United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

Building 275
Main Post-West Area

NJDEP UST Registration No. 81533-56
Dicar No. 98-07-22-1114-44

January 2000

UNDERGROUND STORAGE TANK
CLOSURE AND SITE INVESTIGATION REPORT

BUILDING 275

MAIN POST-WEST AREA
NJDEP UST REGISTRATION NO. 81533-56

JANUARY 2000

PREPARED FOR:

UNITED STATES ARMY, FORT MONMOUTH, NEW JERSEY
DIRECTORATE OF PUBLIC WORKS
BUILDING 167
FORT MONMOUTH, NJ 07703

PREPARED BY:

VERSAR
1900 FROST ROAD
SUITE 110
BRISTOL, PA 19007

PROJECT NO. 4435-018

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

TABLES

FIGURES

APPENDICES

EXECUTIVE SUMMARY

UST Closure

On July 21, 1998, a fiberglass underground storage tank (UST) was closed by removal in accordance with New Jersey Department of Environmental Protection (NJDEP) closure procedures at the Main Post-West area of the U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 0081533-56 (Fort Monmouth ID No. 275), was located southeast of Building 275. UST No. 0081533-56 was a 4,000-gallon #2 fuel oil UST.

Site Assessment

The site assessment was performed by U.S. Army personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual.* The sampling and laboratory analysis conducted during the site assessment were performed in accordance with Section 7:26E-2.1 of the *Technical Requirements for Site Remediation.* Soils surrounding the tank were screened visually and with air monitoring equipment for evidence of contamination. Following removal, the UST was inspected for corrosion holes or punctures. No holes or punctures were noted in the UST. Stained soil was observed and appeared to be contaminated. Based on the inspection of the excavation, Directorate of Public Works (DPW) concluded that a discharge was associated with this UST. The NJDEP hotline was notified and the case was assigned DICAR No. 98-07-22-1114-44. Soil samples, which were collected after the removal of the potentially contaminated soil, contained TPHC concentrations ranging from non-detect to 457.76 mg/kg, except for sample D that had a TPHC concentration of 5331.88 mg/kg. The sample location could not be further remediated due to the location of a water main. A VOA analysis (EPA Method 8260) was completed on sample D and all known compounds searched for in the analysis were not detected. Fifteen tentatively identified compounds were detected below the method detection limit. Groundwater was encountered at a depth of 8.5 feet bgs and no sheen was observed.

All post excavation soil samples collected from the UST excavation at Building 275 contained TPHC concentrations below the NJDEP residential direct contact total organic contaminants soil cleanup criteria of 10,000 milligrams per kilogram (mg/kg) (N.J.A.C. 7:26D and revisions dated February 3, 1994). Following receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with a combination of uncontaminated excavated soil and certified clean fill. The excavation site was then restored to its original condition.

In response to the observation of potentially contaminated soil near the water table, two (2) groundwater samples were collected at Building 275. On October 25, 1999, and December 3, 1999, Building 275 was sampled for volatile organic compounds calibrated for xylene plus 15 tentatively identified compounds (VOC's), and semivolatile organic compounds plus 15 tentatively identified compounds (SVOC's).

All groundwater analytical results were either below the detection limit or in compliance with the New Jersey Ground Water Quality Criteria (GWQC).

No further action is proposed in regard to the closure and site assessment of UST No. 81533-56 at Building 275.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 81533-56, was closed at Building 275 at the Main Post-West area of U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on July 21, 1998. Refer to the site location map on Figure 1. This report presents the results of the Department of Public Works' (DPW) implementation of the UST Decommissioning/Closure Plan approved by the NJDEP. The UST was a fiberglass 4,000-gallon tank containing No. 2 fuel oil.

Decommissioning activities for UST No. 81533-56 complied with all applicable Federal, State, and Local laws and ordinances in effect at the date of decommissioning. These laws included but were not limited to N.J.A.C. 7:14B-1 et seq., N.J.A.C. 5:23-1 et seq., and Occupational Safety and Health Administration (OSHA) 1910.146 & 1910.120. All permits including but not limited to the NJDEP approved Decommissioning/Closure Plan were posted onsite for inspection. The decommissioning activities were conducted by DPW personnel who are registered and certified by the NJDEP for performing UST closure activities. Closure of UST No. 81533-56 proceeded under the approval of the NJDEP Bureau of Federal Case Management (NJDEP-BFCM). The Standard Reporting Form and signed Site Assessment Summary form for UST No. 81533-56 are included in Appendices A and B, respectively.

After removal of the potentially contaminated soil, the site was assessed. Based on inspecting the UST, field screening of remaining subsurface soils, and reviewing analytical results of soil samples and groundwater samples, the DPW has concluded that no significant historical discharges are associated with the UST or associated piping.

This UST Closure and Site Investigation Report has been prepared by Versar, to assist the U.S. Army DPW in complying with the NJDEP regulations. The applicable NJDEP regulations at the date of closure were the *Interim Closure Requirements for Underground Storage Tank Systems* (N.J.A.C. 7:14B-1 et seq. October 1990 and revisions dated November 1, 1991).

This report was prepared using information collected at the time of closure. Section 1 of this UST Closure and Site Investigation Report provides a summary of the UST decommissioning activities. Section 2 of this report describes the site investigation activities. Conclusions and recommendations, including the results of the soil sampling and groundwater investigation, are presented in the final section of this report.

1.2 SITE DESCRIPTION

Building 275 is located in the Main Post-West area of the Fort Monmouth Army Base. UST No. 0081533-56 was located southeast of Building 275 and appurtenant copper piping ran approximately six (6) feet northwest from the excavation to Building 275. A site map is provided on Figure 2.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the area surrounding Building 275. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area. A geological map is provided on Figure 1A.

Regional Geology

Monmouth County lies within the New Jersey Section of the Atlantic Coastal Plain physiographic province. The Main Post, Charles Wood, and the Evans areas are located in what may be referred to as the Outer Coastal Plain subprovince, or the Outer Lowlands.

In general, New Jersey Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, and gravel. These formations typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile and were deposited on Precambrian and lower Paleozoic rocks (Zapecza, 1989). These sediments, predominantly derived from deltaic, shallow marine, and continental shelf environments, date from Cretaceous through the Quaternary Periods. The mineralogy ranges from quartz to glauconite.

The formations record several major transgressive/regressive cycles and contain units which are generally thicker to the southeast and reflect a deeper water environment. More than 20 regional geologic units are present within the sediments of the Coastal Plain. Regressive, upward coarsening deposits are usually aquifers (e.g., Englishtown and Kirkwood Formations, and the Cohansey Sand) while the transgressive deposits act as confining units (e.g., the Merchantville, Marshalltown, and Navesink Formations). The individual thicknesses for these units vary greatly (i.e., from several feet to several hundred feet). The Coastal Plain deposits thicken to the southeast from the Fall Line to greater than 6,500 feet in Cape May County (Brown and Zapecza, 1990).

Local Geology

Based on the regional geologic map (Jablonski, 1968), the Cretaceous age Red Bank and Tinton Sands outcrop at the Main Post area. The Red Bank sand conformably overlies the Navesink Formation and dips to the southeast at 35 feet per mile. The upper member (Shrewsbury) of the Red Bank sand is a yellowish-gray to reddish brown clayey, medium-to-coarse-grained sand that contains abundant rock fragments, minor mica and glauconite (Jablonski). The lower member (Sandy Hook) is a dark gray to black, medium-to-fine grained sand with abundant clay, mica, and glauconite.

The Tinton sand conformably overlies the Red Bank Sand and ranges from a clayey medium to very coarse grained feldspathic quartz and glauconite sand to a glauconitic coarse sand. The color varies from dark yellowish orange or light brown to moderate brown and from light olive to grayish olive. Glauconite may constitute 60 to 80 percent of the sand fraction in the upper part of the unit (Minard, 1969). The upper part of the Tinton is often highly oxidized and iron oxide encrusted (Minard).

Hydrogeology

The water table aquifer in the Main Post area is identified as part of the "composite confining units," or minor aquifers. The minor aquifers include the Navesink formation, Red Bank Sand, Tinton Sand, Hornerstown Sand, Vincentown Formation, Manasquan Formation, Shark River Formation, Piney Point Formation, and the basal clay of the Kirkwood Formation.

Based on records of wells drilled in the Main Post area, water is typically encountered at depths of 2 to 9 feet below ground surface (bgs). According to Jablonski, wells drilled in the Red Bank and Tinton Sands may produce 2 to 25 gallons per minute (gpm). Some well owners have reported acidic water that requires treatment to remove iron.

Due to the proximity of the Atlantic Ocean to Fort Monmouth, shallow groundwater may be tidally influenced and may flow toward creeks and brooks as the tide goes out, and away from creeks and brooks as the tide comes in. However, an abundance of clay lenses and sand deposits were noted in borings installed throughout Fort Monmouth. Therefore, the direction of shallow groundwater should be determined on a case-by-case basis.

Shallow groundwater is locally influenced within the Main Post area by the following factors:

- tidal influence (based on proximity to the Atlantic Ocean, rivers, and tributaries)
- topography
- nature of the fill material within the Main Post area
- presence of clay and silt lenses in the natural overburden deposits
- local groundwater recharge areas (i.e., streams, lakes)

Due to the fluvial nature of the overburden deposits (i.e., sand and clay lenses), shallow groundwater flow direction is best determined on a case-by-case basis. This is consistent with lithologies observed in borings installed within the Main Post area, which primarily consisted of fine-to-medium grained sands, with occasional lenses or laminations of gravel silt and/or clay.

Building 275 is located approximately 400 feet north of Oceanport Creek, the nearest water body. Based on the Main Post topography, the groundwater flow in the area of Building 275 is anticipated to be to the south.

1.3 HEALTH AND SAFETY

Before, during, and after all decommissioning activities, hazards at the work site which may have posed a threat to the Health and Safety of all personnel who were involved with, or were affected by, the decommissioning of the UST system were minimized. All areas, which posed, or may have been suspected to pose a vapor hazard were monitored by a qualified individual utilizing an organic vapor analyzer (OVA). The individual ascertained if the area was properly vented to render the area safe, as defined by OSHA.

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

- The contractor performing the closure prior to excavation activities identified all underground obstructions (utilities, etc.).
- All activities were carried out with the greatest regard to safety and health and the safeguarding of the environment.
- All excavated soils were visually examined and screened with an OVA for evidence of contamination. Potentially contaminated soils were identified and logged during closure activities.
- Surface materials (i.e., asphalt, concrete, etc.) were excavated and staged separately from all soil and recycled in accordance with all applicable regulations and laws.
- A Sub-Surface Evaluator from the DPW was present during all site assessment activities.

1.4.2 Underground Storage Tank Excavation and Cleaning

Prior to UST decommissioning activities, surficial soil was removed to expose the UST and associated piping. All free product present in the piping was drained into the UST, and the UST was purged to remove vapors prior to cutting and removal of the piping. After removal of the associated piping, a manway was made in the UST to allow for proper cleaning. The UST was completely emptied of all liquids prior to removal from the ground. Approximately 50 gallons of liquid from the UST and its associated piping were pumped directly into a Casie Protank truck where it was then transported to Casie Ecology Oil Salvage, Inc. facility, a NJDEP-approved petroleum recycling and disposal company located in Vineland, NJ. Refer to Appendix C for a copy of the waste manifest.

The UST was cleaned prior to removal from the excavation in accordance with the NJDEP-BUST regulations. After the UST was removed from the excavation, it was staged on polyethylene sheeting and examined for holes. No holes were observed during the inspection by the Sub-Surface Evaluator. Soils surrounding the UST were screened visually and with an OVA for evidence of contamination. Soils were stained and appeared to be contaminated. Soil samples, which were collected after the removal of the potentially contaminated soil, contained TPHC concentrations ranging from non-detect to 457.76 mg/kg, except for sample D that had a TPHC concentration of 5331.88 mg/kg. The sample location could not be further remediated due to the location of a water main. A VOA analysis (EPA Method 8260) was completed on sample D and all known compounds searched for in the analysis were not detected. Fifteen tentatively identified compounds were detected below the method detection limit. Groundwater was encountered at a depth of 8.5 feet bgs and no sheen was observed.

1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The tank was transported in compliance with all applicable regulations and laws to Marpal Disposal Company. Please refer to Appendix D for the UST Disposal Certificate.

The UST was labeled prior to transport with the following information:

- Site of origin
- Contact person
- NJDEP UST Facility ID number
- Former contents
- Destination site
- Date

1.6 MANAGEMENT OF EXCAVATED SOILS

All potentially contaminated soils were stockpiled separately from other excavated material and were placed on and covered with polyethylene sheets. Potentially contaminated soils were transported to the soil staging area. Soils that did not exhibit signs of contamination were used as backfill following the removal of the UST. Groundwater was encountered at a depth of 8.5 feet bgs and no sheen was observed.

2.0 SITE INVESTIGATION ACTIVITIES

2.1 OVERVIEW

The Site Investigation was managed and carried out by U.S. Army DPW personnel. All analyses were performed and reported by U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory. All sampling was performed under the direct supervision of a NJDEP Certified Sub-Surface Evaluator according to the methods described in the NJDEP *Field Sampling Procedures Manual* (1992). Sampling frequency and parameters analyzed complied with the NJDEP document *Interim Closure Requirements for Underground Storage Tank Systems* (October 1990 and revisions dated November 1, 1991) which was the applicable regulation at the date of the closure. The Fort Monmouth DPW Environmental Office maintains all records of the Site Investigation activities.

The following Parties participated in Closure and Site Investigation Activities:

- Subsurface Evaluator: Charles Appleby
  Employer: U.S. Army, Fort Monmouth
  Phone Number: (908) 532-0989
  NJDEP Certification No.: 002046

- Analytical Laboratory: U.S.Army Fort Monmouth Environmental laboratory
  Contact Person: Daniel K. Wright
  Phone Number: (908) 532-4359
  NJDEP Company Certification No.: 13461

- Hazardous Waste Hauler: Casie Protank
  Contact Person: Shawn Lee
  Phone Number: (609) 696-4401
  NJDEP Company Certification No.: 05982

2.2 FIELD SCREENING/MONITORING

Field screening was performed by a NJDEP Certified Sub-Surface Evaluator using an OVA and visual observations to identify potentially contaminated material. Groundwater was encountered at a depth of 8.5 feet bgs and no sheen was observed.

2.3 SOIL SAMPLING

On July 21, 1998, following the removal of the UST and associated piping, post-excavation soil samples A, B, C, D, E, F, and DUP C were collected from a total of six (6) locations of the UST excavation. Sidewall samples A, B, C, D, E, and DUP C were collected at a depth of 8.0 feet bgs. Piping sample F was collected along the former piping length of the excavation, which was approximately six (6) feet in length. The piping sample was collected at a depth of 1.0 feet bgs. Floor samples could not be collected because the backhoe was unable to reach below fifteen (15) feet of pea gravel that was in the excavation. All samples were analyzed for total petroleum hydrocarbons (TPHC) and total solids. Based on preliminary TPHC results, a VOA analysis (EPA Method 8260) was completed on sample D.

U.S. Army personnel in accordance with the NJDEP Technical Requirements and the NJDEP Field Sampling Procedures Manual performed the site assessment. A summary of sampling activities including parameters analyzed is provided in Table 1. The post-excavation soil samples were collected using NJDEP *Field Sampling Procedures Manual* (1992) standard sampling procedures. Following soil sampling activities, the samples were chilled and delivered to U.S. Army Fort Monmouth Environmental Laboratory located in Fort Monmouth, New Jersey, for analysis.

2.4 GROUNDWATER SAMPLING

On October 25,1999, and December 3, 1999, Building 275 was sampled for volatile organic compounds calibrated for xylene plus 15 tentatively identified compounds (VOC's), and semivolatile organic compounds plus 15 tentatively identified compounds (SVOC's). Sampling and analysis were performed in accordance with the NJDEP *Field Sampling Procedures Manual* and the *Technical Requirements For Site Remediation.* Refer to Appendix F for the field sampling documentation.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

To evaluate soil conditions following removal of the UST and associated piping, post-excavation soil samples were collected on July 21, 1998 from a total of six (6) locations. All samples were analyzed for TPHC and total solids. In addition, sample D was analyzed for VOA. The post-excavation sampling results were compared to the NJDEP residential direct contact total organic contaminants soil cleanup criteria of 10,000 mg/kg (N.J.A.C. 7:26D and revisions dated February 3, 1994). A summary of the analytical results and comparison to the NJDEP soil cleanup criteria is provided in Table 2 and the soil sampling locations are shown on Figure 4. The VOA analysis for sample D as compared to the NJDEP residential direct contact soil cleanup criteria and is included as Table 3. The analytical data package is provided in Appendix E.

All post-excavation soil samples collected on July 21, 1998, from the UST excavation and from below piping associated with the UST contained concentrations of TPHC below the NJDEP soil cleanup criteria.

3.2 GROUNDWATER SAMPLING RESULTS

The sample collected from Building 275 on October 25, 1999, contained acetone at 12.96 ug/l and diethylphthalate at 3.44 ug/l. No other compounds were detected.

The sample collected from Building 275 on December 3, 1999, contained acetone at 6.94 ug/l. No other compounds were detected.

A summary of the analytical results and comparison to the NJDEP groundwater cleanup criteria is provided in Table 4 and the groundwater sampling locations are shown on Figure 5. The analytical data package is provided in Appendix F. The full data package, including quality control, is on file at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey.

Groundwater samples collected on October 25, 1999, and December 3,1999, were either below the detection limit or in compliance with the New Jersey Ground Water Quality Criteria (GWQC).

3.3 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 275 were below the NJDEP soil cleanup criteria for total organic contaminants.

Based on the post-excavation sampling results, soil with TPHC concentrations exceeding the NJDEP soil cleanup criteria for total organic contaminants of 10,000 mg/kg, do not exist in the former location of the UST or associated piping.

Based on the analytical results of the groundwater samples collected at Building 275 on October 25, 1999, and November 3, 1999, groundwater quality at Building 275 was either below the detection limit or in compliance with the New Jersey Ground Water Quality Criteria (GWQC).

No further action is proposed in regard to the closure and site assessment of UST No. 81533-56 at Building 275.

