# **United States Army**

Fort Monmouth, New Jersey

# Underground Storage Tank Closure and Site Investigation Report

Building 288
Main Post-West Area

NJDEP UST Registration No. 81533-62 Dicar No. 97-07-15-1002-56

January 2000

# UNDERGROUND STORAGE TANK CLOSURE AND SITE INVESTIGATION REPORT

## **BUILDING 288**

# MAIN POST-WEST AREA NJDEP UST REGISTRATION NO. 81533-62

**JANUARY 2000** 

#### PREPARED FOR:

UNITED STATES ARMY, FORT MONMOUTH, NEW JERSEY
DIRECTORATE OF PUBLIC WORKS
BUILDING 167
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**PROJECT NO. 2429-308** 

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#### **EXECUTIVE SUMMARY**

#### **UST Closure**

On July 15, 1997, a steel 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. 0081533-62 (Fort Monmouth ID No. 288), was located northeast of Building 288. UST No. 0081533-62 was a 1,000-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. No holes were noted in the UST. Stained soil was observed and appeared to be from a previous tank. Based on the inspection of the UST, 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. 97-07-15-1002-56. Approximately 185 cubic yards of potentially contaminated soil were removed from the excavated area and stored at the Fort Monmouth petroleum contaminated soil staging area.

Soil samples, which were collected after the removal of the potentially contaminated soil, contained TPHC concentrations ranging from non-detect to 403.62 mg/kg, except for samples A, Dup A, C, and E that had TPHC concentrations of 1,618.66 mg/kg, 1,204.57 mg/kg, 1,475.93 mg/kg, and 3,004.60 mg/kg. These sample locations could not be further remediated due to the location of the sidewalk, a sanitary sewer line, and the possibility of a brick chimney collapsing into the excavation. A VOA analysis (EPA Method 8260) was completed on samples A and E; all known compounds searched for in the analysis were not detected. Groundwater was encountered at 4.5 feet below ground surface and no sheen was observed.

All post excavation soil samples collected from the UST excavation at Building 288 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 288. On September 24, 1998, and October 23, 1998, Building 288 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. 81533-62 at Building 288.

# 1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

#### 1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 81533-62, was closed at Building 288 at the Main Post-West area of U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on July 15, 1997. 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 steel 1,000-gallon tank containing No. 2 fuel oil.

Decommissioning activities for UST No. 81533-62 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. 81533-62 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. 81533-62 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-BUST regulations. The applicable NJDEP-BUST 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 288 is located in the Main Post-West area of the Fort Monmouth Army Base. UST No. 0081533-62 was located northeast of Building 288 and appurtenant copper piping ran approximately ten (10) feet southeast from the excavation to Building 288. 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 288. 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.

#### 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 288 is located approximately 200 feet south of Parkers Creek, the nearest water body. Based on the Main Post topography, the groundwater flow in the area of Building 288 is anticipated to be to the north.

#### 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 25 gallons of liquid from the UST and its associated piping were pumped directly into a Lionetti Oil Recovery truck where it was then transported to Lionetti Oil Recovery Co., Inc. facility, a NJDEP-approved petroleum recycling and disposal company located in Old Bridge, 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 regulations. After the UST was removed from the excavation, it was staged on polyethylene sheeting and examined for holes. No holes or punctures 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. Potentially contaminated soils were observed. Approximately 185 cubic yards of potentially contaminated soil were removed from the excavated area and stored at the Fort Monmouth petroleum contaminated soil staging area. Soil screening was also performed along the piping associated with the UST. No contamination was noted anywhere along the piping length.

Soil samples, which were collected after the removal of the potentially contaminated soil, contained TPHC concentrations ranging from non-detect to 403.62 mg/kg, except for samples A, Dup A, C, and E that had TPHC concentrations of 1,618.66 mg/kg, 1,204.57 mg/kg, 1,475.93 mg/kg, and 3,004.60 mg/kg. These sample locations could not be further remediated due to the location of the sidewalk, a sanitary sewer line, and the possibility of a brick chimney collapsing into the excavation. A VOA analysis (EPA Method 8260) was completed on samples A and E; all known compounds searched for in the analysis were not detected. Groundwater was encountered at 4.5 feet below ground surface 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 Mazza and Sons, Inc., Metal Recyclers. Please refer to Appendix D for the UST Disposal Certificate and Appendix G for photographs of the tank.

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

Based on OVA air monitoring and TPHC analysis results from the post-excavation soil samples, approximately 185 cubic yards of potentially contaminated soil were removed from the UST excavation. 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 4.5 feet below ground surface and no sheen was observed on groundwater.

#### 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-BUST 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: Eugene Lesinski Employer: U.S. Army, Fort Monmouth Phone Number: (732) 532-6224
 NJDEP Certification No.: 14537

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: L & L Oil Service

Contact Person: Gary Lo Bella Phone Number: (908) 462-1001

NJDEP Company Certification No.: P56601

#### 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. OVA readings taken during the assessment ranged from non-detect to 60 ppm. Approximately 185 cubic yards of potentially petroleum contaminated soil were removed from the excavated area and transported to the Fort Monmouth petroleum contaminated soil holding area. Groundwater was encountered at 4.5 feet below ground surface and no sheen was observed on groundwater.

#### 2.3 SOIL SAMPLING

On July 18, 1997, following the removal of the UST and associated piping, post-excavation soil samples A, B, C, D, E, F, G, and DUP B were collected from a total of eleven (7) locations of the UST excavation. Excavation floor samples A, B, and DUP B were collected at a depth of 9.5 feet bgs. Sidewall samples C, D, and E were collected at a depth of 8.0 feet bgs. Piping samples F and G were collected along the former piping length of the excavation, which was approximately ten (10) feet in length. The piping samples were collected at a depth of 1.0 feet bgs. 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 E.

On July 24, 1997, following the removal of approximately 162 cubic yards of potentially contaminated soil, post-excavation soil samples A, B, C, D, E, F, and DUP A were collected from a total of six (6) locations of the UST excavation. Sidewall samples A, B, C, D, and DUP A were collected at a depth of 8.0 feet bgs. Excavation floor samples E and F were collected at a depth of 9.5 feet bgs. 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 A.

On July 29, 1997, following the removal of approximately 12 cubic yards of potentially contaminated soil, post-excavation soil samples A, B, and DUP B were collected from a total of two (2) locations of the UST excavation. Sidewall samples A, B, and DUP B were collected at a depth of 8.0 feet bgs. All samples were analyzed for total petroleum hydrocarbons (TPHC) and total solids.

On July 30, 1997, following the removal of approximately 11 cubic yards of potentially contaminated soil, post-excavation soil samples A, B, and DUP A were collected from a total of two (2) locations of the UST excavation. Excavation floor samples A and DUP A were collected at a depth of 9.5 feet bgs. Sidewall sample B was collected at a depth of 8.0 feet bgs. All samples were analyzed for total petroleum hydrocarbons (TPHC) and total solids.

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 September 24,1998, and October 23,1998, Building 288 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 18, 24, 29, and 30,1997 from a total of seventeen (17) locations. All samples were analyzed for TPHC and total solids. In addition, samples A and E were 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 samples A and E were 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 18, 24, 29, and 30,1997, 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 288 on September 24, 1998, contained chloroform at 4.45 ug/l. No other compounds were detected. Chloroform was detected in the field dup at a concentration of 4.50 ug/l. No other compounds were detected in the field dup. Bis(2-ethylhexyl)phthalate was detected in the field blank at a concentration of 1.71 ug/l. No other compounds were detected in the field blank.

The sample collected from Building 288 on October 23, 1998, contained chloroform at 3.07 ug/l. No other compounds were detected. Chloroform was detected in the field dup at a concentration of 3.29 ug/l. No other compounds were detected in the field dup. Bis(2-ethylhexyl)phthalate was detected in the field blank at a concentration of 25.73 ug/l. No other compounds were detected in the field blank.

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, NJ.

Groundwater samples collected on September 24, 1998, and October 23, 1998, 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 288 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 288 on September 24, 1998, and October 23, 1998, groundwater quality at Building 288 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. 81533-62 at Building 288.

**TABLES** 

TABLE 1

#### SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES BUILDING 288, MAIN POST-WEST AREA FORT MONMOUTH, NEW JERSEY

Page 1 of 5

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	NJDEP Method
Α	7/18/97	7/21/97	Soil	Post-Excavation	ТРНС	OQA-QAM-025
В	7/18/97	7/21/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
C	7/18/97	7/21/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
D	7/18/97	7/21/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
E	7/18/97	7/21/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
F	7/18/97	7/21/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
G	7/18/97	7/21/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
DUP B	7/18/97	7/21/97	Soil	Post-excavation	TPHC	OQA-QAM-025

Note:

TABLE 1
SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING 288, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Page 2 of 5

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	NJDEP Method
Α	7/23/97	7/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
В	7/23/97	7/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
C	7/24/97	7/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
D	7/24/97	7/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
E	7/24/97	7/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
F	7/24/97	7/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
EXC SOIL	7/23/97	7/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
DUP A	7/23/97	7/24/97	Soil	Post-excavation	TPHC	OQA-QAM-025

Note:

TABLE 1

#### SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES BUILDING 288, MAIN POST-WEST AREA FORT MONMOUTH, NEW JERSEY

Page 3 of 5

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	NJDEP Method
A	7/29/97	7/29/97	Soil	Post-Excavation Post-Excavation Post-Excavation	TPHC	OQA-QAM-025
B	7/29/97	7/29/97	Soil		TPHC	OQA-QAM-025
DUP B	7/29/97	7/29/97	Soil		TPHC	OQA-QAM-025

Note:

TABLE 1

# SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES BUILDING 288, MAIN POST-WEST AREA FORT MONMOUTH, NEW JERSEY

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Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	NJDEP Method
A	7/30/97	8/01/97	Soil	Post-Excavation Post-Excavation Post-Excavation	TPHC	OQA-QAM-025
B	7/30/97	8/01/97	Soil		TPHC	OQA-QAM-025
DUP A	7/30/97	8/01/97	Soil		TPHC	OQA-QAM-025

Note:

TABLE 1 SUMMARY OF SAMPLING ACTIVITIES **BUILDING 288, MAIN POST-WEST AREA** FORT MONMOUTH, NEW JERSEY

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Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Sampling Method**
3913.01	9/24/98	10/01/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
3913.02	9/24/98	10/01/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
3913.03	9/24/98	10/01/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
3913.04	9/24/98	10/01/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4002.01	10/23/98	10/26/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4002.02	10/23/98	10/26/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4002.03	10/23/98	10/26/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4002.09	10/23/98	10/26/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP

Note:

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

\*\*PPNDP:

TABLE 2

#### POST-EXCAVATION SOIL SAMPLING RESULTS **BUILDING 288, MAIN POST-WEST AREA** FORT MONMOUTH, NEW JERSEY

Page 1 of 4

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/9.5=	2813.01	7/18/97	7/21/97	Total Solid			67.82 %		
				TPHC	219	yes	ND	10,000	No
B/9.5=	2813.02	7/18/97	7/21/97	Total Solid			71.49 %		
				TPHC	220	Yes	ND	10,000	No
C/8.0=	2813.03	7/18/97	7/21/97	Total Solid			72.77 %		
				TPHC	206	Yes	1475.93	10,000	No
D/8.0 =	2813.04	7/18/97	7/21/97	Total Solid			71.14 %		
				TPHC	214	yes	ND	10,000	No
E/8.0=	2813.05	7/18/97	7/21/97	Total Solid			72.70 %		
				TPHC	212	yes	3004.60	10,000	No
F/1.0=	2813.06	7/18/97	7/21/97	Total Solid			84.55 %		
				TPHC	181	yes	ND	10,000	No
G/1.0=	2813.07	7/18/97	7/21/97	Total Solid			92.69 %		
				TPHC	164	Yes	403.62	10,000	No
DUPB/9.5=	2813.08	7/18/97	7/21/97	Total Solid			71.66 %	<u></u>	
				TPHC	215	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

TABLE 2

#### POST-EXCAVATION SOIL SAMPLING RESULTS **BUILDING 288, MAIN POST-WEST AREA** FORT MONMOUTH, NEW JERSEY

Page 2 of 4

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=	2832.01	7/23/97	7/24/97	Total Solid			71.05 %		
				TPHC	213	yes	1618.66	10,000	No
B/8.0 =	2832.02	7/23/97	7/24/97	Total Solid			72.44 %		
				TPHC	212	Yes	ND	10,000	No
C/8.0=	2832.03	7/24/97	7/24/97	Total Solid			80.29 %		
				TPHC	186	Yes	325.21	10,000	No
D/8.0 =	2832.04	7/24/97	7/24/97	Total Solid			71.38 %		
				TPHC	211	yes	ND	10,000	No
E/9.5 =	2832.05	7/24/97	7/24/97	Total Solid			67.52 %		
				TPHC	232	yes	ND	10,000	No
F/9.5=	2832.06	7/24/97	7/24/97	Total Solid		<u>-</u> -	67.26 %		
27310				TPHC	229	yes	ND	10,000	No
ES/7.0=	2832.07	7/23/97	7/24/97	Total Solid			74.74 %	, 	
25/7.0				TPHC	201	Yes	4282.33	10,000	No
DUPA/8.0=	2832.08	7/23/97	7/24/97	Total Solid			71.41%	,	<u></u>
2011110.0-		,		TPHC	214	yes	1204.57	10,000	No

#### Note:

Total Solid results are expressed as a percentage.

NJDEP Residential Direct Contact soil cleanup criteria for total organics \*\*

Not detected above stated method detection limit ND

TABLE 2

#### POST-EXCAVATION SOIL SAMPLING RESULTS BUILDING 288, MAIN POST-WEST AREA FORT MONMOUTH, NEW JERSEY

Page 3 of 4

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 =	2844.01	7/29/97	7/29/97	Total Solid			72.65 %		
				TPHC	210	yes	346.63	10,000	No
B/8.0 =	2844.02	7/29/97	7/29/97	Total Solid			71.93 %		
				TPHC	211	Yes	ND	10,000	No
DUPB/8.0 =	2844.03	7/29/97	7/29/97	Total Solid			72.19 %		
				TPHC	212	Yes	ND	10,000	No

#### Note:

Total Solid results are expressed as a percentage.

NJDEP Residential Direct Contact soil cleanup criteria for total organics \*\*

Not detected above stated method detection limit ND

TABLE 2

#### POST-EXCAVATION SOIL SAMPLING RESULTS BUILDING 288, MAIN POST-WEST AREA FORT MONMOUTH, NEW JERSEY

Page 4 of 4

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/9.5 =	2855.01	7/30/97	8/01/97	Total Solid			72.44 %		
				TPHC	205	yes	ND	10,000	No
B/8.0 =	2855.02	7/30/97	8/01/97	Total Solid			76.44 %		
				TPHC	202	Yes	ND	10,000	No
DUPA/9.5 =	2855.03	7/30/97	8/01/97	Total Solid			73.31 %		
				TPHC	206	Yes	ND	10,000	No .

#### Note:

Total Solid results are expressed as a percentage.

NJDEP Residential Direct Contact soil cleanup criteria for total organics \*\*

Not detected above stated method detection limit ND

#### Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:

**FMETL** 

NJDEP#

13461

Matrix: (soil/water) SOIL

Date Sampled:

7/18/97

Location:

288

Lab Sample ID: 2813.05(SAMPLE E)

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

CAS NO. **PARAMETER** QUALIFIER RESIDENTIAL **MDL** NON-RESIDENTIAL 8600 107028 Acrolein U NA NA 8600 107131 Acrylonitrile U 5000 1000 8600 75650 tert-Butyl alcohol U NA NA 8600 1634044 Methyl-tert-Butyl ether U NA NA 8600 108203 Di-isopropyl ether U NA NA Dichlorodifluoromethane NA NA 860 74-87-3 Chloromethane U 520000 1000000(d) 860 75-01-4 Vinyl Chloride U 2000 7000 860 1000000(d) 74-83-9 Bromomethane U 79000 860 75-00-3 Chloroethane U NA NA 860 75-69-4 Trichlorofluoromethane U NA NA 860 75-35-4 1, 1-Dichloroethene U 8000 150000 67-64-1 U 1000000(d) Acetone 1000000(d) 860 75-15-0 Carbon Disulfide U 860 75-09-2 Methylene Chloride U 49000 210000 860 156-60-5 trans-1,2-Dichloroethene U 1000000(d) 1000000(d) 860 75-35-3 1,1-Dichloroethane U 570000 1000000(d) 860 108-05-4 Vinyl Acetate U NA NA 78-93-3 U 1000000(d) 1000000(d) 2-Butanone 156-59-2 cis-1,2-Dichloroethene U 79000 1000000(d) 860 67-66-3 Chloroform U 19000(k) 28000(k) 860 75-55-6 1,1,1-Trichloroethane U NA NA 860 Carbon Tetrachloride U 56-23-5 2000(k) 4000(k) 860 71-43-2 Renzeze U 13000 3000 107-06-2 1,2-Dichloroethane U 6000 24000

2

#### Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:

**FMETL** 

NJDEP#

13461

Matrix: (soil/water) SOIL

Date Sampled:

7/18/97

Location:

288

Lab Sample ID: 2813.05(SAMPLE E)

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

CAS NO.	PARAMETER	MDL	QUALIFIER	RESIDENTIAL	NON- RESIDENTIAL
79-01-6	Trichloroethene	860	υ	23000	54000(k)
78-87-5	1, 2-Dichloropropane	860	U	10000	43000
75-27-4	Bromodichloromethane	860	U	11000(g)	46000(g)
110-75-8	2-Chloroethyl vinyl ether	860	U	NA	NA
10061-01-5	cis-1,3-Dichloropropene	860	υ	NA	NA
108-10-1	4-Methyl-2-Pentanone	860	υ	1000000(d)	1000000(d)
108-88-3	Toluene	350	J	1000000(d)	1000000(d)
10061-02-6	trans-1,3-Dichloropropene	860	U	NA	NA
79-00-5	1,1,2-Trichloroethane	860	U	22000	420000
127-18-4	Tetrachloroethene	860	U	4000(k)	6000(k)
591-78-6	2-Hexanone	860	U	NA	NA
126-48-1	Dibromochloromethane	860	U	NA	NA
108-90-7	Chlorobenzene	860	U	37000	680000
100-41-4	Ethylbenzene	860	U	1000000(d)	1000000(d)
1330-20-7	m+p-Xylenes	860	U	NA	NA
1330-20-7	o-Xylene	860	υ	NA	NA
100-42-5	Styrene	860	υ	23000	97000
75-25-2	Bromoform	860	υ	86000	370000
79-34-5	1,1,2,2-Tetrachloroethane	860	U	34000	70000(k)
541-73-1	1,3-Dichlorobenzene	860	U	5100000	1000000(c)
106-46-7	1,4-Dichlorobenzene	860	υ	570000	1000000(c)
95-50-1	I,2-Dichlorobenzene	860	Ū	5100000	1000000(c)

#### Table 3 **VOLATILE ORGANICS ANALYSIS DATA SHEET**

Lab Name:

FMETL

NJDEP#

13461

Matrix: (soil/water) SOIL

Date Sampled:

7/23/97

Location:

288

Lab Sample ID: 2832.01(SAMPLE A)

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

CAS NO.	PARAMETER	MDL	QUALIFIER	RESIDENTIAL	NON- RESIDENTIAL
107028	Acrolein	8800	U	NA	NA ,
107131	Acrylonitrile	8800	U	1000	5000
75650	tert-Butyl alcohol	8800	U	NA	NA
1634044	Methyl-tert-Butyl ether	8800	U	NA	NA
108203	Di-isopropyl ether	8800	U	NA	NA
	Dichlorodifluoromethane	880	U	NA	NA
74-87-3	Chloromethane	880	υ	520000	1000000(d)
75-01-4	Vinyl Chloride	880	U	2000	7000
74-83-9	Bromomethane	880	U	79000	1000000(d)
75-00-3	Chloroethane	880	U	NA	NA
75-69-4	Trichlorofluoromethane	880	U	NA	NA
75-35-4	1, 1-Dichloroethene	880	U	8000	150000
67-64-1	Acetone	880	ŭ	1000000(d)	1000000(d)
75-15-0	Carbon Disulfide	880	U	NA	NA
75-09-2	Methylene Chloride	880	υ	49000	210000
156-60-5	trans-1,2-Dichloroethene	880	υ	1000000(d)	1000000(d)
75-35-3	1,1-Dichloroethane	880	υ	570000	1000000(d)
108-05-4	Vinyl Acetate	880	υ	NA	NA
78-93-3	2-Butanone	880	U	1000000(d)	1000000(d)
156-59-2	cis-1,2-Dichloroethene	880	U	79000	1000000(d)
67-66-3	Chloroform	880	Ū	19000(k)	28000(k)
75-55-6	1,1,1-Trichloroethane	880	U	NA	NA
56-23-5	Carbon Tetrachloride	880	U	2000(k)	4000(k)
71-43-2	Benzeze	880	U	3000	13000
107-06-2	1,2-Dichloroethane	880	U	6000	24000

#### Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:

**FMETL** 

NJDEP#

13461

Matrix: (soil/water) SOIL

Date Sampled:

7/18/97

Location:

288

Lab Sample ID: 2813.05(SAMPLE E)

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

CAS NO.	PARAMETER	MDL	QUALIFIER	RESIDENTIAL	NON- RESIDENTIAL
79-01-6	Trichloroethene	880	υ	23000	54000(k)
78-87-5	1, 2-Dichloropropane	880	U	10000	43000
75-27-4	Bromodichloromethane	880	. υ	11000(g)	46000(g)
110-75-8	2-Chloroethyl vinyl ether	880	υ	NA	NA
10061-01-5	cis-1,3-Dichloropropene	880	U .	NA	NA
108-10-1	4-Methyl-2-Pentanone	880	U	1000000(d)	1000000(d)
108-88-3	Toluene	880	Ū	1000000(d)	1000000(d)
10061-02-6	trans-1,3-Dichloropropene	880	U	NA	NA
79-00-5	1,1,2-Trichloroethane	880	U	22000	420000
127-18-4	Tetrachloroethene	880	U	4000(k)	6000(k)
591-78-6	2-Hexanone	880	Ŭ	NA	NA
126-48-1	Dibromochloromethane	880	U	NA	NA
108-90-7	Chlorobenzene	880	Ū	37000	680000
100-41-4	Ethylbenzene	880	· U	1000000(d)	1000000(d)
1330-20-7	m+p-Xylenes	880	U	NA	NA
1330-20-7	o-Xylene	880	U	NA	NA
100-42-5	Styrene	880	U	23000	97000
75-25-2	Bromoform	880	U	86000	370000
79-34-5	1,1,2,2-Tetrachloroethane	880	U	34000	70000(k)
541-73-1	1,3-Dichlorobenzene	880	U	5100000	10000000(c)
106-46-7	1,4-Dichlorobenzene	880	U	570000	10000000(c)
95-50-1	1,2-Dichlorobenzene	880	U	5100000	10000000(c)

# **Definition of Qualifiers**

MDL: Method Detection Limit

: Compound identified below detection limit J

B : Compound in both sample and blank D

: Results from dilution of sample

U : Compound searched for but not detected

# 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:

9/24/98

Location:

288

Lab Sample ID: 3913.01(Trip Blank)

1	<u> </u>		·· <u></u>			T(111) Diame)
CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
107028	Acrolein	1.85	Not Detected	<u></u>	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	по
75-35-4	1, 1-Dichloroethene	0.24	Not Detected		2	no
67-64-1	Acetone	1.36	Not Detected		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	по
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:

9/24/98

Location:

288

Lab Sample ID: 3913.01(Trip Blank)

F	<u> </u>					1(111)
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 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:

FMETL

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

9/24/98

Location:

<u>288</u>

Lab Sample ID: 3913.02(Field Blank)

_						
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	по
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	Not Detected		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	по
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	по
107-06-2	1,2-Dichloroethane	0.18	Not Detected		2	no
79-01-6	Trichloroethene	0.23	Not Detected		1	по
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:

9/24/98

Location:

288

Lab Sample ID: 3913.02(Field Blank)

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	по
127-18-4	Tetrachloroethene	0.32	Not Detected		1	по
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	по
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	по
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 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:

**FMETL** 

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

9/24/98

Location:

<u>288</u>

Lab Sample ID: 3913.03(Bldg 288)

-						
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	<u></u>	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	Not Detected		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,I-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	4.45 ug/L	6	no
75-55-6	1,1,1-Trichloroethane	0.23	Not Detected	<u>-</u> -	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	по
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	по
10061-01-5	cis-1,3-Dichloropropene	0.69	Not Detected		nle	no

#### Table 4 **VOLATILE ORGANICS ANALYSIS DATA SHEET**

Lab Name:

k.a.d

**FMETL** 

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

9/24/98

Location:

288

Lab Sample ID: 3913.03(Bldg 288)

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	по
126-48-1	Dibromochloromethane	0.86	Not Detected		10	по
108-90-7	Chlorobenzene	0.39	Not Detected		4	no.
100-41-4	Ethylbenzene	0.65	Not Detected		700	по
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	по
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 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:

FMETL

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

9/24/98

Location:

288

Lab Sample ID: 3913.04(DUP 288)

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	по
1634044	Methyl-tert-Butyl ether	0.16	Not Detected		nle	по
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	по
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, I-Dichloroethene	0.24	Not Detected		2	no
67-64-1	Acetone	1.36	Not Detected		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	4.50 ug/L	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	по
71-43-2	Benzeze	0.23	Not Detected		1	по
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	по
75-27-4	Bromodichloromethane	0.55	Not Detected		1	по
110-75-8	2-Chloroethyl vinyl ether	0.65	Not Detected		nle	no
10061-01-5	cis-1,3-Dichloropropene	0.69	Not Detected		. пlе	no

#### Table 4 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:

**FMETL** 

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

9/24/98

Location:

<u>288</u>

Lab Sample ID: 3913.04(DUP 288)

	<del>-</del>					
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:

9/24/98

Location:

288

Lab Sample ID: 3913.02(Field Blank)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
110-86-1	Pyridine	2.52	Not Detected		nle	no
62-75-9	N-nitroso-dimethylamine	2.64	Not Detected		20	по
62-53-3	Aniline	2.90	Not Detected		nle	no
111-44-4	bis(2-Chloroethyl)ether	2.45	Not Detected		10	no
541-73-1	I,3-Dichlorobenzene	2.65	Not Detected		600	no
106-46-7	1,4-Dichlorobenzene	2.50	Not Detected		75	no
100-51-6	Benzyl alcohol	2.09	Not Detected		nle	no
95-50-1	1,2-Dichlorobenzene	2.44	Not Detected		600	no
108-60-1	bis(2-chloroisopropyl)ether	2.96	Not Detected		300	no
621-64-7	n-Nitroso-di-n-propylamine	2.22	Not Detected		20	no
67-72-1	Hexachloroethane	2.59	Not Detected		10	no
98-95-3	Nitrobenzene	2.45	Not Detected		10	no
78-59-1	Isophorone	2.31	Not Detected		100	no
111-91-1	bis(2-Chloroethoxy)methane	2.54	Not Detected		nle	no
120-82-1	1,2,4-Trichlorobenzene	2.58	Not Detected		9	no ·
91-20-3	Naphthalene	3.03	Not Detected		nle	по
106-47-8	4-Chloroaniline	2.55	Not Detected		nle	no
87-68-3	Hexachlorobutadiene	0.64	Not Detected		1	no
91-57-6	2-Methylnaphthalene	2.49	Not Detected		nle	по
77-47-4	Hexachlorocyclopentadiene	1.59	Not Detected		50	no
91-58-7	2-Chloronaphthalene	2.15	Not Detected		nle	no
88-74-4	2-Nitroaniline	1.62	Not Detected		nle	по
131-11-3	Dimethylphthalate	2.74	Not Detected		7000	по
208-96-8	Acenaphthylene	2.35	Not Detected		nle	no

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

Date Sampled: 9/24/98 Location: 288 Lab Sample ID: 3913.02(Field Blank)

