

### **United States Army**

Fort Monmouth, New Jersey

# Underground Storage Tank Closure and Site Investigation Report

Building 913
Main Post-West Area

NJDEP UST Registration No. 81533-151 Dicar No. 97-12-10-1510-14

December 1998

# UNDERGROUND STORAGE TANK CLOSURE AND SITE INVESTIGATION REPORT

#### **BUILDING 913**

### MAIN POST-WEST AREA NJDEP UST REGISTRATION NO. 81533-151

#### **DECEMBER 1998**

#### PREPARED FOR:

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

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#### **EXECUTIVE SUMMARY**

#### **UST Closure**

On December 10, 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. 0081533-151 (Fort Monmouth ID No. 913), was located southwest of Building 913. UST No. 0081533-151 was a 1,000-gallon #2 fuel oil UST.

#### Site Assessment

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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. Numerous holes were noted in the UST. Soils at the location of the holes were dark in color and appeared to be contaminated. OVA readings taken during the assessment ranged from non-detect to 2 ppm. The NJDEP hotline was notified and the case was assigned DICAR No. 97-12-10-1510-14. Approximately 77 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 that were collected after the removal of the potentially contaminated soil contained non-detectable levels of Total Petroleum Hydrocarbons (TPHC). Groundwater was encountered at 6.0 feet below ground surface and free product was observed on groundwater.

All post excavation soil samples collected from the UST excavation at Building 913 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 free product on groundwater, two (2) groundwater samples were collected at Building 913. On October 29, 1998, and November 30, 1998, Building 913 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. 81533-151 at Building 913.

# 1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

#### 1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 81533-151, was closed at Building 913 at the Main Post-West area of U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on December 10, 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. 81533-151 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. 81533-151 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. 81533-151 are included in Appendices A and B, respectively.

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

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

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

#### 1.2 SITE DESCRIPTION

Building 913 is located in the Main Post-West area of the Fort Monmouth Army Base. UST No. 0081533-151 was located southwest of Building 913 and appurtenant copper piping ran approximately eleven (11) feet southeast from the excavation to Building 913. 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 913. 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 913 is located approximately 600 feet south of Husky Brook, the nearest water body. Based on the Main Post topography, the groundwater flow in the area of Building 913 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 450 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. Numerous holes were observed during the inspection by the Sub-Surface Evaluator. Soils surrounding the UST were screened visually and with an OVA for evidence of contamination. Soils were stained and appeared to be contaminated. OVA readings taken during the assessment ranged from non-detect to 2 ppm. Approximately 77 cubic yards of potentially contaminated soil were removed from the excavated area and transported to the Main Post petroleum contaminated soil holding area. Soil screening was also performed along the piping associated with the UST. No contamination was noted anywhere along the piping length. Soil samples that were collected after the removal of the potentially contaminated soil contained non-detectable levels of Total Petroleum Hydrocarbons (TPHC). Groundwater was encountered at 6.0 feet below ground surface and free product was observed on groundwater. See Figure 3 for a cross-sectional view of the excavated area.

#### 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 77 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 6.0 feet below ground surface and free product was observed on groundwater.

#### 2.0 SITE INVESTIGATION ACTIVITIES

#### 2.1 OVERVIEW

- 1

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

The following Parties participated in Closure and Site Investigation Activities:

 Subsurface Evaluator: Joe Fallon Employer: U.S. Army, Fort Monmouth Phone Number: (908) 532-6223 NJDEP Certification No.: 0010897

 Subsurface Evaluator: Dinker Desai Employer: U.S. Army, Fort Monmouth Phone Number: (908) 532-1475
 NJDEP Certification No.: 0010173

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 2 ppm. Approximately 77 cubic yards of potentially petroleum contaminated soil were removed from the excavated area and transported to the Fort Monmouth petroleum contaminated soil holding area. Soils were removed from the excavation until no evidence of contamination remained. Groundwater was encountered at 6.0 feet below ground surface and free product was observed on groundwater.

#### 2.3 SOIL SAMPLING

- 3

On January 5, 1998, following the removal of the UST and associated piping, post-excavation soil samples A, B, C, D, E, F, G, H, I, J, and DUP B were collected from a total of ten (10) locations of the UST excavation. Excavation floor samples A, B, C, and DUP B were collected at a depth of 8.5 feet bgs. Sidewall samples D, E, F, G, and H were collected at a depth of 7.0 feet bgs. Test pit sample I was collected at a depth of 7.0 feet bgs. Piping sample J was collected along the former piping length of the excavation, which was approximately eleven (11) feet in length. The piping sample was collected at a depth of 2.0 feet bgs. All samples were analyzed for total petroleum hydrocarbons (TPHC) and total solids.

On January 12, 1998, due to the detected concentration of TPHC along the west side of the excavation, approximately 12 cubic yards of potentially contaminated soils were removed. Following removal of this soil, post-excavation soil samples North Wall, West Wall, Floor, Southwest Wall, and DUP West Wall were collected from a total of four (4) locations of the UST excavation. Samples North Wall, West Wall, Floor, Southwest Wall, and DUP West Wall were 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 October 29,1998, and November 30, 1998, Building 913 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

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To evaluate soil conditions following removal of the UST and associated piping, post-excavation soil samples were collected on January 5 and 12,1998 from a total of fourteen (14) locations. All samples were analyzed for TPHC and total solids. 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 analytical data package is provided in Appendix E.

All post-excavation soil samples collected on January 5 and 12, 1998, from the UST excavation and from below piping associated with the UST contained concentrations of TPHC below the NJDEP soil cleanup criteria. Soil samples that were collected after the removal of the potentially contaminated soil contained non-detectable levels of Total Petroleum Hydrocarbons (TPHC).

#### 3.2 GROUNDWATER SAMPLING RESULTS

No compounds were detected in the sample collected from Building 913 on October 29, 1998. Methylene chloride was detected in the field blank at a concentration of 5.54 ug/l and bis (2-ethylhexyl) phthalate was detected in the field dup at a concentration of 41.70 ug/l. No other compounds were detected in the field blank and field dup. The Methylene chloride and bis (2-ethylhexyl) phthalate concentrations exceed the GWQS on account of laboratory contamination.

The sample collected from Building 913 on November 30, 1998, contained bis (2-ethylhexyl) phthalate at a concentration of 2.68 ug/l. No other compounds were detected.

A summary of the analytical results and comparison to the NJDEP groundwater cleanup criteria is provided in Table 3 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. Fort Monmouth,

Groundwater samples collected on October 29, 1998, and November 30,1998, 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 913 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 913 on October 29, 1998, and November 30, 1998, groundwater quality at Building 913 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. 81533-151 at Building 913.

**TABLES** 

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TABLE 1

# SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES BUILDING 913, MAIN POST-WEST AREA FORT MONMOUTH, NEW JERSEY

Page 1 of 3

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	NJDEP Method
Α	1/5/98	1/6/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
В	1/5/98	1/6/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
C	1/5/98	1/6/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
D	1/5/98	1/6/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
E	1/5/98	1/6/98	Soil	Post-Excavation	ТРНС	OQA-QAM-025
F	1/5/98	1/6/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
G	1/5/98	1/6/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
Н	1/5/98	1/6/98	Soil	Post-Excavation	ТРНС	OQA-QAM-025
**]	1/5/98	1/6/98	Seil	Post-Excavation	TPHC OF THE	OQA-QAM-025
J	1/5/98	1/6/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
DUP B	1/5/98	1/6/98	Soil	Post-excavation	TPHC	OQA-QAM-025

Note:

\* TPHC Total Petroleum Hydrocarbons

\*\* Sample further remediated and resampled

TABLE 1

# SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES BUILDING 913, MAIN POST-WEST AREA FORT MONMOUTH, NEW JERSEY

Page 2 of 3

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	NJDEP Method
North Wall	1/12/98	1/12/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
West Wall	1/12/98	1/12/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
Floor	1/12/98	1/12/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
DUP West Wall	1/12/98	1/12/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
Southwest Wall	1/12/98	1/12/98	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

\* TPHC Total Petroleum Hydrocarbons

TABLE 1 SUMMARY OF SAMPLING ACTIVITIES **BUILDING 913, MAIN POST-WEST AREA** FORT MONMOUTH, NEW JERSEY

Page 3 of 3

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Sampling Method**
4016.01	10/29/98	11/4/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4016.02	10/29/98	11/4/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4016.07	10/29/98	11/4/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4016.08	10/29/98	11/4/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4016.09	10/29/98	11/4/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4089.01	11/30/98	12/1/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4089.02	11/30/98	12/1/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4091.01	11/30/98	12/1/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4091.02	11/30/98	12/1/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP

Note:

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

\*\*PPNDP:

TABLE 2

#### POST-EXCAVATION SOIL SAMPLING RESULTS BUILDING 913, MAIN POST-WEST AREA FORT MONMOUTH, NEW JERSEY

Page 1 of 2

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/8.5=	3623.01	1/5/98	1/6/98	Total Solid			84.29 %		
				TPHC	177	yes	ND	10,000	No
B/8.5 =	3623.02	1/5/98	1/6/98	Total Solid			80.42 %		
				TPHC	191	Yes	ND	10,000	No
C/8.5 =	3623.03	1/5/98	1/6/98	Total Solid			82.39 %		
				TPHC	189	Yes	ND	10,000	No
D/7.0 =	3623.04	1/5/98	1/6/98	Total Solid			80.17 %		
				TPHC	190	yes	ND	10,000	No
E/7.0=	3623.05	1/5/98	1/6/98	Total Solid			81.13 %		
				TPHC	188	yes	ND	10,000	No
F/7.0 =	3623.06	1/5/98	1/6/98	Total Solid			82.27 %		
				TPHC	183	yes	ND	10,000	No
G/7.0=	3623.07	1/5/98	1/6/98	Total Solid			80.95 %		
				TPHC	189	Yes	ND	10,000	No
H/7.0=	3623.08	1/5/98	1/6/98	Total Solid			82.70 %		<del></del>
				TPHC	180	yes	ND	10,000	No
****[/7.0=	3623.09	1/5/98	1/6/98	Total Solid			79.55 %		:3
				TPHC	194	yes	1424.07	10,000	No
J/2.0 =	3623.10	1/5/98	1/6/98	Total Solid	- <del>-</del>		91.02 %		
				TPHC	172	yes	ND	10,000	No
DUPB/8.5=	3623.11	1/5/98	1/6/98	Total Solid			81.43 %		
				TPHC	186	yes	ND	10,000	No

#### Note:

\* Total Solid results are expressed as a percentage.

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

\*\*\* Sample further remediated and resampled

ND Not detected above stated method detection limit

TPHC Total Petroleum Hydrocarbons

TABLE 2

#### POST-EXCAVATION SOIL SAMPLING RESULTS **BUILDING 913, MAIN POST-WEST AREA** FORT MONMOUTH, NEW JERSEY

Page 2 of 2

Sample ID/ Depth	Sample Laborator y 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
North Wall/8.0=	3275.01	1/12/98	1/12/98	Total Solid			81.94 %		
				TPHC	188	yes	ND	10,000	No
West Wall/8.0=	3275.02	1/12/98	1/12/98	Total Solid			89.80 %		
				TPHC	174	Yes	ND	10,000	No
Floor/8.0=	3275.03	1/12/98	1/12/98	<b>Total Solid</b>			80.97 %		
				TPHC	193	Yes	ND	10,000	No
DUP West Wall/8.0=	3275.04	1/12/98	1/12/98	Total Solid			90.13 %		
				TPHC	170	yes	ND	10,000	No
South West Wall/8.0=	3275.05	1/12/98	1/12/98	Total Solid			84.09 %		
				TPHC	184	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

TPHC Total Petroleum Hydrocarbons

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# Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 913 Lab Sample ID: 4016.01(Trip Blank)

Dute Sump	10/25/50		<u>215</u>		p.0 113. <u>1010.0</u>	(1(111p Blaint)
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	<del></del>	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	по
67-64-1	Acetone	1.36	Not Detected		700	по
75-15-0	Carbon Disulfide	0.46	Not Detected		nle	no
75-09-2	Methylene Chloride	0.24	Not Detected	<del></del>	2	по
156-60-5	trans-1,2-Dichloroethene	0.16	Not Detected		100	по
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	по
67-66-3	Chloroform	0.30	Not Detected		6	по
75-55-6	1,1,1-Trichloroethane	0.23	Not Detected		30	по
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	no
10061-01-5	cis-1,3-Dichloropropene	0.69	Not Detected		nle	no
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# Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:

**FMETL** 

NJDEP#

<u>13461</u>

Matrix: (soil/water) WATER

Date Sampled:

10/29/98

Location:

<u>913</u>

Lab Sample ID: 4016.01(Trip Blank)

Date Sample	d. <u>10/25/56</u>	Location	. <u>715</u>	Lab St	imple 115. <u>4010.c</u>	or(111p Diank)
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	по
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	по
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 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 913 Lab Sample ID: 4016.02(Field Blank)

Date Sampi	ed: <u>10/29/98</u>	Location	ı: <u>913</u>	Lau Sa	ampie iD: 4016.0	DECTION DIMINE
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	по
75-69-4	Trichlorofluoromethane	0.50	Not Detected		nle	по
75-35-4	1, 1-Dichloroethene	0.24	Not Detected		2	по
67-64-1	Acetone	1.36	Not Detected		700	no
75-15-0	Carbon Disulfide	0.46	Not Detected		nle	no
			5.54			
*75-09-2	Methylene Chloride	0.24	5.34	7. 1841 E.E.	2	yes
*75-09-2 156-60-5	Methylene Chloride trans-1,2-Dichloroethene	0.24	Not Detected		100	no
	1.00 A					
156-60-5	trans-1,2-Dichloroethene	0.16	Not Detected		100	no
156-60-5 75-35-3	trans-1,2-Dichloroethene 1,1-Dichloroethane	0.16	Not Detected  Not Detected		100	no
156-60-5 75-35-3 108-05-4	trans-1,2-Dichloroethene 1,1-Dichloroethane Vinyl Acetate	0.16 0.12 0.78	Not Detected  Not Detected  Not Detected		100 70 nle	no no no
156-60-5 75-35-3 108-05-4 78-93-3	trans-1,2-Dichloroethene 1,1-Dichloroethane Vinyl Acetate 2-Butanone	0.16 0.12 0.78 0.62	Not Detected  Not Detected  Not Detected  Not Detected		100 70 nle 300	no no no
156-60-5 75-35-3 108-05-4 78-93-3 156-59-2	trans-1,2-Dichloroethene  1,1-Dichloroethane  Vinyl Acetate  2-Butanone  cis-1,2-Dichloroethene	0.16 0.12 0.78 0.62 0.17	Not Detected  Not Detected  Not Detected  Not Detected  Not Detected		100 70 nle 300	no no no no no
156-60-5 75-35-3 108-05-4 78-93-3 156-59-2 67-66-3	trans-1,2-Dichloroethene  1,1-Dichloroethane  Vinyl Acetate  2-Butanone  cis-1,2-Dichloroethene  Chloroform	0.16 0.12 0.78 0.62 0.17 0.30	Not Detected		100 70 nle 300 10 6	no no no no no no
156-60-5 75-35-3 108-05-4 78-93-3 156-59-2 67-66-3 75-55-6	trans-1,2-Dichloroethene  1,1-Dichloroethane  Vinyl Acetate  2-Butanone  cis-1,2-Dichloroethene  Chloroform  1,1,1-Trichloroethane	0.16 0.12 0.78 0.62 0.17 0.30 0.23	Not Detected		100 70 nle 300 10 6 30	no no no no no no no no
156-60-5 75-35-3 108-05-4 78-93-3 156-59-2 67-66-3 75-55-6 56-23-5	trans-1,2-Dichloroethene  1,1-Dichloroethane  Vinyl Acetate  2-Butanone  cis-1,2-Dichloroethene  Chloroform  1,1,1-Trichloroethane  Carbon Tetrachloride	0.16 0.12 0.78 0.62 0.17 0.30 0.23 0.47	Not Detected		100 70 nle 300 10 6 30 2	no
156-60-5 75-35-3 108-05-4 78-93-3 156-59-2 67-66-3 75-55-6 56-23-5 71-43-2	trans-1,2-Dichloroethene  1,1-Dichloroethane  Vinyl Acetate  2-Butanone  cis-1,2-Dichloroethene  Chloroform  1,1,1-Trichloroethane  Carbon Tetrachloride  Benzeze	0.16 0.12 0.78 0.62 0.17 0.30 0.23 0.47 0.23	Not Detected		100 70 nle 300 10 6 30 2	no
156-60-5 75-35-3 108-05-4 78-93-3 156-59-2 67-66-3 75-55-6 56-23-5 71-43-2 107-06-2	trans-1,2-Dichloroethene  1,1-Dichloroethane  Vinyl Acetate  2-Butanone  cis-1,2-Dichloroethene  Chloroform  1,1,1-Trichloroethane  Carbon Tetrachloride  Benzeze  1,2-Dichloroethane	0.16 0.12 0.78 0.62 0.17 0.30 0.23 0.47 0.23 0.18	Not Detected		100 70 nle 300 10 6 30 2 1	no n
156-60-5 75-35-3 108-05-4 78-93-3 156-59-2 67-66-3 75-55-6 56-23-5 71-43-2 107-06-2 79-01-6	trans-1,2-Dichloroethene  1,1-Dichloroethane  Vinyl Acetate  2-Butanone cis-1,2-Dichloroethene  Chloroform  1,1,1-Trichloroethane  Carbon Tetrachloride  Benzeze  1,2-Dichloroethane  Trichloroethene	0.16 0.12 0.78 0.62 0.17 0.30 0.23 0.47 0.23 0.18 0.23	Not Detected		100 70 nle 300 10 6 30 2 1 2 1	no n
156-60-5 75-35-3 108-05-4 78-93-3 156-59-2 67-66-3 75-55-6 56-23-5 71-43-2 107-06-2 79-01-6 78-87-5	trans-1,2-Dichloroethene  1,1-Dichloroethane  Vinyl Acetate  2-Butanone cis-1,2-Dichloroethene  Chloroform  1,1,1-Trichloroethane  Carbon Tetrachloride  Benzeze  1,2-Dichloroethane  Trichloroethene  1, 2-Dichloropropane	0.16 0.12 0.78 0.62 0.17 0.30 0.23 0.47 0.23 0.18 0.23 0.40	Not Detected		100 70 nle 300 10 6 30 2 1 2 1	no n
156-60-5 75-35-3 108-05-4 78-93-3 156-59-2 67-66-3 75-55-6 56-23-5 71-43-2 107-06-2 79-01-6 78-87-5 75-27-4	trans-1,2-Dichloroethene  1,1-Dichloroethane  Vinyl Acetate  2-Butanone cis-1,2-Dichloroethene  Chloroform  1,1,1-Trichloroethane  Carbon Tetrachloride  Benzeze  1,2-Dichloroethane  Trichloroethene  1, 2-Dichloropropane  Bromodichloromethane	0.16 0.12 0.78 0.62 0.17 0.30 0.23 0.47 0.23 0.18 0.23 0.40 0.55	Not Detected		100 70 nle 300 10 6 30 2 1 2 1 1 1	no n