TABLES

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING 275, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	NJDEP Method
A	7/21/98	7/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
B	7/21/98	7/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
C	7/21/98	7/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
D	7/21/98	7/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
E	7/21/98	7/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
F	7/21/98	7/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
DUP C	7/21/98	7/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:
* TPHC Total Petroleum Hydrocarbons

TABLE 1

SUMMARY OF SAMPLING ACTIVITIES
BUILDING 275, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Sampling Method**
4883.01	10/25/99	10/28/99	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4974.01	12/3/99	12/6/99	Aqueous	Groundwater	VOCs, SVOCs	PPNDP

Note:
*VOCs: Volatile Organic Compounds plus 15 tentatively identified compounds
*SVOCs: Semivolatile organic compounds plus 15 tentatively identified compounds
**PPNDP: Passively Placed Narrow Diameter Point

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
BUILDING 275, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID/ Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Parameters	Method Detection Limit (mg/kg)	Compound of Concern	Results (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
A/8.0'=	3743.01	7/21/98	7/21/98	Total Solid	--	--	79.87 %	--	--
				TPHC	195	yes	457.76	10,000	No
B/8.0'=	3743.02	7/21/98	7/21/98	Total Solid	--	--	74.82 %	--	--
				TPHC	203	Yes	ND	10,000	No
C/8.0'=	3743.03	7/21/98	7/21/98	Total Solid	--	--	74.83 %	--	--
				TPHC	206	Yes	ND	10,000	No
D/8.0'=	3743.04	7/21/98	7/21/98	Total Solid	--	--	78.25 %	--	--
				TPHC	196	yes	5331.88	10,000	No
E/8.0'=	3743.05	7/21/98	7/21/98	Total Solid	--	--	74.00 %	--	--
				TPHC	208	yes	ND	10,000	No
F/1.0'=	3743.06	7/21/98	7/21/98	Total Solid	--	--	82.99 %	--	--
				TPHC	188	yes	ND	10,000	No
DUPC/8.0'=	3743.07	7/21/98	7/21/98	Total Solid	--	--	73.97 %	--	--
				TPHC	202	yes	ND	10,000	No

Note:
* Total Solid results are expressed as a percentage.
** NJDEP Residential Direct Contact soil cleanup criteria for total organics
ND Not detected above stated method detection limit
TPHC Total Petroleum Hydrocarbons

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) SOIL

Date Sampled: 7/21/98 Location: 275 Lab Sample ID: 3743.04(SAMPLE D)

CONCENTRATION UNITS:
(ug/L or ug/Kg)

CAS NO.	PARAMETER	MDL	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
107028	Acrolein	2200	U	NA	NA
107131	Acrylonitrile	2200	U	1000	5000
75650	tert-Butyl alcohol	4000	U	NA	NA
1634044	Methyl-tert-Butyl ether	920	U	NA	NA
108203	Di-isopropyl ether	610	U	NA	NA
	Dichlorodifluoromethane	1200	U	NA	NA
74-87-3	Chloromethane	310	U	520000	1000000(d)
75-01-4	Vinyl Chloride	920	U	2000	7000
74-83-9	Bromomethane	610	U	79000	1000000(d)
75-00-3	Chloroethane	920	U	NA	NA
75-69-4	Trichlorofluoromethane	610	U	NA	NA
75-35-4	1, 1-Dichloroethene	310	U	8000	150000
67-64-1	Acetone	610	U	1000000(d)	1000000(d)
75-15-0	Carbon Disulfide	310	U	NA	NA
75-09-2	Methylene Chloride	610	U	49000	210000
156-60-5	trans-1,2-Dichloroethene	610	U	1000000(d)	1000000(d)
75-35-3	1,1-Dichloroethane	310	U	570000	1000000(d)
108-05-4	Vinyl Acetate	920	U	NA	NA
78-93-3	2-Butanone	920	U	1000000(d)	1000000(d)
156-59-2	cis-1,2-Dichloroethene	310	U	79000	1000000(d)
67-66-3	Chloroform	310	U	19000(k)	28000(k)
75-55-6	1,1,1-Trichloroethane	310	U	NA	NA
56-23-5	Carbon Tetrachloride	610	U	2000(k)	4000(k)
71-43-2	Benzeze	310	U	3000	13000
107-06-2	1,2-Dichloroethane	610	U	6000	24000

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) SOIL

Date Sampled: 7/21/98 Location: 275 Lab Sample ID: 3743.04(SAMPLE D)

CONCENTRATION UNITS:
(ug/L or ug/Kg)

CAS NO.	PARAMETER	MDL	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
79-01-6	Trichloroethene	310	U	23000	54000(k)
78-87-5	1, 2-Dichloropropane	310	U	10000	43000
75-27-4	Bromodichloromethane	310	U	11000(g)	46000(g)
110-75-8	2-Chloroethyl vinyl ether	610	U	NA	NA
10061-01-5	cis-1,3-Dichloropropene	310	U	NA	NA
108-10-1	4-Methyl-2-Pentanone	610	U	1000000(d)	1000000(d)
108-88-3	Toluene	310	U	1000000(d)	1000000(d)
10061-02-6	trans-1,3-Dichloropropene	610	U	NA	NA
79-00-5	1,1,2-Trichloroethane	610	U	22000	420000
127-18-4	Tetrachloroethene	310	U	4000(k)	6000(k)
591-78-6	2-Hexanone	610	U	NA	NA
126-48-1	Dibromochloromethane	610	U	NA	NA
108-90-7	Chlorobenzene	310	U	37000	680000
100-41-4	Ethylbenzene	330	J	1000000(d)	1000000(d)
1330-20-7	m+p-Xylenes	920	U	NA	NA
1330-20-7	o-Xylene	610	U	NA	NA
100-42-5	Styrene	610	U	23000	97000
75-25-2	Bromoform	610	U	86000	370000
79-34-5	1,1,2,2-Tetrachloroethane	610	U	34000	70000(k)
541-73-1	1,3-Dichlorobenzene	1100	U	5100000	10000000(c)
106-46-7	1,4-Dichlorobenzene	1100	U	570000	10000000(c)
95-50-1	1,2-Dichlorobenzene	1100	U	5100000	10000000(c)

SOIL CLEANUP CRITERIA (MG/KG)

(LAST REVISED-7/11/96)

(A) CRITERIA ARE HEALTH BASED USING AN INCIDENTAL INGESTION EXPOSURE PATHWAY EXCEPT WHERE NOTED BELOW.

(B) CRITERIA ARE SUBJECT TO CHANGE BASED ON SITE SPECIFIC FACTORS (E.G., AQUIFER CLASSIFICATION, SOIL TYPE, NATURAL BACKGROUND, ENVIRONMENTAL IMPACTS, ETC.)

(C) HEALTH BASED CRITERION EXCEEDS THE 10,000 MG/KG MAXIMUM FOR TOTAL ORGANIC CONTAMINANTS.

(D) HEALTH BASED CRITERION EXCEEDS THE 1000 MG/KG MAXIMUM FOR TOTAL VOLATILE ORGANIC CONTAMINANTS

(E) CLEANUP STANDARD PROPOSAL WAS BASED ON NATURAL BACKGROUND.

(F) HEALTH BASED CRITERION IS LOWER THAN ANALYTICAL LIMITS; CLEANUP CRITERION BASED ON PRACTICAL QUANTITATION LEVEL.

(G) CRITERION HAS BEEN RECALCULATED BASED ON NEW TOXICOLOGICAL DATA.

(H) THE IMPACT TO GROUND WATER VALUES FOR INORGANIC CONSTITUENTS WILL BE DEVELOPED BASED UPON SITE SPECIFIC CHEMICAL AND PHYSICAL PARAMETERS.

(I) ORIGINAL CRITERION WAS INCORRECTLY CALCULATED AND HAS BEEN RECALCULATED.

(J) TYPOGRAPHICAL ERROR.

(K) CRITERIA BASED ON INHALATION EXPOSURE PATHWAY, WHICH YIELDED A MORE STRINGENT CRITERION THAN THE INCIDENTAL INGESTION EXPOSURE PATHWAY.

(L) NEW CRITERION DERIVED USING METHODOLOGY IN THE BASIS AND BACKGROUND DOCUMENT.

(M) CRITERION BASED ON ECOLOGICAL (PHYTOTOXICITY) EFFECTS.

(N) LEVEL OF THE HUMAN HEALTH BASED CRITERION IS SUCH THAT EVALUATION FOR POTENTIAL ENVIRONMENTAL IMPACTS ON A SITE BY SITE BASIS IS RECOMMENDED.

(O) LEVEL OF THE CRITERION IS SUCH THAT EVALUATION FOR POTENTIAL ACUTE EXPOSURE HAZARD IS RECOMMENDED.

(P) CRITERION BASED ON THE USEPA INTEGRATED EXPOSURE UPTAKE BIOKINETIC (IEUBK) MODEL UTILIZING THE DEFAULT PARAMETERS. THE CONCENTRATION IS CONSIDERED TO PROTECT 95% OF TARGET POPULATION (CHILDREN) AT A BLOOD LEVEL OF 10 UG/DL.

(Q) CRITERIA WAS DERIVED FROM A MODEL DEVELOPED BY THE SOCIETY FOR ENVIRONMENTAL GEOCHEMISTRY AND HEALTH (SEGH) AND WAS DESIGNED TO BE PROTECTIVE FOR ADULTS IN THE WORKPLACE.

(R) INSUFFICIENT INFORMATION AVAILABLE TO CALCULATE IMPACT TO GROUND WATER CRITERIA.

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) WATER

Date Sampled: 10/25/99 Location: 275 Lab Sample ID: 4883.01(Bldg 275)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
107028	Acrolein	1.85	Not Detected	--	50	no
107131	Acrylonitrile	2.78	Not Detected	--	50	no
75650	tert-Butyl alcohol	8.52	Not Detected	--	nle	no
1634044	Methyl-tert-Butyl ether	0.16	Not Detected	--	nle	no
108203	Di-isopropyl ether	0.25	Not Detected	--	nle	no
	Dichlorodifluoromethane	1.68	Not Detected	--	nle	no
74-87-3	Chloromethane	1.16	Not Detected	--	30	no
75-01-4	Vinyl Chloride	1.06	Not Detected	--	5	no
74-83-9	Bromomethane	1.10	Not Detected	--	10	no
75-00-3	Chloroethane	1.01	Not Detected	--	nle	no
75-69-4	Trichlorofluoromethane	0.50	Not Detected	--	nle	no
75-35-4	1, 1-Dichloroethene	0.24	Not Detected	--	2	no
67-64-1	Acetone	1.36	12.96 ug/L	--	700	no
75-15-0	Carbon Disulfide	0.46	Not Detected	--	nle	no
75-09-2	Methylene Chloride	0.24	Not Detected	--	2	no
156-60-5	trans-1,2-Dichloroethene	0.16	Not Detected	--	100	no
75-35-3	1,1-Dichloroethane	0.12	Not Detected	--	70	no
108-05-4	Vinyl Acetate	0.78	Not Detected	--	nle	no
78-93-3	2-Butanone	0.62	Not Detected	--	300	no
156-59-2	cis-1,2-Dichloroethene	0.17	Not Detected	--	10	no
67-66-3	Chloroform	0.30	Not Detected	--	6	no
75-55-6	1,1,1-Trichloroethane	0.23	Not Detected	--	30	no
56-23-5	Carbon Tetrachloride	0.47	Not Detected	--	2	no
71-43-2	Benzeze	0.23	Not Detected	--	1	no
107-06-2	1,2-Dichloroethane	0.18	Not Detected	--	2	no
79-01-6	Trichloroethene	0.23	Not Detected	--	1	no
78-87-5	1, 2-Dichloropropane	0.40	Not Detected	--	1	no
75-27-4	Bromodichloromethane	0.55	Not Detected	--	1	no
110-75-8	2-Chloroethyl vinyl ether	0.65	Not Detected	--	nle	no
10061-01-5	cis-1,3-Dichloropropene	0.69	Not Detected	--	nle	no

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) WATER

Date Sampled: 10/25/99 Location: 275 Lab Sample ID: 4883.01(Bldg 275)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
108-10-1	4-Methyl-2-Pentanone	0.59	Not Detected	--	400	no
108-88-3	Toluene	0.37	Not Detected	--	1000	no
10061-02-6	trans-1,3-Dichloropropene	0.87	Not Detected	--	nle	no
79-00-5	1,1,2-Trichloroethane	0.48	Not Detected	--	3	no
127-18-4	Tetrachloroethene	0.32	Not Detected	--	1	no
591-78-6	2-Hexanone	0.71	Not Detected	--	nle	no
126-48-1	Dibromochloromethane	0.86	Not Detected	--	10	no
108-90-7	Chlorobenzene	0.39	Not Detected	--	4	no
100-41-4	Ethylbenzene	0.65	Not Detected	--	700	no
1330-20-7	m+p-Xylenes	1.14	Not Detected	--	nle	no
1330-20-7	o-Xylene	0.62	Not Detected	--	nle	no
100-42-5	Styrene	0.56	Not Detected	--	100	no
75-25-2	Bromoform	0.70	Not Detected	--	4	no
79-34-5	1,1,2,2-Tetrachloroethane	0.47	Not Detected	--	2	no
541-73-1	1,3-Dichlorobenzene	0.55	Not Detected	--	600	no
106-46-7	1,4-Dichlorobenzene	0.57	Not Detected	--	75	no
95-50-1	1,2-Dichlorobenzene	0.64	Not Detected	--	600	no

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) WATER

Date Sampled: 10/25/99 Location: 275 Lab Sample ID: 4883.01(Bldg 275)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
110-86-1	Pyridine	1.83	Not Detected	--	nle	no
62-75-9	N-nitroso-dimethylamine	0.91	Not Detected	--	20	no
62-53-3	Aniline	1.63	Not Detected	--	nle	no
111-44-4	bis(2-Chloroethyl)ether	1.28	Not Detected	--	10	no
541-73-1	1,3-Dichlorobenzene	1.19	Not Detected	--	600	no
106-46-7	1,4-Dichlorobenzene	1.02	Not Detected	--	75	no
100-51-6	Benzyl alcohol	1.02	Not Detected	--	nle	no
95-50-1	1,2-Dichlorobenzene	1.13	Not Detected	--	600	no
108-60-1	bis(2-chloroisopropyl)ether	1.39	Not Detected	--	300	no
621-64-7	n-Nitroso-di-n-propylamine	1.50	Not Detected	--	20	no
67-72-1	Hexachloroethane	0.97	Not Detected	--	10	no
98-95-3	Nitrobenzene	1.01	Not Detected	--	10	no
78-59-1	Isophorone	1.21	Not Detected	--	100	no
111-91-1	bis(2-Chloroethoxy)methane	1.75	Not Detected	--	nle	no
120-82-1	1,2,4-Trichlorobenzene	1.22	Not Detected	--	9	no
91-20-3	Naphthalene	1.27	Not Detected	--	nle	no
106-47-8	4-Chloroaniline	1.09	Not Detected	--	nle	no
87-68-3	Hexachlorobutadiene	0.71	Not Detected	--	1	no
91-57-6	2-Methylnaphthalene	1.08	Not Detected	--	nle	no
77-47-4	Hexachlorocyclopentadiene	1.32	Not Detected	--	50	no
91-58-7	2-Chloronaphthalene	1.01	Not Detected	--	nle	no
88-74-4	2-Nitroaniline	0.79	Not Detected	--	nle	no
131-11-3	Dimethylphthalate	1.52	Not Detected	--	7000	no
208-96-8	Acenaphthylene	0.96	Not Detected	--	nle	no

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) WATER

Date Sampled: 10/25/99 Location: 275 Lab Sample ID: 4883.01(Bldg 275)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
606-20-2	2,6-Dinitrotoluene	0.81	Not Detected	--	nle	no
99-09-2	3-Nitroaniline	0.79	Not Detected	--	nle	no
83-32-9	Acenaphthene	1.10	Not Detected	--	400	no
132-64-9	Dibenzofuran	1.00	Not Detected	--	nle	no
121-14-2	2,4-Dinitrotoluene	0.87	Not Detected	--	10	no
84-66-2	Diethylphthalate	1.62	3.44 ug/L	--	5000	no
86-73-7	Fluorene	0.99	Not Detected	--	300	no
7005-72-3	4-Chlorophenyl-phenylether	1.10	Not Detected	--	nle	no
100-01-6	4-Nitroaniline	1.05	Not Detected	--	nle	no
86-30-6	n-Nitrosodiphenylamine	1.01	Not Detected	--	20	no
103-33-3	Azobenzene	0.67	Not Detected	--	nle	no
101-55-3	4-Bromophenyl-phenylether	0.76	Not Detected	--	nle	no
118-74-1	Hexachlorobenzene	0.94	Not Detected	--	10	no
85-01-8	Phenanthrene	1.23	Not Detected	--	nle	no
120-12-7	Anthracene	1.12	Not Detected	--	2000	no
84-74-2	Di-n-butylphthalate	1.70	Not Detected	--	900	no
206-44-0	Fluoranthene	1.64	Not Detected	--	300	no
92-87-5	Benzidine	4.18	Not Detected	--	50	no
129-00-0	Pyrene	1.25	Not Detected	--	200	no
85-68-7	Butylbenzylphthalate	1.05	Not Detected	--	100	no
56-55-3	Benzo[a]anthracene	1.19	Not Detected	--	10	no
91-94-1	3,3'-Dichlorobenzidine	1.75	Not Detected	--	60	no
218-01-9	Chrysene	1.38	Not Detected	--	20	no
117-81-7	bis(2-Ethylhexyl)phthalate	1.74	Not Detected	--	30	no
117-84-0	Di-n-octylphthalate	1.44	Not Detected	--	100	no
205-99-2	Benzo[b]fluoranthene	1.25	Not Detected	--	10	no
207-08-9	Benzo[k]fluoranthene	1.29	Not Detected	--	2	no
50-32-8	Benzo[a]pyrene	1.05	Not Detected	--	20	no
193-39-5	Indeno[1,2,3-cd]pyrene	0.83	Not Detected	--	20	no
53-70-3	Dibenz[a,h]anthracene	0.64	Not Detected	--	20	no
191-24-2	Benzo[g,h,i]perylene	0.84	Not Detected	--	nle	no

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) WATER

Date Sampled: 12/3/99 Location: 275 Lab Sample ID: 4974.01(Bldg 275)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
107028	Acrolein	1.85	Not Detected	--	50	no
107131	Acrylonitrile	2.78	Not Detected	--	50	no
75650	tert-Butyl alcohol	8.52	Not Detected	--	nle	no
1634044	Methyl-tert-Butyl ether	0.16	Not Detected	--	nle	no
108203	Di-isopropyl ether	0.25	Not Detected	--	nle	no
	Dichlorodifluoromethane	1.68	Not Detected	--	nle	no
74-87-3	Chloromethane	1.16	Not Detected	--	30	no
75-01-4	Vinyl Chloride	1.06	Not Detected	--	5	no
74-83-9	Bromomethane	1.10	Not Detected	--	10	no
75-00-3	Chloroethane	1.01	Not Detected	--	nle	no
75-69-4	Trichlorofluoromethane	0.50	Not Detected	--	nle	no
75-35-4	1, 1-Dichloroethene	0.24	Not Detected	--	2	no
67-64-1	Acetone	1.36	6.94 ug/L	--	700	no
75-15-0	Carbon Disulfide	0.46	Not Detected	--	nle	no
75-09-2	Methylene Chloride	0.24	Not Detected	--	2	no
156-60-5	trans-1,2-Dichloroethene	0.16	Not Detected	--	100	no
75-35-3	1,1-Dichloroethane	0.12	Not Detected	--	70	no
108-05-4	Vinyl Acetate	0.78	Not Detected	--	nle	no
78-93-3	2-Butanone	0.62	Not Detected	--	300	no
156-59-2	cis-1,2-Dichloroethene	0.17	Not Detected	--	10	no
67-66-3	Chloroform	0.30	Not Detected	--	6	no
75-55-6	1,1,1-Trichloroethane	0.23	Not Detected	--	30	no
56-23-5	Carbon Tetrachloride	0.47	Not Detected	--	2	no
71-43-2	Benzeze	0.23	Not Detected	--	1	no
107-06-2	1,2-Dichloroethane	0.18	Not Detected	--	2	no
79-01-6	Trichloroethene	0.23	Not Detected	--	1	no
78-87-5	1, 2-Dichloropropane	0.40	Not Detected	--	1	no
75-27-4	Bromodichloromethane	0.55	Not Detected	--	1	no
110-75-8	2-Chloroethyl vinyl ether	0.65	Not Detected	--	nle	no
10061-01-5	cis-1,3-Dichloropropene	0.69	Not Detected	--	nle	no

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) WATER

Date Sampled: 12/3/99 Location: 275 Lab Sample ID: 4974.01(Bldg 275)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
108-10-1	4-Methyl-2-Pentanone	0.59	Not Detected	--	400	no
108-88-3	Toluene	0.37	Not Detected	--	1000	no
10061-02-6	trans-1,3-Dichloropropene	0.87	Not Detected	--	nle	no
79-00-5	1,1,2-Trichloroethane	0.48	Not Detected	--	3	no
127-18-4	Tetrachloroethene	0.32	Not Detected	--	1	no
591-78-6	2-Hexanone	0.71	Not Detected	--	nle	no
126-48-1	Dibromochloromethane	0.86	Not Detected	--	10	no
108-90-7	Chlorobenzene	0.39	Not Detected	--	4	no
100-41-4	Ethylbenzene	0.65	Not Detected	--	700	no
1330-20-7	m+p-Xylenes	1.14	Not Detected	--	nle	no
1330-20-7	o-Xylene	0.62	Not Detected	--	nle	no
100-42-5	Styrene	0.56	Not Detected	--	100	no
75-25-2	Bromoform	0.70	Not Detected	--	4	no
79-34-5	1,1,2,2-Tetrachloroethane	0.47	Not Detected	--	2	no
541-73-1	1,3-Dichlorobenzene	0.55	Not Detected	--	600	no
106-46-7	1,4-Dichlorobenzene	0.57	Not Detected	--	75	no
95-50-1	1,2-Dichlorobenzene	0.64	Not Detected	--	600	no