CAS NO.   COMPOUND NAME   MDL (ug/L)   RESULTS   QUALIFIER   REGULATORY   EXCEEDS   CRITERIA	Date Sample	d: <u>9/24/98</u>	Location:	288	Lab Sample ID: 3913.02(Field Blank)				
99.99.2   3-Nitrosmiline	CAS NO.	COMPOUND NAME		RESULTS	QUALIFIER				
188-32-9   Accenaphthene   1.98   Not Detected     400   10   10   112-4-9   Dibenzofuran   2.13   Not Detected     10   10   10   10   10   10   10	606-20-2	2,6-Dinitrotoluene	1.54	Not Detected		nle	no		
132.64-9   Dibenzofran   2.13   Not Detected	99-09-2	3-Nitroaniline	1.62	Not Detected		nle	no		
121-14-2   2,4-Dintracoluene   1.22   Not Detected     10   10   10   10   10   10   10	83-32-9	Acenaphthene	1.98	Not Detected		400	no .		
84-66-2   Diethylphthalate   1.68   Not Detected	132-64-9	Dibenzofuran	2.13	Not Detected		nle	no		
Not Detected	121-14-2	2,4-Dinitrotoluene	1.22	Not Detected		10	no		
Not Detected	84-66-2	Diethylphthalate	1.68	Not Detected		5000	no		
100-01-6	86-73-7	Fluorene	1.93	Not Detected		300	no		
Not Detected	7005-72-3	4-Chlorophenyl-phenylether	1.53	Not Detected		nle	no		
103-33-3	100-01-6	4-Nitroaniline	2.70	Not Detected		nle	no ·		
101-55-3	86-30-6	n-Nitrosodiphenylamine	1.73	Not Detected		20	по		
118-74-1   Hexachlorobenzene   1.88   Not Detected     10   no	103-33-3	Azobenzene	1.92	Not Detected		nle	no		
Section	101-55-3	4-Bromophenyl-phenylether	1.54	Not Detected		nle	no		
120-12-7	118-74-1	Hexachlorobenzene	1.88	Not Detected		10	по		
Not Detected   1.83	85-01-8	Phenanthrene	1.67	Not Detected	-	nle	no		
206-44-0   Fluoranthene   1.85   Not Detected     300   no	120-12-7	Anthracene	1.79	Not Detected		2000	no		
92-87-5         Benzidine         4.11         Not Detected          50         no           129-00-0         Pyrene         1.02         Not Detected          200         no           85-68-7         Butylbenzylphthalate         1.15         Not Detected          100         no           56-55-3         Benzo[a]anthracene         1.57         Not Detected          10         no           91-94-1         3,3'-Dichlorobenzidine         2.28         Not Detected          60         no           218-01-9         Chrysene         2.32         Not Detected          20         no           117-81-7         bis(2-Ethylhexyl)phthalate         1.29         1.71 ug/L          30         no           117-84-0         Di-n-octylphthalate         1.30         Not Detected          100         no           205-99-2         Benzo[b]fluoranthene         1.31         Not Detected          10         no           207-08-9         Benzo[k]fluoranthene         1.57         Not Detected          2         no           193-39-5         Indeno[1,2,3-ed]pyrene         1.22         Not Detected	84-74-2	Di-n-butylphthalate	1.83	Not Detected		900	по		
129-00-0   Pyrene   1.02   Not Detected     200   no	206-44-0	Fluoranthene	1.85	Not Detected		300	no		
85-68-7         Butylbenzylphthalate         1.15         Not Detected          100         no           56-55-3         Benzo[a]anthracene         1.57         Not Detected          10         no           91-94-1         3,3'-Dichlorobenzidine         2.28         Not Detected          60         no           218-01-9         Chrysene         2.32         Not Detected          20         no           117-81-7         bis(2-Ethylhexyl)phthalate         1.29         1.71 ug/L          30         no           117-84-0         Di-n-octylphthalate         1.30         Not Detected          100         no           205-99-2         Benzo[b]fluoranthene         1.31         Not Detected          10         no           207-08-9         Benzo[k]fluoranthene         1.57         Not Detected          2         no           50-32-8         Benzo[a]pyrene         1.36         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         3.12         Not	92-87-5	Benzidine	4.11	Not Detected	-	50	no		
Solution   Survive   Sur	129-00-0	Pyrene	1.02	Not Detected		200	no		
91-94-1 3,3'-Dichlorobenzidine 2.28 Not Detected — 60 no  218-01-9 Chrysene 2.32 Not Detected — 20 no  117-81-7 bis(2-Ethylhexyl)phthalate 1.29 1.71 ug/L — 30 no  117-84-0 Di-n-octylphthalate 1.30 Not Detected — 100 no  205-99-2 Benzo[b]fluoranthene 1.31 Not Detected — 10 no  207-08-9 Benzo[k]fluoranthene 1.57 Not Detected — 2 no  50-32-8 Benzo[a]pyrene 1.36 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 3.12 Not Detected — 20 no	85-68-7	Butylbenzylphthalate	1.15	Not Detected	-	100	no		
218-01-9   Chrysene   2.32   Not Detected     20   no     117-81-7   bis(2-Ethylhexyl)phthalate   1.29   1.71 ug/L     30   no     117-84-0   Di-n-octylphthalate   1.30   Not Detected     100   no     205-99-2   Benzo[b]fluoranthene   1.31   Not Detected     10   no     207-08-9   Benzo[k]fluoranthene   1.57   Not Detected     2   no     50-32-8   Benzo[a]pyrene   1.36   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   3.12   Not Detected     20   no     101-04-05   Dibenz[a,h]anthracene   3.12   Not Detected     20   no     101-04-05   Dibenz[a,h]anthracene   1.13   Not Detected     20   no     101-04-05   Dibenz[a,h]anthracene   1.13   Not Detected     20   no     101-04-05   Dibenz[a,h]anthracene   1.13	56-55-3	Benzo[a]anthracene	1.57	Not Detected		10	no		
117-81-7       bis(2-Ethylhexyl)phthalate       1.29       1.71 ug/L        30       no         117-84-0       Di-n-octylphthalate       1.30       Not Detected        100       no         205-99-2       Benzo[b]fluoranthene       1.31       Not Detected        10       no         207-08-9       Benzo[k]fluoranthene       1.57       Not Detected        2       no         50-32-8       Benzo[a]pyrene       1.36       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       3.12       Not Detected        20       no	91-94-1	3,3'-Dichlorobenzidine	2.28	Not Detected	-	60	по		
117-84-0       Di-n-octylphthalate       1.30       Not Detected        100       no         205-99-2       Benzo[b]fluoranthene       1.31       Not Detected        10       no         207-08-9       Benzo[k]fluoranthene       1.57       Not Detected        2       no         50-32-8       Benzo[a]pyrene       1.36       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       3.12       Not Detected        20       no	218-01-9	Chrysene	2.32	Not Detected		20	по		
205-99-2   Benzo[b]fluoranthene   1.31   Not Detected     10   no	117-81-7	bis(2-Ethylhexyl)phthalate	1.29	1.71 ug/L		30	по		
207-08-9         Benzo[k]fluoranthene         1.57         Not Detected          2         no           50-32-8         Benzo[a]pyrene         1.36         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         3.12         Not Detected          20         no	117-84-0	Di-n-octylphthalate	1.30	Not Detected		100	no		
1.36   Not Detected     20   no	205-99-2	Benzo[b]fluoranthene	1.31	Not Detected		10	no		
193-39-5     Indeno[1,2,3-cd]pyrene     1.22     Not Detected      20     no       53-70-3     Dibenz[a,h]anthracene     3.12     Not Detected      20     no	207-08-9	Benzo[k]fluoranthene	1.57	Not Detected	-	2	no		
53-70-3 Dibenz[a,h]anthracene 3.12 Not Detected 20 no	50-32-8	Benzo[a]pyrene	1.36	Not Detected	_	20	no		
100 Detected 12 20	193-39-5	Indeno[1,2,3-cd]pyrene	1.22	Not Detected	_	20	no		
191-24-2 Benzo[g,h,i]perylene 1.13 Not Detected nle no	53-70-3	Dibenz[a,h]anthracene	3.12	Not Detected		20	no		
<u> </u>	191-24-2	Benzo[g,h,i]perylene	1.13	Not Detected		nle	no		

## Table 4 SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name:

**FMETL** 

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

9/24/98

Location:

288

Lab Sample ID: 3913.03(Bldg 288)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
110-86-1	Pyridine	2.52	Not Detected		nle	по
62-75-9	N-nitroso-dimethylamine	2.64	Not Detected		20	no
62-53-3	Aniline	2.90	Not Detected		nle	по
111-44-4	bis(2-Chloroethyl)ether	2.45	Not Detected		10	по
541-73-1	1,3-Dichlorobenzene	2.65	Not Detected		600	no
106-46-7	1,4-Dichlorobenzene	2.50	Not Detected		. 75	no
100-51-6	Benzyl alcohol	2.09	Not Detected		nle	по
95-50-1	1,2-Dichlorobenzene	2.44	Not Detected		600	no
108-60-1	bis(2-chloroisopropyl)ether	2.96	Not Detected		300	no
621-64-7	n-Nitroso-di-n-propylamine	2.22	Not Detected		20	no
67-72-1	Hexachloroethane	2.59	Not Detected		10	no
98-95-3	Nitrobenzene	2.45	Not Detected		10	no
78-59-1	Isophorone	2.31	Not Detected		100	no
111-91-1	bis(2-Chloroethoxy)methane	2.54	Not Detected		nle	no
120-82-1	1,2,4-Trichlorobenzene	2.58	Not Detected		9	no
91-20-3	Naphthalene	3.03	Not Detected		nle	no
106-47-8	4-Chloroaniline	2.55	Not Detected		nle	no
87-68-3	Hexachlorobutadiene	0.64	Not Detected		1	по
91-57-6	2-Methylnaphthalene	2.49	Not Detected		пlе	no
77-47-4	Hexachlorocyclopentadiene	1.59	Not Detected		50	no
91-58-7	2-Chloronaphthalene	2.15	Not Detected		nle	по
88-74-4	2-Nitroaniline	1.62	Not Detected		nle	по
131-11-3	Dimethylphthalate	2.74	Not Detected		7000	no
208-96-8	Acenaphthylene	2.35	Not Detected		nle	no

Lab Name:

**FMETL** 

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

L : /

9/24/98

Location:

288

Lah Sample ID: 3913 03(Bldg 288)

Date Sample	d: <u>9/24/98</u>	Location:	<u>288</u>	Lab Sample ID: 3913.03(Bldg 288)				
CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA		
606-20-2	2,6-Dinitrotoluene	1.54	Not Detected		nle	no		
99-09-2	3-Nitroaniline	1.62	Not Detected		nle	no		
83-32-9	Acenaphthene	1.98	Not Detected		400	no		
132-64-9	Dibenzofuran	2.13	Not Detected		nle	no		
121-14-2	2,4-Dinitrotoluene	1.22	Not Detected	-	10	no		
84-66-2	Diethylphthalate	1.68	Not Detected		5000	no		
86-73-7	Fluorene	1.93	Not Detected		300	no		
7005-72-3	4-Chlorophenyl-phenylether	1.53	Not Detected	_	nle	no		
100-01-6	4-Nitroaniline	2.70	Not Detected		nle	no		
86-30-6	n-Nitrosodiphenylamine	1.73	Not Detected		20	no		
103-33-3	Azobenzene	1.92	Not Detected		nle	no		
101-55-3	4-Bromophenyl-phenylether	1.54	Not Detected		nle	no		
118-74-1	Hexachlorobenzene	1.88	Not Detected		10	no		
85-01-8	Phenanthrene	1.67	Not Detected		nle	no		
120-12-7	Anthracene	1.79	Not Detected		2000	по		
84-74-2	Di-n-butylphthalate	1.83	Not Detected		900	no		
206-44-0	Fluoranthene	1.85	Not Detected		300	no		
92-87-5	Benzidine	4.11	Not Detected		50	no		
129-00-0	Pyrene	1.02	Not Detected		200	no		
85-68-7	Butylbenzylphthalate	1.15	Not Detected	_	100	no		
56-55-3	Benzo[a]anthracene	1.57	Not Detected	-	10	no		
91-94-1	3,3'-Dichlorobenzidine	2.28	Not Detected		60	no		
218-01-9	Chrysene	2.32	Not Detected		20	no		
117-81-7	bis(2-Ethylhexyl)phthalate	1.29	Not Detected		30	no		
117-84-0	Di-n-octylphthalate	1.30	Not Detected		100	no		
205-99-2	Benzo[b]fluoranthene	1.31	Not Detected		10	по		
207-08-9	Benzo[k]fluoranthene	1.57	Not Detected		2	по		
50-32-8	Benzo[a]pyrene	1.36	Not Detected		20	по		
193-39-5	Indeno[1,2,3-cd]pyrene	1.22	Not Detected		20	по		
53-70-3	Dibenz[a,h]anthracene	3.12	Not Detected		20	по		
191-24-2	Benzo[g,h,i]perylene	1.13	Not Detected		nle	по		

## Table 4 SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name:

**FMETL** 

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

9/24/98

Location:

288

Lab Sample ID: 3913.04(DUP 288)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
110-86-1	Pyridine	2.52	Not Detected		nle	no
62-75-9	N-nitroso-dimethylamine	2.64	Not Detected		20	no
62-53-3	Aniline	2.90	Not Detected		nle	no
111-44-4	bis(2-Chloroethyl)ether	2.45	Not Detected		10	no
541-73-1	1,3-Dichlorobenzene	2.65	Not Detected		600	no
106-46-7	1,4-Dichlorobenzene	2.50	Not Detected		75	· no
100-51-6	Benzyl alcohol	2.09	Not Detected		nle	no
95-50-1	1,2-Dichlorobenzene	2.44	Not Detected		600	no
108-60-1	bis(2-chloroisopropyl)ether	2.96	Not Detected		300	no
621-64-7	n-Nitroso-di-n-propylamine	2.22	Not Detected		20	no
67-72-1	Hexachloroethane	2.59	Not Detected		10	по
98-95-3	Nitrobenzene	2.45	Not Detected		10	no
78-59-1	Isophorone	2.31	Not Detected		100	no
111-91-1	bis(2-Chloroethoxy)methane	2.54	Not Detected		nle	no
120-82-1	1,2,4-Trichlorobenzene	2.58	Not Detected		9	по
91-20-3	Naphthalene	3.03	Not Detected		nle	no
106-47-8	4-Chloroaniline	2.55	Not Detected		nle	no
87-68-3	Hexachlorobutadiene	0.64	Not Detected		1	по
91-57-6	2-Methylnaphthalene	2.49	Not Detected		nle	no
77-47-4	Hexachlorocyclopentadiene	1.59	Not Detected		50	no
91-58-7	2-Chloronaphthalene	2.15	Not Detected		nle	по
88-74-4	2-Nitroaniline	1.62	Not Detected		nle	no
131-11-3	Dimethylphthalate	2.74	Not Detected	-	7000	no
208-96-8	Acenaphthylene	2.35	Not Detected	-	nle	no

Lab Name:

**FMETL** 

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

9/24/98

Location:

288

Lab Sample ID: 3913.04(DUP 288)

Date Sample	u. <u>9/24/98</u>	Location.	200	Lau S	imple 1D: 3913.0	4(DUF 200)
CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
606-20-2	2,6-Dinitrotoluene	1.54	Not Detected		nle	no
99-09-2	3-Nitroaniline	1.62	Not Detected		nle	no
83-32-9	Acenaphthene	1.98	Not Detected		400	по
132-64-9	Dibenzofuran	2.13	Not Detected		nle	no
121-14-2	2,4-Dinitrotoluene	1.22	Not Detected		10	no
84-66-2	Diethylphthalate	1.68	Not Detected		5000	no
86-73-7	Fluorene	1.93	Not Detected		300	по
7005-72-3	4-Chlorophenyl-phenylether	1.53	Not Detected		nle	no
100-01-6	4-Nitroaniline	2.70	Not Detected		nle	по
86-30-6	n-Nitrosodiphenylamine	1.73	Not Detected		20	по
103-33-3	Azobenzene	1.92	Not Detected		nle	no
101-55-3	4-Bromophenyl-phenylether	1.54	Not Detected		nle	no
118-74-1	Hexachlorobenzene	1.88	Not Detected		10	no
85-01-8	Phenanthrene	1.67	Not Detected		nle	no
120-12-7	Anthracene	1.79	Not Detected		2000	no
84-74-2	Di-n-butylphthalate	1.83	Not Detected		900	no
206-44-0	Fluoranthene	1.85	Not Detected		300	no
92-87-5	Benzidine	4.11	Not Detected		50	no
129-00-0	Pyrene	1.02	Not Detected		200	no
85-68-7	Butylbenzylphthalate	1.15	Not Detected		100	no
56-55-3	Benzo[a]anthracene	1.57	Not Detected		10	no
91-94-1	3,3'-Dichlorobenzidine	2.28	Not Detected		60	no
218-01-9	Chrysene	2.32	Not Detected		20	no
117-81-7	bis(2-Ethylhexyl)phthalate	1.29	Not Detected		30	no
117-84-0	Di-n-octylphthalate	1.30	Not Detected		100	no
205-99-2	Benzo[b]fluoranthene	1.31	Not Detected		10	no
207-08-9	Benzo[k]fluoranthene	1.57	Not Detected	-	2	no
50-32-8	Benzo[a]pyrene	1.36	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	3.12	Not Detected		20	no
191-24-2	Benzo[g,h,i]perylene	1.13	Not Detected		nle	no
<del></del>			.,	<u> </u>		

#### Table 4 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:

**FMETL** 

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

10/23/98

Location:

288

Lab Sample ID: 4002.01(Trip Blank)

Duic Bumpi	10/23/90	Locuitor	200	200 50	111ple 115. +002.0	T(TTP Diame)
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		nie	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	<u></u>	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	Not Detected		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	по
75-35-3	1,1-Dichloroethane	0.12	Not Detected		70	по
108-05-4	Vinyl Acetate	0.78	Not Detected		nle	no
78-93-3	2-Butanone	0.62	Not Detected	<u></u>	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	по
78-87-5	1, 2-Dichloropropane	0.40	Not Detected		1	no
75-27-4	Bromodichloromethane	0.55	Not Detected		1	по
110-75-8	2-Chloroethyl vinyl ether	0.65	Not Detected		nle	по
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: 10/23/98 Location: 288 Lab Sample ID: 4002.01(Trip Blank))

Date Sample	ed: 10/23/98	Location:	200	Lab Sample ID: 4002.01(171p Blan		
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	по
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	по
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 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:

**FMETL** 

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

10/23/98

Location:

288

Lab Sample ID: 4002.02(Field Blank)

CAS NO. COMPOUND NAME **MDL RESULTS** QUALIFIER REGULATORY **EXCEEDS** (ug/L) LEVEL(ug/L) **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 108203 Di-isopropyl ether 0.25 Not Detected nle Dichlorodifluoromethane 1.68 Not Detected no 74-87-3 Chloromethane 1.16 Not Detected 30 no 75-01-4 Vinyl Chloride 1.06 Not Detected --5 74-83-9 1.10 Not Detected no Bromomethane 10 no 75-00-3 Chloroethane 1.01 Not Detected nle no 75-69-4 0.50 Not Detected Trichlorofluoromethane nle 75-35-4 1, 1-Dichloroethene 0.24 Not Detected 2 67-64-1 Acetone 1.36 Not Detected 700 no Carbon Disulfide 75-15-0 0.46 Not Detected nle no 75-09-2 Methylene Chloride 0.24 Not Detected 2 --156-60-5 trans-1,2-Dichloroethene 0.16 Not Detected 100 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 0.62 2-Butanone Not Detected 300 по 156-59-2 cis-1,2-Dichloroethene Not Detected 10 0.17 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 0.18 Not Detected 2 1,2-Dichloroethane -no 0.23 1 79-01-6 Trichloroethene Not Detected no 78-87-5 0.40 Not Detected 1 1, 2-Dichloropropane no 75-27-4 Bromodichloromethane 0.55 Not Detected 1 no 110-75-8 2-Chloroethyl vinyl ether 0.65 Not Detected nle 10061-01-5 cis-1,3-Dichloropropene 0.69 Not Detected

#### Table 4 **VOLATILE ORGANICS ANALYSIS DATA SHEET**

Lab Name:

**FMETL** 

NJDEP#

<u>13461</u>

Matrix: (soil/water) WATER

Date Sampled:

10/23/98

Location:

288

Lab Sample ID: 4002.02(Field Blank)

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	-	пle	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	<del></del>	75	no
95-50-1	1,2-Dichlorobenzene	0.64	Not Detected		600	no

## Table 4 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:

FMETL

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

10/23/98

Location:

288

Lab Sample ID: 4002.03(Bldg 288)

-	<del></del>		<del></del>			
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	по
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	Not Detected		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	3.07 ug/L		6	по
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	по
79-01-6	Trichloroethene	0.23	Not Detected		1	по
78-87-5	1, 2-Dichloropropane	0.40	Not Detected		1	по
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	по

#### Table 4 **VOLATILE ORGANICS ANALYSIS DATA SHEET**

Lab Name:

**FMETL** 

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

10/23/98

Location:

<u>288</u>

Lab Sample ID: 4002.03(Bldg 288)

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	по
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	по
75-25-2	Bromoform	0.70	Not Detected		4	по
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	по
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 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:

**FMETL** 

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

10/23/98

Location:

288

Lab Sample ID: 4002.09(DUP 288)

•					•	
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	110
75-35-4	I, 1-Dichloroethene	0.24	Not Detected		2	no
67-64-1	Acetone	1.36	Not Detected		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	3.29 ug/L		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	по
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:

10/23/98

Location:

288

Lab Sample ID: 4002.09(DUP 288)

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	по
100-42-5	Styrene	0.56	Not Detected		100	по
75-25-2	Bromoform	0.70	Not Detected		4	по
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

Lab Name:

**FMETL** 

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

10/23/98

Location:

288

Lab Sample ID: 4002.02(Field Blank)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
110-86-1	Pyridine	2.52	Not Detected		nle	по
62-75-9	N-nitroso-dimethylamine	2.64	Not Detected		20	по
62-53-3	Aniline	2.90	Not Detected		nle	no
111-44-4	bis(2-Chloroethyl)ether	2.45	Not Detected		10	no
541-73-1	1,3-Dichlorobenzene	2.65	Not Detected		600	no
106-46-7	1,4-Dichlorobenzene	2.50	Not Detected		75	по
100-51-6	Benzyl alcohol	2.09	Not Detected		nle	no
95-50-1	1,2-Dichlorobenzene	2.44	Not Detected		600	no
108-60-1	bis(2-chloroisopropyl)ether	2.96	Not Detected		300	no
621-64-7	n-Nitroso-di-n-propylamine	2.22	Not Detected		20	no
67-72-1	Hexachloroethane	2.59	Not Detected		10	no
98-95-3	Nitrobenzene	2.45	Not Detected		10	no
78-59-1	Isophorone	2.31	Not Detected		100	no
111-91-1	bis(2-Chloroethoxy)methane	2.54	Not Detected		nle	no
120-82-1	1,2,4-Trichlorobenzene	2.58	Not Detected		9	no
91-20-3	Naphthalene	3.03	Not Detected		nle	no
106-47-8	4-Chloroaniline	2.55	Not Detected		nle	no
87-68-3	Hexachlorobutadiene	0.64	Not Detected		1	по
91-57-6	2-Methylnaphthalene	2.49	Not Detected		nle	по
77-47-4	Hexachlorocyclopentadiene	1.59	Not Detected		50	no
91-58-7	2-Chioronaphthalene	2.15	Not Detected	-	nle	no
88-74-4	2-Nitroaniline	1.62	Not Detected		nle	no
131-11-3	Dimethylphthalate	2.74	Not Detected		7000	по
208-96-8	Acenaphthylene	2.35	Not Detected		nle	no

Lab Name:

**FMETL** 

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

10/23/98

Location:

288 Lab Sample I

Lab Sample ID: 4002.02(Field Blank)

	<u>= 3.7 = 3.7 = 3</u>		=		<u> </u>	<u>-(-1010-10111)</u>
CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
606-20-2	2,6-Dinitrotoluene	1.54	Not Detected		Nle	no
99-09-2	3-Nitroaniline	1.62	Not Detected		Nle	no
83-32-9	Acenaphthene	1.98	Not Detected		400	no
132-64-9	Dibenzofuran	2.13	Not Detected		Nie	no
121-14-2	2,4-Dinitrotoluene	1.22	Not Detected		10	no
84-66-2	Diethylphthalate	1.68	Not Detected		5000	no
86-73-7	Fluorene	1.93	Not Detected		300	no
7005-72-3	4-Chlorophenyl-phenylether	1.53	Not Detected		Nle	no
100-01-6	4-Nitroaniline	2.70	Not Detected		Nle	no
86-30-6	n-Nitrosodiphenylamine	1.73	Not Detected		20	no
103-33-3	Azobenzene	1.92	Not Detected		Nle	no
101-55-3	4-Bromophenyl-phenylether	1.54	Not Detected		Nle	no
118-74-1	Hexachlorobenzene	1.88	Not Detected		10	no
85-01-8	Phenanthrene	1.67	Not Detected		Nle	no
120-12-7	Anthracene	1.79	Not Detected		2000	no
84-74-2	Di-n-butylphthalate	1.83	Not Detected		900	no
206-44-0	Fluoranthene	1.85	Not Detected		300	no
92-87-5	Benzidine	4.11	Not Detected		50	no
129-00-0	Pyrene	1.02	Not Detected		200	no
85-68-7	Butylbenzylphthalate	1.15	Not Detected		100	no
56-55-3	Benzo[a]anthracene	1.57	Not Detected		10	no
91-94-1	3,3'-Dichlorobenzidine	2.28	Not Detected		60	no
218-01-9	Chrysene	2.32	Not Detected		20	по
117-81-7	bis(2-Ethylhexyl)phthalate	1.29	25.73		30	no
117-84-0	Di-n-octylphthalate	1.30	Not Detected	-	100	no
205-99-2	Benzo[b]fluoranthene	1.31	Not Detected		10	no
207-08-9	Benzo[k]fluoranthene	1.57	Not Detected		2	no
50-32-8	Benzo[a]pyrene	1.36	Not Detected		20	no
193-39-5	Indeno[1,2,3-cd]pyrene	1.22	Not Detected		20	по
53-70-3	Dibenz[a,h]anthracene	3.12	Not Detected		20	no
191-24-2	Benzo[g,h,i]perylene	1.13	Not Detected		nle	no

Lab Name:

**FMETL** 

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

10/23/98

Location:

288

Lab Sample ID: 4002.03(Bldg 288)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
110-86-1	Pyridine	2.52	Not Detected		nle	no .
62-75-9	N-nitroso-dimethylamine	2.64	Not Detected		20	no
62-53-3	Aniline	2.90	Not Detected		nle	no
111-44-4	bis(2-Chloroethyl)ether	2.45	Not Detected		10	no
541-73-1	1,3-Dichlorobenzene	2.65	Not Detected		600	no
106-46-7	1,4-Dichlorobenzene	2.50	Not Detected		75	no
100-51-6	Benzyl alcohol	2.09	Not Detected		nle	no
95-50-1	1,2-Dichlorobenzene	2.44	Not Detected		600	no
108-60-1	bis(2-chloroisopropyl)ether	2.96	Not Detected		300	no
621-64-7	n-Nitroso-di-n-propylamine	2.22	Not Detected		20	no
67-72-1	Hexachloroethane	2.59	Not Detected		10	no
98-95-3	Nitrobenzene	2.45	Not Detected		10	по
78-59-1	Isophorone	2.31	Not Detected		100	по
111-91-1	bis(2-Chloroethoxy)methane	2.54	Not Detected		nle	no
120-82-1	1,2,4-Trichlorobenzene	2.58	Not Detected		9	no
91-20-3	Naphthalene	3.03	Not Detected		nle	по
106-47-8	4-Chloroaniline	2.55	Not Detected		nle	по
87-68-3	Hexachlorobutadiene	0.64	Not Detected		1	no
91-57-6	2-Methylnaphthalene	2.49	Not Detected		nle	по
77-47-4	Hexachlorocyclopentadiene	1.59	Not Detected		50	no
91-58-7	2-Chloronaphthalene	2.15	Not Detected		nle	no
88-74-4	2-Nitroaniline	1.62	Not Detected		nle	no
131-11-3	Dimethylphthalate	2.74	Not Detected		7000	по
208-96-8	Acenaphthylene	2.35	Not Detected		nle	no

Lab Name:

**FMETL** 

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

10/23/98

Location:

288

Lab Sample ID: 4002.03(Bldg 288)

						<u> </u>
CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
606-20-2	2,6-Dinitrotoluene	1.54	Not Detected		nle	no
99-09-2	3-Nitroaniline	1.62	Not Detected		nle	no
83-32-9	Acenaphthene	1.98	Not Detected		400	no
132-64-9	Dibenzofuran	2.13	Not Detected		nle	no
121-14-2	2,4-Dinitrotoluene	1.22	Not Detected		10	no
84-66-2	Diethylphthalate	1.68	Not Detected		5000	no
86-73-7	Fluorene	1.93	Not Detected		300	no
7005-72-3	4-Chlorophenyl-phenylether	1.53	Not Detected		nle	no
100-01-6	4-Nitroaniline	2.70	Not Detected		nle	no
86-30-6	n-Nitrosodiphenylamine	1.73	Not Detected		20	no
103-33-3	Azobenzene	1.92	Not Detected		nle	no
101-55-3	4-Bromophenyl-phenylether	1.54	Not Detected		nle	по
118-74-1	Hexachlorobenzene	1.88	Not Detected		10	no
85-01-8	Phenanthrene	1.67	Not Detected	-	nle	по
120-12-7	Anthracene	1.79	Not Detected		2000	по
84-74-2	Di-n-butylphthalate	1.83	Not Detected		900	по
206-44-0	Fluoranthene	1.85	Not Detected		300	no
92-87-5	Benzidine	4.11	Not Detected		50	no
129-00-0	Pyrene	1.02	Not Detected		200	no
85-68-7	Butylbenzylphthalate	1.15	Not Detected		100	по
56-55-3	Benzo[a]anthracene	1.57	Not Detected		10	no
91-94-1	3,3'-Dichlorobenzidine	2.28	Not Detected		60	no
218-01-9	Chrysene	2.32	Not Detected		20	по
117-81-7	bis(2-Ethylhexyl)phthalate	1.29	Not Detected		30	no
117-84-0	Di-n-octylphthalate	1.30	Not Detected		100	no
205-99-2	Benzo[b]fluoranthene	1.31	Not Detected		10	no
207-08-9	Benzo[k]fluoranthene	1.57	Not Detected		2	no
50-32-8	Benzo[a]pyrene	1.36	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	3.12	Not Detected		20	no
191-24-2	Benzo[g,h,i]perylene	1.13	Not Detected		nle	no

