		1	2.61E+04	1.05E+04	3.23E+09	1.97E+03		5.55E+03	1.46E+03	
Epoxybutane, 1,2-	106-88-7		1	1.06E+04	1.53E+04	3.23E+09					
Ethanol	64-17-5		1	4.34E+04	1.06E+05	3.23E+09					
Ethanol, 2-(2-methoxyethoxy)-	111-77-3	0.1	1			3.23E+09					
Ethephon	16672-87-0	0.1	1			3.23E+09					
Ethion	563-12-2	0.1	1			3.23E+09					
Ethoxy Propanol	52125-53-8		1	1.26E+05	8.55E+04	3.23E+09					
Ethoxyethanol Acetate, 2-	111-15-9		1	8.47E+04	3.14E+04	3.23E+09					
Ethoxyethanol, 2-	110-80-5		1	1.36E+05	1.06E+05	3.23E+09					
Ethyl Acetate	141-78-6		1	1.19E+04	1.08E+04	3.23E+09					
Ethyl Acrylate	140-88-5		1	8.74E+03	2.50E+03	3.23E+09	4.07E+02			4.07E+02	
Ethyl Chloride	75-00-3		1	1.78E+03	2.12E+03	3.23E+09					
Ethyl Ether	60-29-7		1	4.31E+03	1.01E+04	3.23E+09					
Ethyl Methacrylate	97-63-2		1	7.97E+03	1.11E+03	3.23E+09					
Ethyl methane sulfonate	62-50-0	0.1	1			3.23E+09					

Site-specific
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ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Diquat	85-00-7				1.47E+04	5.16E+04		1.15E+04	1.15E+04 nc
Direct Black 38	1937-37-7								2.14E+00 ca
Direct Blue 6	2602-46-2								2.05E+00 ca
Direct Brown 95	16071-86-6								2.27E+00 ca
Direct Sky Blue	2610-05-1								
Disodium phosphate	7558-79-4				3.26E+08			3.26E+08	3.26E+08 max
Disulfoton	298-04-4				2.68E+02	9.38E+02		2.08E+02	2.08E+02 nc
Dithiane, 1,4-	505-29-3				6.70E+04			6.70E+04	6.70E+04 nc
Diuron	330-54-1				1.34E+04	4.69E+04		1.04E+04	1.04E+04 nc
Dodecyl benzenesulfonic acid	27176-87-0								
Dodine	2439-10-3				2.68E+04	9.38E+04		2.08E+04	2.08E+04 nc
EPTC	759-94-4				1.68E+05			1.68E+05	1.68E+05 max
Endosulfan	115-29-7				4.02E+04			4.02E+04	4.02E+04 nc
Endosulfan I	959-98-8								
Endosulfan II	33213-65-9								
Endosulfan Sulfate	1031-07-8								
Endothall	145-73-3				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Endrin	72-20-8				2.01E+03	7.03E+03		1.56E+03	1.56E+03 nc
Endrin aldehyde	7421-93-4								
Endrin ketone	53494-70-5								
Epichlorohydrin	106-89-8				4.02E+04		2.28E+03	2.16E+03	1.46E+03 ca**
Epoxybutane, 1,2-	106-88-7						1.85E+04	1.85E+04	1.85E+04 sat
Ethanol	64-17-5								
Ethanol, 2-(2-methoxyethoxy)-	111-77-3								
Ethephon	16672-87-0				3.35E+04	1.17E+05		2.61E+04	2.61E+04 nc
Ethion	563-12-2				3.35E+03	1.17E+04		2.61E+03	2.61E+03 nc
Ethoxy Propanol	52125-53-8								
Ethoxyethanol Acetate, 2-	111-15-9				6.70E+05		4.45E+05	2.68E+05	2.68E+05 sat
Ethoxyethanol, 2-	110-80-5				6.03E+05		2.38E+06	4.81E+05	4.81E+05 sat
Ethyl Acetate	141-78-6				6.03E+06		7.29E+04	7.20E+04	7.20E+04 sat
Ethyl Acrylate	140-88-5				3.35E+04		6.13E+03	5.18E+03	4.07E+02 ca*
Ethyl Chloride	75-00-3						1.56E+06	1.56E+06	1.56E+06 sat
Ethyl Ether	60-29-7				1.34E+06			1.34E+06	1.34E+06 sat
Ethyl Methacrylate	97-63-2				6.03E+05		2.10E+05	1.55E+05	1.55E+05 sat
Ethyl methane sulfonate	62-50-0								

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Ethyl-p-nitrophenyl Phosphonate	2104-64-5	No	No					1.00E-05	U			1
Ethylbenzene	100-41-4	No	Yes	1.10E-02	U	2.50E-06	U	1.00E-01	U	1.00E+00	U	1
Ethylene Cyanohydrin	109-78-4	No	No					7.00E-02	U			1
Ethylene Diamine	107-15-3	No	Yes					9.00E-02	U			1
Ethylene Glycol	107-21-1	No	No					2.00E+00	U	4.00E-01	U	1
Ethylene Glycol Monobutyl Ether	111-76-2	No	No					1.00E-01	U	1.60E+00	U	1
Ethylene Oxide	75-21-8	No	Yes	3.10E-01	U	8.80E-05	U			3.00E-02	U	1
Ethylene Thiourea	96-45-7	No	No	4.50E-02	U	1.30E-05	U	8.00E-05	U			1
Ethyleneimine	151-56-4	No	Yes	6.50E+01	U	1.90E-02	U					1
Ethylphenol, 4-	123-07-9	No	No									1
Ethylphthalyl Ethyl Glycolate	84-72-0	No	No					3.00E+00	U			1
Express	101200-48-0	No	No					8.00E-03	U			1
Famphur	52-85-7	No	No									1
Fenamiphos	22224-92-6	No	No					2.50E-04	U			1
Fenpropathrin	39515-41-8	No	No					2.50E-02	U			1
Fluometuron	2164-17-2	No	No					1.30E-02	U			1
Fluoranthene	206-44-0	No	No					4.00E-02	U			1
Fluorene	86-73-7	No	Yes					4.00E-02	U			1
Fluoride	16984-48-8	No	No					4.00E-02	U	1.30E-02	U	1
Fluorine (Soluble Fluoride)	7782-41-4	No	No					6.00E-02	U	1.30E-02	U	1
Fluorobenzene	462-06-6	No	Yes									1
Fluorobiphenyl, 2-	321-60-8	No	Yes									1
Fluorophenol, 2-	367-12-4	No	Yes									1
Fluridone	59756-60-4	No	No					8.00E-02	U			1
Flurprimidol	56425-91-3	No	No					2.00E-02	U			1
Flutolanil	66332-96-5	No	No					6.00E-02	U			1
Fluvalinate	69409-94-5	No	No					1.00E-02	U			1
Folpet	133-07-3	No	No	3.50E-03	U			1.00E-01	U			1
Fomesafen	72178-02-0	No	No	1.90E-01	U							1
Fonofos	944-22-9	No	No					2.00E-03	U			1
Formaldehyde	50-00-0	No	Yes			1.30E-05	U	2.00E-01	U	9.83E-03	U	1
Formic Acid	64-18-6	No	Yes					9.00E-01	U	3.00E-04	U	1
Fosetyl-AL	39148-24-8	No	No					3.00E+00	U			1
Fuel Oil Number 2	68476-30-2	No	No									1
Furan	110-00-9	No	Yes					1.00E-03	U			1

Site-specific
Recreator Screening Levels (RSL) for Soil
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ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Ethyl-p-nitrophenyl Phosphonate	2104-64-5	0.1	1			3.23E+09					
Ethylbenzene	100-41-4		1	7.82E+03	4.79E+02	3.23E+09	1.78E+03		7.99E+02	5.51E+02	
Ethylene Cyanohydrin	109-78-4	0.1	1			3.23E+09					
Ethylene Diamine	107-15-3		1	2.48E+05	1.89E+05	3.23E+09					
Ethylene Glycol	107-21-1	0.1	1			3.23E+09					
Ethylene Glycol Monobutyl Ether	111-76-2	0.1	1			3.23E+09					
Ethylene Oxide	75-21-8		1	8.40E+03	1.21E+05	3.23E+09	6.31E+01		2.44E+01	1.76E+01	
Ethylene Thiourea	96-45-7	0.1	1			3.23E+09	4.34E+02	1.52E+03	6.35E+07	3.38E+02	
Ethyleneimine	151-56-4		1	3.29E+04	1.54E+05	3.23E+09	3.01E-01		4.43E-01	1.79E-01	
Ethylphenol, 4-	123-07-9	0.1	1			3.23E+09					
Ethylphthalyl Ethyl Glycolate	84-72-0	0.1	1			3.23E+09					
Express	101200-48-0	0.1	1			3.23E+09					
Famphur	52-85-7	0.1	1			3.23E+09					
Fenamiphos	22224-92-6	0.1	1			3.23E+09					
Fenpropathrin	39515-41-8	0.1	1			3.23E+09					
Fluometuron	2164-17-2	0.1	1			3.23E+09					
Fluoranthene	206-44-0	0.13	1			3.23E+09					
Fluorene	86-73-7	0.13	1	3.88E+05		3.23E+09					
Fluoride	16984-48-8		1			3.23E+09					
Fluorine (Soluble Fluoride)	7782-41-4		1			3.23E+09					
Fluorobenzene	462-06-6		1	6.49E+03	2.39E+03	3.23E+09					
Fluorobiphenyl, 2-	321-60-8		1	1.08E+05		3.23E+09					
Fluorophenol, 2-	367-12-4		1	2.93E+05	9.21E+04	3.23E+09					
Fluridone	59756-60-4	0.1	1			3.23E+09					
Flurprimidol	56425-91-3	0.1	1			3.23E+09					
Flutolanil	66332-96-5	0.1	1			3.23E+09					
Fluvalinate	69409-94-5	0.1	1			3.23E+09					
Folpet	133-07-3	0.1	1			3.23E+09	5.58E+03	1.95E+04		4.34E+03	
Fomesafen	72178-02-0	0.1	1			3.23E+09	1.03E+02	3.60E+02		8.00E+01	
Fonofos	944-22-9	0.1	1			3.23E+09					
Formaldehyde	50-00-0		1	1.07E+05	4.24E+04	3.23E+09			2.11E+03	2.11E+03	
Formic Acid	64-18-6		1	1.28E+05	1.06E+05	3.23E+09					
Fosetyl-AL	39148-24-8	0.1	1			3.23E+09					
Fuel Oil Number 2	68476-30-2	0.1	1			3.23E+09					
Furan	110-00-9	0.03	1	3.60E+03	6.22E+03	3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
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ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Ethyl-p-nitrophenyl Phosphonate	2104-64-5				6.70E+01	2.34E+02		5.21E+01	5.21E+01 nc
Ethylbenzene	100-41-4				6.70E+05		6.85E+05	3.39E+05	5.51E+02 sat
Ethylene Cyanohydrin	109-78-4				4.69E+05	1.64E+06		3.65E+05	3.65E+05 max
Ethylene Diamine	107-15-3				6.03E+05			6.03E+05	6.03E+05 sat
Ethylene Glycol	107-21-1				1.34E+07	4.69E+07	1.13E+11	1.04E+07	1.04E+07 max
Ethylene Glycol Monobutyl Ether	111-76-2				6.70E+05	2.34E+06	4.53E+11	5.21E+05	5.21E+05 max
Ethylene Oxide	75-21-8						2.21E+04	2.21E+04	1.76E+01 ca
Ethylene Thiourea	96-45-7				5.36E+02	1.88E+03		4.17E+02	3.38E+02 ca**
Ethyleneimine	151-56-4								1.79E-01 ca
Ethylphenol, 4-	123-07-9								
Ethylphthalyl Ethyl Glycolate	84-72-0				2.01E+07	7.03E+07		1.56E+07	1.56E+07 max
Express	101200-48-0				5.36E+04	1.88E+05		4.17E+04	4.17E+04 nc
Famphur	52-85-7								
Fenamiphos	22224-92-6				1.68E+03	5.86E+03		1.30E+03	1.30E+03 nc
Fenpropathrin	39515-41-8				1.68E+05	5.86E+05		1.30E+05	1.30E+05 max
Fluometuron	2164-17-2				8.71E+04	3.05E+05		6.78E+04	6.78E+04 nc
Fluoranthene	206-44-0				2.68E+05	7.22E+05		1.95E+05	1.95E+05 max
Fluorene	86-73-7				2.68E+05	7.22E+05		1.95E+05	1.95E+05 max
Fluoride	16984-48-8				2.68E+05		3.68E+09	2.68E+05	2.68E+05 max
Fluorine (Soluble Fluoride)	7782-41-4				4.02E+05		3.68E+09	4.02E+05	4.02E+05 max
Fluorobenzene	462-06-6								
Fluorobiphenyl, 2-	321-60-8								
Fluorophenol, 2-	367-12-4								
Fluridone	59756-60-4				5.36E+05	1.88E+06		4.17E+05	4.17E+05 max
Flurprimidol	56425-91-3				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Flutolanil	66332-96-5				4.02E+05	1.41E+06		3.13E+05	3.13E+05 max
Fluvalinate	69409-94-5				6.70E+04	2.34E+05		5.21E+04	5.21E+04 nc
Folpet	133-07-3				6.70E+05	2.34E+06		5.21E+05	4.34E+03 ca
Fomesafen	72178-02-0								8.00E+01 ca
Fonofos	944-22-9				1.34E+04	4.69E+04		1.04E+04	1.04E+04 nc
Formaldehyde	50-00-0				1.34E+06		9.23E+04	8.64E+04	2.11E+03 ca*
Formic Acid	64-18-6				6.03E+06		3.37E+03	3.37E+03	3.37E+03 nc
Fosetyl-AL	39148-24-8				2.01E+07	7.03E+07		1.56E+07	1.56E+07 max
Fuel Oil Number 2	68476-30-2								
Furan	110-00-9				6.70E+03	7.82E+04		6.17E+03	6.17E+03 nc

Site-specific
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Furazolidone	67-45-8	No	No	3.80E+00	U							1
Furfural	98-01-1	No	Yes					3.00E-03	U	5.00E-02	U	1
Furium	531-82-8	No	No	1.50E+00	U	4.30E-04	U					1
Furmecyclox	60568-05-0	No	No	3.00E-02	U	8.60E-06	U					1
Gadolinium	7440-54-2	No	No									1
Gallium	7440-55-3	No	No									1
Germanium	7440-56-4	No	No									1
Glufosinate, Ammonium	77182-82-2	No	No					4.00E-04	U			1
Glutaraldehyde	111-30-8	No	No							8.00E-05	U	1
Glycerol	56-81-5	No	No									1
Glycidyl	765-34-4	No	Yes					4.00E-04	U	1.00E-03	U	1
Glyphosate	1071-83-6	No	No					1.00E-01	U			1
Goal	42874-03-3	No	No					3.00E-03	U			1
Guanidine	113-00-8	No	Yes					1.00E-02	U			1
Guanidine Chloride	50-01-1	No	No					2.00E-02	U			1
Guanidine Nitrate	506-93-4	No	No									1
Guthion	86-50-0	No	No					3.00E-03	U	1.00E-02	U	1
HCDD, 1,2,3,4,6,7,8,-	35822-46-9	No	Yes	1.30E+03	U	3.80E-01	U	1.00E-06	U	4.00E-06	U	1
Haloacetic acids	NA	No	No									1
Haloxyfop, Methyl	69806-40-2	No	No					5.00E-05	U			1
Harmony	79277-27-3	No	No					1.30E-02	U			1
Heptachlor	76-44-8	No	Yes	4.50E+00	U	1.30E-03	U	5.00E-04	U			1
Heptachlor Epoxide	1024-57-3	No	Yes	9.10E+00	U	2.60E-03	U	1.30E-05	U			1
Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	39635-31-9	No	Yes	3.90E+00	U	1.14E-03	U	2.33E-05	U	1.33E-03	U	1
Heptachlorodibenzofuran, 1,2,3,4,6,7,8-	67562-39-4	No	Yes	1.30E+03	U	3.80E-01	U	7.00E-08	U	4.00E-06	U	1
Heptanal, n-	111-71-7	No	Yes									1
Heptane, N-	142-82-5	No	Yes									1
Heptanol, n-	111-70-6	No	Yes									1
Hexabromobenzene	87-82-1	No	Yes					2.00E-03	U			1
Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	68631-49-2	No	No					2.00E-04	U			1
Hexachlorobenzene	118-74-1	No	Yes	1.60E+00	U	4.60E-04	U	8.00E-04	U			1
Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	52663-72-6	No	Yes	3.90E+00	U	1.14E-03	U	2.33E-05	U	1.33E-03	U	1
Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	69782-90-7	No	Yes	3.90E+00	U	1.14E-03	U	2.33E-05	U	1.33E-03	U	1
Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	38380-08-4	No	Yes	3.90E+00	U	1.14E-03	U	2.33E-05	U	1.33E-03	U	1

Site-specific
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Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Furazolidone	67-45-8	0.1	1			3.23E+09	5.14E+00	1.80E+01		4.00E+00	
Furfural	98-01-1		1	6.71E+04	1.01E+04	3.23E+09					
Furium	531-82-8	0.1	1			3.23E+09	1.30E+01	4.56E+01	1.92E+06	1.01E+01	
Furmecyclox	60568-05-0	0.1	1			3.23E+09	6.52E+02	2.28E+03	9.61E+07	5.07E+02	
Gadolinium	7440-54-2		1			3.23E+09					
Gallium	7440-55-3		1			3.23E+09					
Germanium	7440-56-4		1			3.23E+09					
Glufosinate, Ammonium	77182-82-2	0.1	1			3.23E+09					
Glutaraldehyde	111-30-8	0.1	1			3.23E+09					
Glycerol	56-81-5	0.1	1			3.23E+09					
Glycidyl	765-34-4		1	1.01E+05	1.06E+05	3.23E+09					
Glyphosate	1071-83-6	0.1	1			3.23E+09					
Goal	42874-03-3	0.1	1			3.23E+09					
Guanidine	113-00-8		1	2.00E+05		3.23E+09					
Guanidine Chloride	50-01-1	0.1	1			3.23E+09					
Guanidine Nitrate	506-93-4	0.1	1			3.23E+09					
Guthion	86-50-0	0.1	1			3.23E+09					
HCDD, 1,2,3,4,6,7,8,-	35822-46-9		1	4.52E+06		3.23E+09	1.50E-02		3.04E+00	1.50E-02	
Haloacetic acids	NA	0.1	1			3.23E+09					
Haloxyfop, Methyl	69806-40-2	0.1	1			3.23E+09					
Harmony	79277-27-3	0.1	1			3.23E+09					
Heptachlor	76-44-8		1	6.62E+05		3.23E+09	4.34E+00		1.30E+02	4.20E+00	
Heptachlor Epoxide	1024-57-3		1	1.16E+06		3.23E+09	2.15E+00		1.14E+02	2.11E+00	
Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	39635-31-9	0.14	1	2.81E+06		3.23E+09	5.01E+00	1.25E+01	6.29E+02	3.56E+00	
Heptachlorodibenzofuran, 1,2,3,4,6,7,8-	67562-39-4	0.03	1	1.15E+07		3.23E+09	1.50E-02	1.75E-01	7.74E+00	1.38E-02	
Heptanal, n-	111-71-7		1	1.08E+04	2.09E+02	3.23E+09					
Heptane, N-	142-82-5		1	1.23E+03	5.79E+01	3.23E+09					
Heptanol, n-	111-70-6		1	4.73E+04	3.78E+02	3.23E+09					
Hexabromobenzene	87-82-1		1	5.24E+05		3.23E+09					
Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	68631-49-2	0.1	1			3.23E+09					
Hexachlorobenzene	118-74-1		1	9.37E+04		3.23E+09	1.22E+01		5.21E+01	9.90E+00	
Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	52663-72-6	0.14	1	1.98E+06		3.23E+09	5.01E+00	1.25E+01	4.43E+02	3.55E+00	
Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	69782-90-7	0.14	1	2.00E+06		3.23E+09	5.01E+00	1.25E+01	4.48E+02	3.55E+00	
Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	38380-08-4	0.14	1	2.13E+06		3.23E+09	5.01E+00	1.25E+01	4.77E+02	3.55E+00	

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Furazolidone	67-45-8								4.00E+00 ca
Furfural	98-01-1				2.01E+04		2.94E+05	1.88E+04	1.88E+04 sat
Furium	531-82-8								1.01E+01 ca
Furmecyclox	60568-05-0								5.07E+02 ca
Gadolinium	7440-54-2								
Gallium	7440-55-3								
Germanium	7440-56-4								
Glufosinate, Ammonium	77182-82-2				2.68E+03	9.38E+03		2.08E+03	2.08E+03 nc
Glutaraldehyde	111-30-8						2.27E+07	2.27E+07	2.27E+07 max
Glycerol	56-81-5								
Glycidyl	765-34-4				2.68E+03		8.88E+03	2.06E+03	2.06E+03 nc
Glyphosate	1071-83-6				6.70E+05	2.34E+06		5.21E+05	5.21E+05 max
Goal	42874-03-3				2.01E+04	7.03E+04		1.56E+04	1.56E+04 nc
Guanidine	113-00-8				6.70E+04			6.70E+04	6.70E+04 nc
Guanidine Chloride	50-01-1				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Guanidine Nitrate	506-93-4								
Guthion	86-50-0				2.01E+04	7.03E+04	2.83E+09	1.56E+04	1.56E+04 nc
HCDD, 1,2,3,4,6,7,8,-	35822-46-9				6.70E+00		1.58E+03	6.67E+00	1.50E-02 ca
Haloacetic acids	NA								
Haloxyfop, Methyl	69806-40-2				3.35E+02	1.17E+03		2.61E+02	2.61E+02 nc
Harmony	79277-27-3				8.71E+04	3.05E+05		6.78E+04	6.78E+04 nc
Heptachlor	76-44-8				3.35E+03			3.35E+03	4.20E+00 ca
Heptachlor Epoxide	1024-57-3				8.71E+01			8.71E+01	2.11E+00 ca*
Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	39635-31-9				1.56E+02	3.90E+02	3.27E+05	1.11E+02	3.56E+00 ca*
Heptachlorodibenzofuran, 1,2,3,4,6,7,8-	67562-39-4				4.69E-01	5.47E+00	4.03E+03	4.32E-01	1.38E-02 ca*
Heptanal, n-	111-71-7								
Heptane, N-	142-82-5								
Heptanol, n-	111-70-6								
Hexabromobenzene	87-82-1				1.34E+04			1.34E+04	1.34E+04 nc
Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	68631-49-2				1.34E+03	4.69E+03		1.04E+03	1.04E+03 nc
Hexachlorobenzene	118-74-1				5.36E+03			5.36E+03	9.90E+00 ca
Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	52663-72-6				1.56E+02	3.90E+02	2.30E+05	1.11E+02	3.55E+00 ca*
Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	69782-90-7				1.56E+02	3.90E+02	2.33E+05	1.11E+02	3.55E+00 ca*
Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	38380-08-4				1.56E+02	3.90E+02	2.48E+05	1.11E+02	3.55E+00 ca*

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	32774-16-6	No	Yes	3.90E+03	U	1.14E+00	U	2.33E-08	U	1.33E-06	U	1
Hexachlorobutadiene	87-68-3	No	Yes	7.80E-02	U	2.20E-05	U	1.00E-03	U			1
Hexachlorocyclohexane, Alpha-	319-84-6	No	No	6.30E+00	U	1.80E-03	U	8.00E-03	U			1
Hexachlorocyclohexane, Beta-	319-85-7	No	No	1.80E+00	U	5.30E-04	U					1
Hexachlorocyclohexane, Delta-	319-86-8	No	No									1
Hexachlorocyclohexane, Epsilon	6108-10-7	No	No									1
Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9	No	No	1.10E+00	U	3.10E-04	U	3.00E-04	U			1
Hexachlorocyclohexane, Technical	608-73-1	No	No	1.80E+00	U	5.10E-04	U					1
Hexachlorocyclopentadiene	77-47-4	No	Yes					6.00E-03	U	2.00E-04	U	1
Hexachlorodibenzo-p-dioxin	34465-46-8	No	No	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
Hexachlorodibenzo-p-dioxin, 1,2,3,4,7,8-	39227-28-6	No	Yes	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
Hexachlorodibenzo-p-dioxin, Mixture	NA	No	No	6.20E+03	U	1.30E+00	U					1
Hexachlorodibenzofuran, 1,2,3,4,7,8-	70648-26-9	No	Yes	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
Hexachloroethane	67-72-1	No	Yes	4.00E-02	U	1.10E-05	U	7.00E-04	U	3.00E-02	U	1
Hexachlorophene	70-30-4	No	No					3.00E-04	U			1
Hexachloropropene	1888-71-7	No	Yes									1
Hexadecanoic Acid	57-10-3	No	Yes									1
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4	No	No	1.10E-01	U			3.00E-03	U			1
Hexamethylene Diisocyanate, 1,6-	822-06-0	No	Yes							1.00E-05	U	1
Hexamethylphosphoramide	680-31-9	No	No					4.00E-04	U			1
Hexane, N-	110-54-3	No	Yes					6.00E-02	U	7.00E-01	U	1
Hexanedioic Acid	124-04-9	No	No					2.00E+00	U			1
Hexanol, n-	111-27-3	No	Yes									1
Hexanone, 2-	591-78-6	No	Yes					5.00E-03	U	3.00E-02	U	1
Hexazinone	51235-04-2	No	No					3.30E-02	U			1
HpCDD, 2,3,7,8-	37871-00-4	No	Yes	1.30E+03	U	3.80E-01	U	7.00E-08	U	4.00E-06	U	1
HpCDF, 1,2,3,4,7,8,9-	55673-89-7	No	Yes	1.30E+03	U	3.80E-01	U	7.00E-08	U	4.00E-06	U	1
HpCDF, 2,3,7,8-	38998-75-3	No	Yes	1.30E+03	U	3.80E-01	U	7.00E-08	U	4.00E-06	U	1
HxCDD, 1,2,3,6,7,8-	57653-85-7	No	Yes	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
HxCDD, 1,2,3,7,8,9-	19408-74-3	No	Yes	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
HxCDF, 1,2,3,6,7,8-	57117-44-9	No	Yes	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
HxCDF, 1,2,3,7,8,9-	72918-21-9	No	No	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
HxCDF, 2,3,4,6,7,8-	60851-34-5	No	Yes	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
HxCDF, 2,3,7,8-	55684-94-1	No	No	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
Hydrazine	302-01-2	No	Yes	3.00E+00	U	4.90E-03	U			3.00E-05	U	1