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) WATER

Date Sampled: 12/3/99 Location: 275 Lab Sample ID: 4974.01(Bldg 275)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
110-86-1	Pyridine	2.69	Not Detected	--	nle	no
62-75-9	N-nitroso-dimethylamine	1.34	Not Detected	--	20	no
62-53-3	Aniline	2.40	Not Detected	--	nle	no
111-44-4	bis(2-Chloroethyl)ether	1.88	Not Detected	--	10	no
541-73-1	1,3-Dichlorobenzene	1.75	Not Detected	--	600	no
106-46-7	1,4-Dichlorobenzene	1.75	Not Detected	--	75	no
100-51-6	Benzyl alcohol	1.50	Not Detected	--	nle	no
95-50-1	1,2-Dichlorobenzene	1.66	Not Detected	--	600	no
108-60-1	bis(2-chloroisopropyl)ether	2.04	Not Detected	--	300	no
621-64-7	n-Nitroso-di-n-propylamine	1.50	Not Detected	--	20	no
67-72-1	Hexachloroethane	2.21	Not Detected	--	10	no
98-95-3	Nitrobenzene	1.43	Not Detected	--	10	no
78-59-1	Isophorone	1.48	Not Detected	--	100	no
111-91-1	bis(2-Chloroethoxy)methane	1.78	Not Detected	--	nle	no
120-82-1	1,2,4-Trichlorobenzene	1.79	Not Detected	--	9	no
91-20-3	Naphthalene	1.87	Not Detected	--	nle	no
106-47-8	4-Chloroaniline	1.60	Not Detected	--	nle	no
87-68-3	Hexachlorobutadiene	1.04	Not Detected	--	1	no
91-57-6	2-Methylnaphthalene	1.59	Not Detected	--	nle	no
77-47-4	Hexachlorocyclopentadiene	1.94	Not Detected	--	50	no
91-58-7	2-Chloronaphthalene	1.48	Not Detected	--	nle	no
88-74-4	2-Nitroaniline	1.16	Not Detected	--	nle	no
131-11-3	Dimethylphthalate	2.23	Not Detected	--	7000	no
208-96-8	Acenaphthylene	1.41	Not Detected	--	nle	no

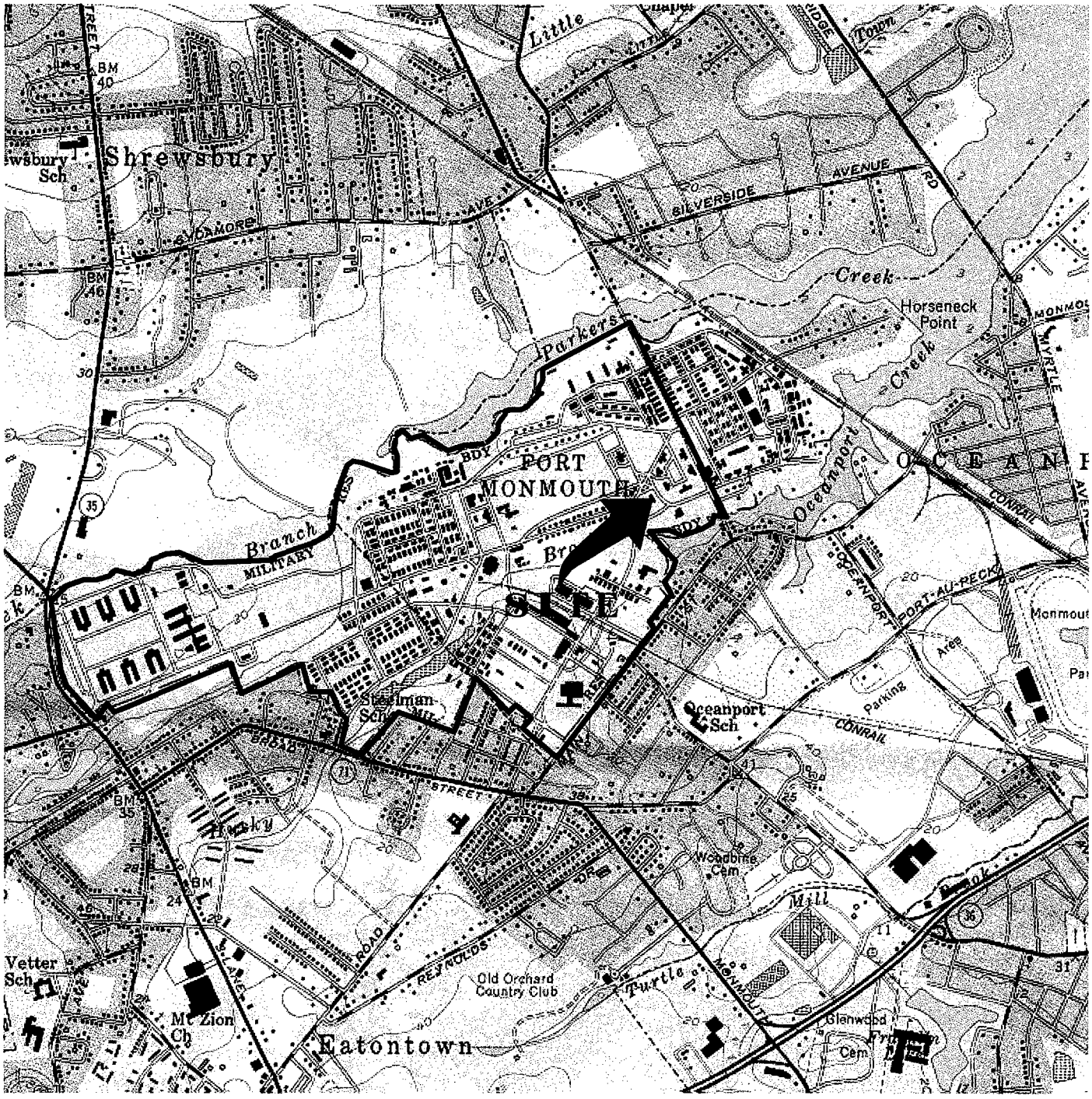
Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) WATER

Date Sampled: 12/3/99 Location: 275 Lab Sample ID: 4974.01(Bldg 275)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
606-20-2	2,6-Dinitrotoluene	1.19	Not Detected	--	nle	no
99-09-2	3-Nitroaniline	1.16	Not Detected	--	nle	no
83-32-9	Acenaphthene	1.62	Not Detected	--	400	no
132-64-9	Dibenzofuran	1.47	Not Detected	--	nle	no
121-14-2	2,4-Dinitrotoluene	1.28	Not Detected	--	10	no
84-66-2	Diethylphthalate	2.38	Not Detected	--	5000	no
86-73-7	Fluorene	1.46	Not Detected	--	300	no
7005-72-3	4-Chlorophenyl-phenylether	1.62	Not Detected	--	nle	no
100-01-6	4-Nitroaniline	1.54	Not Detected	--	nle	no
86-30-6	n-Nitrosodiphenylamine	1.48	Not Detected	--	20	no
103-33-3	Azobenzene	0.98	Not Detected	--	nle	no
101-55-3	4-Bromophenyl-phenylether	1.12	Not Detected	--	nle	no
118-74-1	Hexachlorobenzene	1.38	Not Detected	--	10	no
85-01-8	Phenanthrene	1.81	Not Detected	--	nle	no
120-12-7	Anthracene	1.65	Not Detected	--	2000	no
84-74-2	Di-n-butylphthalate	2.50	Not Detected	--	900	no
206-44-0	Fluoranthene	2.41	Not Detected	--	300	no
92-87-5	Benzidine	6.14	Not Detected	--	50	no
129-00-0	Pyrene	1.84	Not Detected	--	200	no
85-68-7	Butylbenzylphthalate	1.54	Not Detected	--	100	no
56-55-3	Benzo[a]anthracene	1.75	Not Detected	--	10	no
91-94-1	3,3'-Dichlorobenzidine	2.57	Not Detected	--	60	no
218-01-9	Chrysene	2.03	Not Detected	--	20	no
117-81-7	bis(2-Ethylhexyl)phthalate	2.56	Not Detected	--	30	no
117-84-0	Di-n-octylphthalate	2.12	Not Detected	--	100	no
205-99-2	Benzo[b]fluoranthene	1.84	Not Detected	--	10	no
207-08-9	Benzo[k]fluoranthene	1.90	Not Detected	--	2	no
50-32-8	Benzo[a]pyrene	1.54	Not Detected	--	20	no
193-39-5	Indeno[1,2,3-cd]pyrene	1.22	Not Detected	--	20	no
53-70-3	Dibenz[a,h]anthracene	0.94	Not Detected	--	20	no
191-24-2	Benzo[g,h,i]perylene	1.23	Not Detected	--	nle	no

FIGURES



LONG BRANCH, N. J.

40073-C8-TF-024

1954

PHOTOREVISED 1981

DMA 6164 I SE-SERIES V822

NEW JERSEY

QUADRANGLE LOCATION

Mapped, edited and published by the Geological Survey

FIGURE 1

LOCATION MAP
Building 275
Main-Post West
Fort Monmouth Army Base
Monmouth County, NJ

VERSAR
Engineers, Managers, Scientists, & Planners
Bristol, PA

Scale: 1" = 2000'

Date: JULY 1998

Geologic Map of New Jersey

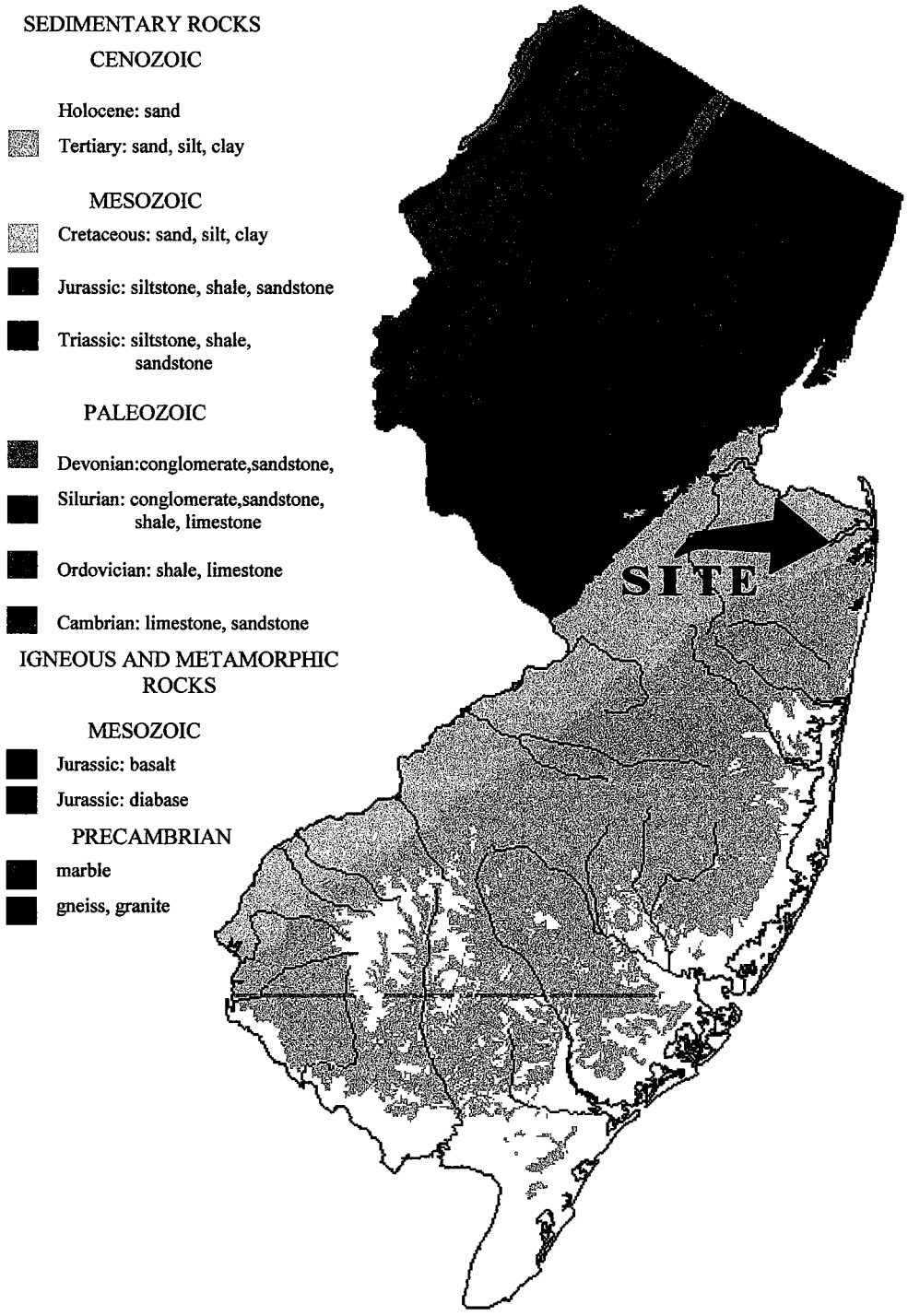


FIGURE 1A
GEOLOGICAL MAP
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
Engineers, Managers, Scientists & Planners
Bristol, Pennsylvania

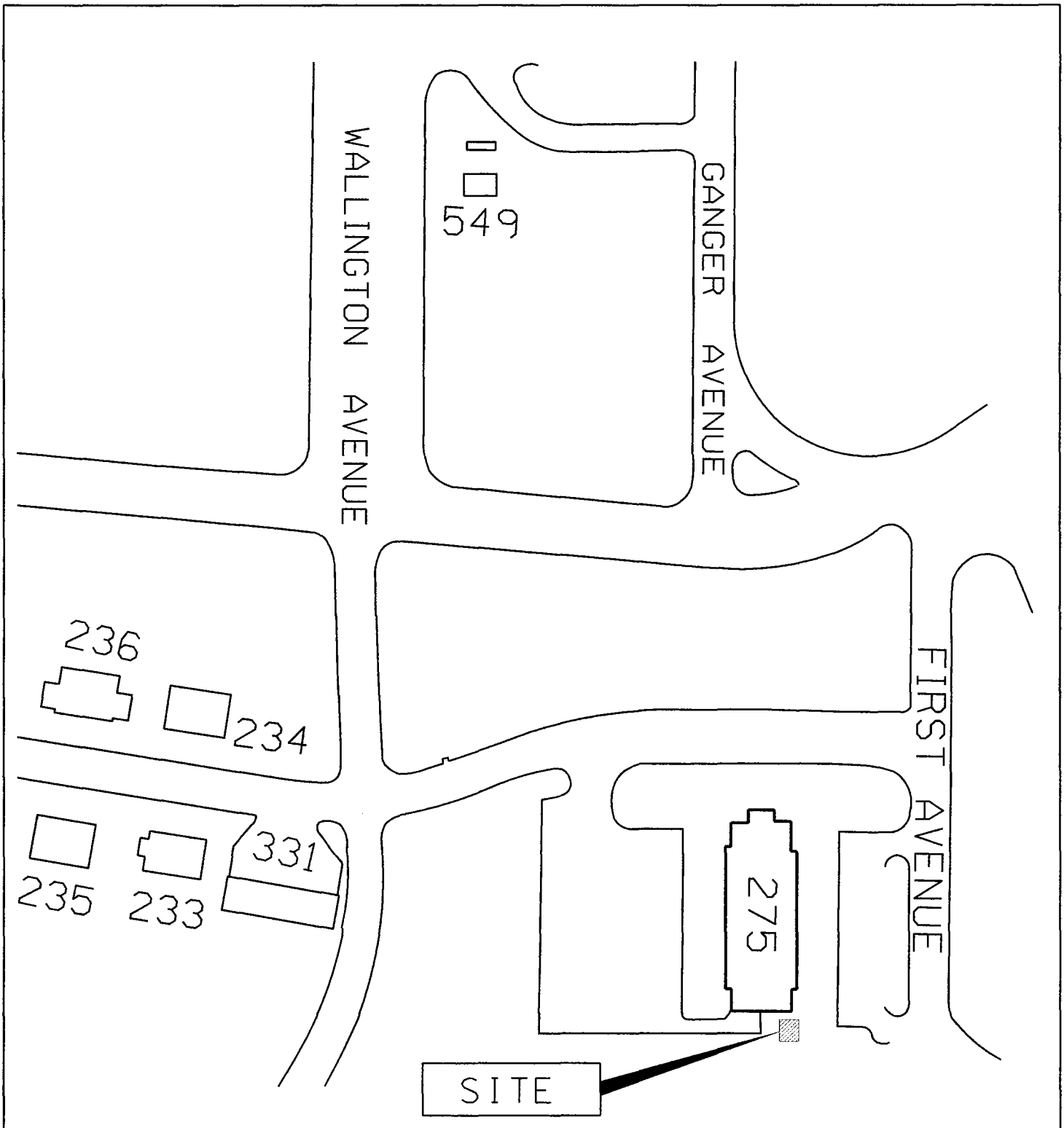


FIGURE 2
SITE MAP
BUILDING 275
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
ENGINEERS, MANAGERS, SCIENTISTS & PLANNERS
BRISTOL, PA.