Lab Name:

**FMETL** 

NJDEP.#

13461

Matrix: (soil/water) WATER

Date Sampled:

10/23/98

Location:

288

Lab Sample ID: 4002.09(DUP 288)

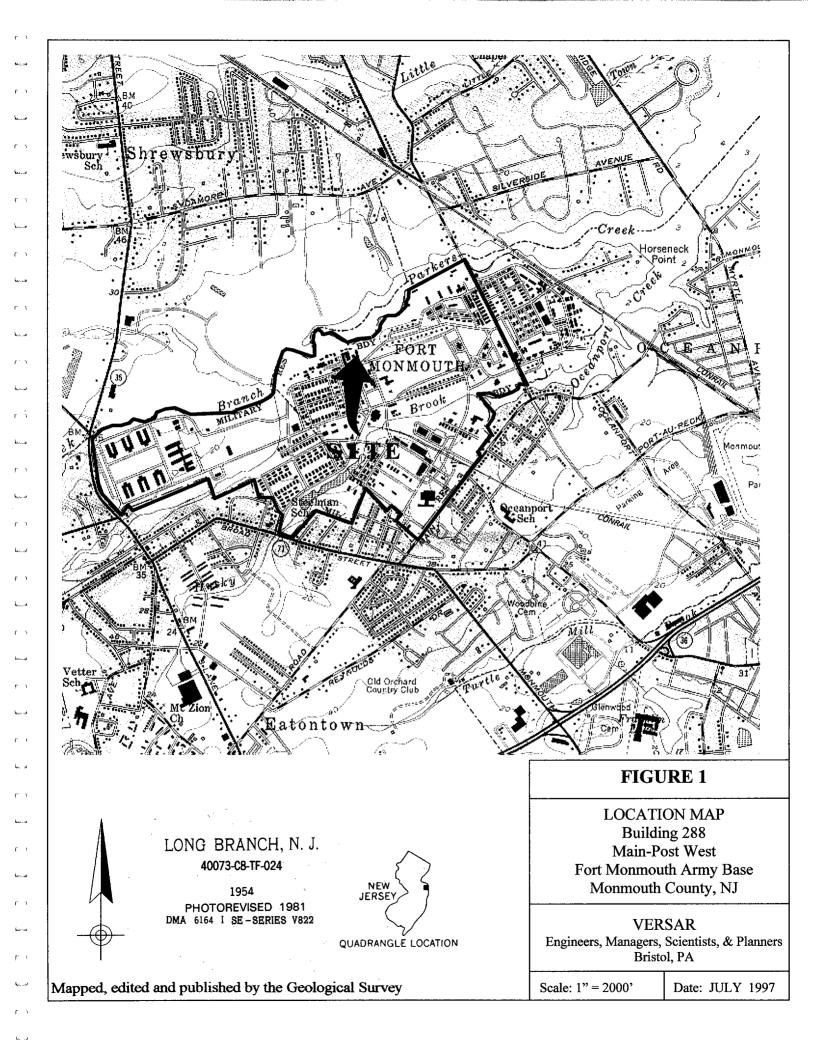
CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
110-86-1	Pyridine	2.52	Not Detected		nle	no
62-75-9	N-nitroso-dimethylamine	2.64	Not Detected		20	по
62-53-3	Aniline	2.90	Not Detected		nle	по
111-44-4	bis(2-Chloroethyl)ether	2.45	Not Detected		10	no
541-73-1	1,3-Dichlorobenzene	2.65	Not Detected		600	no
106-46-7	1,4-Dichlorobenzene	2.50	Not Detected		75	no
100-51-6	Benzyl alcohol	2.09	Not Detected		nle	no
95-50-1	1,2-Dichlorobenzene	2.44	Not Detected		600	no
108-60-1	bis(2-chloroisopropyl)ether	2.96	Not Detected		300	no
621-64-7	n-Nitroso-di-n-propylamine	2.22	Not Detected		20	no
67-72-1	Hexachloroethane	2.59	Not Detected		10	no
98-95-3	Nitrobenzene	2.45	Not Detected		10	no
78-59-1	Isophorone	2.31	Not Detected		100	по
111-91-1	bis(2-Chloroethoxy)methane	2.54	Not Detected		nle	no
120-82-1	1,2,4-Trichlorobenzene	2.58	Not Detected		9	no
91-20-3	Naphthalene	3.03	Not Detected		nle	no
106-47-8	4-Chloroaniline	2.55	Not Detected		nle	no
87-68-3	Hexachlorobutadiene	0.64	Not Detected		1	по
91-57-6	2-Methylnaphthalene	2.49	Not Detected		nle	по
77-47-4	Hexachlorocyclopentadiene	1.59	Not Detected		50	no
91-58-7	2-Chloronaphthalene	2.15	Not Detected		nle	no
88-74-4	2-Nitroaniline	1.62	Not Detected		nle	no
131-11-3	Dimethylphthalate	2.74	Not Detected		7000	по
208-96-8	Acenaphthylene	2.35	Not Detected		nle	no

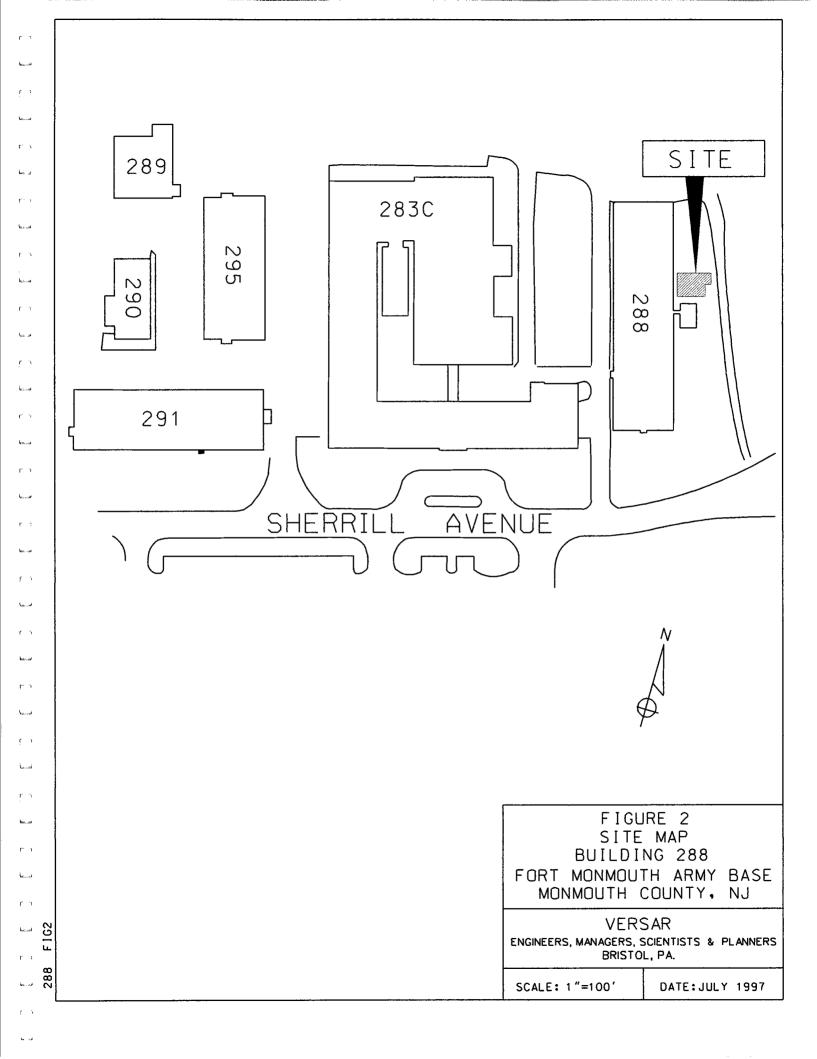
Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) WATER

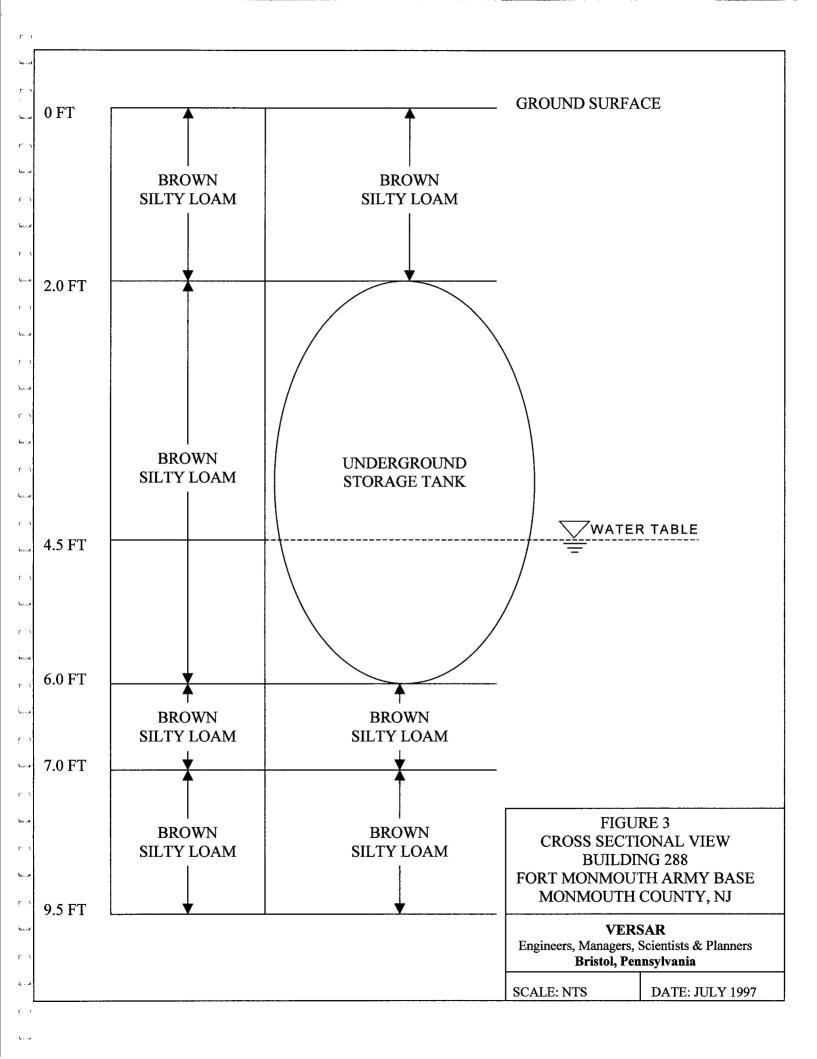
Date Sampled: 10/23/98 Location: 288 Lab Sample ID: 4002.09(DUP 288)

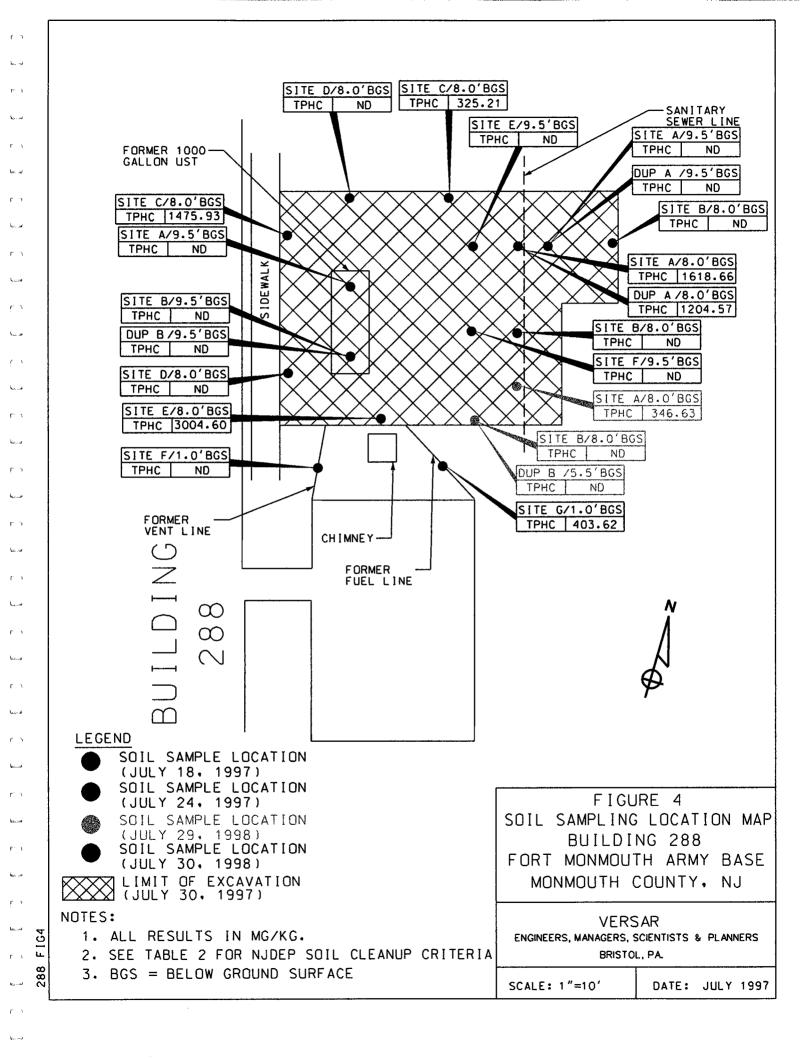
Clay/L   CRI	TERIA no
99-09-2 3-Nitroaniline 1.62 Not Detected nle   83-32-9 Acenaphthene 1.98 Not Detected 400   132-64-9 Dibenzofuran 2.13 Not Detected nle   121-14-2 2,4-Dinitrotoluene 1.22 Not Detected 10   84-66-2 Diethylphthalate 1.68 Not Detected 5000   86-73-7 Fluorene 1.93 Not Detected nle   100-01-6 4-Nitroaniline 2.70 Not Detected nle   86-30-6 n-Nitrosodiphenylamine 1.73 Not Detected nle   101-33-3 Azobenzene 1.92 Not Detected nle   101-55-3 4-Bromophenyl-phenylether 1.54 Not Detected nle   118-74-1 Hexachlorobenzene 1.88 Not Detected nle   118-74-1 Hexachlorobenzene 1.67 Not Detected nle   120-12-7 Anthracene 1.79 Not Detected nle   120-12-7 Anthracene 1.83 Not Detected nle   120-12-7 Hexachlorobenzene 1.83 Not Detected nle   120-12-7 Anthracene 1.79 Not Detected nle   120-12-7 Hornanthrene 1.85 Not Detected 100   92-87-5 Benzidine 4.11 Not Detected 50   129-00-0 Pyrene 1.02 Not Detected 50   155	
83-32-9   Acenaphthene   1.98   Not Detected     400	no
132-64-9   Dibenzofuran   2.13   Not Detected     nle     121-14-2   2,4-Dinitrotoluene   1.22   Not Detected     10     84-66-2   Diethylphthalate   1.68   Not Detected     300     86-73-7   Fluorene   1.93   Not Detected     300     7003-72-3   4-Chlorophenyl-phenylether   1.53   Not Detected     nle     100-01-6   4-Nitroaniline   2.70   Not Detected     nle     86-30-6   n-Nitrosodiphenylamine   1.73   Not Detected     nle     101-33-3   Azobenzene   1.92   Not Detected     nle     101-55-3   4-Bromophenyl-phenylether   1.54   Not Detected     nle     118-74-1   Hexachlorobenzene   1.88   Not Detected     nle     120-12-7   Anthracene   1.79   Not Detected     nle     120-12-7   Anthracene   1.79   Not Detected     nle     120-44-0   Fluoranthene   1.85   Not Detected     300     92-87-5   Benzidine   4.11   Not Detected     300     1.57   Not Detected     50     1.57   Not Detected     50     1.57   Not Detected     300     1.57   Not Detected	110
121-14-2   2,4-Dinitrotoluene   1.22   Not Detected     10	no
1.68	no
1.93   Not Detected     300	по
Tools-72-3   4-Chlorophenyl-phenylether   1.53   Not Detected     nle	no
100-01-6	no
1.73   Not Detected     20   103-33-3   Azobenzene   1.92   Not Detected     nle   101-55-3   4-Bromophenyl-phenylether   1.54   Not Detected     nle   118-74-1   Hexachlorobenzene   1.88   Not Detected     nle   120-12-7   Anthracene   1.79   Not Detected     nle   120-12-7   Anthracene   1.83   Not Detected     2000   206-44-0   Fluoranthene   1.85   Not Detected     300   22-87-5   Benzidine   4.11   Not Detected     50   129-00-0   Pyrene   1.02   Not Detected     200   21-57	по
1.92   Not Detected     nle	по
101-55-3   4-Bromophenyl-phenylether   1.54   Not Detected     nle	по
118-74-1       Hexachlorobenzene       1.88       Not Detected        10         85-01-8       Phenanthrene       1.67       Not Detected        nle         120-12-7       Anthracene       1.79       Not Detected        2000         84-74-2       Di-n-butylphthalate       1.83       Not Detected        900         206-44-0       Fluoranthene       1.85       Not Detected        300         92-87-5       Benzidine       4.11       Not Detected        50         129-00-0       Pyrene       1.02       Not Detected        200         85-68-7       Butylbenzylphthalate       1.15       Not Detected        100	по
1.67   Not Detected     nle	no
120-12-7   Anthracene   1.79   Not Detected     2000	no
Not Detected   1.83   Not Detected   1.83   Not Detected   1.84   Not Detected   1.85   Not Detected   1.85	по
206-44-0   Fluoranthene   1.85   Not Detected     300	no
92-87-5         Benzidine         4.11         Not Detected          50           129-00-0         Pyrene         1.02         Not Detected          200           85-68-7         Butylbenzylphthalate         1.15         Not Detected          100	по
129-00-0   Pyrene   1.02   Not Detected     200	по
85-68-7 Butylbenzylphthalate 1.15 Not Detected 100	по
Not Detected 160	no
56.55.3 Paggafalanthragana 1.57 N.A.D. 1.0	по
56-55-3 Benzo[a]anthracene 1.37 Not Detected 10	no
91-94-1 3,3'-Dichlorobenzidine 2.28 Not Detected 60	no
218-01-9 Chrysene 2.32 Not Detected 20	по
117-81-7 bis(2-Ethylhexyl)phthalate 1.29 Not Detected 30	no
117-84-0 Di-n-octylphthalate 1.30 Not Detected 100	no
205-99-2 Benzo[b]fluoranthene 1.31 Not Detected 10	no
207-08-9 Benzo[k]fluoranthene 1.57 Not Detected 2	по
50-32-8 Benzo[a]pyrene 1.36 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 3.12 Not Detected 20	по
191-24-2 Benzo[g,h,i]perylene 1.13 Not Detected nle	no

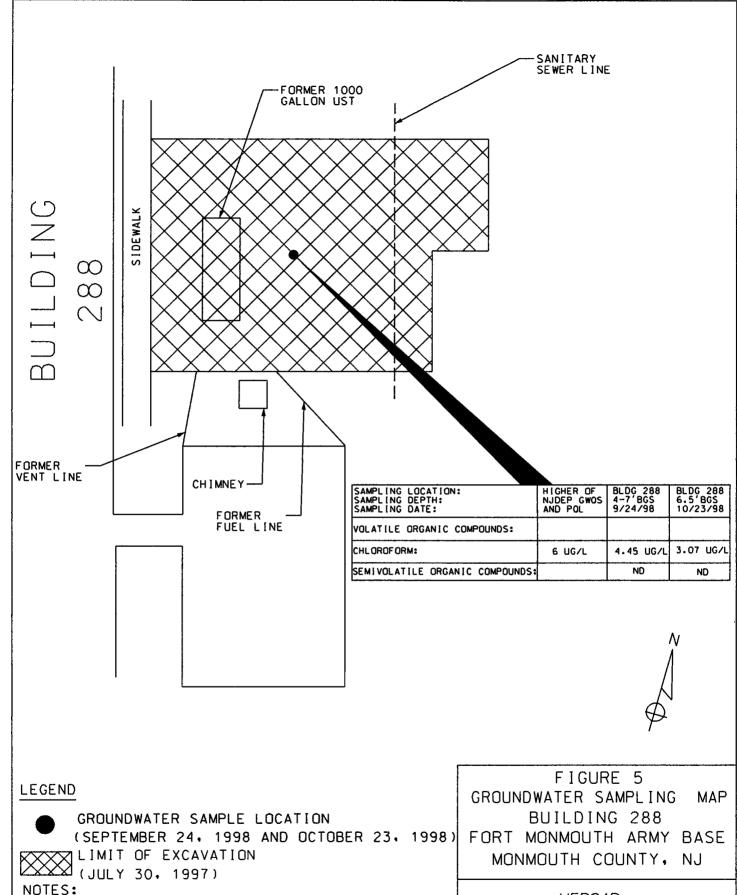
**FIGURES** 











1. ND=INDICATES COMPOUND NOT DETECTED

2. NLE = NO LIMIT ESTABLISHED

3. ALL RESULTS IN UG/L

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288

4. BGS = BELOW GROUND SURFACE

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

SCALE: 1"=10'

DATE: JULY 1997

# APPENDIX A NJDEP-STANDARD REPORTING FORM



 $\pi u_{2\pi + \epsilon}$ 18 8 B

rimer, Environmental Protection and Energy Division of Responsible Party Site Remediation CN 028

Trenton. NJ 08625-0029

ATTN: UST Program (609) 984-3156

Date Rec'd.	
uth.	
Routing	· ·
IST NO.	

 		NDARD REPORTING FORM thing activities at an UST facility:
	General Facility Informatio  Closure (Abandonment or  Temporary Closure  Change in Service	n Changes Sale or Transfer
	Check ONLY One Typ	e of Activity - Complete Form For That Activity
	(More than	one tank can be listed per activity)
,		EW tank Installations at existing registered Registration Questionnaire for the new tanks.
'n	swer questions 1 through 5 and others as appl	icable.
	Company name and address (as it appears on registration questionnaire):	U.S. ARMY - FORT MONMOUTH DPW - BUILDING 173 FORT MONMOUTH NJ 67703 ATTN: EUGENE W. LESINSKY
<u>'</u>	Facility name and location (if different from above):	
	Contact person for this activity:	GENE LESINSKI Telephone Number: ( 908) 532-0989
•	The identification number of the affected tank	as it appears in Question Number 12 on the Registration Questionnaire.
	BLDG 256	62
	Registration Number (If known):	ust. 008/533
	•	
•		es (activess, telephone, contact person, etc. — supply NEW information only):
	a. Facility name: b. Facility location:	
	c. Owner's mailing address:	
		NJ
	d. Block: Let:	
	e. Contact person (facility operator):	
	f. Contact telephone number: (	)
	g. Other (Specify):	(OVER)
		(OVER)

Attach the nece	nt Date:
abandannen n	ssary implementa schedule (3 copies) and all documer. — needed for
	A. N. I.A.C. 7-14R-0.174)
b. D. Bernoval	Date: 7 1/5/97 Case No. 97-7-/5-/002 - 56
• •	ssary implementation schedule (3 copies).
•	
8. For CHANGES IN H	IAZARDOUS SUESTANCES STORED (chéck all that apply):
a. D Temporary C	bsure (12 month maximum time - see N.J.A.C. 7:148-9.1(b)). Remove all hazardous
substances; lear	ve tank in place.
b. 🖾 Change in s	ervice from a regulated substance to a non-regulated substance. Tank must be cleaned
and site assess:	ment performed per NJAC, 7:148-9.1(e).
c 🔲 Changes in:	service from one regulated hazardous substance to another regulated hazardous substance.
Tank No.	Old New
	Old New
	Old New
	(Attach additional sheets if more space is needed)
1 E TO ALIFETTO AC	
I. FOI IMANSPER OF	OWNERSHIP: Effective Date:/
a. New Owner (op	erator)
b. New Facility Nat	THE
	**************************************
	County
E. Closing Attorney	' Tole: (
7. For SUBSTANTIAL	MODIFICATIONS (to include any retrolitted activity - e.g. the addition of spill/overfill protection,
monitoring systems	. Experience protection, etc.):
	animana bransvert goris
	·
	Date:
	artial modifications require a permit under N.J.A.C. 7:148-10.
L NOTE Shat	artial modifications require a permit under N.J.A.C. 7:148-10.
b. "NOTE" Substi II. For changes in FINA	antial modifications require a permit under N.J.A.C. 7:148-10.  NCIAL RESPONSIBILITY to (check appropriate changes and attach copies of new information):
b. "NOTE" Substi 1. For changes in FIN 8.	antial modifications require a permit under N.J.A.C. 7:148-10.  ANCIAL RESPONSIBILITY to (check appropriate changes and attach copies of new information):  Policy Type:   d. Company/Carrier:
b. "NOTE" Substi 1. For changes in FINA 8. b.	ANCIAL RESPONSIBILITY to (check appropriate changes and attach copies of new information):  Policy Type:   d. Company/Carrier:  Policy Number:   e. Expiration Date:   Policy Number:   Policy Nu
b. "NOTE" Substi 1. For changes in FINA 8. b.	antial modifications require a permit under N.J.A.C. 7:148-10.  ANCIAL RESPONSIBILITY to (check appropriate changes and attach copies of new information):  Policy Type:   d. Company/Carrier:
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## APPENDIX B SITE ASSESSMENT SUMMARY

#### New Jersey Department of Environmental Protection

#### Site Remediation Program

### **UST Site/Remedial Investigation Report Certification Form**

<b>A.</b> Facility Name : <u>U.S. Army</u>	Fort Monmouth New Jersey										
Facility Street Address : D	Facility Street Address: Directorate of Public Works Building 173										
Municipality: Oceanport		County : Monmouth									
Block:L	ot(s):	Telephone Number : _732-532-6224									
<b>B.</b> Owner (RP)'s Name:											
Street Address:		City :									
State:	Zip:Telep	hone Number :									
C. (Check as appropriate)  Site Investigation Report (SIR) \$500 Fee  Remedial Investigation Report (RIR) \$1000 Fee  X NA - Federal Agreement	UST Registration Number	Ian Curtis, Federal Case Manager         : 81533-62       (7 digits)         27 - 07 - 15 - 1002       - 56 (10 or 12 digits)									
Name: Eugene Lesinski  Firm: U.S. Army Fort Mon  Firm Address: Directorate o	ms to the specific reporting requi  Signature: See attached  mouth  f Public Works Building 173	rements of N.J.A.C. 7:26E									
(NOTE: Certification numbers	required only if work was conduc	cted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)									
<ol> <li>The following certification sh</li> <li>For a Corporation by a peresolution, certified as a true.</li> <li>For a partnership or sole present a municipality, State, for a municipality, State, for a municipality application and a information, I be significant civil committing a critical significant.</li> </ol>	rson authorized by a resolution of the copy by the secretary of the copy operatorship, by a general partner ederal or other public agency by consistent of law that I have personally all attached documents, and that base believe that the submitted information penalties for knowingly submitting me of the fourth degree if I make a very support of the submitted in	quirements of N.J.A.C. 7:14B-1.7(b)]as follows: of the board of directors to sign the document. A copy of the reporation, shall be submitted along with the certification; or or the proprietor, respectively; or either a principal executive officer or ranking elected Official.  examined and am familiar with the information submitted in this d on my inquiry of those individuals responsible for obtaining the on is true, accurate, and complete. I am aware that there are ag false, inaccurate, or incomplete information and that I am written false statement which I do not believe to be true. I am also ation of any statute, I am personally liable for the penalties."  Title: Directorate of Public Works									
Signature:	Cames Coop	ZAME ZADOTOMO OT I WORD II. OTHER									
Company Name:	U.S. Army Fort Monmouth	Date: 9/4/60									

### L ARMY, SELFM-PW-E DAILY UST SUBSURFACE REMOVAL LOG

BLDG.#: 2-00 REG.#: 008/533 - 62 CLOSURE# 1009 GR DATE: 7-15-57 TOA: + 0900 TOD: 0945	70 20
GOV. SSE: Lesinski NJDEP CERT. #: 60/453	7
GOV. SSE: Lesinski NJDEP CERT.#: 60/453	
CLOSURE SUPERVISOR: De MZYTINIC NJDEP CERT.#:	·.
WEATHER: SUNNY - 850F	
	·
ACTIVITY	YES/
THE SUPERVISOR (CLOSURE CERT.) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	1
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	Y
ALL ON-SITE PERSONNEL HAD TRAINING IAW ALL SAFETY REQUIREMENTS (E.G. 29CFR)	Y
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	WA
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	4
A DISCHARGE WAS REPORTED TO THE NJDEP (609-292-7172), CASE# 97-7-15-1002-56	X
PHOTOS HAVE UST#, BLDG. #, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK	Y
GROUNDWATER WAS ENCOUNTERED AT FEET BG, A SHEEN (WAS/WAS NOT) OBSERVED ON GW	N(
IF OVA/Hnu WAS USED: WAS IT CAL. AND FOUND TO BE OPERATIONAL (cal. data on COC)	N/A
IF SAMPLES WERE TAKEN: COC, SCALED SITE MAP (VERT. SOIL HORIZONS AND PLOT PLAN)	NIA
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM, 1992	WIA
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7:26E-3.6 et seg.	WA
ALL PETROL. CONT. SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	17
THE SSE AUTHORIZED BACKFILLING THE EXCAVATION (STONE TO 1" ABOVE GROUNDWATER)	N
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	N
THE FOLLOWING DOCUMENTS WERE ADDED TO THE PROJECT FOLDER TODAY: (CIRCLE EACH)	
SCRAP TICKET, CSE PERMIT, ACCIDENT REPORT, HAZ. WASTE MANIFEST, DAILY UST CLOSURE LOG, SCALED SITE MAP (SAMPLING), SPECIOSORE, CHAIN OF CUSTODY, SOIL ANALYTICAL RESULTS, CLEAN FILL TICKETS (IN YDS <sup>3</sup> ), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS)	7
CHECK ALL BOXES, LEA	
certify under penalty of law that tank decommissioning activiti	
erformed in compliance with N.J.A.C. 7:14B-9.2(b)3 and 7:26 <u>et seq</u> I and there are significant penalties for submitting false, inaccur	-
nact there are significant penalties for submitting false, inacturation complete information, including fines and/or imprisonment.	ace, (
IGNATURE: DATE: 1/5-47)	

ľ

APPENDIX C

**WASTE MANIFEST** 

- Characteristics		RD. 1. 8	LORCO PETROLEUM SERVICE  BOX 5A - OLD BRIDGE	) :s . NJ 08857		_				
	NON-HAZARDOUS WASTE MANIFEST	1. Generator's US W.J.3.2.1.	002059	Manifest Document No	2. Page 1		NHZ	<b>'</b> 0	058	379
<b>^</b>	3. Generator's Name and Mailing Address  1. 5. AFMY COMMUNICAT  MAIN FOST SON TOP  FOR THE GENERATOR OF SON TOP  Generator's Prione (908)	MAS ELECT ALLOW ATT - 6223	RepoleS Ci V! SELPHA	MHAND	1	3. 2	280	8		
	5. I'I'METT FOURLY RECOVERY CO	INC	6. N J D O 8	ID Number 4 0 4 4 0 6	A. Transp	orter's Pl 908 7	hone 21-0	900		
	7. Transporter 2 Company Name		8. US EPA	ID Number	B. Transp	orter's P	hone			-
	Prionetricity Name and Site Address CO RUNYON&CHEESEQUAKE RDS OLD BRIDGE, NJ 08857	INC DBA LOF		M SVCS 4 0 4 4 0 6	C. Facility	s Phone		0		
	11. Waste Shipping Name and Description				1	2. Conta	ainers Type	13. Tota Quan	al le	14. Unit Wt/Vo
	PETROLEUM OIL (PETROLEUM COMBUSTIBLEL LIQUID UN12					0 0	T	XX	62	G
- GEZE	<b>b</b> .								·	
RATOR	C.									
	d.									
	D. Additional Descriptions for Materials Listed Ab T, L PETROLEUM OIL 45 % WATER 5 %	ove			E. Handlin	g Codes			Above	-A
	15.Special Handling Instructions and Additional I 24 HR EMERGENCY RESPONSE; DECAL# <i>§7084</i> ERG#128 DEXS MANIFEST USED FOR TRACKII			PPM	·				-	
				2/	1					
	16. GENERATOR'S CERTIFICATION: I certify the Printed/Typed Name		ove on this manifest are r Signature	ot subject/o federal regu	ations for repo	rting prop	erlispos	al of Hazar Mont		
ĭ	EUGENE W LESTI  17. Transporter 1 Acknowledgement of Receipt of		y y	nex	200		u	01	<i>(0)</i>	
[4200	Printed Typed Name  AGUINO	7	Signature	195	1			Mont O.	PO 7	797
TRANSPORTER	18. Transporer 2 Acknowledgement of Receipt of Printed/Typed Name	Materials	Signature	0				Mont	h Day	Yea
R	19. Discrepancy Indication Space		<u></u>		<del></del>			1		_1
FAC										
44-6	20. Facility Owner or Operator: Certification of red	ceipt of waste materials	s covered by this manif	est except as noted in	Item 19.		·			4.0
<b>Y</b>	Printed/Typed Name	Q.	Signature	420	Be			Mod O	Day Do	78

# APPENDIX D UST DISPOSAL CERTIFICATE

## MAZZA & SONS, INC.

Metal Recyclers 3230 Shafto Rd. Tinton Falls, NJ (908) 922-9292 NO. 261

DATE. 4 Aug 97

NEED TO PICK UP CHECK ...