Site-specific
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	32774-16-6	0.14	1	1.98E+06		3.23E+09	5.01E-03	1.25E-02	4.43E-01	3.55E-03	
Hexachlorobutadiene	87-68-3		1	1.49E+04	1.68E+01	3.23E+09	2.51E+02		1.73E+02	1.02E+02	
Hexachlorocyclohexane, Alpha-	319-84-6	0.1	1			3.23E+09	3.10E+00	1.09E+01	4.59E+05	2.41E+00	
Hexachlorocyclohexane, Beta-	319-85-7	0.1	1			3.23E+09	1.09E+01	3.80E+01	1.56E+06	8.45E+00	
Hexachlorocyclohexane, Delta-	319-86-8	0.1	1			3.23E+09					
Hexachlorocyclohexane, Epsilon	6108-10-7	0.1	1			3.23E+09					
Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9	0.04	1			3.23E+09	1.78E+01	1.55E+02	2.66E+06	1.59E+01	
Hexachlorocyclohexane, Technical	608-73-1	0.1	1			3.23E+09	1.09E+01	3.80E+01	1.62E+06	8.45E+00	
Hexachlorocyclopentadiene	77-47-4		1	1.18E+04	1.57E+01	3.23E+09					
Hexachlorodibenzo-p-dioxin	34465-46-8	0.03	1			3.23E+09	1.50E-03	1.75E-02	2.17E+02	1.38E-03	
Hexachlorodibenzo-p-dioxin, 1,2,3,4,7,8-	39227-28-6	0.03	1	6.59E+06		3.23E+09	1.50E-03	1.75E-02	4.42E-01	1.38E-03	
Hexachlorodibenzo-p-dioxin, Mixture	NA	0.03	1			3.23E+09	3.15E-03	3.68E-02	6.35E+02	2.90E-03	
Hexachlorodibenzofuran, 1,2,3,4,7,8-	70648-26-9	0.03	1	5.38E+06		3.23E+09	1.50E-03	1.75E-02	3.61E-01	1.38E-03	
Hexachloroethane	67-72-1		1	1.10E+04		3.23E+09	4.89E+02		2.57E+02	1.68E+02	
Hexachlorophene	70-30-4	0.1	1			3.23E+09					
Hexachloropropene	1888-71-7		1	1.48E+04	4.37E+01	3.23E+09					
Hexadecanoic Acid	57-10-3		1	7.66E+05		3.23E+09					
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4	0.015	1			3.23E+09	1.78E+02	4.15E+03		1.70E+02	
Hexamethylene Diisocyanate, 1,6-	822-06-0		1	4.15E+05	5.19E+03	3.23E+09					
Hexamethylphosphoramide	680-31-9	0.1	1			3.23E+09					
Hexane, N-	110-54-3		1	1.14E+03	1.41E+02	3.23E+09					
Hexanedioic Acid	124-04-9	0.1	1			3.23E+09					
Hexanol, n-	111-27-3		1	4.03E+04	9.98E+02	3.23E+09					
Hexanone, 2-	591-78-6		1	1.83E+04	3.28E+03	3.23E+09					
Hexazinone	51235-04-2	0.1	1			3.23E+09					
HpCDD, 2,3,7,8-	37871-00-4	0.03	1	3.36E+06		3.23E+09	1.50E-02	1.75E-01	2.26E+00	1.38E-02	
HpCDF, 1,2,3,4,7,8,9-	55673-89-7	0.03	1	1.15E+07		3.23E+09	1.50E-02	1.75E-01	7.74E+00	1.38E-02	
HpCDF, 2,3,7,8-	38998-75-3	0.03	1	1.15E+07		3.23E+09	1.50E-02	1.75E-01	7.74E+00	1.38E-02	
HxCDD, 1,2,3,6,7,8-	57653-85-7	0.03	1	6.59E+06		3.23E+09	1.50E-03	1.75E-02	4.42E-01	1.38E-03	
HxCDD, 1,2,3,7,8,9-	19408-74-3	0.03	1	6.59E+06		3.23E+09	1.50E-03	1.75E-02	4.42E-01	1.38E-03	
HxCDF, 1,2,3,6,7,8-	57117-44-9	0.03	1	5.38E+06		3.23E+09	1.50E-03	1.75E-02	3.61E-01	1.38E-03	
HxCDF, 1,2,3,7,8,9-	72918-21-9	0.03	1			3.23E+09	1.50E-03	1.75E-02	2.17E+02	1.38E-03	
HxCDF, 2,3,4,6,7,8-	60851-34-5	0.03	1	5.38E+06		3.23E+09	1.50E-03	1.75E-02	3.61E-01	1.38E-03	
HxCDF, 2,3,7,8-	55684-94-1	0.03	1			3.23E+09	1.50E-03	1.75E-02	2.17E+02	1.38E-03	
Hydrazine	302-01-2		1			3.23E+09	6.52E+00		1.69E+05	6.52E+00	

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	32774-16-6				1.56E-01	3.90E-01	2.30E+02	1.11E-01	3.55E-03 ca*
Hexachlorobutadiene	87-68-3				6.70E+03			6.70E+03	1.02E+02 sat
Hexachlorocyclohexane, Alpha-	319-84-6				5.36E+04	1.88E+05		4.17E+04	2.41E+00 ca
Hexachlorocyclohexane, Beta-	319-85-7								8.45E+00 ca
Hexachlorocyclohexane, Delta-	319-86-8								
Hexachlorocyclohexane, Epsilon	6108-10-7								
Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9				2.01E+03	1.76E+04		1.80E+03	1.59E+01 ca
Hexachlorocyclohexane, Technical	608-73-1								8.45E+00 ca
Hexachlorocyclopentadiene	77-47-4				4.02E+04		2.06E+02	2.05E+02	2.05E+02 sat
Hexachlorodibenzo-p-dioxin	34465-46-8				4.69E-02	5.47E-01	1.13E+05	4.32E-02	1.38E-03 ca*
Hexachlorodibenzo-p-dioxin, 1,2,3,4,7,8-	39227-28-6				4.69E-02	5.47E-01	2.31E+02	4.32E-02	1.38E-03 ca*
Hexachlorodibenzo-p-dioxin, Mixture	NA								2.90E-03 ca
Hexachlorodibenzofuran, 1,2,3,4,7,8-	70648-26-9				4.69E-02	5.47E-01	1.88E+02	4.32E-02	1.38E-03 ca*
Hexachloroethane	67-72-1				4.69E+03		2.90E+04	4.04E+03	1.68E+02 ca*
Hexachlorophene	70-30-4				2.01E+03	7.03E+03		1.56E+03	1.56E+03 nc
Hexachloropropene	1888-71-7								
Hexadecanoic Acid	57-10-3								
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4				2.01E+04	4.69E+05		1.93E+04	1.70E+02 ca
Hexamethylene Diisocyanate, 1,6-	822-06-0						3.63E+02	3.63E+02	3.63E+02 nc
Hexamethylphosphoramide	680-31-9				2.68E+03	9.38E+03		2.08E+03	2.08E+03 nc
Hexane, N-	110-54-3				4.02E+05		7.01E+04	5.97E+04	5.97E+04 sat
Hexanedioic Acid	124-04-9				1.34E+07	4.69E+07		1.04E+07	1.04E+07 max
Hexanol, n-	111-27-3								
Hexanone, 2-	591-78-6				3.35E+04		4.82E+04	1.98E+04	1.98E+04 sat
Hexazinone	51235-04-2				2.21E+05	7.74E+05		1.72E+05	1.72E+05 max
HpCDD, 2,3,7,8-	37871-00-4				4.69E-01	5.47E+00	1.18E+03	4.32E-01	1.38E-02 ca*
HpCDF, 1,2,3,4,7,8,9-	55673-89-7				4.69E-01	5.47E+00	4.03E+03	4.32E-01	1.38E-02 ca*
HpCDF, 2,3,7,8-	38998-75-3				4.69E-01	5.47E+00	4.03E+03	4.32E-01	1.38E-02 ca*
HxCDD, 1,2,3,6,7,8-	57653-85-7				4.69E-02	5.47E-01	2.31E+02	4.32E-02	1.38E-03 ca*
HxCDD, 1,2,3,7,8,9-	19408-74-3				4.69E-02	5.47E-01	2.31E+02	4.32E-02	1.38E-03 ca*
HxCDF, 1,2,3,6,7,8-	57117-44-9				4.69E-02	5.47E-01	1.88E+02	4.32E-02	1.38E-03 ca*
HxCDF, 1,2,3,7,8,9-	72918-21-9				4.69E-02	5.47E-01	1.13E+05	4.32E-02	1.38E-03 ca*
HxCDF, 2,3,4,6,7,8-	60851-34-5				4.69E-02	5.47E-01	1.88E+02	4.32E-02	1.38E-03 ca*
HxCDF, 2,3,7,8-	55684-94-1				4.69E-02	5.47E-01	1.13E+05	4.32E-02	1.38E-03 ca*
Hydrazine	302-01-2						8.50E+06	8.50E+06	6.52E+00 ca

Site-specific
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Hydrazine Sulfate	10034-93-2	No	No	3.00E+00	U	4.90E-03	U					1
Hydrogen Chloride	7647-01-0	No	Yes							2.00E-02	U	1
Hydrogen Cyanide	74-90-8	No	Yes					6.00E-04	U	8.00E-04	U	1
Hydrogen Fluoride	7664-39-3	No	Yes					4.00E-02	U	1.40E-02	U	1
Hydrogen Selenide	77830-70-5	No	No									1
Hydrogen Sulfate	12143-45-2	No	No									1
Hydrogen Sulfide	7783-06-4	No	Yes							2.00E-03	U	1
Hydroquinone	123-31-9	No	No	6.00E-02	U			4.00E-02	U			1
Imazalil	35554-44-0	No	No					1.30E-02	U			1
Imazaquin	81335-37-7	No	No					2.50E-01	U			1
Indeno[1,2,3-cd]pyrene	193-39-5	Yes	No	7.30E-01	U	1.10E-04	U					1
Indium	7440-74-6	No	No									1
Iodide	20461-54-5	No	No									1
Iodine	7553-56-2	No	No					1.00E-02	U			1
Iodomethane	74-88-4	No	Yes									1
Iodopropynyl Butylcarbamate (IPBC)	55406-53-6	No	No									1
Iprodione	36734-19-7	No	No					4.00E-02	U			1
Iron	7439-89-6	No	No					7.00E-01	U			1
Iron Sulfide	11126-12-8	No	No									1
Isobutyl Alcohol	78-83-1	No	Yes					3.00E-01	U			1
Isodrin	465-73-6	No	Yes									1
Isophorone	78-59-1	No	No	9.50E-04	U			2.00E-01	U	2.00E+00	U	1
Isopropalin	33820-53-0	No	Yes					1.50E-02	U			1
Isopropanol	67-63-0	No	Yes					2.00E+00	U	2.00E-01	U	1
Isopropyl Methyl Phosphonic Acid	1832-54-8	No	No					1.00E-01	U			1
Isopropyltoluene, p-	99-87-6	No	Yes									1
Isosafrole	120-58-1	No	Yes									1
Isoxaben	82558-50-7	No	No					5.00E-02	U			1
JP-4	50815-00-4	No	Yes									1
JP-5/JP-8	8002-20-6	No	Yes									1
JP-7	NA	No	Yes							3.00E-01	U	1
Kerb	23950-58-5	No	No					7.50E-02	U			1
Kerosene	8008-20-6	No	Yes									1
Lactofen	77501-63-4	No	No					2.00E-03	U			1
Lactonitrile	78-97-7	No	No									1

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Hydrazine Sulfate	10034-93-2		1			3.23E+09	6.52E+00		1.69E+05	6.52E+00	
Hydrogen Chloride	7647-01-0		1			3.23E+09					
Hydrogen Cyanide	74-90-8		1	7.20E+04	1.00E+07	3.23E+09					
Hydrogen Fluoride	7664-39-3		1			3.23E+09					
Hydrogen Selenide	77830-70-5		1			3.23E+09					
Hydrogen Sulfate	12143-45-2		1			3.23E+09					
Hydrogen Sulfide	7783-06-4		1			3.23E+09					
Hydroquinone	123-31-9	0.1	1			3.23E+09	3.26E+02	1.14E+03		2.53E+02	
Imazalil	35554-44-0	0.1	1			3.23E+09					
Imazaquin	81335-37-7	0.1	1			3.23E+09					
Indeno[1,2,3-cd]pyrene	193-39-5	0.13	1			3.23E+09	9.10E+00	4.74E+01	4.10E+06	7.63E+00	
Indium	7440-74-6		1			3.23E+09					
Iodide	20461-54-5		1			3.23E+09					
Iodine	7553-56-2		1			3.23E+09					
Iodomethane	74-88-4		1	2.55E+03	3.03E+03	3.23E+09					
Iodopropynyl Butylcarbamate (IPBC)	55406-53-6	0.1	1			3.23E+09					
Iprodione	36734-19-7	0.1	1			3.23E+09					
Iron	7439-89-6		1			3.23E+09					
Iron Sulfide	11126-12-8		1			3.23E+09					
Isobutyl Alcohol	78-83-1		1	3.88E+04	1.00E+04	3.23E+09					
Isodrin	465-73-6		1	2.32E+06		3.23E+09					
Isophorone	78-59-1	0.1	1			3.23E+09	2.06E+04	7.20E+04		1.60E+04	
Isopropalin	33820-53-0		1	5.78E+05		3.23E+09					
Isopropanol	67-63-0		1	3.83E+04	1.09E+05	3.23E+09					
Isopropyl Methyl Phosphonic Acid	1832-54-8	0.1	1			3.23E+09					
Isopropyltoluene, p-	99-87-6		1	1.18E+04	1.62E+02	3.23E+09					
Isosafrole	120-58-1		1	3.42E+03	2.04E+01	3.23E+09					
Isoxaben	82558-50-7	0.1	1			3.23E+09					
JP-4	50815-00-4		1			3.23E+09					
JP-5/JP-8	8002-20-6		1			3.23E+09					
JP-7	NA		1			3.23E+09					
Kerb	23950-58-5	0.1	1			3.23E+09					
Kerosene	8008-20-6		1			3.23E+09					
Lactofen	77501-63-4	0.1	1			3.23E+09					
Lactonitrile	78-97-7	0.1	1			3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Hydrazine Sulfate	10034-93-2								6.52E+00 ca
Hydrogen Chloride	7647-01-0						5.66E+09	5.66E+09	5.66E+09 max
Hydrogen Cyanide	74-90-8				4.02E+03		5.05E+03	2.24E+03	2.24E+03 nc
Hydrogen Fluoride	7664-39-3				2.68E+05		3.96E+09	2.68E+05	2.68E+05 max
Hydrogen Selenide	77830-70-5								
Hydrogen Sulfate	12143-45-2								
Hydrogen Sulfide	7783-06-4						5.66E+08	5.66E+08	5.66E+08 max
Hydroquinone	123-31-9				2.68E+05	9.38E+05		2.08E+05	2.53E+02 ca
Imazalil	35554-44-0				8.71E+04	3.05E+05		6.78E+04	6.78E+04 nc
Imazaquin	81335-37-7				1.68E+06	5.86E+06		1.30E+06	1.30E+06 max
Indeno[1,2,3-cd]pyrene	193-39-5								7.63E+00 ca
Indium	7440-74-6								
Iodide	20461-54-5								
Iodine	7553-56-2				6.70E+04			6.70E+04	6.70E+04 nc
Iodomethane	74-88-4								
Iodopropynyl Butylcarbamate (IPBC)	55406-53-6								
Iprodione	36734-19-7				2.68E+05	9.38E+05		2.08E+05	2.08E+05 max
Iron	7439-89-6				4.69E+06			4.69E+06	4.69E+06 max
Iron Sulfide	11126-12-8								
Isobutyl Alcohol	78-83-1				2.01E+06			2.01E+06	2.01E+06 sat
Isodrin	465-73-6								
Isophorone	78-59-1				1.34E+06	4.69E+06	5.66E+11	1.04E+06	1.60E+04 ca*
Isopropalin	33820-53-0				1.01E+05			1.01E+05	1.01E+05 max
Isopropanol	67-63-0				1.34E+07		6.70E+05	6.38E+05	6.38E+05 sat
Isopropyl Methyl Phosphonic Acid	1832-54-8				6.70E+05	2.34E+06		5.21E+05	5.21E+05 max
Isopropyltoluene, p-	99-87-6								
Isosafrole	120-58-1								
Isoxaben	82558-50-7				3.35E+05	1.17E+06		2.61E+05	2.61E+05 max
JP-4	50815-00-4								
JP-5/JP-8	8002-20-6								
JP-7	NA						8.50E+10	8.50E+10	8.50E+10 max
Kerb	23950-58-5				5.03E+05	1.76E+06		3.91E+05	3.91E+05 max
Kerosene	8008-20-6								
Lactofen	77501-63-4				1.34E+04	4.69E+04		1.04E+04	1.04E+04 nc
Lactonitrile	78-97-7								

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Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Lanthanum	7439-91-0	No	No									1
Lead Alkyls	NA	No	No									1
Lead Chromate	7758-97-6	Yes	No	5.00E-01	U	1.50E-01	U	2.00E-02	U	2.00E-04	U	0.025
Lead Phosphate	7446-27-7	No	No	8.50E-03	U	1.20E-05	U					1
Lead acetate	301-04-2	No	No	2.80E-01	U	8.00E-05	U					1
Lead and Compounds	7439-92-1	No	No									1
Lead subacetate	1335-32-6	No	No	8.50E-03	U	1.20E-05	U					1
Linuron	330-55-2	No	No					2.00E-03	U			1
Lithium	7439-93-2	No	No					2.00E-03	U			1
Lithium Perchlorate	7791-03-9	No	No					7.00E-04	U			1
Londax	83055-99-6	No	No					2.00E-01	U			1
Lutetium	7439-94-3	No	No									1
MCPA	94-74-6	No	No					5.00E-04	U			1
MCPB	94-81-5	No	No					1.00E-02	U			1
MCPP	93-65-2	No	No					1.00E-03	U			1
Magnesium	7439-95-4	No	No									1
Magnesium Chlorate	10326-21-3	No	No									1
Malathion	121-75-5	No	No					2.00E-02	U			1
Maleic Anhydride	108-31-6	No	No					1.00E-01	U	7.00E-04	U	1
Maleic Hydrazide	123-33-1	No	No					5.00E-01	U			1
Malononitrile	109-77-3	No	No					1.00E-04	U			1
Mancozeb	8018-01-7	No	No					3.00E-02	U			1
Maneb	12427-38-2	No	No					5.00E-03	U			1
Manganese (Non-diet)	7439-96-5	No	No					2.40E-02	U	5.00E-05	U	0.04
Mechlorethamine	51-75-2	No	No									1
Mephosfolan	950-10-7	No	No					9.00E-05	U			1
Mepiquat Chloride	24307-26-4	No	No					3.00E-02	U			1
Mercuric Chloride	7487-94-7	No	No					3.00E-04	U	3.00E-04	U	0.07
Mercury (elemental)	7439-97-6	No	Yes							3.00E-04	U	1
Merphos	150-50-5	No	Yes					3.00E-05	U			1
Merphos Oxide	78-48-8	No	No					3.00E-05	U			1
Metalaxyl	57837-19-1	No	No					6.00E-02	U			1
Methacrylonitrile	126-98-7	No	Yes					1.00E-04	U	3.00E-02	U	1
Methamidophos	10265-92-6	No	No					5.00E-05	U			1
Methanol	67-56-1	No	Yes					2.00E+00	U	2.00E+01	U	1

Site-specific
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Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Lanthanum	7439-91-0		1			3.23E+09					
Lead Alkyls	NA	0.1	1			3.23E+09					
Lead Chromate	7758-97-6		1			3.23E+09	1.33E+01		3.00E+03	1.32E+01	
Lead Phosphate	7446-27-7		1			3.23E+09	2.30E+03		6.88E+07	2.30E+03	
Lead acetate	301-04-2	0.1	1			3.23E+09	6.98E+01	2.44E+02	1.03E+07	5.43E+01	
Lead and Compounds	7439-92-1		1			3.23E+09					
Lead subacetate	1335-32-6	0.1	1			3.23E+09	2.30E+03	8.05E+03	6.88E+07	1.79E+03	
Linuron	330-55-2	0.1	1			3.23E+09					
Lithium	7439-93-2		1			3.23E+09					
Lithium Perchlorate	7791-03-9		1			3.23E+09					
Londax	83055-99-6	0.1	1			3.23E+09					
Lutetium	7439-94-3		1			3.23E+09					
MCPA	94-74-6	0.1	1			3.23E+09					
MCPB	94-81-5	0.1	1			3.23E+09					
MCPP	93-65-2	0.1	1			3.23E+09					
Magnesium	7439-95-4		1			3.23E+09					
Magnesium Chlorate	10326-21-3		1			3.23E+09					
Malathion	121-75-5	0.1	1			3.23E+09					
Maleic Anhydride	108-31-6	0.1	1			3.23E+09					
Maleic Hydrazide	123-33-1	0.1	1			3.23E+09					
Malononitrile	109-77-3	0.1	1			3.23E+09					
Mancozeb	8018-01-7	0.1	1			3.23E+09					
Maneb	12427-38-2	0.1	1			3.23E+09					
Manganese (Non-diet)	7439-96-5		1			3.23E+09					
Mechlorethamine	51-75-2	0.1	1			3.23E+09					
Mephosfolan	950-10-7	0.1	1			3.23E+09					
Mepiquat Chloride	24307-26-4	0.1	1			3.23E+09					
Mercuric Chloride	7487-94-7		1			3.23E+09					
Mercury (elemental)	7439-97-6		1	4.16E+04	3.13E+00	3.23E+09					
Merphos	150-50-5		1	2.67E+06		3.23E+09					
Merphos Oxide	78-48-8	0.1	1			3.23E+09					
Metalaxyl	57837-19-1	0.1	1			3.23E+09					
Methacrylonitrile	126-98-7		1	9.38E+03	4.59E+03	3.23E+09					
Methamidophos	10265-92-6	0.1	1			3.23E+09					
Methanol	67-56-1		1	4.01E+04	1.06E+05	3.23E+09					

Site-specific
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Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Lanthanum	7439-91-0								
Lead Alkyls	NA								
Lead Chromate	7758-97-6				1.34E+05		5.66E+07	1.34E+05	1.32E+01 ca
Lead Phosphate	7446-27-7								2.30E+03 ca
Lead acetate	301-04-2								5.43E+01 ca
Lead and Compounds	7439-92-1			4.00E+02					4.00E+02 nc
Lead subacetate	1335-32-6								1.79E+03 ca
Linuron	330-55-2				1.34E+04	4.69E+04		1.04E+04	1.04E+04 nc
Lithium	7439-93-2				1.34E+04			1.34E+04	1.34E+04 nc
Lithium Perchlorate	7791-03-9				4.69E+03			4.69E+03	4.69E+03 nc
Londax	83055-99-6				1.34E+06	4.69E+06		1.04E+06	1.04E+06 max
Lutetium	7439-94-3								
MCPA	94-74-6				3.35E+03	1.17E+04		2.61E+03	2.61E+03 nc
MCPB	94-81-5				6.70E+04	2.34E+05		5.21E+04	5.21E+04 nc
MCPP	93-65-2				6.70E+03	2.34E+04		5.21E+03	5.21E+03 nc
Magnesium	7439-95-4								
Magnesium Chlorate	10326-21-3								
Malathion	121-75-5				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Maleic Anhydride	108-31-6				6.70E+05	2.34E+06	1.98E+08	5.20E+05	5.20E+05 max
Maleic Hydrazide	123-33-1				3.35E+06	1.17E+07		2.61E+06	2.61E+06 max
Malononitrile	109-77-3				6.70E+02	2.34E+03		5.21E+02	5.21E+02 nc
Mancozeb	8018-01-7				2.01E+05	7.03E+05		1.56E+05	1.56E+05 max
Maneb	12427-38-2				3.35E+04	1.17E+05		2.61E+04	2.61E+04 nc
Manganese (Non-diet)	7439-96-5				1.61E+05		1.42E+07	1.59E+05	1.59E+05 max
Mechlorethamine	51-75-2								
Mephosfolan	950-10-7				6.03E+02	2.11E+03		4.69E+02	4.69E+02 nc
Mepiquat Chloride	24307-26-4				2.01E+05	7.03E+05		1.56E+05	1.56E+05 max
Mercuric Chloride	7487-94-7				2.01E+03		8.50E+07	2.01E+03	2.01E+03 nc
Mercury (elemental)	7439-97-6						1.09E+03	1.09E+03	1.09E+03 sat
Merphos	150-50-5				2.01E+02			2.01E+02	2.01E+02 nc
Merphos Oxide	78-48-8				2.01E+02	7.03E+02		1.56E+02	1.56E+02 nc
Metalaxyl	57837-19-1				4.02E+05	1.41E+06		3.13E+05	3.13E+05 max
Methacrylonitrile	126-98-7				6.70E+02		2.46E+04	6.52E+02	6.52E+02 nc
Methamidophos	10265-92-6				3.35E+02	1.17E+03		2.61E+02	2.61E+02 nc
Methanol	67-56-1				1.34E+07		7.02E+07	1.13E+07	1.13E+07 sat