SCALE: 1"=100' | DATE: JULY 1998

275 2429 FIG2

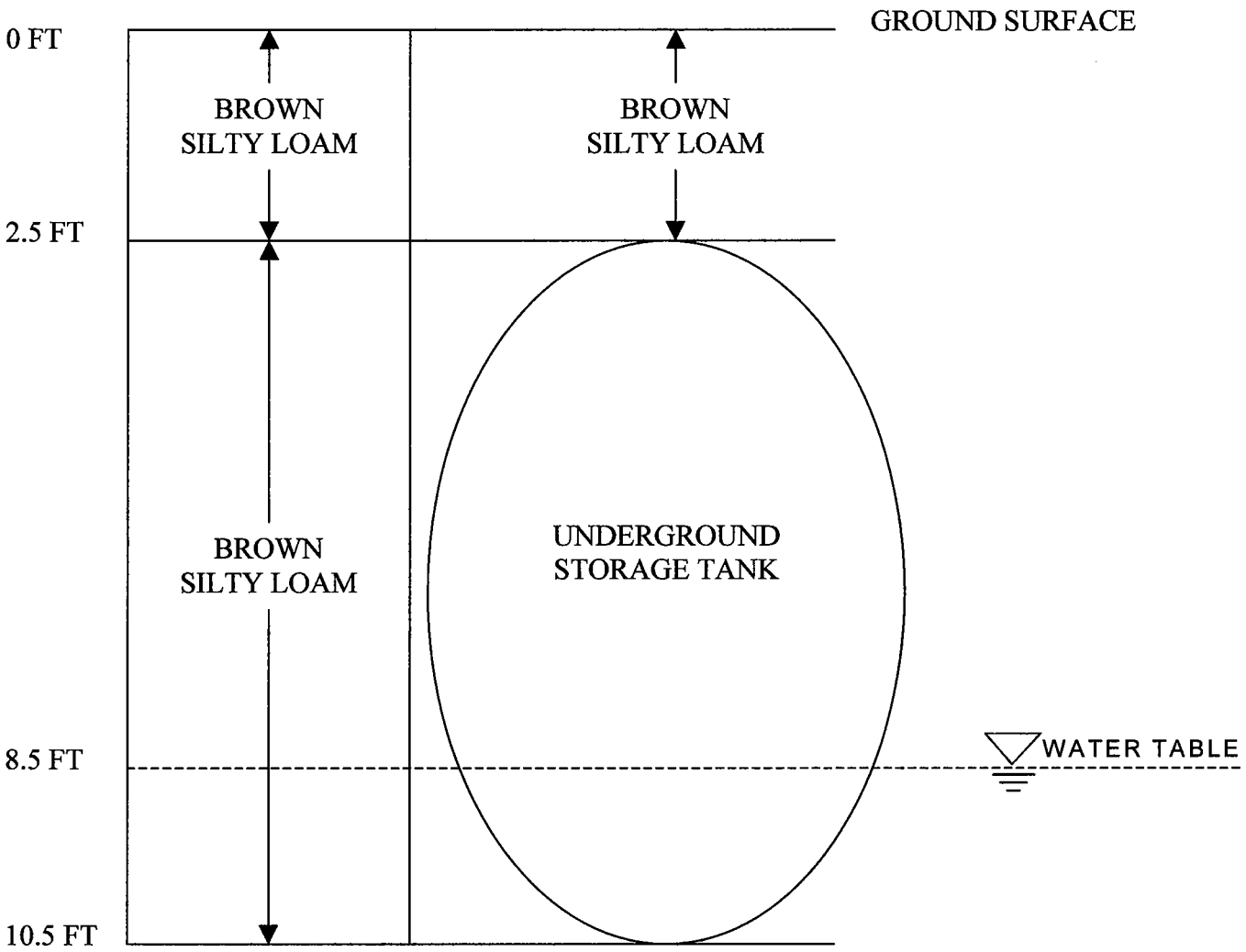
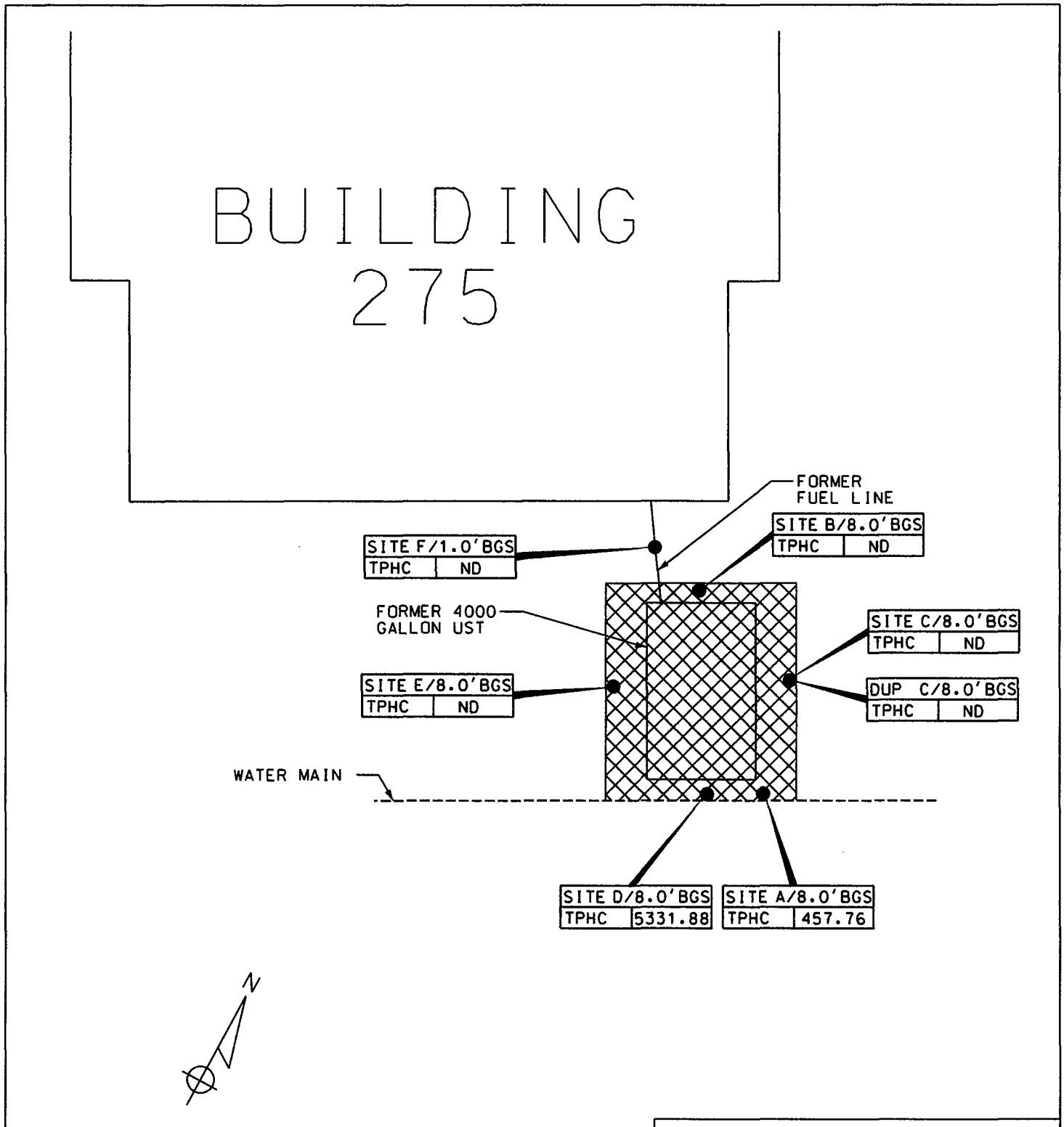


FIGURE 3
CROSS SECTIONAL VIEW
BUILDING 275
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
Engineers, Managers, Scientists & Planners
Bristol, Pennsylvania

SCALE: NTS	DATE: JULY 1998



LEGEND

- SOIL SAMPLE LOCATION (JULY 21, 1998)
- LIMIT OF EXCAVATION (JULY 21, 1998)

NOTES:

1. ALL RESULTS IN MG/KG.
2. SEE TABLE 2 FOR NJDEP SOIL CLEANUP CRITERIA
3. BGS = BELOW GROUND SURFACE

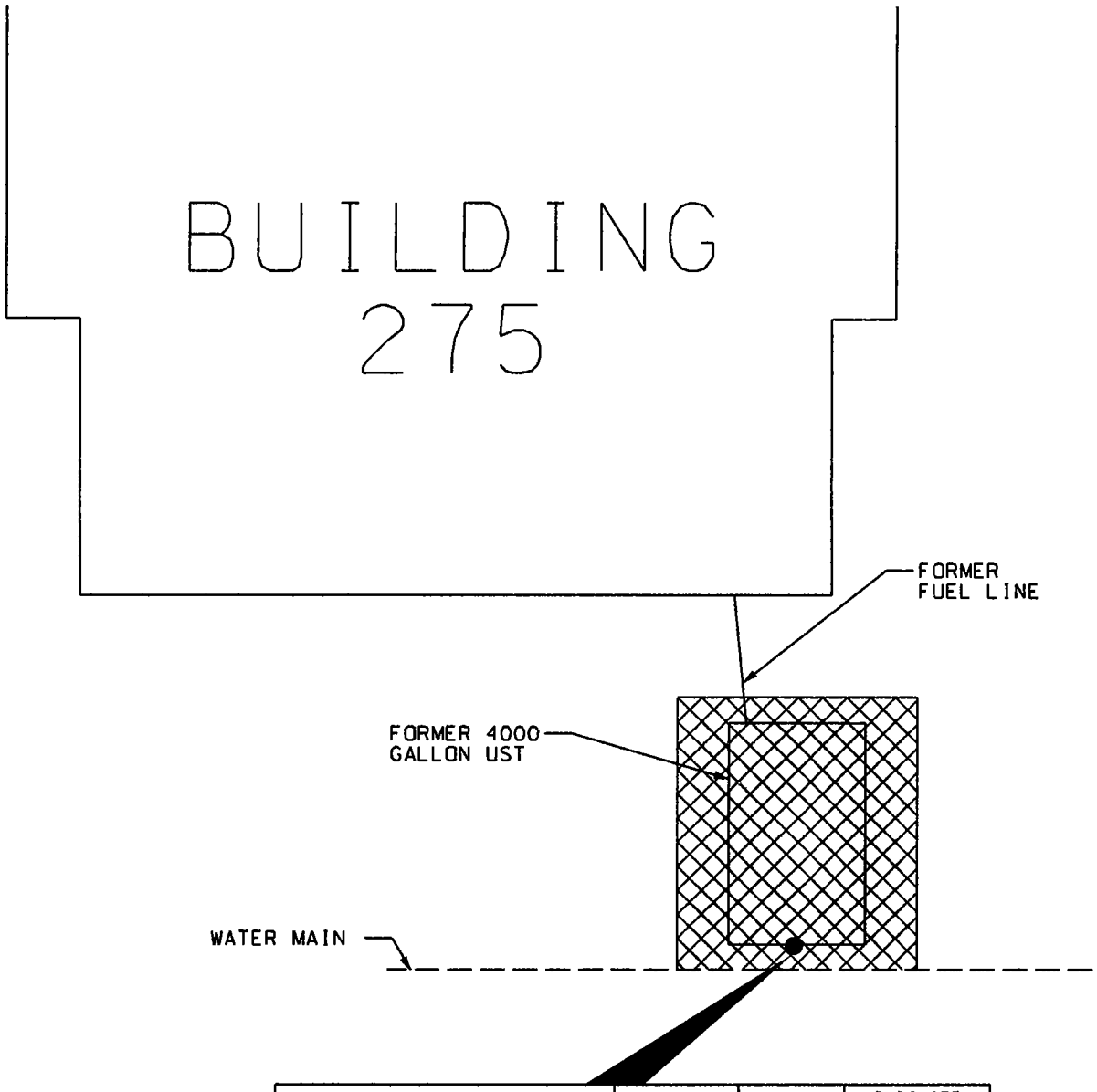
FIGURE 4
SOIL SAMPLING LOCATION MAP
BUILDING 275
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
ENGINEERS, MANAGERS, SCIENTISTS & PLANNERS
BRISTOL, PA.

SCALE: 1"=10'

DATE: JULY 1998

275 FIG4



SAMPLING LOCATION: SAMPLING DEPTH: SAMPLING DATE:	HIGHER OF NJDEP GWQS AND POL	BLDG 275 10/25/99	BLDG 275 12/3/99
VOLATILE ORGANIC COMPOUNDS:			
ACETONE:	700 UG/L	12.96 UG/L	6.94 UG/L
SEMIVOLATILE ORGANIC COMPOUNDS:			
DIETHYLPHTHALATE:	5000 UG/L	3.44 UG/L	ND

LEGEND

- GROUNDWATER SAMPLE LOCATION (OCTOBER 25, 1999 AND DECEMBER 3, 1999)
- LIMIT OF EXCAVATION (JULY 21, 1998)

NOTES:

1. ND=INDICATES COMPOUND NOT DETECTED
2. NLE= NO LIMIT ESTABLISHED
3. ALL RESULTS IN UG/L
4. BGS = BELOW GROUND SURFACE

FIGURE 5
GROUNDWATER SAMPLING MAP
BUILDING 275
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
ENGINEERS, MANAGERS, SCIENTISTS & PLANNERS
BRISTOL, PA.

SCALE: 1"=10'

DATE: JULY 1998

275 2429 FIG5

APPENDIX A

NJDEP-STANDARD REPORTING FORM

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
BUREAU OF APPLICABILITY AND COMPLIANCE
Registration and Billing Unit
CN 028, Trenton, N.J. 08625-0028
1-609-984-3156

FOR STATE USE ONL
Check In ☐ Yes ☐
STATUS Active ☐ Inactive ☐ COMCODI ☐☐☐

UNDERGROUND STORAGE TANK FACILITY QUESTIONNAIRE

FACILITY UST # 0085533 — Bldg 275

Completion of this Registration Questionnaire will satisfy the registration requirements of the Underground Storage of Hazardous Substances Act, N.J.S.A. 58:10A-21, and the Registration and Billing Regulations N.J.A.C. 7:14B-2.

[Check appropriate box(es)]

A. ☐ Is this a registration of a proposed or newly installed underground storage tank? (This form must be filed at least 30 days prior to operati
B. ☐ Is this a registration of an existing underground storage tank not presently registered?
C. ☒ Is this a correction or amendment to an existing facility registration? UST # 0085533
D. ☐ There have been no changes to the facility registration since last submittal. UST #_____ (Go to certification page for signatures)

If "C" is checked above, please check the appropriate type of change(s) below

☐ Facility Name and/or Address Change
☐ Owner Name and/or Address Change
☐ Facility Operator and/or Address Change
☐ Owner Contact Person Change
☐ Type of Product(s) Stored
☐ Spills, Leaks, Releases
☐ Tank(s) and/or Piping Changes
☒ Closure (Complete Question #13)
☐ Financial Responsibility Change
☐ Substantial Modification(s)
☐ Sale or Transfer (Complete Questions 4,5,6 & 1
☐ Other *(please specify)*

SECTION A - GENERAL FACILITY INFORMATION

1. Facility Name [illegible]
2. Facility Location Fort Monmouth
   NUMBER AND STREET
   CITY OR MUNICIPALITY
   COUNTY | STATE NJ | ZIP CODE | BLOCK | LOT
3. Facility Operator
   PERSON OR TITLE
   Contact Tele. No. (Area Code) (Extension)
   Operator Address (if different than #2)
   NUMBER AND STREET
   CITY OR MUNICIPALITY
   STATE | ZIP CODE
4. Tank Owner
5. Tank Owner Address
   NUMBER AND STREET
   CITY OR MUNICIPALITY
   STATE | ZIP CODE
   Contact Person (Tank Owner) [illegible]
   Contact Tele. No. 732 532 6004 (Area Code) (Extension)
7. EPA ID # ☐☐☐☐☐☐☐☐☐☐☐☐
8. Total number of regulated underground storage tanks at facility ☐☐☐☐ *(Complete Section B for each tank)*

Bldg 5

9. Total regulated underground storag nk capacity at facility (gallons) [ ]

10. Facility Type: A ☐ State B ☐ Commercial/ Industrial C ☐ County/Municipal D ☐ Federal E ☐ Charitable / Public School F ☐ Residence G ☐ Other H ☐ Farm (as defined in N.J. 54:4-23.1 et seq.)

11. Is a copy of the facility site plan submitted with this registration pursuant to N.J.A.C. 7:14B-2? ☐ YES ☐ NO

SECTION B - SPECIFIC TANK INFORMATION

ALL underground tanks, including those taken out of operation (UNLESS THE TANK WAS REMOVED FROM THE GROUND PRIOR TO 9/3/86) must be registered. Report all tank/piping status changes unless previously submitted.

	TANK NO.	TANK NO.	TANK NO.	TANK NO.	TANK NO.
1. Tank Identification Number					
2. CAS Number (hazardous substances only)					
3. Date Tank Installed (Month/Day/Year)	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
4. Tank Size (gallons)					
5. Tank Contents (Mark one "X" for each tank)					
A. Leaded gasoline					
B. Unleaded gasoline					
C. Alcohol endriched gasoline					
D. Light diesel fuel (No. 1-D)					
E. Medium diesel fuel (No. 2-D)					
F. Waste Oil					
G. Kerosene (No. 1)					
H. Home heating oil (No. 2)					
J. Heating oil (No. 4)					
K. Heavy heating oil (No. 6)					
L. Aviation fuel					
M. Motor oil					
N. Lubricating oil					
P. Sewage					
Q. Sewage sludge					
R. Other hazardous substances (specify)					
S. Hazardous waste (specify ID number)					
T. Mixtures (please specify)					
U. Emergency spill tank (specify substance)					
V. Other petroleum products (please specify)					
W. Other (please specify)					
6. Tank & Piping Construction (Mark one each for both tank & piping)	Tank Piping	Tank Piping	Tank Piping	Tank Piping	Tank Piping
A. Bare Steel					
B. Cathodically protected steel					
C. Fiberglass-coated steel					
D. Fiberglass-reinforced plastic					
E. Internally lined					
F. Other (please specify)					
7. Tank & Piping Structure (Mark one each for both tank & piping)	Tank Piping	Tank Piping	Tank Piping	Tank Piping	Tank Piping
A. Single wall					
B. Double wall					
C. Other (please specify)					
8. Type of Monitoring/Detection System (Mark all that apply for both tank & piping)	Tank Piping	Tank Piping	Tank Piping	Tank Piping	Tank Piping
A. Statistical Inventory Reconciliation					
B. Manual Tank Gauging					
C. Inventory Control					
D. Interstitial					
E. Precision Test					
F. Ground water observation wells					
G. Vapor observation wells					
H. In-tank (automatic) monitoring gauge					
J. Periodic Tank Test					

P/66 275

Tank Identification Number	TANK NO.	TANK NO.	TANK NO.	TANK NO.	TANK NO.
8. Type of Monitoring/Detection System	Tank Piping	Tank Piping	Tank Piping	Tank Piping	Tank Pipir
K. None					
L. Other (please specify)					
9. Overfill Protection (tank only) (Mark one X for each tank)					
A. Yes					
B. No					
10. Spill Containment Around Fill Pipe (Mark one X for each tank)					
A. Yes					
B. No					
11. Tank Status (Mark one X for each tank)	Tank Piping	Tank Piping	Tank Piping	Tank Piping	Tank Pipin
A. In-use					
B. Empty less than 12 months					
C. Empty 12 months or more					
D. Emergency spill tank (sump)					
E. Emergency backup generator tank					
F. Abandoned in Place					
G. Removed					
H. Other (please specify)					
12. If box 11B, C, or D above has been marked, indicate the estimated date last used (month/day/year)	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
13. Closure Information - Tank ID No.	TANK NO. 1 C 5 6	TANK NO.	TANK NO.	TANK NO.	TANK NO.
	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
A. Date abandoned in place					
B. Date taken temporarily out of service					
C. Date removed	07 21 1995				
D. Date of Sale or Transfer					
E. TMS # (if applicable)	Fed. Case 114.2				
F. ISRA # (if applicable)					

SECTION C - FINANCIAL RESPONSIBILITY

Does this facility have a Financial Responsibility Assurance Mechanism as required in 40 CFR 280? ☐ YES ☐ NO
Please list the appropriate financial information below:

Type _____ Carrier / Issuing Agency _____

___/___/___ Effective Date ___/___/___ Expiration Date _____ Policy Number $_____ Amount

SECTION D - MONITORING SYSTEMS

Does this facility have a release detection monitoring system which is in compliance with N.J.A.C. 7:14B-6? ☐ YES ☐ NO
If "No", please be aware that the facility must meet the appropriate deadline. (See "Dates to Know" on Page 4)

SECTION E - RECORDKEEPING/COMPLIANCE

Please answer all the questions in this section on a facility basis. Any one tank not in compliance requires a "NO" answer for the entire facility.

1. Does this facility have cathodic protection systems for all steel tanks and piping? ☐ YES ☐ NO
   If "Yes", are the systems properly operated and maintained pursuant to N.J.A.C. 7:14B-5? ☐ YES ☐ NO
2. Are the performance claims and documentation of monitoring systems maintained by the owner or operator pursuant to N.J.A.C. 7:14B-5? ☐ YES ☐ NO
3. Are the proper monitoring, testing, sampling, repair and inventory records kept on-site pursuant to N.J.A.C. 7:14B-5 and 6? ☐ YES ☐ NO
4. Is the proper Release Response Plan kept on-site pursuant to N.J.A.C. 7:14B-5? ☐ YES ☐ NO
5. Does the facility have spill and over fill protection systems pursuant to N.J.A.C. 7:14B-4? ☐ YES ☐ NO
6. Have all Fill Ports been permanently marked as per API #1637 pursuant to N.J.A.C. 7:14B-5?