Customer's N	ame	/tcom - Un-16	···
Address			<del></del>
Weight Price			Weight Price
Cast Iron		_	Lt. Copper
Bleel 711111 37.80		15460 LB	Brass
Lt. Iron	B2.06 - 26	38	Alum Clean
Copper #1			Lead
Copper #2		1080	Stainless
			Battery
			37.80
	•		TOTAL AMOUNT:
Weigher		Customer	

# 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

96-1262 Bldg. 288

Project # 2813
Date Rec. 07/18/97
Date Comp. 07/22/97
Released by:

Daniel K. Wright Laboratory Director

### **Table of Contents**

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#### **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 les
1. Method Detection Limits provided.	
2. Method Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank.	<u> </u>
3. Matrix Spike Results Summary Meet Criteria. (If not met, list the sample and corresponding recovery which falls outside the acceptable range).  7513.04 M5 = 143%	
4. Duplicate Results Summary Meet Criteria.  (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	<u>~</u>
5. IR Spectra submitted for standards, blanks, & samples	NA
<ol><li>Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.</li></ol>	
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 (908)532-4359 Fax (908)532-3484 EMail:appleby@doim6.monmouth.army.mil

**Chain of Custody Record** 

Tel (908)532-4359 Fax (908)532
NJDEP Certification #13461

Customer: GENE	Project No: 96-1262				Analysis Parameters							Comments:		
Phone #: 20989	Location: B288					20		*	(C)				* = SAMPLES KEPT	
()DERA XOMA		<u>.1</u>					961	ננול	13	FCM!				BELOW 4°C.
Samplers Name / Cor	mpany: GARY DIMAR	rtinis-TV	S	Sample	#	To the	26 501.105	MUNSELL	DA+15*	ETERMINED)			OUA	
Lab Sample I.D.	Sample Location	Date	Time	Туре	bottles	1	P	1	20	7			0	Remarks / Preservation Method
J813.01	288-A	7-18-97	1040	SOIL	1	$\geq$	$\geq$	$\geq$					5	EXC. FLUOR Q 95' X
	288-B		1036		1					<u> </u>			5	<b>b</b>
0.3	288-C		1055	111	2				$\geq$		<u> </u>	<u> </u>	3	SIDEWALL @ 8.0'
04	288-D*		1103		2				$\geq$		L	<u> </u>	2	
05	288-E		1119		2				$\geq$			<u> </u>	5	
<b>્ર</b>	288-F		1307		i								ND	Piping Run @ 1.0'
07	288-G		1309		1			·					ND	
08	288-DUP			1	1		4	V						FIELD DUPLICATE
09	288-TB	J	1000	METHA	VCC.				$\geq$					TRIP BLANK
									*	UOA	SAM	ples	PRES	ERVED W/METHANAL
NOTE: OUA (#)	95/903) CALIBRATO	DW/95	opm CHY	420	del	GIR (	@101	8 HR	B	G.	DiN	MRTI	UIS.	
1.1														
Religional hed by signatur	e) Date/Time:	Received by (	signature): 🥎	12.67	Relino	quished	by (sig	nature):		Date	/Time:	Receiv	ved by (	signature):
MAYNINA	7-18-97/357	SAC		-79 - 7/ 										
Relinquished by (signature	e): Date/Time:	Received by (	signature):		Relina	quished	by (sign	nature):		Date	Time:	Receiv	ved by (	signature):
·												· ·		
Report Type: ()Full, 🚫	Reduced, (_)Standard, (_)Screen	/ non-certified				Remai	rks:							
· ·	ard 4 wks, ØRush Days,		alHrs.			I _	ICATE	D 51	ampl	ING	TOOL	s us	ED.	
							-							

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

Client:

U.S. Army

Lab. ID #:

2813

DPW. SELFM-PW-EV

Date Rec'd:

18-Jul-97

Bldg. 173

Analysis Start:

21-Jul-97

Ft. Monmouth, NJ 07703

Analysis Complete:

22-Jul-97

Analysis:

OQA-QAM-025

UST Reg. #:

Matrix:

Soil

Closure #:

Analyst:

D.DEINHARDT

DICAR #:

Ext. Meth:	Shake			Location #:		B.288
Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
2813.01	288-A	1.00	15.83	67.82	219	ND
2813.02	288-B	1.00	14.97	71.49	220	ND
2813.03	288-C	1.00	15.64	72.77	206	1475.93
2813.04	288-D	1.00	15.42	71.14	214	ND
2813.05	288-E	1.00	15.23	72.70	212	3004.60
2813.06	288-F	1.00	15.36	84.55	181	ND
2813.07	288-G	1.00	15.47	92.69	164	403.62
2813.08	288-DUP	1.00	15.27	71.66	215	ND
METHOD BLANK	21-Jul-97	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 <u>and</u> 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	<b>-</b> ₩
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	V
	oratory Manager or Environmental Consultant's Signaturee \_/าบ/นน์	

Laboratory Certification #13461

<sup>\*</sup>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 8240

96-1262 B.288

Project #

2813

Date Rec.

07/18/97

Date Compl. 07/31/97

Released by:

Daniel K. Wright

Laboratory Director

### **Table of Contents**

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Results Summary	8-13
Tentatively Identified Compound Summary	14-16
Initial Calibration Summary	17-18
Tune Summary	19
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Internal Standard Summary	22
Surrogate Summary	23
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Laboratory Deliverable Checklist	30

### **Method Summary**

#### NJDEP Method 8260

#### Gas Chromatographic Determination of Volatiles in Soil

A 50uL volume of Methanol Samples soil 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	4
	(Field Samples and Method Blanks)	
2.	Retention times for chromatograms provided	<u> </u>
3.	GC/MS Tune Specifications	
	a. BFB Meet Criteria     b. DFTPP Meet Criteria	1
	o. Di fii ividat cintaitu	
4.	GC/MS Tuning Frequency - Performed every 24 hours for 600 series and 12 hours for 8000 series	<u>Y</u>
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	4
6.	GC/MS Calibration Requirements	<del></del>
	•	W
	<ul><li>a. Calibration Check Compounds Meet Criteria</li><li>b. System Performance Check Compounds Meet Criteria</li></ul>	<u>'Y</u>
7.	Blank Contamination - If yes, List compounds and concentrations in each blank:	<i>y y</i>
	a. VOA Fraction	
	b. B/N Fraction	
	c. Acid Fraction	,
8.	Surrogate Recoveries Meet Criteria	4
	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	N
	(If not met, list those compounds and their recoveries which fall	_*
	outside the acceptable range)	
	a VOA Fraction Chlorobonzene 62%	
	a. VOA Haction	
	b. B/N Fraction c. Acid Fraction	
	c. Acid Fraction	

#### GC/MS Analysis Conformance/Non-Conformance Summary (cont.)

Indicate
Yes, No, N/A

10. Internal Standard Area/Retention Time Shift Meet Criteria
(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

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

12. Analysis Holding Time Met

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

Additional Comments:

Laboratory Manager:

Date: (-2248)

# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (908)532-4359 Fax (908)532-3484 EMail:appleby@doim6.monmouth.army.mil

NJDEP Certification #13461

**Chain of Custody Record** 

Customer: GENE	Project No: 96-1262				Analysis Parameters						Comments:				
Phone #: 20989		Location:	220	٤			×		*	6				X = SAMPLES KET	77
()DERA X)OMA (	)Other:		2000			J	951	E	14154 88	TERONINED				BELOW 4°C.	
Samplers Name / Con	npany: GARY DIMAR	TINIS-TU	S	Sample	#	PHC	56 50LIOS	Museu	2 8	£72			DUA		
Lab Sample I.D.	Sample Location	Date	Time	Туре	bottles		P	N	26	13			O	Remarks / Preservation Met	hod
[]813.01	288-A	7-18-97	1040	SOIL	1	$\boxtimes$	$\geq$	$\boxtimes$					5	EXC. FLUX Q95'	*
63	288-B		1036		į.								5	<b>\</b>	
	288-C		1055		2				$\geq$				3	510EWALL @ 8.0'	
04	288-D		1103		2				$\times$			۸	2		
1 05	288-E		1119		2				$\times$	VO	f Ad	lek	5		
ી છ	288-F		1309		ĺ								ND	Piping Run @ 1.0'	
67	288-G		1309		1								ND	1	
08	288-DUP			1	1	>	<	<				۷ د	]	FIELD DUPLICATE	$\downarrow$
09	288-TB	J	1000	METHA	104				X	10/	Ad	ded		TRIP BLANK	
•															-
		-							*	JUA	SAM	oles	PRES	ERVED WIMETHAMAL	
					12.00										
NOTE: OUA (#X	95/903) CALIBRATE	DW/95	pm CHY	420	0/6/1	GIR C	@101	8 HR	B	G.	DiM	PR.TI	U/S.		
1/				<u> </u>											
Religious and supparture	//	Received by (s	signature): 7	-18-47	Reling	uished	by (sig	nature):		Date/	Time:	Receiv	ed by (	signature):	
MANYDUNA	1-18-97/357	SH (	Allen-												
Relinquished by (signature): Date/Time:		Received by (s	signature):	i	Reling	linquished by (signature):				Date/Time: Received by			ed by (	signature):	
Report Type: (_)Full, <b>⋈</b> R	educed, (_)Standard,)Screen	/ non-certified				Remar									- 1
Turnaround time: (_)Standa	ard 4 wks, KRush 5 Days,	()ASAP Verb	alHrs.			VED	ICATE	D 51	ampu	ING.	TOOL	s us	EO.		

# US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY NJDEPE # 13461

#### **Definition of Qualifiers**

MDL: Method Detection Limit

J : Compound identified below detection limitB : Compound in both sample and blank

**D** : Results from dilution of sample

U : Compound searched for but not detected

FIELD ID.

**Daily Blank** Lab Name: **FMETL** NJDEP# 13461 Project: 961262 Case No.: 2813 Location: B.288 SDG No.: Matrix: (soil/water) SOIL Lab Sample ID: Daily Blank Sample wt/vol: 5.0 (g/ml) G Lab File ID: V01506.D Level: (low/med) MED Date Received: 07/18/97 % Moisture: not dec. 0 Date Analyzed: 07/31/97

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

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	7	U
107131	Acrylonitrile	7	U
75650	tert-Butyl alcohol	13	U
1634044	Methyl-tert-Butyl ether	3	U
108203	Di-isopropyl ether	2	U
	Dichlorodifluoromethane	4	U
74-87-3	Chloromethane	1	U
75-01-4	Vinyl Chloride	3	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	3	υ
75-69-4	Trichlorofluoromethane	2	U
75-35-4	1,1-Dichloroethene	1	U
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	1	Ū
75-09-2	Methylene Chloride	3	
156-60-5	trans-1,2-Dichloroethene	2	U
75-35-3	1,1-Dichloroethane	1	U
108-05-4	Vinyl Acetate	3	U
78-93-3	2-Butanone	3	U
	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
75-55-6	1,1,1-Trichloroethane	1	Ų
56-23-5	Carbon Tetrachloride	2	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	2	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-Pentanone	2	υ
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	2	U
79-00-5	1,1,2-Trichloroethane	2	U
127-18-4	Tetrachloroethene	1	U
591-78-6	2-Hexanone	2	U
126-48-1	Dibromochloromethane	2	U
108-90-7	Chlorobenzene	1	٦
100-41-4	Ethylbenzene	2	כ

FIEL	D ID
------	------

Lab Name:	FMETL				NJDEP#	13461	L		
Project:	961262		Case No.:	2813	Location	n: B.288	SDG N	۷o.:	
Matrix: (soil/w	vater)	SOIL			Lal	b Sample II	D: <u>Dail</u>	y Blank	
Sample wt/vo	ol:	5.0	(g/ml)	G	_ Lai	b File ID:	<u>V01</u>	506.D	
Level: (low/n	ned)	MED	<del></del>		Da	te Receive	d: <u>07/1</u>	18/97	
% Moisture: r	not dec.	0			Da	te Analyze	d: <u>07/3</u>	31/97	
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (n	nm)	Dil	ution Facto	r: <u>1.0</u>		
Soil Extract V	/olume:	1	(uL)		So	il Aliquot V	olume:	1	(uL)

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG		Q
1330-20-7	m+p-Xylenes			3	U
1330-20-7	o-Xylene			2	U
100-42-5	Styrene			2	U
75-25-2	Bromoform			2	U
79-34-5	1,1,2,2-Tetrachlor	roethane		2	U
541-73-1	1,3-Dichlorobenz	ene		3	U
106-46-7	1,4-Dichlorobenze	ene		3	U
95-50-1	1.2-Dichlorobenzo	ene		3	11

FIELD ID.

Lab Name: FMETL NJDEP # 13461

Project: 961262 Case No.: 2813 Location: B.288 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 2813.05

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V01511.D

Level: (low/med) MED Date Received: 07/18/97

% Moisture: not dec. 27.3 Date Analyzed: 07/31/97

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	, Q
107028	Acrolein	8600	U
107131	Acrylonitrile	8600	U
75650	tert-Butyl alcohol	8600	U
1634044	Methyl-tert-Butyl ether	8600	U
108203	Di-isopropyl ether	8600	U
	Dichlorodifluoromethane	860	U
74-87-3	Chloromethane	860	U
75-01-4	Vinyl Chloride	860	U
74-83-9	Bromomethane	860	U
75-00-3	Chloroethane	860	U
75-69-4	Trichlorofluoromethane	860	U
75-35-4	1,1-Dichloroethene	860	U
67-64-1	Acetone	860	U
75-15-0	Carbon Disulfide	860	U
75-09-2	Methylene Chloride	860	U
156-60-5	trans-1,2-Dichloroethene	860	U
75-35-3	1,1-Dichloroethane	860	U
108-05-4	Vinyl Acetate	860	U
78-93- <u>3</u>	2-Butanone	860	U
	cis-1,2-Dichloroethene	860	U
67-66-3	Chloroform	860	U
75-55-6	1,1,1-Trichloroethane	860	U
56-23-5	Carbon Tetrachloride	860	U
71-43-2	Benzene	860	U
107-06-2	1,2-Dichloroethane	860	U
79-01-6	Trichloroethene	860	U
78-87-5	1,2-Dichloropropane	860	U
75-27-4	Bromodichloromethane	860	U
110-75-8	2-Chloroethyl vinyl ether	860	U
10061-01-5	cis-1,3-Dichloropropene	860	U
108-10-1	4-Methyl-2-Pentanone	860	U
108-88-3	Toluene	350	J
10061-02-6	trans-1,3-Dichloropropene	860	U
79-00-5	1,1,2-Trichloroethane	860	U
127-18-4	Tetrachloroethene	860	U
591-78-6	2-Hexanone	860	U
126-48-1	Dibromochloromethane	860	U
108-90-7	Chlorobenzene	860	U
100-41-4	Ethylbenzene	860	U

FIELD ID.

288-E Lab Name: **FMETL** NJDEP # 13461 Project: 961262 Case No.: 2813 Location: B.288 SDG No.: Matrix: (soil/water) SOIL Lab Sample ID: 2813.05 Sample wt/vol: 10.0 (g/ml) G Lab File ID: V01511.D Level: (low/med) MED Date Received: 07/18/97 % Moisture: not dec. 27.3 Date Analyzed: 07/31/97 GC Column: Rtx502.2 ID: 0.25 Dilution Factor: 1.0 (mm) Soil Extract Volume: 25000 Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes	350	J
1330-20-7	o-Xylene	860	U
100-42-5	Styrene	860	U
75-25-2	Bromoform	860	Ü
79-34-5	1,1,2,2-Tetrachloroethane	860	U
541-73-1	1,3-Dichlorobenzene	860	U
106-46-7	1,4-Dichlorobenzene	860	U
95-50-1	1,2-Dichlorobenzene	860	U

FIELD ID.

Lab Name: FMETL NJDEP # 13461

Matrix: (soil/water) SOIL Lab Sample ID: 2813.09

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V01507.D

Level: (low/med) MED Date Received: 07/18/97

% Moisture: not dec. 0 Date Analyzed: 07/31/97

(mm)

Rtx502.2 ID: 0.25

GC Column:

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 100 (uL)

#### **CONCENTRATION UNITS:**

Dilution Factor: 1.0

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	6200	U
107131	Acrylonitrile	6200	U
75650	tert-Butyl alcohol	6200	U
1634044	Methyl-tert-Butyl ether	6200	U
108203	Di-isopropyl ether	6200	U
· · · · · · · · · · · · · · · · · · ·	Dichlorodifluoromethane	620	U
74-87-3	Chloromethane	620	U
75-01-4	Vinyl Chloride	620	U
74-83-9	Bromomethane	620	U
75-00-3	Chloroethane	620	U
75-69-4	Trichlorofluoromethane	620	Ū
75-35-4	1,1-Dichloroethene	620	U
67-64-1	Acetone	620	U
75-15-0	Carbon Disulfide	620	U
75-09-2	Methylene Chloride	620	U
156-60-5	trans-1,2-Dichloroethene	620	U
75-35-3	1,1-Dichloroethane	620	U
108-05-4	Vinyl Acetate	620	U
78-93-3	2-Butanone	620	U
	cis-1,2-Dichloroethene	620	U
67-66-3	Chloroform	620	U
75-55-6	1,1,1-Trichloroethane	620	U
56-23-5	Carbon Tetrachloride	620	U
71-43-2	Benzene	620	U
107-06-2	1,2-Dichloroethane	620	U
79-01-6	Trichloroethene	620	J
78-87-5	1,2-Dichloropropane	620	U
75-27-4	Bromodichloromethane	620	J
110-75-8	2-Chloroethyl vinyl ether	620	U
10061-01-5	cis-1,3-Dichloropropene	620	U
108-10-1	4-Methyl-2-Pentanone	620	U
108-88-3	Toluene	620	U
10061-02-6	trans-1,3-Dichloropropene	620	U
79-00-5	1,1,2-Trichloroethane	620	U
127-18-4	Tetrachloroethene	620	U
591-78-6	2-Hexanone	620	U
126-48-1	Dibromochloromethane	620	Ū
108-90-7	Chlorobenzene	620	Ü
100-41-4	Ethylbenzene	620	Ü

FIELD ID.

288-TB Lab Name: **FMETL** NJDEP # 13461 Project: 961262 Case No.: 2813 Location: B.288 SDG No.: Matrix: (soil/water) SOIL Lab Sample ID: 2813.09 Sample wt/vol: 10.0 (g/ml) G Lab File ID: V01507.D Level: (low/med) MED Date Received: 07/18/97 % Moisture: not dec. 0 Date Analyzed: 07/31/97 GC Column: Rtx502.2 ID: 0.25 Dilution Factor: 1.0 (mm) Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 100 (uL)

#### **CONCENTRATION UNITS:**

CAS NO.	COMPOUND (ug/L or ug/Kg)	) UG/KG	Q
1330-20-7	m+p-Xylenes	620	U
1330-20-7	o-Xylene	620	U
100-42-5	Styrene	620	U
75-25-2	Bromoform	620	U
79-34-5	1,1,2,2-Tetrachloroethane	620	U
541-73-1	1,3-Dichlorobenzene	620	U
106-46-7	1,4-Dichlorobenzene	620	U
95-50-1	1.2-Dichlorobenzene	620	U

17

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab Names	CMCT		NIDED# 4	2404		Daily Bla	ank
Lab Name:	FMETL		NJDEP# <u>1</u>	3461	\		
Project:	961262	Case No.: 2813	Location:	B.288	SDG	No.:	
Matrix: (soil/	water)	SOIL	Lab S	Sample ID	): <u>D</u> a	aily Blank	
Sample wt/ve	ol:	5.0 (g/ml) G	Lab F	File ID:	V	)1506.D	
Level: (low/r	ned)	MED	Date	Received	d: <u>07</u>	7/18/97	<del>_</del>
% Moisture:	not dec.	0	Date	Analyzed	t: <u>07</u>	//31/97	<del>_</del>
GC Column:	Rtx50	2.2 ID: 0.25 (mm)	Dilutio	on Facto	r: <u>1.</u>	0	
Soil Extract \	Volume:	1 (uL)	Soil A	Niquot Vo	olume	: <u>1</u>	(uL)
Number TIC	s found:	0	CONCENTRATION (ug/L or ug/Kg)	ON UNITS			
CAS NO		COMPOUND		RT	EST.	CONC.	Q

#### 1E

#### **VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS**

FIELD ID.

288-E

Lab Name:

**FMETL** 

NJDEP# 13461

Project:

961262

Case No.: 2813

Location: B.288

SDG No.:

Matrix: (soil/water)

SOIL

Lab Sample ID: 2813.05

Sample wt/vol:

10.0

(g/ml) G

Lab File ID:

V01511.D

Level: (low/med)

MED

Date Received: 07/18/97

% Moisture: not dec. 27.3

Date Analyzed: 07/31/97

GC Column:

Rtx502.2 ID: 0.25

(mm) (uL)

Dilution Factor: 1.0

(uL)

**CONCENTRATION UNITS:** 

(ug/L or ug/Kg)

UG/KG

Soil Aliquot Volume: 100

Number TICs found:

Soil Extract Volume: 25000

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown	27.33	1600	J
2. 000091-20-3	Naphthalene	31.10	94000	JN
3.	unknown hydrocarbon	32.07	1800	J
4. 000493-02-7	Naphthalene, decahydro-, trans-	35.96	3100	JN
5.	unknown	36.58	2100	J
6.	unknown	37.06	1200	J
7. 000571-61-9	Naphthalene, 1,5-dimethyl-	37.25	4300	JN
8.	unknown	37.41	2000	J
9.	unknown	37.77	2100	J
10. 000095-93-2	Benzene, 1,2,4,5-tetramethyl-	37.96	1300	JN
11 000090-12-0	Nanhthalene 1-methyl-	38 15	43000	.IN

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIEL	.D ID.
------	--------

Lab Name:	me: FMETL NJDEP# 13461						288-TB			
Project:	961262		Case No.: 2813	<del></del>	on: B.288	SD	□ G No.:			
Matrix: (soil/v	water)	SOIL		L	ab Sample	ID: 2	2813.09			
Sample wt/vo	ol:	10.0	(g/ml) G	L	ab File ID:	<u>,</u>	V01507.D			
Level: (low/n	ned)	MED			ate Receiv	ed: (	07/18/97			
% Moisture:	not dec.	0	<u> </u>		ate Analyz	ed: (	07/31/97			
GC Column:	Rtx50	2.2 ID:	<u>0.25</u> (mm)		ilution Fac	tor:	1.0			
Soil Extract \	/olume:	25000	(uL)	S	Soil Aliquot	Volun	ne: 100	(uL)		
				CONCENTRA	ATION UNI	TS:				
Number TICs	s found:	0	<u>.                                    </u>	(ug/L or ug/K	g) <u>UG</u>	KG		•		
CAS NO		COM	POLIND		RT	FS	T CONC	0		

#### 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	<u> </u>
2.	Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted	1
3.	Summary Table cross-referencing field ID #'s vs. Lab ID #'s Lab ID's submitted	<del>-</del>
4.	Document bound, paginated and legible	<u> </u>
5.	Chain of Custody submitted	<u>_</u>
6.	Samples submitted to lab within 48 hours of sample collection	<u> </u>
7.	Methodology Summary submitted	<u> </u>
8.	Results submitted on a dry weight basis	<u> </u>
9.	Method Detection Limits	<u> </u>
10.	Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	4
	oratory Manager or Environmental Consultant's Signature	9

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:

Total Petroleum Hydrocarbons

96-1262 Bldg. 288

> Project # 2832 Date Rec. 07/24/97 Date Comp. 07/25/97 Released by:

> > Daniel K. Wright Laboratory Director

### **Table of Contents**

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#### **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
<ol><li>Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.</li></ol>	
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 (908)532-4359 Fax (908)532-3484 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

**Chain of Custody Record** 

Customer: (TEN	Project No:	96-12	52				Ana	lysis Į	Parame	Remarks / Preservation Method					
Phone #: 20989	Location: B288			20				3				* = SAMPLES KEPT			
()DERA ∭OMA (	0,400				12	501705	27.3	57	2	#		_ [	Below Yor.		
Samplers Name / Con	ARTINIS-705 Sam		Sample	#	1	63	Muser	43		03		12			
Lab Sample I.D. Sample Location				Туре	bottles		P 1/2/		56	1612 2H				Remarks / Preservation Method	
2832.0	288-A	7-23-97	1521	Soil	2	×	X	X	X	7	#/		60	5,00 WALL @ 8.0' *	
್ನು	288-B	<b>↓</b>	1515		2				X		42		20		
ر3	288-C	7-24-87	1009		1								10		
04	288-D		1016		2				X	7	43		10		
05	288-E		0952		1								10	Etc. FLOOR @9.5'	
06	288-F	V	0957	<u> </u>	1								30	<b>V</b>	
67	288-E5	7-23-97	1430		1								30	Etc. Soil (7.0')	
<u> ශි</u>	288-DUP			V_		<b>1</b>	V	V						FIELD DUPLICATE	
04	288-TB	7-23-97		METHAN	11				×	7	18			TRIP BLANK	
														· · · · · · · · · · · · · · · · · · ·	
NOTE: OVA	#A51903) CALIB	RATED L	17511	m Ce	12 -	2.0	ROC	O)A	IR (	P M	400	HE	5. 0.	~ 7-23-87 by	
6.7	), MARTIN, S		,											, , , , , , , , , , , , , , , , , , ,	
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	,														
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Report Type: ()Full, 🖄R	teduced, (_)Standard, (_)Screen	/ non-certified				Remar	ks:								
Turnaround time: (_)Stand	ard 4 wks, ()Rush Days,	Turnaround time: ()Standard 4 wks, ()Rush Days, &ASAP VerbalHrs. DEDICATED SAMPLING TOULS USED.									1216	10	كدرن	USED.	