Site-specific
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Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Methapyrilene	91-80-5	No	No									1
Methidathion	950-37-8	No	No					1.00E-03	U			1
Methomyl	16752-77-5	No	No					2.50E-02	U			1
Methoxy-5-nitroaniline, 2-	99-59-2	No	No	4.90E-02	U	1.40E-05	U					1
Methoxychlor	72-43-5	No	No					5.00E-03	U			1
Methoxyethanol Acetate, 2-	110-49-6	No	Yes					8.00E-03	U	1.00E-03	U	1
Methoxyethanol, 2-	109-86-4	No	Yes					5.00E-03	U	2.00E-02	U	1
Methyl Acetate	79-20-9	No	Yes					1.00E+00	U			1
Methyl Acrylate	96-33-3	No	Yes					3.00E-02	U	2.00E-02	U	1
Methyl Ethyl Ketone (2-Butanone)	78-93-3	No	Yes					6.00E-01	U	5.00E+00	U	1
Methyl Hydrazine	60-34-4	No	Yes			1.00E-03	U	1.00E-03	U	2.00E-05	U	1
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1	No	Yes					8.00E-02	U	3.00E+00	U	1
Methyl Isocyanate	624-83-9	No	Yes							1.00E-03	U	1
Methyl Mercaptan	74-93-1	No	Yes									1
Methyl Mercury	22967-92-6	No	No					1.00E-04	U			1
Methyl Methacrylate	80-62-6	No	Yes					1.40E+00	U	7.00E-01	U	1
Methyl Parathion	298-00-0	No	No					2.50E-04	U			1
Methyl Phosphonic Acid	993-13-5	No	No					6.00E-02	U			1
Methyl Styrene (Mixed Isomers)	25013-15-4	No	Yes					6.00E-03	U	4.00E-02	U	1
Methyl dicyclohexylamine, n-	7560-83-0	No	Yes									1
Methyl methanesulfonate	66-27-3	No	No	9.90E-02	U	2.80E-05	U					1
Methyl tert-Butyl Ether (MTBE)	1634-04-4	No	Yes	1.80E-03	U	2.60E-07	U			3.00E+00	U	1
Methyl-1,4-benzenediamine dihydrochloride, 2-	615-45-2	No	No					3.00E-04	U			1
Methyl-2-Pentanol, 4-	108-11-2	No	Yes									1
Methyl-5-Nitroaniline, 2-	99-55-8	No	No	9.00E-03	U			2.00E-02	U			1
Methyl-N-nitro-N-nitrosoguanidine, N-	70-25-7	No	No	8.30E+00	U	2.40E-03	U					1
Methylaniline Hydrochloride, 2-	636-21-5	No	No	1.30E-01	U	3.70E-05	U					1
Methylarsonic acid	124-58-3	No	No					1.00E-02	U			1
Methylaziridine, 2-	75-55-8	No	Yes									1
Methylbenzene,1-4-diamine monohydrochloride, 2-	74612-12-7	No	No					2.00E-04	U			1
Methylbenzene-1,4-diamine sulfate, 2-	615-50-9	No	No	1.00E-01	U			3.00E-04	U			1
Methylcholanthrene, 3-	56-49-5	Yes	No	2.20E+01	U	6.30E-03	U					1
Methylcyclohexane	108-87-2	No	Yes									1
Methylcyclohexylamine, n-	100-60-7	No	Yes									1

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Methapyrilene	91-80-5	0.1	1			3.23E+09					
Methidathion	950-37-8	0.1	1			3.23E+09					
Methomyl	16752-77-5	0.1	1			3.23E+09					
Methoxy-5-nitroaniline, 2-	99-59-2	0.1	1			3.23E+09	3.99E+02	1.40E+03	5.90E+07	3.10E+02	
Methoxychlor	72-43-5	0.1	1			3.23E+09					
Methoxyethanol Acetate, 2-	110-49-6		1	1.71E+05	1.15E+05	3.23E+09					
Methoxyethanol, 2-	109-86-4		1	1.39E+05	1.06E+05	3.23E+09					
Methyl Acetate	79-20-9		1	1.12E+04	2.90E+04	3.23E+09					
Methyl Acrylate	96-33-3		1	9.62E+03	6.75E+03	3.23E+09					
Methyl Ethyl Ketone (2-Butanone)	78-93-3		1	1.68E+04	2.84E+04	3.23E+09					
Methyl Hydrazine	60-34-4		1	2.16E+05	1.80E+05	3.23E+09			5.51E+01	5.51E+01	
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1		1	1.46E+04	3.36E+03	3.23E+09					
Methyl Isocyanate	624-83-9		1	6.08E+03	1.67E+04	3.23E+09					
Methyl Mercaptan	74-93-1		1	2.46E+03	3.13E+03	3.23E+09					
Methyl Mercury	22967-92-6		1			3.23E+09					
Methyl Methacrylate	80-62-6		1	8.75E+03	2.36E+03	3.23E+09					
Methyl Parathion	298-00-0	0.1	1			3.23E+09					
Methyl Phosphonic Acid	993-13-5	0.1	1			3.23E+09					
Methyl Styrene (Mixed Isomers)	25013-15-4		1	1.65E+04	3.93E+02	3.23E+09					
Methyl dicyclohexylamine, n-	7560-83-0		1	6.54E+04		3.23E+09					
Methyl methanesulfonate	66-27-3	0.1	1			3.23E+09	1.97E+02	6.91E+02	2.95E+07	1.54E+02	
Methyl tert-Butyl Ether (MTBE)	1634-04-4		1	6.76E+03	8.88E+03	3.23E+09	1.09E+04		6.65E+03	4.12E+03	
Methyl-1,4-benzenediamine dihydrochloride, 2-	615-45-2	0.1	1			3.23E+09					
Methyl-2-Pentanol, 4-	108-11-2		1	2.37E+04	2.45E+03	3.23E+09					
Methyl-5-Nitroaniline, 2-	99-55-8	0.1	1			3.23E+09	2.17E+03	7.60E+03		1.69E+03	
Methyl-N-nitro-N-nitrosoguanidine, N-	70-25-7	0.1	1			3.23E+09	2.36E+00	8.24E+00	3.44E+05	1.83E+00	
Methylaniline Hydrochloride, 2-	636-21-5	0.1	1			3.23E+09	1.50E+02	5.26E+02	2.23E+07	1.17E+02	
Methylarsonic acid	124-58-3	0.1	1			3.23E+09					
Methylaziridine, 2-	75-55-8		1	4.41E+04	1.87E+05	3.23E+09					
Methylbenzene,1-4-diamine monohydrochloride, 2-	74612-12-7	0.1	1			3.23E+09					
Methylbenzene-1,4-diamine sulfate, 2-	615-50-9	0.1	1			3.23E+09	1.95E+02	6.84E+02		1.52E+02	
Methylcholanthrene, 3-	56-49-5	0.1	1			3.23E+09	3.02E-01	2.05E+00	7.15E+04	2.63E-01	
Methylcyclohexane	108-87-2		1	1.37E+03	6.77E+01	3.23E+09					
Methylcyclohexylamine, n-	100-60-7		1	4.39E+04	2.81E+04	3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Methapyrilene	91-80-5								
Methidathion	950-37-8				6.70E+03	2.34E+04		5.21E+03	5.21E+03 nc
Methomyl	16752-77-5				1.68E+05	5.86E+05		1.30E+05	1.30E+05 max
Methoxy-5-nitroaniline, 2-	99-59-2								3.10E+02 ca
Methoxychlor	72-43-5				3.35E+04	1.17E+05		2.61E+04	2.61E+04 nc
Methoxyethanol Acetate, 2-	110-49-6				5.36E+04		1.50E+04	1.17E+04	1.17E+04 nc
Methoxyethanol, 2-	109-86-4				3.35E+04		2.44E+05	2.95E+04	2.95E+04 nc
Methyl Acetate	79-20-9				6.70E+06			6.70E+06	6.70E+06 sat
Methyl Acrylate	96-33-3				2.01E+05		1.68E+04	1.55E+04	1.55E+04 sat
Methyl Ethyl Ketone (2-Butanone)	78-93-3				4.02E+06		7.36E+06	2.60E+06	2.60E+06 sat
Methyl Hydrazine	60-34-4				6.70E+03		3.78E+02	3.58E+02	5.51E+01 ca**
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1				5.36E+05		3.83E+06	4.70E+05	4.70E+05 sat
Methyl Isocyanate	624-83-9						5.32E+02	5.32E+02	5.32E+02 nc
Methyl Mercaptan	74-93-1								
Methyl Mercury	22967-92-6				6.70E+02			6.70E+02	6.70E+02 nc
Methyl Methacrylate	80-62-6				9.38E+06		5.36E+05	5.07E+05	5.07E+05 sat
Methyl Parathion	298-00-0				1.68E+03	5.86E+03		1.30E+03	1.30E+03 nc
Methyl Phosphonic Acid	993-13-5				4.02E+05	1.41E+06		3.13E+05	3.13E+05 max
Methyl Styrene (Mixed Isomers)	25013-15-4				4.02E+04		5.80E+04	2.37E+04	2.37E+04 sat
Methyl dicyclohexylamine, n-	7560-83-0								
Methyl methanesulfonate	66-27-3								1.54E+02 ca
Methyl tert-Butyl Ether (MTBE)	1634-04-4						1.78E+06	1.78E+06	4.12E+03 ca
Methyl-1,4-benzenediamine dihydrochloride, 2-	615-45-2				2.01E+03	7.03E+03		1.56E+03	1.56E+03 nc
Methyl-2-Pentanol, 4-	108-11-2								
Methyl-5-Nitroaniline, 2-	99-55-8				1.34E+05	4.69E+05		1.04E+05	1.69E+03 ca*
Methyl-N-nitro-N-nitrosoguanidine, N-	70-25-7								1.83E+00 ca
Methylaniline Hydrochloride, 2-	636-21-5								1.17E+02 ca
Methylarsonic acid	124-58-3				6.70E+04	2.34E+05		5.21E+04	5.21E+04 nc
Methylaziridine, 2-	75-55-8								
Methylbenzene,1-4-diamine monohydrochloride, 2-	74612-12-7				1.34E+03	4.69E+03		1.04E+03	1.04E+03 nc
Methylbenzene-1,4-diamine sulfate, 2-	615-50-9				2.01E+03	7.03E+03		1.56E+03	1.52E+02 ca*
Methylcholanthrene, 3-	56-49-5								2.63E-01 ca
Methylcyclohexane	108-87-2								
Methylcyclohexylamine, n-	100-60-7								

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Methylcyclopentane	96-37-7	No	Yes									1
Methylene Chloride	75-09-2	Yes	Yes	2.00E-03	U	1.00E-08	U	6.00E-03	U	6.00E-01	U	1
Methylene-bis(2-chloroaniline), 4,4'-	101-14-4	Yes	No	1.00E-01	U	4.30E-04	U	2.00E-03	U			1
Methylene-bis(N,N-dimethyl) Aniline, 4,4'-	101-61-1	No	No	4.60E-02	U	1.30E-05	U					1
Methylenebisbenzenamine, 4,4'-	101-77-9	No	No	1.60E+00	U	4.60E-04	U			2.00E-02	U	1
Methylenediphenyl Diisocyanate	101-68-8	No	No							6.00E-04	U	1
Methylisothiocyanate	556-61-6	No	Yes									1
Methylnaphthalene	1321-94-4	No	Yes									1
Methylnaphthalene, 1-	90-12-0	No	Yes	2.90E-02	U			7.00E-02	U			1
Methylnaphthalene, 2-	91-57-6	No	Yes					4.00E-03	U			1
Methylstyrene, Alpha-	98-83-9	No	Yes					7.00E-02	U			1
Methyltriethyl Lead	1762-28-3	No	Yes									1
Metolachlor	51218-45-2	No	No					1.50E-01	U			1
Metribuzin	21087-64-9	No	No					2.50E-02	U			1
Mineral oils	8012-95-1	No	Yes					3.00E+00	U			1
Mirex	2385-85-5	No	Yes	1.80E+01	U	5.10E-03	U	2.00E-04	U			1
Molinate	2212-67-1	No	No					2.00E-03	U			1
Molybdenum	7439-98-7	No	No					5.00E-03	U			1
Monoaluminum phosphate	13530-50-2	No	No					4.86E+01	U			1
Monoammonium phosphate	7722-76-1	No	No					4.86E+01	U			1
Monobutyltin Compounds	NA	No	No									1
Monocalcium phosphate	7758-23-8	No	No					4.86E+01	U			1
Monochloramine	10599-90-3	No	No					1.00E-01	U			1
Monochlorobutanes	25154-42-1	No	No									1
Monochlorophenols (total)	NA	No	No									1
Monocyclic aromatic hydrocarbons (total)	NA	No	No									1
Monomagnesium phosphate	7757-86-0	No	No					4.86E+01	U			1
Monomethylaniline	100-61-8	No	No					2.00E-03	U			1
Monopotassium phosphate	7778-77-0	No	No					4.86E+01	U			1
Monosodium phosphate	7558-80-7	No	No					4.86E+01	U			1
N,N'-Diphenyl-1,4-benzenediamine	74-31-7	No	No					3.00E-04	U			1
N-Methyl dithiocarbamate	137-42-8	No	No									1
Naled	300-76-5	No	Yes					2.00E-03	U			1
Naphtha, High Flash Aromatic (HFAN)	64742-95-6	No	Yes					3.00E-02	U	1.00E-01	U	1
Naphthalene	91-20-3	No	Yes			3.40E-05	U	2.00E-02	U	3.00E-03	U	1

Site-specific
Recreator Screening Levels (RSL) for Soil
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ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Methylcyclopentane	96-37-7		1	1.22E+03	1.54E+02	3.23E+09					
Methylene Chloride	75-09-2		1	3.02E+03	3.32E+03	3.23E+09	3.32E+03		4.21E+04	3.08E+03	
Methylene-bis(2-chloroaniline), 4,4'-	101-14-4	0.1	1			3.23E+09	6.64E+01	4.50E+02	1.05E+06	5.79E+01	
Methylene-bis(N,N-dimethyl) Aniline, 4,4'-	101-61-1	0.1	1			3.23E+09	4.25E+02	1.49E+03	6.35E+07	3.30E+02	
Methylenebisbenzenamine, 4,4'-	101-77-9	0.1	1			3.23E+09	1.22E+01	4.27E+01	1.80E+06	9.50E+00	
Methylenediphenyl Diisocyanate	101-68-8	0.1	1			3.23E+09					
Methylisothiocyanate	556-61-6		1	2.04E+04		3.23E+09					
Methylnaphthalene	1321-94-4		1	8.08E+04		3.23E+09					
Methylnaphthalene, 1-	90-12-0	0.13	1	8.09E+04		3.23E+09	6.74E+02	1.81E+03		4.91E+02	
Methylnaphthalene, 2-	91-57-6	0.13	1	8.00E+04		3.23E+09					
Methylstyrene, Alpha-	98-83-9		1	1.77E+04	5.00E+02	3.23E+09					
Methyltriethyl Lead	1762-28-3		1	2.24E+03	4.81E+03	3.23E+09					
Metolachlor	51218-45-2	0.1	1			3.23E+09					
Metribuzin	21087-64-9	0.1	1			3.23E+09					
Mineral oils	8012-95-1		1	1.90E+03	3.41E-01	3.23E+09					
Mirex	2385-85-5		1	1.18E+06		3.23E+09	1.09E+00		5.92E+01	1.07E+00	
Molinate	2212-67-1	0.1	1			3.23E+09					
Molybdenum	7439-98-7		1			3.23E+09					
Monoaluminum phosphate	13530-50-2		1			3.23E+09					
Monoammonium phosphate	7722-76-1		1			3.23E+09					
Monobutyltin Compounds	NA	0.1	1			3.23E+09					
Monocalcium phosphate	7758-23-8		1			3.23E+09					
Monochloramine	10599-90-3		1			3.23E+09					
Monochlorobutanes	25154-42-1	0.1	1			3.23E+09					
Monochlorophenols (total)	NA	0.1	1			3.23E+09					
Monocyclic aromatic hydrocarbons (total)	NA	0.1	1			3.23E+09					
Monomagnesium phosphate	7757-86-0		1			3.23E+09					
Monomethylaniline	100-61-8	0.1	1			3.23E+09					
Monopotassium phosphate	7778-77-0		1			3.23E+09					
Monosodium phosphate	7558-80-7		1			3.23E+09					
N,N'-Diphenyl-1,4-benzenediamine	74-31-7	0.1	1			3.23E+09					
N-Methyl dithiocarbamate	137-42-8	0.1	1			3.23E+09					
Naled	300-76-5		1	7.87E+04		3.23E+09					
Naphtha, High Flash Aromatic (HFAN)	64742-95-6		1			3.23E+09					
Naphthalene	91-20-3	0.13	1	6.38E+04		3.23E+09			4.79E+02	4.79E+02	

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Methylcyclopentane	96-37-7								
Methylene Chloride	75-09-2				4.02E+04		1.59E+05	3.21E+04	3.08E+03 ca*
Methylene-bis(2-chloroaniline), 4,4'-	101-14-4				1.34E+04	4.69E+04		1.04E+04	5.79E+01 ca
Methylene-bis(N,N-dimethyl) Aniline, 4,4'-	101-61-1								3.30E+02 ca
Methylenebisbenzenamine, 4,4'-	101-77-9						5.66E+09	5.66E+09	9.50E+00 ca
Methylenediphenyl Diisocyanate	101-68-8						1.70E+08	1.70E+08	1.70E+08 max
Methylisothiocyanate	556-61-6								
Methylnaphthalene	1321-94-4								
Methylnaphthalene, 1-	90-12-0				4.69E+05	1.26E+06		3.42E+05	4.91E+02 ca
Methylnaphthalene, 2-	91-57-6				2.68E+04	7.22E+04		1.95E+04	1.95E+04 nc
Methylstyrene, Alpha-	98-83-9				4.69E+05			4.69E+05	4.69E+05 sat
Methyltriethyl Lead	1762-28-3								
Metolachlor	51218-45-2				1.01E+06	3.52E+06		7.82E+05	7.82E+05 max
Metribuzin	21087-64-9				1.68E+05	5.86E+05		1.30E+05	1.30E+05 max
Mineral oils	8012-95-1				2.01E+07			2.01E+07	2.01E+07 sat
Mirex	2385-85-5				1.34E+03			1.34E+03	1.07E+00 ca
Molinate	2212-67-1				1.34E+04	4.69E+04		1.04E+04	1.04E+04 nc
Molybdenum	7439-98-7				3.35E+04			3.35E+04	3.35E+04 nc
Monoaluminum phosphate	13530-50-2				3.26E+08			3.26E+08	3.26E+08 max
Monoammonium phosphate	7722-76-1				3.26E+08			3.26E+08	3.26E+08 max
Monobutyltin Compounds	NA								
Monocalcium phosphate	7758-23-8				3.26E+08			3.26E+08	3.26E+08 max
Monochloramine	10599-90-3				6.70E+05			6.70E+05	6.70E+05 max
Monochlorobutanes	25154-42-1								
Monochlorophenols (total)	NA								
Monocyclic aromatic hydrocarbons (total)	NA								
Monomagnesium phosphate	7757-86-0				3.26E+08			3.26E+08	3.26E+08 max
Monomethylaniline	100-61-8				1.34E+04	4.69E+04		1.04E+04	1.04E+04 nc
Monopotassium phosphate	7778-77-0				3.26E+08			3.26E+08	3.26E+08 max
Monosodium phosphate	7558-80-7				3.26E+08			3.26E+08	3.26E+08 max
N,N'-Diphenyl-1,4-benzenediamine	74-31-7				2.01E+03	7.03E+03		1.56E+03	1.56E+03 nc
N-Methyl dithiocarbamate	137-42-8								
Naled	300-76-5				1.34E+04			1.34E+04	1.34E+04 nc
Naphtha, High Flash Aromatic (HFAN)	64742-95-6				2.01E+05		2.83E+10	2.01E+05	2.01E+05 max
Naphthalene	91-20-3				1.34E+05	3.61E+05	1.68E+04	1.43E+04	4.79E+02 ca*

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Naphthol, 2-	135-19-3	No	No									1
Naphthoquinone, 1,4-	130-15-4	No	No									1
Naphthylamine, 1-	134-32-7	No	No									1
Naphthylamine, 2-	91-59-8	No	No	1.80E+00	U	0.00E+00	U					1
Napropamide	15299-99-7	No	No					1.00E-01	U			1
Neodymium Chloride (Stable, Nonradioactive)	10024-93-8	No	No									1
Niagara Blue 4B	2429-74-5	No	No									1
Nickel Acetate	373-02-4	No	No			2.60E-04	U	1.10E-02	U	1.40E-05	U	1
Nickel Carbonate	3333-67-3	No	No			2.60E-04	U	1.10E-02	U	1.40E-05	U	1
Nickel Carbonyl	13463-39-3	No	Yes			2.60E-04	U	1.10E-02	U	1.40E-05	U	1
Nickel Hydroxide	12054-48-7	No	No			2.60E-04	U	1.10E-02	U	1.40E-05	U	0.04
Nickel Oxide	1313-99-1	No	No			2.60E-04	U	1.10E-02	U	2.00E-05	U	0.04
Nickel Refinery Dust	NA	No	No			2.40E-04	U	1.10E-02	U	1.40E-05	U	0.04
Nickel Soluble Salts	7440-02-0	No	No			2.60E-04	U	2.00E-02	U	9.00E-05	U	0.04
Nickel Subsulfide	12035-72-2	No	No	1.70E+00	U	4.80E-04	U	1.10E-02	U	1.40E-05	U	0.04
Nickelocene	1271-28-9	No	No			2.60E-04	U	1.10E-02	U	1.40E-05	U	1
Nicotinonitrile	100-54-9	No	No									1
Niobium	7440-03-1	No	No									1
Nitrapyrin	1929-82-4	No	Yes									1
Nitrate	14797-55-8	No	No					1.60E+00	U			1
Nitrate + Nitrite (as N)	NA	No	No									1
Nitric Acid	7697-37-2	No	No									1
Nitric Oxide	10102-43-9	No	Yes									1
Nitrite	14797-65-0	No	No					1.00E-01	U			1
Nitroaniline, 2-	88-74-4	No	No					1.00E-02	U	5.00E-05	U	1
Nitroaniline, 3-	99-09-2	No	No									1
Nitroaniline, 4-	100-01-6	No	No	2.00E-02	U			4.00E-03	U	6.00E-03	U	1
Nitrobenzene	98-95-3	No	Yes			4.00E-05	U	2.00E-03	U	9.00E-03	U	1
Nitrobiphenyl, 4-	92-93-3	No	No									1
Nitrocellulose	9004-70-0	No	No					3.00E+03	U			1
Nitrodiphenylamine, 2-	119-75-5	No	No									1
Nitrofurantoin	67-20-9	No	No					7.00E-02	U			1
Nitrofurazone	59-87-0	No	No	1.30E+00	U	3.70E-04	U					1
Nitrogen Dioxide	10102-44-0	No	Yes									1
Nitroglycerin	55-63-0	No	No	1.70E-02	U			1.00E-04	U			1

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Naphthol, 2-	135-19-3	0.1	1			3.23E+09					
Naphthoquinone, 1,4-	130-15-4	0.1	1			3.23E+09					
Naphthylamine, 1-	134-32-7	0.1	1			3.23E+09					
Naphthylamine, 2-	91-59-8	0.1	1			3.23E+09	1.09E+01	3.80E+01		8.45E+00	
Napropamide	15299-99-7	0.1	1			3.23E+09					
Neodymium Chloride (Stable, Nonradioactive)	10024-93-8		1			3.23E+09					
Niagara Blue 4B	2429-74-5	0.1	1			3.23E+09					
Nickel Acetate	373-02-4	0.1	1			3.23E+09			3.18E+06	3.18E+06	
Nickel Carbonate	3333-67-3	0.1	1			3.23E+09			3.18E+06	3.18E+06	
Nickel Carbonyl	13463-39-3		1			3.23E+09			3.18E+06	3.18E+06	
Nickel Hydroxide	12054-48-7		1			3.23E+09			3.18E+06	3.18E+06	
Nickel Oxide	1313-99-1		1			3.23E+09			3.18E+06	3.18E+06	
Nickel Refinery Dust	NA		1			3.23E+09			3.44E+06	3.44E+06	
Nickel Soluble Salts	7440-02-0		1			3.23E+09			3.18E+06	3.18E+06	
Nickel Subsulfide	12035-72-2		1			3.23E+09	1.15E+01		1.72E+06	1.15E+01	
Nickelocene	1271-28-9	0.1	1			3.23E+09			3.18E+06	3.18E+06	
Nicotinonitrile	100-54-9	0.1	1			3.23E+09					
Niobium	7440-03-1		1			3.23E+09					
Nitrapyrin	1929-82-4		1	3.05E+05		3.23E+09					
Nitrate	14797-55-8		1			3.23E+09					
Nitrate + Nitrite (as N)	NA		1			3.23E+09					
Nitric Acid	7697-37-2	0.1	1			3.23E+09					
Nitric Oxide	10102-43-9		1			3.23E+09					
Nitrite	14797-65-0		1			3.23E+09					
Nitroaniline, 2-	88-74-4	0.1	1			3.23E+09					
Nitroaniline, 3-	99-09-2	0.1	1			3.23E+09					
Nitroaniline, 4-	100-01-6	0.1	1			3.23E+09	9.77E+02	3.42E+03		7.60E+02	
Nitrobenzene	98-95-3		1	1.01E+05	3.04E+03	3.23E+09			6.44E+02	6.44E+02	
Nitrobiphenyl, 4-	92-93-3	0.1	1			3.23E+09					
Nitrocellulose	9004-70-0	0.1	1			3.23E+09					
Nitrodiphenylamine, 2-	119-75-5	0.1	1			3.23E+09					
Nitrofurantoin	67-20-9	0.1	1			3.23E+09					
Nitrofurazone	59-87-0	0.1	1			3.23E+09	1.50E+01	5.26E+01	2.23E+06	1.17E+01	
Nitrogen Dioxide	10102-44-0		1			3.23E+09					
Nitroglycerin	55-63-0	0.1	1			3.23E+09	1.15E+03	4.02E+03		8.94E+02	