Bldg 225

IMPORTANT INFORMATION

FEE:	Please make checks payble to: **"Treasurer, State of New Jersey"**. Use of the enclosed return envelope will expedite processing. Registration and Billing Schedule can be found in N.J.A.C. 7:14B. All Initial Registration fees are $100 per facility.
PENALTY:	Failure by owner or operator of a regulated underground storage tank to comply with any requirement of the State UST Act or regulations may result in the penalties set forth in N.J..S.A. 58:10A-10.
EMERGENCY:	If a discharge or spill occurs, the NJDEP Hotline at (609) 292-7172 must be called IMMEDIATELY - 24 hours a day.
UPGRADE EXEMPTION:	Residential heating oil underground storage tanks are exempt from all upgrade requirements.

DATES TO KNOW (critical deadlines)

December 22, 1988	—	All new federally regulated tank systems must have cathodic protection and spill/overfill protection.
September 4, 1990	—	All new State-only regulated tank systems must have cathodic protection and spill/overfill protection.
December 22, 1990	—	All federally regulated piping must have begun leak detection.
February 19, 1993	—	All federally regulated tank systems must maintain financial responsibility assurance.
December 22, 1993	—	All federally regulated tank systems must have begun leak detection.
December 22, 1998	—	All regulated tanks shall install cathodic protection and spill/overfill protection.

CERTIFICATIONS

NOTE: IF THE PERSON SIGNING CERTIFICATION NO. 2 IS THE SAME AS THE PERSON SIGNING CERTIFICATION NO. 1, THEN CERTIFICATION NO. 2 NEED NOT BE SIGNED. (If different persons are required to sign No. 1 and No. 2, then they must do so.)

CERTIFICATION NO. 1:

Must be signed by the highest ranking individual at the facility with overall responsibility

"I certify under penalty of law that the information provided in this document is true, accurate and complete to the best of my knowledge, information and belief. I am aware that there are significant civil and criminal penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Mr. James Ott	James Ott
(Typed / Printed Name)	(Signature)
Director of Public Works	7/22/98
(Title)	(Date)

CERTIFICATION NO. 2:

Must be signed as follows:

- For a corporation, by a principal executive officer of at least the level of vice president
- For a partnership or sole proprietorship, by a general partner or the proprietor, respectively
- For a municipality, State, Federal or other public agency, by either a principal executive officer or ranking elected official
- For persons other than indicated above, by the person with legal responsibility for the site

"I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information. I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil and criminal penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

(Typed / Printed Name)	(Signature)
(Title)	(Date)

CERTIFICATION NO. 3:

If applicable, must be signed by the individual who is certified to perform services.

"I certify under penalty of law that the information provided in this document is true, accurate and complete to the best of my knowledge, information and belief. I am aware that there are significant civil and criminal penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Charles Appleby	Environ Spec		7/30/98
(Typed / Printed Name)	(Title)	(Signature)	(Date)
U.S. Navy		3056	
(Name of Firm, if applicable)		(N.J. Certification Number)	

APPENDIX B

SITE ASSESSMENT SUMMARY

(12/97) **New Jersey Department of Environmental Protection**

Site Remediation Program

UST Site/Remedial Investigation Report Certification Form

A. Facility Name : U.S. Army Fort Monmouth New Jersey

Facility Street Address : Directorate of Public Works Building 173

Municipality: Oceanport County : Monmouth

Block: Lot(s): Telephone Number : 732-532-6224

B. Owner (RP)'s Name:

Street Address: City :

State: Zip: Telephone Number :

C. (Check as appropriate)

___ Site Investigation Report (SIR) $500 Fee

___ Remedial Investigation Report (RIR) $1000 Fee

_X_ NA – Federal Agreement

D. (Complete all that apply)

- Assigned Case Manager : Ian Curtis, Federal Case Manager
- UST Registration Number : 81533-56 (7 digits)
- Incident Report Number 98 – 07 – 22 – 1114 – 44 (10 or 12 digits)

___ – ___ – ___ – _____ – ___

- Tank Closure Number : Federal Case Manager

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E .....Yes No

Name: Charles Appleby Signature: UST Cert. No.: 2056

Firm: U.S. Army Fort Monmouth Firm's UST Cert. Number: NA-U.S. Army

Firm Address: Directorate of Public Works Building 173 City: Fort Monmouth

State: NJ Zip: 07703 Telephone Number : 732-532-6224

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): James Ott Title: Directorate of Public Works

Signature: James Ott

Company Name: U.S. Army Fort Monmouth Date: 9/4/00

APPENDIX C

WASTE MANIFEST

CASIE / PROTANK
ENVIRONMENTAL SERVICES

Please type or print in block letters. (Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS MANIFEST

1. Generator's US EPA ID No. N J 3 2 1 0 0 2 0 5 9 7 | Document No. 1 5 2 2 1

2. Page 1 of

3. Generator's Name and Mailing Address: U.S. Army Com. Elec.Command
Main Post Bldg 173/Attn:
Fort Monmouth NJ 07703

4. Generator's Phone (732) 532-6223

A. Non-hazardous Manifest Document Number: NHZ020 19746

B. State Generator's ID: c/o ~~James Shirghiot~~ Joe Fallon

5. Transporter 1 Company Name: Casie Ecology Oil Salvage, Inc.

6. US EPA ID Number: N J D 0 4 5 9 9 5 6 9 3

C. State Trans. ID

7. Transporter 2 Company Name

8. US EPA ID Number

D. Transporter's Phone ( )

E. State Trans. ID (609) 696-4401

9. Designated Facility Name and Site Address: Casie Ecology Oil Salvage, Inc. T/A
3209 N. Mill Rd / Casie Protank
Vineland NJ 08360

10. US EPA ID Number: N J D 0 4 5 9 9 5 6 9 3

F. Transporter's Phone ( )

G. State Facility's ID

H. Facility's Phone (0614D1HP05) (609) 696-4401

	11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	Unit Wt/Vol	14. Waste No.
a.	Combustible liquid, n.o.s.(Fuel Oil) NA1993, III			X1046	G	SLo
b.		001	TT	00001	G	I D 7 2
c.						
d.						

J. Additional Descriptions for Materials Listed Above

a. S,T

b.

c.

d.

K. Handling Codes for Wastes Listed Above

a.

b.

c.

d.

15. Special Handling Instructions and Additional Information: UST Bldg # 275, 241, 245, 247, 249, 251, 253, 255, 234, 236 CFI#1108A6-M

a. ERG# 128 AST - 1220

b. 24 hr. Emergency Response #609 696-4401 K Ambrosia

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

I hereby certify that the above-named material is not hazardous waste as defined by 40 CFR Part 261, 264 and 279 or any applicable state law.

GENERATOR

Printed/Typed Name: Charles Appleby SELFM-PW-EV | Signature | Month Day Yea: 01/08/96

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Shan Lee | Signature | Month Day Yea: 01/08/96

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Yea

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name | Signature | Month Day Yea

1-GENERATOR COPY

SIGNATURE AND INFORMATION *MUST* BE LEGIBLE ON ALL COPIES

APPENDIX D

UST DISPOSAL CERTIFICATE

MON UTH COUNTY
RECLAMATION CENTER
TINTON FALLS, NJ

MAILING ADDRESS: 6000 ASBURY AVE.
NEPTUNE, NJ 07753

CUSTOMER COPY

FACILITY I.D. NO. 1336F1SP01

RECEIPT DOCUMENT NUMBER

01713605

BILL TO
MARP508937
MARPAL COMPANY
PO BOX 188
LINCROFT NJ 07738

HAULER
MARP508937
MARPAL COMPANY
PO BOX 188
LINCROFT NJ 07738

Escrow Level: 2400.00

DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
08/17/98	11:42	KRW	11:52	EEB	(43920 LB)	(36140 LB)	(7780 LB)
					Scale 02	Scale 03	
00864004	Scale 02		Scale 03		(21.96 T)	(18.07 T)	(3.89 T)

VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE
2065ZZ	Rolloff Open 20	XX77PH	Normal

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
3.8900	13	Bulky Waste - (MRF) MONMOUTH COUNTY EATONTOWN BOROUGH	Tons 100.00%	88.15	342.90

TVS
0312166
77379

I hereby certify that the information provided on this form is true to the best of my knowledge.

*** Prepayment Balance Remaining: 177625.16

DRIVER NAME
PRINT _____ SIGNATURE _____

DOCUMENT TOTAL $342.90

APPENDIX E

SOIL ANALYTICAL DATA PACKAGE

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

REPORT OF ANALYSIS

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Project: Total Petroleum Hydrocarbons
98-0001
Bldg. 275

Project # 3743
Date Rec. 07/21/98
Date Compl. 07/22/98
Released by:

7/27/98

Daniel K. Wright Date:
Laboratory Director

Table of Contents

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

	No	Yes
1.Method Detection Limits provided.	__	✓
2. Method Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank	✓	__
3. Matrix Spike Results Summary Meet Criteria. (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	__	✓
4. Duplicate Results Summary Meet Criteria. (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	__	✓
5. IR Spectra submitted for standards, blanks, & samples	__	NA __
6. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.	__	✓
7. Analysis holding time met. (If not met, list number of days exceeded for each sample)	__	✓

Additional Comments:_____

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW 846 for Solid Waste Analysis. I have personally examined the information contained in this report, and to the best of my knowledge, I believe that the submitted information is true, accurate, complete, and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Daniel K. Wright
Laboratory Manager

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Charles Appleby
Phone #: X26224
( )DERA (X)OMA UST Assessment

Project No: 98-0001
Location: B.275
UST# 81533-56

Samplers Name / Company : Gary DiMartinis TVS

Analysis Parameters: TPHC; % SOLIDS; VOA+15 **; ** TO BE DETERMINED; VOA ID Number; OVA

Comments: * = Samples Kept <4 Celsius

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	TPHC	% SOLIDS	VOA+15 **	VOA ID Number	OVA	Remarks / Preservation Method
3743. 01	275-A	7-21-98	1030	Soil	2	X	X	X			SIDEWALL @ 8.0' *
02	B		1015		1						
03	C		1010		1						
04	D		0956		2			X			
05	E		1004		1						
06	F		1045		1						Piping Run @ 1.0'
07	DUP		—	↓	1	↓	↓			—	FIELD DUPLICATE
08	TB	↓	—	METHANOL	1			X		—	TRIP BLANK

Note: OVA(#A51903) Calibrated With 95 ppm Methane & Zero Air @ 0945 on 7-21-98 by Gary DiMartinis

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	7-21-98 1155	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (X)Reduced, (_)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____Hrs.

Remarks: Dedicated Sampling Tools Used

print legibly

USTcoc6/30/98

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Lab. ID # :**	3743
	DPW. SELFM-PW-EV	**Date Rec'd:**	21-Jul-98
	Bldg. 173	**Analysis Start:**	21-Jul-98
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	22-Jul-98
Analysis:	OQA-QAM-025	**UST Reg. #:**	
Matrix:	Soil	**Closure #:**	
Analyst:	D.DEINHARDT	**DICAR #:**	
Ext. Meth:	Shake	**Location #:**	B. 275

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3743.01	275-A	**1.00**	15.11	79.87	195	**457.76**
3743.02	275-B	**1.00**	15.50	74.82	203	**ND**
3743.03	275-C	**1.00**	15.27	74.83	206	**ND**
3743.04	275-D	**1.00**	15.29	78.25	196	**5331.88**
3743.05	275-E	**1.00**	15.25	74.00	208	**ND**
3743.06	275-F	**1.00**	15.06	82.99	188	**ND**
3743.07	275-DUP	**1.00**	15.71	73.97	202	**ND**
METHOD BLANK	TBLK 138	**1.00**	15.00	100.00	157	**ND**

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

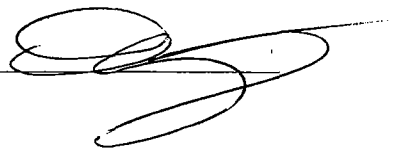
LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted ✓
2. Table of Contents submitted ✓
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted ✓
4. Document paginated and legible ✓
5. Chain of Custody submitted ✓
6. Samples submitted to lab within 48 hours of sample collection ✓
7. Methodology Summary submitted ✓
8. Laboratory Chronicle and Holding Time Check submitted ✓
9. Results submitted on a dry weight basis ✓
10. Method Detection Limits submitted ✓
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP ✓

Laboratory Manager or Environmental Consultant's Signature 

Date 7/27/94

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

REPORT OF ANALYSIS

Client: U.S. Army
DPW, SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Project: Volatiles - EPA Method 8260 Soil
98-0001
B.275
81533-56

Project # 3743
Date Rec. 07/21/98
Date Compl. 07/22/98
Released by:

10/5/98
Daniel K. Wright / Date
Laboratory Director

Table of Contents

Method Summary

EPA SW-846 Method 8260

Gas Chromatographic Determination of Volatiles in Soil

A 50uL volume of methanol soil sample is added to 5mL aliquot of water. Surrogates and internal standards are added and the sample is placed on a purge and trap concentrator. The sample as purged and desorbed into a GC/MS system.

Volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent solid, methanol volume and concentration.

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

Indicate Yes, No, N/A

1. Chromatograms labeled/Compounds identified (Field samples and method blanks) — yes

2. Retention times for chromatograms provided — yes

3. GC/MS Tune Specifications

   a. BFB Meet Criteria — yes
   b. DFTPP Meet Criteria — NA

4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series — yes

5. GC/MS Calibration – Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series — yes

6. GC/MS Calibration requirements

   a. Calibration Check Compounds Meet Criteria — yes
   b. System Performance Check Compounds Meet Criteria — yes

7. Blank Contamination – If yes, List compounds and concentrations in each blank: — NO

   a. VOA Fraction_____
   b. B/N Fraction_____
   c. Acid Fraction_____

8. Surrogate Recoveries Meet Criteria — yes

   If not met, list those compounds and their recoveries, which fall outside the acceptable range:

   a. VOA Fraction_____
   b. B/N Fraction_____
   c. Acid Fraction_____

   If not met, were the calculations checked and the results qualified as "estimated"? _____

9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries, which fall outside the acceptable range) — NO

   a. VOA Fraction See Comments
   b. B/N Fraction_____
   c. Acid Fraction_____

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT (cont.)

Indicate
Yes, No, N/A

10. Internal Standard Area/Retention Time Shift Meet Criteria — Yes
(If not met, list those compounds, which fall outside the acceptable range)

a. VOA Fraction_____
b. B/N Fraction_____
c. Acid Fraction_____

11. Extraction Holding Time Met — NA

If not met, list the number of days exceeded for each sample:_____

12. Analysis Holding Time Met — Yes

If not met, list the number of days exceeded for each sample:_____

Additional Comments:
1,1 Dichloroethene 42% 20% 69 RPD, Benzene 45% 38 RPD, Trichloroethene 52% 30 RPD, Toluene 24 RPD

Laboratory Manager: [signature] Date: 10/5/94

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Charles Appleby
Phone #: X26224
( )DERA (X)OMA UST Assessment

Project No: 98-0001
Location: B.275
UST# 81533-56

Samplers Name / Company : Gary DiMartinis TVS

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	TPHC	% SOLIDS	VOA+15 **	** TO BE DETERMINED VOA ID Number	OVA	Remarks / Preservation Method
3743. 01	275-A	7-21-98	1030	Soil	2	X	X	X			SIDEWALL @ 8.0' *
02	B		1015		1						
03	C		1010		1						
04	D		0956		2			X			
05	E		1004		1						
06	F		1045		1						Piping Run @ 1.0'
07	DUP		—		1	✓	✓			—	FIELD DUPLICATE
08	TB	✓	—	METHANOL	1			X		—	TRIP BLANK ✓

Comments:
* = Samples Kept <4 Celsius

Note: OVA(#A51903) Calibrated With 95 ppm Methane & Zero Air @ 0945 on 7-21-98 by Gary DiMartinis

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	7-21-98 1155	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (X)Reduced, (_)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____Hrs.

Remarks: Dedicated Sampling Tools Used

print legibly

USTcoc6/30/98

Change of Chain of Custody

Lab Project ID#: 3743-.04, 08 Site/Project Name: Bldg 275

Date Received: 7/21/98 Date of Change: 7/22/98

Requested by: print G. D. Sign: _____

Turnaround Time: _____

1. Were the correct containers and/or preservatives used for the tests indicated? (Yes) No
2. Was a sufficient amount of sample sent for the tests indicated? (Yes) No
3. Are samples Within Holding time for new analysis? (Yes) No
4. Was the change documented in the sample receipt log book? (Yes) No

Received by: print J. Verqura Sign: J. Verqura

Sample ID#	New Analysis		Sample ID#	New Analysis
3743 04	VOA+15			
+ 08	"			

Comments: _____

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

Definition of Qualifiers

MDL : Method Detection Limit
J : Compound identified below detection limit
B : Compound in both sample and blank
D : Results from dilution of sample
U : Compound searched for but not detected

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

VBLK87

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3743 Location: B.275 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: VBLK87

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V04365.D

Level: (low/med) MED Date Received: 07/21/98

% Moisture: not dec. 0 Date Analyzed: 07/22/98

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

VBLK87

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3743 Location: B.275 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: VBLK87

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V04365.D

Level: (low/med) MED Date Received: 07/21/98

% Moisture: not dec. 0 Date Analyzed: 07/22/98

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

275-TB

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3743 Location: B.275 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3743.08

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V04368.D

Level: (low/med) MED Date Received: 07/21/98

% Moisture: not dec. 0 Date Analyzed: 07/22/98

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

275-TB

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3743 Location: B.275 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3743.08

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V04368.D

Level: (low/med) MED Date Received: 07/21/98

% Moisture: not dec. 0 Date Analyzed: 07/22/98

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

275-D

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3743 Location: B.275 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3743.04

Sample wt/vol: 10.4 (g/ml) G Lab File ID: V04369.D

Level: (low/med) MED Date Received: 07/21/98

% Moisture: not dec. 21.75 Date Analyzed: 07/22/98

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2200	U
107131	Acrylonitrile	2200	U
75650	tert-Butyl alcohol	4000	U
1634044	Methyl-tert-Butyl ether	920	U
108203	Di-isopropyl ether	610	U
	Dichlorodifluoromethane	1200	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	920	U
74-83-9	Bromomethane	610	U
75-00-3	Chloroethane	920	U
75-69-4	Trichlorofluoromethane	610	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	610	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	610	U
156-60-5	trans-1,2-Dichloroethene	610	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	920	U
78-93-3	2-Butanone	920	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	610	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	610	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	610	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	610	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	610	U
79-00-5	1,1,2-Trichloroethane	610	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	610	U
126-48-1	Dibromochloromethane	610	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	330	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

275-D

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3743 Location: B.275 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3743.04

Sample wt/vol: 10.4 (g/ml) G Lab File ID: V04369.D

Level: (low/med) MED Date Received: 07/21/98

% Moisture: not dec. 21.75 Date Analyzed: 07/22/98

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	920	U
1330-20-7	o-Xylene	610	U
100-42-5	Styrene	610	U
75-25-2	Bromoform	610	U
79-34-5	1,1,2,2-Tetrachloroethane	610	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

VBLK87

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3743 Location: B.275 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: VBLK87

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V04365.D

Level: (low/med) MED Date Received: 07/21/98

% Moisture: not dec. 0 Date Analyzed: 07/22/98

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

275-TB

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3743 Location: B.275 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3743.08

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V04368.D

Level: (low/med) MED Date Received: 07/21/98

% Moisture: not dec. 0 Date Analyzed: 07/22/98

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

275-D

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3743 Location: B.275 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3743.04