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

· Client:

U.S. Army

Lab. ID#:

2832

DPW. SELFM-PW-EV

Date Rec'd:

24-Jul-97

Bldg. 173

**Analysis Start:** 

24-Jul-97

Ft. Monmouth, NJ 07703

**Analysis Complete:** 

25-Jul-97

Analysis:

OQA-QAM-025

UST Reg. #:

Matrix:

Soil

Closure #:

Analyst:

D.DEINHARDT

DICAR #:

Ext. Meth:	Shake			Location #:		B.288
Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
2832.01	288-A	1.00	15.53	71.05	213	1618.66
2832.02	288-B	1.00	15.33	72.44	212	ND
2832.03	288-C	1.00	15.73	80.29	186	325.21
2832.04	288-D	1.00	15.60	71.38	211	ND
2832.05	288-E	1.00	14.99	67.52	232	ND
2832.06	288-F	1.00	15.27	67.26	229	ND
2832.07	288-ES	1.00	15.63	74.74	201	4282.33
2832.08	288-DUP	1.00	15.36	71.41	214	1204.57
	<u> </u>					
	1.		ļ 			
<del></del>						
	· · · · · · · · · · · · · · · · · · ·				<u> </u>	
METHOD BLANK	24-Jul-97	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 <u>and</u> 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	
	oratory Manager or Environmental Consultant's Signature	

Laboratory Certification #13461

<sup>\*</sup>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 8240

96-1262

B.288

Project #

2832

Date Rec.

07/24/97

Date Compl. 07/31/97

Released by:

Daniel K. Wright **Laboratory Director** 

## **Table of Contents**

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Surrogate Summary	23
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## **Method Summary**

## NJDEP Method 8260

## Gas Chromatographic Determination of Volatiles in Soil

A 50uL volume of Methanol Samples soil 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/
1.	Chromatograms Labeled/Compounds Identified (Field Samples and Method Blanks)	4
	(Tield Samples and Method Blanks)	1
2.	Retention times for chromatograms provided	<del></del>
3.	GC/MS Tune Specifications	
	<ul><li>a. BFB Meet Criteria</li><li>b. DFTPP Meet Criteria</li></ul>	<u> 4</u>
4.	GC/MS Tuning Frequency - Performed every 24 hours for 600 series and 12 hours for 8000 series	<u> </u>
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	<u>Y</u>
6.	GC/MS Calibration Requirements	
	<ul><li>a. Calibration Check Compounds Meet Criteria</li><li>b. System Performance Check Compounds Meet Criteria</li></ul>	47
7.	Blank Contamination - If yes, List compounds and concentrations in each blank:	N
	a. VOA Fraction	
	b. B/N Fraction	
	c. Acid Fraction	•
8.	Surrogate Recoveries Meet Criteria	4
	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)	¥
	a. VOA Fraction	
	b. B/N Fraction	
	c. Acid Fraction	

## GC/MS Analysis Conformance/Non-Conformance Summary (cont.)



# Fort Monmouth Environmental Testing Laboratory

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Tel (908)532-4359 Fax (908)532-3484 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

**Chain of Custody Record** 

Customer: (TEN	E LESINSKI-DPW	Project No:	96-12	62				Ana	lysis ]	aram	eters			Comments:
Phone #: 20989	7	Location:	Location: 8288				*			* = SAMPLES KEPT				
()DERA WOMA	( )Other:		7,400			4	170	3	5	3	#			Below 4°c.
Samplers Name / Cor	mpany: GARY DIM	ARTINIS-	105	Sample	#	12	2 Sol105	Muser	40	2/2	LOT TO-		OUA	
Lab Sample I.D.	Sample Location	Date	Time	Туре	bottles	1	6	111	2/6	7	2 H		0	Remarks / Preservation Method
2832.0	288-A	7-23-97	1521	SOIL	2	X	X	X	X	Add	#1		60	5,00 WALL @ 8.0' *
્ર	288-B	↓	1515		2				X		#2		20	
03	288-C	7-24-97	1009		1								10	
04	288-D		1016		2				X		#3		10	
0.5	288-E		0952		1								10	Etc. FLOOR@9.5'
06	288-F		095.7		1								30	
67	288-E5	7-23-97	1430		1					Aul			30	Etc. Soil (7.0')
<i>ං</i> හි	288-DUP			V	1	<b>\</b>	1	V						FIELD DUPLICATE
04	288-TB	7-23.97		METHAN	0L1				X	AJJ	TB			TRIP BLANK
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NOTE: OVA	#A51903) CALIB	RATED 4	1951	m C	12	20	ROCC	)A	R	PA	400	HES	. 0	V7-23-87 by
6.7	), MARTINIS.	]			1		- 1							,
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						]								
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Child OIM	7-24-57 1150	SAL	udilla											
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								<b></b>						<u> </u>
Report Type: (_)Full, 🔀R	Report Type: (_)Full, Reduced, (_)Standard, (_)Screen / non-certified Remarks:													
Turnaround time: (_)Standa	ard 4 wks, (_)Rush Days,	<b>⊠</b> ASAP Verb	al Hrs.			DE	DICH	MEVI	SA	mpc	1216	100	165	USED.

## 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 blankD : Results from dilution of sample

U : Compound searched for but not detected

FIELD ID.

Lab Name:	FMETL	NJDEP#	13461	Daily Blank
		-		

Matrix: (soil/water) SOIL Lab Sample ID: Daily Blank

Sample wt/vol: 5.0 (g/ml) G Lab File ID: V01506.D

Level: (low/med) MED Date Received: 07/24/97
% Moisture: not dec. 0 Date Analyzed: 07/31/97

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

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

## **CONCENTRATION UNITS:**

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	7	U
107131	Acrylonitrile	7	U
75650	tert-Butyl alcohol	13	U
1634044	Methyl-tert-Butyl ether	3	U
108203	Di-isopropyl ether	2	U
	Dichlorodifluoromethane	4	U
74-87-3	Chloromethane	1	Û
75-01-4	Vinyl Chloride	3	U
74-83-9	Bromomethane	2	U
75-00-3	Chloroethane	3	U
75-69-4	Trichlorofluoromethane	2	U
75-35-4	1,1-Dichloroethene	. 1	U
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	1	U
75-09-2	Methylene Chloride	3	
156-60-5	trans-1,2-Dichloroethene	2	U
75-35-3	1,1-Dichloroethane	1	U
108-05-4	Vinyl Acetate	3	U
78-93-3	2-Butanone	3	U
	cis-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
75-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	2	υ
71-43-2	Benzene	1	Ų
107-06-2	1,2-Dichloroethane	2	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
110-75-8	2-Chloroethyl vinyl ether	2	U
10061-01-5	cis-1,3-Dichloropropene	1	υ
108-10-1	4-Methyl-2-Pentanone	2	J
108-88-3	Toluene	1	U
10061-02-6	trans-1,3-Dichloropropene	2	U
79-00-5	1,1,2-Trichloroethane	2	U
127-18-4	Tetrachloroethene	1	U
591-78-6	2-Hexanone	2	U
126-48-1	Dibromochloromethane	2	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	2	U

FIELD ID.

(uL)

**Daily Blank** Lab Name: **FMETL** NJDEP # 13461 Project: 961262 Case No.: 2832 Location: B.288 SDG No.: Matrix: (soil/water) SOIL Lab Sample ID: Daily Blank Sample wt/vol: 5.0 (g/ml) G Lab File ID: V01506.D Level: (low/med) **MED** Date Received: 07/24/97 % Moisture: not dec. 0 Date Analyzed: 07/31/97 Rtx502.2 ID: 0.25 (mm) GC Column: Dilution Factor: 1.0

(uL)

Soil Extract Volume: 1

#### **CONCENTRATION UNITS:**

Soil Aliquot Volume: 1

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	<del></del>	Q
1330-20-7	m+p-Xylenes			3	U
1330-20-7	o-Xylene			2	U
100-42-5	Styrene			2	U
75-25-2	Bromoform			2	U
79-34-5	1,1,2,2-Tetrachlor	oethane		2	U
541-73-1	1,3-Dichlorobenze	ene		3	U
106-46-7	1,4-Dichlorobenzene			3	U
95-50-1	1.2-Dichlorobenze		3	U	

FIELD ID.

288-A Lab Name: **FMETL** NJDEP# 13461

Project: 961262 Case No.: 2832 Location: B.288 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 2832.01

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V01512.D

Level: (low/med) MED Date Received: 07/18/97

% Moisture: not dec. 28.95 Date Analyzed: 07/31/97 GC Column: Rtx502.2 ID: 0.25 Dilution Factor: 1.0

(mm)

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 100 (uL)

#### **CONCENTRATION UNITS:**

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	8800	U
107131	Acrylonitrile	8800	U
75650	tert-Butyl alcohol	8800	U
1634044	Methyl-tert-Butyl ether	8800	U
108203	Di-isopropyl ether	8800	U
	Dichlorodifluoromethane	880	U
74-87-3	Chloromethane	880	U
75-01-4	Vinyl Chloride	880	U
74-83-9	Bromomethane	880	U
75-00-3	Chloroethane	880	U
75-69-4	Trichlorofluoromethane	880	U
75-35-4	1,1-Dichloroethene	880	U
67-64-1	Acetone	880	U
75-15-0	Carbon Disulfide	880	U
75-09-2	Methylene Chloride	690	J
156-60-5	trans-1,2-Dichloroethene	880	C
75-35-3	1,1-Dichloroethane	880	J
108-05-4	Vinyl Acetate	880	U
78-93-3	2-Butanone	880	U
	cis-1,2-Dichloroethene	880	U
67-66-3	Chloroform	880	U
75-55-6	1,1,1-Trichloroethane	880	U
56-23-5	Carbon Tetrachloride	880	U
71-43-2	Benzene	880	U
107-06-2	1,2-Dichloroethane	880	U
79-01-6	Trichloroethene	880	U
78-87-5	1,2-Dichloropropane	880	U
75-27-4	Bromodichloromethane	880	U
110-75-8	2-Chloroethyl vinyl ether	880	U
10061-01-5	cis-1,3-Dichloropropene	880	Ü
108-10-1	4-Methyl-2-Pentanone	880	U
108-88-3	Toluene	880	U
10061-02-6	trans-1,3-Dichloropropene	880	U
79-00-5	1,1,2-Trichloroethane	880	U
127-18-4	Tetrachloroethene	880	U
591-78-6	2-Hexanone	880	U
126-48-1	Dibromochloromethane	880	U
108-90-7	Chlorobenzene	880	U
100-41-4	Ethylbenzene	880	U

FIELD ID.

(uL)

288-A Lab Name: **FMETL** NJDEP # 13461 Project: 961262 Case No.: 2832 Location: B.288 SDG No.: Matrix: (soil/water) SOIL Lab Sample ID: 2832.01 Sample wt/vol: 10.0 (g/ml) G Lab File ID: V01512.D Level: (low/med) **MED** Date Received: 07/18/97 % Moisture: not dec. 28.95 Date Analyzed: 07/31/97 GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

(uL)

Soil Extract Volume: 25000

**CONCENTRATION UNITS:** 

Soil Aliquot Volume: 100

CAS NO.	COMPOUND (	ug/L or ug/Kg)	UG/KG		Q
1330-20-7	m+p-Xylenes			880	U
1330-20-7	o-Xylene			880	U
100-42-5	Styrene			880	U
75-25-2	Bromoform			880 -	U
79-34-5	1,1,2,2-Tetrachloroe		880	U	
541-73-1	1,3-Dichlorobenzene			880	U
106-46-7	1,4-Dichlorobenzene		880	U	
95-50-1	1,2-Dichlorobenzene		880	כ	

FIELD ID.

V01508.D

Trip Blank Lab Name: **FMETL** NJDEP # 13461 Project: 961262 Case No.: 2832 Location: B.288 SDG No.:

SOIL Matrix: (soil/water) Lab Sample ID: 2832.09

Level: (low/med) MED Date Received: 07/24/97

% Moisture: not dec. 0 Date Analyzed: 07/31/97

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

(g/ml) G

10.0

Sample wt/vol:

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 100 (uL)

## **CONCENTRATION UNITS:**

Lab File ID:

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	6200	U
107131	Acrylonitrile	6200	U
75650	tert-Butyl alcohol	6200	U
1634044	Methyl-tert-Butyl ether	6200	U
108203	Di-isopropyl ether	6200	U
	Dichlorodifluoromethane	620	Ū
74-87-3	Chloromethane	620	U
75-01-4	Vinyl Chloride	620	U
74-83-9	Bromomethane	620	U
75-00-3	Chloroethane	620	Ū
75-69-4	Trichlorofluoromethane	620	U
75-35-4	1,1-Dichloroethene	620	U
67-64-1	Acetone	620	U
75-15-0	Carbon Disulfide	620	U
75-09-2	Methylene Chloride	76	J
156-60-5	trans-1,2-Dichloroethene	620	U
75-35-3	1,1-Dichloroethane	620	U
108-05-4	Vinyl Acetate	620	U
78-93-3	2-Butanone	620	U
	cis-1,2-Dichloroethene	620	U
67-66-3	Chloroform	620	Ü
75-55-6	1,1,1-Trichloroethane	620	U
56-23-5	Carbon Tetrachloride	620	U
71-43-2	Benzene	620	U
107-06-2	1,2-Dichloroethane	620	U
79-01-6	Trichloroethene	620	U
78-87-5	1,2-Dichloropropane	620	U
75-27-4	Bromodichloromethane	620	U
110-75-8	2-Chloroethyl vinyl ether	620	U
10061-01-5	cis-1,3-Dichloropropene	620	U
108-10-1	4-Methyl-2-Pentanone	620	U
108-88-3	Toluene 62		U
10061-02-6	trans-1,3-Dichloropropene	620	U
79-00-5	1,1,2-Trichloroethane	620	U
127-18-4	Tetrachloroethene	620	U
591-78-6	2-Hexanone	620	U
126-48-1	Dibromochloromethane	620	U
108-90-7	Chlorobenzene	620	U
100-41-4	Ethylbenzene	18	J

FIELD	ID.
-------	-----

Trip Blank NJDEP# 13461 Lab Name: **FMETL** Project: 961262 Case No.: 2832 SDG No.: Location: B.288 Matrix: (soil/water) SOIL Lab Sample ID: 2832.09 Sample wt/vol: 10.0 (g/ml) G Lab File ID: V01508.D Level: (low/med) MED Date Received: 07/24/97 % Moisture: not dec. 0 Date Analyzed: 07/31/97 GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 100 (uL)

#### **CONCENTRATION UNITS:**

CAS NO.	COMPOUND (ug/L or ug/	/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	620	U
1330-20-7	o-Xylene	620	U
100-42-5	Styrene	620	U
75-25-2	Bromoform	620	U
79-34-5	1,1,2,2-Tetrachloroethane	620	U
541-73-1	1,3-Dichlorobenzene	620	U
106-46-7	1,4-Dichlorobenzene	620	U
95-50-1	1.2-Dichlorobenzene	620	U

1E

## **VOLATILE ORGANICS ANALYSIS DATA SHEET**

TENTATIVELY IDENTIFIED COMPOUNDS

F	IEL	D.	ID.

Lab Name:	FMETL	<u> </u>		NJDEP :	# 13461		Daily Bia	ank
Project:	961262		Case No.: 2832	Locati	on: B.288	s	DG No.:	
Matrix: (soil/	water)	SOIL		L	ab Sample.	ID:	Daily Blank	
Sample wt/ve	ol:	5.0	(g/ml) G	· L	ab File ID:		V01506.D	
Level: (low/r	med)	MED	<del></del>		Date Receiv	ed:	07/24/97	
% Moisture:	not dec.	0	<del>_</del>	C	Date Analyz	ed:	07/31/97	
GC Column:	Rtx50	2.2 ID:	0.25 (mm)	[	Dilution Fac	tor:	1.0	
Soil Extract \	Volume:	1	(uL)	8	Soil Aliquot	Volu	ıme: 1	(uL)
Number TIC	s found:	0		CONCENTRA (ug/L or ug/K				
CAS NO.		COMP	OUND		RT	E	ST. CONC.	Q

DLATILE ORGANICS ANALYSIS DATA SHEET	FIELD ID.
TENTATIVELY IDENTIFIED COMPOUNDS	ſ

Lab Name:	FMETL.			NJDEP # 13461	288-A
Project:	961262		Case No.: 2832	Location: B.288 S	 DG No.:
Matrix: (soil/	water)	SOIL		Lab Sample ID:	2832.01
Sample wt/ve	ol:	10.0	(g/ml) G	Lab File ID:	V01512.D
Level: (low/r	med)	MED		Date Received:	07/18/97
% Moisture:	not dec.	28.95		Date Analyzed:	07/31/97
GC Column:	Rtx50	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0
Soil Extract \	/olume:	25000	(uL)	Soil Aliquot Volu	ıme: 100 (ul

## **CONCENTRATION UNITS:**

(un/L or un/Kn)

UG/KG

Number TICs found:	15	(ug/L or ug/kg)

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown	27.33	1700	J
2. 000091-20-3	Naphthalene	31.07	1600	JN
3.	unknown hydrocarbon	34.25	2000	J
4.	unknown	34.44	2000	J
5. 000095-36-3	1,2,4-Trimethylbenzene	35.23	1900	JN
6. 001680-51-9	Naphthalene, 1,2,3,4-tetrahydro-6	35.38	2900	JN
7.	unknown	35.95	2300	J
8.	unknown	36.58	3300	J
9.	unknown hydrocarbon	36.93	2300	J
10.	unknown	37.05	1400	J
11. 000575-37-1	Naphthalene, 1,7-dimethyl-	37.23	3800	JN
12.	unknown .	37.40	1300	J.
13. 000934-74-7	Benzene, 1-ethyl-3,5-dimethyl-	37.76	2100	JN
14.	unknown	37.96	8400	J
15.	unknown	38.14	7000	J

1E

## VOLATILE ORGANICS ANALYSIS DATA SHEET

## TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

Lab Name:	FMETL			NJDEP	# 13461		Trip Bla	ank
Project:	961262		Case No.: 283	2 Locat	ion: B.288	SD	OG No.:	
Matrix: (soil/	water)	SOIL		l	.ab Sample	ID:	2832.09	
Sample wt/v	ol:	10.0	(g/ml) <u>G</u>	l	ab File ID:		V01508.D	<del></del>
Level: (low/r	med)	MED		{	Date Receiv	/ed:	07/24/97	
% Moisture:	not dec.	0		. (	Date Analyz	zed:	07/31/97	
GC Column:	Rtx50	2.2 ID:	<u>0.25</u> (mm)	[	Dilution Fac	tor:	1.0	
Soil Extract \	Volume:	25000	(uL)		Soil Aliquot	Volun	ne: <u>100</u>	(uL)
Number TIC	o found:	0		CONCENTR (ug/L or ug/K		ITS: /KG		
Number 110	s lourid.				r	T		
CAS NO.		COMF	POUND		RT	ES	T. CONC.	Q

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

		Yes, No, N/A
1.	Cover Page, Title Page listing Lab Certification #, facility name & address, & data of report submitted	4
2.	Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted	<u> </u>
3.	Summary Table cross-referencing field ID #'s vs. Lab ID #'s Lab ID's submitted	<u> </u>
4.	Document bound, paginated and legible	<del>_</del> ¥
5.	Chain of Custody submitted	_ ~
6.	Samples submitted to lab within 48 hours of sample collection	
7.	Methodology Summary submitted	¥
8.	Results submitted on a dry weight basis	Y
9.	Method Detection Limits	
10.	Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	<u> </u>
	poratory Manager of Environmental Consultant's Signature	20

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:

Total Petroleum Hydrocarbons

96-1262 Bldg. 288

> Project # 2844 Date Rec. 07/2997 Date Comp. 07/29/97 Released by:

> > Daniel K. Wright Laboratory Director

## **Table of Contents**

Section	Pages
Cover Sheet	1
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Continuing Calibration Summary	8
Surrogate Results Summary	9
MS/MSD Results Summary	10
Quality Control Spike Summary	11
Raw Sample Data	. 12-17
Laboratory Deliverable Checklist	18

## **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.	<u> </u>
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.	<u>~</u>
(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 (908)532-4359 Fax (908)532-3484 EMail:appleby@doim6.monmouth.army.mil

**Chain of Custody Record NJDEP Certification #13461** 

Customer: GENE	E LESINSKI-DPW	Project No:	96-126	Z		Analysis Parameters						Comments:		
Phone #: 20989		Location				8 3				*= SAMPLES KEPT				
()DERA (X)OMA (	( )Other:	E	3. 288			$\circ$	Socios	255						BELOW 4°C.
Samplers Name / Cor	mpany: GARY DIMAN	CTINIS -	TUS	Sample	#	12/2	7	Masser					OUR	
Lab Sample I.D.	Sample Location	Date	Time	Туре	bottles	1	B						0	Remarks / Preservation Method
2844.01	288-A	7-29-97	1147	SOIL		$\geq$	$\times$	X					5	SIDEWALL@8.0' *
ر ده د	288-B		1155										5	*
,03	288-DUP	V		V	<b>V</b>	V	>	$\rightarrow$						FIELD DUPLICATE *
NOTE: OUA	(#A51903) CALIBR	ATED Ly	195 pp	CHy	42	ERO	(0)	AIR	@	105	HRS.	الدن	7-28	-97 by G. DIMMETIN
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	11													
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			. <del></del>											
Report Type: ()Full, (MReduced, ()Standard, ()Screen / non-certified  Turnaround time: ()Standard 4 wks, (MRush Days, (MASAP Verbal Hrs.  Remarks:  DEDICATE! SAMPUNG TOUG USED.														
Turnaround time: (_)Stand	ard 4 wks, Kush Days,	ASAP Verb	oalHrs.		لــــا	DE	VICHT	tij j	Huf	UNG	100	$\omega u$	JUDE	

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

Client:

U.S. Army

Lab. ID#:

2844

DPW. SELFM-PW-EV

Date Rec'd:

29-Jul-97

Bldg. 173

**Analysis Start:** 

29-Jul-97

Ft. Monmouth, NJ 07703

Analysis Complete:

29-Jul-97

Analysis:

OQA-QAM-025

UST Reg. #:

Matrix:

Soil

Closure #:

Analyst:

D.DEINHARDT

DICAR #:

Ext. Meth:	Shake			Location #:		B.288
Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
2844.01	288-A	1.00	15.43	72.65	210	346.63
2844.02	288-B	1.00	15.47	71.93	211	ND
2844.03	288-DUP	1.00	15.35	72.19	212	ND
	<del> </del>					
						<u> </u>
					_	
METHOD BLANK	29-Jul-97	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	
	oratory Manager or Environmental Consultant's Signature	

Laboratory Certification #13461

<sup>\*</sup>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:

Total Petroleum Hydrocarbons

96-1262 Bldg. 288

Project # 2855
Date Rec. 07/3197
Date Comp. 08/01/97
Released by:

Daniel K. Wright Laboratory Director

## **Table of Contents**

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## **Method Summary**

## NJDEP Method OQA-QAM-025-10/97

## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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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
<ol><li>Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.</li></ol>	
7. Analysis holding time met.	
(If not met, list number of days exceeded for each sample)	<i>,</i>
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

# 200

# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (908)532-4359 Fax (908)532-3484 EMail:appleby@doim6.monmouth.army.mil

NJDEP Certification #13461

**Chain of Custody Record** 

Customer: GENE LESINSK	4-01W Project N	Project No: 96-1262		Analysis Parameters						Comments:		
Phone #: 20989		Location: 6. 288				1111C	Musseri					*= SAMPLES KEPT
()DERA (XIOMA ()Other:_		V. 2.00			78							#=SAMPLES KEPT BELOW YOL.
Samplers Name / Company : G	ARY DIMARTINIS-	NATINIS-7015 Sample		#	16	13	la &				OCA	·
	le Location Date	Time	Туре	bottles		0	111				0	Remarks / Preservation Method
2855.01 288	-A 7-30-8	1503	SOIL		$\geq$	$\geq$	$\boxtimes$				2	EXC. FLOOR @9.5*
02 288-		1508									NO	SIDE WALL @ 8.0'
.03 288	Duf			↓	1	₩	V					FIELD DUPLICATE V
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NOTE: OUR (#AS	7903) CALIBRIATED	W195 pp	2 CH	42	100	0 (0)	AIR	@	143	THRS	ימס	7-30-97 64
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Relinquiened by (signature):	Date/Time: Received by	Received by (signature): Rel		Relino	Relinquished by (signature):		_	Date/Tir	ne: Rece	Received by (signature):		
Report Type: ()Full, (AReduced, ()S	Standard ( )Screen / non-certifi	ed			Remar	ks:			·····			
	Furnaround time: () Standard 4 wks, (SRush Days, (SASAP Verbal Hrs. DEDICATEN SAMPUNG TOOLS USED.											

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

Client:

U.S. Army

Lab. ID#:

2855

DPW. SELFM-PW-EV

Date Rec'd:

31-Jul-97

Bldg. 173

**Analysis Start:** 

01-Aug-97

Ft. Monmouth, NJ 07703

Analysis Complete:

01-Aug-97

Analysis:

OQA-QAM-025

UST Reg. #:

Matrix:

Soil

Closure #:

Analyst:

D.DEINHARDT

DICAR#:

Ext. Meth:	Shake			Location #:		B.288
Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
2855.01	288-A	1.00	15.84	72.44	205	ND
2855.02	288-B	1.00	15.23	76.44	202	ND
2855.03	288-DUP	1.00	15.54	73.31	206	ND
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METHOD BLANK	1-Aug-97	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

**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 <u>and</u> 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	
	oratory Manager or Environmental Consultant's Signature	$\Rightarrow$

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)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

**NJDEP LABORATORY CERTIFICATION # 13461** 



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

## **BLDG. 288**

Field Location No. &	Laboratory	Matrix Date and Time		Date Received
Location	Sample ID#		Of Collection	
Trip Blank	3913.01	Aqueous	24-Sept-98	09/25/98
Field Blank G.W.	3913.02	Aqueous	24-Sept-98 12:12	09/25/98
288-#1 4.5-6.5'	3913.03	Aqueous	24-Sept-98 13:10	09/25/98
Field Dup.	3913.04	Aqueous	24-Sept-98 13:20	09/25/98

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

Daniel Wright/Date
Laboratory Director

ENCLOSURE: CHAIN OF CUSTODY FIELD DOCUMENTATION RESULTS

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# CHAIN OF CUSTODY



# 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: CHAS.	APREBY / S.M.C.	Project No:						Ana	lysis I	Param	eters			Comments:			
	124	Location: p	3Usg. 28	8		VB								NO HIVY			
()DERA ()ÓMA (	)Other:					0	N.							•	JO	OVA	
Samplers Name / Cor	mpany: Mark Laura - T	:V.S PWS 007		Sample	#	A	4										
Lab Sample I.D.	Sample Location	Date	Time	Туре	bottles	15	(5							Remark	s / Pre	servatio	on Method
39,13	TIRIP BLANK	9-24-98		AQ.	2	×											14°C
2	FIELD BLANK G.W.		1212	i,	3_	×	×							1" PVC	. <i>5</i> 0	eees	HCL
3	288-#1-4.5-6.5		1310	<u> </u>	4	×	×							<del></del>		<del></del>	48C 240c
<u> </u>	FIELD DUT.		1320	lı .	3	×	×										HCC eyoc
				·			<del></del>				<u> </u>						
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Relinquished by (signatur		Received/by	1 .		Relind	quished	by (sig	mature)	:	Date/	Γime:	Receive	ed by (	signature	):		
Manyon	925-95 740	J. 11	refle	D											, , ,		
Relinquished by (signatur		Received by (	signature):		Relino	iquished by (signature):			:	Date/	Date/Time: Received by (signature):						
Report Type: ( )Full 6/1	Reduced ()Standard ()Screen	m / non certifi	ad .			Dames			i			4				·	
Turnaround time: (Stand		, (_)ASAP Ve		,		Remai	KS.	*VO/+	uter	BOTTI	es - i	LOTH	न१०५४				[
	Days	, <u>Landar</u> VC	111	J.		t											i

200%

# FIELD DOCUMENTATION

### Post Remedial Groundwater Sampling At Former Underground Storage Tank Site[# 2 fuel oil]

#### **FOR BLDG. # 288**

Ground Water Sampling with the use of a Passively Placed Narrow Diameter Point (PPNDP)

#### Objective:

To collect a representative groundwater sample utilizing a narrow diameter point [PPNDP] This is a small diameter [1-inch OD] screened casing passively placed in a borehole. The casing is of p.v.c. construction.

#### 1. Methods

A. A solid push - rod (bull point) is used to create a narrow diameter hole to a depth below the water table. A piece of schedule 40 PVC screen with 0.010-inch slots and an end cap is placed to the bottom of the hole. Glues or adhesives are not used for joining the casing. Threaded PVC casing is used. No filter or gravel pack is used.