Note:

<sup>\*</sup> Compound exceeds criteria due to laboratory contamination

# Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 913 Lab Sample ID: 4016.02(Field Blank)

Date Sample	ed: <u>10/29/98</u>	Location	: <u>913</u>	Lab Sa	ample ID: 4016.0	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	по
108-88-3	Toluene	0.37	Not Detected		1000	no
10061-02-6	trans-1,3-Dichloropropene	0.87	Not Detected		nle	по
79-00-5	1,1,2-Trichloroethane	0.48	Not Detected	<del></del>	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		пІе	по
1330-20-7	o-Xylene	0.62	Not Detected		nle	no
100-42-5	Styrene	0.56	Not Detected		100	ю
75-25-2	Bromoform	0.70	Not Detected		4	по
79-34-5	1,1,2,2-Tetrachloroethane	0.47	Not Detected		2	по
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

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# Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461

Matrix: (soil/water) WATER

Date Sampled: 10/29/98 Location: 913 Lab Sample ID: 4016.07(Bldg 913)

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	no
108203	Di-isopropyl ether	0.25	Not Detected		nle	по
	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	по
67-64-1	Acetone	1.36	Not Detected		700	по
75-15-0	Carbon Disulfide	0.46	Not Detected		nle	по
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	<del></del>	10	по
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	ло
71-43-2	Benzeze	0.23	Not Detected		1	по
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	no
10061-01-5	cis-1,3-Dichloropropene	0.69	Not Detected		nle	no
		-	<del></del>			

# Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 913 Lab Sample ID: 4016.07(Bldg 913)

Date Sampled: <u>10/29/98</u>		Location	: <u>913</u>	Lab Sa	ample ID: <u>4016.0</u>	)7(Bldg 913)
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	по
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	по
108-90-7	Chlorobenzene	0.39	Not Detected	<del></del>	4	по
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	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	по
95-50-1	1,2-Dichlorobenzene	0.64	Not Detected		600	no

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# Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 913 Lab Sample ID: 4016.09 (DUP 913)

•	<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	<b></b>	50	no
107131	Acrylonitrile	2.78	Not Detected		50	no
75650	tert-Butyl alcohol	8.52	Not Detected		nle	no
1634044	Methyl-tert-Butyl ether	0.16	Not Detected		nle	no
108203	Di-isopropyl ether	0.25	Not Detected		nle	no
	Dichlorodifluoromethane	1.68	Not Detected		nle	no
74-87-3	Chloromethane	1.16	Not Detected		30	no
75-01-4	Vinyl Chloride	1.06	Not Detected		5	no
74-83-9	Bromomethane	1.10	Not Detected		10	no
75-00-3	Chloroethane	1.01	Not Detected		nle	no
75-69-4	Trichlorofluoromethane	0.50	Not Detected		nle	no
75-35-4	1, 1-Dichloroethene	0.24	Not Detected		2	no
67-64-1	Acetone	1.36	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		300	по
156-59-2	cis-1,2-Dichloroethene	0.17	Not Detected		10	по
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	по
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	по

# Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 913 Lab Sample ID: 4016.09(DUP 913)

Date Sample	d: <u>10/29/98</u>	Location	: <u>913</u>	Lao Sa	ample 1D: 4016.0	19(DUF 913)
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	по
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	по
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	ро
79-34-5	1,1,2,2-Tetrachloroethane	0.47	Not Detected		2	по
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

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# Table 3 SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 913 Lab Sample ID: 4016.02(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	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	по
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	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	no
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

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# Table 3 SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 913 Lab Sample ID: 4016.02(Field Blank)

Date Sample	ed: <u>10/29/98</u>	Location:	<u>913</u>	Lab S	ample ID: 4016.0	02(Field Blank)
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	по
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	по
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	no
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	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	по
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	по
91-94-1	3,3'-Dichlorobenzidine	2.28	Not Detected		60	по
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	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	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 3 SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name:

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**FMETL** 

NJDEP#

<u>13461</u>

Matrix: (soil/water) WATER

Date Sampled:

10/29/98

Location:

<u>913</u>

Lab Sample ID: 4016.08(Bldg 913)

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	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	по
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	по
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	no
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	no
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	по

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# Table 3 SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 913 Lab Sample ID: 4016.08(Bldg 913)

Date Sample	ed: <u>10/29/98</u>	Location	: <u>913</u>	Lab S	ample ID: 4016.0	08(Bldg 913)
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	по
7005-72-3	4-Chlorophenyl-phenylether	1.53	Not Detected		nle	по
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	по
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	по
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	по
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	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	по

# Table 3 SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name:

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**FMETL** 

NJDEP#

<u>13461</u>

Matrix: (soil/water) WATER

Date Sampled:

10/29/98

Location:

<u>913</u>

Lab Sample ID: 4016.09(DUP 913)

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	1,3-Dichlorobenzene	2.65	Not Detected		600	по
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	по
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	по
87-68-3	Hexachlorobutadiene	0.64	Not Detected		1	no
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	no
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

# Table 3 SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 913 Lab Sample ID: 4016.09(DUP 913)

Date Sample	d: <u>10/29/98</u>	Location	: <u>913</u>	Lab Sa	ample ID: 4016.0	09(DUP 913)
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	<del>-</del> -	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	по
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	по
100-01-6	4-Nitroaniline	2.70	Not Detected		nle	по
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	по
206-44-0	Fluoranthene	1.85	Not Detected		300	по
92-87-5	Benzidine	4.11	Not Detected		50	по
129-00-0	Pyrene	1.02	Not Detected		200	по
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	41.70	17 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	30	yes
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	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	по

Note:

<sup>\*</sup> Compound exceeds criteria due to laboratory contamination

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# Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 11/30/98 Location: 913 Lab Sample ID: 4089.01(Trip Blank)

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CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
107028	Acrolein	1.85	Not Detected	-	50	по
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	по
75-69-4	Trichlorofluoromethane	0.50	Not Detected		nle	по
75-35-4	1, 1-Dichloroethene	0.24	Not Detected		2	по
67-64-1	Acetone	1.36	Not Detected		700	no
75-15-0	Carbon Disulfide	0.46	Not Detected		nle	по
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	по
108-05-4	Vinyl Acetate	0.78	Not Detected		nle	по
78-93-3	2-Butanone	0.62	Not Detected		300	по
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	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	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		nle	no

# Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:

**FMETL** 

NJDEP#

<u>13461</u>

Matrix: (soil/water) WATER

Date Sampled:

11/30/98

Location:

<u>913</u>

Lab Sample ID: 4089.01(Trip Blank))

Date Sample	d. <u>11/30/26</u>	Location	<u> </u>	Labos	imple 115. <u>4005.c</u>	/I(IIIp Dialik/)
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	по
108-88-3	Toluene	0.37	Not Detected		1000	по
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	по
100-41-4	Ethylbenzene	0.65	Not Detected		700	no
1330-20-7	m+p-Xylenes	1.14	Not Detected		nle	по
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	по
541-73-1	1,3-Dichlorobenzene	0.55	Not Detected		600	no
106-46-7	1,4-Dichlorobenzene	0.57	Not Detected		75	по
95-50-1	1,2-Dichlorobenzene	0.64	Not Detected		600	no

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

Lab Name:

**FMETL** 

NJDEP#

<u>13461</u>

Matrix: (soil/water) WATER

Date Sampled:

11/30/98

Location:

<u>913</u>

Lab Sample ID: 4089.02(Field Blank)

107131 Ac. 75650 tert 1634044 Me 108203 Di- Dic 74-87-3 Ch 75-01-4 Vir 74-83-9 Brc 75-00-3 Ch 75-69-4 Tric 75-35-4 l, 1 67-64-1 Acc 75-15-0 Car 75-09-2 Me 156-60-5 trar 75-35-3 l, 1 108-05-4 Vir	crolein  crylonitrile  crt-Butyl alcohol  Iethyl-tert-Butyl ether  ii-isopropyl ether  ii-isopropyl ether  ii-indicodifluoromethane  inyl Chloride  romomethane  hloroethane  hloroethane	1.85 2.78 8.52 0.16 0.25 1.68 1.16 1.06 1.10	Not Detected  Not Detected		50 50 nle nle nle nle 50	no no no no no no no no no
75650 terri 1634044 Me 108203 Di- 108203 Di- 74-87-3 Ch 75-01-4 Vir 74-83-9 Bro 75-00-3 Ch 75-69-4 Tric 75-35-4 I, I 67-64-1 Acc 75-15-0 Car 75-09-2 Me 156-60-5 trar 75-35-3 I, I 108-05-4 Vir	irt-Butyl alcohol  Iethyl-tert-Butyl ether ii-isopropyl ether iichlorodifluoromethane hloromethane iinyl Chloride romomethane hloroethane	8.52 0.16 0.25 1.68 1.16 1.06 1.10	Not Detected		nle nle nle 30	no no no no
1634044 Me 108203 Di- 108203 Di- 108203 Di- 74-87-3 Ch 75-01-4 Vir 74-83-9 Bro 75-00-3 Ch 75-69-4 Tri 75-35-4 1, 1 67-64-1 Acc 75-15-0 Car 75-09-2 Me 156-60-5 trar 75-35-3 1,1	fethyl-tert-Butyl ether i-isopropyl ether i-ichlorodifluoromethane hloromethane inyl Chloride romomethane hloroethane	0.16 0.25 1.68 1.16 1.06 1.10	Not Detected  Not Detected  Not Detected  Not Detected  Not Detected		nle nle nle 30	no no no
108203 Di- Dic  74-87-3 Ch  75-01-4 Vir  74-83-9 Brc  75-00-3 Ch  75-69-4 Tric  75-35-4 1, 1  67-64-1 Acc  75-15-0 Car  75-09-2 Me  156-60-5 trar  75-35-3 1,1  108-05-4 Vir	i-isopropyl ether ichlorodifluoromethane hloromethane inyl Chloride romomethane hloroethane	0.25 1.68 1.16 1.06 1.10	Not Detected  Not Detected  Not Detected  Not Detected		nle nle 30	no no
74-87-3 Ch 75-01-4 Vir 74-83-9 Bro 75-00-3 Ch 75-69-4 Tric 75-35-4 1, 1 67-64-1 Acc 75-15-0 Car 75-09-2 Me 156-60-5 trar 75-35-3 1,1 108-05-4 Vir	hloromethane inyl Chloride romomethane hloroethane	1.68 1.16 1.06 1.10	Not Detected  Not Detected  Not Detected		nle 30	по
74-87-3 Ch 75-01-4 Vir 74-83-9 Bro 75-00-3 Ch 75-69-4 Tric 75-35-4 1, 1 67-64-1 Acc 75-15-0 Can 75-09-2 Me 156-60-5 tran 75-35-3 1,1 108-05-4 Vin	hloromethane inyl Chloride romomethane hloroethane	1.16 1.06 1.10	Not Detected  Not Detected		30	по
75-01-4 Vir 74-83-9 Bro 75-00-3 Chi 75-69-4 Tric 75-35-4 1, 1 67-64-1 Acc 75-15-0 Car 75-09-2 Me 156-60-5 trar 75-35-3 1,1 108-05-4 Vir	rinyl Chloride romomethane hloroethane	1.06	Not Detected			<del></del>
74-83-9 Bro 75-00-3 Chi 75-69-4 Tric 75-35-4 l, 1 67-64-1 Acc 75-15-0 Cai 75-09-2 Me 156-60-5 tran 75-35-3 l,1 108-05-4 Vin	romomethane	1.10			5	ло
75-00-3 Ch. 75-69-4 Tric 75-35-4 1, 1 67-64-1 Acc 75-15-0 Car 75-09-2 Me 156-60-5 trar 75-35-3 1,1 108-05-4 Vin	hloroethane	<del></del>	Not Detected			
75-69-4 Tric 75-35-4 1, 1 67-64-1 Acc 75-15-0 Can 75-09-2 Me 156-60-5 tran 75-35-3 1,1 108-05-4 Vin		1.01			10	no
75-35-4 1, 1 67-64-1 Acc 75-15-0 Car 75-09-2 Me 156-60-5 tran 75-35-3 1,1	richlorofluoromethane		Not Detected		nle	no
67-64-1 Acc 75-15-0 Car 75-09-2 Me 156-60-5 tran 75-35-3 1,1 108-05-4 Vin		0.50	Not Detected		nle	no
75-15-0 Car 75-09-2 Me 156-60-5 trar 75-35-3 1,1 108-05-4 Vin	1-Dichloroethene	0.24	Not Detected		2	no
75-09-2 Me 156-60-5 trar 75-35-3 1,1 108-05-4 Vin	cetone	1.36	Not Detected		700	no
156-60-5 trar 75-35-3 1,1 108-05-4 Vin	arbon Disulfide	0.46	Not Detected		nle	по
75-35-3 1,1- 108-05-4 Vin	lethylene Chloride	0.24	Not Detected		2	по
108-05-4 Vin	ans-1,2-Dichloroethene	0.16	Not Detected	<u></u>	100	по
	1-Dichloroethane	0.12	Not Detected		70	no
	inyl Acetate	0.78	Not Detected		nle	no
78-93-3 2-B	Butanone	0.62	Not Detected		300	no
156-59-2 cis-	s-1,2-Dichloroethene	0.17	Not Detected		10	no
67-66-3 Chl	hloroform	0.30	Not Detected		6	no
75-55-6 1,1,	1,1-Trichloroethane	0.23	Not Detected		30	no
56-23-5 Car	arbon Tetrachloride	0.47	Not Detected		2	по
71-43-2 Ber	enzeze	0.23	Not Detected		1	no
107-06-2 1,2-	2-Dichloroethane	0.18	Not Detected		2	по
79-01-6 Tric	richloroethene	0.23	Not Detected		1	по
78-87-5 1, 2	2-Dichloropropane	0.40	Not Detected		1	no
75-27-4 Bro	romodichloromethane	0.55	Not Detected		1	no
110-75-8 2-C	Chloroethyl vinyl ether	0.65	Not Detected		пle	no
10061-01-5 cis-	s-1,3-Dichloropropene	0.69	Not Detected		nle	no

## Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:

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**FMETL** 

NJDEP#

<u>13461</u>

Matrix: (soil/water) WATER

Date Sampled:

11/30/98

Location:

<u>913</u>

Lab Sample ID: 4089.02(Field Blank)

			<u>2.20</u>		p.v	<u> </u>
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	по
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	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	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	on
95-50-1	1,2-Dichlorobenzene	0.64	Not Detected		600	no

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## Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 11/30/98 Location: 913 Lab Sample ID: 4091.01(Bldg 913)

Date Sampi	leu: <u>11/30/98</u>	Location	i: <u>915</u>	Lau Sa	imple ii): 4091.0	M(Dlug 913)
CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
107028	Acrolein	1.85	Not Detected		50	по
107131	Acrylonitrile	2.78	Not Detected		50	по
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	по
	Dichlorodifluoromethane	1.68	Not Detected		пlе	ро
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	по
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	по
75-15-0	Carbon Disulfide	0.46	Not Detected		nle	по
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	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	ло
67-66-3	Chloroform	0.30	Not Detected		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	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 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 11/30/98 Location: 913 Lab Sample ID: 4091.01(Bldg 913)

Date Sample	ed: <u>11/30/98</u>	Location	n: <u>913</u>	Lab S	ample ID: 4091.0	11(Bldg 913)
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	по
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	<u></u>	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	по
95-50-1	1,2-Dichlorobenzene	0.64	Not Detected		600	по

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## Table 3 SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 11/30/98 Location: 913 Lab Sample ID: 4089.02(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	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	по
106-46-7	I,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	по
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	no
111-91-1	bis(2-Chloroethoxy)methane	2.54	Not Detected		nle	по
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	по
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	по
131-11-3	Dimethylphthalate	2.74	Not Detected		7000	по
208-96-8	Acenaphthylene	2.35	Not Detected		nle	по

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## Table 3 SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 11/30/98 Location: 913 Lab Sample ID: 4089.02(Field Blank)

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	по
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	no
7005-72-3	4-Chlorophenyl-phenylether	1.53	Not Detected		nle	по
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	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	по
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	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	<del>-</del> -	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

## Table 3 SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name:

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**FMETL** 

NJDEP#

<u>13461</u>

Matrix: (soil/water) WATER

Date Sampled:

11/30/98

Location:

<u>913</u>

Lab Sample ID: 4091.02(Bldg 913)

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	по
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	по
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	no
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	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	по

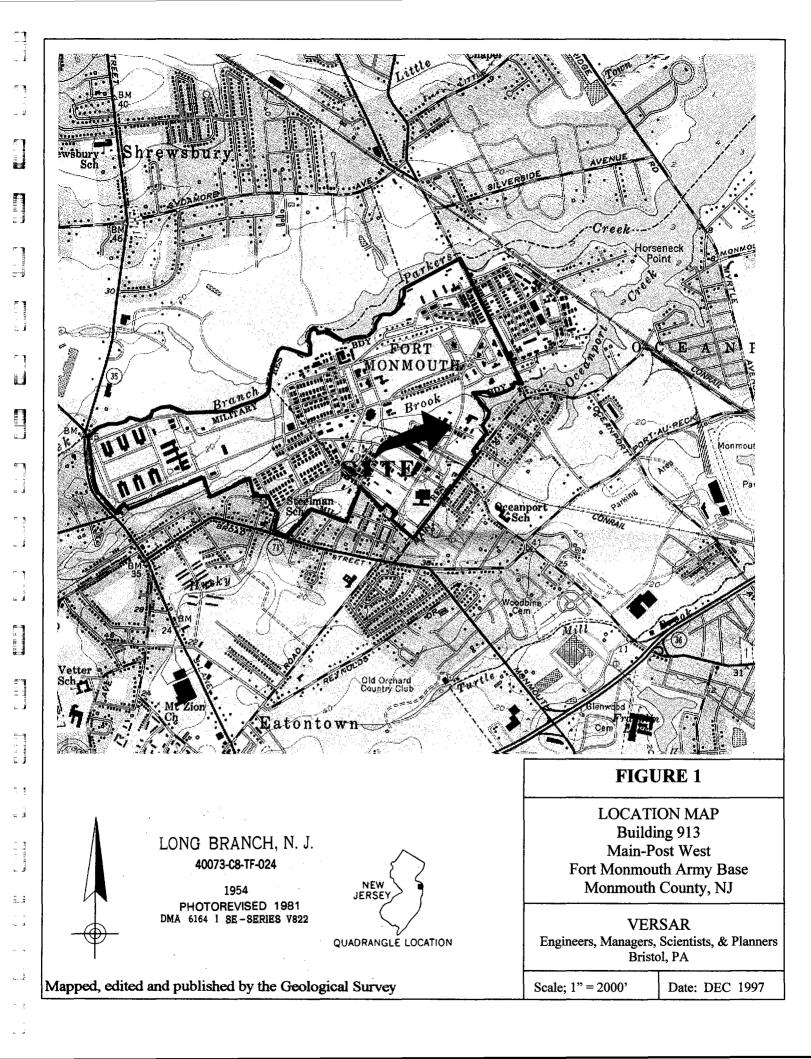
## Table 3 SEMI-VOLATILE ANALYSIS DATA SHEET

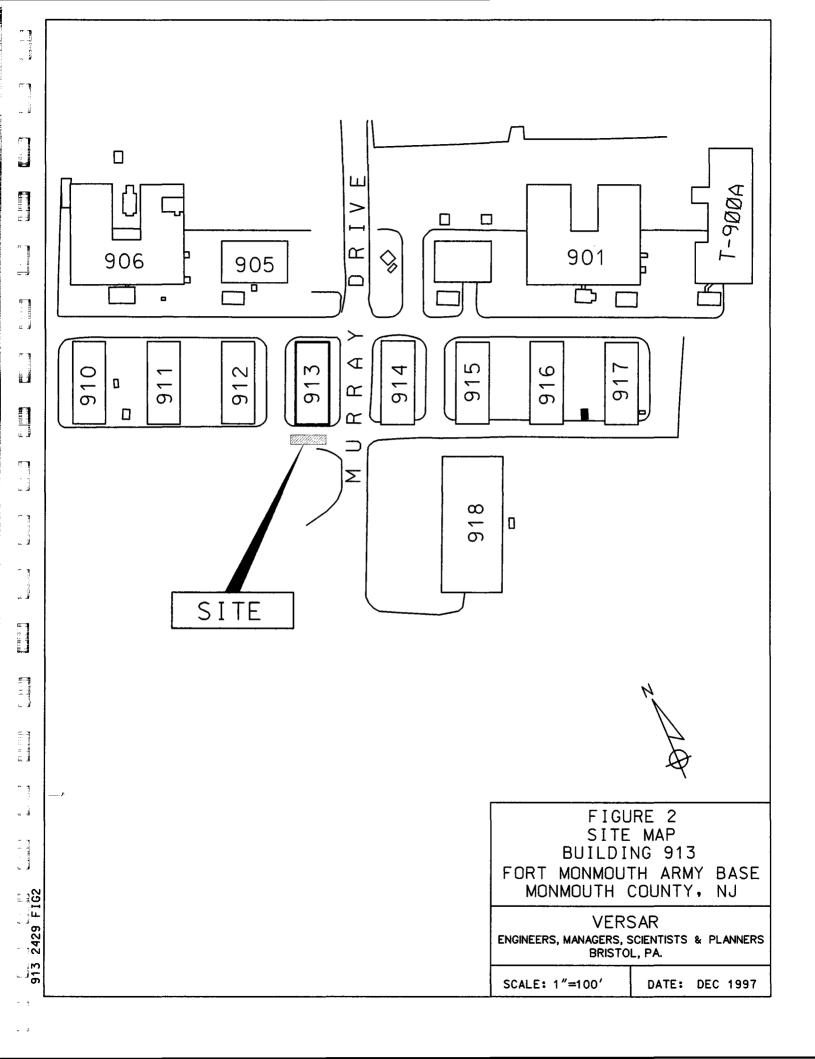
Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) WATER

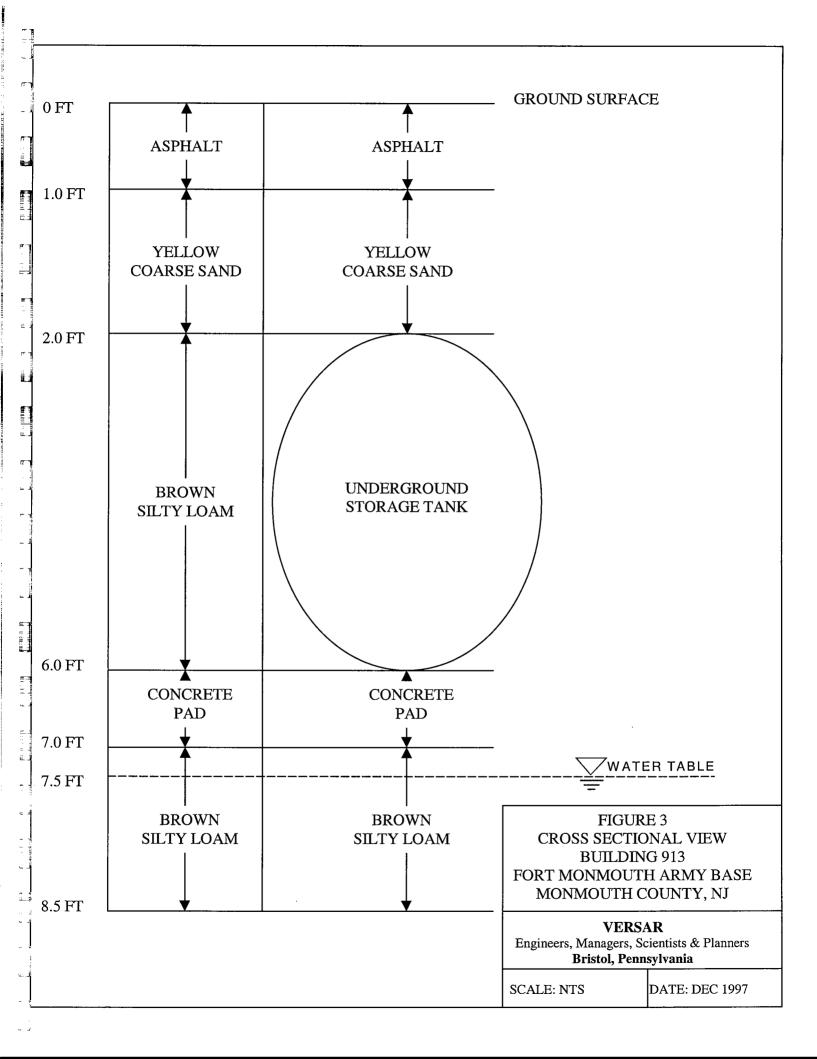
Date Sampled: 11/30/98 Location: 913 Lab Sample ID: 4091.02(Bldg 913)

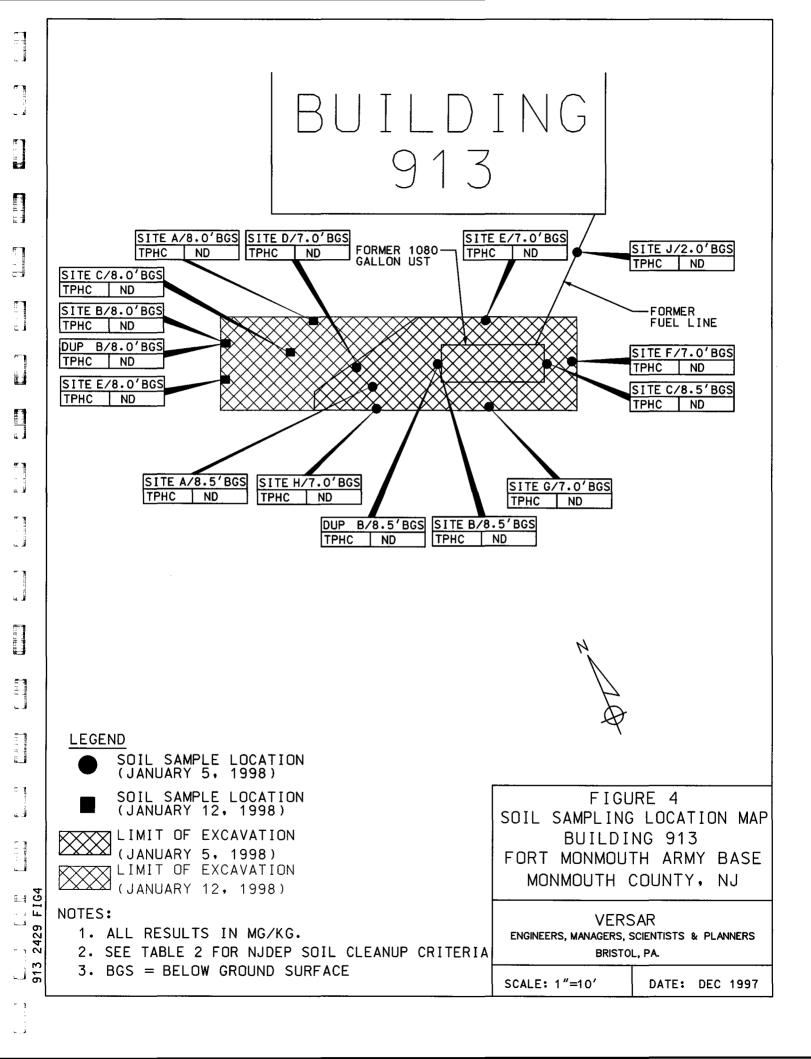
Date Sample	d. <u>11/30/38</u>	Location.	913	Lab G	ampie 1D. 4091.	12(Diug 713)
CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
606-20-2	2,6-Dinitrotoluene	1.54	Not Detected		nle	no
99-09-2	3-Nitroaniline	1.62	Not Detected		nle	ло
83-32-9	Acenaphthene	1.98	Not 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	по
85-01-8	Phenanthrene	1.67	Not Detected		nle	по
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	по
129-00-0	Pyrene	1.02	Not Detected		200	по
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	2.68		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	по
191-24-2	Benzo[g,h,i]perylene	1.13	Not Detected		nle	по
	<del></del>					

**FIGURES** 

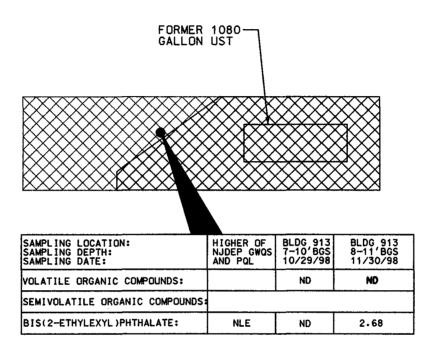








## BUILDING 913





#### **LEGEND**

GROUNDWATER SAMPLE LOCATION
(OCTOBER 29, 1998 AND NOVEMBER 30, 1998)

LIMIT OF EXCAVATION
(JANUARY 5, 1998)

LIMIT OF EXCAVATION
(JANUARY 12, 1998)