Sample wt/vol: 10.4 (g/ml) G Lab File ID: V04369.D

Level: (low/med) MED Date Received: 07/21/98

% Moisture: not dec. 21.75 Date Analyzed: 07/22/98

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 15

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown hydrocarbon	26.97	2600	J
2. 001678-92-8	Cyclohexane, propyl-	30.59	6100	JN
3.	unknown hydrocarbon	31.70	3200	J
4. 000095-36-3	1,2,4-Trimethylbenzene	33.65	7400	JN
5. 001678-93-9	Cyclohexane, butyl-	33.88	3300	JN
6. 001074-43-7	Benzene, 1-methyl-3-propyl-	35.21	7400	JN
7. 001758-88-9	Benzene, 2-ethyl-1,4-dimethyl-	35.41	9000	JN
8. 000493-02-7	Naphthalene, decahydro-, trans-	35.58	6700	JN
9. 001074-17-5	Benzene, 1-methyl-2-propyl-	35.91	2600	JN
10. 000934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	36.12	3500	JN
11. 000099-87-6	Benzene, 1-methyl-4-(1-methylet	36.22	4000	JN
12. 000934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	36.42	5400	JN
13.	unknown	36.70	2700	J
14. 027133-93-3	2,3-Dihydro-1-methylindene	37.03	5000	JN
15. 000099-87-6	Benzene, 1-methyl-4-(1-methylet	37.40	5000	JN

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

		Indicate* Yes, No, N/A
1.	Cover Page, Title Page listing Lab Certification #, facility name & address, & data of report submitted	Y
2.	Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted	Y
3.	Summary Table cross-referencing field ID #'s vs. Lab ID #'s Lab ID's submitted	Y
4.	Document bound, paginated and legible	Y
5.	Chain of Custody submitted	Y
6.	Samples submitted to lab within 48 hours of sample collection	Y
7.	Methodology Summary submitted	Y
8.	Results submitted on a dry weight basis	Y
9.	Method Detection Limits	Y
10.	Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	Y

Laboratory Manager or Environmental Consultant's Signature _____

Date 10/5/95

Laboratory Certification # 13461

- *Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance

APPENDIX F

GROUNDWATER ANALYTICAL DATA PACKAGE

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS
PHONE: (732) 532-6224 FAX: (732) 532-6263
WET-CHEM - METALS - ORGANICS - FIELD SAMPLING
CERTIFICATIONS: NJDEP #13461, NYSDOH #11699

ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: UST Program

Bldg. 275

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
Trip Blank	4882.01	Aqueous	25-Oct-99	10/25/99
Field Blank	4882.02	Aqueous	25-Oct-99 14:20	10/25/99
Bldg. 275	4883.01	Aqueous	25-Oct-99 14:05	10/25/99

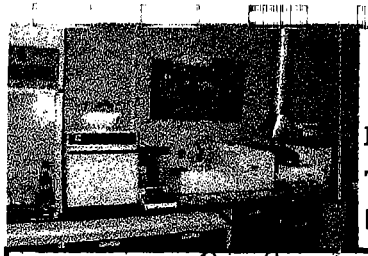
ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
VOA+15, BN+15

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

4-7-00
Daniel Wright/Date
Laboratory Director

Table of Contents

CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: C. Appleby
Phone #: 426224
( )DERA ( )OMA ( )Other:_____

Project No:
Location: UST Bldg 275 Rnd 1

Samplers Name / Company: Corey McCormack, TVS

Analysis Parameters

Comments: HCl / 4°c

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	VO+15	Xylene	BN+13					H/D Read	Remarks / Preservation Method
4883 . .01	Bldg 275	10/25/99	1405	AQ	3	✓	✓	✓					0.0	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Corey McCormack	10/25/99 1515				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 3 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks: Shows Trip/FB/Dup from 276 UST Sunday. CM

200030

print legibly

Coc.xls10/4/99

METHODOLOGY SUMMARY

Methodology Summary

EPA Method 624
Gas Chromatographic Determination of Volatiles in Water

Surrogates and internal standards are added to a 5 ml aliquot of sample. The sample is then purged and desorbed into a GC/MS system. The organic compounds are separated by the gas chromatograph and detected using the mass spectrometer. Volatiles are identified and quantitated.

EPA Method 3510/8270
Gas Chromatographic Determination of Semi-volatiles in Water

Surrogates are added to a measured volume of sample, usually 1 liter, at a specified pH. The sample is serially extracted with Methylene Chloride using a separatory funnel. The extract concentrated and internal standards are added. The sample is injected into a GC/MS system. Semi-volatiles are identified and quantitated.

CONFORMANCE/ NON-CONFORMANCE SUMMARY

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

	Indicate Yes, No, N/A
1. Chromatograms labeled/Compounds identified (Field samples and method blanks)	Yes
2. Retention times for chromatograms provided	Yes
3. GC/MS Tune Specifications	
a. BFB Meet Criteria	Yes
b. DFTPP Meet Criteria	Yes
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series	Yes
5. GC/MS Calibration – Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series	Yes
6. GC/MS Calibration requirements	
a. Calibration Check Compounds Meet Criteria	Yes
b. System Performance Check Compounds Meet Criteria	Yes
7. Blank Contamination – If yes, List compounds and concentrations in each blank:	NO
a. VOA Fraction _____	
b. B/N Fraction _____	
c. Acid Fraction _____	
8. Surrogate Recoveries Meet Criteria	NO
If not met, list those compounds and their recoveries, which fall outside the acceptable range:	
a. VOA Fraction _____	
b. B/N Fraction 2FP low in the MS	
c. Acid Fraction _____	
If not met, were the calculations checked and the results qualified as "estimated"?	Yes
9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries, which fall outside the acceptable range)	Yes
a. VOA Fraction _____	
b. B/N Fraction _____	
c. Acid Fraction _____	

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT (cont.)

Indicate
Yes, No, N/A

10. Internal Standard Area/Retention Time Shift Meet Criteria — Yes
(If not met, list those compounds, which fall outside the acceptable range)

a. VOA Fraction_____
b. B/N Fraction_____
c. Acid Fraction_____

11. Extraction Holding Time Met — Yes

If not met, list the number of days exceeded for each sample:_____

12. Analysis Holding Time Met — Yes

If not met, list the number of days exceeded for each sample:_____

Additional Comments:

Laboratory Manager:_____ Date: 4-7-00

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 4883 Site: Bldg. 275

	Date	Hold Time
Date Sampled	10/25/99	NA
Receipt/Refrigeration	10/ 25/99	NA
Extractions		
1. Base Neutrals	10/28/99	7 Days
Analyses		
1. Volatile Organics	10/28,29/99	14 Days
2. Base Neutrals	11/03/99	40 Days

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

Definition of Qualifiers

MDL : Method Detection Limit
J : Compound identified below detection limit
B : Compound in both sample and blank
D : Results from dilution of sample
U : Compound searched for but not detected

Volatile Analysis Report
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Data File	**VC001094.D**	Sample Name	**Vblk36**
Operator	**Skelton**	Field ID	**Vblk36**
Date Acquired	**28 Oct 1999 5:09 pm**	Sample Multiplier	**1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-35-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9-6 2-Sept-9

Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time

11/15/99 3:08 PM

C:\HPCHEM\Custrpt\Volatile\624fy99.crt

000012

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Vblk36**

Lab Name: FMETL NJDEP#: 13461

Project: 100004 Case No.: 4883 Location: 275 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: Vblk36

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC001094.D

Level: (low/med) LOW Date Received: 10/25/99

% Moisture: not dec. Date Analyzed: 10/28/99

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

Volatile Analysis Report
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Data File	**VC001106.D**	Sample Name	**4883.01**
Operator	**Skelton**	Field ID	**Bldg275**
Date Acquired	**29 Oct 1999 1:05 am**	Sample Multiplier	**1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone	8.87	87244	12.96 ug/L	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-35-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9-6 2-Sept-9

Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time

11/15/99 3:08 PM

C:\HPCHEM\Custrpt\Volatile\624fy99.crt

000014

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Bldg275**

Lab Name: FMETL NJDEP#: 13461

Project: 100004 Case No.: 4883 Location: 275 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 4883.01

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC001106.D

Level: (low/med) LOW Date Received: 10/25/99

% Moisture: not dec. Date Analyzed: 10/29/99

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: FMETL NJDEP#: 13461

Project: 100004 Case No.: 4883 Location: 275 SDG No.:

Lab File ID: VC000774.D BFB Injection Date: 9/14/99

Instrument ID: VoaInst#3 BFB Injection Time: 13:07

GC Column: RTX502.2 ID: 0.25 (mm) Heated Purge: (Y/N) N

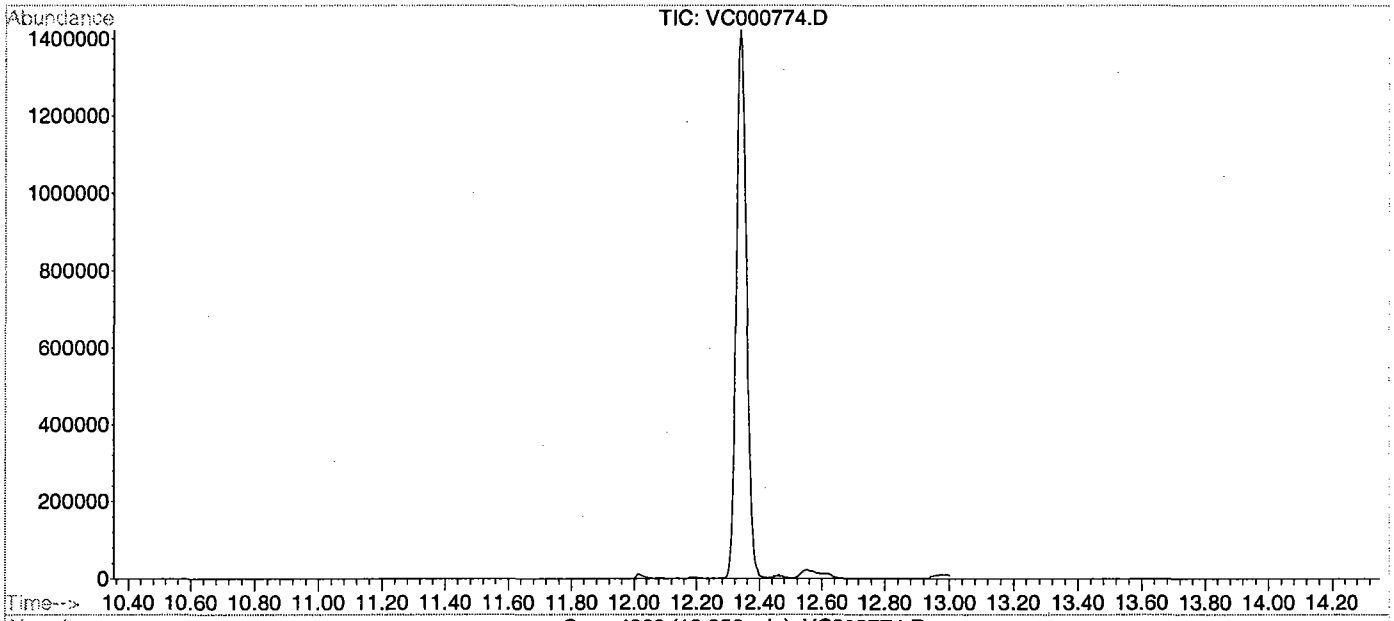
m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	17.4
75	30.0 - 66.0% of mass 95	45.6
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	50.4
175	4.0 - 9.0% of mass 174	3.5 (7.0)1
176	93.0 - 101.0% of mass 174	49.0 (97.3)1
177	5.0 - 9.0% of mass 176	3.0 (6.0)2

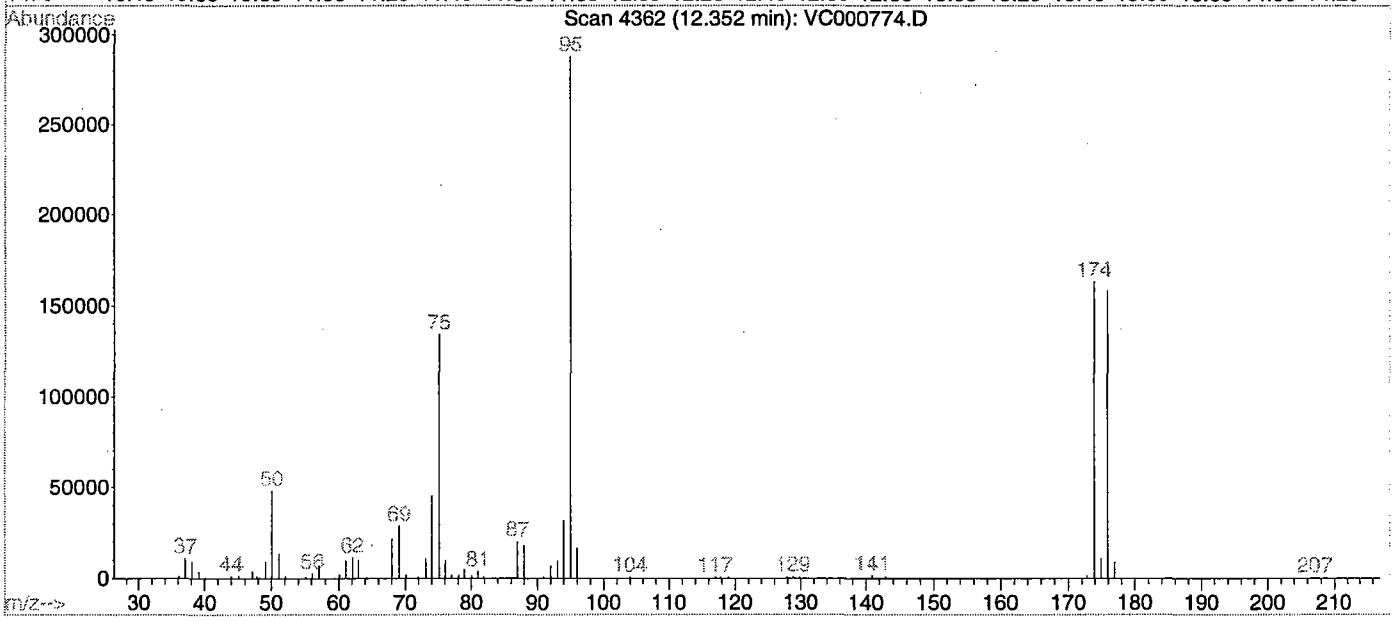
1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	FIELD ID:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD100	VSTD100	VC000775.D	9/14/99	13:38
02	VSTD050	VSTD050	VC000776.D	9/14/99	14:19
03	VSTD020	VSTD020	VC000777.D	9/14/99	15:01
04	VSTD010	VSTD010	VC000778.D	9/14/99	15:42
05	VSTD005	VSTD005	VC000779.D	9/14/99	16:23

Data File : C:\HPCHEM\1\DATA\SEPT99\990914\VC000774.D Vial: 1
Acq On : 14 Sep 1999 1:07 pm Operator: Skelton
Sample : BFB Tune Inst : GC/MS Ins
Misc : BFB Tune Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\M362409.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP





Spectrum Information: Scan 4362

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.7	48248	PASS
75	95	30	60	46.7	134400	PASS
95	95	100	100	100.0	288064	PASS
96	95	5	9	5.7	16488	PASS
173	174	0.00	2	0.8	1370	PASS
174	95	50	100	56.7	163264	PASS
175	174	5	9	6.7	10933	PASS
176	174	95	101	96.9	158144	PASS
177	176	5	9	5.7	9070	PASS

VC000774.D M362409.M Mon Nov 22 11:15:44 1999

BASE NEUTRAL

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BN04010.D**	Sample Name	**Sblk315**
Operator	**Bhaskar**	Misc Info	**Sblk315 A 991028**
Date Acquired	**3-Nov-99**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	1.83	ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.91	ug/L	
62-53-3	Aniline			not detected	NLE	1.63	ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	1.28	ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	1.21	ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	1.19	ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	1.02	ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	1.13	ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	1.39	ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.80	ug/L	
67-72-1	Hexachloroethane			not detected	10	1.50	ug/L	
98-95-3	Nitrobenzene			not detected	10	0.97	ug/L	
78-59-1	Isophorone			not detected	100	1.01	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.21	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.22	ug/L	
91-20-3	Naphthalene			not detected	NLE	1.27	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	1.09	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.71	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	1.08	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.32	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.01	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.79	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.52	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.96	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.81	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.79	ug/L	
83-32-9	Acenaphthene			not detected	400	1.10	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	1.00	ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	0.87	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.62	ug/L	
86-73-7	Fluorene			not detected	300	0.99	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.10	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	1.05	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.01	ug/L	
103-33-3	Azobenzene			not detected	NLE	0.67	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.76	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	0.94	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.23	ug/L	
120-12-7	Anthracene			not detected	2000	1.12	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	1.70	ug/L	
206-44-0	Fluoranthene			not detected	300	1.64	ug/L	

Semi-Volatile Analysis Report
Page 2

Data File Name	**BN04010.D**	Sample Name	**Sblk315**
Operator	**Bhaskar**	Misc Info	**Sblk315 A 991028**
Date Acquired	**3-Nov-99**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
92-87-5	Benzidine			not detected	50	4.18	ug/L	
129-00-0	Pyrene			not detected	200	1.25	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.05	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.19	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	1.75	ug/L	
218-01-9	Chrysene			not detected	20	1.38	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	1.74	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.44	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.25	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.29	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.05	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	0.83	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	0.64	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	0.84	ug/L	

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

Qualifiers

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
PQL= Practical Quantitation Limit

MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **Sblk315**

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 4883 Location: 275 SDG No:

Matrix: (soil/water) WATER Lab Sample ID: Sblk315

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BN04010.D

Level: (low/med) LOW Date Received: 10/25/99

% Moisture: decanted: (Y/N) N Date Extracted: 10/28/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/3/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BN04015.D**	Sample Name	**4883.01**
Operator	**Bhaskar**	Misc Info	**Bldg.275**
Date Acquired	**3-Nov-99**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	1.83	ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.91	ug/L	
62-53-3	Aniline			not detected	NLE	1.63	ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	1.28	ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	1.21	ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	1.19	ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	1.02	ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	1.13	ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	1.39	ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.80	ug/L	
67-72-1	Hexachloroethane			not detected	10	1.50	ug/L	
98-95-3	Nitrobenzene			not detected	10	0.97	ug/L	
78-59-1	Isophorone			not detected	100	1.01	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.21	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.22	ug/L	
91-20-3	Naphthalene			not detected	NLE	1.27	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	1.09	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.71	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	1.08	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.32	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.01	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.79	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.52	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.96	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.81	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.79	ug/L	
83-32-9	Acenaphthene			not detected	400	1.10	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	1.00	ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	0.87	ug/L	
84-66-2	Diethylphthalate	16.06	97601	3.44 ug/L	5000	1.62	ug/L	
86-73-7	Fluorene			not detected	300	0.99	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.10	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	1.05	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.01	ug/L	
103-33-3	Azobenzene			not detected	NLE	0.67	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.76	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	0.94	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.23	ug/L	
120-12-7	Anthracene			not detected	2000	1.12	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	1.70	ug/L	
206-44-0	Fluoranthene			not detected	300	1.64	ug/L	

Semi-Volatile Analysis Report
Page 2

Data File Name	**BN04015.D**	Sample Name	**4883.01**
Operator	**Bhaskar**	Misc Info	**Bldg.275**
Date Acquired	**3-Nov-99**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
92-87-5	Benzidine			not detected	50	4.18	ug/L	
129-00-0	Pyrene			not detected	200	1.25	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.05	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.19	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	1.75	ug/L	
218-01-9	Chrysene			not detected	20	1.38	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	1.74	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.44	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.25	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.29	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.05	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	0.83	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	0.64	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	0.84	ug/L	

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

Qualifiers

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
PQL= Practical Quantitation Limit

MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **Bldg.275**

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 4883 Location: 275 SDG No: _____