#### 2. Installation

- A. Using a Geoprobe, a borehole was advanced with a pre-probe with a diameter slightly larger than the casing. The hole was made to a depth of 12 feet. The water table was at 4.5 feet below ground surface.
- B. The screened section of PVC was placed into the borehole so the screened section was across the ground water table from 3.5 7.5 feet. Riser casing from 3.5 43 feet.

#### 3. Purging

A. Three volumes of the standing water in the point were purged. The amount of water extracted was app. 0.123 gal. Three to five volumes are purged due to the potential for cross contamination of the screen from upper soil horizons. This was accomplished utilizing a peristaltic pump, and utilizing food grade tubing.

#### 4. Sampling

A. Sampling methods, sample preservation requirements, sample handling times, decontamination procedure for field equipment, and frequency for field blanks, field duplicates and trip blanks conform to applicable industry methods such as those specified in the NJDEP "Field Sampling Procedures Manual" in effect as of the date on which sampling is performed. Any deviations from the methods in the "Field

All samples were preserved in the field immediately after collection and submitted to the laboratory as soon as possible and no later than 48 hours after sample collection.

The acquisition of samples and water level measurements were performed as recommended and described in the May 1992 edition of NJDEP Field Sampling Procedures Manual.

#### 5. Quality Assurance/Quality Control

#### A. Decontamination

The associated equipment (bull point, riser pipe, etc.) was decontaminated between borings using the following procedure:

- 1. Remove all adherent soil material.
- 2. Wash with a laboratory grade glassware detergent.
- 3. Rinsed with potable water.
- 4. Rinse with distilled and deionized ASTM Type II water.

#### B. Field Blanks

- 1 Field blank was taken at this site.
- C. Sample bottles: Supplied by Environmental Sampling Supply, Oakland, Calif. The sample bottles are certified clean and are sealed upon delivery.
- D. P.V.C. Screens: Supplied by Bedrock Enterprises, Forked River N.J.

Geoprobe Operator: Mark Laura

Employer: U.S. Army, Fort Monmouth

Phone Number: [732] 532-8990

NJDEP License #: J-1486

# 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 lab	peled/Compounds identified	
		and method blanks)	yes
2.	Retention times for	chromatograms provided	yes
3.	GC/MS Tune Spec	ifications	•
	<b>a</b> .	BFB Meet Criteria	yes
	b.	DFTPP Meet Criteria	yes
4.	GC/MS Tuning Fre	equency - 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 contin	uing 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	LICS_
	b.	System Performance Check Compounds Meet Criteria	yes.
7.	Blank Contamination	on - If yes, List compounds and concentrations in each blank:	<u>bo</u>
	a.	VOA Fraction	
	<b>b.</b>	B/N Fraction	
	c.	Acid FractionAVA	
8.	Surrogate Recoveri	es Meet Criteria	yes
	If not met, list outside the acc	those compounds and their recoveries, which fall eptable range:	•
	a.	VOA Fraction	•
	b.	B/N Fraction	
	c.	Acid Fraction DA	
	If not met, wer as "estimated"	e the calculations checked and the results qualified?	
9.	Matrix Spike/Matri	x Spike Duplicate Recoveries Meet Criteria	4e5
	(If not met, list thos	se compounds and their recoveries, which fall	1
	outside the accepta	ble range)	
	a.	VOA Fraction	
	b.	B/N Fraction	
	c.	Acid Fraction AIA	

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

	·		Indicate Yes, No, N/A
10.		etention Time Shift Meet Criteria npounds, which fall outside the acceptable	range)
	a. VO	A Fraction	
	b. B/N	V Fraction	
	c. Aci	d Fraction NA	<del></del>
11.	Extraction Holding Time	Met	405
	If not met, list the number	er of days exceeded for each sample:	
12.	Analysis Holding Time N	let	Yes
	If not met, list the number	r of days exceeded for each sample:	
Add	itional Comments:	· · · · · · · · · · · · · · · · · · ·	
	pratory Manager:	Date: 11-2	24-98

# LABORATORY CHRONICLE

### **Laboratory Chronicle**

Lab ID: 3913

Site: Bldg. 288

	Date	Hold Time
Date Sampled	09/24/98	NA
Receipt/Refrigeration	09/25/98	NA
Extractions		
1. Base Neutrals	09/28/98	14 days
Analyses		
1. Volatiles	10/06/98 10/01 07/98	14 days 40 days
2 Base Neutrals	10/01 0 //98	40 0avs

# VOLATILE ORGANICS

### US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY NJDEPE # 13461

#### **Definition of Qualifiers**

**MDL**: Method Detection Limit

J : Compound identified below detection limitB : 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 Nam VB01610.D

Sample Name

VBLK50

Operator

Skelton

Field ID

VBLK50

Date Acquired 6 Oct 98 2:18 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	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethan			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	<b></b>
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	
13 /3 2	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		<del>                                     </del>	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 ethe			not detected	nie	0.65 ug/L	
	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				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-Tetrachloroethan			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

#### **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

#### 1E

#### VOLATILE ORGANICS ANALYSIS DATA SHEET

#### TENTATIVELY IDENTIFIED COMPOUNDS

F	IEL	D.	ID
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Lab Name:	FMETL				Project		UST		\ \	/BLK50	)
NJDEP#	13461	C	ase No.: 39	13	SDG	No		L(	ocation	B.288	
Matrix (soil/w	vater)	WATER				Lab	Sample	iD:	VBLK50	)	
Sample wt/vo	ol:	5.0	(g/ml) <u>M</u>	IL	_	Lab	File ID:		VB0161	0.D	<del></del>
Level: (low/r	ned)	LOW	<del></del>			Date	e Receiv	ed:	09/25/9	8	_
% Moisture: r	not dec.					Date	e Analyz	ed:	10/06/9	8	<u></u>
GC Column:	HP5M	<u>s</u> ID: 0	0.25 (mm)	)		Dilu	tion Fact	or:	1.0		_
Soil Extract V	/olume:		(uL)			Soil	Aliquot \	/olu	me:		_ <b>(</b> uL)
				CON	NCENTE	RATI	ON UNI	TS:			
Number TIC:	s found:	0		(ug/	L or ug/l	<b>(</b> g)	UG/	<u>L</u>			_
CAS NO.		COMPO	OUND NAME				RT	ES	T. CON	C.	Q

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

Data File Nam vb01611.d

Sample Name

3913.01 Trip Blank

Operator Skelton
Date Acquired 6 Oct 98 3:39 pm

Field ID Sample Multiplier

1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Oualifier
107028	Acrolein	101.	Тезропас	not detected	50	1.85 ug/L	Quanner
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	<del> </del>
1634044	Methyl-tert-Butyl ether			not detected	nle	0.16 ug/L	
108203	Di-isopropyl ether		i	not detected	nle	0.16 ug/L 0.25 ug/L	
108203	Dichlorodifluoromethan			not detected	nle	0.23 ug/L 1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.06 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.16 ug/L 1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.10 ug/L 1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2		
67-64-1	Acetone			not detected	700	0.24 ug/L	
	Carbon Disulfide				+	1.36 ug/L	
75-15-0 75-09-2	Methylene Chloride			not detected not detected	nle	0.46 ug/L	
					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	
(7.66.2	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	1-1	0.23 ug/L	
78-87-5	1,2-Dichloropropane		i	not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ethe			not detected	nle	0.65 ug/L	
10061-01-5		-		not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone		<u> </u>	not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
	trans-1,3-Dichloroprope			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		<b> </b>	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-Tetrachloroethan			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

#### **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

#### 1E VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

<b>FIELD</b>	ID
--------------	----

Lab Name:	FMETL			Project	UST		_	ip biai	, K
NJDEP#	13461	Ca	se No.: 391	SDG	No	_ Lo	ocation	B.288	1
Matrix (soil/v	vater)	WATER	_	1	Lab Sample	ID:	3913.01		
Sample wt/ve	ol:	5.0	(g/ml) ML	<u> </u>	Lab File ID:		VB0161	1.D	
Level: (low/r	ned)	LOW	_		Date Receiv	red:	09/25/9	8	<del></del>
% Moisture:	not dec.			1	Date Analyz	ed:	10/06/9	8	
GC Column:	HP5M	S ID: 0.	25 (mm)	!	Dilution Fac	tor:	1.0		
Soil Extract \	/olume:		(uL)	;	Soil Aliquot	Volu	me:		(uL)
				CONCENTR					
Number TIC	s found:	0	_	(ug/L or ug/k	(g) UG	/L			
CAS NO.		COMPOL	JND NAME		RT	ES	ST. CON	C.	Q

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

Data File Nam vb01612.d

Sample Name

3913.02

Operator

Skelton

Field ID

Field Blank GW

Date Acquired 6 Oct 98 4:26 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	nle	0.16 ug/L	
	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethan			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 ethe			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-Dichloroprope			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-Tetrachloroethan			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	<u> </u>		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

#### **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

#### · 1E

#### **VOLATILE ORGANICS ANALYSIS DATA SHEET** TENTATIVELY IDENTIFIED COMPOUNDS

15	DAIA	ASMEE	ł I	LIELL	, IL

Lab Name:	FMETL		Project UST	Field Blank	-GW
NJDEP#	13461	Case No.: 3913	SDG No	Location B.288	
Matrix (soil/v	vater)	WATER	Lab Sample	ID: 3913.02	·
Sample wt/vo	oi:	5.0 (g/ml) ML	Lab File ID:	VB01612.D	_
Level: (low/r	ned)	LOW	Date Receiv	red: 09/25/98	_
% Moisture:	not dec.		Date Analyz	ed: 10/06/98	_
GC Column:	HP5M	S ID: 0.25 (mm)	Dilution Fac	tor: 1.0	_
Soil Extract \	/olume:	(uL)	Soil Aliquot	Volume:	(uL)
Number TIC:	s found:		CONCENTRATION UNI		
CAS NO.		COMPOUND NAME	RT	EST. CONC.	Q

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

Data File Nam vb01613.d

Sample Name

3913.03

Operator

Skelton

Field ID

288-#1-4.5'-6.5'

Date Acquired 6 Oct 98 5:14 pm

Sample Multiplier

1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Oualifier
107028	Acrolein			not detected	50	1.85 ug/L	<b>Q</b>
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	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethan			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	nie	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	17.67	239978	4.45 ug/L	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 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 ethe			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-Dichloroprope			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	ı	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-Tetrachloroethan			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

#### **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

#### 1E VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Lab Name:	FMETL			Project	UST		288-	#1 4.5	-6.5
NJDEP#	13461	Cas	se No.: 3913	SDG	No	Lo	cation	B.288	3
Matrix (soil/w	vater)	WATER	_	l	_ab Sample	ID:	3913.03	3	
Sample wt/vo	oi:	5.0	(g/ml) ML	เ	.ab File ID:		VB0161	3.D_	
Level: (low/r	ned)	LOW	_	ι	Date Receiv	red:	09/25/98	8	_
% Moisture: r	not dec.			[	Date Analyz	ed:	10/06/98	B	
GC Column:	HP5M	S ID: 0.2	25 (mm)	[	Dilution Fac	tor:	1.0		
Soil Extract V	/olume:		_ (uL)	•	Soil Aliquot	Volur	ne:		(uL)
				CONCENTR					
Number TICs	s found:	0	_	(ug/L or ug/K	g) <u>UG</u>	·	<del></del>		
CAS NO.		COMPOL	ND NAME		RT	Es	T. CON	Э.	Q

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

Data File Nam vb01614.d Operator

Skelton Date Acquired 6 Oct 98 6:01 pm

Sample Name Field ID

3913.04 Field Dup

Sample Multiplier

1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Oualifler
107028	Acrolein	1	Acceptance	not detected	50	1.85 ug/L	Quantitei
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	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.16 ug/L	
100203	Dichlorodifluoromethan			not detected	nle	0.23 ug/L 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	1.10 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.30 ug/L 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	<del></del>
75-09-2	Methylene Chloride			not detected	2	0.46 ug/L 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	0.10 ug/L 0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.12 ug/L 0.78 ug/L	
	2-Butanone			not detected	+		
78-93-3	cis-1,2-Dichloroethene			not detected	300	0.62 ug/L	
(7.66.2	Chloroform	17.68	225272		10	0.17 ug/L	
67-66-3		17.08	235373	4.50 ug/L	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	<del></del>		not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ethe			not detected	nle	0.65 ug/L	
	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	
	trans-1,3-Dichloroprope		·	not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane	<b></b> -		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	<del> </del>		not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene	<u> </u>		not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes	<u> </u>		not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene	<u> </u>		not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform	<u> </u>		not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethan			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	<u> </u>		not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene	<u> </u>		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

#### **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 0023

#### 1E VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Lab Name:	FMETL			Project	UST		Fi	eld Dup	)
NJDEP#	13461	Ca	se No.: 3913	SDG	No	Loc	cation	B.288	
Matrix (soil/w	ater)	WATER	_	L	ab Sample	e ID: 3	3913.04	ļ <u> </u>	
Sample wt/vo	ıl:	5.0	(g/ml) ML	L	ab File ID:	<u>\</u>	VB0161	4.D	
Level: (low/m	ned)	LOW	_	Е	ate Recei	ved: (	09/25/98	<b>3</b>	
% Moisture: n	ot dec.			C	ate Analyz	zed: _	10/06/98	3	
GC Column:	HP5M	S ID: 0.2	25 (mm)		Dilution Fac	tor: _	1.0		
Soil Extract V	olume:		(uL)	S	Soil Aliquot	Volum	ne:		(uL)
				CONCENTRA					
Number TICs	found:	0		(ug/L or ug/K	g) <u>UG</u>	/L			
CAS NO.		COMPOL	IND NAME		RT	EST	r. cond	<b>c</b> .	Q

# BASE NEUTRALS

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

Data File Name bna00812.d Operator

Skelton

Sample Name

Misc Info

Date Acquired 1 Oct 1998 11:46 pm

Sample Multiplier I

SBLK138

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
110-86-1	Pyridine	T		not detected	NLE	2.52 ug/L	1
62-75-9	N-nitroso-dimethylamine	1		not detected	20	2.64 ug/L	
62-53-3	Aniline	1		not detected	NLE	2.90 ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	2.45 ug/L	
541-73-1	1,3-Dichlorobenzene	1		not detected	600	2.65 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	2.50 ug/L	
100-51-6	Benzyl alcohol		·	not detected	NLE	2.09 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	2.44 ug/L	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	2.96 ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	2.22 ug/L	
67-72-1	Hexachloroethane			not detected	10	2.59 ug/L	
98-95-3	Nitrobenzene			not detected	10	2.45 ug/L	
78-59-1	Isophorone			not detected	100	2.31 ug/L	
111-91-1	bis(2-Chloroethoxy)methane	1.		not detected	NLE	2.54 ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	2.58 ug/L	
91-20-3	Naphthalene			not detected	NLE	3.03 ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	2.55 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.64 ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	2.49 ug/L	
77-47-4	Hexachlorocyclopentadiene	1		not detected	50	1.59 ug/L	
91-58-7	2-Chloronaphthalene	1		not detected	NLE	2.15 ug/L	
88-74-4	2-Nitroaniline	1		not detected	NLE	1.62 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	2.74 ug/L	
208-96-8	Acenaphthylene			not detected	NLE	2.35 ug/L	
606-20-2	2.6-Dinitrotoluene			not detected	NLE	1.54 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	1.62 ug/L	
83-32-9	Acenaphthene	<b>—</b>	1	not detected	400	1.98 ug/L	
132-64-9	Dibenzofuran	1		not detected	NLE	2.13 ug/L	
121-14-2	2.4-Dinitrotoluene	1		not detected	10	1.22 ug/L	
84-66-2	Diethylphthalate		1	not detected	5000	1.68 ug/L	
86-73-7	Fluorene		ļ	not detected	300	1.93 ug/L	
7005-72-3	4-Chlorophenyl-phenylether	1		not detected	NLE	1.53 ug/L	
100-01-6	4-Nitroaniline	1	<u> </u>	not detected	NLE	2.70 ug/L	
86-30-6	n-Nitrosodiphenylamine	1		not detected	20	1.73 ug/L	
103-33-3	Azobenzene	1-	<del> </del>	not detected	NLE	1.92 ug/L	
101-55-3	4-Bromophenyl-phenylether	1		not detected	NLE	1.54 ug/L	
118-74-1	Hexachlorobenzene	1	1	not detected	10	1.88 ug/L	
85-01-8	Phenanthrene		<del> </del>	not detected	NLE	1.67 ug/L	<del></del> -
120-12-7	Anthracene	1	<u>†                                      </u>	not detected	2000	1.79 ug/L	
84-74-2	Di-n-butylphthalate		<b>1</b>	not detected	900	1.83 ug/L	<b> </b>
206-44-0	Fluoranthene	$\top$	1	not detected	300	1.85 ug/L	
92-87-5	Benzidine	1	1	not detected	50	4.11 ug/L	
129-00-0	Pyrene	1	1	not detected	200	1.02 ug/L	
85-68-7	Butylbenzylphthalate	T	1	not detected	100	1.15 ug/L	
56-55-3	Benzo[a]anthracene	$\top$		not detected	10	1.57 ug/L	1
91-94-1	3,3'-Dichlorobenzidine		<del>                                     </del>	not detected	60	2.28 ug/L	<del>                                     </del>
218-01-9	Chrysene	1	<del> </del>	not detected	20	2.32 ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate	1	1	not detected	30	1.29 ug/L	
117-84-0	Di-n-octylphthalate	$\top$		not detected	100	1.30 ug/L	1
205-99-2	Benzo[b]fluoranthene	$\top$	1	not detected	10	1.31 ug/L	1
207-08-9	Benzo[k]fluoranthene	1	1	not detected	2	1.57 ug/L	T
50-32-8	Benzo[a]pyrene	$\top$	1	not detected	20	1.36 ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	<del>- </del>	<b>†</b>	not detected	20	1.22 ug/L	
53-70-3	Dibenz[a,h]anthracene	1	1	not detected	20	3.12 ug/L	
191-24-2	Benzo[g,h,i]perylene		1	not detected	NLE	1.13 ug/L	
171-27-2	1 - annual Dina, July			10. 00.000		J wa/L	

<sup>\*</sup> Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6

#### Qualifiers

E = Value exceded linear range

D = Value from dilution

B = Compound in related blank

PQL = Practical Quantitation Limit

MDL = Method Detection Limit

NLE = No Limit Established

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Lab Name:	FMETL				Lab Co	de	13461		SBLK	136
Project		Ca	ase No.:	3913	Loca	ation	B.288	S	DG No.:	
Matrix: (soil/v	vater)	WATER				Lab	Sample	ID:	SBLK138	
Sample wt/vo	ol:	1000	_ (g/ml)	ML		Lab	File ID:		BNA00812.D	)
Level: (low/r	ned)	LOW				Date	Receiv	ed:	09/25/98	
% Moisture:		ded	canted: (Y	7/N)	N	Date	e Extract	ed:	09/28/98	
Concentrated	d Extract	Volume:	1000	(uL)		Date	Analyz	ed:	10/01/98	
Injection Volu	ume: 1.0	(uL)				Dilut	tion Fac	tor:	1.0	
GPC Cleanu	p: (Y/N)	N	pH: <u>7</u>							
	,				CONCE	NTF	RATION	UNI	TS:	
Number TICs	s found:	0			(ug/L or	ug/ł	(g)	UG/	<u>L</u>	
CAS NUME	BER	СОМРО	UND NAI	ИE		:	RT	ES	ST. CONC.	Q

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

Data File Name bna00850.d

7 Oct 1998 3:44 am

Sample Name

3913.02 Field Blank

Operator Date Acquired Skelton

Misc Info

Sample Multiplier

62-75-9 62-53-3 111-44-4 541-73-1 106-46-7 100-51-6 95-50-1 108-60-1 621-64-7	Pyridine N-nitroso-dimethylamine Aniline bis(2-Chloroethyl)ether 1,3-Dichlorobenzene 1.4-Dichlorobenzene			not detected	NLE 20	2.52		
62-53-3 111-44-4 541-73-1 106-46-7 100-51-6 95-50-1 108-60-1 621-64-7	Aniline bis(2-Chloroethyl)ether 1,3-Dichlorobenzene			not detected	20		1	
111-44-4 541-73-1 106-46-7 100-51-6 95-50-1 108-60-1 621-64-7	bis(2-Chloroethyl)ether 1,3-Dichlorobenzene		1		40	2.64	ug/L	
541-73-1 106-46-7 100-51-6 95-50-1 108-60-1 621-64-7	1,3-Dichlorobenzene			not detected	NLE	2.90	ug/L	
106-46-7 100-51-6 95-50-1 108-60-1 621-64-7				not detected	10	2.45	ug/L	
100-51-6 95-50-1 108-60-1 621-64-7	1.4-Dichlorobenzene	I I		not detected	600	2.65	ug/L	
95-50-1 108-60-1 621-64-7				not detected	75	2.50	ug/L	
108-60-1 621-64-7	Benzyl alcohol			not detected	NLE	2.09	ug/L	
621-64-7	1,2-Dichlorobenzene			not detected	600	2.44	ug/L	
	bis(2-chloroisopropyl)ether			not detected	300	2.96	ug/L	
67.72 1	n-Nitroso-di-n-propylamine			not detected	20	2.22	ug/L	
67-72-1	Hexachloroethane			not detected	10	2.59	ug/L	
	Nitrobenzene	†===		not detected	10	2.45	_	
	Isophorone			not detected	100	2.31		
111-91-1	bis(2-Chloroethoxy)methane	<del>                                     </del>		not detected	NLE	2.54		
120-82-1	1,2,4-Trichlorobenzene	1		not detected	9	2.58		
91-20-3	Naphthalene	+-+		not detected	NLE		ug/L	<u> </u>
106-47-8	4-Chloroaniline	1 -1		not detected	NLE		ug/L	
87-68-3	Hexachlorobutadiene	<del>  </del>		not detected	NLE 1	,		
91-57-6	2-Methylnaphthalene	<del>                                     </del>		not detected			ug/L	
		+			NLE		ug/L	
77-47-4	Hexachlorocyclopentadiene	<del>                                     </del>		not detected	50	1.59		
91-58-7	2-Chloronaphthalene	<del>  </del>		not detected	NLE		ug/L	<del></del>
88-74-4	2-Nitroaniline	+		not detected	NLE	1	ug/L	
131-11-3	Dimethylphthalate	<del>] -  </del>		not detected	7000		ug/L	
208-96-8	Acenaphthylene	<del>  </del>		not detected	NLE	2.35	_	
606-20-2	2,6-Dinitrotoluene	1	<del>:</del>	not detected	NLE	1.54		<u> </u>
99-09-2	3-Nitroaniline	<del>  </del>		not detected	NLE	1	ug/L	
83-32-9	Acenaphthene	1		not detected	400		ug/L	<b>├</b> ─
132-64-9	Dibenzofuran	↓		not detected	NLE	2.13	ug/L	ļ
121-14-2	2,4-Dinitrotoluene	$\bot$		not detected	10	1.22	ug/L	<b> </b>
84-66-2	Diethylphthalate	ļ		not detected	5000	1.68	ug/L	<u> </u>
86-73-7	Fluorene			not detected	300	1.93	ug/L	
7005-72-3	4-Chlorophenyl-phenylether	1	<del></del>	not detected	NLE	1.53	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	2.70	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.73	ug/L	
103-33-3	Azobenzene			not detected	NLE	1.92	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	1.54	ug/L	L
118-74-1	Hexachlorobenzene			not detected	10	1.88	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.67	ug/L	
120-12-7	Anthracene			not detected	2000	1.79	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	1.83	ug/L	
206-44-0	Fluoranthene			not_detected	300	1.85	ug/L	
92-87-5	Benzidine			not detected	50	4.11	ug/L	
129-00-0	Pyrene	1		not detected	200	1.02	ug/L	
85-68-7	Butylbenzylphthalate	Т		not detected	100		ug/L	
56-55-3	Benzo[a]anthracene	$\top$		not detected	10		ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60		ug/L	
218-01-9	Chrysene	1		not detected	20		ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate	24.79	87253		30		ug/L	
117-84-0	Di-n-octylphthalate	1	1	not detected	100	7-	ug/L	<b>—</b>
205-99-2	<del>                                     </del>	+-	<del>                                     </del>	not detected	100		ug/L	
	Benzo[b]fluoranthene	+-	<del> </del> -	<del>+ : · · · · · · · · · · · · · · · · · · </del>	2	<del>,                                     </del>		t
207-08-9	Benzo[k]fluoranthene	+-	<del> </del>	not detected			ug/L	<del> </del>
50-32-8	Benzo[a]pyrene	+	<del>                                     </del>	not detected	20	<del></del>	ug/L	├
193-39-5	Indeno[1,2,3-cd]pyrene	+-	<del> </del>	not detected	20		ug/L	⊢–
53-70-3 191-24-2	Dibenz[a,h]anthracene Benzo[g,h,i]perylene	+	<del> </del>	not detected	NLE	_	ug/L	-

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

#### Qualifiers

E = Value exceded linear range

D = Value from dilution

B = Compound in related blank

PQL = Practical Quantitation Limit

MDL = Method Detection Limit

NLE = No Limit Established

#### 1F

### SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Lab Name: FMETL	Lab Code 13461 Field Blank-GW
Project Case No.: 3913	Location B.288 SDG No.:
Matrix: (soil/water) WATER	Lab Sample ID: 3913.02
Sample wt/vol: 1000 (g/ml) ML	Lab File ID: BNA00850.D
Level: (low/med) LOW	Date Received: 09/25/98
% Moisture: decanted: (Y/N)	N Date Extracted: 09/28/98
Concentrated Extract Volume: 1000 (uL)	Date Analyzed: 10/07/98
Injection Volume: 1.0 (uL)	Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: 7	<del></del>
	CONCENTRATION UNITS:
Number TICs found: 0	(ug/L or ug/Kg) UG/L
CAS NUMBER COMPOUND NAME	RT EST. CONC. Q

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

Data File Name

bna00851.d

Sample Name

3913.03

Operator

Skelton

Misc Info

288-#1-4.5'-6,5'

Date Acquired 7

7 Oct 1998 4:28 am

Sample Multiplier 1

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
110-86-1	Pyridine			not detected	NLE	2.52 ug/l	,
62-75-9	N-nitroso-dimethylamine			not detected	20	2.64 ug/I	
62-53-3	Aniline			not detected	NLE	2.90 ug/l	,
111-44-4	bis(2-Chloroethyl)ether			not detected	10	2.45 ug/l	.]
541-73-1	1,3-Dichlorobenzene			not detected	600	2.65 ug/l	
106-46-7	1,4-Dichlorobenzene			not detected	75	2.50 ug/l	
100-51-6	Benzyl alcohol			not detected	NLE	2.09 ug/l	
95-50-1	1,2-Dichlorobenzene			not detected	600	2.44 ug/l	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	2.96 ug/	, ,
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	2.22 ug/l	
67-72-1	Hexachloroethane			not detected	10	2.59 ug/l	
98-95-3	Nitrobenzene			not detected	10	2.45 ug/l	
78-59-1	Isophorone			not detected	100	2.31 ug/	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	2.54 ug/l	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	2.58 ug/l	7
91-20-3	Naphthalene			not detected	NLE	3.03 ug/	
106-47-8	4-Chloroaniline	1		not detected	NLE	2.55 ug/l	
87-68-3	Hexachlorobutadiene	1		not detected	1	0.64 ug/	
91-57-6	2-Methylnaphthalene			not detected	NLE	2.49 ug/	
77-47-4	Hexachlorocyclopentadiene	$\top$		not detected	50	1.59 ug/	
91-58-7	2-Chloronaphthalene	1		not detected	NLE	2.15 ug/	
88-74-4	2-Nitroaniline	1		not detected	NLE	1.62 ug/	
131-11-3	Dimethylphthalate			not detected	7000	2.74 ug/	
208-96-8	Acenaphthylene	<del> </del>		not detected	NLE	2.35 ug/	<del></del>
606-20-2	2,6-Dinitrotoluene	1		not detected	NLE	1.54 ug/	
99-09-2	3-Nitroaniline	+	·	not detected	NLE	1.62 ug/	
83-32-9	Acenaphthene	<del></del>		not detected	400	1.98 ug/	
132-64-9	Dibenzofuran			not detected	NLE	2.13 ug/	
121-14-2	2,4-Dinitrotoluene	<del></del>	<del> </del>	not detected	10	1.22 ug/	
84-66-2	Diethylphthalate	+-	<u> </u>	not detected	5000	1.68 ug/	
86-73-7	Fluorene	┪		not detected	300	1.93 ug/	
7005-72-3	4-Chlorophenyl-phenylether	<del></del>	<del>                                     </del>	not detected	NLE	1.53 ug/	
100-01-6	4-Nitroaniline	+	<del> </del>	not detected	NLE	2.70 ug/	
86-30-6	n-Nitrosodiphenylamine	+	<del> </del>	not detected	20	1.73 ug/	
103-33-3	Azobenzene	_	<del> </del>	not detected	NLE	1.92 ug/	
101-55-3	4-Bromophenyl-phenylether	╅	<del> </del>	not detected	NLE		
118-74-1	Hexachlorobenzene	╅	<del> </del>	not detected		1.54 ug/	
85-01-8	Phenanthrene	+-	<del> </del>	not detected	10	1.88 ug/	
120-12-7	Anthracene	+	<del> </del>	<del> </del>	NLE	1.67 ug/	
84-74-2		+	<del> </del>	not detected	2000 900	1.79 ug/	
206-44-0	Di-n-butylphthalate Fluoranthene	+	<del> </del>	not detected	<del> </del>	1.83 ug/	<del></del>
92-87-5	Benzidine	+		not detected	300	<del></del>	<del></del>
		╅	<del> </del>	not detected	50	4.11 ug/	
129-00-0	Pyrene	+-	<del> </del>	not detected	200	1.02 ug/	
85-68-7	Butylbenzylphthalate	+	<del> </del>	not detected	100	1,15 ug/	
56-55-3	Benzo[a]anthracene	<del>- </del> -	<del> </del>	not detected	10	1.57 ug/	
91-94-1	3,3'-Dichlorobenzidine	+	<del> </del>	not detected	60	2.28 ug/	
218-01-9	Chrysene	+-	<del> </del>	not detected	20	2,32 ug/	
117-81-7	bis(2-Ethylhexyl)phthalate	+	<del> </del>	not detected	30	1.29 ug/	
117-84-0	Di-n-octylphthalate		<del> </del>	not detected	100	1.30 ug/	
205-99-2	Benzo[b]fluoranthene	-}	<del> </del>	not detected	10	1.31 ug/	$\overline{}$
207-08-9	Benzo[k]fluoranthene	-	<del> </del>	not detected	2	1.57 ug/	
50-32-8	Benzo[a]pyrene	+-	<del> </del>	not detected	20	1.36 ug/	
193-39-5	Indeno[1,2,3-cd]pyrene	+-	<del> </del>	not detected	20	1.22 ug/	
53-70-3	Dibenz[a,h]anthracene	4	<del>                                     </del>	not detected	20	3.12 ug/	<u>-</u> -
191-24-2	Benzo[g,h,i]perylene	L_	1	not detected	NLE	1.13 นอ/	L