#### NOTES:

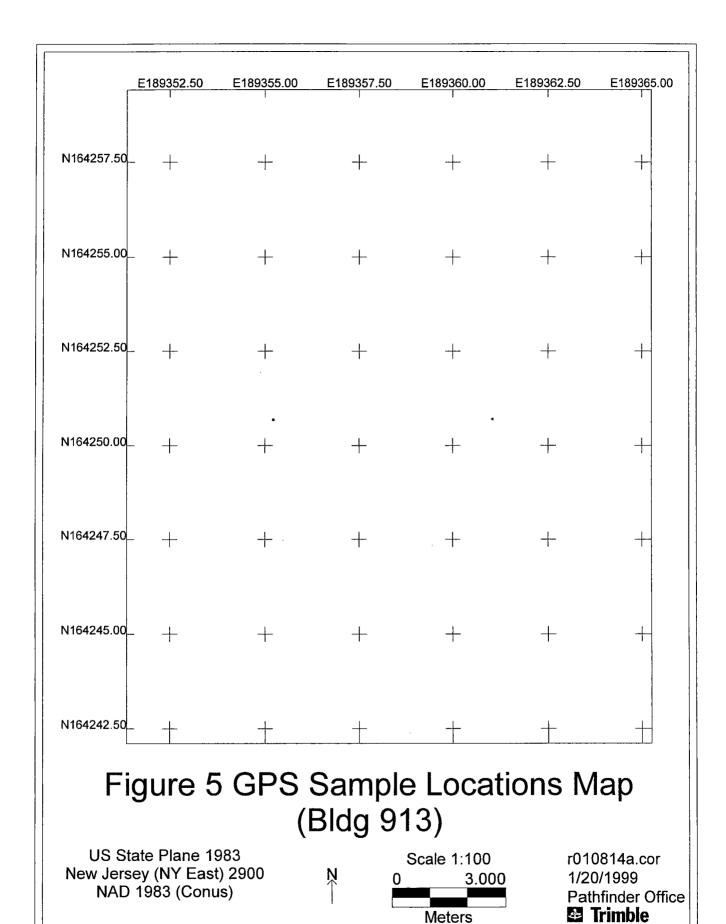
- 1. ND=INDICATES COMPOUND NOT DETECTED
- 2. NLE= NO LIMIT ESTABLISHED
- 3. ALL RESULTS IN UG/L
- 4. BGS = BELOW GROUND SURFACE

FIGURE 5
GROUNDWATER SAMPLING MAP
BUILDING 913
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1"=10'

DATE: DEC 1997



### Figure 5 GPS Sample Point Location Data

US State Plane 1983 NJ ( NY East ) 2900 NAD 1983 (CONUS)

(in Meters)

### Sample Point

Location / Desc.

Y Coord. (Northing)

X Coord. (Easting)

913GW

164250.696

189355.211

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

**Reference Point** 

Location / Desc.

Y Coord. ( Northing )

X Coord. (Easting)

913 BLDG

164250.718

189361.032

# APPENDIX A NJDEP-STANDARD REPORTING FORM



### State of New Jersey Department of Environmental Protection and Energy Division of Responsible Party Site Remediation CN 028

Trenton. NJ 08625-0029

ATTN: UST Program

Fot	State	Use O	lly
		- 3.7	i da fi
Date Rec'd Auth.			
Routing	X		
UST NO.			10.00

(6	609) 984-3156	
	FANDARD REPORTING PORTING ACTIVITIES at an	
General Facility Informa  Closure (Abandonment Temporary Closure Change in Service	tion Changes	Sale or Transfer Substantial Modification Financial Responsibility Acidness Charge Only
Check ONLY One T	ype of Activity - Comp	plete Form For That Activity
(More th	ian one tank can be lis	sted per activity)
* * * NOTE * * * ALI	NEW tank installat	tions at existing registered stionnaire for the new tanks.
igolinias mast adomit	e regueration does	
Answer questions 1 through 5 and others as a	pplicable.	• •
1. Company name and address (as it	U.S. ARM	14 - FORT MONMOUTH
appears on registration questionnaire):	DIVO	מועעועם
	Pola N	MONMOUTH NJ 07703
		2 - 1
2. Facility name and location (If different from above):	MAIN	Past West
in consist noise above).	-	
	-2/	
Contact person for this activity:	Char	rles Appleby  moer.(732) 532-6224
	Telephone Num	mber: (732 )
I. The identification number of the affected to	ank as it appears in Q	Question Number 12 on the Registration Questionnals
Bldg. 913	·	0081233
5. Registration Number (If known):	ust	151
EXCENERAL FACILITY INFORMATION CIT	annes (artriess teleph	rone, contact person, etc. – supply NEW information only
	•	
a. Facility name: b. Facility location:		
c. Owner's mailing address:		
		N
d. Block: Let:		
d. Block: Lot: e. Contact person (facility operator):  1. Contact telephone number: (		

(OVER)

7. For CLOSURE ( abandonment or removal – check all that apply):  a   Abandonment   Date:		
Attach the necessary implementation schedule (3 copies) and all documentation needed for abandomment per NJAC. 7:148-9.1 (d).  b. **Removal Date: */2 / / / ? Case No. *97-/2-/D-/S/O-/2/Attach the necessary implementation schedule (3 copies).  For CHANGES IN HAZARDOUS SUBSTANCES STORED (check all that apply):  a.   Temporary Closure (12 month maximum time – see NJAC. 7:148-9.1(b)). Remove all hazardous substances; leave tank in place.  b.   Change in service from a regulated substance to a non-regulated substance. Tank must be cleaned and site assessment 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    T	7. For CLOSURE (at	pandonment or removal - check all that apply):
Attach the necessary implementation schedule (3 copies) and all documentation needed for abandomment per NJAC. 7:148-9.1 (d).  b. **Removal Date: */2 / / / ? Case No. *97-/2-/D-/S/O-/2/Attach the necessary implementation schedule (3 copies).  For CHANGES IN HAZARDOUS SUBSTANCES STORED (check all that apply):  a.   Temporary Closure (12 month maximum time – see NJAC. 7:148-9.1(b)). Remove all hazardous substances; leave tank in place.  b.   Change in service from a regulated substance to a non-regulated substance. Tank must be cleaned and site assessment 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    T	a. 🗆 Abandonm	ent Date: / / Case No:
abandonment per N.J.A.C. 7:14B-9.1 (d). b. X Removal Date:   2 1 / 0   97   Case No. 97-12-10-1510-19   Attach the necessary Implementation schedule (3 copies).  For CHANGES IN HAZARDOUS SUBSTANCES STORED (check all that apply): a.   Temporary Closure (12 month maximum time – see N.J.A.C. 7:14B-9.1(b)). Remove all hazardous substances; leave tank in place. b.   Change in service from a regulated substance to a non-regulated substance. Tank must be cleaned and site assessment performed per N.J.A.C. 7:14B-9.1(e). c.   Changes in service from one regulated hazardous substance to another regulated hazardous substance.  Tank No.   Old   New   Tank No.   Old   New   Tank No.   Old   New   (Attach additional sheets if more space is needed)  For TRANSFER OF OWNERSHIP: Effective Date:       a. New Owner (operator) b. New Facility Name     NJ    County   Tele:       a. New County   Tele:     b. Policy Substantial modifications require a permit under N.J.A.C. 7:14B-10.  1. For changes in FinANCIAL RESPONSIBILITY to (check appropriate changes and attach copies of new information): a. Policy Type:     d. Company/Carrier:   b. Policy Number:   e. Expiration Date:     c. Other:     c. Other:     c. Other:     c. Other:     c. Other:		
Attach the necessary implementation schedule (3 copies).  8. For CHANGES IN HAZARDOUS SUBSTANCES STORED (check all that apply):  a.   Temporary Closure (12 month maximum time – see N.J.A.C. 7:148-9.1(b)). Remove all hazardous substances; leave tank in place.  b.   Change in service from a regulated substance to a non-regulated substance. Tank must be cleaned and site assessment performed per N.J.A.C. 7:148-9.1(e).  c.   Changes in service from one regulated hazardous substance to another regulated hazardous substance.  Tank No.   Old   New   Tan		
Attach the necessary implementation schedule (3 copies).  5. For CHANGES IN HAZARDOUS SUBSTANCES STORED (check all that apply):  a.   Temporary Closure (12 month maximum time – see N.J.A.C. 7:148-9.1(b)). Remove all hazardous substances; leave tank in place.  b.   Change in service from a regulated substance to a non-regulated substance. Tank must be cleaned and site assessment performed per N.J.A.C. 7:148-9.1(e).  c.   Changes in service from one regulated hazardous substance to another regulated hazardous substance.  Tank No.   Old   New   Tan	apanoonment (	
8. For CHANGES IN HAZARDOUS SUBSTANCES STORED (check all that apply): a.	b. X Removal	Date: 12 1 10 1 7 1 Case No. 17-10-1310-19
8. For CHANGES IN HAZARDOUS SUBSTANCES STORED (check all that apply): a.	Attach the nec	essary implementation schedule (3 copies).
a.   Temporary Closure (12 month maximum time – see N.J.A.C. 7:14B-9.1(b)). Remove all hazardous substances; leave tank in place.  b.   Change in service from a regulated substance to a non-regulated substance. Tank must be cleaned and site assessment performed per N.J.A.C. 7:14B-9.1(e).  c.   Changes in service from one regulated hazardous substance to another regulated hazardous substance.  Tank No.   Old   New   Tank No.   Old   New   Tank No.   Old   New   (Attach additional sheets if more space is needed)  For TRANSFER OF OWNERSHIP: Effective Date:       a. New Owner (operator)  b. New Facility Name   N.J.    County   Tele:     c. Closing Attorney   Tele:     h. *NOTE * Substantial modifications require a permit under N.J.A.C. 7:14B-10.  1. For changes in FINANCIAL RESPONSIBILITY to (check appropriate changes and attach copies of new information): a. Policy Type:   d. Company/Carrier:   b. Policy Number:   e. Expiration Date:   c. Other:		
substances; leave tank in place.  b. Change in service from a regulated substance to a non-regulated substance. Tank must be cleared and site assessment performed per N.J.A.C. 7:148-9.1(e).  c. Changes in service from one regulated hazardous substance to another regulated hazardous substance.  Tank No. Old New Tank No. Old New Tank No. Old New (Attach additional sheets if more space is needed).  For TRANSFER OF OWNERSHIP: Effective Date:	B. For CHANGES IN	HAZARDOUS SUBSTANCES STORED (check all that apply):
substances; leave tank in place.  b. Change in service from a regulated substance to a non-regulated substance. Tank must be cleared and site assessment performed per N.J.A.C. 7:148-9.1(e).  c. Changes in service from one regulated hazardous substance to another regulated hazardous substance.  Tank No. Old New Tank No. Old New Tank No. Old New (Attach additional sheets if more space is needed).  For TRANSFER OF OWNERSHIP: Effective Date:	a.    Temporary	Closure (12 month maximum time - see N.J.A.C. 7:14B-9.1(b)). Remove all hazardous
b. Change in service from a regulated substance to a non-regulated substance. Tank must be cleaned and site assessment performed per N.J.A.C. 7:14B-9.1(e).  c. Changes in service from one regulated hazardous substance to another regulated hazardous substance.  Tank No. Old New Tank No. Old New (Attach additional sheets if more space is needed)  For TRANSFER OF OWNERSHIP: Effective Date:		
and site assessment performed per N.J.A.C. 7:148-9.1(e).  c. Changes in service from one regulated hazardous substance to another regulated hazardous substance.  Tank No. Old New Tank No. Old New (Attach additional sheets if more space is needed)  For TRANSFER OF OWNERSHIP: Effective Date:		。
c. Changes in service from one regulated hazardous substance to another regulated hazardous substance.  Tank No. Old New Tank Tank No. Old New Tank Tank Tank Tank Tank Tank Tank Tank		一大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大
Tank No. Old New Tank No. Old New Tank No. Old New (Attach additional sheets if more space is needed)  For TRANSFER OF OWNERSHIP: Effective Date:		
Tank NoOld	c.  Changes in	service from one regulated hazardous substance to another regulated hazardous substance.
Tank NoOld	Tank No	ON New York
Tank No. Old New (Attach additional sheets if more space is needed)  7. For TRANSFER OF OWNERSHIP: Effective Date:	-	
(Attach additional sheets if more space is needed)  7. For TRANSFER OF OWNERSHIP: Effective Date:		
a. New Owner (operator) b. New Facility Name    County   Tele:	Tank No.	
a. New Owner (operator) b. New Facility Name  County  C. Closing Attorney  Tele:		(Attach additional sheets if more space is needed)
a. New Owner (operator)	CATRILICES S	COMMEDICATION PER LA DOCUMENTA DE LA COMPANIONE DEL COMPANIONE DEL COMPANIONE DE LA COMPANIONE DEL C
c. Closing Attorney  Tele: (		
County  C. Closing Attorney  Tele: (	a. New Owner (o)	perator)
County  c. Closing Attorney  Tele: (	b. New Facility Na	ame
County  c. Closing Attorney  Tele: (	•	
County  c. Closing Attorney  Tele: (		Att
c. Closing Attorney  Tele: (		
c. Closing Attorney  Tele: (		<del></del>
7. For SUBSTANTIAL MODIFICATIONS (to include any retrofitted activity – e.g. the addition of spill/overfill protection, monitoring systems, cathodic protection, etc.):  a. Type of Modification		•
monitoring systems, cathodic protection, etc.):  a. Type of Modification	e. Closing Attorne	y Tole: ()
a. Policy Type:   d. Company/Carrier:   b. Policy Number:   e. Expiration Date:   c. Other:	1. For SUBSTANTIAI monitoring system	L MODIFICATIONS (to include any retrofitted activity - e.g. the addition of spill/overfill protection, s., cathodic protection, etc.):
a. Policy Type:   d. Company/Carrier:   b. Policy Number:   e. Expiration Date:   c. Other:	1. For SUBSTANTIAI monitoring systems a. Type of Modific	L MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, s. cathodic protection, etc.):
b. Policy Number:   e. Expiration Date:   c. Other:	n. For SUBSTANTIAI monitoring systems a. Type of Modific b. "NOTE" Subs	L MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, s. cathodic protection, etc.):
c. Other: []	n. For SUBSTANTIAI monitoring systems a. Type of Modific b. "NOTE" Subs	L MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, s. cathodic protection, etc.):  cation Date:
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(Specify)	n. For SUBSTANTIAI monitoring systems a. Type of Modific b. "NOTE" Subst. For changes in File a. b.	L MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, s. cathodic protection, etc.):  cation
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(Specify)	n. For SUBSTANTIAI monitoring systems a. Type of Modific b. "NOTE" Substantial	L MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, s. cathodic protection, etc.):  cation
(Specify)	n. For SUBSTANTIAI monitoring systems a. Type of Modific b. "NOTE" Subs 1. For changes in File a. b.	L MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, s. cathodic protection, etc.):  cation
	n. For SUBSTANTIAI monitoring systems a. Type of Modific b. "NOTE" Subs 1. For changes in File a. b.	L MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, s. cathodic protection, etc.):  cation
	n. For SUBSTANTIAI monitoring systems a. Type of Modific b. "NOTE" Subs 1. For changes in File a. b.	L MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, s. cathodic protection, etc.):  cation
	1. For SUBSTANTIAN monitoring systems 2. Type of Modific 3. NOTE * Subs 1. For changes in Fit 3. 5. c.  NOTE: ALL appropri	MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, s. cathodic protection, etc.):  ation
local, state and/or federal agencies must be obtained separately from this notification.	1. For SUBSTANTIAN monitoring systems 2. Type of Modific 3. NOTE * Subs 1. For changes in Fit 3. 5. c.  NOTE: ALL appropri	MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, s. cathodic protection, etc.):  ation
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CERTIFICATION	7. For SUBSTANTIAL monitoring systems a. Type of Modific b. "NOTE" Substantial Substantia	L MODIFICATIONS (to include any retrofitted activity – e.g. the addition of spill/overfill protection, s. cathodic protection, etc.):  action
CERTIFICATION  "This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that	nonitoring systems a. Type of Modific b. "NOTE" Subs note: Subs note: ALL approprised, state a	L MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, s. cathodic protection, etc.):  action
CERTIFICATION  "This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that scritty (NJAC. 7:148-2.3 (a) 1).""	nonitoring system  a. Type of Modific  b. NOTE Subs  1. For changes in Fit  a.  b.  c.  NOTE: ALL appropri local, state a	L MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, st., cathodic protection, etc.):  ation
CERTIFICATION  "This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that scility (N.J.A.C. 7:148-2.3 (a) 1).***    certify under penalty of law that the information provided in this document is true, accurate and complete. I am makes	n. For SUBSTANTIAI monitoring systems a. Type of Modific b. "NOTE" Substantial	L MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, s. cathodic protection, etc.):  action
CERTIFICATION  "This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that actify (NJAC. 7:148-2.3 (a) 1).***  I certify under penalty of law that the information provided in this document is true, accurate and complete. I am away that there are significant/civil and criminal penalties for submitting talse, inaccurate or incomplete information, including	n. For SUBSTANTIAI monitoring systems a. Type of Modific b. "NOTE" Substantial	L MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, st.):  action
CERTIFICATION  "This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that acility (NJAC. 7:148-2.3 (a) 1).***    certify under penalty of law that the information provided in this document is true, accurate and complete. I am away there are significant/oxyll and criminal penalties for submitting talse, inaccurate or incomplete information, including	n. For SUBSTANTIAI monitoring systems a. Type of Modific b. "NOTE" Substantial for changes in File a. b. c.  NOTE: ALL appropriational, state a certify (N.J.A.C. 7:148) certify under penalty all there are significant to the certify under penalty all there are significant.	L MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, st., cathodic protection, etc.):  action
CERTIFICATION  "This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that activity (N.J.A.C. 7:148-2.3 (a) 1).**  I certify under penalty of law that the information provided in this document is true, accurate and complete. I am amore their are significent over and criminal penalties for submitting talse, inaccurate or incomplete information, including the analysis and criminal penalties. I submitting talse, inaccurate or incomplete information, including the analysis and criminal penalties.	n. For SUBSTANTIAI monitoring systems a. Type of Modific b. "NOTE" Substantial	L MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, st., cathodic protection, etc.):  ation
CERTIFICATION  "This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that scritty (N.J.A.C. 7:148-2.3 (a) 1).**  I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware the information provided in this document is true, accurate and complete. I am aware the criminal penalties for submitting talse, inaccurate or incomplete information, including the analysis imprisonment.  This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that it is a submitting talse, in accurate and complete. I am aware the complete information, including the complete information in the complete	nonitoring systems a. Type of Modific b. "NOTE" Subs 1. For changes in File a. b. c.  NOTE: ALL appropriates a significant there are significant as and/or imprisonment.	L MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, st., cathodic protection, etc.):  action
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CERTIFICATION  "This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that scritty (N.J.A.C. 7:148-2.3 (a) 1).**  I certify under penalty of law that the information provided in this document is true, accurate and complete. I am among there are significant over and criminal penalties for submitting talse, inaccurate or incomplete information, including these and/or imprisonment."  Signature:  Name (print or type):  TMCS OTT	n. For SUBSTANTIAI monitoring systems a. Type of Modific b. "NOTE" Substantial in Fire and Substantial there are significant significant and/or imprisonmal there are significant significant substantial there are significant substantial the substantial there are significant substantial the substantial the substantial the substantial the substant	L MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, s. cathodic protection, etc.):  attion
CERTIFICATION  "This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that scility (N.J.A.C. 7:148-2.3 (a) 1).**  I certify under penalty of law that the information provided in this document is true, accurate and complete. I am annual there are significant over and criminal penalties for submitting talse, inaccurate or incomplete information, including ness and/or imprisonment."  Signature:    Certification   Complete   Com	nonitoring systems. Type of Modific b. "NOTE" Substitute of Substitute o	L MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, s. cathodic protection, etc.):  attion
CERTIFICATION  "This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that scility (N.J.A.C. 7:148-2.3 (a) 1).**  certify under penalty of law that the information provided in this document is true, accurate and complete. I am average there are significant over any criminal penalties for submitting talse, inaccurate or incomplete information, including the analysis imprisonment.  Signature:  Name (print or type):  TAMES OTT	nonitoring systems. Type of Modific b. "NOTE" Substitute of Substitute o	L MODIFICATIONS (to include any retrofitted activity — e.g. the addition of spill/overfill protection, s. cathodic protection, etc.):  attion
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(INITAID-2/92)