Matrix: (soil/water) WATER Lab Sample ID: 4883.01

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BN04015.D

Level: (low/med) LOW Date Received: 10/25/99

% Moisture: _____ decanted: (Y/N) N Date Extracted: 10/28/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/3/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000095-16-9	Benzothiazole	11.21	19	JN
2.	unknown	18.26	5	J

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 4883 Location: 275 SDG No:

Lab File ID: BN03982.D DFTPP Injection Date: 10/22/99

Instrument ID: SVoa#1 DFTPP Injection Time: 12:07

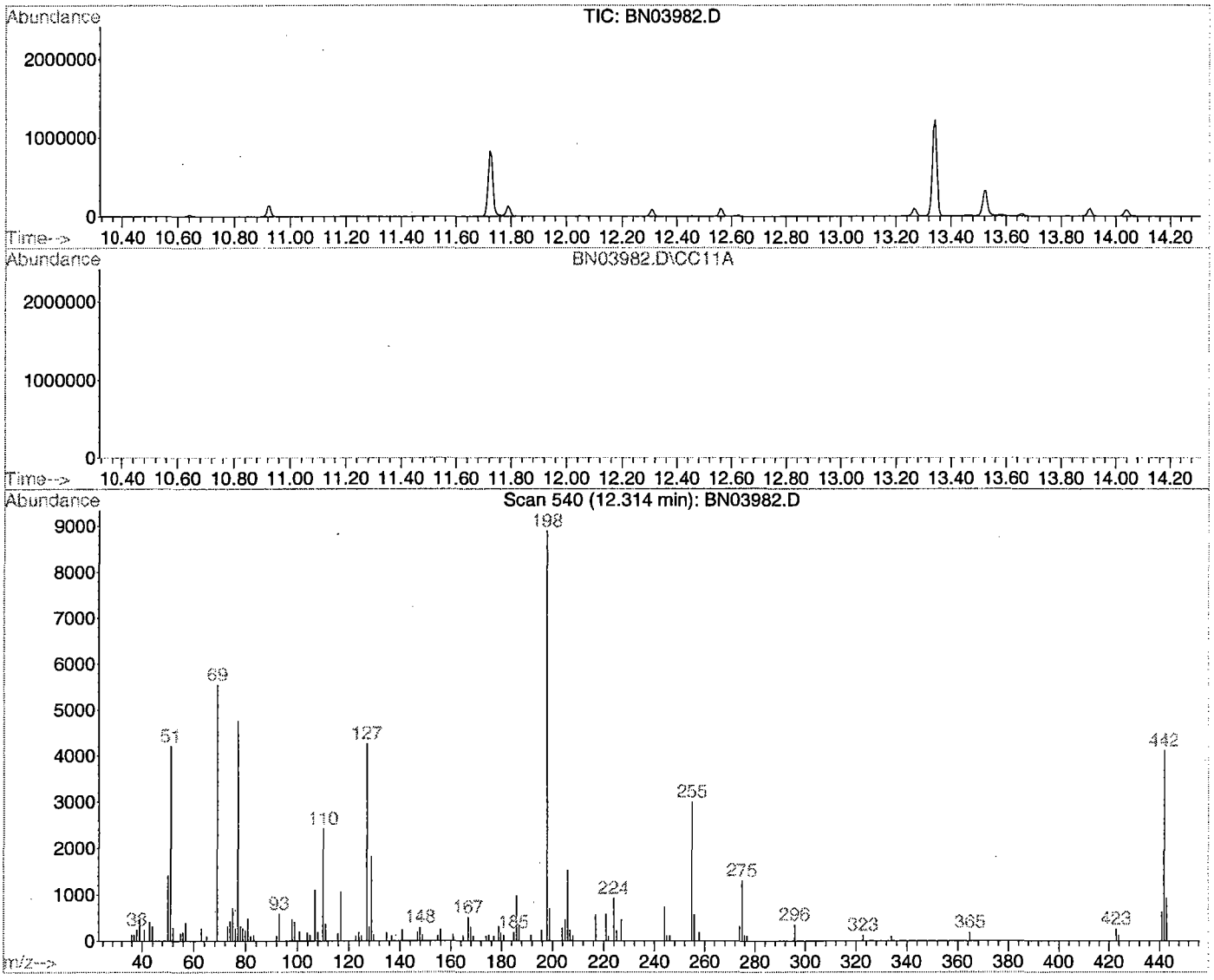
m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	47.3
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	62.4
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	25.0 - 75.0% of mass 198	47.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.8
275	10.0 - 30.0% of mass 198	14.6
365	Greater than 0.75% of mass 198	2.0
441	Present, but less than mass 443	6.9
442	40.0 - 110.0% of mass 198	46.2
443	15.0 - 24.0% of mass 442	10.4 (22.5)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	Field ID:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	DAILY CAL	BN03983.D	10/22/99	13:30
02	SBLK311	SBLK311	BN03984.D	10/22/99	14:15
03	4855.06MS	4855.06MS	BN03994.D	10/22/99	22:20
04	4855.06DUP	4855.06DUP	BN03995.D	10/22/99	23:09

Data File : C:\HPCHEM\1\DATA\991022\BN03982.D Vial: 99
Acq On : 22 Oct 1999 12:07 pm Operator: Bhaskar
Sample : DFTPP TUNE Inst : GC/MS Ins
Misc : 50NG/2UL Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Method : C:\HPCHEM\1\METHODS\M62537.M (RTE Integrator)
Title : BNA Calibration



Spectrum Information: Scan 540

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.3	4209	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	62.4	5546	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	47.9	4260	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	8894	PASS
199	198	5	9	7.8	698	PASS
275	198	10	30	14.6	1301	PASS
365	198	1	100	2.0	182	PASS
441	443	1	99	66.7	617	PASS
442	198	40	100	46.2	4111	PASS
443	442	17	23	22.5	925	PASS

000039

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1.	Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted	✓
2.	Table of Contents submitted	✓
3.	Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted	✓
4.	Document paginated and legible	✓
5.	Chain of Custody submitted	✓
6.	Samples submitted to lab within 48 hours of sample collection	✓
7.	Methodology Summary submitted	✓
8.	Laboratory Chronicle and Holding Time Check submitted	✓
9.	Results submitted on a dry weight basis	✓
10.	Method Detection Limits submitted	✓
11.	Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	✓

Laboratory Manager or Environmental Consultant's Signature _____

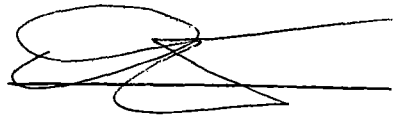
Date 4/7/06

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.



Daniel K. Wright
Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS
PHONE: (732) 532-6224 FAX: (732) 532-6263
WET-CHEM - METALS - ORGANICS - FIELD SAMPLING
CERTIFICATIONS: NJDEP #13461, NYSDOH #11699

ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: UST Program

Bldg. 275

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
Bldg. 275	4974.01	Aqueous	03-Dec-99 14:00	12/03/99

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
VOA+15, BN+15

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

4-7-00
Daniel Wright/Date
Laboratory Director

Table of Contents

CHAIN OF CUSTODY

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: D. DeAsi
Phone #: X21475
( )DERA (X)OMA ( )Other:_____
Project No:
Location: Bldg 275 UST 2nd Rnd
Samplers Name / Company: Corey McCormack, TVS

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	VOA's	Xylene	BTEX's						Comments: Remarks / Preservation Method
						Analysis Parameters								HCL/<4°C
4974.01	Bldg 275	12/3/99	1400	AQ	3	✓	✓	✓						

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Corey McCormack	12/3/99 1500				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, ( )Reduced, (X)Standard, ( )Screen / non-certified
Turnaround time: (X)Standard 3 wks, ( )Rush ____ Days, ( )ASAP Verbal ____ Hrs.

Remarks: Shows Trip / FB 289 Sme data,
Shows dup from 977 Sme data,
CPM

20000

print legibly

Coc.xls11/1/99

METHODOLOGY SUMMARY

Method Summary

EPA Method 624
Gas Chromatographic Determination of Volatiles in Water

Surrogates and internal standards are added to a 5-ml aliquot of sample. The sample is then purged and desorbed into a GC/MS system. The organic compounds are separated by the gas chromatograph and detected using the mass spectrometer. Volatiles are identified and quantitated.

EPA Method 3510/8270
Gas Chromatographic Determination of Semi-volatiles in Water

Surrogates are added to measured volume of sample, usually 1 liter, at a specified pH. The sample is serially extracted with Methylene chloride using a separatory funnel. The extract concentrated and internal standards are added. The sample is injected into a GC/MS system. Semi-volatiles are identified and quantitated.

CONFORMANCE NON-CONFORMANC SUMMARY

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

Indicate Yes, No, N/A

1. Chromatograms labeled/Compounds identified (Field samples and method blanks) — yes
2. Retention times for chromatograms provided — yes
3. GC/MS Tune Specifications
   a. BFB Meet Criteria — yes
   b. DFTPP Meet Criteria — yes
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series — yes
5. GC/MS Calibration – Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series — yes
6. GC/MS Calibration requirements
   a. Calibration Check Compounds Meet Criteria — yes
   b. System Performance Check Compounds Meet Criteria — yes
7. Blank Contamination – If yes, List compounds and concentrations in each blank: — yes
   a. VOA Fraction Methylene Chloride @ 2.83ppb
   b. B/N Fraction _____
   c. Acid Fraction _____
8. Surrogate Recoveries Meet Criteria — yes

   If not met, list those compounds and their recoveries, which fall outside the acceptable range:
   a. VOA Fraction _____
   b. B/N Fraction _____
   c. Acid Fraction _____

   If not met, were the calculations checked and the results qualified as "estimated"? _____
9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries, which fall outside the acceptable range) — yes
   a. VOA Fraction _____
   b. B/N Fraction _____
   c. Acid Fraction _____

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT (cont.)

Indicate
Yes, No, N/A

10. Internal Standard Area/Retention Time Shift Meet Criteria — Yes
(If not met, list those compounds, which fall outside the acceptable range)

a. VOA Fraction_____
b. B/N Fraction_____
c. Acid Fraction_____

11. Extraction Holding Time Met — Yes

If not met, list the number of days exceeded for each sample:_____
_____
_____

12. Analysis Holding Time Met — Yes

If not met, list the number of days exceeded for each sample:_____
_____
_____

Additional Comments:
_____
_____
_____

Laboratory Manager:_____ Date: 4-7-00

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 4974 Site: Bldg. 275

	Date	Hold Time
Date Sampled	12/03/99	NA
Receipt/Refrigeration	12/03/99	NA
Extractions		
1. Base Neutral	12/06/99	14 days
Analyses		
1. Volatile Organics	12/06,07/99	14 days
2. Base Neutral	12/07/99	40 days

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

Definition of Qualifiers

MDL	: Method Detection Limit
J	: Compound identified below detection limit
B	: Compound in both sample and blank
D	: Results from dilution of sample
U	: Compound searched for but not detected
E	: Compound exceeds calibration limit

Volatile Analysis Report
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Data File	**VB004963.D**	Sample Name	**Vblk151**
Operator	**Skelton**	Field ID	**Vblk151**
Date Acquired	**6 Dec 1999 10:02 am**	Sample Multiplie	**1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride	11.44	65495	2.83 ug/L	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
156-59-4	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9-6 2-Sept-9

Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time

12/13/99 9:29 AM

C:\HPCHEM\CUSTRPT\VOLATILE\624FY99.CRT

000012

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab ID. **Vblk151**

Lab Name: FMETL Project: 100004

NJDEP#: 13461 Case No.: 4974 Location: 275 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: Vblk151

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB004963.D

Level: (low/med) LOW Date Received: 12/3/99

% Moisture: not dec. Date Analyzed: 12/6/99

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

Volatile Analysis Report
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Data File	**VB004985.D**	Sample Name	**4974.01**
Operator	**Skelton**	Field ID	**Bldg275**
Date Acquired	**7 Dec 1999 1:00 am**	Sample Multiplie	**1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone	9.25	51908	6.94 ug/L	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
156-59-4	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9-6 2-Sept-9

Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time

12/13/99 9:29 AM

C:\HPCHEM\CUSTRPT\VOLATILE\624FY99.CRT

000014

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab ID.

Bldg275

Lab Name: FMETL Project: 100004

NJDEP#: 13461 Case No.: 4974 Location: 275 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 4974.01

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB004985.D

Level: (low/med) LOW Date Received: 12/3/99

% Moisture: not dec. Date Analyzed: 12/7/99

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: FMETL Project: 100004

NJDEP#: 13461 Case No.: 4974 Location: 275 SDG No.:

Lab File ID: VB004750.D BFB Injection Date: 11/12/99

Instrument ID: GCMS#2 BFB Injection Time: 8:31

GC Column: RTX502.2 ID: 0.25 (mm) Heated Purge: (Y/N) N

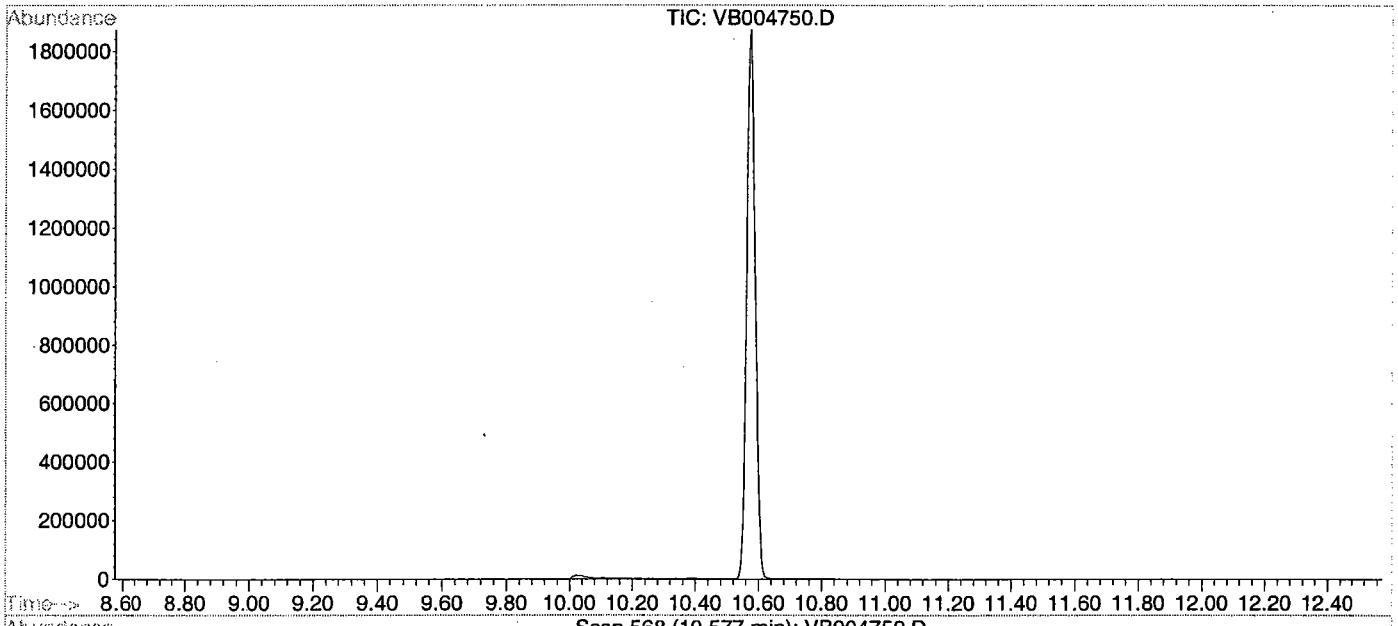
m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	20.8
75	30.0 - 66.0% of mass 95	49.7
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	73.7
175	4.0 - 9.0% of mass 174	5.5 (7.4)1
176	93.0 - 101.0% of mass 174	72.7 (98.6)1
177	5.0 - 9.0% of mass 176	4.6 (6.3)2

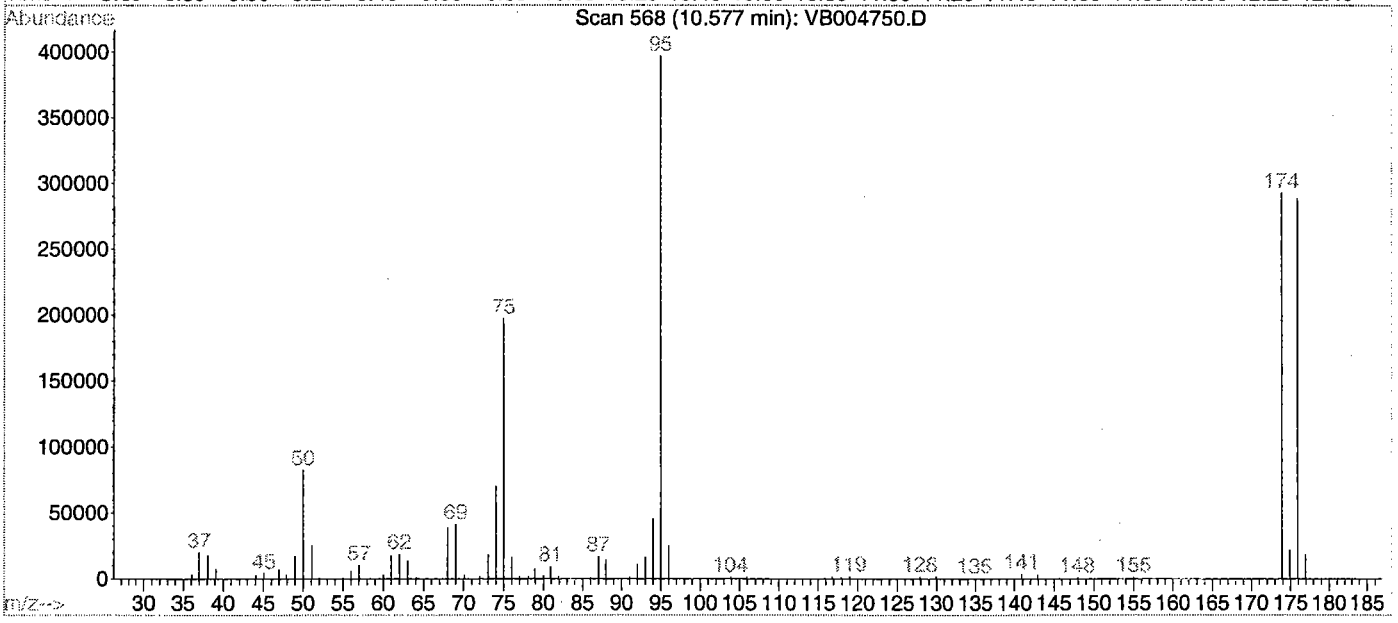
1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	Lab ID.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD020	VSTD020	VB004751.D	11/12/99	9:25
02	VSTD010	VSTD010	VB004752.D	11/12/99	10:19
03	VSTD005	VSTD005	VB004753.D	11/12/99	10:58
04	VSTD100	VSTD100	VB004754.D	11/12/99	11:37
05	VSTD050	VSTD050	VB004755.D	11/12/99	12:17

Data File : C:\HPCHEM\1\DATA\991112\VB004750.D Vial: 1
Acq On : 12 Nov 1999 8:31 am Operator: Skelton
Sample : BFB Tune Inst : GC VOA 2
Misc : BFB Tune Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\M262439.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP





Spectrum Information: Scan 568

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.8	82488	PASS
75	95	30	60	49.7	197248	PASS
95	95	100	100	100.0	396992	PASS
96	95	5	9	6.3	25080	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	73.7	292736	PASS
175	174	5	9	7.4	21792	PASS
176	174	95	101	98.6	288640	PASS
177	176	5	9	6.3	18264	PASS