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Naphthol, 2-	135-19-3								
Naphthoquinone, 1,4-	130-15-4								
Naphthylamine, 1-	134-32-7								
Naphthylamine, 2-	91-59-8								8.45E+00 ca
Napropamide	15299-99-7				6.70E+05	2.34E+06		5.21E+05	5.21E+05 max
Neodymium Chloride (Stable, Nonradioactive)	10024-93-8								
Niagara Blue 4B	2429-74-5								
Nickel Acetate	373-02-4				7.37E+04	2.58E+05	3.96E+06	5.65E+04	5.65E+04 nc
Nickel Carbonate	3333-67-3				7.37E+04	2.58E+05	3.96E+06	5.65E+04	5.65E+04 nc
Nickel Carbonyl	13463-39-3				7.37E+04		3.96E+06	7.24E+04	7.24E+04 nc
Nickel Hydroxide	12054-48-7				7.37E+04		3.96E+06	7.24E+04	7.24E+04 nc
Nickel Oxide	1313-99-1				7.37E+04		5.66E+06	7.28E+04	7.28E+04 nc
Nickel Refinery Dust	NA				7.37E+04		3.96E+06	7.24E+04	7.24E+04 nc
Nickel Soluble Salts	7440-02-0				1.34E+05		2.55E+07	1.33E+05	1.33E+05 max
Nickel Subsulfide	12035-72-2				7.37E+04		3.96E+06	7.24E+04	1.15E+01 ca
Nickelocene	1271-28-9				7.37E+04	2.58E+05	3.96E+06	5.65E+04	5.65E+04 nc
Nicotinonitrile	100-54-9								
Niobium	7440-03-1								
Nitrapyrin	1929-82-4								
Nitrate	14797-55-8				1.07E+07			1.07E+07	1.07E+07 max
Nitrate + Nitrite (as N)	NA								
Nitric Acid	7697-37-2								
Nitric Oxide	10102-43-9								
Nitrite	14797-65-0				6.70E+05			6.70E+05	6.70E+05 max
Nitroaniline, 2-	88-74-4				6.70E+04	2.34E+05	1.42E+07	5.19E+04	5.19E+04 nc
Nitroaniline, 3-	99-09-2								
Nitroaniline, 4-	100-01-6				2.68E+04	9.38E+04	1.70E+09	2.08E+04	7.60E+02 ca*
Nitrobenzene	98-95-3				1.34E+04		7.95E+04	1.15E+04	6.44E+02 ca*
Nitrobiphenyl, 4-	92-93-3								
Nitrocellulose	9004-70-0				2.01E+10	7.03E+10		1.56E+10	1.56E+10 max
Nitrodiphenylamine, 2-	119-75-5								
Nitrofurantoin	67-20-9				4.69E+05	1.64E+06		3.65E+05	3.65E+05 max
Nitrofurazone	59-87-0								1.17E+01 ca
Nitrogen Dioxide	10102-44-0								
Nitroglycerin	55-63-0				6.70E+02	2.34E+03		5.21E+02	5.21E+02 nc

Site-specific
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Nitroguanidine	556-88-7	No	No					1.00E-01	U			1
Nitromethane	75-52-5	No	Yes			8.80E-06	U			5.00E-03	U	1
Nitrophenol, 2-	88-75-5	No	Yes									1
Nitrophenol, 2-amino-4-	99-57-0	No	No									1
Nitrophenol, 3-	554-84-7	No	No									1
Nitrophenol, 4-	100-02-7	No	No									1
Nitrophenol, 4-amino-2-	119-34-6	No	No									1
Nitropropane, 2-	79-46-9	No	Yes			2.70E-03	U			2.00E-02	U	1
Nitropyrene, 4-	57835-92-4	No	No	1.20E+00	U	1.10E-04	U					1
Nitroquinoline-1-oxide. 4-	56-57-5	No	No									1
Nitroso-N-ethylurea, N-	759-73-9	Yes	No	2.70E+01	U	7.70E-03	U					1
Nitroso-N-methylurea, N-	684-93-5	Yes	No	1.20E+02	U	3.40E-02	U					1
Nitroso-di-N-butylamine, N-	924-16-3	No	Yes	5.40E+00	U	1.60E-03	U					1
Nitroso-di-N-propylamine, N-	621-64-7	No	No	7.00E+00	U	2.00E-03	U					1
Nitrosodiethanolamine, N-	1116-54-7	No	No	2.80E+00	U	8.00E-04	U					1
Nitrosodiethylamine, N-	55-18-5	Yes	No	1.50E+02	U	4.30E-02	U					1
Nitrosodimethylamine, N-	62-75-9	Yes	Yes	5.10E+01	U	1.40E-02	U	8.00E-06	U	4.00E-05	U	1
Nitrosodiphenylamine, N-	86-30-6	No	No	4.90E-03	U	2.60E-06	U					1
Nitrosomethylethylamine, N-	10595-95-6	No	Yes	2.20E+01	U	6.30E-03	U					1
Nitrosomethylvinylamine, N-	4549-40-0	No	Yes									1
Nitrosomorpholine [N-]	59-89-2	No	No	6.70E+00	U	1.90E-03	U					1
Nitrosopiperidine [N-]	100-75-4	No	No	9.40E+00	U	2.70E-03	U					1
Nitrosopyrrolidine, N-	930-55-2	No	No	2.10E+00	U	6.10E-04	U					1
Nitrotoluene, 4-Amino-2-	119-32-4	No	No									1
Nitrotoluene, m-	99-08-1	No	No					1.00E-04	U			1
Nitrotoluene, o-	88-72-2	No	Yes	2.20E-01	U			9.00E-04	U			1
Nitrotoluene, p-	99-99-0	No	No	1.60E-02	U			4.00E-03	U			1
Nonachlor, trans-	39765-80-5	No	Yes									1
Nonane, n-	111-84-2	No	Yes					3.00E-04	U	2.00E-02	U	1
Nonanol, n-	143-08-8	No	Yes									1
Norflurazon	27314-13-2	No	No					4.00E-02	U			1
Nustar	85509-19-9	No	No					7.00E-04	U			1
OCDD	3268-87-9	No	No	3.90E+01	U	1.14E-02	U	2.33E-06	U	1.33E-04	U	1
OCDF	39001-02-0	No	No	3.90E+01	U	1.14E-02	U	2.33E-06	U	1.33E-04	U	1
Octabromodiphenyl Ether	32536-52-0	No	No					3.00E-03	U			1

Site-specific
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
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Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Nitroguanidine	556-88-7	0.1	1			3.23E+09					
Nitromethane	75-52-5		1	2.34E+04	1.80E+04	3.23E+09			6.78E+02	6.78E+02	
Nitrophenol, 2-	88-75-5		1	1.65E+05		3.23E+09					
Nitrophenol, 2-amino-4-	99-57-0	0.1	1			3.23E+09					
Nitrophenol, 3-	554-84-7	0.1	1			3.23E+09					
Nitrophenol, 4-	100-02-7	0.1	1			3.23E+09					
Nitrophenol, 4-amino-2-	119-34-6	0.1	1			3.23E+09					
Nitropropane, 2-	79-46-9		1	1.81E+04	4.86E+03	3.23E+09			1.71E+00	1.71E+00	
Nitropyrene, 4-	57835-92-4	0.13	1			3.23E+09	1.63E+01	4.38E+01	7.51E+06	1.19E+01	
Nitroquinoline-1-oxide. 4-	56-57-5	0.1	1			3.23E+09					
Nitroso-N-ethylurea, N-	759-73-9	0.1	1			3.23E+09	2.46E-01	1.67E+00	5.85E+04	2.14E-01	
Nitroso-N-methylurea, N-	684-93-5	0.1	1			3.23E+09	5.54E-02	3.75E-01	1.33E+04	4.82E-02	
Nitroso-di-N-butylamine, N-	924-16-3		1	3.35E+05		3.23E+09	3.62E+00		5.35E+01	3.39E+00	
Nitroso-di-N-propylamine, N-	621-64-7	0.1	1			3.23E+09	2.79E+00	9.77E+00	4.13E+05	2.17E+00	
Nitrosodiethanolamine, N-	1116-54-7	0.1	1			3.23E+09	6.98E+00	2.44E+01	1.03E+06	5.43E+00	
Nitrosodiethylamine, N-	55-18-5	0.1	1			3.23E+09	4.43E-02	3.00E-01	1.05E+04	3.86E-02	
Nitrosodimethylamine, N-	62-75-9		1	1.14E+05	2.37E+05	3.23E+09	1.30E-01		1.13E+00	1.17E-01	
Nitrosodiphenylamine, N-	86-30-6	0.1	1			3.23E+09	3.99E+03	1.40E+04	3.18E+08	3.10E+03	
Nitrosomethylethylamine, N-	10595-95-6		1	1.67E+05	1.08E+05	3.23E+09	8.89E-01		6.77E+00	7.85E-01	
Nitrosomethylvinylamine, N-	4549-40-0		1	1.12E+05	1.08E+04	3.23E+09					
Nitrosomorpholine [N-]	59-89-2	0.1	1			3.23E+09	2.92E+00	1.02E+01	4.35E+05	2.27E+00	
Nitrosopiperidine [N-]	100-75-4	0.1	1			3.23E+09	2.08E+00	7.28E+00	3.06E+05	1.62E+00	
Nitrosopyrrolidine, N-	930-55-2	0.1	1			3.23E+09	9.31E+00	3.26E+01	1.35E+06	7.24E+00	
Nitrotoluene, 4-Amino-2-	119-32-4	0.1	1			3.23E+09					
Nitrotoluene, m-	99-08-1	0.1	1			3.23E+09					
Nitrotoluene, o-	88-72-2		1	1.89E+05	1.51E+03	3.23E+09	8.89E+01			8.89E+01	
Nitrotoluene, p-	99-99-0	0.1	1			3.23E+09	1.22E+03	4.27E+03		9.50E+02	
Nonachlor, trans-	39765-80-5		1	3.73E+06		3.23E+09					
Nonane, n-	111-84-2		1	1.44E+03	6.86E+00	3.23E+09					
Nonanol, n-	143-08-8		1	6.41E+04	7.27E+01	3.23E+09					
Norflurazon	27314-13-2	0.1	1			3.23E+09					
Nustar	85509-19-9	0.1	1			3.23E+09					
OCDD	3268-87-9	0.03	1			3.23E+09	5.01E-01	5.85E+00	7.25E+04	4.62E-01	
OCDF	39001-02-0	0.03	1			3.23E+09	5.01E-01	5.85E+00	7.25E+04	4.62E-01	
Octabromodiphenyl Ether	32536-52-0	0.1	1			3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Nitroguanidine	556-88-7				6.70E+05	2.34E+06		5.21E+05	5.21E+05 max
Nitromethane	75-52-5						1.02E+04	1.02E+04	6.78E+02 ca*
Nitrophenol, 2-	88-75-5								
Nitrophenol, 2-amino-4-	99-57-0								
Nitrophenol, 3-	554-84-7								
Nitrophenol, 4-	100-02-7								
Nitrophenol, 4-amino-2-	119-34-6								
Nitropropane, 2-	79-46-9						3.17E+04	3.17E+04	1.71E+00 ca
Nitropyrene, 4-	57835-92-4								1.19E+01 ca
Nitroquinoline-1-oxide. 4-	56-57-5								
Nitroso-N-ethylurea, N-	759-73-9								2.14E-01 ca
Nitroso-N-methylurea, N-	684-93-5								4.82E-02 ca
Nitroso-di-N-butylamine, N-	924-16-3								3.39E+00 ca
Nitroso-di-N-propylamine, N-	621-64-7								2.17E+00 ca
Nitrosodiethanolamine, N-	1116-54-7								5.43E+00 ca
Nitrosodiethylamine, N-	55-18-5								3.86E-02 ca
Nitrosodimethylamine, N-	62-75-9				5.36E+01		3.98E+02	4.72E+01	1.17E-01 ca
Nitrosodiphenylamine, N-	86-30-6								3.10E+03 ca
Nitrosomethylethylamine, N-	10595-95-6								7.85E-01 ca
Nitrosomethylvinylamine, N-	4549-40-0								
Nitrosomorpholine [N-]	59-89-2								2.27E+00 ca
Nitrosopiperidine [N-]	100-75-4								1.62E+00 ca
Nitrosopyrrolidine, N-	930-55-2								7.24E+00 ca
Nitrotoluene, 4-Amino-2-	119-32-4								
Nitrotoluene, m-	99-08-1				6.70E+02	2.34E+03		5.21E+02	5.21E+02 nc
Nitrotoluene, o-	88-72-2				6.03E+03			6.03E+03	8.89E+01 ca*
Nitrotoluene, p-	99-99-0				2.68E+04	9.38E+04		2.08E+04	9.50E+02 ca*
Nonachlor, trans-	39765-80-5								
Nonane, n-	111-84-2				2.01E+03		2.52E+03	1.12E+03	1.12E+03 sat
Nonanol, n-	143-08-8								
Norflurazon	27314-13-2				2.68E+05	9.38E+05		2.08E+05	2.08E+05 max
Nustar	85509-19-9				4.69E+03	1.64E+04		3.65E+03	3.65E+03 nc
OCDD	3268-87-9				1.56E+01	1.82E+02	3.77E+07	1.44E+01	4.62E-01 ca*
OCDF	39001-02-0				1.56E+01	1.82E+02	3.77E+07	1.44E+01	4.62E-01 ca*
Octabromodiphenyl Ether	32536-52-0				2.01E+04	7.03E+04		1.56E+04	1.56E+04 nc

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Octachlorostyrene	29082-74-4	No	Yes									1
Octadecanoic Acid	57-11-4	No	No									1
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2691-41-0	No	No					5.00E-02	U			1
Octahydrotrimethylmethylethylphenanthrenol	511-15-9	No	No									1
Octamethylpyrophosphoramide	152-16-9	No	No					2.00E-03	U			1
Octanol, n-	111-87-5	No	Yes									1
Octanone, 2-	111-13-7	No	Yes									1
Octanone, 3-	106-68-3	No	Yes									1
Octyl Phthalate, di-N-	117-84-0	No	No					1.00E-02	U			1
Oleic acid	112-80-1	Yes	Yes									1
Oleum	8014-95-7	No	No									1
Oryzalin	19044-88-3	No	No					5.00E-02	U			1
Oxadiazon	19666-30-9	No	No					5.00E-03	U			1
Oxamyl	23135-22-0	No	No					2.50E-02	U			1
Oxychlordane	27304-13-8	No	No									1
Ozone	10028-15-6	No	No									1
Paclobutrazol	76738-62-0	No	No					1.30E-02	U			1
Paraquat Dichloride	1910-42-5	No	No					4.50E-03	U			1
Parathion	56-38-2	No	No					6.00E-03	U			1
PeCDD, 2,3,7,8-	36088-22-9	No	No	1.30E+05	U	3.80E+01	U	7.00E-10	U	4.00E-08	U	1
PeCDF, 1,2,3,7,8-	57117-41-6	No	No	3.90E+03	U	1.14E+00	U	2.33E-08	U	1.33E-06	U	1
PeCDF, 2,3,4,7,8-	57117-31-4	No	No	3.90E+04	U	1.14E+01	U	2.33E-09	U	1.33E-07	U	1
Pebulate	1114-71-2	No	Yes					5.00E-02	U			1
Pendimethalin	40487-42-1	No	No					4.00E-02	U			1
Pentabromodiphenyl Ether	32534-81-9	No	No					2.00E-03	U			1
Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	60348-60-9	No	No					1.00E-04	U			1
Pentachloroaniline	527-20-8	No	No									1
Pentachlorobenzene	608-93-5	No	Yes					8.00E-04	U			1
Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	65510-44-3	No	Yes	3.90E+00	U	1.14E-03	U	2.33E-05	U	1.33E-03	U	1
Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	31508-00-6	No	Yes	3.90E+00	U	1.14E-03	U	2.33E-05	U	1.33E-03	U	1
Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	32598-14-4	No	Yes	3.90E+00	U	1.14E-03	U	2.33E-05	U	1.33E-03	U	1
Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	74472-37-0	No	Yes	3.90E+00	U	1.14E-03	U	2.33E-05	U	1.33E-03	U	1
Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	57465-28-8	No	Yes	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
Pentachlorocyclopentadiene	25329-35-5	No	Yes									1

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Octachlorostyrene	29082-74-4		1	8.40E+05		3.23E+09					
Octadecanoic Acid	57-11-4	0.1	1			3.23E+09					
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2691-41-0	0.006	1			3.23E+09					
Octahydrotrimethylmethylethylphenanthrenol	511-15-9	0.1	1			3.23E+09					
Octamethylpyrophosphoramide	152-16-9	0.1	1			3.23E+09					
Octanol, n-	111-87-5		1	5.35E+04	1.78E+02	3.23E+09					
Octanone, 2-	111-13-7		1	2.12E+04	3.60E+02	3.23E+09					
Octanone, 3-	106-68-3		1	2.60E+04	1.08E+03	3.23E+09					
Octyl Phthalate, di-N-	117-84-0	0.1	1			3.23E+09					
Oleic acid	112-80-1		1	1.43E+06	1.44E+00	3.23E+09					
Oleum	8014-95-7		1			3.23E+09					
Oryzalin	19044-88-3	0.1	1			3.23E+09					
Oxadiazon	19666-30-9	0.1	1			3.23E+09					
Oxamyl	23135-22-0	0.1	1			3.23E+09					
Oxychlordane	27304-13-8	0.1	1			3.23E+09					
Ozone	10028-15-6		1			3.23E+09					
Paclobutrazol	76738-62-0	0.1	1			3.23E+09					
Paraquat Dichloride	1910-42-5	0.1	1			3.23E+09					
Parathion	56-38-2	0.1	1			3.23E+09					
PeCDD, 2,3,7,8-	36088-22-9	0.03	1			3.23E+09	1.50E-04	1.75E-03	2.17E+01	1.38E-04	
PeCDF, 1,2,3,7,8-	57117-41-6	0.03	1			3.23E+09	5.01E-03	5.85E-02	7.25E+02	4.62E-03	
PeCDF, 2,3,4,7,8-	57117-31-4	0.03	1			3.23E+09	5.01E-04	5.85E-03	7.25E+01	4.62E-04	
Pebulate	1114-71-2		1	6.20E+04		3.23E+09					
Pendimethalin	40487-42-1	0.1	1			3.23E+09					
Pentabromodiphenyl Ether	32534-81-9	0.1	1			3.23E+09					
Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	60348-60-9	0.1	1			3.23E+09					
Pentachloroaniline	527-20-8	0.1	1			3.23E+09					
Pentachlorobenzene	608-93-5		1	1.12E+05		3.23E+09					
Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	65510-44-3	0.14	1	1.42E+06		3.23E+09	5.01E+00	1.25E+01	3.19E+02	3.54E+00	
Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	31508-00-6	0.14	1	1.14E+06		3.23E+09	5.01E+00	1.25E+01	2.56E+02	3.53E+00	
Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	32598-14-4	0.14	1	1.17E+06		3.23E+09	5.01E+00	1.25E+01	2.61E+02	3.53E+00	
Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	74472-37-0	0.14	1	1.42E+06		3.23E+09	5.01E+00	1.25E+01	3.19E+02	3.54E+00	
Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	57465-28-8	0.14	1	1.41E+06		3.23E+09	1.50E-03	3.76E-03	9.46E-02	1.06E-03	
Pentachlorocyclopentadiene	25329-35-5		1	1.95E+04		3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Octachlorostyrene	29082-74-4								
Octadecanoic Acid	57-11-4								
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2691-41-0				3.35E+05	1.95E+07		3.29E+05	3.29E+05 max
Octahydrotrimethylmethylethylphenanthrenol	511-15-9								
Octamethylpyrophosphoramide	152-16-9				1.34E+04	4.69E+04		1.04E+04	1.04E+04 nc
Octanol, n-	111-87-5								
Octanone, 2-	111-13-7								
Octanone, 3-	106-68-3								
Octyl Phthalate, di-N-	117-84-0				6.70E+04	2.34E+05		5.21E+04	5.21E+04 nc
Oleic acid	112-80-1								
Oleum	8014-95-7								
Oryzalin	19044-88-3				3.35E+05	1.17E+06		2.61E+05	2.61E+05 max
Oxadiazon	19666-30-9				3.35E+04	1.17E+05		2.61E+04	2.61E+04 nc
Oxamyl	23135-22-0				1.68E+05	5.86E+05		1.30E+05	1.30E+05 max
Oxychlordane	27304-13-8								
Ozone	10028-15-6								
Paclobutrazol	76738-62-0				8.71E+04	3.05E+05		6.78E+04	6.78E+04 nc
Paraquat Dichloride	1910-42-5				3.02E+04	1.06E+05		2.35E+04	2.35E+04 nc
Parathion	56-38-2				4.02E+04	1.41E+05		3.13E+04	3.13E+04 nc
PeCDD, 2,3,7,8-	36088-22-9				4.69E-03	5.47E-02	1.13E+04	4.32E-03	1.38E-04 ca*
PeCDF, 1,2,3,7,8-	57117-41-6				1.56E-01	1.82E+00	3.77E+05	1.44E-01	4.62E-03 ca*
PeCDF, 2,3,4,7,8-	57117-31-4				1.56E-02	1.82E-01	3.77E+04	1.44E-02	4.62E-04 ca*
Pebulate	1114-71-2				3.35E+05			3.35E+05	3.35E+05 max
Pendimethalin	40487-42-1				2.68E+05	9.38E+05		2.08E+05	2.08E+05 max
Pentabromodiphenyl Ether	32534-81-9				1.34E+04	4.69E+04		1.04E+04	1.04E+04 nc
Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	60348-60-9				6.70E+02	2.34E+03		5.21E+02	5.21E+02 nc
Pentachloroaniline	527-20-8								
Pentachlorobenzene	608-93-5				5.36E+03			5.36E+03	5.36E+03 nc
Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	65510-44-3				1.56E+02	3.90E+02	1.66E+05	1.11E+02	3.54E+00 ca*
Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	31508-00-6				1.56E+02	3.90E+02	1.33E+05	1.11E+02	3.53E+00 ca*
Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	32598-14-4				1.56E+02	3.90E+02	1.36E+05	1.11E+02	3.53E+00 ca*
Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	74472-37-0				1.56E+02	3.90E+02	1.66E+05	1.11E+02	3.54E+00 ca*
Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	57465-28-8				4.69E-02	1.17E-01	4.93E+01	3.35E-02	1.06E-03 ca*
Pentachlorocyclopentadiene	25329-35-5								

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Pentachlorodibenzo-p-dioxin, 1,2,3,7,8-	40321-76-4	No	Yes	1.30E+05	U	3.80E+01	U	7.00E-10	U	4.00E-08	U	1
Pentachloroethane	76-01-7	No	Yes	9.00E-02	U							1
Pentachloronitrobenzene	82-68-8	No	Yes	2.60E-01	U			3.00E-03	U			1
Pentachlorophenol	87-86-5	No	No	4.00E-01	U	5.10E-06	U	5.00E-03	U			1
Pentaerythritol tetranitrate (PETN)	78-11-5	No	No	4.00E-03	U			2.00E-03	U			1
Pentamethyl dipropylenetriamine	3855-32-1	No	No									1
Pentane, n-	109-66-0	No	Yes							1.00E+00	U	1
Pentyl Alcohol, N-	71-41-0	No	Yes									1
Perchlorate and Perchlorate Salts	14797-73-0	No	No					7.00E-04	U			1
Perfluorobutane Sulfonate	375-73-5	No	Yes					2.00E-02	U			1
Perfluorooctane Sulphonic Acid	1763-23-1	No	Yes									1
Perfluorooctanoic acid	335-67-1	No	Yes									1
Permethrin	52645-53-1	No	No					5.00E-02	U			1
Perylene	198-55-0	No	No									1
Pesticides (total)	NA	No	No									1
Pesticides, organochlorinated (each)	NA	No	No									1
Pesticides, organochlorinated (total)	NA	No	No									1
Phenacetin	62-44-2	No	No	2.20E-03	U	6.30E-07	U					1
Phenanthrene	85-01-8	No	Yes									1
Phenmedipham	13684-63-4	No	No					2.50E-01	U			1
Phenol	108-95-2	No	No					3.00E-01	U	2.00E-01	U	1
Phenothiazine	92-84-2	No	No					5.00E-04	U			1
Phenyl Isothiocyanate	103-72-0	No	Yes									1
Phenylenediamine, m-	108-45-2	No	No					6.00E-03	U			1
Phenylenediamine, o-	95-54-5	No	No	4.70E-02	U							1
Phenylenediamine, p-	106-50-3	No	No					1.90E-01	U			1
Phenylmercuric Acetate	62-38-4	No	No					8.00E-05	U			1
Phenylphenol, 2-	90-43-7	No	No	1.94E-03	U							1
Phorate	298-02-2	No	No					2.00E-04	U			1
Phosgene	75-44-5	No	Yes							3.00E-04	U	1
Phosmet	732-11-6	No	No					2.00E-02	U			1
Phosphine	7803-51-2	No	Yes					3.00E-04	U	3.00E-04	U	1
Phosphoric Acid	7664-38-2	No	No					4.86E+01	U	1.00E-02	U	1
Phosphorus (total)	NA	No	No									1
Phosphorus pentoxide	1314-56-3	No	No									1