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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

A. Facility Name: U.S. Army I	A. Facility Name: U.S. Army Fort Monmouth New Jersey					
Facility Street Address : Di	Facility Street Address: Directorate of Public Works Building 173					
Municipality: Oceanport	County: Monmouth					
Block:Lc	t(s):Telephone Number : _732-532-6224					
<b>B.</b> Owner (RP)'s Name:	·					
Street Address:	City :					
State:	Zip:Telephone Number :					
C. (Check as appropriate)  Site Investigation  Report (SIR) \$500 Fee  Remedial Investigation  Report (RIR) \$1000 Fee  X_NA – Federal Agreement	<ul> <li>Complete all that apply)</li> <li>Assigned Case Manager : <u>Ian Curtis, Federal Case Manager</u></li> <li>UST Registration Number : <u>81533-151</u> (7 digits)</li> <li>Incident Report Number • • • (10 or 12 digits)</li> <li>Tank Closure Number : <u>Federal Case Manager</u></li> </ul>					
Name: Joe Fallon  Firm: U.S. Army Fort Monm	s to the specific reporting requirements of N.J.A.C. 7:26E					
	D: 07703 Telephone Number : 732-532-6224					
(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)						
<ul> <li>F. Certification by the Responsible Party(ies) of the Facility: The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows: </li> <li>1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or </li> <li>2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or</li> <li>3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.</li> </ul>						
application and all information, I be significant civil promitting a crim	nalty of law that I have personally examined and am familiar with the information submitted in this attached documents, and that based on my inquiry of those individuals responsible for obtaining the lieve that the submitted information is true, accurate, and complete. I am aware that there are penalties for knowingly submitting false, inaccurate, or incomplete information and that I am see of the fourth degree if I make a written false statement which I do not believe to be true. I am also wingly direct or authorize the violation of any statute, I am personally liable for the penalties."					
Name (Print or Type):	Title: Directorate of Public Works					
Signature:	VING UU					
Company Name:	J.S. Army Fort Monmouth Date: 3/33/99					

# APPENDIX C WASTE MANIFEST

Friday 1

	NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA	20591	Manifest Popurant No	2. Page of	1	NHZ	0092	98		
1	3. Generator's Name and Mailing Address US Gray Communication Main Past, Clo Joy Falle 4. Generator's Phone (732) 532-100	s Electronice on , Bidg. 173	Comman AHM: SEL	d FM-PW-EV T07763							
li	4. Generator's Phone (732) 532 - 6223 Fort Monarach, NJ 07223  5. Transporter 1 Company Name  LIONETTI OIL RECOVERY CO INC  N. J. D. O. 8, 4, 0, 6, 4  908 721-0900										
	7. Transporter 2 Company Name		ansporter's Phone								
	LIONETTI OIL RECOVERY CO INC DBA LORCO PETROLEUM SVCS RUNYON&CHEESEQUAKE RDS							ility's Phone			
	OLD BRIDGE, NJ 08857	IN .	<u> </u>	0. 4. 4. 0. 6. 4	90	8 721 -		13.	14.		
	11. Waste Shipping Name and Description	<u></u>				No.	Туре	Total Quantity	Unit Wt/Vol		
	PETROLEUM OIL(PETROLEUM OI COMBUSTIBLEL LIQUID UN1270		,			0 0 1	T T	X2 125	G		
GENERATOR	b										
A T O R	c										
	d.										
	D. Additional Descriptions for Materials Listed Above  T,L PETROLEUM OIL % WATER 20 %  TO4 FILT						des for Wastes Listed Above				
	15. Special Handling Instructions and Additional Infor 24 HR EMERGENCY RESPONSE#( DECAL RG#128 DEXSIL MANIFEST USED FOR TRACKING	908) 721-0900 TEST KIT RES	ULTS	PPM	l						
	16. GENERATOR'S CERTIFICATION: I certify the ma	aterials described above on t	his manifest are not s	subject to federal regula	tions for re	porting prop	er disnosa	al of Hazardous Wa	ıste.		
<b>↓</b>	Joseph M. Fallon		Signature	M.	Fa	Oli	27	Month Day	197		
TRANSPORTER	17. Transporter 1 Acknowledgement of Receipt of Ma	terials	Stonature	Ley	20		·	Month Day	// <del>*</del>		
O R	18. Transporter 2 Acknowledgement of Receipt of Ma	terials	1			<u> </u>			<u>-</u>		
E	Printed/Typed Name		Signature					Month Day	Year ·		
FAC-	19. Discrepancy Indication Space										
LIT	20. Facility Owner or Operator: Certification of receipt	of waste materials cover	ed by this manifest	except as noted in Ite	em 19.						
Ý	Printed/Typed Name		Signature	_ (/		$\rightarrow$	<del>-</del>	Month Day	Year		
	Kiehald/Bell	0	Kul	wo o	B-	2		12/	977		

**ORIGINAL - RETURN TO GENERATOR** 

# APPENDIX D UST DISPOSAL CERTIFICATE

LESS FAR	OF INVOICES % DISCOUNT IGHT  L DEBUCTIONS INT OF CHECK	•.		DOLLARS TO THE STATE OF THE STA
e : - :				
and the second s	B. 913	MAZ	ZZA & SONS, INC.  Metal Recyclers 3230 Shafto Rd.  Tinton Falls, NJ (908) 922-9292	NO
	Cu	stomer's Name .	Tecom - Vin	11.37 ((
, , , , , , , , , , , , , , , , , , ,		ldress Price		Weight Price
Cas	Weight st Iron			Weight Price Lt. Copper
Steel	Weight st Iron	Price	14480 L	Lt. Copper
Steel	Weight st Iron			Lt. Copper  Brass  Alum Clean
Ste Lt.	Weight st Iron sel	Price	14480 L 13430 LE	Lt. Copper  Brass  Alum Clean
Ste Lt.	Weight st Iron	Price	13430 LE	Lt. Copper  Brass  Alum Clean  Lead
Sie Lt.	Weight st Iron sel	Price		Lt. Copper  Brass  Alum Clean  Lead  Stainless
Sie Lt.	Weight st Iron sel Tron spper #1	Price	13430 LE	Lt. Copper  Brass  Alum Clean  Lead
Sie Lt.	Weight st Iron sel Tron spper #1	Price	13430 LE 1,000	Lt. Copper  Brass  Alum Clean  Lead  Stainless  Battery  TOTAL AMOUNT:

# APPENDIX E SOIL ANALYTICAL DATA PACKAGE

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

### **REPORT OF ANALYSIS**

Client:

U.S. Army

DPW, SELFM-PW-EV

Bldg. 173

Ft. Monmouth, NJ 07703

Project:

**Total Petroleum Hydrocarbons** 

98-0001 Bldg. 913

Project #

3263

Date Rec.

01/05/98

Date Compl. 01/06/98

Released by:

Daniel K. Wright **Laboratory Director** 

1

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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: DAW - EVV		Project No: 98-0001			Analysis Parameters					Comments:				
Phone #:			Location: B. 913				Ø	J	سم ا				#= SAMPLES KEPT BELOW YOU.	
( )DERA ( )Other:			0.713				565 Soll	B	6	3			BELOW ! C.	
Samplers Name / Company : GARY DIMA			ATINIS-TUS		Sample	#	10	(3	3	4	\$		OUA)	
Lab Sample I.D. Sample Location		Date Time		Type bottles			0	1	26	8		Ø	Remarks / Preservation Method	
3243.01	913-A	1-5-	98	1048	SOIL	2	$\geq$	$\geq$	$\geq$	$\geq$			2	Exc. FLOOR@ 8.5' *
02	B			1056							-1		ND	
03	C			1105									ND	V
04	D			1012									ND	SIDE WALL @ 7.0'
QJ	E			1132									סמ	
06	F			1125									ND	
07	G	<u> </u>		1117									NO	
08	Н			1110							1		פמ	<u> </u>
04	I			1037						V	3		2	TEST PIT@ 7.0'
10	J			1137		1							ND	Piping Rum @ 2.0' Field Duplicate
61	DUP				<i>V</i>	1	V	V	1				<u> </u>	FIELO Duplicate
12	TB	1			METAANO		<u> </u>			$\geq$				TRIP BLANK V
NOTE : OUA (#AS	ZILY) CALIBRATED W	1950	Om (	CH44261	Colo) A	IR (	210	SHR	s. ox	125	1864	. G.D.	Alpa	TNIS
													<u></u>	
Religioushed by (signature): Date/Time:		Roccive	ed by (	(signature):		Relin	quishe	d by (sig	gnature	):	Date/Ti	ime: Rece	ived by	(signature):
May 1/5/98 13:05		(4	<u> Do</u>	Melle	w									
Relinquished by (signature): Date/Time:		Received by (signature): Relin			•	uished by (signature):  Date/Time: Received by (signature):								
Report Type: (_)Full, (\( \)Reduced, (_)Standard, (_)Screen			-certifi	ed			Rema	rks: De	OICA	TEO S	Amplin	VG TOOL	S USO	P. NOTE: SCALE NOT
			AP Ve	erbalHr	Remarks: DEDICATED SAMPLING TOOLS USEN. NOTE: SCALL WEIGHTS ESTIMATED.									

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

Client:

U.S. Army

Lab. ID#:

3263

DPW. SELFM-PW-EV

Date Rec'd:

05-Jan-98

Bldg. 173

Analysis Start:

06-Jan-98

Ft. Monmouth, NJ 07703

Analysis Complete:

06-Jan-98

Analysis:

OQA-QAM-025

UST Reg. #:

Matrix:

Soil

Closure #:

Analyst:

D.DEINHARDT

DICAR #:

Ext. Meth:	Shake			Location #:		B.913
Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3263.01	913-A	1.00	15.72	84.29	177	ND
3263.02	913-B	1.00	15.29	80.42	191	ND
3263.03	913-C	1.00	15.10	82.39	189	ND
3263.04	913-D	1.00	15.44	80.17	190	ND
3263.05	913-E	1.00	15.40	81.13	188	ND
3263.06	913-F	1.00	15.64	82.27	183	ND
3263.07	913-G	1.00	15.38	80.95	189	ND
3263.08	913-H	1.00	15.76	82.70	180	ND
3263.09	913-I	1.00	15.26	79.55	194	1424.07
3263.10	913-J	1.00	15.01	91.02	172	ND
3263.11	913-DUP	1.00	15.49	81.43	186	ND
METHOD BLANK	6-Jan-98	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	V
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	<u> </u>
	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

98-0001

Bldg. 913

Project #

3275

Date Rec.

01/12/98

Date Compl. 01/13/98

Released by:

Daniel K. Wright Laboratory Director

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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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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 (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

**Chain of Custody Record** 

Customer: D.P. W. Project			98-00	01	Ol Analysis Parameters				Comments:					
Phone #: 532	-2577	Location: BUDG. 913												
()DERA ()OMA	( )DERA ( )OMA ( )Other:					$  \ \overline{\eta}$								
Samplers Name / Co	mpany :			Sample	#	Ā								
Lab Sample I.D.	Sample Location	Date	Time	Туре	bottles	F								Remarks / Preservation Method
3275.01	NORTH WALL	04/2/98	1:00	301L	1									
1 .OZ	WEST WALL		1:10	SOIL	1									
.03	FLOOR		1:15	SOIL	1			<u> </u>						
.04	DUPLICATE		1:25	SOIL	1					<u> </u>				
v .05	SOUTH-WEST WALL	L V	1:35	SOIL	1_	V			J	<u> </u>				
						<u> </u>								
						<u> </u>								
							ļ							
				,										
						<u> </u>								
Relinquished by (signature):  Date/Time: Received by (signature):  1/12/98 13:50		Relinquished by (signature):		:	Date/	Date/Time: Received by (signature):		signature):						
Relinquished by (signature):  Date/Time: Received by (signature):			Relinquished by (signature):  Date/Time: Received by (signature):			signature):								
Report Type: (_)Full, (_)Reduced, (_)Standard, (_)Screen / non-certified						Rema	rks:							
urnaround time: (_)Standard 4 wks, (_)Rush Days, (_)ASAP VerbalHrs.														