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

#### Qualifiers

E = Value exceded linear range

D = Value from dilution

B = Compound in related blank

PQL = Practical Quantitation Limit

MDL = Method Detection Limit

NLE = No Limit Established

#### 1F

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Lab Name: FM	ETL	Lab Code 13461	288-#1 4.5-5.5'
Project	Case No.: 3913	Location B.288 SD	OG No.:
Matrix: (soil/water	) WATER	Lab Sample ID:	3913.03
Sample wt/vol:	1000 (g/ml) ML	Lab File ID:	BNA00851.D
Level: (low/med)	LOW	Date Received:	09/25/98
% Moisture:	decanted: (Y/N)	N Date Extracted:	09/28/98
Concentrated Ext	ract Volume: 1000 (uL)	Date Analyzed:	10/07/98
Injection Volume:	1.0 (uL)	Dilution Factor:	1.0
GPC Cleanup: (Y	/N) N pH: 7		•
		CONCENTRATION UNIT	'S:
Number TICs four	nd: 0	(ug/L or ug/Kg) UG/L	
CAS NUMBER	COMPOUND NAME	RT ES	T. CONC. Q

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

Data File Name BNA00852.D

Date Acquired

Sample Name

3913.04

Operator

Skelton

7 Oct 1998 5:11 am

Misc Info Sample Multiplier 1

Field Dup

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL		Qualifier
110-86-1	Pyridine		······································	not detected	NLE	2.52	ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	2.64		
62-53-3	Aniline	1		not detected	NLE	2.90		
111-44-4	bis(2-Chloroethyl)ether	<b>†</b>		not detected	10	2.45		-
541-73-1	1,3-Dichlorobenzene	<u> </u>		not detected	600	2.65		
106-46-7	1,4-Dichlorobenzene			not detected	75	2.50		
100-51-6	Benzyl alcohol			not detected	NLE	2.09		
95-50-1	1,2-Dichlorobenzene			not detected	600		ug/L	
108-60-1	bis(2-chloroisopropyl)ether	1		not detected	300	2.96		
621-64-7	n-Nitroso-di-n-propylamine	<b>-</b>		not detected	20	2.22	_	
67-72-1	Hexachloroethane			not detected	10	2.59		
98-95-3	Nitrobenzene			not detected	10	2.45		
78-59-1	Isophorone			not detected	100	2.31		
111-91-1	bis(2-Chloroethoxy)methane	1		not detected	NLE	2.54		
120-82-1	1,2,4-Trichlorobenzene	1		not detected	9	2.58		
91-20-3	Naphthalene	1		not detected	NLE	3.03		
106-47-8	4-Chloroaniline	$\top$		not detected	NLE	2.55		
87-68-3	Hexachlorobutadiene	1		not detected	1	0.64		
91-57-6	2-Methylnaphthalene	1		not detected	NLE	2.49		
77-47-4	Hexachlorocyclopentadiene	1		not detected	50	1.59		
91-58-7	2-Chloronaphthalene	1		not detected	NLE	2.15		
88-74-4	2-Nitroaniline	<b>†</b>		not detected	NLE	1.62		
131-11-3	Dimethylphthalate	1		not detected	7000	2.74		
208-96-8	Acenaphthylene	$\top$		not detected	NLE	2.35		
606-20-2	2,6-Dinitrotoluene			not detected	NLE	1.54	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	1,62	ug/L	
83-32-9	Acenaphthene	1		not detected	400	1.98		
132-64-9	Dibenzofuran			not detected	NLE	2.13	ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	1.22	ug/L	
84-66-2	Diethylphthalate	1		not detected	5000	1.68	ug/L	
86-73-7	Fluorene	1		not detected	300	1.93	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.53	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	2,70	ug/L	
86-30-6	n-Nitrosodiphenylamine	T		not detected	20	1.73	ug/L	
103-33-3	Azobenzene			not detected	NLE	1.92	ug/L	
101-55-3	4-Bromophenyl-phenylether	]		not detected	NLE	1.54	ug/L	
118-74-1	Hexachlorobenzene	$\mathbf{I}$		not detected	10	1.88	ug/L_	
85-01-8	Phenanthrene			not detected	NLE	1.67	ug/L	
120-12-7	Anthracene			not detected	2000	1.79	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	1,83	ug/L	
206-44-0	Fluoranthene			not detected	300	1.85	ug/L	
92-87-5	Benzidine			not detected	50	4.11	ug/L	
129-00-0	Pyrene			not detected	200	1.02	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.15		
56-55-3	Benzo[a]anthracene			not detected	10	1.57	ug/L	
91-94-1	3,3'-Dichlorobenzidine		<u> </u>	not detected	60	2.28	ug/L	
218-01-9	Chrysene		<u>. </u>	not detected	20	2.32	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	1.29	ug/L	<u> </u>
117-84-0	Di-n-octylphthalate	1		not detected	100	1.30	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.31	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.57	ug/L	L
50-32-8	Benzo[a]pyrene		ļ	not detected	20	1,36	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene		ļ	not detected	20	1.22	ug/L	
53-70-3	Dibenz[a,h]anthracene		1	not detected	20	3,12	ug/L	
191-24-2	Benzo[g,h,i]perylene		1	not detected	NLE	1.13	ug/L	L . [

<sup>\*</sup> Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6

#### Qualifiers

E = Value exceded linear range

D = Value from dilution

B = Compound in related blank

PQL = Practical Quantitation Limit

MDL = Method Detection Limit

NLE = No Limit Established

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Lab Name:	FMETL			`I	_ab Code 1	3461		l'ieid b	up ———
Project		C	ase No.: 3913		Location	B.288	SD	G No.:	
Matrix: (soil/w	vater)	WATER	<b></b>		Lab S	Sample II	D: 3	3913.04	
Sample wt/vo	ol:	1000	(g/ml) ML		Lab F	ile ID:	Ē	BNA00852.D	·
Level: (low/n	ned)	LOW			Date	Received	d: <u>(</u>	09/25/98	
% Moisture:		de	canted: (Y/N)	N	Date	Extracted	d: (	09/28/98	
Concentrated	d Extract	Volume:	1000 (uL)		Date	Analyzed	d:	10/07/98	
Injection Volu	ıme: 1.0	(uL)			Dilutio	on Facto	r. <u>:</u>	1.0	
GPC Cleanup	p: <b>(Y/N</b> )	<u>N</u>	pH: <u>7</u>						
				CONCENTRATION UNITS			S:		
Number TICs	s found:	0		(	ug/L or ug/K	g) <u>U</u>	G/L		
CAS NUME	BER	COMPO	UND NAME			RT :	EST	Γ. CONC.	Q

#### 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 <u>and</u> 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	
<b>7</b> .	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	<u>/</u>
Lab Date	oratory Manager or Environmental Consultant's Signature	

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)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

**NJDEP LABORATORY CERTIFICATION # 13461** 



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

#### **BLDG. 288**

Field Location No. &	Laboratory	Matrix	Date and Time	Date Received	
Location	Sample ID#		Of Collection		
Trip Blank	4002.01	Aqueous	23-Oct-98	10/23/98	
Field Blank	4002,02	Aqueous	23-Oct-98 10:50	10/23/98	
Bldg. 288 6.5'	4002.03	Aqueous	23-Oct-98 11:15	10/23/98	
Field Dup.	4002.09	Aqueous	23-Oct-98	10/23/98	

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

> Daniel Wright/Date **Laboratory Director**

12/3/98

**ENCLOSURE**: CHAIN OF CUSTODY FIELD DOCUMENTATION **RESULTS** 

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# CHAIN OF CUSTODY

# 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**

Custo	Customer: CHAS. APPLEBY /SMC Project No:				Analysis Parameters						Comments:				
Phone	#: X260	224	Location:	31.0G, 7	188		V	B							
( )DEF	A (N) AS	)Other:		orpos. c			VO A	M							
Samp	Samplers Name / Company: MARK LAWE			PUS 007	Sample	#	سل	+							
	Sample I.D.	Sample Location	Date	Time	Туре	bottles	15	15							Remarks / Preservation Method
481	92 /	TRIP BLANK	10-23-98		AQ.	2	X								
	2	FIELD BLANK	a <sub>f</sub>	1050	ų	31	X	X					,		HCL
	3	BUG. 288-6.5'	ч	1115	- 1	3	X	X							40c/240c
	4	BLOG. 104-1-	η	1317	ц	4	11	۱,							I (
	5	BLDG. 104-2-	11	1340	.1)	11	14	4							17
	6	BLOG. 104-3-	н	1440	tj	11	. Ul	Ц							н
	7	BLOG. 104-4-	<i>\$</i> 1	1455	Ŋ	11	11	11							3)
· · · · · · · · · · · · · · · · · · ·	8	BLOG. 104-5-	. 11	1505	11	11	L(	11							N
	9	FIELD DUP.	11		11	К	11	11				·			
ļ <u>.</u>						<u> </u>			ļ						
		• • • • • • • • • • • • • • • • • • •						,							
		· · · · · · · · · · · · · · · · · · ·													
_	nished by (signatu		Received/by	(signature):	W	Reline	quished	by (sig	mature)	):	Date/	Time:	Recei	ved by (	signature):
	nished by (signatu	re): Date/Time:	Received by (	V · ·		Relinquished by (signature):  Date/Time: Received by (signature):				signature):					
Report 7	Type: (_)Full, X	Reduced Standard, ()Screen	en / non-certifi	ied			Rema	rks:							
Lurnaro	und time: UStan	dard 4 wks, (_)Rush Day	s, (_)ASAP Ve	erbal Hr	S		1								

# SAMPLING PROCEDURE SUMMARY

## Post Remedial Groundwater Sampling At Former Underground Storage Tank Site[# 2 fuel oil]

#### **FOR BLDG. # 288**

Ground Water Sampling with the use of a Passively Placed Narrow Diameter Point (PPNDP)

#### Objective:

To collect a representative groundwater sample utilizing a narrow diameter point [PPNDP] This is a small diameter [1-inch OD] screened casing passively placed in a borehole. The casing is of p.v.c. construction.

#### 1. Methods

A. A solid push - rod (bull point) is used to create a narrow diameter hole to a depth below the water table. A piece of schedule 40 PVC screen with 0.010-inch slots and an end cap is placed to the bottom of the hole. Glues or adhesives are not used for joining the casing. Threaded PVC casing is used. No filter or gravel pack is used.

#### 2. Installation

- A. Using a Geoprobe, a borehole was advanced with a pre-probe with a diameter slightly larger than the casing. The hole was made to a depth of 12 feet. The water table was at 4.5 feet below ground surface.
- B. The screened section of PVC was placed into the borehole so the screened section was across the ground water table from 3.5 7.5 feet. Riser casing from 3.5 +3 feet.

#### 3. Purging

A. Three volumes of the standing water in the point were purged. The amount of water extracted was app. 0.123 gal. Three to five volumes are purged due to the potential for cross contamination of the screen from upper soil horizons. This was accomplished utilizing a peristaltic pump, and utilizing food grade tubing.

#### 4. Sampling

A. Sampling methods, sample preservation requirements, sample handling times, decontamination procedure for field equipment, and frequency for field blanks, field duplicates and trip blanks conform to applicable industry methods such as those specified in the NJDEP "Field Sampling Procedures Manual" in effect as of the date on which sampling is performed. Any deviations from the methods in the "Field

All samples were preserved in the field immediately after collection and submitted to the laboratory as soon as possible and no later than 48 hours after sample collection.

The acquisition of samples and water level measurements were performed as recommended and described in the May 1992 edition of NJDEP Field Sampling Procedures Manual.

#### 5. Quality Assurance/Quality Control

#### A. Decontamination

The associated equipment (bull point, riser pipe, etc.) was decontaminated between borings using the following procedure:

- 1. Remove all adherent soil material.
- 2. Wash with a laboratory grade glassware detergent.
- 3. Rinsed with potable water.
- 4. Rinse with distilled and deionized ASTM Type II water.

#### B. Field Blanks

- 1 Field blank was taken at this site.
- C. Sample bottles: Supplied by Environmental Sampling Supply, Oakland, Calif. The sample bottles are certified clean and are sealed upon delivery.
- D. P.V.C. Screens: Supplied by Bedrock Enterprises, Forked River N.J.

Geoprobe Operator: Mark Laura

Employer: U.S. Army, Fort Monmouth

Phone Number: [732] 532-8990

NJDEP License #: J-1486

<u>Mattrifini. 11-23-98</u> Mark Laura / Date

# METHODOLOGY REVIEW

#### **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.

# LABORATORY CHRONICLE

## **Laboratory Chronicle**

Lab ID: 4002

Site: Bldg. 288

Date Hold Time Date Sampled 10/23/98 NA Receipt/Refrigeration NA 10/23/98 **Extractions** 1. Base Neutrals 10/27/98 14 days Analyses 1. Volatile Organics 10/26,27/98 14 days 2. Base Neutrals 10/31/98, 11/04/98 40 days

# CONFORMANCE/ NON-CONFORMANCE SUMMARIES

#### GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

			Indicate Yes, No, N/A
1.	Chromatograms labele	ed/Compounds identified	
	(Field samples an		<u>yes</u>
2.	Retention times for ch	romatograms provided	yes
3.	GC/MS Tune Specific	cations	
	<b>a</b> .	BFB Meet Criteria	ues
	b.	DFTPP Meet Criteria	Ves
4.	GC/MS Tuning Frequ	ency - Performed every 24 hours for 600	
	series and 12 hours fo	r 8000 series	<u>yes</u>
5.	analysis and continuin	Initial Calibration performed before sample ag calibration performed within 24 hours of	(jo<
	sample analysis for oc	00 series and 12 hours for 8000 series	<del>703</del> -
6.	GC/MS Calibration re	equirements	
	a.	Calibration Check Compounds Meet Criteria	yes
	<b>b.</b>	System Performance Check Compounds Meet Criteria	· Ves
7.	Blank Contamination	- If yes, List compounds and concentrations in each blank:	<u> NO</u>
	a.	VOA Fraction	
	b.	B/N Fraction	
	c.	Acid Fraction NA	
8.	Surrogate Recoveries	Meet Criteria	<u>yes</u>
	If not met, list the outside the accept	ose compounds and their recoveries, which fall table range:	•
	a.	VOA Fraction	
	b.	B/N Fraction	
	c.	Acid Fraction NA	
	If not met, were t as "estimated"?	he calculations checked and the results qualified	
9.	Matrix Spike/Matrix S	Spike Duplicate Recoveries Meet Criteria	yes
		compounds and their recoveries, which fall	1
	outside the acceptable		
	a.	VOA Fraction	
	<b>b.</b>	B/N Fraction	
	c.	Acid Fraction ()A	

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

			Indicate Yes, No, N/A
10.		Area/Retention Time Shift Meet Criteria	<u>yes</u>
	(If not met, list the	ose compounds, which fall outside the acceptable range)	,
	<b>a</b> .	VOA Fraction	
	b.	B/N Fraction	
	c.	Acid Fraction NA	
11.	Extraction Holdin	ng Time Met	yes
	If not met, list the	e 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:	,
	····		
Add	litional Comments:		
_	Field duplica	te 15 4002 03 (Bldg 288 6.5)	
Lab	oratory Manager:	Date: 12/3/95	

# 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

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

Data File Nam vb01852.d Operator

Skelton

Date Acquired 26 Oct 98 11:44 am

Sample Name

VBLK60

Field ID

VBLK60 1

Sample Multiplier

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	nle	0.16 ug/L	
108203	Di-isopropyl ether			not	detected	nle	0.25 ug/L	
	Dichlorodifluoromethan			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				detected	10	1.10 ug/L	
75-00-3	Chloroethane				detected	nle	1.01 ug/L	-
75-69-4	Trichlorofluoromethane				detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene				detected	2	0.24 ug/L	
67-64-1	Acetone			not	detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide				detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride				detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene				detected	100	0.16 ug/L	
75-35-3	1,1-Dichloroethane				detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate				detected	nle	0.78 ug/L	
78-93-3	2-Butanone				detected	300	0.62 ug/L	
	cis-1,2-Dichloroethene				detected	10	0.17 ug/L	
67-66-3	Chloroform				detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane				detected	30	0.33 ug/L	
56-23-5	Carbon Tetrachloride		<del></del>		detected	2	0.47 ug/L	
71-43-2	Benzene				detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane				detected	2	0.18 ug/L	
79-01-6	Trichloroethene				detected	1	0.13 ug/L	
78-87-5	1,2-Dichloropropane				detected		0.40 ug/L	
75-27-4	Bromodichloromethane				detected	1 i	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ethe				detected	nle	0.65 ug/L	
	cis-1,3-Dichloropropene				detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone				detected	400	0.59 ug/L	
108-88-3	Toluene			<del></del>	detected	1000	0.37 ug/L	
	trans-1,3-Dichloroprope		<del></del>		detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane				detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene		<del>}</del>		detected	1	0.48 ug/L	
591-78-6	2-Hexanone				detected	nle	0.32 ug/L 0.71 ug/L	
	Dibromochloromethane		<del></del>		detected	10	0.71 ug/L 0.86 ug/L	
108-90-7	Chlorobenzene				detected	4	0.39 ug/L	
100-41-4	Ethylbenzene				detected	700	0.65 ug/L	— <u>-</u>
1330-20-7	m+p-Xylenes		<del></del>		detected	nle	1.14 ug/L	
1330-20-7	o-Xylene				detected	nle	0.62 ug/L	
100-42-5	Styrene				detected	100	0.56 ug/L	
75-25-2	Bromoform				detected			——
	1,1,2,2-Tetrachloroethan		<del></del>		detected	4	0.70 ug/L	
79-34-5						2	0.47 ug/L	
	1,3-Dichlorobenzene				detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene				detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			<u>not</u>	detected	600	0.64 ug/L	

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

#### **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

#### 1E VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Lab Name:	FMETL	· — · · · · · ·	·	Project	980932	!	VBL	_K60
NJDEP#	13461	Ca	ase No.: 400	SDG	No	Lo	cation <u>U</u>	ST
Matrix (soil/wa	ater)	WATER	_	L	ab Sample	e ID:	VBLK60	
Sample wt/vol	:	5.0	(g/ml) ML		ab File ID:	<u>,</u>	VB01852.E	)
Level: (low/m	ed)	LOW		C	Date Recei	ved: _	10/23/98	
% Moisture: no	ot dec.			[	Date Analyz	zed: _	10/26/98	
GC Column:	HP5MS	S_ ID: 0	.25_ (mm)		Dilution Fac	tor: _	1.0	
Soil Extract Vo	olume:	·	(uL)	8	Soil Aliquot	Volum	ne:	(uL
Number TiCs	found:	0		CONCENTRA (ug/L or ug/K				
CAS NO.		COMPO	UND NAME		RT	ES1	T. CONC.	Q

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

Data File Nam vb01870.d
Operator Skelton

Sample Name

4002.01 Trip Blank

Date Acquired 27 Oct 98 1:47 am

Field ID Sample Multiplier

1

G. G.	G 18	D. W.	_		Regulatory Level		
CAS#	Compound Name	R.T.	Response	Result	(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	<del></del>
1634044	Methyl-tert-Butyl ether			not detected	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethan			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	<u></u>		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 ethe			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				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-Tetrachloroethan			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

#### **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

#### 1E

## VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Lab Name:	FMETL		Project	980932		Ir	ıp Blar	ık
NJDEP#	13461	Case No.: 4002	SDG	No	Loc	cation	UST	
Matrix (soil/w	vater)	WATER	L	ab Sample	ID: 4	1002.01	···	·
Sample wt/vo	ol:	5.0 (g/ml) ML	L	ab File ID:	_	√B0187	0.D	_
Level: (low/r	ned)	LOW	D	ate Receiv	ed: _	10/23/9	8	
% Moisture:	not dec.		D	ate Analyz	ed: <u>_</u>	10/27/9	8	
GC Column:	HP5M	S ID: <u>0.25</u> (mm)	D	ilution Fact	tor: _	1.0		
Soil Extract V	/olume:	(uL)	S	oil Aliquot	Volum	ne:	<del></del>	_ (uL)
			CONCENTRA					
Number TIC:	s found:		(ug/L or ug/Ko	g) <u>UG/</u>	L			
CAS NO.		COMPOUND NAME		RT	EST	r. cond	<b>c</b> .	Q

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

Data File Nam vb01871.d Operator

Skelton

Date Acquired 27 Oct 98 2:33 am

Sample Name Field ID

4002.02

Sample Multiplier

Field Blank 1

107028   Acrolein	CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Oualifier
1071.31   Aceylonizitle			K.1.	Kesponse				Quantier
1634044   Methyl-tert-Butyl ether   not detected   nie   8.52 wg/L								
1634044   Methyl-tert-Butyl ether   not detected   nle   0.16 wg/L				<u> </u>				
Disispropoyl ether								
Dichlorodifluoromethan						<del></del>		
74-87-3   Chloromethane	108203		<u> </u>	<del>                                     </del>				
75-01-4	74.07.2							
74-83-9   Bromomethane								<del></del>
75-00-3								
Trichlorofluoromethane								
75-35-4   1,1-Dichloroethene   not detected   2   0,24 ug/L						<del> </del>		
1.36 ug/L   75-15-0   Carbon Disulfide   not detected   not detected   not detected   not detected   not detected   not detected   2   0.24 ug/L								
75-15-0   Carbon Disulfide								
TS-09-2   Methylene Chloride   not detected   2   0.24 ug/L				<u> </u>				
156-60-5   trans-1,2-Dichloroethene   not detected   100   0.16 ug/l.				<del>                                     </del>				
108.05-4				<u> </u>				
108-05-4   Vinyl Acetate				<u> </u>		+		
T8-93-3   2-Butanone   not detected   300   0.62 ug/L								
cis-1,2-Dichloroethene   not detected   10   0.17 ug/L								
October   Chloroform   Chloro	78-93-3			<u>_</u>				
75-55-6				<u> </u>				
Security   Security						6	0.30 ug/L	
71-43-2   Benzene						30		
107-06-2   1,2-Dichloroethane   not detected   2   0.18 ug/L		Carbon Tetrachloride				2	0.47 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 ethe         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-Dichloroprope         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         10         0.86 ug/L           108-90-7         Chlorobenzene         not detected         10         0.86 ug/L           100-41-4         Ethylbenzene         not detected         4         0.39 ug/L						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 ethe         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-Dichloroprope         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           591-78-6         2-Hexanone         not detected         10         0.86 ug/L           108-90-7         Chlorobenzene         not detected         10         0.86 ug/L           100-41-4         Ethylbenzene         not detected         nle         0.14 ug/L	107-06-2					2		
75-27-4   Bromodichloromethane   not detected   1   0.55 ug/L	79-01-6					1		
110-75-8         2-Chloroethyl vinyl ethe         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-Dichloroprope         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         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					not detected	1		
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-Dichloroprope         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 <td< td=""><td></td><td></td><td></td><td></td><td>not detected</td><td>1</td><td></td><td></td></td<>					not detected	1		
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-Dichloroprope         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         2         0.47 ug/L           541-73-1					not detected	nle	0.65 ug/L	
108-88-3         Toluene         not detected         1000         0.37 ug/L           10061-02-6         trans-1,3-Dichloroprope         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         2         0.47 ug/L           541-73-1         1,3-Dichlorobenzene         not detected         600         0.55 ug/L           106-46-7	10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
10061-02-6         trans-1,3-Dichloroprope         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         nle         1.14 ug/L           1330-20-7         m+p-Xylenes         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-Tetrachloroethan         not detected         2         0.47 ug/L           541-73-1         1,3-Dichlorobenzene         not detected         75         0.57 ug/L	108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 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           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	108-88-3	Toluene			not detected	1000	0.37 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-Tetrachloroethan         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	10061-02-6	trans-1,3-Dichloroprope			not detected	nle	0.87 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-Tetrachloroethan         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	79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 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-Tetrachloroethan         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	127-18-4	Tetrachloroethene			not detected	1	0.32 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-Tetrachloroethan         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	591-78-6	2-Hexanone			not detected	nle	0.71 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-Tetrachloroethan         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		Dibromochloromethane			not detected	10	0.86 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-Tetrachloroethan         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						4		
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-Tetrachloroethan         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		Ethylbenzene			not detected	700		
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-Tetrachloroethan         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					not detected	nle	1.14 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-Tetrachloroethan         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								
75-25-2         Bromoform         not detected         4         0.70 ug/L           79-34-5         1,1,2,2-Tetrachloroethan         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								
79-34-5         1,1,2,2-Tetrachloroethan         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								
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								
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

#### **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

#### 1E

## VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVE	ELY IDENTI	FIED COM	POUNDS

FIELD ID

Lab Name:	FMETL		Project	980932		Field	ı Blank	•
NJDEP#	13461	Case No.: 4002	SDG	No	Loc	cation L	JST	
Matrix (soil/w	vater)	WATER	L	.ab Sample	ID: 4	1002.02		
Sample wt/vo	ol:	5.0 (g/ml) ML	L	ab File ID:	Ĩ	∕B01871.	D	
Level: (low/n	ned)	LOW	ľ	Date Receiv	ed: 1	10/23/98		
% Moisture:	not dec.		r	Date Analyz	ed: <u>1</u>	10/27/98		
GC Column:	HP5M	S ID: 0.25 (mm)	Ε	Dilution Fac	tor: 1	1.0		
Soil Extract V	/olume:	(uL)	8	Soil Aliquot	Volum	ne:		(uL
Number TICs	s found:	0	CONCENTRA (ug/L or ug/K		. •.			
CAS NO.		COMPOUND NAME		RT	EST	r. CONC.		<b>Q</b>

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

Data File Nam vb01872.d

Operator

Skelton

Date Acquired 27 Oct 98 3:19 am

Sample Name

4002.03

Field ID

Bldg 288 6.5'

Sample Multiplier

4	
•	

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Oualifier
107028	Acrolein	- <del></del>	Response	not detected	50	1.85 ug/L	Quantier
107131	Acrylonitrile		<del></del> -	not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	<del> </del>
1634044	Methyl-tert-Butyl ether	<del></del>		not detected	nle		
108203	Di-isopropyl ether			not detected		0.16 ug/L	
106203	Dichlorodifluoromethan				nle	0.25 ug/L	<del></del>
74-87-3		<del></del>		not detected not detected	nle	1.68 ug/L	<del></del>
	Chloromethane				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	ļ		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	
<del></del>	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform	17.70	194554	3.07 ug/L	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	11	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	11	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ethe			not detected	nle	0.65 ug/L	
10061-01-5				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	_
	trans-1,3-Dichloroprope			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-Tetrachloroethan			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	

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

#### **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

#### 1E **VOLATILE ORGANICS ANALYSIS DATA SHEET** TENTATIVELY IDENTIFIED COMPOUNDS

FIELD	ID
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Lab Name:	FMETL		Project	980932		E	3ldg288	3
NJDEP#	13461	Case No.: 4002	SDG N	lo	Lo	cation	UST	
Matrix (soil/w	vater)	WATER	La	ab Sample	ID:	4002.03	3	<del></del>
Sample wt/vo	ol:	5.0 (g/ml) ML	L:	ab File ID:	-	VB0187	72.D	
Level: (low/r	ned)	LOW	D	ate Receiv	ed:	10/23/9	8	
% Moisture: r	not dec.		D	ate Analyz	ed:	10/27/9	8	
GC Column:	HP5M	IS ID: <u>0.25</u> (mm)	D	ilution Fac	tor:	1.0		
Soil Extract V	/olume:	(uL)	s	oil Aliquot	Volun	ne:	·	(uL)
Number TICs	s found:	0	CONCENTRA (ug/L or ug/Kg					
CAS NO.		COMPOUND NAME		RT	ES	T. CON	c.	Q