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Pentachlorodibenzo-p-dioxin, 1,2,3,7,8-	40321-76-4	0.03	1	4.61E+06		3.23E+09	1.50E-04	1.75E-03	3.10E-02	1.38E-04	
Pentachloroethane	76-01-7		1	1.33E+04	4.47E+02	3.23E+09	2.17E+02			2.17E+02	
Pentachloronitrobenzene	82-68-8		1	5.95E+05		3.23E+09	7.52E+01			7.52E+01	
Pentachlorophenol	87-86-5	0.25	1			3.23E+09	4.89E+01	6.84E+01	1.62E+08	2.85E+01	
Pentaerythritol tetranitrate (PETN)	78-11-5	0.1	1			3.23E+09	4.89E+03	1.71E+04		3.80E+03	
Pentamethyl dipropylenetriamine	3855-32-1	0.1	1			3.23E+09					
Pentane, n-	109-66-0		1	1.07E+03	3.88E+02	3.23E+09					
Pentyl Alcohol, N-	71-41-0		1	3.91E+04	3.04E+03	3.23E+09					
Perchlorate and Perchlorate Salts	14797-73-0		1			3.23E+09					
Perfluorobutane Sulfonate	375-73-5		1	1.82E+05		3.23E+09					
Perfluorooctane Sulphonic Acid	1763-23-1		1	1.48E+05		3.23E+09					
Perfluorooctanoic acid	335-67-1		1	3.00E+04		3.23E+09					
Permethrin	52645-53-1	0.1	1			3.23E+09					
Perylene	198-55-0	0.13	1			3.23E+09					
Pesticides (total)	NA	0.1	1			3.23E+09					
Pesticides, organochlorinated (each)	NA	0.1	1			3.23E+09					
Pesticides, organochlorinated (total)	NA	0.1	1			3.23E+09					
Phenacetin	62-44-2	0.1	1			3.23E+09	8.89E+03	3.11E+04	1.31E+09	6.91E+03	
Phenanthrene	85-01-8	0.13	1	8.87E+05		3.23E+09					
Phenmedipham	13684-63-4	0.1	1			3.23E+09					
Phenol	108-95-2	0.1	1			3.23E+09					
Phenothiazine	92-84-2	0.1	1			3.23E+09					
Phenyl Isothiocyanate	103-72-0		1	9.76E+03	1.29E+02	3.23E+09					
Phenylenediamine, m-	108-45-2	0.1	1			3.23E+09					
Phenylenediamine, o-	95-54-5	0.1	1			3.23E+09	4.16E+02	1.46E+03		3.23E+02	
Phenylenediamine, p-	106-50-3	0.1	1			3.23E+09					
Phenylmercuric Acetate	62-38-4	0.1	1			3.23E+09					
Phenylphenol, 2-	90-43-7	0.1	1			3.23E+09	1.01E+04	3.53E+04		7.84E+03	
Phorate	298-02-2	0.1	1			3.23E+09					
Phosgene	75-44-5		1	1.35E+03	1.61E+03	3.23E+09					
Phosmet	732-11-6	0.1	1			3.23E+09					
Phosphine	7803-51-2		1			3.23E+09					
Phosphoric Acid	7664-38-2		1			3.23E+09					
Phosphorus (total)	NA		1			3.23E+09					
Phosphorus pentoxide	1314-56-3		1			3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Pentachlorodibenzo-p-dioxin, 1,2,3,7,8-	40321-76-4				4.69E-03	5.47E-02	1.61E+01	4.32E-03	1.38E-04 ca*
Pentachloroethane	76-01-7								2.17E+02 ca
Pentachloronitrobenzene	82-68-8				2.01E+04			2.01E+04	7.52E+01 ca
Pentachlorophenol	87-86-5				3.35E+04	4.69E+04		1.95E+04	2.85E+01 ca
Pentaerythritol tetranitrate (PETN)	78-11-5				1.34E+04	4.69E+04		1.04E+04	3.80E+03 ca**
Pentamethyl dipropylenetriamine	3855-32-1								
Pentane, n-	109-66-0						9.42E+04	9.42E+04	9.42E+04 sat
Pentyl Alcohol, N-	71-41-0								
Perchlorate and Perchlorate Salts	14797-73-0				4.69E+03			4.69E+03	4.69E+03 nc
Perfluorobutane Sulfonate	375-73-5				1.34E+05			1.34E+05	1.34E+05 max
Perfluorooctane Sulphonic Acid	1763-23-1								
Perfluorooctanoic acid	335-67-1								
Permethrin	52645-53-1				3.35E+05	1.17E+06		2.61E+05	2.61E+05 max
Perylene	198-55-0								
Pesticides (total)	NA								
Pesticides, organochlorinated (each)	NA								
Pesticides, organochlorinated (total)	NA								
Phenacetin	62-44-2								6.91E+03 ca
Phenanthrene	85-01-8								
Phenmedipham	13684-63-4				1.68E+06	5.86E+06		1.30E+06	1.30E+06 max
Phenol	108-95-2				2.01E+06	7.03E+06	5.66E+10	1.56E+06	1.56E+06 max
Phenothiazine	92-84-2				3.35E+03	1.17E+04		2.61E+03	2.61E+03 nc
Phenyl Isothiocyanate	103-72-0								
Phenylenediamine, m-	108-45-2				4.02E+04	1.41E+05		3.13E+04	3.13E+04 nc
Phenylenediamine, o-	95-54-5								3.23E+02 ca
Phenylenediamine, p-	106-50-3				1.27E+06	4.46E+06		9.90E+05	9.90E+05 max
Phenylmercuric Acetate	62-38-4				5.36E+02	1.88E+03		4.17E+02	4.17E+02 nc
Phenylphenol, 2-	90-43-7								7.84E+03 ca
Phorate	298-02-2				1.34E+03	4.69E+03		1.04E+03	1.04E+03 nc
Phosgene	75-44-5						3.56E+01	3.56E+01	3.56E+01 nc
Phosmet	732-11-6				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Phosphine	7803-51-2				2.01E+03		8.50E+07	2.01E+03	2.01E+03 nc
Phosphoric Acid	7664-38-2				3.26E+08		2.83E+09	2.92E+08	2.92E+08 max
Phosphorus (total)	NA								
Phosphorus pentoxide	1314-56-3								

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Phosphorus, White	7723-14-0	No	Yes					2.00E-05	U			1
Phthalates (total)	NA	No	No									1
Phthalic Acid, P-	100-21-0	No	No					1.00E+00	U			1
Phthalic Acid, m-	121-91-5	No	No									1
Phthalic Acid, o-	88-99-3	No	No									1
Phthalic Anhydride	85-44-9	No	No					2.00E+00	U	2.00E-02	U	1
Picloram	1918-02-1	No	No					7.00E-02	U			1
Picoline, 2-	109-06-8	No	Yes									1
Picramic Acid (2-Amino-4,6-dinitrophenol)	96-91-3	No	No					1.00E-04	U			1
Picric Acid (2,4,6-Trinitrophenol)	88-89-1	No	No									1
Piperidine	110-89-4	Yes	Yes									1
Pirimiphos, Methyl	29232-93-7	No	No					1.00E-02	U			1
Polybrominated Biphenyls	59536-65-1	No	No	3.00E+01	U	8.60E-03	U	7.00E-06	U			1
Polychlorinated Biphenyls (high risk)	1336-36-3	No	Yes	2.00E+00	U	5.71E-04	U					1
Polycyclic aromatic hydrocarbons (PAH), Total	NA	No	No									1
Polycyclic aromatic hydrocarbons (PAH), Total (high molecular weight)	NA	No	No									1
Polycyclic aromatic hydrocarbons (PAH), Total (low molecular weight)	NA	No	No									1
Polycyclic chlorinated hydrocarbons (total)	NA	No	No									1
Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9	No	No							6.00E-04	U	1
Polyphosphoric acid	8017-16-1	No	No					4.86E+01	U			1
Potassium	7440-09-7	No	No									1
Potassium Cyanide	151-50-8	No	No					2.00E-03	U			1
Potassium Perchlorate	7778-74-7	No	No					7.00E-04	U			1
Potassium Perfluorobutane Sulfonate	29420-49-3	No	No					2.00E-02	U			1
Potassium Silver Cyanide	506-61-6	No	No					5.00E-03	U			0.04
Potassium chlorate	3811-04-9	No	No									1
Potassium tripolyphosphate	13845-36-8	No	No					4.86E+01	U			1
Praseodymium	7440-10-0	No	No									1
Praseodymium Chloride (Stable, Nonradioactive)	10361-79-2	No	No									1
Prochloraz	67747-09-5	No	No	1.50E-01	U			9.00E-03	U			1
Profluralin	26399-36-0	No	Yes					6.00E-03	U			1

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Phosphorus, White	7723-14-0		1	9.55E+03		3.23E+09					
Phthalates (total)	NA	0.1	1			3.23E+09					
Phthalic Acid, P-	100-21-0	0.1	1			3.23E+09					
Phthalic Acid, m-	121-91-5	0.1	1			3.23E+09					
Phthalic Acid, o-	88-99-3	0.1	1			3.23E+09					
Phthalic Anhydride	85-44-9	0.1	1			3.23E+09					
Picloram	1918-02-1	0.1	1			3.23E+09					
Picoline, 2-	109-06-8		1	1.05E+05	7.90E+05	3.23E+09					
Picramic Acid (2-Amino-4,6-dinitrophenol)	96-91-3	0.1	1			3.23E+09					
Picric Acid (2,4,6-Trinitrophenol)	88-89-1	0.1	1			3.23E+09					
Piperidine	110-89-4		1	1.12E+05	1.96E+05	3.23E+09					
Pirimiphos, Methyl	29232-93-7	0.1	1			3.23E+09					
Polybrominated Biphenyls	59536-65-1	0.1	1			3.23E+09	6.52E-01	2.28E+00	9.61E+04	5.07E-01	
Polychlorinated Biphenyls (high risk)	1336-36-3	0.14	1	1.08E+06		3.23E+09	9.77E+00	2.44E+01	4.85E+02	6.88E+00	
Polycyclic aromatic hydrocarbons (PAH), Total	NA	0.13	1			3.23E+09					
Polycyclic aromatic hydrocarbons (PAH), Total (high molecular weight)	NA	0.13	1			3.23E+09					
Polycyclic aromatic hydrocarbons (PAH), Total (low molecular weight)	NA	0.13	1			3.23E+09					
Polycyclic chlorinated hydrocarbons (total)	NA	0.1	1			3.23E+09					
Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9	0.1	1			3.23E+09					
Polyphosphoric acid	8017-16-1		1			3.23E+09					
Potassium	7440-09-7		1			3.23E+09					
Potassium Cyanide	151-50-8		1			3.23E+09					
Potassium Perchlorate	7778-74-7		1			3.23E+09					
Potassium Perfluorobutane Sulfonate	29420-49-3	0.1	1			3.23E+09					
Potassium Silver Cyanide	506-61-6		1			3.23E+09					
Potassium chlorate	3811-04-9		1			3.23E+09					
Potassium tripolyphosphate	13845-36-8		1			3.23E+09					
Praseodymium	7440-10-0		1			3.23E+09					
Praseodymium Chloride (Stable, Nonradioactive)	10361-79-2		1			3.23E+09					
Prochloraz	67747-09-5	0.1	1			3.23E+09	1.30E+02	4.56E+02		1.01E+02	
Profluralin	26399-36-0		1	5.78E+05		3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Phosphorus, White	7723-14-0				1.34E+02			1.34E+02	1.34E+02 nc
Phthalates (total)	NA								
Phthalic Acid, P-	100-21-0				6.70E+06	2.34E+07		5.21E+06	5.21E+06 max
Phthalic Acid, m-	121-91-5								
Phthalic Acid, o-	88-99-3								
Phthalic Anhydride	85-44-9				1.34E+07	4.69E+07	5.66E+09	1.04E+07	1.04E+07 max
Picloram	1918-02-1				4.69E+05	1.64E+06		3.65E+05	3.65E+05 max
Picoline, 2-	109-06-8								
Picramic Acid (2-Amino-4,6-dinitrophenol)	96-91-3				6.70E+02	2.34E+03		5.21E+02	5.21E+02 nc
Picric Acid (2,4,6-Trinitrophenol)	88-89-1								
Piperidine	110-89-4								
Pirimiphos, Methyl	29232-93-7				6.70E+04	2.34E+05		5.21E+04	5.21E+04 nc
Polybrominated Biphenyls	59536-65-1				4.69E+01	1.64E+02		3.65E+01	5.07E-01 ca*
Polychlorinated Biphenyls (high risk)	1336-36-3								6.88E+00 ca
Polycyclic aromatic hydrocarbons (PAH), Total	NA								
Polycyclic aromatic hydrocarbons (PAH), Total (high molecular weight)	NA								
Polycyclic aromatic hydrocarbons (PAH), Total (low molecular weight)	NA								
Polycyclic chlorinated hydrocarbons (total)	NA								
Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9						1.70E+08	1.70E+08	1.70E+08 max
Polyphosphoric acid	8017-16-1				3.26E+08			3.26E+08	3.26E+08 max
Potassium	7440-09-7								
Potassium Cyanide	151-50-8				1.34E+04			1.34E+04	1.34E+04 nc
Potassium Perchlorate	7778-74-7				4.69E+03			4.69E+03	4.69E+03 nc
Potassium Perfluorobutane Sulfonate	29420-49-3				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Potassium Silver Cyanide	506-61-6				3.35E+04			3.35E+04	3.35E+04 nc
Potassium chlorate	3811-04-9								
Potassium tripolyphosphate	13845-36-8				3.26E+08			3.26E+08	3.26E+08 max
Praseodymium	7440-10-0								
Praseodymium Chloride (Stable, Nonradioactive)	10361-79-2								
Prochloraz	67747-09-5				6.03E+04	2.11E+05		4.69E+04	1.01E+02 ca
Profluralin	26399-36-0				4.02E+04			4.02E+04	4.02E+04 nc

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Promethium	7440-12-2	No	No									1
Prometon	1610-18-0	No	No					1.50E-02	U			1
Prometryn	7287-19-6	No	No					4.00E-03	U			1
Propachlor	1918-16-7	No	No					1.30E-02	U			1
Propanil	709-98-8	No	No					5.00E-03	U			1
Propanoic acid, 2-(2,4-dichlorophenoxy)-	120-36-5	No	No									1
Propargite	2312-35-8	No	No					2.00E-02	U			1
Propargyl Alcohol	107-19-7	No	Yes					2.00E-03	U			1
Propazine	139-40-2	No	No					2.00E-02	U			1
Propham	122-42-9	No	No					2.00E-02	U			1
Propiconazole	60207-90-1	No	No					1.30E-02	U			1
Propionaldehyde	123-38-6	No	Yes							8.00E-03	U	1
Propionitrile	107-12-0	No	Yes									1
Propionitrile, 3-(NN-dimethylamino)	1738-25-6	No	Yes									1
Propyl Alcohol, n-	71-23-8	No	Yes									1
Propyl benzene	103-65-1	No	Yes					1.00E-01	U	1.00E+00	U	1
Propylene	115-07-1	No	Yes							3.00E+00	U	1
Propylene Glycol	57-55-6	No	No					2.00E+01	U			1
Propylene Glycol Dinitrate	6423-43-4	No	No							2.72E-04	U	1
Propylene Glycol Monoethyl Ether	1569-02-4	No	Yes					7.00E-01	U			1
Propylene Glycol Monomethyl Ether	107-98-2	No	Yes					7.00E-01	U	2.00E+00	U	1
Propylene Oxide	75-56-9	No	Yes	2.40E-01	U	3.70E-06	U			3.00E-02	U	1
Prussian Blue (Ferric Ferrocyanide)	14038-43-8	No	No									1
Pursuit	81335-77-5	No	No					2.50E-01	U			1
Pydrin	51630-58-1	No	No					2.50E-02	U			1
Pyrazinyl phosphorothioate, O,O-diethyl O-2-	297-97-2	No	No									1
Pyrene	129-00-0	No	Yes					3.00E-02	U			1
Pyridine	110-86-1	No	Yes					1.00E-03	U			1
Quinalphos	13593-03-8	No	No					5.00E-04	U			1
Quinoline	91-22-5	No	No	3.00E+00	U							1
Refractory Ceramic Fibers	NA	No	No							3.00E-02	U	1
Resmethrin	10453-86-8	No	No					3.00E-02	U			1
Resorcinol	108-46-3	No	No									1
Ronnel	299-84-3	No	Yes					5.00E-02	U			1
Rotenone	83-79-4	No	No					4.00E-03	U			1

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Promethium	7440-12-2		1			3.23E+09					
Prometon	1610-18-0	0.1	1			3.23E+09					
Prometryn	7287-19-6	0.1	1			3.23E+09					
Propachlor	1918-16-7	0.1	1			3.23E+09					
Propanil	709-98-8	0.1	1			3.23E+09					
Propanoic acid, 2-(2,4-dichlorophenoxy)-	120-36-5	0.1	1			3.23E+09					
Propargite	2312-35-8	0.1	1			3.23E+09					
Propargyl Alcohol	107-19-7		1	8.66E+04	1.11E+05	3.23E+09					
Propazine	139-40-2	0.1	1			3.23E+09					
Propham	122-42-9	0.1	1			3.23E+09					
Propiconazole	60207-90-1	0.1	1			3.23E+09					
Propionaldehyde	123-38-6		1	1.24E+04	3.26E+04	3.23E+09					
Propionitrile	107-12-0		1	2.07E+04	1.56E+04	3.23E+09					
Propionitrile, 3-(NN-dimethylamino)	1738-25-6		1	2.62E+05	1.60E+05	3.23E+09					
Propyl Alcohol, n-	71-23-8		1	4.01E+04	1.11E+05	3.23E+09					
Propyl benzene	103-65-1		1	9.64E+03	2.64E+02	3.23E+09					
Propylene	115-07-1		1	9.70E+02	3.49E+02	3.23E+09					
Propylene Glycol	57-55-6	0.1	1			3.23E+09					
Propylene Glycol Dinitrate	6423-43-4	0.1	1			3.23E+09					
Propylene Glycol Monoethyl Ether	1569-02-4		1	2.14E+05	8.52E+04	3.23E+09					
Propylene Glycol Monomethyl Ether	107-98-2		1	1.08E+05	1.06E+05	3.23E+09					
Propylene Oxide	75-56-9		1	1.42E+04	7.77E+04	3.23E+09	8.14E+01		9.77E+02	7.52E+01	
Prussian Blue (Ferric Ferrocyanide)	14038-43-8	0.1	1			3.23E+09					
Pursuit	81335-77-5	0.1	1			3.23E+09					
Pydrin	51630-58-1	0.1	1			3.23E+09					
Pyrazinyl phosphorothioate, O,O-diethyl O-2-	297-97-2	0.1	1			3.23E+09					
Pyrene	129-00-0	0.13	1	3.28E+06		3.23E+09					
Pyridine	110-86-1		1	7.64E+04	5.30E+05	3.23E+09					
Quinalphos	13593-03-8	0.1	1			3.23E+09					
Quinoline	91-22-5	0.1	1			3.23E+09	6.52E+00	2.28E+01		5.07E+00	
Refractory Ceramic Fibers	NA		1			3.23E+09					
Resmethrin	10453-86-8	0.1	1			3.23E+09					
Resorcinol	108-46-3	0.1	1			3.23E+09					
Ronnel	299-84-3		1	6.40E+05		3.23E+09					
Rotenone	83-79-4	0.1	1			3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Promethium	7440-12-2								
Prometon	1610-18-0				1.01E+05	3.52E+05		7.82E+04	7.82E+04 nc
Prometryn	7287-19-6				2.68E+04	9.38E+04		2.08E+04	2.08E+04 nc
Propachlor	1918-16-7				8.71E+04	3.05E+05		6.78E+04	6.78E+04 nc
Propanil	709-98-8				3.35E+04	1.17E+05		2.61E+04	2.61E+04 nc
Propanoic acid, 2-(2,4-dichlorophenoxy)-	120-36-5								
Propargite	2312-35-8				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Propargyl Alcohol	107-19-7				1.34E+04			1.34E+04	1.34E+04 nc
Propazine	139-40-2				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Propham	122-42-9				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Propiconazole	60207-90-1				8.71E+04	3.05E+05		6.78E+04	6.78E+04 nc
Propionaldehyde	123-38-6						8.66E+03	8.66E+03	8.66E+03 nc
Propionitrile	107-12-0								
Propionitrile, 3-(NN-dimethylamino)	1738-25-6								
Propyl Alcohol, n-	71-23-8								
Propyl benzene	103-65-1				6.70E+05		8.45E+05	3.74E+05	3.74E+05 sat
Propylene	115-07-1						2.55E+05	2.55E+05	2.55E+05 sat
Propylene Glycol	57-55-6				1.34E+08	4.69E+08		1.04E+08	1.04E+08 max
Propylene Glycol Dinitrate	6423-43-4						7.70E+07	7.70E+07	7.70E+07 max
Propylene Glycol Monoethyl Ether	1569-02-4				4.69E+06			4.69E+06	4.69E+06 sat
Propylene Glycol Monomethyl Ether	107-98-2				4.69E+06		1.89E+07	3.76E+06	3.76E+06 sat
Propylene Oxide	75-56-9						3.72E+04	3.72E+04	7.52E+01 ca
Prussian Blue (Ferric Ferrocyanide)	14038-43-8								
Pursuit	81335-77-5				1.68E+06	5.86E+06		1.30E+06	1.30E+06 max
Pydrin	51630-58-1				1.68E+05	5.86E+05		1.30E+05	1.30E+05 max
Pyrazinyl phosphorothioate, O,O-diethyl O-2-	297-97-2								
Pyrene	129-00-0				2.01E+05	5.41E+05		1.47E+05	1.47E+05 max
Pyridine	110-86-1				6.70E+03			6.70E+03	6.70E+03 nc
Quinalphos	13593-03-8				3.35E+03	1.17E+04		2.61E+03	2.61E+03 nc
Quinoline	91-22-5								5.07E+00 ca
Refractory Ceramic Fibers	NA						8.50E+09	8.50E+09	8.50E+09 max
Resmethrin	10453-86-8				2.01E+05	7.03E+05		1.56E+05	1.56E+05 max
Resorcinol	108-46-3								
Ronnel	299-84-3				3.35E+05			3.35E+05	3.35E+05 max
Rotenone	83-79-4				2.68E+04	9.38E+04		2.08E+04	2.08E+04 nc

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Safrole	94-59-7	Yes	No	2.20E-01	U	6.30E-05	U					1
Samarium Chloride (Stable, Nonradioactive)	10361-82-7	No	No									1
Samarium Nitrate (Stable, Nonradioactive)	10361-83-8	No	No									1
Savey	78587-05-0	No	No					2.50E-02	U			1
Scandium	7440-20-2	No	No									1
Selenious Acid	7783-00-8	No	No					5.00E-03	U			1
Selenite	14124-67-5	No	No									1
Selenium	7782-49-2	No	No					5.00E-03	U	2.00E-02	U	1
Selenium Sulfide	7446-34-6	No	No					5.00E-03	U	2.00E-02	U	1
Selenourea	630-10-4	No	No									1
Sethoxydim	74051-80-2	No	No					9.00E-02	U			1
Silica (crystalline, respirable)	7631-86-9	No	No							3.00E-03	U	1
Silicon	7440-21-3	No	No									1
Silver	7440-22-4	No	No					5.00E-03	U			0.04
Silver Cyanide	506-64-9	No	No					1.00E-01	U			0.04
Simazine	122-34-9	No	No	1.20E-01	U			5.00E-03	U			1
Sodium	7440-23-5	No	No									1
Sodium Acifluorfen	62476-59-9	No	No					1.30E-02	U			1
Sodium Azide	26628-22-8	No	No					4.00E-03	U			1
Sodium Chlorate	7775-09-9	No	No									1
Sodium Cyanide	143-33-9	No	No					1.00E-03	U			1
Sodium Dichromate	10588-01-9	Yes	No	5.00E-01	U	1.50E-01	U	2.00E-02	U	2.00E-04	U	0.025
Sodium Diethyldithiocarbamate	148-18-5	No	No	2.70E-01	U			3.00E-02	U			1
Sodium Fluoride	7681-49-4	No	No					5.00E-02	U	1.30E-02	U	1
Sodium Fluoroacetate	62-74-8	No	No					2.00E-05	U			1
Sodium Hydroxide	1310-73-2	No	No									1
Sodium Metavanadate	13718-26-8	No	No					1.00E-03	U			1
Sodium Perchlorate	7601-89-0	No	No					7.00E-04	U			1
Sodium acid pyrophosphate	7758-16-9	No	No					4.86E+01	U			1
Sodium aluminum phosphate (acidic)	7785-88-8	No	No					4.86E+01	U			1
Sodium aluminum phosphate (anhydrous)	10279-59-1	No	No					4.86E+01	U			1
Sodium aluminum phosphate (tetrahydrate)	10305-76-7	No	No					4.86E+01	U			1
Sodium hexametaphosphate	10124-56-8	No	No					4.86E+01	U			1
Sodium polyphosphate	68915-31-1	No	No					4.86E+01	U			1
Sodium trimetaphosphate	7785-84-4	No	No					4.86E+01	U			1