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

Client:

U.S. Army

Lab. ID#:

3275

DPW. SELFM-PW-EV

Date Rec'd:

12-Jan-98

Bldg. 173

**Analysis Start:** 

12-Jan-98

Ft. Monmouth, NJ 07703

Analysis Complete:

13-Jan-98

Analysis:

OQA-QAM-025

UST Reg. #:

Matrix:

Soil

Closure #:

Analyst:

D.DEINHARDT

DICAR #:

Ext. Meth:	Shake			Location #:		BLDG. 913
Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3275.01	North wall	1.00	15.88	81.94	181	ND
3275.02	West wall	1.00	15.00	89.80	174	ND
3275.03	Floor	1.00	15.04	80.97	193	ND
3275.04	Duplicate	1.00	15.37	90.13	170	ND
3275.05	S.west wall	1.00	15.20	84.09	184	ND
METHOD BLANK	12-Jan-98	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	<u></u>
Date	oratory Manager or Environmental Consultant's Signature	

<sup>\*</sup>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. 913**

Field Location No. &	Laboratory	Matrix	Date and Time	Date Received
Location	Sample ID#		Of Collection	
Trip Blank	4016.01	Aqueous	29-Oct-98	10/29/98
Field Blank	4016.02	Aqueous	29-Oct-98 10:58	10/29/98
Bldg. 913 - 7-10'	4016.07	Aqueous	29-Oct-98 14:03	10/29/98
Bldg. 913 – 7-10'	4016,08	Aqueous	29-Oct-98 15;39	10/29/98
Field Dup	4016.09	Aqueous	29-Oct-98	10/29/98

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**

3 BLAG, 911 - 7-10' " 1/19 " 2 X				
Samplers Name / Company :   MANK   WWA   TVS   Sample   #   #   #   #   #   #   #   #   #				
Lab Sample I.D.         Sample Location         Date         Time         Type         bottles         15         Remarks / Preserve           HOILE.         1         Tait Bundle.         10-24-98         —         AQ         2         X         —         A           2         FIELD BLANK.         11         1058         11         3         X         X         X         A           3         BLOG. 911 — 7-10'         11         11/9         11         X         X         X         X           4         BLOG. 911 — 11         11         1360         11         X         X         X         X         X				
40/le. 1 Trip Blance 10-29-98 - AQ Z X   A				
2 FIELD BLAME " 1058 " 3 X X	ation Method			
2 FIELD BLANK " 1058 " 3 X X A A A A A A A A A A A A A A A A A	HCL			
4 BLOG 911 - " 11 1300 " 1 X	10c/circ			
	HCL			
	2400			
5 BLDG, 912 - 7-101 11 1200 11 2 x	HCC			
6 BLOG. 912-" " 1240 " / X	2400			
7 BLOG. 913-7-10' 11 1403 11 ZX	HCL			
8 BLAG. 913 - 11 11 1539 11 1 X	eyoc			
9 rieus Dup " " - " 3 x x	HCL/240c			
	, ,			
Relinquished by (signature): Date/Time: Received by (signature): Relinquished by (signature): Date/Time: Received by (signature):				
Mattru 10-29-98 155D Allelle				
Relinquished by (signature): Date/Time: Received by (signature): Relinquished by (signature): Date/Time: Received by (signature):				
Report Type: (_)Full, (_)Reduced, (_)Standard, (_)Screen / non-certified Remarks:  Turnaround time: (_)Standard 4 wks, (_)Rush Days, (_)ASAP Verbal Hrs.				

# FIELD DOCUMENTATION

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

## **FOR BLDG. #913**

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 10 feet. The water table was at 7 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 5 –10 feet. Riser casing from 5 0 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 Sampling Procedures Manual" pursuant to N.J.A.C. 7:26E-1.6(c) has been approved by the person responsible for conducting the remediation.

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 shared with bldg. 911 taken same day.
- 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 la	beled/Compounds identified	
		and method blanks)	yes
2.	Retention times for	chromatograms provided	yes
3.	GC/MS Tune Spec	ifications	
	a.	BFB Meet Criteria	_VeS_
	b.	DFTPP Meet Criteria	Jos.
4.		equency - Performed every 24 hours for 600	
	series and 12 hours	for 8000 series	yes_
5.		n – Initial Calibration performed before sample	
	•	uing calibration performed within 24 hours of 600 series and 12 hours for 8000 series	1.00
	sample analysis for	OUV Series and 12 hours for 6000 series	<del>-40</del>
6.	GC/MS Calibration	n requirements	
	a.	Calibration Check Compounds Meet Criteria	1125
	b.	System Performance Check Compounds Meet Criteria	<u> </u>
7.	Blank Contamination	on – If yes, List compounds and concentrations in each blank:	<u> </u>
	a.	VOA Fraction	
	<b>b</b> .	B/N Fraction	
	c.	Acid Fraction NA	
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	
	ъ.	B/N Fraction	
	c.	Acid Fraction 194	
	If not met, wer as "estimated"	e the calculations checked and the results qualified?	
9.	Matrix Spike/Matri	x Spike Duplicate Recoveries Meet Criteria	<u> 48S</u>
		se compounds and their recoveries, which fall	
	outside the acceptal		
	a.	VOA Fraction	
	b.	B/N Fraction	
	C.	Acid Fraction Nys	

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

			Indicate Yes, No, N/A
10.	Internal Standard	Area/Retention Time Shift Meet Criteria	<u>yes</u>
	(If not met, list th	ose compounds, which fall outside the acceptable range)	
	а.	VOA Fraction	
	b.	B/N Fraction	
	c.	Acid Fraction NA	
11.	Extraction Holdin	ng Time Met	yes_
	If not met, list the	number of days exceeded for each sample:	•
12.	Analysis Holding	Time Met	LACS.
		number of days exceeded for each sample:	
~	itional Comments:	to performed on Bldg 913 7-10' (4016.07,	(18)
Labe	oratory Manager:	Date: (2 3 4 8	

# LABORATORY CHRONICLE

## **Laboratory Chronicle**

Lab ID:4016

Site: Bldg. 913

	Date	Hold Time
Date Sampled	10/29/98	NA
Receipt/Refrigeration	10/29/98	NA
Extractions  1. Base Neutrals	10/30, 11/02/98	14 days
Analyses		
<ol> <li>Volatiles</li> <li>Base Neutrals</li> </ol>	11/04,05/98 11/04/98	14 days 40 days

# VOLATILE ORGANICS

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

## **Definition of Qualifiers**

**MDL**: Method Detection Limit

J : Compound identified below detection limit
B : Compound in both sample and blank
D : Results from dilution of sample

U : Compound searched for but not detected

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

Data File Nam vb01984.d
Operator Skelton

Sample Name

VBLK62 VBLK62

Date Acquired 4 Nov 98 3:54 pm

Field ID Sample Multiplier

1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Oualifier
107028	Acrolein	14.1.	Response	not detected	50	1.85 ug/L	Quantier
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 0.25 ug/L	
100203	Dichlorodifluoromethan			not detected	nle	0.23 ug/L 1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.08 ug/L 1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.16 ug/L 1.06 ug/L	
74-83-9	Bromomethane		<del></del>	not detected	10	1.10 ug/L	
75-00-3	Chloroethane		-	not detected	nle		<u> </u>
75-69-4	Trichlorofluoromethane		· · ·	not detected		1.01 ug/L	
				not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene				2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide		<del></del>	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	
	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		<del></del>	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

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

Lab Name:	FMETL			Project	980932		VBL	<b>&lt;62</b>
NJDEP#	13461	Cas	e No.: 4016	SDG N	о	Loc	cation US	T
Matrix (soil/w	ater)	WATER		La	ab Sample	ID: \	/BLK62	
Sample wt/vo	ol:	5.0	(g/ml) ML	La	b File ID:	<u>\</u>	/B01984.D	
Level: (low/n	ned)	LOW		Da	ate Receive	ed: <u>1</u>	10/29/98	
% Moisture: r	not dec.			Da	ate Analyz	ed: <u>1</u>	1/04/98	
GC Column:	HP5M	S ID: <u>0.2</u>	5_ (mm)	Di	lution Fact	or: <u>1</u>	1.0	
Soil Extract V	olume:		_ (uL)	Sc	oil Aliquot \	/olum	ie:	(uL)
Number TICs	s found:	0		ONCENTRA				
CAS NO.		COMPOU	ND NAME		RT	EST	CONC.	Q

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

Response

Data File Nam vb02006.d

Sample Name

4016.01

Operator

CAS#

Skelton

**Compound Name** 

Field ID

Trip Blank

Date Acquired 5 Nov 98 9:08 am

Sample Multiplier

Regulatory Level Qualifier (ug/l)\* MDL not detected 50 1.85 ug/L

CAST	Compound Name	М. 1.	tzezhotize	Result	(ug/i)	MDL	Quantier
107028	Acrolein	I I		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	
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	<del></del>
75-35-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate	<del> </del>		not detected	nle	0.78 ug/L	·
78-93-3	2-Butanone		_	not detected	300	0.62 ug/L	
70 75 5	cis-1,2-Dichloroethene			not detected	10	0.02 ug/L 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	0.30 ug/L 0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.23 ug/L 0.47 ug/L	
71-43-2	Benzene			not detected	1	0.47 ug/L 0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.23 ug/L 0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L 0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.23 ug/L 0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.40 ug/L 0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ethe			not detected			
	cis-1,3-Dichloropropene			not detected	nle	0.65 ug/L	
		-	-		nle	0.69 ug/L	
108-10-1 108-88-3	4-Methyl-2-Pentanone	<del>  </del>		not detected	400	0.59 ug/L	
	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	
	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
	Ethylbenzene			not detected	700	0.65 ug/L	
	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	
05 50 1	1.2 Dishlamshammana			mot datastad	200	064	4

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

not detected

#### **Qualifiers**

B = Compound found in related blank

E = Value above linear range

D = Value from dilution

1,2-Dichlorobenzene

95-50-1

PQL = Practical Quantitation Limit

MDL = Method Detection Limit

NLE = No Limit Established

R.T. = Retention Time

0.64 ug/L

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

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

Lab Name:	FMETL		Project	980932			ib Biai	лк
NJDEP#	13461	Case No.: 4016	SDG N	о	_ Lo	cation	UST	
Matrix (soil/w	vater)	WATER	La	ıb Sample	ID:	4016.01		<del> ·</del>
Sample wt/vo	ol:	5.0 (g/ml) ML	La	b File ID:		VB0200	6.D	_
Level: (low/r	ned)	LOW	Da	ate Receiv	ed:	10/29/98	3	_
% Moisture: ı	not dec.		Da	ate Analyz	ed:	11/05/98	3	_
GC Column:	HP5M	S ID: 0.25 (mm)	Di	lution Fact	or:	1.0		_
Soil Extract V	/olume:	(uL)	So	il Aliquot \	<b>Volur</b>	ne:		_ (uL)
Number TIC:	s found:		CONCENTRA ug/L or ug/Kg)					
CAS NO.		COMPOUND NAME		RT	ES	T. CONO	<b>3</b> .	Q

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

Data File Nam vb02007.d Operator

Skelton

Date Acquired 5 Nov 98 9:54 am

Sample Name Field ID

4016.02 Field Blank

Sample Multiplier

107028   Acrolenin	CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107131   Acrylomitile					not detected	50	1.85 ug/L	
Toto		*····						
1634044   Methyl-tert-Butyl ether   not detected   nle   0.16 ug/L						nle		
Disiporopyl ether								
Dichlorodifluoromethan								
74-87-3   Chloromethane					not detected			
75-01-4	74-87-3							
74-83-9   Bromomethane		<del></del>						
75-00-3   Chloroethane								
Trichlorofluoromethane		<del></del>						
1.1-Dichloroethene	_	+						
1.36 to the color   1.36		<del></del>						
75-15-0   Carbon Disulfide		<del></del>						
TS-09-2   Methylene Chloride   12.82   263816   5.54 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   not detected   ne   0.78 ug/L     78-93-3   2-Butanone   not detected   not detected   ne   0.78 ug/L     78-93-3   2-Butanone   not detected   not dete								
156-60-5   trans-1,2-Dichloroethane   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   nle   0.78 ug/L     78-93-3   2-Butanone   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   1   0.23 ug/L     107-06-2   1,2-Dichloroethane   not detected   1   0.23 ug/L     78-87-5   1,2-Dichloroethane   not detected   1   0.40 ug/L     78-87-5   1,2-Dichloroethane   not detected   1   0.40 ug/L     75-27-4   Bromodichloromethane   not detected   1   0.40 ug/L     10061-01-5 cis-1,3-Dichloropropene   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   nle   0.69 ug/L     108-10-1   4-Methyl-2-Pentanone   not detected   nle   0.69 ug/L     108-10-1   4-Methyl-2-Pentanone   not detected   nle   0.87 ug/L     109-10-2-6   trans-1,3-Dichloroprope   not detected   nle   0.87 ug/L     127-18-4   Tetrachloroethane   not detected   nle   0.71 ug/L     127-18-4   Tetrachloroethane   not detected   nle   0.71 ug/L     126-48-1   Dibromochloromethane   not detected   nle   0.71 ug/L     130-20-7   m+p-Xylenes   not detected   nle   0.62 ug/L     1330-20-7   m+p-Xylenes   not detected   nle   0.62 ug/L     1330-20-7   m+p-Xylenes   not detected   nle   0.62 ug/L     100-42-5   Styrene   not detected   nle   0.62 ug/L     100-46-7   1,4-Dichlorobenzene   not detected   0.00   0.55 ug/L     106-46-7   1,4-Dichlorobenzene   not detected   0.00   0.55 ug/L     106-46-7   1,4-Dichlorobenzene   not detected   0.00   0.55 ug/L     106-46-7   1,4-Dichlorobenzene   not detected   75   0.57 ug/L		***************************************	12.82	263816				
108-05-4   Vinyl Acetate   not detected   nle   0.78 ug/L     78-93-3   2-Butanone   not detected   nle   0.78 ug/L     78-93-3   2-Butanone   not detected   nle   0.78 ug/L     78-93-3   2-Butanone   not detected   300   0.62 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     107-06-2   1,2-Dichloroethane   not detected   1   0.23 ug/L     107-06-2   1,2-Dichloroethane   not detected   2   0.18 ug/L     79-01-6   Trichloroethane   not detected   1   0.23 ug/L     107-08-7-7-7-4   Bromodichloromethane   not detected   1   0.40 ug/L     110-75-8   2-Chloroethyl vinyl ethe   not detected   1   0.40 ug/L     10061-01-5   cis-1,3-Dichloropropene   not detected   nle   0.65 ug/L     108-88-3   Toluene   not detected   nle   0.69 ug/L     108-10-1   4-Methyl-2-Pentanone   not detected   nle   0.69 ug/L     10061-02-6   trans-1,3-Dichloroprope   not detected   nle   0.87 ug/L     10061-02-6   trans-1,3-Dichloroprope   not detected   nle   0.97 ug/L     10061-02-6   trans-1,3-Dichloroprope   not detected   nle   0.71 ug/L     1007-05-05-05-05-05-05-05-05-05-05-05-05-05-	_			2000.0				
108-05-4   Vinyl Acetate								
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	.0 70 0							
75-55-6	67-66-3				<del></del>			
S6-23-5   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   1000   0.37 ug/L     108-88-3   Toluene   not detected   nle   0.87 ug/L     10061-02-6   trans-1,3-Dichloroprope   not detected   nle   0.87 ug/L     179-00-5   1,1,2-Trichloroethane   not detected   nle   0.87 ug/L     127-18-4   Tetrachloroethene   not detected   1   0.32 ug/L     127-18-6   2-Hexanone   not detected   nle   0.71 ug/L     126-48-1   Dibromochloromethane   not detected   nle   0.71 ug/L     108-90-7   Chlorobenzene   not detected   nle   0.71 ug/L     1330-20-7   m+p-Xylenes   not detected   nle   1.14 ug/L     1330-20-7   Cxylene   not detected   nle   0.62 ug/L     100-42-5   Styrene   not detected   100   0.56 ug/L     179-34-5   1,1,2-Tetrachloroethan   not detected   2   0.47 ug/L     19-34-5   1,1,2-Tetrachloroethan   not detected   2   0.47 ug/L     541-73-1   1,3-Dichlorobenzene   not detected   2   0.47 ug/L     541-73-1   1,3-Dichlorobenzene   not detected   2   0.47 ug/L     541-73-1   1,3-Dichlorobenzene   not detected   75   0.57 ug/L					<del></del>			
71-43-2   Benzene		<del></del>				~		
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   10   0.86 ug/L     108-90-7   Chlorobenzene   not detected   4   0.39 ug/L     108-90-7   Chlorobenzene   not detected   nle   0.71 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   10   0.65 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   2   0.47 ug/L     541-73-1   1,4-Dichlorobenzene   not detected   50   0.55 ug/L     106-46-7   1,4-Dichlorobenzene   not detected   50   0.57 ug/L     106-46-7   1,4-Dichlorobenzene   not detected   75   0.57 ug/L		<del></del>						·
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         1         0.37 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         4         0.39 ug/L           108-90-7         Chlorobenzene         not detected         4         0.39 ug/L		<del></del>						
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         1000         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           108-90-7         Chlorobenzene         not detected         10         0.86 ug/L           108-90-7         Chlorobenzene         not detected         nle         0.14 ug/L           1330-20-7         m+p-Xylenes         not detected         nle         0.14 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         nle         0.71 ug/L           108-90-7         Chlorobenzene         not detected         4         0.39 ug/L           1330-20-7         m+p-Xylenes         not detected         nle         1.14 ug/L           1330-20-7         o-Xylene         not detected         nle         0.65 ug/L <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
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         m+p-Xylenes         not detected         nle         0.62 ug/L           100-42-5         Styrene         not detected         nle         0.62 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 <td< td=""><td></td><td><del></del></td><td></td><td>-</td><td></td><td></td><td></td><td></td></td<>		<del></del>		-				
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								
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           130-20-7         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         2         0.47 ug/L           541-73-1         1,4-Dichlorobenzene         not detected         75         0.57 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           541-73-1         1,4-Dichlorobenzene         not detected         75         0.57 ug/L		<del> </del>						
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           541-73-1         1,4-Dichlorobenzene         not detected         75         0.57 ug/L		<del></del>						
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								
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								
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						<del></del>		
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		-				
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								
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			$\vdash \vdash \vdash$					
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								
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			$\vdash$					
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	<del></del>		not detected	600	0.57 ug/L 0.64 ug/L	