BASE NEUTRAL

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BN04072.D**	Sample Name	**Sblk325**
Operator	**Bhaskar**	Misc Info	**Sblk325 A 991206**
Date Acquired	**7-Dec-99**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	1.83	ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.91	ug/L	
62-53-3	Aniline			not detected	NLE	1.63	ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	1.28	ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	1.21	ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	1.19	ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	1.02	ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	1.13	ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	1.39	ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.80	ug/L	
67-72-1	Hexachloroethane			not detected	10	1.50	ug/L	
98-95-3	Nitrobenzene			not detected	10	0.97	ug/L	
78-59-1	Isophorone			not detected	100	1.01	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.21	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.22	ug/L	
91-20-3	Naphthalene			not detected	NLE	1.27	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	1.09	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.71	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	1.08	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.32	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.01	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.79	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.52	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.96	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.81	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.79	ug/L	
83-32-9	Acenaphthene			not detected	400	1.10	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	1.00	ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	0.87	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.62	ug/L	
86-73-7	Fluorene			not detected	300	0.99	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.10	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	1.05	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.01	ug/L	
103-33-3	Azobenzene			not detected	NLE	0.67	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.76	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	0.94	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.23	ug/L	
120-12-7	Anthracene			not detected	2000	1.12	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	1.70	ug/L	
206-44-0	Fluoranthene			not detected	300	1.64	ug/L	

Semi-Volatile Analysis Report
Page 2

Data File Name	**BN04072.D**	Sample Name	**Sblk325**
Operator	**Bhaskar**	Misc Info	**Sblk325 A 991206**
Date Acquired	**7-Dec-99**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
92-87-5	Benzidine			not detected	50	4.18	ug/L	
129-00-0	Pyrene			not detected	200	1.25	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.05	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.19	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	1.75	ug/L	
218-01-9	Chrysene			not detected	20	1.38	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	1.74	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.44	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.25	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.29	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.05	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	0.83	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	0.64	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	0.84	ug/L	

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

Qualifiers

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
PQL= Practical Quantitation Limit

MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **Sblk325**

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 4974 Location: Bld.275 SDG No:

Matrix: (soil/water) WATER Lab Sample ID: Sblk325

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BN04072.D

Level: (low/med) LOW Date Received: 12/3/99

% Moisture: decanted: (Y/N) N Date Extracted: 12/6/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/7/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BN04074.D**	Sample Name	**4974.01**
Operator	**Bhaskar**	Misc Info	**Bldg.275**
Date Acquired	**7-Dec-99**	Sample Multiplier	**1.47**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	2.69	ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	1.34	ug/L	
62-53-3	Aniline			not detected	NLE	2.40	ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	1.88	ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	1.78	ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	1.75	ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	1.50	ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	1.66	ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	2.04	ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	1.18	ug/L	
67-72-1	Hexachloroethane			not detected	10	2.21	ug/L	
98-95-3	Nitrobenzene			not detected	10	1.43	ug/L	
78-59-1	Isophorone			not detected	100	1.48	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.78	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.79	ug/L	
91-20-3	Naphthalene			not detected	NLE	1.87	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	1.60	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	1.04	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	1.59	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.94	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.48	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	1.16	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	2.23	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	1.41	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	1.19	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	1.16	ug/L	
83-32-9	Acenaphthene			not detected	400	1.62	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	1.47	ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	1.28	ug/L	
84-66-2	Diethylphthalate			not detected	5000	2.38	ug/L	
86-73-7	Fluorene			not detected	300	1.46	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.62	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	1.54	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.48	ug/L	
103-33-3	Azobenzene			not detected	NLE	0.98	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	1.12	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.38	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.81	ug/L	
120-12-7	Anthracene			not detected	2000	1.65	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	2.50	ug/L	
206-44-0	Fluoranthene			not detected	300	2.41	ug/L	

Semi-Volatile Analysis Report
Page 2

Data File Name	**BN04074.D**	Sample Name	**4974.01**
Operator	**Bhaskar**	Misc Info	**Bldg.275**
Date Acquired	**7-Dec-99**	Sample Multiplier	**1.47**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
92-87-5	Benzidine			not detected	50	6.14	ug/L	
129-00-0	Pyrene			not detected	200	1.84	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.54	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.75	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	2.57	ug/L	
218-01-9	Chrysene			not detected	20	2.03	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	2.56	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	2.12	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.84	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.90	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.54	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.22	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	0.94	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.23	ug/L	

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

Qualifiers

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
PQL= Practical Quantitation Limit

MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **Bldg.275**

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 4974 Location: Bld.275 SDG No: _____

Matrix: (soil/water) WATER Lab Sample ID: 4974.01

Sample wt/vol: 680 (g/ml) ML Lab File ID: BN04074.D

Level: (low/med) LOW Date Received: 12/3/99

% Moisture: _____ decanted: (Y/N) N Date Extracted: 12/6/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/7/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

Project 100004 Case No.: 4974 Location Bld.275 SDG No.:

Lab File ID: BNA03321.D DFTPP Injection Date: 10/27/99

Instrument ID: BNA#2 DFTPP Injection Time: 9:32

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	60.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	56.4
70	Less than 2.0% of mass 69	0.3 (0.6)1
127	25.0 - 75.0% of mass 198	53.8
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.1
275	10.0 - 30.0% of mass 198	19.9
365	Greater than 0.75% of mass 198	2.0
441	Present, but less than mass 443	8.7
442	40.0 - 110.0% of mass 198	59.1
443	15.0 - 24.0% of mass 442	12.0 (20.4)2

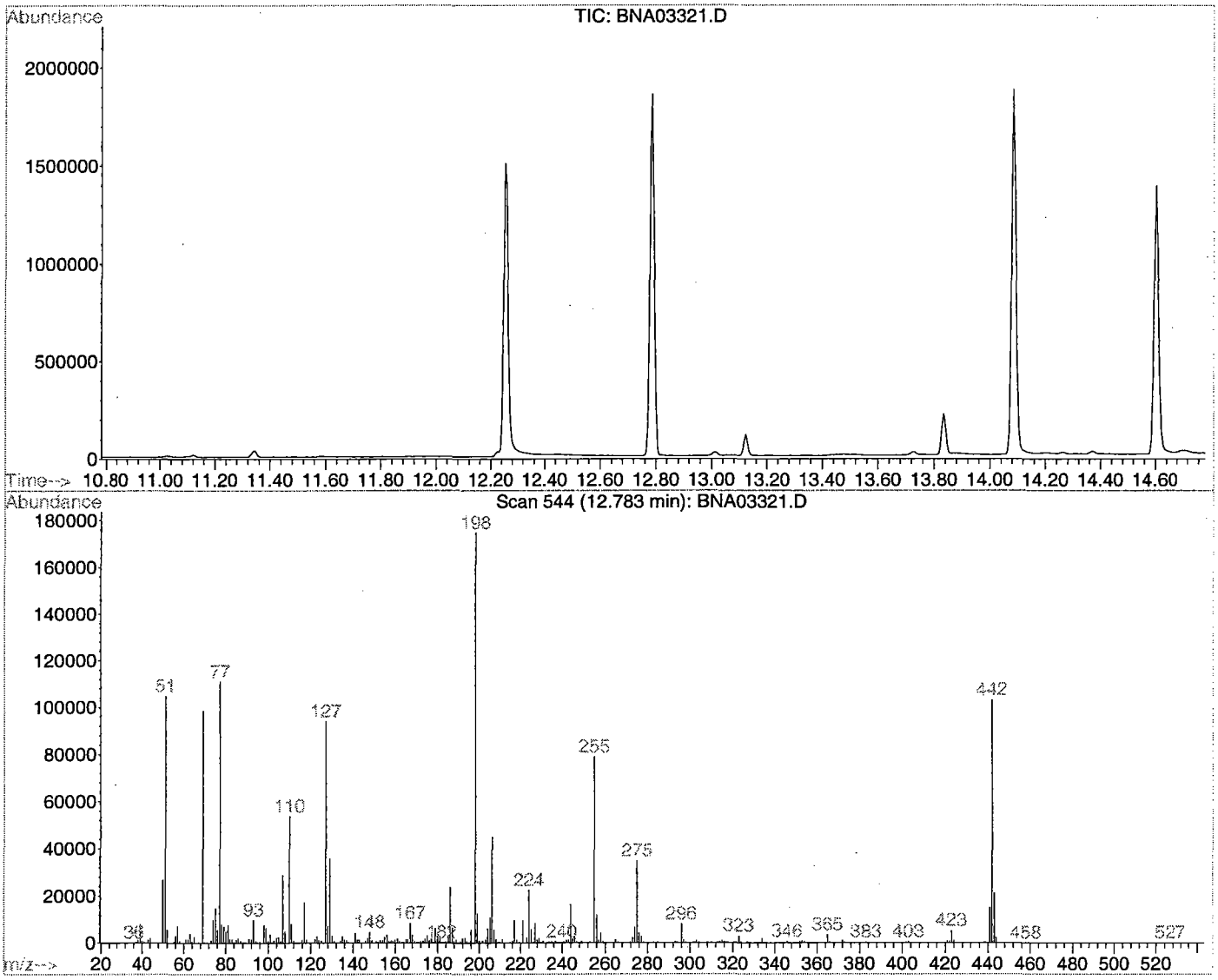
1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	FIELD ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	50 PPM CAL	BNA03325.D	10/27/99	12:40
02	4871.04DUP	4871.04DUP	BNA03332.D	10/27/99	18:28
03	4871.04MS	4871.04MS	BNA03333.D	10/27/99	19:17

Data File : C:\HPCHEM\1\DATA\991027\BNA03321.D
Acq On : 27 Oct 1999 9:32 am
Sample : DFTPP TUNE
Misc : 50NG/2UL
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\M262534.M (RTE Integrator)
Title : BNA Calibration

Vial: 99
Operator: Bhaskar
Inst : GC BNA 2
Multiplr: 1.00



Spectrum Information: Scan 544

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	60.0	104832	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	56.4	98600	PASS
70	69	0.00	2	0.6	593	PASS
127	198	40	60	53.8	94000	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	174720	PASS
199	198	5	9	7.1	12479	PASS
275	198	10	30	19.9	34848	PASS
365	198	1	100	2.0	3527	PASS
441	443	1	99	72.0	15134	PASS
442	198	40	100	59.1	103184	PASS
443	442	17	23	20.4	21008	PASS

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted ✓
2. Table of Contents submitted ✓
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted ✓
4. Document paginated and legible ✓
5. Chain of Custody submitted ✓
6. Samples submitted to lab within 48 hours of sample collection ✓
7. Methodology Summary submitted ✓
8. Laboratory Chronicle and Holding Time Check submitted ✓
9. Results submitted on a dry weight basis ✓
10. Method Detection Limits submitted ✓
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP ✓

Laboratory Manager or Environmental Consultant's Signature _____

Date 4/7/00

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

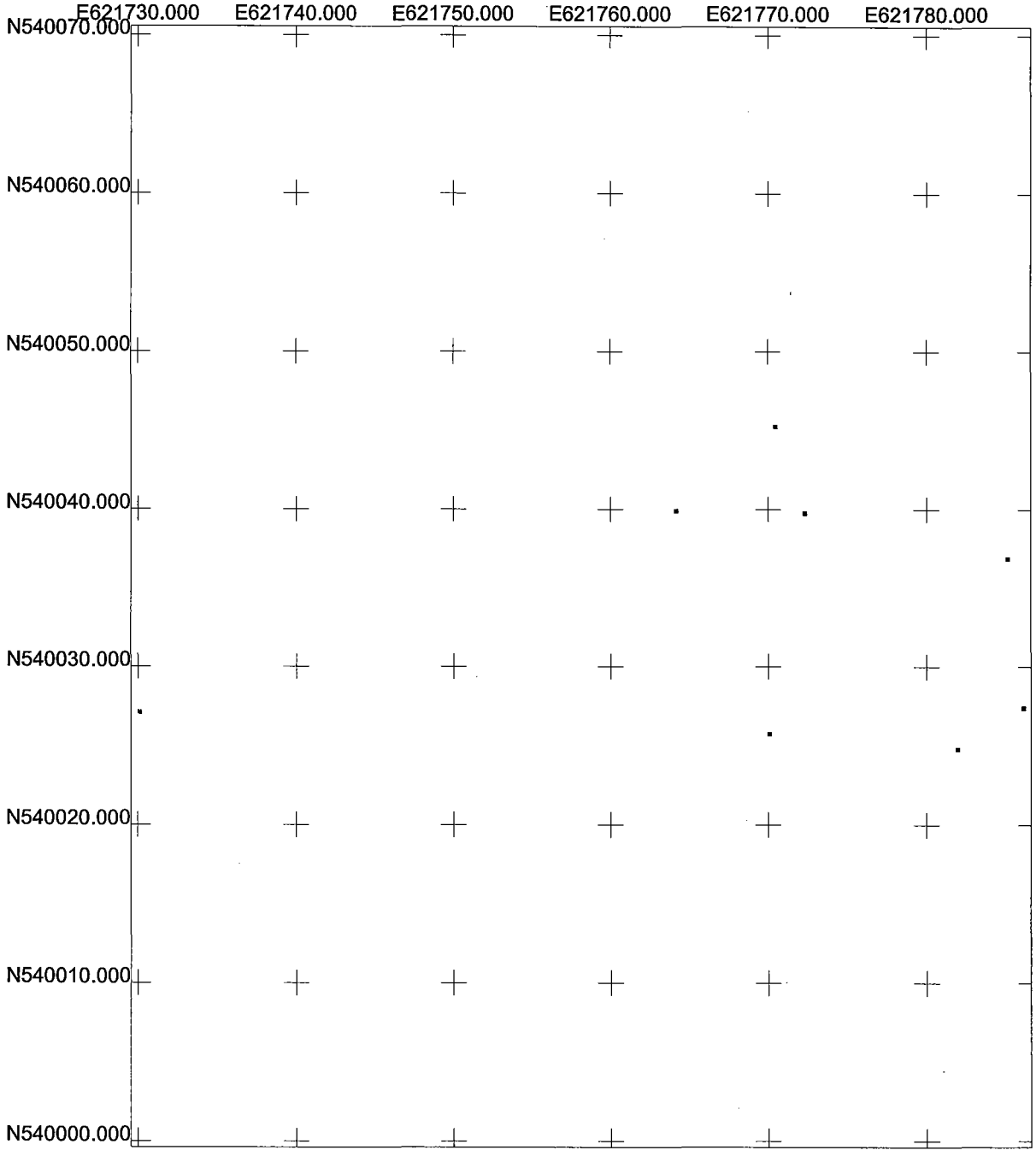
Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Daniel K. Wright
Laboratory Manager

APPENDIX G

ELECTRONIC DATA DELIVERABLES



BLDG. 275 UST SAMPLES GPS MAP

US State Plane 1983
New Jersey (NY East) 2900
NAD 1983 (Conus)

N

Scale 1:125
0 15.00
US Survey Feet

r072913a.ssf
5/12/2000
Pathfinder Office
Trimble

Bldg. 275 UST Samples GPS Positions & Coordinates

US STATE PLANE 1983 NJ (NY EAST) 2900 NAD 1983 (CONUS)

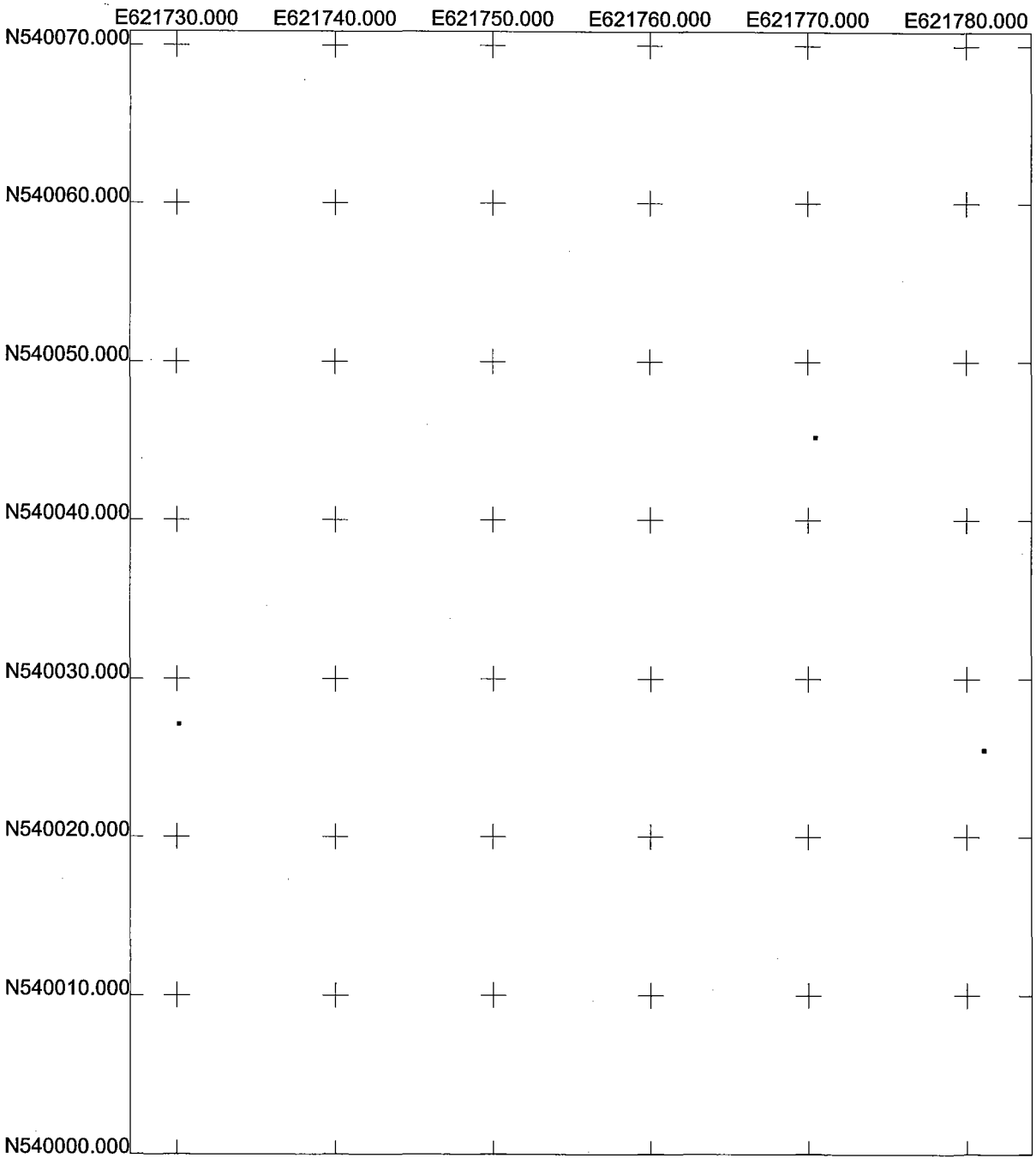
(IN US SURVEY FEET)

SAMPLE POINTS

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
A	540027.441	621786.06
B	540039.807	621772.277
C	540036.929	621785.073
D	540024.883	621781.926
E	540025.811	621770.04
F	540039.962	621764.126

REFERENCE POINTS

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
275 SW BLDG. CORNER	540027.163	621730.088
275 SE BLDG. CORNER	540045.298	621770.422



Bldg. 275 UST Ground Water Sample GPS Map

US State Plane 1983
New Jersey (NY East) 2900
NAD 1983 (Conus)

N

Scale 1:125
0 15.00
US Survey Feet

275 gw r072913a.ssf
5/12/2000
Pathfinder Office
Trimble

Bldg. 275 Ground Water Sample GPS Position & Coordinates

US STATE PLANE 1983 NJ (NY EAST) 2900 NAD 1983 (CONUS)

(IN US SURVEY FEET)

SAMPLE POINTS

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
275 GW	540025.536	621781.043

(GW denotes Ground Water)

REFERENCE POINTS

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
275 SW BLDG. CORNER	540027.163	621730.088
275 SE BLDG. CORNER	540045.298	621770.422