Site-specific
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ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Safrole	94-59-7	0.1	1			3.23E+09	3.02E+01	2.05E+02	7.15E+06	2.63E+01	
Samarium Chloride (Stable, Nonradioactive)	10361-82-7		1			3.23E+09					
Samarium Nitrate (Stable, Nonradioactive)	10361-83-8		1			3.23E+09					
Savey	78587-05-0	0.1	1			3.23E+09					
Scandium	7440-20-2		1			3.23E+09					
Selenious Acid	7783-00-8		1			3.23E+09					
Selenite	14124-67-5		1			3.23E+09					
Selenium	7782-49-2		1			3.23E+09					
Selenium Sulfide	7446-34-6		1			3.23E+09					
Selenourea	630-10-4	0.1	1			3.23E+09					
Sethoxydim	74051-80-2	0.1	1			3.23E+09					
Silica (crystalline, respirable)	7631-86-9		1			3.23E+09					
Silicon	7440-21-3		1			3.23E+09					
Silver	7440-22-4		1			3.23E+09					
Silver Cyanide	506-64-9		1			3.23E+09					
Simazine	122-34-9	0.1	1			3.23E+09	1.63E+02	5.70E+02		1.27E+02	
Sodium	7440-23-5		1			3.23E+09					
Sodium Acifluorfen	62476-59-9	0.1	1			3.23E+09					
Sodium Azide	26628-22-8		1			3.23E+09					
Sodium Chlorate	7775-09-9		1			3.23E+09					
Sodium Cyanide	143-33-9		1			3.23E+09					
Sodium Dichromate	10588-01-9		1			3.23E+09	1.33E+01		3.00E+03	1.32E+01	
Sodium Diethyldithiocarbamate	148-18-5	0.1	1			3.23E+09	7.24E+01	2.53E+02		5.63E+01	
Sodium Fluoride	7681-49-4		1			3.23E+09					
Sodium Fluoroacetate	62-74-8	0.1	1			3.23E+09					
Sodium Hydroxide	1310-73-2		1			3.23E+09					
Sodium Metavanadate	13718-26-8		1			3.23E+09					
Sodium Perchlorate	7601-89-0		1			3.23E+09					
Sodium acid pyrophosphate	7758-16-9		1			3.23E+09					
Sodium aluminum phosphate (acidic)	7785-88-8		1			3.23E+09					
Sodium aluminum phosphate (anhydrous)	10279-59-1		1			3.23E+09					
Sodium aluminum phosphate (tetrahydrate)	10305-76-7		1			3.23E+09					
Sodium hexametaphosphate	10124-56-8		1			3.23E+09					
Sodium polyphosphate	68915-31-1		1			3.23E+09					
Sodium trimetaphosphate	7785-84-4		1			3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Safrole	94-59-7								2.63E+01 ca
Samarium Chloride (Stable, Nonradioactive)	10361-82-7								
Samarium Nitrate (Stable, Nonradioactive)	10361-83-8								
Savey	78587-05-0				1.68E+05	5.86E+05		1.30E+05	1.30E+05 max
Scandium	7440-20-2								
Selenious Acid	7783-00-8				3.35E+04			3.35E+04	3.35E+04 nc
Selenite	14124-67-5								
Selenium	7782-49-2				3.35E+04		5.66E+09	3.35E+04	3.35E+04 nc
Selenium Sulfide	7446-34-6				3.35E+04		5.66E+09	3.35E+04	3.35E+04 nc
Selenourea	630-10-4								
Sethoxydim	74051-80-2				6.03E+05	2.11E+06		4.69E+05	4.69E+05 max
Silica (crystalline, respirable)	7631-86-9						8.50E+08	8.50E+08	8.50E+08 max
Silicon	7440-21-3								
Silver	7440-22-4				3.35E+04			3.35E+04	3.35E+04 nc
Silver Cyanide	506-64-9				6.70E+05			6.70E+05	6.70E+05 max
Simazine	122-34-9				3.35E+04	1.17E+05		2.61E+04	1.27E+02 ca
Sodium	7440-23-5								
Sodium Acifluorfen	62476-59-9				8.71E+04	3.05E+05		6.78E+04	6.78E+04 nc
Sodium Azide	26628-22-8				2.68E+04			2.68E+04	2.68E+04 nc
Sodium Chlorate	7775-09-9								
Sodium Cyanide	143-33-9				6.70E+03			6.70E+03	6.70E+03 nc
Sodium Dichromate	10588-01-9				1.34E+05		5.66E+07	1.34E+05	1.32E+01 ca
Sodium Diethyldithiocarbamate	148-18-5				2.01E+05	7.03E+05		1.56E+05	5.63E+01 ca
Sodium Fluoride	7681-49-4				3.35E+05		3.68E+09	3.35E+05	3.35E+05 max
Sodium Fluoroacetate	62-74-8				1.34E+02	4.69E+02		1.04E+02	1.04E+02 nc
Sodium Hydroxide	1310-73-2								
Sodium Metavanadate	13718-26-8				6.70E+03			6.70E+03	6.70E+03 nc
Sodium Perchlorate	7601-89-0				4.69E+03			4.69E+03	4.69E+03 nc
Sodium acid pyrophosphate	7758-16-9				3.26E+08			3.26E+08	3.26E+08 max
Sodium aluminum phosphate (acidic)	7785-88-8				3.26E+08			3.26E+08	3.26E+08 max
Sodium aluminum phosphate (anhydrous)	10279-59-1				3.26E+08			3.26E+08	3.26E+08 max
Sodium aluminum phosphate (tetrahydrate)	10305-76-7				3.26E+08			3.26E+08	3.26E+08 max
Sodium hexametaphosphate	10124-56-8				3.26E+08			3.26E+08	3.26E+08 max
Sodium polyphosphate	68915-31-1				3.26E+08			3.26E+08	3.26E+08 max
Sodium trimetaphosphate	7785-84-4				3.26E+08			3.26E+08	3.26E+08 max

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Sodium tripolyphosphate	7758-29-4	No	No					4.86E+01	U			1
Stearyl Acetate	822-23-1	No	Yes									1
Stirofos (Tetrachlorovinphos)	961-11-5	No	No	2.40E-02	U			3.00E-02	U			1
Strontium Chromate	7789-06-2	Yes	No	5.00E-01	U	1.50E-01	U	2.00E-02	U	2.00E-04	U	0.025
Strontium, Stable	7440-24-6	No	No					6.00E-01	U			1
Strychnine	57-24-9	No	No					3.00E-04	U			1
Styrene	100-42-5	No	Yes					2.00E-01	U	1.00E+00	U	1
Styrene-Acrylonitrile (SAN) Trimer	NA	No	No					3.00E-03	U			1
Sulfate	14808-79-8	No	No									1
Sulfide	18496-25-8	No	No									1
Sulfolane	126-33-0	No	No					1.00E-03	U	2.00E-03	U	1
Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9	No	No					8.00E-04	U			1
Sulfur	7704-34-9	No	No									1
Sulfur Dioxide	7446-09-5	No	Yes									1
Sulfur Mustard	505-60-2	No	Yes									1
Sulfur Trioxide	7446-11-9	No	Yes							1.00E-03	U	1
Sulfuric Acid	7664-93-9	No	No							1.00E-03	U	1
Systhane	88671-89-0	No	No					2.50E-02	U			1
TCDD, 2,3,7,8-	1746-01-6	No	Yes	1.30E+05	U	3.80E+01	U	7.00E-10	U	4.00E-08	U	1
TCDF, 2,3,7,8-	51207-31-9	No	Yes	1.30E+04	U	3.80E+00	U	7.00E-09	U	4.00E-07	U	1
TCMTB	21564-17-0	No	No					3.00E-02	U			1
Tebuthiuron	34014-18-1	No	No					7.00E-02	U			1
Technetium	7440-26-8	No	No									1
Tellurium	13494-80-9	No	No									1
Temephos	3383-96-8	No	No					2.00E-02	U			1
Terbacil	5902-51-2	No	No					1.30E-02	U			1
Terbufos	13071-79-9	No	Yes					2.50E-05	U			1
Terbutryn	886-50-0	No	No					1.00E-03	U			1
Tetrabutyl Lead	1920-90-7	No	Yes									1
Tetrachloroaniline, 2,3,5,6-	3481-20-7	No	No									1
Tetrachlorobenzene, 1,2,3,4-	634-66-2	No	Yes									1
Tetrachlorobenzene, 1,2,4,5-	95-94-3	No	Yes					3.00E-04	U			1
Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	32598-13-3	No	No	1.30E+01	U	3.80E-03	U	7.00E-06	U	4.00E-04	U	1
Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	70362-50-4	No	Yes	3.90E+01	U	1.14E-02	U	2.33E-06	U	1.33E-04	U	1
Tetrachloroethane, 1,1,1,2-	630-20-6	No	Yes	2.60E-02	U	7.40E-06	U	3.00E-02	U			1

Site-specific
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Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Sodium tripolyphosphate	7758-29-4		1			3.23E+09					
Stearyl Acetate	822-23-1		1	8.92E+04		3.23E+09					
Stirofos (Tetrachlorovinphos)	961-11-5	0.1	1			3.23E+09	8.14E+02	2.85E+03		6.33E+02	
Strontium Chromate	7789-06-2		1			3.23E+09	1.33E+01		3.00E+03	1.32E+01	
Strontium, Stable	7440-24-6		1			3.23E+09					
Strychnine	57-24-9	0.1	1			3.23E+09					
Styrene	100-42-5		1	1.29E+04	8.67E+02	3.23E+09					
Styrene-Acrylonitrile (SAN) Trimer	NA	0.1	1			3.23E+09					
Sulfate	14808-79-8		1			3.23E+09					
Sulfide	18496-25-8		1			3.23E+09					
Sulfolane	126-33-0	0.1	1			3.23E+09					
Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9	0.1	1			3.23E+09					
Sulfur	7704-34-9		1			3.23E+09					
Sulfur Dioxide	7446-09-5		1			3.23E+09					
Sulfur Mustard	505-60-2		1	1.21E+05	1.08E+03	3.23E+09					
Sulfur Trioxide	7446-11-9		1			3.23E+09					
Sulfuric Acid	7664-93-9		1			3.23E+09					
Systhane	88671-89-0	0.1	1			3.23E+09					
TCDD, 2,3,7,8-	1746-01-6	0.03	1	2.71E+06		3.23E+09	1.50E-04	1.75E-03	1.82E-02	1.37E-04	
TCDF, 2,3,7,8-	51207-31-9	0.03	1	4.72E+06		3.23E+09	1.50E-03	1.75E-02	3.17E-01	1.38E-03	
TCMTB	21564-17-0	0.1	1			3.23E+09					
Tebuthiuron	34014-18-1	0.1	1			3.23E+09					
Technetium	7440-26-8		1			3.23E+09					
Tellurium	13494-80-9		1			3.23E+09					
Temephos	3383-96-8	0.1	1			3.23E+09					
Terbacil	5902-51-2	0.1	1			3.23E+09					
Terbufos	13071-79-9		1	3.64E+05	3.09E+01	3.23E+09					
Terbutryn	886-50-0	0.1	1			3.23E+09					
Tetrabutyl Lead	1920-90-7		1	6.41E+03		3.23E+09					
Tetrachloroaniline, 2,3,5,6-	3481-20-7	0.1	1			3.23E+09					
Tetrachlorobenzene, 1,2,3,4-	634-66-2		1	8.26E+04		3.23E+09					
Tetrachlorobenzene, 1,2,4,5-	95-94-3		1	6.99E+04		3.23E+09					
Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	32598-13-3	0.14	1			3.23E+09	1.50E+00	3.76E+00	2.17E+05	1.07E+00	
Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	70362-50-4	0.14	1	1.00E+06		3.23E+09	5.01E-01	1.25E+00	2.24E+01	3.52E-01	
Tetrachloroethane, 1,1,1,2-	630-20-6		1	7.83E+03	6.80E+02	3.23E+09	7.52E+02		2.70E+02	1.99E+02	

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Sodium tripolyphosphate	7758-29-4				3.26E+08			3.26E+08	3.26E+08 max
Stearyl Acetate	822-23-1								
Stirofos (Tetrachlorovinphos)	961-11-5				2.01E+05	7.03E+05		1.56E+05	6.33E+02 ca
Strontium Chromate	7789-06-2				1.34E+05		5.66E+07	1.34E+05	1.32E+01 ca
Strontium, Stable	7440-24-6				4.02E+06			4.02E+06	4.02E+06 max
Strychnine	57-24-9				2.01E+03	7.03E+03		1.56E+03	1.56E+03 nc
Styrene	100-42-5				1.34E+06		1.13E+06	6.14E+05	6.14E+05 sat
Styrene-Acrylonitrile (SAN) Trimer	NA				2.01E+04	7.03E+04		1.56E+04	1.56E+04 nc
Sulfate	14808-79-8								
Sulfide	18496-25-8								
Sulfolane	126-33-0				6.70E+03	2.34E+04	5.66E+08	5.21E+03	5.21E+03 nc
Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9				5.36E+03	1.88E+04		4.17E+03	4.17E+03 nc
Sulfur	7704-34-9								
Sulfur Dioxide	7446-09-5								
Sulfur Mustard	505-60-2								
Sulfur Trioxide	7446-11-9						2.83E+08	2.83E+08	2.83E+08 max
Sulfuric Acid	7664-93-9						2.83E+08	2.83E+08	2.83E+08 max
Systhane	88671-89-0				1.68E+05	5.86E+05		1.30E+05	1.30E+05 max
TCDD, 2,3,7,8-	1746-01-6				4.69E-03	5.47E-02	9.48E+00	4.32E-03	1.37E-04 ca*
TCDF, 2,3,7,8-	51207-31-9				4.69E-02	5.47E-01	1.65E+02	4.32E-02	1.38E-03 ca*
TCMTB	21564-17-0				2.01E+05	7.03E+05		1.56E+05	1.56E+05 max
Tebuthiuron	34014-18-1				4.69E+05	1.64E+06		3.65E+05	3.65E+05 max
Technetium	7440-26-8								
Tellurium	13494-80-9								
Temephos	3383-96-8				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Terbacil	5902-51-2				8.71E+04	3.05E+05		6.78E+04	6.78E+04 nc
Terbufos	13071-79-9				1.68E+02			1.68E+02	1.68E+02 sat
Terbutryn	886-50-0				6.70E+03	2.34E+04		5.21E+03	5.21E+03 nc
Tetrabutyl Lead	1920-90-7								
Tetrachloroaniline, 2,3,5,6-	3481-20-7								
Tetrachlorobenzene, 1,2,3,4-	634-66-2								
Tetrachlorobenzene, 1,2,4,5-	95-94-3				2.01E+03			2.01E+03	2.01E+03 nc
Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	32598-13-3				4.69E+01	1.17E+02	1.13E+08	3.35E+01	1.07E+00 ca*
Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	70362-50-4				1.56E+01	3.90E+01	1.17E+04	1.11E+01	3.52E-01 ca*
Tetrachloroethane, 1,1,1,2-	630-20-6				2.01E+05			2.01E+05	1.99E+02 ca

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Tetrachloroethane, 1,1,2,2-	79-34-5	No	Yes	2.00E-01	U	5.80E-05	U	2.00E-02	U			1
Tetrachloroethylene	127-18-4	No	Yes	2.10E-03	U	2.60E-07	U	6.00E-03	U	4.00E-02	U	1
Tetrachlorophenol, 2,3,4,5-	4901-51-3	No	No									1
Tetrachlorophenol, 2,3,4,6-	58-90-2	No	No					3.00E-02	U			1
Tetrachlorophenols (total)	25167-83-3	No	No									1
Tetrachloroterephthalate, 2,3,5,6-	2136-79-0	No	No									1
Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1	No	Yes	2.00E+01	U							1
Tetraethyl Dithiopyrophosphate	3689-24-5	No	No					5.00E-04	U			1
Tetraethyl Lead	78-00-2	No	Yes					1.00E-07	U			1
Tetrafluoroethane, 1,1,1,2-	811-97-2	No	Yes							8.00E+01	U	1
Tetrahydrofuran	109-99-9	No	Yes					9.00E-01	U	2.00E+00	U	1
Tetrahydrothiophene	110-01-0	No	Yes									1
Tetramethyl Lead	75-74-1	No	Yes									1
Tetramethylcyclohexane	30501-43-0	No	Yes									1
Tetrapotassium phosphate	7320-34-5	No	No					4.86E+01	U			1
Tetrapropyl Lead	3440-75-3	No	Yes									1
Tetrasodium pyrophosphate	7722-88-5	No	No					4.86E+01	U			1
Tetryl (Trinitrophenylmethylnitramine)	479-45-8	No	No					2.00E-03	U			1
Thallic Oxide	1314-32-5	No	No									1
Thallium (I) Nitrate	10102-45-1	No	No					7.00E-06	U			1
Thallium (Soluble Salts)	7440-28-0	No	No					1.00E-05	U			1
Thallium Acetate	563-68-8	No	No					6.00E-06	U			1
Thallium Carbonate	6533-73-9	No	No					2.00E-05	U			1
Thallium Chloride	7791-12-0	No	No					6.00E-06	U			1
Thallium Selenite	12039-52-0	No	No									1
Thallium Sulfate	7446-18-6	No	No					2.00E-05	U			1
Thiobencarb	28249-77-6	No	No					1.00E-02	U			1
Thiocyanates	NA	No	No					2.00E-04	U			1
Thiocyanic Acid	463-56-9	No	Yes					2.00E-04	U			1
Thiodiglycol	111-48-8	No	No					7.00E-02	U			1
Thiofanox	39196-18-4	No	No					3.00E-04	U			1
Thiophanate, Methyl	23564-05-8	No	No					8.00E-02	U			1
Thiophene	110-02-1	No	Yes									1
Thiram	137-26-8	No	No					5.00E-03	U			1
Thorium	NA	No	No									1

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Tetrachloroethane, 1,1,2,2-	79-34-5		1	2.08E+04	1.90E+03	3.23E+09	9.77E+01		9.18E+01	4.73E+01	
Tetrachloroethylene	127-18-4		1	3.24E+03	1.66E+02	3.23E+09	9.31E+03		3.18E+03	2.37E+03	
Tetrachlorophenol, 2,3,4,5-	4901-51-3	0.1	1			3.23E+09					
Tetrachlorophenol, 2,3,4,6-	58-90-2	0.1	1			3.23E+09					
Tetrachlorophenols (total)	25167-83-3	0.1	1			3.23E+09					
Tetrachloroterephthalate, 2,3,5,6-	2136-79-0	0.1	1			3.23E+09					
Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1		1	1.46E+05		3.23E+09	9.77E-01			9.77E-01	
Tetraethyl Dithiopyrophosphate	3689-24-5	0.1	1			3.23E+09					
Tetraethyl Lead	78-00-2		1	2.64E+03	2.43E+00	3.23E+09					
Tetrafluoroethane, 1,1,1,2-	811-97-2		1	1.68E+03	1.09E+03	3.23E+09					
Tetrahydrofuran	109-99-9	0.03	1	1.69E+04	1.65E+05	3.23E+09					
Tetrahydrothiophene	110-01-0		1	1.81E+04	3.44E+03	3.23E+09					
Tetramethyl Lead	75-74-1		1	1.89E+03	3.64E+01	3.23E+09					
Tetramethylcyclohexane	30501-43-0		1			3.23E+09					
Tetrapotassium phosphate	7320-34-5		1			3.23E+09					
Tetrapropyl Lead	3440-75-3		1	3.65E+03		3.23E+09					
Tetrasodium pyrophosphate	7722-88-5		1			3.23E+09					
Tetryl (Trinitrophenylmethylnitramine)	479-45-8	0.00065	1			3.23E+09					
Thallic Oxide	1314-32-5		1			3.23E+09					
Thallium (I) Nitrate	10102-45-1		1			3.23E+09					
Thallium (Soluble Salts)	7440-28-0		1			3.23E+09					
Thallium Acetate	563-68-8	0.1	1			3.23E+09					
Thallium Carbonate	6533-73-9	0.1	1			3.23E+09					
Thallium Chloride	7791-12-0		1			3.23E+09					
Thallium Selenite	12039-52-0		1			3.23E+09					
Thallium Sulfate	7446-18-6		1			3.23E+09					
Thiobencarb	28249-77-6	0.1	1			3.23E+09					
Thiocyanates	NA		1			3.23E+09					
Thiocyanic Acid	463-56-9		1			3.23E+09					
Thiodiglycol	111-48-8	0.0075	1			3.23E+09					
Thiofanox	39196-18-4	0.1	1			3.23E+09					
Thiophanate, Methyl	23564-05-8	0.1	1			3.23E+09					
Thiophene	110-02-1		1	5.77E+03	1.80E+03	3.23E+09					
Thiram	137-26-8	0.1	1			3.23E+09					
Thorium	NA		1			3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Tetrachloroethane, 1,1,2,2-	79-34-5				1.34E+05			1.34E+05	4.73E+01 ca
Tetrachloroethylene	127-18-4				4.02E+04		1.13E+04	8.85E+03	2.37E+03 sat
Tetrachlorophenol, 2,3,4,5-	4901-51-3								
Tetrachlorophenol, 2,3,4,6-	58-90-2				2.01E+05	7.03E+05		1.56E+05	1.56E+05 max
Tetrachlorophenols (total)	25167-83-3								
Tetrachloroterephthalate, 2,3,5,6-	2136-79-0								
Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1								9.77E-01 ca
Tetraethyl Dithiopyrophosphate	3689-24-5				3.35E+03	1.17E+04		2.61E+03	2.61E+03 nc
Tetraethyl Lead	78-00-2				6.70E-01			6.70E-01	6.70E-01 nc
Tetrafluoroethane, 1,1,1,2-	811-97-2						1.18E+07	1.18E+07	1.18E+07 sat
Tetrahydrofuran	109-99-9				6.03E+06	7.03E+07	2.95E+06	1.93E+06	1.93E+06 sat
Tetrahydrothiophene	110-01-0								
Tetramethyl Lead	75-74-1								
Tetramethylcyclohexane	30501-43-0								
Tetrapotassium phosphate	7320-34-5				3.26E+08			3.26E+08	3.26E+08 max
Tetrapropyl Lead	3440-75-3								
Tetrasodium pyrophosphate	7722-88-5				3.26E+08			3.26E+08	3.26E+08 max
Tetryl (Trinitrophenylmethylnitramine)	479-45-8				1.34E+04	7.22E+06		1.34E+04	1.34E+04 nc
Thallic Oxide	1314-32-5								
Thallium (I) Nitrate	10102-45-1				4.69E+01			4.69E+01	4.69E+01 nc
Thallium (Soluble Salts)	7440-28-0				6.70E+01			6.70E+01	6.70E+01 nc
Thallium Acetate	563-68-8				4.02E+01	1.41E+02		3.13E+01	3.13E+01 nc
Thallium Carbonate	6533-73-9				1.34E+02	4.69E+02		1.04E+02	1.04E+02 nc
Thallium Chloride	7791-12-0				4.02E+01			4.02E+01	4.02E+01 nc
Thallium Selenite	12039-52-0								
Thallium Sulfate	7446-18-6				1.34E+02			1.34E+02	1.34E+02 nc
Thiobencarb	28249-77-6				6.70E+04	2.34E+05		5.21E+04	5.21E+04 nc
Thiocyanates	NA				1.34E+03			1.34E+03	1.34E+03 nc
Thiocyanic Acid	463-56-9				1.34E+03			1.34E+03	1.34E+03 nc
Thiodiglycol	111-48-8				4.69E+05	2.19E+07		4.59E+05	4.59E+05 max
Thiofanox	39196-18-4				2.01E+03	7.03E+03		1.56E+03	1.56E+03 nc
Thiophanate, Methyl	23564-05-8				5.36E+05	1.88E+06		4.17E+05	4.17E+05 max
Thiophene	110-02-1								
Thiram	137-26-8				3.35E+04	1.17E+05		2.61E+04	2.61E+04 nc
Thorium	NA								

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Thymol	89-83-8	No	No									1
Tin	7440-31-5	No	No					6.00E-01	U			1
Titanium	7440-32-6	No	No									1
Titanium Tetrachloride	7550-45-0	No	Yes							1.00E-04	U	1
Toluene	108-88-3	No	Yes					8.00E-02	U	5.00E+00	U	1
Toluene-2,5-diamine	95-70-5	No	No	1.80E-01	U			2.00E-04	U			1
Toluenediamine, 2,3-	2687-25-4	No	No									1
Toluenediamine, 3,4-	496-72-0	No	No									1
Toluidine, p-	106-49-0	No	No	3.00E-02	U			4.00E-03	U			1
Total Petroleum Hydrocarbons (Aliphatic High)	NA	No	Yes					3.00E+00	U			1
Total Petroleum Hydrocarbons (Aliphatic Low)	NA	No	Yes							6.00E-01	U	1
Total Petroleum Hydrocarbons (Aliphatic Medium)	NA	No	Yes					1.00E-02	U	1.00E-01	U	1
Total Petroleum Hydrocarbons (Aromatic High)	NA	No	No					4.00E-02	U			1
Total Petroleum Hydrocarbons (Aromatic Low)	NA	No	Yes					4.00E-03	U	3.00E-02	U	1
Total Petroleum Hydrocarbons (Aromatic Medium)	NA	No	Yes					4.00E-03	U	3.00E-03	U	1
Toxaphene	8001-35-2	No	No	1.10E+00	U	3.20E-04	U					1
Tralomethrin	66841-25-6	No	No					7.50E-03	U			1
Tri-n-butyltin	688-73-3	No	Yes					3.00E-04	U			1
Triacetin	102-76-1	No	No					8.00E+01	U			1
Triallate	2303-17-5	No	Yes					1.30E-02	U			1
Trialuminum sodium tetra decahydrogenoctaorthophosphate (dihydrate)	15136-87-5	No	No					4.86E+01	U			1
Triasulfuron	82097-50-5	No	No					1.00E-02	U			1
Triaziquone	68-76-8	No	No									1
Tribromobenzene, 1,2,4-	615-54-3	No	Yes					5.00E-03	U			1
Tribromochloromethane	594-15-0	No	Yes									1
Tribromodiphenyl Ether	49690-94-0	No	Yes									1
Tribromophenol, 2,4,6-	118-79-6	No	No									1
Tributyl Phosphate	126-73-8	No	No	9.00E-03	U			1.00E-02	U			1
Tributyltin	56573-85-4	No	Yes									1
Tributyltin Compounds	NA	No	No					3.00E-04	U			1
Tributyltin Oxide	56-35-9	No	No					3.00E-04	U			1
Tributyltin chloride	1461-22-9	No	Yes									1