<sup>\*</sup> 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 \_ATILE ORGANICS ANAI

## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Lab Name:	FMETL		Project	980932		Field B	lank
NJDEP#	13461	Case No.: 4016	SDG N	lo	Loc	ation US	T
Matrix (soil/v	vater)	WATER	La	ab Sample	ID: 4	016.02	
Sample wt/ve	ol:	5.0 (g/ml) ML	La	ab File ID:	<u>v</u>	B02007.D	
Level: (low/r	ned)	LOW	D	ate Receiv	red: 1	0/29/98	
% Moisture:	not dec.		D	ate Analyz	ed: 1	1/05/98	
GC Column:	HP5M	S ID: 0.25 (mm)	D	ilution Fac	tor: 1	.0	
Soil Extract \	/olume:	(uL)	S	oil Aliquot	Volum	e:	(uL)
Number TIC	s found:	0	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L				
CAS NO.		COMPOUND NAME		RT	EST.	CONC.	Q

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

Data File Nam vb02010.d

Sample Name

4016.07

Operator Skelton

kelton

Field ID

Bldg 913 7-10'

Date Acquired 5 Nov 98 12:10 pm Sample Multiplier

~.~"	~		_		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	
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	<u> </u>
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	
	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	
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		Bidg 913	
NJDEP#	13461	Cas	se No.: 4016	SDG1	No	Location	UST	
Matrix (soil/w	vater)	WATER	_	L	.ab Sample ID	): <u>4016.0</u>	)7	
Sample wt/vo	ol:	5.0	(g/ml) ML		ab File ID:	VB020	10.D	
Level: (low/n	ned)	LOW	_		ate Received	l: <u>10/29/</u>	98	
% Moisture: r	not dec.				ate Analyzed	11/05/	98	
GC Column:	HP5M	S ID: 0.2	25 (mm)		ilution Factor	: 1.0		
Soil Extract V	/olume:		_ (uL)	S	Soil Aliquot Vo	lume: _		(uL)
				CONCENTRA		<b>3:</b>		

	_	(ug/L or ug/Kg)	UG/L
Number TICs found:	5		

	S NO.	COMPOUND NAME	RT	EST. CONC.	Q	
CAS	5 NO.	COMPOUND NAME	K I	EST. CONC.	<u>u</u>	
1.	000275-51-4	Azulene	31.34	28	JN	
2.	003877-19-8	Naphthalene, 1,2,3,4-tetrahydro-2	31.85	5	JN	
3.	006682-71-9	1H-Indene, 2,3-dihydro-4,7-dimet	33.84	6	JN	
4.	001680-51-9	Naphthalene, 1,2,3,4-tetrahydro-6	35.40	12	JN	
5.	001680-51-9	Naphthalene, 1,2,3,4-tetrahydro-6	37.38	6	JN	

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

Data File Nam vb02011.d

Operator Skelton Sample Name

Field ID

4016.09 Field Dup

Date Acquired 5 Nov 98 12:55 pm

Sample Multiplier

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Oualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	<del></del>
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	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	
	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		<u> </u>	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	
	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	
	m+p-Xylenes			not detected	nle	1.14 ug/L	-
	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	一十		not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene	一		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	<del>-  </del>		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

		1 = 1117		.,	00.100			-1-I D.	_ [
Lab Name:	FMETL			Project	980932	<u> </u>	F	eld Dup	<b>'</b>
NJDEP#	13461	Ca	ase No.: 4016	SDG	No	Lo	cation	UST	
Matrix (soil/w	vater)	WATER	<del></del>	1	∟ab Sampl	e ID:	4016.09		
Sample wt/vo	ol:	5.0	(g/ml) ML		Lab File ID:		VB0201	1.D	_
Level: (low/n	ned)	LOW	<del></del>	1	Date Recei	ved:	10/29/98	3	_
% Moisture: r	not dec.		<del>_</del> -	i	Date Analy	zed:	11/05/98	3	_
GC Column:	HP5M	S ID: 0	.25 (mm)	ſ	Dilution Fac	ctor:	1.0		_
Soil Extract V	/olume:		(uL)	:	Soil Aliquot Volume:				(uL
Number TICs	s found:	0		CONCENTR (ug/L or ug/K				~	
CAS NO.		COMPO	JND NAME		RT	EST	r. cond	<b>5</b> .	Q

# BASE NEUTRALS

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

Data File Name bna01129.d

Sample Name

SBLK155

Operator

Skelton

Misc Info

SBLK155 A 981030

Date Acquired

4 Nov 1998 3:52 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			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 bna01129.d

Sample Name

SBLK155

Operator

Skelton

Misc Info

SBLK155 A 981030

Date Acquired

4 Nov 1998 3:52 am

Sample Multiplier 1

<del></del> .					,		
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		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	1	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		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 FIELD ID

				Sblk155
Lab Name:	FMETL		Lab Code 13461	OBIN 100
Project	980932	Case No.: 4016	Location UST SD	OG No.:
Matrix: (soil/	water)	WATER	Lab Sample ID:	SBLK155
Sample wt/ve	ol:	1000 (g/ml) ML	Lab File ID:	BNA01129.D
Level: (low/r	med)	LOW	Date Received:	10/29/98
% Moisture:		decanted: (Y/N)	N Date Extracted:	10/30/98
Concentrate	d Extract	Volume: <u>1000</u> (uL)	Date Analyzed:	11/04/98
Injection Vol	ume: <u>1.</u>	0 (uL)	Dilution Factor:	1.0
GPC Cleanu	p: (Y/N)	NpH: <u>7</u>		
Number TIC	s found:	1	CONCENTRATION UNIT	
CAS NUMI	BER	COMPOUND NAME	RT ES	T. CONC. Q
1. 00029	5-17-0	Cyclotetradecane	16.73	9 JN

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

Data File Name bna01143.d

Sample Name

4016.02

Operator

Skelton

Misc Info

Field Blank

Date Acquired

4 Nov 1998 3:46 pm

Sample Multiplier 1

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

#### Semi-Volatile Analysis Report Page 2

Data File Name bna01143.d

Sample Name

4016.02

Operator

Skelton

Misc Info

Field Blank

Date Acquired

4 Nov 1998 3:46 pm

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	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 5

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 FIELD ID

TENT	ATIVE! Y	IDENTIFIED	<b>COMPOUNDS</b>
1 5 1 7 1	/		COMPONING

							I Field B	lank
Lab Name:	FMETL			_ Lab Code	13461			
Project	980932	Case No.:	4016	Location	UST	SE	OG No.:	
Matrix: (soil/	water)	WATER		Lal	Sampl	e ID:	4016.02	
Sample wt/v	ol:	1000 (g/ml	) ML	_ Lal	File ID	:	BNA01143.D	)
Level: (low/	med)	LOW		Da	te Rece	ived:	10/29/98	
% Moisture:		decanted:	(Y/N)I	N Da	te Extra	cted:	10/30/98	
Concentrate	d Extract	Volume: 1000	_ (uL)	Da	te Analy	zed:	11/04/98	<del></del>
Injection Vol	ume: <u>1.</u> 0	0 (uL)		Dile	ution Fa	ctor:	1.0	
GPC Cleanu	ıp: (Y/N)	N pH: 7	<u>'</u>					
				CONCENT	RATION	I UNIT	S:	
Number TIC	s found:	0		(ug/L or ug	/Kg)	UG/L	<u> </u>	
CAS NUMI	BER	COMPOUND NA	AME		RT	ES	T. CONC.	Q

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

Data File Name bna01146.d

4016.08

Operator

Skelton

Sample Name Misc Info

Bldg 913 7-10'

Date Acquired

4 Nov 1998 5:56 pm

Sample Multiplier 1

CAS#	Name	R.T.	Response	Result	GW Criteria	MDL	Qualifiers
110-86-1	Pyridine		pr 1	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		1 1 1	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 bna01146.d

4 Nov 1998 5:56 pm

Sample Name

4016.08

Bldg 913 7-10'

Operator Date Acquired 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	
100-01-6	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	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

Lab Name:	FMETL			Lab C	Code	13461		Bidg 913
Project	980932	Ca	ase No.: 4016	Loc	cation	UST	SI	DG No.:
Matrix: (soil/	water)	WATER	<del></del>		Lab	Sample	ID:	4016.08
Sample wt/v	ol:	1000	(g/ml) ML		Lab	File ID:		BNA01146.D
Level: (low/	med)	LOW	<u> </u>		Date	e Receive	ed:	10/29/98
% Moisture:		de	canted: (Y/N)	N	Date	e Extract	ed:	10/30/98
Concentrate	d Extract	Volume:	1000 (uL)		Date	e Analyze	ed:	11/04/98
Injection Vol	lume: <u>1.</u> 0	(uL)			Dilu	tion Fact	or:	1.0
GPC Cleanu	лр: (Y/N)	N	pH: <u>7</u>					
				CONC	ENTE	RATION	JNIT	rs:

UG/L

(ug/L or ug/Kg)

		<del></del>					
CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q			
1. 000629-62-9	Pentadecane	14.66	10	JN			
2. 000112-95-8	Eicosane	15.84	9	JN			
3. 000504-44-9	Hexadecane, 2,6,11,15-tetrameth	17.02	13	JN			
4. 000593-45-3	Octadecane	18.03	9	JN			
5.	unknown	26.40	10	J			

Number TICs found: 5

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

Data File Name bna01147.d

Sample Name

4016.09

Operator

Skelton

Misc Info

Field Dup

Date Acquired

4 Nov 1998 6:39 pm

Sample Multiplier 1

CAS#	Name	R.T.	Response	Result	GW Criteria	MDL	Oualifiers
110-86-1	Pyridine		- ( )	not detected	NLE	2.52 ug/	
62-75-9	N-nitroso-dimethylamine			not detected	20	2.64 ug/	
62-53-3	Aniline			not detected	NLE	2.90 ug/	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	2.45 ug/	
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/	īL
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			not detected	NLE	2.15 ug/	L
88-74-4	2-Nitroaniline		_	not detected	NLE	1.62 ug/	ւ
131-11-3	Dimethylphthalate			not detected	7000	2.74 ug/	L
208-96-8	Acenaphthylene	<u> </u>		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	<u> </u>		not detected	NLE	2.13 ug/	ւ

#### Semi-Volatile Analysis Report Page 2

Data File Name bna01147.d

"Sample Name

4016.09

Operator

Skelton

Misc Info

Field Dup

Date Acquired

4 Nov 1998 6:39 pm

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	24.73	1433354	41.70 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

#### TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Lab Name:	FMETL			Lab C	ode 1	13461		Field Dup	
Project	980932		Case No.: 4016	Loc	ation	UST	SE	OG No.:	
Matrix: (soil/v	vater)	WATER	<u> </u>		Lab	Sample	ID:	4016.09	
Sample wt/vo	ol:	1000	(g/ml) ML		Lab	File ID:		BNA01147.D	
Level: (low/n	ned)	LOW			Date	Receiv	ed:	10/29/98	
% Moisture:		d	lecanted: (Y/N)	N	Date	Extract	ed:	10/30/98	
Concentrated	Extract '	Volume:	1000 (uL)		Date	Analyz	ed:	11/04/98	
Injection Volu	ıme: <u>1.0</u>	) (uL	)		Dilut	ion Fact	or:	1.0	
GPC Cleanu	p: <b>(Y/N)</b>	N	pH: <u>7</u>						
	CONCENTRATION UNITS:								
Number TICs	s found:	3	-	(ug/L o	r ug/K	(g)	UG/L		
					1 -	I			

CAS	NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	001921-70-6	Pentadecane, 2,6,10,14-tetramet	17.03	9	JN
2.	000301-02-0	9-Octadecenamide, (Z)-	23.26	34	JN
3.		unknown	26.43	72	J

#### 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	V
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 Methods for further guidance.