#### voiatue Analysis Keport U.S. Army, Fort Monmouth Environmental Laboratory **NJDEP Certification #13461**

Data File Nam vb01878.d Operator

Skelton

Sample Name

4002.09 Field Dup

Date Acquired 27 Oct 98 7:51 am

Field ID Sample Multiplier

1

CAS#	Compound Name	R.T.	Desponse	Result	Regulatory Level	MDL	OVØ
107028	Acrolein	K.I.	Response	not detected	(ug/l)*		Qualifier
107028	Acrylonitrile			not detected	· · · · · ·	1.85 ug/L	
75650		<del></del> -		not detected	50	2.78 ug/L	
	tert-Butyl alcohol				nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	<u>nl</u> e	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
74.07.3	Dichlorodifluoromethan			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	17.69	200188	3.29 ug/L	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 ethe			not detected	nle	0.65 ug/L	
	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				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	0.35 ug/L 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-Tetrachloroethan			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

#### **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

## 1E

#### **VOLATILE ORGA** TENTATIVELY IDENTIFIED COMPOUNDS

NICS ANALYSIS DATA SHEET	FIELD I
IDENTIFIED COMPOUNDS	

Lab Name:	FMETL			Project	980932			eiu Di	<u>''</u>
NJDEP#	13461	Case No.:	4002	SDG No	o	_ Lo	cation	UST	··
Matrix (soil/v	vater)	WATER		La	b Sample	ID: 4	4002.09	}	
Sample wt/vo	ol:	5.0 (g/mi	) <u>ML</u>	La	b File ID:	1	VB0187	'8.D	
Level: (low/r	ned)	LOW		Da	ite Receiv	ed:	10/23/9	8	
% Moisture:	not dec.			Da	ite Analyz	ed: _	10/27/9	8	_
GC Column:	HP5M	S ID: 0.25 (	mm)	Dil	ution Fact	or: _	1.0		
Soil Extract V	/olume:	(uL)		So	il Aliquot \	/olum	ne:		_ (uL)
Number TICs	s found:	0		ONCENTRAT g/L or ug/Kg)					
CAS NO		COMPOUND NA	MF		RT	FST	CON	c	0

# BASE NEUTRALS

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

Data File Name bna01125.d

Sample Name

SBLK153

Operator

Skelton

Misc Info

SBLK153 A 981027

Date Acquired

4 Nov 1998 1:02 am

Sample Multiplier 1

CAS#	Name	R.T.	Response	Result	GW Criteria	MDL	Qualifiers
110-86-1	Pyridine			not detected	NLE	2.52 ug	/L
62-75-9	N-nitroso-dimethylamine		,	not detected	20	2.64 ug	/L
62-53-3	Aniline			not detected	NLE	2.90 ug	/L
111-44-4	bis(2-Chloroethyl)ether			not detected	10	2.45 ug	/L
541-73-1	1,3-Dichlorobenzene		``	not detected	600	2.65 ug	/L
106-46-7	1,4-Dichlorobenzene			not detected	75	2.50 ug	/L
100-51-6	Benzyl alcohol			not detected	NLE	2.09 ug	/L
95-50-1	1,2-Dichlorobenzene			not detected	600	2.44 ug	/L
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	2.96 ug	/L
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	2.22 ug	/L
67-72-1	Hexachloroethane			not detected	10	2.59 ug	/L
98-95-3	Nitrobenzene			not detected	10	2.45 ug	/L
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	2.54 ug	/L
120-82-1	1,2,4-Trichlorobenzene			not detected	9.	2.58 ug	/L
91-20-3	Naphthalene			not detected	NLE	3.03 ug	/L
106-47-8	4-Chloroaniline			not detected	NLE	2.55 ug	/L
87-68-3	Hexachlorobutadiene			not detected	1	0.64 ug	/L
91-57-6	2-Methylnaphthalene			not detected	NLE	2.49 ug	/L
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.59 ug	/L
91-58-7	2-Chloronaphthalene	<u> </u>	as on the d	not detected	NLE	2.15 ug	л.
88-74-4	2-Nitroaniline		*	not detected	NLE	1.62 ug	/L
131-11-3	Dimethylphthalate			not detected	7000	2.74 ug	/L
208-96-8	Acenaphthylene		y system	not detected	NLE	2.35 ug	/L
606-20-2	2,6-Dinitrotoluene			not detected	NLE	1.54 ug	/L
99-09-2	3-Nitroaniline			not detected	NLE	1.62 ug	/L
83-32-9	Acenaphthene			not detected	400	1.98 ug	/L
132-64-9	Dibenzofuran			not detected	NLE	2.13 ug	ЛL

#### Semi-Volatile Analysis Report Page 2

Data File Name bna01125.d

Sample Name

SBLK153

Operator

Skelton

Misc Info

SBLK153 A 981027

4 Nov 1998 1:02 am Sample Multiplier 1 Date Acquired

121-14-2	2,4-Dinitrotoluene		not detected	10	1.22	ug/L	
84-66-2	Diethylphthalate		not detected	5000	1.68	ug/L	
86-73-7	Fluorene		not detected	300_	1.93	ug/L	
7005-72-3	4-Chlorophenyl-phenylether		not detected	NLE	1.53	ug/L	
100-01-6	4-Nitroaniline		not detected	NLE	2.70	ug/L	
86-30-6	n-Nitrosodiphenylamine		not detected	20_	1.73	ug/L	
103-33-3	Azobenzene		not detected	NLE	1.92	ug/L	
101-55-3	4-Bromophenyl-phenylether		not detected	NLE	1.54	ug/L	
118-74-1	Hexachlorobenzene		not detected	10	1.88	ug/L	
85-01-8	Phenanthrene		not detected	NLE	1.67	ug/L	
120-12-7	Anthracene		not detected	2000	1.79	ug/L	
84-74-2	Di-n-butylphthalate	, ,	not detected	900	1.83	ug/L	•
206-44-0	Fluoranthene		not detected	300	1.85	ug/L	
92-87-5	Benzidine		not detected	50	4.11	ug/L	1
129-00-0	Pyrene		not detected	200	1.02	ug/L	
85-68-7	Butylbenzylphthalate		not detected	100	1.15	ug/L	
56-55-3	Benzo[a]anthracene		not detected	10	1.57	ug/L	
91-94-1	3,3'-Dichlorobenzidine		not detected	60	2.28	ug/L	
218-01-9	Chrysene		not detected	20	2.32	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate		not detected	30	1.29	ug/L	
117-84-0	Di-n-octylphthalate		not detected	100	1.30	ug/L	
205-99-2	Benzo[b]fluoranthene		not detected	10	1.31	ug/L	
207-08-9	Benzo[k]fluoranthene		not detected	2	1.57	ug/L	
50-32-8	Benzo[a]pyrene		not detected	20	1.36	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	3.12	ug/L	
191-24-2	Benzo[g,h,i]perylene		not detected	NLE	1.13	ug/L	

#### Qualifiers ·

E = Value exceded linear range

D = Value from dilution

B = Compound in related blank

MDL = Method Detection Limit

NLE = No Limit Established

R.T. = Retention Time

1F

#### SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

#### **TENTATIVELY IDENTIFIED COMPOUNDS**

FIELD ID

EST. CONC.

RT

Lab Name:	FMETL			Lab Code 1346	1	Spikiss
Project	980932	Cas	e No.: 4002	Location US	rsd	G No.:
Matrix: (soil/v	water)	WATER		Lab Sam	ole ID: S	SBLK153
Sample wt/vo	ol:	1000	(g/ml) ML	Lab File I	D: <u>E</u>	3NA01125.D
Level: (low/n	ned)	LOW		Date Rec	eived: 1	10/23/98
% Moisture:		deca	inted: (Y/N)	N Date Extr	acted: 1	10/27/98
Concentrated	d Extract	Volume: 1	000 (uL)	Date Ana	lyzed: 1	11/04/98
Injection Volu	ume: <u>1.</u> 0	(uL)		Dilution F	actor: 1	1.0
GPC Cleanu	p: (Y/N)	I	oH: 7			
				CONCENTRATIO	N UNIT	S:
Number TICs	s found:	0	—	(ug/L or ug/Kg)	UG/L	<del></del>

**COMPOUND NAME** 

**CAS NUMBER** 

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

Data File Name bna01070.d

Sample Name

4002.02

Operator

Skelton

Misc Info

Field Blank

Date Acquired

31 Oct 1998 12:21 am

Sample Multiplier 1

CAS#	Name	R.T.	Response	Result	GW Criteria	MDL	Qualifiers
110-86-1	Pyridine			not detected	NLE	2.52 ug/I	
62-75-9	N-nitroso-dimethylamine			not detected	20	2.64 ug/I	
62-53-3	Aniline			not detected	NLE	2.90 ug/I	. ]
111-44-4	bis(2-Chloroethyl)ether			not detected	10	2.45 ug/I	
541-73-1	1,3-Dichlorobenzene			not detected	600	2.65 ug/I	
106-46-7	1,4-Dichlorobenzene			not detected	75	2.50 ug/I	
100-51-6	Benzyl alcohol			not detected	NLE	2.09 ug/I	
95-50-1	1,2-Dichlorobenzene			not detected	600	2.44 ug/I	
108-60-1	bis(2-chloroisopropyl)ether		1 / 1+ 1	not detected	300	2.96 ug/I	,
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	2.22 ug/I	,
67-72-1	Hexachloroethane		} :	not detected	10	2.59 ug/I	,
98-95-3	Nitrobenzene			not detected	10	2.45 ug/I	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	2.54 ug/I	,
120-82-1	1,2,4-Trichlorobenzene			not detected	9	2.58 ug/I	, '
91-20-3	Naphthalene			not detected	NLE	3.03 ug/I	,
106-47-8	4-Chloroaniline			not detected	NLE	2.55 ug/I	,
87-68-3	Hexachlorobutadiene			not detected	1	0.64 ug/I	,
91-57-6	2-Methylnaphthalene			not detected	NLE	2.49 ug/I	,
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.59 ug/I	,
91-58-7	2-Chloronaphthalene			not detected	NLE	2.15 ug/I	,
88-74-4	2-Nitroaniline			not detected	NLE	1.62 ug/l	,
131-11-3	Dimethylphthalate		·	not detected	7000	2.74 ug/I	,
208-96-8	Acenaphthylene		•	not detected	NLE	2.35 ug/I	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	1.54 ug/l	.
99-09-2	3-Nitroaniline		-1.	not detected	NLE	1.62 ug/l	
83-32-9	Acenaphthene			not detected	400	1.98 ug/l	
132-64-9	Dibenzofuran			not detected	NLE	2.13 ug/l	,

#### Semi-Volatile Analysis Report Page 2

Data File Name bna01070.d

Date Acquired

31 Oct 1998 12:21 am

Sample Name

4002.02 Field Blank

Operator

Skelton

Misc Info

Sample Multiplier 1

121-14-2	2,4-Dinitrotoluene			not detected	10	1.22	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.68	ug/L	
86-73-7	Fluorene			not detected	300	1.93	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.53	ug/L	
100-01 <i>-</i> 6	4-Nitroaniline			not detected	NLE	2.70	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.73	ug/L	
103-33-3	Azobenzene			not detected	NLE	1.92	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	1.54	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.88	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.67	ug/L	
120-12-7	Anthracene			not detected	2000	1.79	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	1.83	ug/L	
206-44-0	Fluoranthene			not detected	300	1.85	ug/L	
92-87-5	Benzidine			not detected	50	4.11	ug/L	
129-00-0	Pyrene		_	not detected	200	1.02	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.15	ug/L	
56-55-3	Benzo[a]anthracene		_	not detected	10	1.57	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	2.28	ug/L	
218-01-9	Chrysene			not detected	20	2.32	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate	24.74	987036	25.73 ug/L	30	1.29	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.30	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.31	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.57	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.36	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	3.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.13	ug/L	

#### Qualifiers

E = Value exceded linear range

D = Value from dilution

B = Compound in related blank

MDL = Method Detection Limit

NLE = No Limit Established

R.T. = Retention Time

1F

### SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

and the second s		
TENTATIVELY	IDENTIFIED	COMPOUNDS

FIELD ID

Lab Name:	FMETL			Lab Code	e <u>13</u>	3461		Fleid Bi	<u>ank</u>
Project	980932	Case N	lo.: <u>4002</u>	Location	on _	UST	_ SI	DG No.:	
Matrix: (soil/v	water)	WATER		L	ab S	ample	ID:	4002.02	
Sample wt/vo	ol:	<u>1000</u> (g	/ml) ML	L	ab F	ile ID:		BNA01070.D	
Level: (low/r	med)	LOW		D	ate I	Receive	ed:	10/23/98	
% Moisture:	<u></u>	decante	ed: (Y/N)	N_ D	ate I	Extract	ed:	10/27/98	
Concentrated Extract Volume: 1000 (uL)			) (uL)	Date Analyzed: 1			10/31/98		
Injection Vol	ume: <u>1.0</u>	) (uL)		D	ilutic	on Fact	or:	1.0	
GPC Cleanu	p: (Y/N)	NpH:	7						
				CONCEN	TRA	ATION !	UNI	TS:	
Number TIC	s found:	0		(ug/L or u	g/Kg	<b>j</b> ) _	UG/	<u>L</u>	
CAS NUME	BER	COMPOUND	NAME		F	RT	ES	ST. CONC.	Q

7/97 0054

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

Data File Name bna01071.d

Sample Name

4002.03

Operator

Skelton

Misc Info

Bldg 288 6.5'

Date Acquired

31 Oct 1998 1:03 am

Sample Multiplier 1

CAS#	Name	R.T.	Response	Result	GW Criteria	MDL	Qualifiers
110-86-1	Pyridine			not detected	NLE	2.52 ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	2.64 ug/L	
62-53-3	Aniline			not detected	NLE	2.90 ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	2.45 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	2.65 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75_	2.50 ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	2.09 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	2.44 ug/L	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	2.96 ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	2.22 ug/L	
67-72-1	Hexachloroethane			not detected	10	2.59 ug/L	
98-95-3	Nitrobenzene			not detected	10	2.45 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	2.54 ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	2.58 ug/L	
91-20-3	Naphthalene			not detected	NLE	3.03 ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	2.55 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.64 ug/L	
91-57-6	2-Methylnaphthalene		1. 1/2	not detected	NLE	2.49 ug/L	
77-47-4	Hexachlorocyclopentadiene		a la	not detected	50	1.59 ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	2.15 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	1.62 ug/L	
131-11-3	Dimethylphthalate		-	not detected	7000	2.74 ug/L	
208-96-8	Acenaphthylene	1		not detected	NLE	2.35 ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	1.54 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	1.62 ug/L	
83-32-9	Acenaphthene		<u> </u>	not detected	400	1.98 ug/L	
132-64-9	Dibenzofuran			not detected	NLE	2.13 ug/L	

#### Semi-Volatile Analysis Report Page 2

Data File Name bna01071.d

Date Acquired

31 Oct 1998 1:03 am

Sample Name

4002.03

Operator

Skelton

Misc Info

Bldg 288 6.5'

Sample Multiplier 1

121-14-2	2,4-Dinitrotoluene		not detected	10	1.22	ug/L	
84-66-2	Diethylphthalate		not detected	5000	1.68	ug/L	
86-73-7	Fluorene		not detected	300	1.93	ug/L	
7005-72-3	4-Chlorophenyl-phenylether		not detected	NLE	1.53	ug/L	
100-01-6	4-Nitroaniline		not detected	NLE	2.70	ug/L	
86-30-6	n-Nitrosodiphenylamine		not detected	20	1.73	ug/L	
103-33-3	Azobenzene		not detected	NLE	1.92	ug/L	
101-55-3	4-Bromophenyl-phenylether		not detected	NLE	1.54	ug/L	
118-74-1	Hexachlorobenzene		not detected	10	1.88	ug/L	
85-01-8	Phenanthrene		not detected	NLE	1.67	ug/L	
120-12-7	Anthracene		not detected	2000	1.79	ug/L	
84-74-2	Di-n-butylphthalate		not detected	900	1.83	ug/L	
206-44-0	Fluoranthene		not detected	300	1.85	ug/L	
92-87-5	Benzidine		not detected	50	4.11	ug/L	
129-00-0	Pyrene		not detected	200	1.02	ug/L	
85-68-7	Butylbenzylphthalate		not detected	100	1.15	ug/L	
56-55-3	Benzo[a]anthracene		not detected	10	1.57	ug/L	
91-94-1	3,3'-Dichlorobenzidine		not detected	60	2.28	ug/L	
218-01-9	Chrysene		not detected	20_	2.32	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate	·	not detected	30	1.29	ug/L	
117-84-0	Di-n-octylphthalate		not detected	100	1.30	ug/L	
205-99-2	Benzo[b]fluoranthene		not detected	10	1.31	ug/L	
207-08-9	Benzo[k]fluoranthene		not detected	2	1.57	ug/L	
50-32-8	Benzo[a]pyrene		not detected	20	1.36	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	Sec. September 1	not detected	20_	1.22	ug/L	
53-70-3	Dibenz[a,h]anthracene		not detected	20	3.12	ug/L	
191-24-2	Benzo[g,h,i]perylene		not detected	NLE	1.13	ug/L	

#### Qualifiers

E = Value exceded linear range

D = Value from dilution

B = Compound in related blank

MDL = Method Detection Limit

NLE = No Limit Established

R.T. = Retention Time

1F

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIV	/EI V	IDENTIFIED	<b>COMPOUNDS</b>
IENIAIIV		IDEN HEIED	COMPOUNDS

FIELD ID

						Bldg2	.88 I
Lab Name:	FMETL		Lab Cod	de <u>13461</u>			
Project	980932	Case No.: 400	2 Locat	ion <u>UST</u>	_ SE	OG No.:	
Matrix: (soil/v	vater)	WATER	. 1	_ab Sample	ID:	4002.03	
Sample wt/vo	ol:	1000 (g/ml) ML	i	_ab File ID:		BNA01071.D	)
Level: (low/n	ned)	LOW	1	Date Receiv	/ed:	10/23/98	
% Moisture:		decanted: (Y/N)	<u>N</u> !	Date Extrac	ted:	10/27/98	
Concentrated Extract Volume: 1000 (uL)			1	Date Analyz	zed:	10/31/98	
Injection Volu	ume: <u>1.0</u>	) (uL)	i	Dilution Fac	tor:	1.0	
GPC Cleanu	p: (Y/N)	N pH: 7					
Number TICs	s found:	0	CONCE	NTRATION ug/Kg)	UNIT UG/L		
CAS NUME	BER	COMPOUND NAME		RT	ES	T. CONC.	Q

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

Data File Name bna01077.d

Sample Name

4002.09

Operator

ka a d

Skelton

Misc Info

Field Dup

Date Acquired

31 Oct 1998 5:14 am

Sample Multiplier 1

					GW		
CAS#	Name	R.T.	Response	Result	Criteria	MDL	Qualifiers
110-86-1	Pyridine			not detected	NLE	2.52 ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	2.64 ug/L	]
62-53-3	Aniline			not detected	NLE	2.90 ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	2.45 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	2.65 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	2.50 ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	2.09 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	2.44 ug/L	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	2.96 ug/L	
621-64-7	n-Nitroso-di-n-propylamine		4.5 F	not detected	20	2.22 ug/L	
67-72-1	Hexachloroethane		. * /	not detected	10	2.59 ug/L	
98-95-3	Nitrobenzene			not detected	10	2.45 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	2.54 ug/L	T
120-82-1	1,2,4-Trichlorobenzene			not detected	9	2.58 ug/L	
91-20-3	Naphthalene			not detected	NLE	3.03 ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	2.55 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.64 ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	2.49 ug/L	T
77-47-4	Hexachlorocyclopentadiene		· · · · · · · · · · · · · · · · · · ·	not detected	50	1.59 ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	2.15 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	1.62 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	2.74 ug/L	
208-96-8	Acenaphthylene			not detected	NLE	2.35 ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	1.54 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	1.62 ug/L	
83-32-9	Acenaphthene		·	not detected	400	1.98 ug/L	
132-64-9	Dibenzofuran			not detected	NLE	2.13 ug/L	

#### Semi-Volatile Analysis Report Page 2

Data File Name bna01077.d

Sample Name

4002.09

Operator

Skelton

Misc Info

Field Dup

Date Acquired

31 Oct 1998 5:14 am

Sample Multiplier 1

101.11.0	la a provincia					
121-14-2	2,4-Dinitrotoluene	not detected	10		ug/L	
84-66-2	Diethylphthalate	not detected	5000	_	ug/L	
86-73-7	Fluorene	not detected	300		ug/L	
7005-72-3	4-Chlorophenyl-phenylether	not detected	NLE	1.53	ug/L	
100-01-6	4-Nitroaniline	not detected	NLE	2.70	ug/L	
86-30-6	n-Nitrosodiphenylamine	not detected	20	1.73	ug/L	
103-33-3	Azobenzene	not detected	NLE	1.92	ug/L	
101-55-3	4-Bromophenyl-phenylether	not detected	NLE	1.54	ug/L	
118-74-1	Hexachlorobenzene	not detected	10	1.88	ug/L	
85-01-8	Phenanthrene	not detected	NLE	1.67	ug/L	
120-12-7	Anthracene	not detected	2000	1.79	ug/L	
84-74-2	Di-n-butylphthalate	not detected	900		ug/L	
206-44-0	Fluoranthene	not detected	300	1.85	ug/L	
92-87-5	Benzidine	not detected	50	4.11	ug/L	
129-00-0	Pyrene	not detected	200	1.02	ug/L	
85-68-7	Butylbenzylphthalate	not detected	100	1.15	ug/L	
56-55-3	Benzo[a]anthracene	not detected	10	1.57	ug/L	
91-94-1	3,3'-Dichlorobenzidine	not detected	60	•	ug/L	
218-01-9	Chrysene	not detected	20	2.32	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate	not detected	30	1.29	ug/L	
117-84-0	Di-n-octylphthalate	not detected	100	1.30	ug/L	
205-99-2	Benzo[b]fluoranthene	not detected	10		ug/L	
207-08-9	Benzo[k]fluoranthene	not detected	2		ug/L	
50-32-8	Benzo[a]pyrene	not detected	20		ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene	not detected	20	1	ug/L	
53-70-3	Dibenz[a,h]anthracene	not detected	20		ug/L	
191-24-2	Benzo[g,h,i]perylene	not detected	NLE		ug/L	

#### Qualifier's

E = Value exceded linear range

D = Value from dilution

B = Compound in related blank

MDL = Method Detection Limit

NLE ≅ No Limit Established

R.T. = Retention Time

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### SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Lab Name:	FMETL		ı	ab Code	13461		Field D	up 
Project	980932	Case No.: 40	)02	Location	UST	_ s	DG No.:	
Matrix: (soil/v	water)	WATER		Lai	Sample	ID:	4002.09	
Sample wt/vo	ol:	1000 (g/ml) M	1L	Lal	o File ID:		BNA01077.D	
Level: (low/r	med)	LOW		Da	te Receiv	/ed:	10/23/98	
% Moisture:		decanted: (Y/N	N)N	Da	te Extrac	ted:	10/27/98	
Concentrated	d Extract	Volume: <u>1000</u> (u	L)	Da	te Analyz	ed:	10/31/98	
Injection Vol	ume: <u>1.</u> 0	0 (uL)		Dil	ution Fac	tor:	1.0	
GPC Cleanu	p: <b>(Y/N)</b>	NpH: _7	<del></del>					
			C	ONCENT	RATION	UNI	TS:	
Number TIC	s found:	0	(ι	ıg/L or ug	/Kg)	UG/	<u>L</u>	
CAS NUM	BER	COMPOUND NAME	≣		RT	ES	ST. CONC.	Q

#### 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 <u>and</u> 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	
	oratory Manager or Environmental Consultant's Signature	>

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

Laboratory Certification #13461

Methods for further guidance.

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#### **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
PHOTOGRAPHS





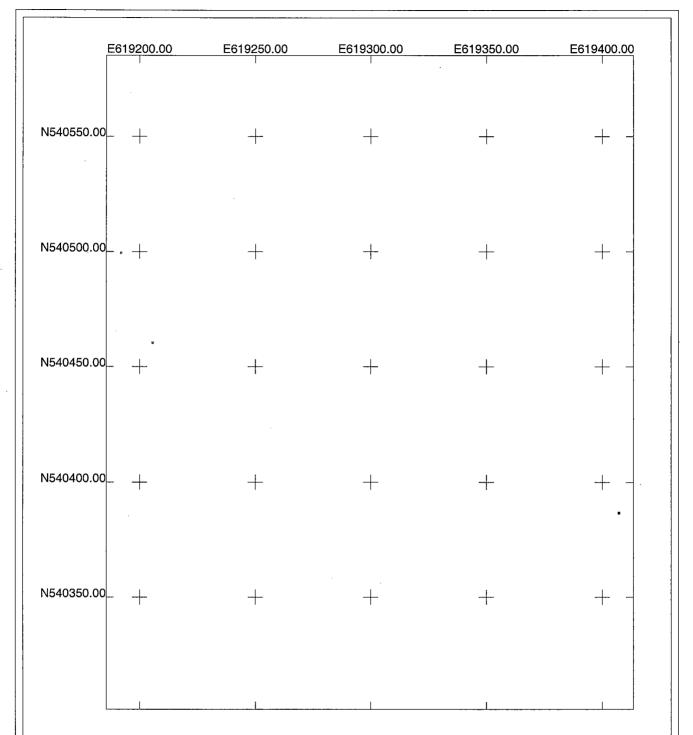
# JULY 15, 1997 PHOTOGRAPHIC LOG

UST NO. 81533-62

**Building 288 Main Post-West Fort Monmouth** 

VERSAR
Engineers, Managers, Scientists & Planners
Bristol, PA

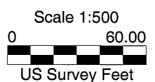
# APPENDIX H ELECTRONIC DATA DELIVERABLE



# Bldg. 288 UST Ground Water Sample GPS Location Map

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





r011319agw288.cor 2/10/2000 Pathfinder Office Trimble

#### **BLDG. 288 UST 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 )

288 GW ( GW denotes <u>G</u>round <u>W</u>ater )

540386.77

619407.144

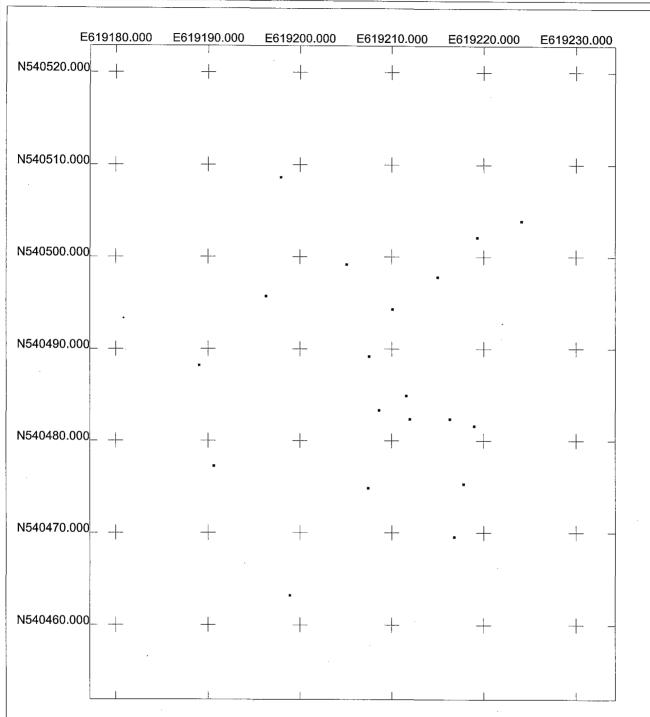
#### **REFERENCE POINTS**

POSITION / DESC.

Y COORD. ( NORTHING )

X COORD. ( EASTING )

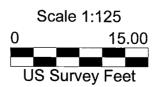
288 MECH. ROOM 288 STAIRS 540460.485 540499.645 619205.529 619191.903



# Bldg. 288 UST Site Sample GPS Map

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

Ν



r071112b.cor 7/11/2000 Pathfinder Office

**™** Trimble

#### **BLDG 288 UST SITE SAMPLES 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 )
288 A (7/18/97)	540489.232	619207.487
288 B (7/18/97)	540483.371	619208.553
288 C (7/18/97)	540488.243	619188.98
288 D (7/18/97)	540477.283	619190.578
288 E (7/18/97)	540474.863	619207.383
288 F (7/18/97)	540463.246	619198.854
288 G (7/18/97)	540469.584	619216.747
288 A (7/24/97)	540497.827	619214.981
288 B (7/24/97)	540481.637	619218.955
288 C (7/24/97)	540499.204	619205.037
288 D (7/24/97)	540495.75	619196.261
288 E (7/24/97)	540494.345	619210.047
288 ES (7/24/97)	540484.935	619211.513
288 F (7/24/97)	540482.383	619211.957
288 A (7/29/97)	540482.413	619216.288
288 B (7/29/97)	540475.314	619217.783
288 A (7/30/97)	540502.163	619219.247
288 B (7/30/97)	540503.93	619224.061
	REFERENCE POSITION	
POSITION / DESC.	Y COORD. ( NORTHING )	X COORD. ( EASTING )
TRNSFRMR PAD CRNR	540508.661	619197.875