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Thymol	89-83-8	0.1	1			3.23E+09					
Tin	7440-31-5		1			3.23E+09					
Titanium	7440-32-6		1			3.23E+09					
Titanium Tetrachloride	7550-45-0		1			3.23E+09					
Toluene	108-88-3		1	5.92E+03	8.18E+02	3.23E+09					
Toluene-2,5-diamine	95-70-5	0.1	1			3.23E+09	1.09E+02	3.80E+02		8.45E+01	
Toluenediamine, 2,3-	2687-25-4	0.1	1			3.23E+09					
Toluenediamine, 3,4-	496-72-0	0.1	1			3.23E+09					
Toluidine, p-	106-49-0	0.1	1			3.23E+09	6.52E+02	2.28E+03		5.07E+02	
Total Petroleum Hydrocarbons (Aliphatic High)	NA		1	1.46E+03	3.41E-01	3.23E+09					
Total Petroleum Hydrocarbons (Aliphatic Low)	NA		1	1.14E+03	1.41E+02	3.23E+09					
Total Petroleum Hydrocarbons (Aliphatic Medium)	NA		1	1.44E+03	6.86E+00	3.23E+09					
Total Petroleum Hydrocarbons (Aromatic High)	NA	0.1	1			3.23E+09					
Total Petroleum Hydrocarbons (Aromatic Low)	NA		1	4.88E+03	1.82E+03	3.23E+09					
Total Petroleum Hydrocarbons (Aromatic Medium)	NA		1	7.23E+04		3.23E+09					
Toxaphene	8001-35-2	0.1	1			3.23E+09	1.78E+01	6.22E+01	2.58E+06	1.38E+01	
Tralomethrin	66841-25-6	0.1	1			3.23E+09					
Tri-n-butyltin	688-73-3		1	4.63E+03		3.23E+09					
Triacetin	102-76-1	0.1	1			3.23E+09					
Triallate	2303-17-5		1	5.00E+05		3.23E+09					
Trialuminum sodium tetra decahydrogenoctaorthophosphate (dihydrate)	15136-87-5		1			3.23E+09					
Triasulfuron	82097-50-5	0.1	1			3.23E+09					
Triaziquone	68-76-8	0.1	1			3.23E+09					
Tribromobenzene, 1,2,4-	615-54-3		1	6.24E+04		3.23E+09					
Tribromochloromethane	594-15-0		1	5.65E+04		3.23E+09					
Tribromodiphenyl Ether	49690-94-0		1	1.07E+06		3.23E+09					
Tribromophenol, 2,4,6-	118-79-6	0.1	1			3.23E+09					
Tributyl Phosphate	126-73-8	0.1	1			3.23E+09	2.17E+03	7.60E+03		1.69E+03	
Tributyltin	56573-85-4		1	4.95E+04		3.23E+09					
Tributyltin Compounds	NA	0.1	1			3.23E+09					
Tributyltin Oxide	56-35-9	0.1	1			3.23E+09					
Tributyltin chloride	1461-22-9		1	5.94E+03		3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Thymol	89-83-8								
Tin	7440-31-5				4.02E+06			4.02E+06	4.02E+06 max
Titanium	7440-32-6								
Titanium Tetrachloride	7550-45-0						2.83E+07	2.83E+07	2.83E+07 max
Toluene	108-88-3				5.36E+05		2.59E+06	4.44E+05	4.44E+05 sat
Toluene-2,5-diamine	95-70-5				1.34E+03	4.69E+03		1.04E+03	8.45E+01 ca*
Toluenediamine, 2,3-	2687-25-4								
Toluenediamine, 3,4-	496-72-0								
Toluidine, p-	106-49-0				2.68E+04	9.38E+04		2.08E+04	5.07E+02 ca*
Total Petroleum Hydrocarbons (Aliphatic High)	NA				2.01E+07			2.01E+07	2.01E+07 sat
Total Petroleum Hydrocarbons (Aliphatic Low)	NA						6.01E+04	6.01E+04	6.01E+04 sat
Total Petroleum Hydrocarbons (Aliphatic Medium)	NA				6.70E+04		1.26E+04	1.06E+04	1.06E+04 sat
Total Petroleum Hydrocarbons (Aromatic High)	NA				2.68E+05	9.38E+05		2.08E+05	2.08E+05 max
Total Petroleum Hydrocarbons (Aromatic Low)	NA				2.68E+04		1.28E+04	8.67E+03	8.67E+03 sat
Total Petroleum Hydrocarbons (Aromatic Medium)	NA				2.68E+04		1.90E+04	1.11E+04	1.11E+04 nc
Toxaphene	8001-35-2								1.38E+01 ca
Tralomethrin	66841-25-6				5.03E+04	1.76E+05		3.91E+04	3.91E+04 nc
Tri-n-butyltin	688-73-3				2.01E+03			2.01E+03	2.01E+03 nc
Triacetin	102-76-1				5.36E+08	1.88E+09		4.17E+08	4.17E+08 max
Triallate	2303-17-5				8.71E+04			8.71E+04	8.71E+04 nc
Trialuminum sodium tetra decahydrogenoctaorthophosphate (dihydrate)	15136-87-5				3.26E+08			3.26E+08	3.26E+08 max
Triasulfuron	82097-50-5				6.70E+04	2.34E+05		5.21E+04	5.21E+04 nc
Triaziquone	68-76-8								
Tribromobenzene, 1,2,4-	615-54-3				3.35E+04			3.35E+04	3.35E+04 nc
Tribromochloromethane	594-15-0								
Tribromodiphenyl Ether	49690-94-0								
Tribromophenol, 2,4,6-	118-79-6								
Tributyl Phosphate	126-73-8				6.70E+04	2.34E+05		5.21E+04	1.69E+03 ca*
Tributyltin	56573-85-4								
Tributyltin Compounds	NA				2.01E+03	7.03E+03		1.56E+03	1.56E+03 nc
Tributyltin Oxide	56-35-9				2.01E+03	7.03E+03		1.56E+03	1.56E+03 nc
Tributyltin chloride	1461-22-9								

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Tributyltin fluoride	1983-10-4	No	Yes									1
Tributyltin linoleate	24124-25-2	No	Yes									1
Tributyltin methacrylate	2155-70-6	No	Yes									1
Tributyltin naphthenate	85409-17-2	No	No									1
Tricaine Methanesulfonate	886-86-2	No	No									1
Tricalcium phosphate	7758-87-4	No	No					4.86E+01	U			1
Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1	No	Yes					3.00E+01	U	3.00E+01	U	1
Trichloro-2'-hydroxydiphenylether	3380-34-5	No	No									1
Trichloroacetic Acid	76-03-9	No	No	7.00E-02	U			2.00E-02	U			1
Trichloroaniline HCl, 2,4,6-	33663-50-2	No	No	2.90E-02	U							1
Trichloroaniline, 2,4,5-	636-30-6	No	No									1
Trichloroaniline, 2,4,6-	634-93-5	No	No	7.00E-03	U			3.00E-05	U			1
Trichlorobenzene	12002-48-1	No	Yes									1
Trichlorobenzene, 1,2,3-	87-61-6	No	Yes					8.00E-04	U			1
Trichlorobenzene, 1,2,4-	120-82-1	No	Yes	2.90E-02	U			1.00E-02	U	2.00E-03	U	1
Trichloroethane, 1,1,1-	71-55-6	No	Yes					2.00E+00	U	5.00E+00	U	1
Trichloroethane, 1,1,2-	79-00-5	No	Yes	5.70E-02	U	1.60E-05	U	4.00E-03	U	2.00E-04	U	1
Trichloroethylene	79-01-6	Yes	Yes	4.60E-02	U	4.10E-06	U	5.00E-04	U	2.00E-03	U	1
Trichlorofluoromethane	75-69-4	No	Yes					3.00E-01	U	7.00E-01	U	1
Trichlorophenol, 2,4,5-	95-95-4	No	No					1.00E-01	U			1
Trichlorophenol, 2,4,6-	88-06-2	No	No	1.10E-02	U	3.10E-06	U	1.00E-03	U			1
Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5	No	No					1.00E-02	U			1
Trichlorophenoxyacetic acid, 2,4,5- Amine Salts, PARENT (2,4,5-T)	NA	No	No									1
Trichlorophenoxypropionic acid, -2,4,5	93-72-1	No	No					8.00E-03	U			1
Trichloropropane, 1,1,2-	598-77-6	No	Yes					5.00E-03	U			1
Trichloropropane, 1,2,3-	96-18-4	Yes	Yes	3.00E+01	U			4.00E-03	U	3.00E-04	U	1
Trichloropropene, 1,2,3-	96-19-5	No	Yes					3.00E-03	U	3.00E-04	U	1
Trichlorotoluene, 2,3,6-	2077-46-5	No	Yes									1
Trichlorotoluene, alpha 2,6-	2014-83-7	No	Yes									1
Triclorophenols (total)	NA	No	No									1
Tricresyl Phosphate (TCP)	1330-78-5	No	No					2.00E-02	U			1
Tridiphane	58138-08-2	No	No					3.00E-03	U			1
Tridymite	15468-32-3	Yes	No									1
Triethyl Lead	5224-23-7	No	Yes									1

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Tributyltin fluoride	1983-10-4		1	8.59E+03		3.23E+09					
Tributyltin linoleate	24124-25-2		1	1.67E+05		3.23E+09					
Tributyltin methacrylate	2155-70-6		1	1.41E+04		3.23E+09					
Tributyltin naphthenate	85409-17-2	0.1	1			3.23E+09					
Tricaine Methanesulfonate	886-86-2	0.1	1			3.23E+09					
Tricalcium phosphate	7758-87-4		1			3.23E+09					
Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1		1	1.77E+03	9.10E+02	3.23E+09					
Trichloro-2'-hydroxydiphenylether	3380-34-5	0.1	1			3.23E+09					
Trichloroacetic Acid	76-03-9	0.1	1			3.23E+09	2.79E+02	9.77E+02		2.17E+02	
Trichloroaniline HCl, 2,4,6-	33663-50-2	0.1	1			3.23E+09	6.74E+02	2.36E+03		5.24E+02	
Trichloroaniline, 2,4,5-	636-30-6	0.1	1			3.23E+09					
Trichloroaniline, 2,4,6-	634-93-5	0.1	1			3.23E+09	2.79E+03	9.77E+03		2.17E+03	
Trichlorobenzene	12002-48-1		1	3.55E+04		3.23E+09					
Trichlorobenzene, 1,2,3-	87-61-6		1	4.44E+04		3.23E+09					
Trichlorobenzene, 1,2,4-	120-82-1		1	4.13E+04	4.05E+02	3.23E+09	6.74E+02			6.74E+02	
Trichloroethane, 1,1,1-	71-55-6		1	2.27E+03	6.40E+02	3.23E+09					
Trichloroethane, 1,1,2-	79-00-5		1	9.95E+03	2.16E+03	3.23E+09	3.43E+02		1.59E+02	1.09E+02	
Trichloroethylene	79-01-6		1	3.04E+03	6.92E+02	3.23E+09	3.04E+02		1.58E+02	1.04E+02	
Trichlorofluoromethane	75-69-4		1	1.43E+03	1.23E+03	3.23E+09					
Trichlorophenol, 2,4,5-	95-95-4	0.1	1			3.23E+09					
Trichlorophenol, 2,4,6-	88-06-2	0.1	1			3.23E+09	1.78E+03	6.22E+03	2.66E+08	1.38E+03	
Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5	0.1	1			3.23E+09					
Trichlorophenoxyacetic acid, 2,4,5- Amine Salts, PARENT (2,4,5-T)	NA		1			3.23E+09					
Trichlorophenoxypropionic acid, -2,4,5	93-72-1	0.1	1			3.23E+09					
Trichloropropane, 1,1,2-	598-77-6		1	2.07E+04	1.28E+03	3.23E+09					
Trichloropropane, 1,2,3-	96-18-4		1	2.17E+04	1.40E+03	3.23E+09	2.21E-01			2.21E-01	
Trichloropropene, 1,2,3-	96-19-5		1	3.23E+03	4.51E+02	3.23E+09					
Trichlorotoluene, 2,3,6-	2077-46-5		1	5.83E+04		3.23E+09					
Trichlorotoluene, alpha 2,6-	2014-83-7		1	9.70E+04		3.23E+09					
Triclorophenols (total)	NA	0.1	1			3.23E+09					
Tricresyl Phosphate (TCP)	1330-78-5	0.1	1			3.23E+09					
Tridiphane	58138-08-2	0.1	1			3.23E+09					
Tridymite	15468-32-3		1			3.23E+09					
Triethyl Lead	5224-23-7		1	1.80E+03	5.67E+03	3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Tributyltin fluoride	1983-10-4								
Tributyltin linoleate	24124-25-2								
Tributyltin methacrylate	2155-70-6								
Tributyltin naphthenate	85409-17-2								
Tricaine Methanesulfonate	886-86-2								
Tricalcium phosphate	7758-87-4				3.26E+08			3.26E+08	3.26E+08 max
Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1				2.01E+08		4.66E+06	4.55E+06	4.55E+06 sat
Trichloro-2'-hydroxydiphenylether	3380-34-5								
Trichloroacetic Acid	76-03-9				1.34E+05	4.69E+05		1.04E+05	2.17E+02 ca
Trichloroaniline HCl, 2,4,6-	33663-50-2								5.24E+02 ca
Trichloroaniline, 2,4,5-	636-30-6								
Trichloroaniline, 2,4,6-	634-93-5				2.01E+02	7.03E+02		1.56E+02	1.56E+02 nc
Trichlorobenzene	12002-48-1								
Trichlorobenzene, 1,2,3-	87-61-6				5.36E+03			5.36E+03	5.36E+03 nc
Trichlorobenzene, 1,2,4-	120-82-1				6.70E+04		7.24E+03	6.53E+03	6.74E+02 sat
Trichloroethane, 1,1,1-	71-55-6				1.34E+07		9.96E+05	9.27E+05	9.27E+05 sat
Trichloroethane, 1,1,2-	79-00-5				2.68E+04		1.74E+02	1.73E+02	1.09E+02 ca**
Trichloroethylene	79-01-6				3.35E+03		5.33E+02	4.60E+02	1.04E+02 ca**
Trichlorofluoromethane	75-69-4				2.01E+06		8.76E+04	8.39E+04	8.39E+04 sat
Trichlorophenol, 2,4,5-	95-95-4				6.70E+05	2.34E+06		5.21E+05	5.21E+05 max
Trichlorophenol, 2,4,6-	88-06-2				6.70E+03	2.34E+04		5.21E+03	1.38E+03 ca**
Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5				6.70E+04	2.34E+05		5.21E+04	5.21E+04 nc
Trichlorophenoxyacetic acid, 2,4,5- Amine Salts, PARENT (2,4,5-T)	NA								
Trichlorophenoxypropionic acid, -2,4,5	93-72-1				5.36E+04	1.88E+05		4.17E+04	4.17E+04 nc
Trichloropropane, 1,1,2-	598-77-6				3.35E+04			3.35E+04	3.35E+04 sat
Trichloropropane, 1,2,3-	96-18-4				2.68E+04		5.70E+02	5.58E+02	2.21E-01 ca
Trichloropropene, 1,2,3-	96-19-5				2.01E+04		8.48E+01	8.44E+01	8.44E+01 nc
Trichlorotoluene, 2,3,6-	2077-46-5								
Trichlorotoluene, alpha 2,6-	2014-83-7								
Triclorophenols (total)	NA								
Tricresyl Phosphate (TCP)	1330-78-5				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Tridiphane	58138-08-2				2.01E+04	7.03E+04		1.56E+04	1.56E+04 nc
Tridymite	15468-32-3								
Triethyl Lead	5224-23-7								

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Triethyl phosphorothioate [O,O,O-]	126-68-1	No	Yes									1
Triethylamine	121-44-8	No	Yes							7.00E-03	U	1
Triethylene Glycol	112-27-6	No	No					2.00E+00	U			1
Trifluralin	1582-09-8	No	Yes	7.70E-03	U			7.50E-03	U			1
Trimagnesium phosphate	7757-87-1	No	No					4.86E+01	U			1
Trimethyl Lead	7442-13-9	No	Yes									1
Trimethyl Phosphate	512-56-1	No	No	2.00E-02	U			1.00E-02	U			1
Trimethyl-4-Propenylnaphthalene, 1,2,3-	26137-53-1	No	Yes									1
Trimethylbenzene, 1,2,3-	526-73-8	No	Yes							5.00E-03	U	1
Trimethylbenzene, 1,2,4-	95-63-6	No	Yes							7.00E-03	U	1
Trimethylbenzene, 1,3,5-	108-67-8	No	Yes					1.00E-02	U			1
Trimethylethyl Lead	1762-26-1	No	Yes									1
Trimethylpentane, 2,2,4-	540-84-1	No	Yes									1
Trinitrobenzene, 1,3,5-	99-35-4	No	No					3.00E-02	U			1
Trinitrotoluene, 2,4,6-	118-96-7	No	No	3.00E-02	U			5.00E-04	U			1
Triphenylphosphine Oxide	791-28-6	No	No					2.00E-02	U			1
Triphenyltin	668-34-8	No	Yes									1
Tripotassium phosphate	7778-53-2	No	No					4.86E+01	U			1
Tripropyl Lead	6618-03-7	No	Yes									1
Tris(1,3-Dichloro-2-propyl) Phosphate	13674-87-8	No	No					2.00E-02	U			1
Tris(1-chloro-2-propyl)phosphate	13674-84-5	No	No					1.00E-02	U			1
Tris(2,3-dibromopropyl)phosphate	126-72-7	No	Yes	2.30E+00	U	6.60E-04	U					1
Tris(2-chloroethyl)phosphate	115-96-8	No	No	2.00E-02	U			7.00E-03	U			1
Tris(2-ethylhexyl)phosphate	78-42-2	No	No	3.20E-03	U			1.00E-01	U			1
Trisbutoxyethyl Phosphate	78-51-3	No	No									1
Trisodium phosphate	7601-54-9	No	No					4.86E+01	U			1
Trithion	786-19-6	No	No									1
Tungsten	7440-33-7	No	No									1
Uranium (Soluble Salts)	NA	No	No					3.00E-03	U	4.00E-05	U	1
Urea	57-13-6	No	No									1
Urethane	51-79-6	Yes	No	1.00E+00	U	2.90E-04	U					1
Vanadium Pentoxide	1314-62-1	No	No			8.30E-03	U	9.00E-03	U	7.00E-06	U	0.026
Vanadium Sulfate	36907-42-3	No	No									0.026
Vanadium and Compounds	7440-62-2	No	No					5.04E-03	U	1.00E-04	U	0.026
Vanadyl Sulfate	27774-13-6	No	No									1

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Triethyl phosphorothioate [O,O,O-]	126-68-1		1	3.87E+04	4.67E+02	3.23E+09					
Triethylamine	121-44-8		1	2.18E+04	2.78E+04	3.23E+09					
Triethylene Glycol	112-27-6	0.1	1			3.23E+09					
Trifluralin	1582-09-8		1	7.07E+05		3.23E+09	2.54E+03			2.54E+03	
Trimagnesium phosphate	7757-87-1		1			3.23E+09					
Trimethyl Lead	7442-13-9		1	1.54E+03	6.92E+04	3.23E+09					
Trimethyl Phosphate	512-56-1	0.1	1			3.23E+09	9.77E+02	3.42E+03		7.60E+02	
Trimethyl-4-Propenylnaphthalene, 1,2,3-	26137-53-1		1	6.96E+05		3.23E+09					
Trimethylbenzene, 1,2,3-	526-73-8		1	1.30E+04	2.93E+02	3.23E+09					
Trimethylbenzene, 1,2,4-	95-63-6		1	1.09E+04	2.18E+02	3.23E+09					
Trimethylbenzene, 1,3,5-	108-67-8		1	9.11E+03	1.82E+02	3.23E+09					
Trimethylethyl Lead	1762-26-1		1	1.98E+03	2.51E+04	3.23E+09					
Trimethylpentane, 2,2,4-	540-84-1		1	1.29E+03	6.10E+01	3.23E+09					
Trinitrobenzene, 1,3,5-	99-35-4	0.019	1			3.23E+09					
Trinitrotoluene, 2,4,6-	118-96-7	0.032	1			3.23E+09	6.52E+02	7.12E+03		5.97E+02	
Triphenylphosphine Oxide	791-28-6	0.1	1			3.23E+09					
Triphenyltin	668-34-8		1	2.79E+06		3.23E+09					
Tripotassium phosphate	7778-53-2		1			3.23E+09					
Tripropyl Lead	6618-03-7		1	2.30E+03	5.57E+02	3.23E+09					
Tris(1,3-Dichloro-2-propyl) Phosphate	13674-87-8	0.1	1			3.23E+09					
Tris(1-chloro-2-propyl)phosphate	13674-84-5	0.1	1			3.23E+09					
Tris(2,3-dibromopropyl)phosphate	126-72-7		1	1.25E+06	4.67E+02	3.23E+09	8.50E+00		4.82E+02	8.35E+00	
Tris(2-chloroethyl)phosphate	115-96-8	0.1	1			3.23E+09	9.77E+02	3.42E+03		7.60E+02	
Tris(2-ethylhexyl)phosphate	78-42-2	0.1	1			3.23E+09	6.11E+03	2.14E+04		4.75E+03	
Trisbutoxyethyl Phosphate	78-51-3	0.1	1			3.23E+09					
Trisodium phosphate	7601-54-9		1			3.23E+09					
Trithion	786-19-6	0.1	1			3.23E+09					
Tungsten	7440-33-7		1			3.23E+09					
Uranium (Soluble Salts)	NA		1			3.23E+09					
Urea	57-13-6	0.1	1			3.23E+09					
Urethane	51-79-6	0.1	1			3.23E+09	6.64E+00	4.50E+01	1.55E+06	5.79E+00	
Vanadium Pentoxide	1314-62-1		1			3.23E+09			9.95E+04	9.95E+04	
Vanadium Sulfate	36907-42-3		1			3.23E+09					
Vanadium and Compounds	7440-62-2		1			3.23E+09					
Vanadyl Sulfate	27774-13-6		1			3.23E+09					

Site-specific
Recreator Screening Levels (RSL) for Soil
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Gu
Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Triethyl phosphorothioate [O,O,O-]	126-68-1								
Triethylamine	121-44-8						1.34E+04	1.34E+04	1.34E+04 nc
Triethylene Glycol	112-27-6				1.34E+07	4.69E+07		1.04E+07	1.04E+07 max
Trifluralin	1582-09-8				5.03E+04			5.03E+04	2.54E+03 ca*
Trimagnesium phosphate	7757-87-1				3.26E+08			3.26E+08	3.26E+08 max
Trimethyl Lead	7442-13-9								
Trimethyl Phosphate	512-56-1				6.70E+04	2.34E+05		5.21E+04	7.60E+02 ca*
Trimethyl-4-Propenylnaphthalene, 1,2,3-	26137-53-1								
Trimethylbenzene, 1,2,3-	526-73-8						5.70E+03	5.70E+03	5.70E+03 sat
Trimethylbenzene, 1,2,4-	95-63-6						6.69E+03	6.69E+03	6.69E+03 sat
Trimethylbenzene, 1,3,5-	108-67-8				6.70E+04			6.70E+04	6.70E+04 sat
Trimethylethyl Lead	1762-26-1								
Trimethylpentane, 2,2,4-	540-84-1								
Trinitrobenzene, 1,3,5-	99-35-4				2.01E+05	3.70E+06		1.91E+05	1.91E+05 max
Trinitrotoluene, 2,4,6-	118-96-7				3.35E+03	3.66E+04		3.07E+03	5.97E+02 ca**
Triphenylphosphine Oxide	791-28-6				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Triphenyltin	668-34-8								
Tripotassium phosphate	7778-53-2				3.26E+08			3.26E+08	3.26E+08 max
Tripropyl Lead	6618-03-7								
Tris(1,3-Dichloro-2-propyl) Phosphate	13674-87-8				1.34E+05	4.69E+05		1.04E+05	1.04E+05 max
Tris(1-chloro-2-propyl)phosphate	13674-84-5				6.70E+04	2.34E+05		5.21E+04	5.21E+04 nc
Tris(2,3-dibromopropyl)phosphate	126-72-7								8.35E+00 ca
Tris(2-chloroethyl)phosphate	115-96-8				4.69E+04	1.64E+05		3.65E+04	7.60E+02 ca*
Tris(2-ethylhexyl)phosphate	78-42-2				6.70E+05	2.34E+06		5.21E+05	4.75E+03 ca
Trisbutoxyethyl Phosphate	78-51-3								
Trisodium phosphate	7601-54-9				3.26E+08			3.26E+08	3.26E+08 max
Trithion	786-19-6								
Tungsten	7440-33-7								
Uranium (Soluble Salts)	NA				2.01E+04		1.13E+07	2.01E+04	2.01E+04 nc
Urea	57-13-6								
Urethane	51-79-6								5.79E+00 ca
Vanadium Pentoxide	1314-62-1				6.03E+04		1.98E+06	5.85E+04	5.85E+04 nc
Vanadium Sulfate	36907-42-3								
Vanadium and Compounds	7440-62-2				3.38E+04		2.83E+07	3.37E+04	3.37E+04 nc
Vanadyl Sulfate	27774-13-6								

Site-specific
Recreator Screening Levels (RSL) for Soil
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ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS
Vernolate	1929-77-7	No	Yes					1.00E-03	U			1
Vinclozolin	50471-44-8	No	No					2.50E-02	U			1
Vinyl Acetate	108-05-4	No	Yes					1.00E+00	U	2.00E-01	U	1
Vinyl Bromide	593-60-2	No	Yes			3.20E-05	U			3.00E-03	U	1
Vinyl Chloride	75-01-4	Yes	Yes	7.20E-01	U	4.40E-06	U	3.00E-03	U	1.00E-01	U	1
Warfarin	81-81-2	No	No					3.00E-04	U			1
Xylene, P-	106-42-3	No	Yes					2.00E-01	U	1.00E-01	U	1
Xylene, m-	108-38-3	No	Yes					2.00E-01	U	1.00E-01	U	1
Xylene, o-	95-47-6	No	Yes					2.00E-01	U	1.00E-01	U	1
Xylenes	1330-20-7	No	Yes					2.00E-01	U	1.00E-01	U	1
Ytterbium	7440-64-4	No	No									1
Yttrium	7440-65-5	No	No									1
Zinc Cyanide	557-21-1	No	No					5.00E-02	U			1
Zinc Phosphide	1314-84-7	No	No					3.00E-04	U			1
Zinc and Compounds	7440-66-6	No	No					3.00E-01	U			1
Zineb	12122-67-7	No	No					5.00E-02	U			1
Zirconium	7440-67-7	No	No					8.00E-05	U			1

Site-specific
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Smax=Soil SL exceeds ceiling limit and has been substituted with the max valu
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	ABS	rba	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL (Child) HQ=1 (mg/kg)
Vernolate	1929-77-7		1	1.70E+05		3.23E+09					
Vinclozolin	50471-44-8	0.1	1			3.23E+09					
Vinyl Acetate	108-05-4		1	6.06E+03	2.75E+03	3.23E+09					
Vinyl Bromide	593-60-2		1	1.89E+03	3.38E+03	3.23E+09			1.51E+01	1.51E+01	
Vinyl Chloride	75-01-4		1	1.32E+03	3.92E+03	3.23E+09	2.71E+01		2.98E-01	2.95E-01	
Warfarin	81-81-2	0.1	1			3.23E+09					
Xylene, P-	106-42-3		1	7.70E+03	3.89E+02	3.23E+09					
Xylene, m-	108-38-3		1	7.54E+03	3.87E+02	3.23E+09					
Xylene, o-	95-47-6		1	8.90E+03	4.34E+02	3.23E+09					
Xylenes	1330-20-7		1	8.93E+03	2.58E+02	3.23E+09					
Ytterbium	7440-64-4		1			3.23E+09					
Yttrium	7440-65-5		1			3.23E+09					
Zinc Cyanide	557-21-1		1			3.23E+09					
Zinc Phosphide	1314-84-7		1			3.23E+09					
Zinc and Compounds	7440-66-6		1			3.23E+09					
Zineb	12122-67-7	0.1	1			3.23E+09					
Zirconium	7440-67-7		1			3.23E+09					

Site-specific
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Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Dermal SL (Child) HQ=1 (mg/kg)	Inhalation SL (Child) HQ=1 (mg/kg)	Noncarcinogenic SL (Child) HI=1 (mg/kg)	Ingestion SL (Adult) HQ=1 (mg/kg)	Dermal SL (Adult) HQ=1 (mg/kg)	Inhalation SL (Adult) HQ=1 (mg/kg)	Noncarcinogenic SL (Adult) HI=1 (mg/kg)	Screening Level (mg/kg)
Vernolate	1929-77-7				6.70E+03			6.70E+03	6.70E+03 nc
Vinclozolin	50471-44-8				1.68E+05	5.86E+05		1.30E+05	1.30E+05 max
Vinyl Acetate	108-05-4				6.70E+06		1.06E+05	1.05E+05	1.05E+05 sat
Vinyl Bromide	593-60-2						4.96E+02	4.96E+02	1.51E+01 ca*
Vinyl Chloride	75-01-4				2.01E+04		1.15E+04	7.33E+03	2.95E-01 ca
Warfarin	81-81-2				2.01E+03	7.03E+03		1.56E+03	1.56E+03 nc
Xylene, P-	106-42-3				1.34E+06		6.75E+04	6.42E+04	6.42E+04 sat
Xylene, m-	108-38-3				1.34E+06		6.60E+04	6.29E+04	6.29E+04 sat
Xylene, o-	95-47-6				1.34E+06		7.80E+04	7.37E+04	7.37E+04 sat
Xylenes	1330-20-7				1.34E+06		7.82E+04	7.39E+04	7.39E+04 sat
Ytterbium	7440-64-4								
Yttrium	7440-65-5								
Zinc Cyanide	557-21-1				3.35E+05			3.35E+05	3.35E+05 max
Zinc Phosphide	1314-84-7				2.01E+03			2.01E+03	2.01E+03 nc
Zinc and Compounds	7440-66-6				2.01E+06			2.01E+06	2.01E+06 max
Zineb	12122-67-7				3.35E+05	1.17E+06		2.61E+05	2.61E+05 max
Zirconium	7440-67-7				5.36E+02			5.36E+02	5.36E+02 nc

General Statistics on Uncensored Data

Date/Time of Computation ########
User Selected Options
From File FTMM14_Soil_results_ProUCL_ready(1).xls
Full Precision OFF

From File: FTMM14_Soil_results_ProUCL_ready(1).xls

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

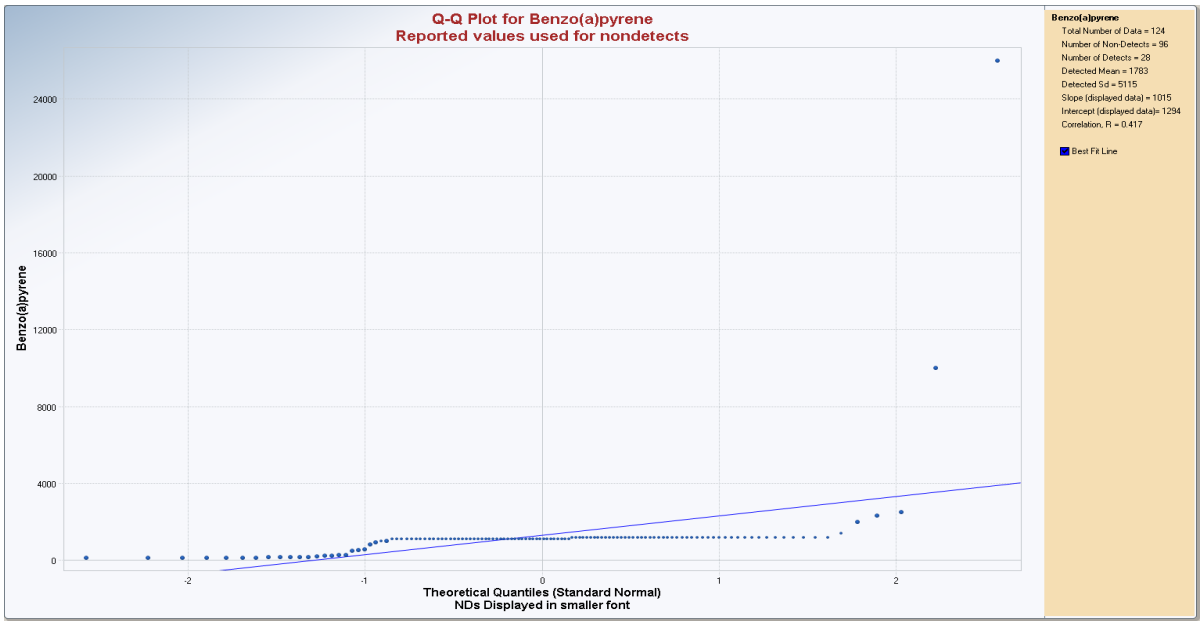
Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Benzo(a)pyrene	124	0	28	96	77.42%	1000	1400	640.6	6132631	2476	3.866
Arsenic	124	0	124	0	0.00%	N/A	N/A	16.71	253.2	15.91	0.952

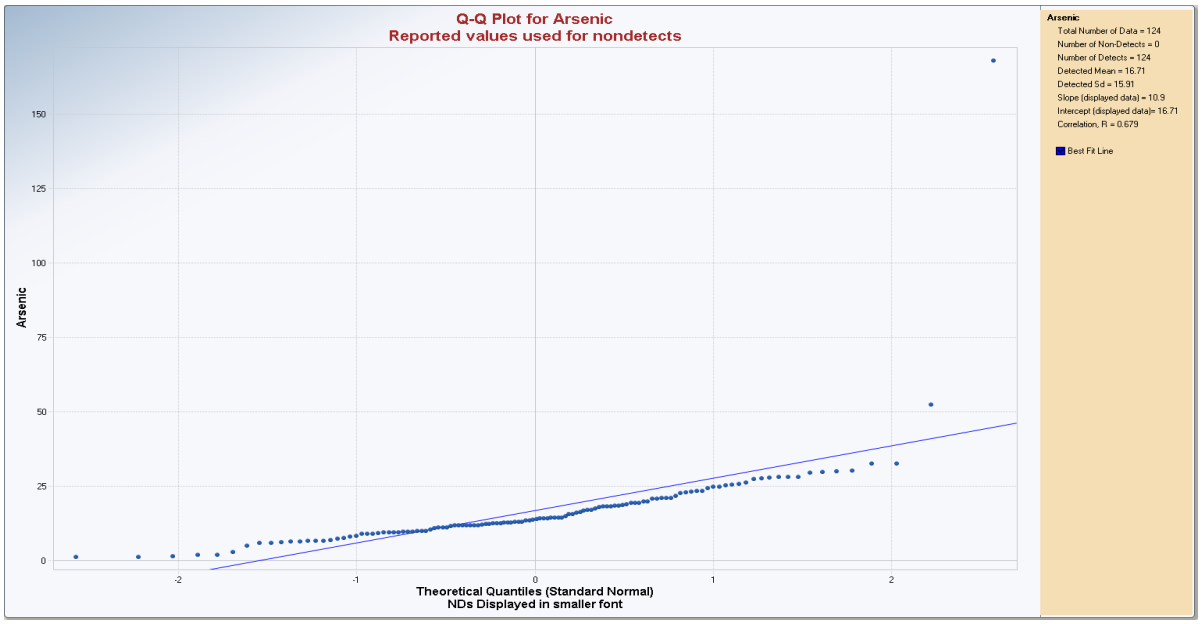
General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Benzo(a)pyrene	28	0	110	26000	1783	240	26164301	5115	177.9	4.375	2.87
Arsenic	124	0	1.12	168	16.71	13.8	253.2	15.91	6.99	7.174	0.952

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Benzo(a)pyrene	124	0	205	1100	1100	1100	1200	1200	1200	1200	8275
Arsenic	124	0	6.605	9.39	9.893	13.8	20.73	22.82	27.47	29.67	47.85




Q-Q Plot for Arsenic
Reported values used for nondetects
Arsenic
150
125
100
75
50
25
0
-2
-1
0
1
2
Theoretical Quantiles (Standard Normal)
NDs Displayed in smaller font
Arsenic
Total Number of Data = 124
Number of Non-Detects = 0
Number of Detects = 124
Detected Mean = 16.71
Detected Sd = 15.91
Slope (displayed data) = 10.9
Intercept (displayed data)= 16.71
Correlation, R = 0.679
Best Fit Line

Outlier Tests for Selected Variables excluding nondetects

User Selected Options	
Date/Time of Computation	########
From File	FTMM14_Soil_results_ProUCL_ready(1).xls
Full Precision	OFF

Rosner's Outlier Test for 1 Outliers in Benzo(a)pyrene

Total N	124
Number NDs	96
Number Detects	28
Mean of Detects	1783
SD of Detects	5115
Number of data	28
Number of suspected outliers	1

NDs not included in the following:

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	1783	5023	26000	28	4.821	2.88	3.2

For 5% Significance Level, there is 1 Potential Outlier
Therefore, Observation 26000 is a Potential Statistical Outlier

For 1% Significance Level, there is 1 Potential Outlier

Rosner's Outlier Test for 1 Outliers in Arsenic

Total N	124
Number NDs	0
Number Detects	124
Mean of Detects	16.71
SD of Detects	15.91
Number of data	124
Number of suspected outliers	1

NDs not included in the following:

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	16.71	15.85	168	124	9.547	3.447	3.817

For 5% Significance Level, there is 1 Potential Outlier
Therefore, Observation 168 is a Potential Statistical Outlier

For 1% Significance Level, there is 1 Potential Outlier

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	5/14/2014 3:22:20 PM
From File	FTMM14_Soil_results_ProUCL_ready(1).xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Benzo(a)pyrene

General Statistics

Total Number of Observations	124	Number of Distinct Observations	23
Number of Detects	28	Number of Non-Detects	96
Number of Distinct Detects	20	Number of Distinct Non-Detects	4
Minimum Detect	110	Minimum Non-Detect	1000
Maximum Detect	26000	Maximum Non-Detect	1400
Variance Detects	26164301	Percent Non-Detects	77.42%
Mean Detects	1783	SD Detects	5115
Median Detects	240	CV Detects	2.87
Skewness Detects	4.375	Kurtosis Detects	20.2
Mean of Logged Detects	5.988	SD of Logged Detects	1.436

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.363	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.924	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.382	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.167	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

Mean	640.6	Standard Error of Mean	231.6
SD	2476	95% KM (BCA) UCL	1061
95% KM (t) UCL	1024	95% KM (Percentile Bootstrap) UCL	1077
95% KM (z) UCL	1022	95% KM Bootstrap t UCL	1857
90% KM Chebyshev UCL	1335	95% KM Chebyshev UCL	1650
97.5% KM Chebyshev UCL	2087	99% KM Chebyshev UCL	2945

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	3.618	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.825	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.267	**Kolmogrov-Smirnoff GOF**
5% K-S Critical Value	0.176	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.434	k star (bias corrected MLE)	0.411
Theta hat (MLE)	4110	Theta star (bias corrected MLE)	4337
nu hat (MLE)	24.29	nu star (bias corrected)	23.02
MLE Mean (bias corrected)	1783	MLE Sd (bias corrected)	2780

Gamma Kaplan-Meier (KM) Statistics

k hat (KM)	0.0669	nu hat (KM)	16.59
Approximate Chi Square Value (16.59, α)	8.383	Adjusted Chi Square Value (16.59, β)	8.314
95% Gamma Approximate KM-UCL (use when n>=50)	1268	95% Gamma Adjusted KM-UCL (use when n<50)	1279

Gamma (KM) may not be used when k hat (KM) is < 0.1

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detected data is small such as < 0.1

For such situations, GROS method tends to yield inflated values of UCLs and BTVs

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	903.9
Maximum	26000	Median	103
SD	2669	CV	2.952
k hat (MLE)	0.137	k star (bias corrected MLE)	0.139
Theta hat (MLE)	6581	Theta star (bias corrected MLE)	6484
nu hat (MLE)	34.06	nu star (bias corrected)	34.57
MLE Mean (bias corrected)	903.9	MLE Sd (bias corrected)	2421
		Adjusted Level of Significance (β)	0.0481
Approximate Chi Square Value (34.57, α)	22.12	Adjusted Chi Square Value (34.57, β)	22
95% Gamma Approximate UCL (use when n>=50)	1413	95% Gamma Adjusted UCL (use when n<50)	1420

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.824	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.924	Detected Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.214	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.167	Detected Data Not Lognormal at 5% Significance Level	

Detected Data Not Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	704.6	Mean in Log Scale	5.631
SD in Original Scale	2488	SD in Log Scale	1.117
95% t UCL (assumes normality of ROS data)	1075	95% Percentile Bootstrap UCL	1112
95% BCA Bootstrap UCL	1475	95% Bootstrap t UCL	2324
95% H-UCL (Log ROS)	656.3		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	848.5	Mean in Log Scale	6.272
SD in Original Scale	2450	SD in Log Scale	0.691
95% t UCL (Assumes normality)	1213	95% H-Stat UCL	759.1

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (BCA) UCL 1061

1.061

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Arsenic

General Statistics

Total Number of Observations	124	Number of Distinct Observations	101
		Number of Missing Observations	0
Minimum	1.12	Mean	16.71
Maximum	168	Median	13.8
SD	15.91	Std. Error of Mean	1.429
Coefficient of Variation	0.952	Skewness	7.174

Normal GOF Test

Shapiro Wilk Test Statistic	0.522	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk P Value	0	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.19	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.0796	Data Not Normal at 5% Significance Level	

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	19.08	95% Adjusted-CLT UCL (Chen-1995)	20.04
		95% Modified-t UCL (Johnson-1978)	19.23

Gamma GOF Test

A-D Test Statistic	1.997	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.763	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.094	**Kolmogrov-Smirnoff Gamma GOF Test**	
5% K-S Critical Value	0.0842	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	2.386	k star (bias corrected MLE)	2.333
Theta hat (MLE)	7.004	Theta star (bias corrected MLE)	7.161
nu hat (MLE)	591.6	nu star (bias corrected)	578.7
MLE Mean (bias corrected)	16.71	MLE Sd (bias corrected)	10.94
		Approximate Chi Square Value (0.05)	523.9
Adjusted Level of Significance	0.0481	Adjusted Chi Square Value	523.2

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	18.46	95% Adjusted Gamma UCL (use when n<50)	18.48

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.913	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk P Value	1.8530E-9	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.117	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.0796	Data Not Lognormal at 5% Significance Level	

Data Not Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	0.113	Mean of logged Data	2.592
Maximum of Logged Data	5.124	SD of logged Data	0.696

Assuming Lognormal Distribution

95% H-UCL	19.23	90% Chebyshev (MVUE) UCL	20.49
95% Chebyshev (MVUE) UCL	22.09	97.5% Chebyshev (MVUE) UCL	24.3
99% Chebyshev (MVUE) UCL	28.65		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution (0.05)

Nonparametric Distribution Free UCLs

95% CLT UCL	19.06	95% Jackknife UCL	19.08
95% Standard Bootstrap UCL	19.07	95% Bootstrap-t UCL	21.02
95% Hall's Bootstrap UCL	29.6	95% Percentile Bootstrap UCL	19.27
95% BCA Bootstrap UCL	20.8		
90% Chebyshev(Mean, Sd) UCL	21	95% Chebyshev(Mean, Sd) UCL	22.94
97.5% Chebyshev(Mean, Sd) UCL	25.63	99% Chebyshev(Mean, Sd) UCL	30.93

Suggested UCL to Use

95% Chebyshev (Mean, Sd) UCL	22.94

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

APPENDIX C
COST ESTIMATE

APPENDIX C
COST ESTIMATE
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

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C.5 Landfill Cover
C.6 Attachments for Landfill Cover

TABLE C.1A
REMEDIAL ALTERNATIVES COST SUMMARY
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Description	Capital Cost	Annual Operations and Maintenance Cost [a/]	Periodic Cost [b/]	Non-Discounted Constant Dollar Cost [c/]	TPV at 1.9% Discount Rate [d/]
Landfill Cover, ICs	**$1,501,000**	**$4,000**	**$0**	**$1,538,000**	**$1,591,000**

NOTES

[a/] Highest annual operations and maintenance (O&M) costs for remedial alternatives shown. Some costs decrease after a period of operation.

[b/] Highest annual periodic costs for remedial alternatives shown. Periodic costs may be less during a specific year.

[c/] Non-discounted constant dollar cost provided to show impact of discount rate on total present value (TPV).

[d/] TPV cost estimates are considered accurate to within -30% to +50% of actual costs. Discount rate and calculation is shown below.

Other Notes/Assumptions

1. Design and construction contingencies have been added to capital and O&M costs based on USEPA (2000) and professional judgment.
   USEPA. 2000. *A Guide to Developing and Documenting Cost Estimates During the Feasibility Study.* USEPA 540-R-00-002. July.

		Source
Discount Rate (see calculation below)	1.90%	30-Year, Real Discount Rate from White House Office of Management and Budget, Circular A-94 Appendix C, Revised December 2013

TABLE C.1B
RESPONSE ACTIONS COST SUMMARY
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Description	Capital Cost	Annual Operations and Maintenance Cost [a/]	Periodic Cost [b/]	Non-Discounted Constant Dollar Cost [c/]	TPV at 1.9% Discount Rate [d/]
ICs (30 Year Duration)	$63,000	$4,000	$0	$100,000	$153,000
Landfill Cover	$1,438,000	$0	$0	$1,438,000	$1,438,000

NOTES

[a/] Highest annual operations and maintenance (O&M) costs for remedial alternatives shown. Some costs decrease after a period of operation.

[b/] Highest annual periodic costs for remedial alternatives shown. Periodic costs may be less during a specific year.

[c/] Non-discounted constant dollar cost provided to show impact of discount rate on total present value (TPV).

[d/] TPV cost estimates are considered accurate to within -30% to +50% of actual costs.

Other Notes/Assumptions

1. Design and construction contingencies have been added to capital and O&M costs based on USEPA (2000) and professional judgment.

		Source
Discount Rate (see calculation below)	1.90%	30-Year, Real Discount Rate from White House Office of Management and Budget, Circular A-94 Appendix C, Revised December 2013

TABLE C.2
LAND USE CONTROLS
COST BREAKDOWN
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Item	Units		Unit Cost	Extended
Capital				
Implementation of Land Use Controls	1	Lump Sum	$ 50,000	$ 50,000
			Sub-Total	$ 50,000
Contingency (design + construction)	25%			$ 12,500
			Capital Total	**$ 62,500**
Annual Operation and Maintenance				
Land Use Controls Inspection and Reporting (30 Years)	1	each	$ 3,200	$ 3,200
Contingency	25%			$ 800
			Annual Total	**$ 4,000**

Asssumptions:

1) A 30-year duration is assumed for costs.

TABLE C.3
LAND USE CONTROLS
PRESENT VALUE
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Year	Capital Cost ($)	Annual O&M ($) (LUCs)	Periodic Costs ($)	Total Cost	Discount Factor at 1.9%	Present Value at 1.9%
Annual Cost for for Anticipated 30-Year Duration						
0	$ 62,500	$ -	$ -	$ 62,500	1.000	$ 62,500
1	$ -	$ 4,000	$ -	$ 4,000	0.981	$ 3,926
2	$ -	$ 4,000	$ -	$ 4,000	0.963	$ 3,853
3	$ -	$ 4,000	$ -	$ 4,000	0.945	$ 3,781
4	$ -	$ 4,000	$ -	$ 4,000	0.927	$ 3,710
5	$ -	$ 4,000	$ -	$ 4,000	0.910	$ 3,641
6	$ -	$ 4,000	$ -	$ 4,000	0.893	$ 3,573
7	$ -	$ 4,000	$ -	$ 4,000	0.877	$ 3,507
8	$ -	$ 4,000	$ -	$ 4,000	0.860	$ 3,441
9	$ -	$ 4,000	$ -	$ 4,000	0.844	$ 3,377
10	$ -	$ 4,000	$ -	$ 4,000	0.828	$ 3,314
11	$ -	$ 4,000	$ -	$ 4,000	0.813	$ 3,252
12	$ -	$ 4,000	$ -	$ 4,000	0.798	$ 3,192
13	$ -	$ 4,000	$ -	$ 4,000	0.783	$ 3,132
14	$ -	$ 4,000	$ -	$ 4,000	0.768	$ 3,074
15	$ -	$ 4,000	$ -	$ 4,000	0.754	$ 3,017
16	$ -	$ 4,000	$ -	$ 4,000	0.740	$ 2,960
17	$ -	$ 4,000	$ -	$ 4,000	0.726	$ 2,905
18	$ -	$ 4,000	$ -	$ 4,000	0.713	$ 2,851
19	$ -	$ 4,000	$ -	$ 4,000	0.699	$ 2,798
20	$ -	$ 4,000	$ -	$ 4,000	0.686	$ 2,746
21	$ -	$ 4,000	$ -	$ 4,000	0.674	$ 2,695
22	$ -	$ 4,000	$ -	$ 4,000	0.661	$ 2,644
23	$ -	$ 4,000	$ -	$ 4,000	0.649	$ 2,595
24	$ -	$ 4,000	$ -	$ 4,000	0.637	$ 2,547
25	$ -	$ 4,000	$ -	$ 4,000	0.625	$ 2,499
26	$ -	$ 4,000	$ -	$ 4,000	0.613	$ 2,453
27	$ -	$ 4,000	$ -	$ 4,000	0.602	$ 2,407
28	$ -	$ 4,000	$ -	$ 4,000	0.590	$ 2,362
29	$ -	$ 4,000	$ -	$ 4,000	0.579	$ 2,318
30	$ -	$ 4,000	$ -	$ 4,000	0.569	$ 2,275
TOTALS	**$ 62,500**	**$ 40,000**	**$ -**	**$ 102,500**		**$ 153,400**

TABLE C.4
ATTACHMENTS FOR ICs
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Attachment 1 - Implementation of Land Use Controls					
Subtask Description, Labor	**Quantity**	**Unit**	**Unit Cost**	**Cost**	**Source**
LUC Implementation Plan	1	Lump Sum	$ 25,000	$ 25,000	Prof. Judgement
Delineate Area onto Master Planning Maps/GIS	1	Lump Sum	$ 25,000	$ 25,000	Prof. Judgement
			Total	**$ 50,000**	

TABLE C.5
LANDFILL COVER
COST BREAKDOWN
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Item	Units		Unit Cost	Extended
Capital				
Soil Cover Installation (see Table C.6 Attachment 1)	1	Lump Sum	$ 1,145,000	$ 1,145,000
Geotechnical borings (see Table C.6 Attachment 2)	1	Lump Sum	$ 5,756	$ 5,756
			Sub-Total	$ 1,150,756
Contingency (design + construction)	25%			$ 287,700
			Capital Total	**$ 1,438,457**

TABLE C.6
ATTACHMENTS FOR LANDFILL COVER
SITE FTMM-14
FORT MONMOUTH, NEW JERSEY

Attachment 1 - Landfill Cover					
Item	**Quantity**	**Units**	**Unit Cost**	**Extended**	**Comments**
Capital					
Landfill Soil Cover Installation					
Mobilization and site preparation	1	Lump Sum	$ 1,500.00	$ 1,500	contractor bid
Clearing and grubbing	6.9	acre	$ 2,900.00	$ 20,010	contractor bid
Subgrad preparation and compaction	6.9	acre	$ 4,250.00	$ 29,325	contractor bid
Soil Cover material	6.9	acre	$ 54,511	$ 376,126	contractor bid
Placement of soil cover material	6.9	acre	$ 10,865	$ 74,969	contractor bid
Placement of vegetative layer material	6.9	acre	$ 3,802	$ 26,234	contractor bid
Seeding of soil caps	6.9	acre	$ 4,845	$ 33,431	contractor bid
Temporary erosion and sediment controls	818.2	LF	$ 7	$ 5,728	contractor bid
Permanent stormwater features	818.2	LF	$ 31	$ 25,366	contractor bid
Demobilization	1	Lump Sum	$ 1,500	$ 1,500	contractor bid
Subgrade material	13939	tons	$ 14	$ 195,152	contractor bid
Placement of Subgrade material	13939	tons	$ 6	$ 83,636	contractor bid
			Sub-Total	**$ 872,975**	
Design & Construction Oversite					
Labor					
Design & Construction Oversite Labor	3020	Hour	$ 90	$ 271,800	professional judgement
				$ 271,800	
	Subtotal: Landfill Soil Cap Installation			**$ 1,145,000**	

Attachment 2 - Geotechnical Borings					
	Quantity	**Unit**	**Unit Cost**	**Extended**	**Notes**
Capital					
Geotechnical Borings -					
Mobilization	1	LS	$ 611.11	$ 611	contractor bid
Hand clearing	2	/boring	$ 50.00	$ 100	contractor bid
HAS Drilling	1	/rig/day	$ 1,850.00	$ 1,850	contractor bid
Geoprobe Drilling (Soil Boring)	1	/rig/day	$ 1,850.00	$ 1,850	contractor bid
Boring Abandonment	100	per foot	$ 3.00	$ 300	contractor bid
Drums	13	/drum	$ 65.00	$ 845	contractor bid
Shelby tube	2	each	$ 100.00	$ 200	contractor bid
	Subtotal - Geotechnical borings:			**$5,756**	

Assumptions:
1) Area extent of impacted material is 6.9 acres
2) Area to reseed is 6.9 acres
3) Two geotechnical borings will be advanced at the site
4) Soil cover is 2' in thickness (18" soil with 6" vegetative layer)