Laboratory Certification #13461

#### **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. 913**

Field Location No. &	Laboratory	Matrix	Date and Time	Date Received
Location	Sample ID#		Of Collection	
Trip Blank	4089.01	Aqueous	30-Nov-98	11/30/98
Field Blank	4089.02	Aqueous	30-Nov-98 09:30	11/30/98
Bldg. 913 8-11'	4091.01	Aqueous	30-Nov-98 11:15	11/30/98
Bldg. 913 8-11'	4091.02	Aqueous	30-Nov-98 11:25	11/30/98

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 AGREBY WESAR	L	Analysis Parameters							Comments:			
Phone #: X2 (A24)	Location: BCOG.	911		n l	В							
( )DERA (V)OMA ( )Other:	,			V 0 A +	N							
Samplers Name / Company: Manu Laura	T. U. S. PWS 07	Sample	#	<b>^</b>	+							
Lab Sample L.D. Sample Location	Date Time	Туре	bottles	IS	15							Remarks / Preservation Method
4089. 1 TRIP BLANK	11-30-98	AQ.	2	X								HEC
2 FICLD BLANK	1 0930		3	×	*							ACC/eyoe
3 BLDG. 911 - 7.5-10.5'	11 0940	n	2	X								HCL
4 " "	11 1030	11	1		X							دياود
			·			;						
Relinquished by (signature): Date/Time:	Received by (signature):		Relinqu	ished l	by (sig	nature)	;	Date/	Time:	Recei	ved by (	(signature):
Relinquished by (signature): Date/Time:	Regeived by (signature):		Relinqu	nature)	:	Date/	Time:	Received by (signature):		(signature):		
Report Type: (_)Full, (_)Reduced, (_)Standard, (_)Scre	en / non-certified		]	Remark	ks:							
Turnaround time: (_)Standard 4 wks, (_)Rush Days	s, (_)ASAP Verbal]	Irs.						·				

## 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. /	APPLEBY / WERSAIL	Project No:				Analysis Parameters					Comments:			
Phone #:		Location: 6	3LDG. 91	3		λ /	В							
()DERA (Y)OMA (	)Other:					70.	BN							
Samplers Name / Cor	npany: Maru Laura	7. V. S. F	ws-07	Sample	#	*+	+							
Lab Sample I.D.	Sample Location	Date	Time	Туре	bottles	15	15							Remarks / Preservation Method
4091 1	BLDG. 913 - 8-11'	11-30-98	1115	AQ.	2	×								
2	er er	Ł,	1125	11	1		X							
											<del></del>			
		<u> </u>												
													ļ	
		<u> </u>												
		   <del>-</del>					. <del></del>							
		ļ												
	PAGE 1,			ļ	ļ						ļ			
				ļ <u>.</u>										
				L.,,										
Relinquished by (signatu	re): Date/Time: 11-30-98 1450	Received by	(signature):	ue	Reline	quished	by (sig	mature)	):	Date/	Time:	Recei	ved by	(signature):
					Reline	quished	by (sig	gnature)	):	Date/	Time:	Recei	ved by	(signature):
Report Type: (_)Full, (_)Reduced, (_)Standard, (_)Screen / non-certified						Rema	ks:	SHA	res	TRIP	Fie	LA .	BLA, DAY	ve
Turnaround time: (_)Stan	dard 4 wks, (_)Rush Day	s, (_)ASAP V	erbalH	rs.				W	BLOG	5. 9	11 (3	ME	DAY	)

# FIELD DOCUMENTATION

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

#### **FOR BLDG. #913**

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 10 feet. The water table was at 7 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 5 –10 feet. Riser casing from 5 0 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 Sampling Procedures Manual" pursuant to N.J.A.C. 7:26E-1.6(c) has been approved by the person responsible for conducting the remediation.

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 shared with bldg. 911 taken same day.
- 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 lal	peled/Compounds identified	
		and method blanks)	<u>yes</u>
2.	Retention times for	chromatograms provided	<u>yes</u>
3.	GC/MS Tune Spec	ifications	
	a.	BFB Meet Criteria	\1e5
	b.	DFTPP Meet Criteria	405
4.		equency - Performed every 24 hours for 600	
	series and 12 hours	for 8000 series	yes
5.		1 - Initial Calibration performed before sample	
		uing calibration performed within 24 hours of 600 series and 12 hours for 8000 series	1/05
	Sample aliarysis for	000 Series and 12 hours for 6000 Series	<u> </u>
6.	GC/MS Calibration	n requirements	
	a.	Calibration Check Compounds Meet Criteria	Yes
	b.	System Performance Check Compounds Meet Criteria	yes
7.	Blank Contamination	on - If yes, List compounds and concentrations in each blank:	NO
	a.	VOA Fraction	
	b.	B/N Fraction	
	C.	Acid Fraction	
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_NA	
	If not met, wer as "estimated"	e the calculations checked and the results qualified?	
9.	Matrix Spike/Matri	x Spike Duplicate Recoveries Meet Criteria	yes_
	(If not met, list thos	se compounds and their recoveries, which fall	ı
	outside the acceptal	ble range)	
	a.	VOA Fraction	
	b.	B/N Fraction	
	c.	Acid Fraction NA	

F. I H. II.

## 

Laboratory Manager:

Date: 12-10-45

# LABORATORY CHRONICLE

## **Laboratory Chronicle**

Lab ID: 4091

Site: Bldg 913

	Date	Hold Time
	Date	Hold Time
Date Sampled	11/30/98	NA
Receipt/Refrigeration	11/30/98	NA
Extractions		
1. Base Neutrals	12/01/98	14 days
Analyses		
1. Volatile Organics	12/01/98	14 days
2. Base Neutrals	12/02,03/98	40 days

# 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 vb02266.d Operator

Skelton

Date Acquired 1 Dec 98 12:16 pm

Sample Name Field ID

Vblk69 Vblk69

Sample Multiplier

GA GII	G IN	D.T	D	ъ и	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	
1634044	Methyl-tert-Butyl ether			not detected	nle	0.16 ug/L	<u> </u>
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
71074	Dichlorodifluoromethan			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane		<del> </del>	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	
	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_1_	0.23 ug/L	
	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
	1,2-Dichloropropane			not detected	1	0.40 ug/L	
	Bromodichloromethane			not detected	1	0.55 ug/L	
	2-Chloroethyl vinyl ethe			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene		<u>_</u>	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	
	m+p-Xylenes			not detected	nle	1.14 ug/L	
	o-Xylene			not detected	nle	0.62 ug/L	
	Styrene			not detected	100	0.56 ug/L	
	Bromoform			not detected	4	0.70 ug/L	
	1,1,2,2-Tetrachloroethan	$\neg \neg$		not detected	2	0.47 ug/L	_
	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
541-73-1 1							
	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

Lab Name:	FMETL		Project	980932	i	Vbl	k69
NJDEP#	13461	Case No.: 4	089 SDG	No	Loc	ation US	ST
Matrix: (soil/	water)	WATER	ŀ	_ab Sample	D: <u>V</u>	blk69	
Sample wt/v	ol:	5.0 (g/ml)	ML	_ab File ID:	V	/B02266.D	)
Level: (low/i	med)	LOW		Date Receiv	/ed: <u>1</u>	1/30/98	<del></del>
% Moisture:	not dec.		!	Date Analyz	zed: 1	2/01/98	<del></del>
GC Column:	HP5M	S ID: 0.25 (mr	n) i	Dilution Fac	tor: 1	.0	<del></del> -
Soil Extract \	Volume:	(uL)	;	Soil Aliquot	Volum	ie:	(uL)
Number TIC:	s found:	0	CONCENTR (ug/L or ug/K				<del></del>
CAS NO.	_	COMPOUND NAM	E	RT	EST	. CONC.	Q

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

Data File Nam vb02274.d

Operator

Skelton

Date Acquired 1 Dec 98 6:31 pm

Sample Name Field ID

4089.01 Trip Blank

Sample Multiplier

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein		200000000	not detected	50	1.85 ug/L	Question.
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	<b></b>
100203	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	<del> </del>
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	<u> </u>
75-35-4	1,1-Dichloroethene			not detected	2	0.34 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	
75-13-0 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	0.24 ug/L 0.16 ug/L	
75-35-3	1,1-Dichloroethane		<del></del>	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	ļ- <del></del>
78-93-3	2-Butanone			not detected	300	0.78 ug/L 0.62 ug/L	
16-93-3	cis-1,2-Dichloroethene			not detected			
67.66.2	Chloroform				10	0.17 ug/L	
67-66-3	1.1.1-Trichloroethane			not detected	6	0.30 ug/L	
75-55-6 56-22-5	<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 75-27-4	1,2-Dichloropropane			not detected	1 -	0.40 ug/L	
	Bromodichloromethane			not detected	1 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	<del></del>
	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	
	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		Tr	ip Blani	k
NJDEP#	13461	Case No.: 408	9 SDG	No	Loc	cation	UST	
Matrix: (soil/	water)	WATER	L	ab Sample	D: 4	4089.01	 <del> </del>	
Sample wt/v	ol:	5.0 (g/ml) ML	<u>.                                    </u>	ab File ID:		VB0227	'4.D	_
Level: (low/r	med)	LOW	1	Date Recei	ved: _	11/30/9	8	_
% Moisture:	not dec.		[	Date Analyz	zed: _	12/01/9	8	_
GC Column:	HP5M	S ID: 0.25 (mm)	ſ	Dilution Fac	ctor:	1.0_		_
Soil Extract	Volume:	(uL)		Soil Aliquot	Volun	ne:		(uL
			CONCENTR	ATION UN	ITS:			
Number TIC:	s found:	0	(ug/L or ug/K	(g) UG	/L	<del></del>		
CAS NO.		COMPOUND NAME		RT	EST	r. con	C.	Q

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

Data File Nam vb02275.d Operator Skelton

Sample Name Field ID

Date Acquired 1 Dec 98 7:17 pm

4089.02 Field Blank

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			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				detected	2	0.24 ug/L	
67-64-1	Acetone				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			<del></del>	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	0.23 ug/L	
56-23-5	Carbon Tetrachloride				detected	2	0.47 ug/L	
71-43-2	Benzene			not	detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane				detected	2	0.18 ug/L	
79-01-6	Trichloroethene				detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane				detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane				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				detected	400	0.59 ug/L	
108-88-3	Toluene				detected	1000	0.37 ug/L	
10061-02-6					detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane				detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene				detected		0.32 ug/L	
591-78-6	2-Hexanone				detected	nle	0.71 ug/L	
	Dibromochloromethane			<del></del>	detected	_ 10_	0.86 ug/L	
108-90-7	Chlorobenzene				detected	4	0.39 ug/L	
100-41-4	Ethylbenzene				detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes				detected	nle	1.14 ug/L	
1330-20-7	o-Xylene		<del></del>		detected	nle	0.62 ug/L	
100-42-5	Styrene				detected	100	0.56 ug/L	
75-25-2	Bromoform		<del></del>		detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethan				detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene				detected	600	0.47 ug/L 0.55 ug/L	
106-46-7	1,4-Dichlorobenzene				detected	75	0.57 ug/L	——
95-50-1	1,2-Dichlorobenzene				detected			
フノーノリーし	1,4-171011010001126116			not	uciccicu	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		Fie	id Bla	nk
NJDEP#	13461	Ca	se No.: 4089	SDG I	No	Lo	cation	UST	
Matrix: (soil/	water)	WATER	_	L	ab Sample	D:	4089.02		
Sample wt/vo	ol:	5.0	(g/ml) ML	L	ab File ID:		VB0227	5.D	
Level: (low/r	ned)	LOW	_	D	ate Receiv	ved:	11/30/98	3	_
% Moisture:	not dec.			D	ate Analyz	zed:	12/01/98	3	
GC Column:	HP5M	S ID: 0.	25 (mm)	D	ilution Fac	tor:	1.0		_
Soil Extract \	/olume:		(uL)	S	oil Aliquot	Volu	me:		(uL)
				CONCENTRA	ATION UN	ITS:			
Number TICs	s found:	0	· 	(ug/L or ug/K	g) <u>UG</u>	/L			
CAS NO.		COMPO	JND NAME		RT	ES	T. CON	<b>c</b> .	Q

= 1

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

Data File Nam vb02278.d Skelton

Sample Name

4091.01

Operator

Field ID

Bldg913

Date Acquired 1 Dec 98 9:33 pm

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			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			<u>n</u> ot	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 e	detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not e	detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not e	detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not e	detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not o	detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ethe			not o	detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not o	detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not o	detected	400	0.59 ug/L	
108-88-3	Toluene			not o	detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloroprope			not o	detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not o	detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not o	detected	1	0.32_ug/L	
591-78-6	2-Hexanone			not o	detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not o	letected	10	0.86 ug/L	
108-90-7	Chlorobenzene				detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not o	detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not o	detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not o	letected	nle	0.62 ug/L	
100-42-5	Styrene			not o	letected	100	0.56 ug/L	
75-25-2	Bromoform			not o	letected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethan			not o	letected	2	0.47_ug/L	
541-73-1	1,3-Dichlorobenzene			not o	letected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not o	detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not (	letected	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

					CONDO		1	1
Lab Name:	FMETL			Project	980932	2	Bldg.	913
NJDEP#	13461	c	ase No.: 409	1SDG	No	Loc	cation <u>US</u>	Τ
Matrix: (soil/v	vater)	WATER	<del></del>		Lab Sampl	e ID: 4	1091.01	
Sample wt/vo	ol:	5.0	(g/ml) ML		Lab File ID	: \( \)	/B02278.D	
Level: (low/n	ned)	LOW			Date Recei	ved: 1	1/30/98	
% Moisture: r	not dec.				Date Analy	zed: 1	12/01/98	
GC Column:	HP5M	S ID: 0	0.25 (mm)		Dilution Fa	ctor: 1	1.0	<u></u>
Soil Extract V	/olume:		(uL)		Soil Aliquot	t Volun	ne:	(uL)
Number TICs	found:	0		CONCENTF (ug/L or ug/l				
CAS NO.		COMPO	OUND NAME		RT	EST	CONC.	Q

# **BASE NEUTRAL**

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

Data File Name BNA01479.D

Sample Name

Operator

Skelton

Date Acquired 2 Dec 1998 5:00 pm

Misc Info Sblk174 A 98120

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/L	
62-53-3	Aniline			not detected	NLE	2,90		
111-44-4	bis(2-Chloroethyl)ether			not detected	10	2.45	-	
541-73-1	1,3-Dichlorobenzene	1		not detected	600	2.65	_	
106-46-7	1,4-Dichlorobenzene			not detected	75	2.50		
100-51-6	Benzyl alcohol			not detected	NLE		ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600		ug/L	
108-60-1	bis(2-chloroisopropyl)ether	1		not detected	300		ug/L	
621-64-7	n-Nitroso-di-n-propylamine	1		not detected	20		ug/L	
67-72-1	Hexachloroethane	<del> </del>		not detected	10		ug/L	
98-95-3	Nitrobenzene	-		not detected	10	<del></del>	ug/L	
78-59-1	Isophorone	1		not detected	100		ug/L	
111-91-1	bis(2-Chloroethoxy)methane	<del> </del>		not detected	NLE		ug/L	
120-82-1	1.2.4-Trichlorobenzene	<del> </del>		not detected	9		ug/L	
91-20-3	<del>-                                    </del>	1		not detected	NLE		ug/L	<b></b>
106-47-8	Naphthalene 4-Chloroaniline	1-		not detected	NLE NLE		ug/L	<del>                                     </del>
87-68-3	4-Chloroannine Hexachlorobutadiene							<del></del>
				not detected	) ME		ug/L	$\vdash -$
91-57-6 77-47-4	2-Methylnaphthalene Hexachlorocyclopentadiene	1		not detected	NLE 50		ug/L ug/L	<del> </del>
_	<del>                                     </del>	+		not detected		- 1	т.	<del></del>
91-58-7	2-Chloronaphthalene	<del> </del>		not detected	NLE		ug/L	<del> </del>
88-74-4	2-Nitroaniline	┼		not detected	NLE		ug/L	<del>                                     </del>
131-11-3	Dimethylphthalate	-}		not detected	7000		ug/L	
208-96-8	Acenaphthylene	<del> </del>		not detected	NLE	2.35	_	<del> </del>
606-20-2	2,6-Dinitrotoluene	+		not detected	NLE		ug/L	├
99-09-2	3-Nitroaniline			not detected	NLE		ug/L	<del> </del>
83-32-9	Acenaphthene			not detected	400		ug/L	
132-64-9	Dibenzofuran			not detected	NLE		ug/L	<del> </del>
121-14-2	2,4-Dinitrotoluene	1		not detected	10		ug/L ~	<u> </u>
84-66-2	Diethylphthalate	╅—		not detected	5000		ug/L	<del> </del>
86-73-7	Fluorene	┥┈─		not detected	300		ug/L	<del> </del>
7005-72-3	4-Chlorophenyl-phenylether	╅—		not detected	NLE		ug/L	├──
100-01-6	4-Nitroaniline	┿		not detected	NLE		ug/L	
86-30-6	n-Nitrosodiphenylamine	┥		not detected	20		ug/L	
103-33-3	Azobenzene	┼	ļ	not detected	NLE		ug/L	⊢—
101-55-3	4-Bromophenyl-phenylether	Н—		not detected	NLE		ug/L	├
118-74-1	Hexachlorobenzene	+		not detected	10		ug/L	
85-01-8	Phenanthrene	+	<del> </del>	not detected	NLE		ug/L	<u> </u>
120-12-7	Anthracene	╂	<del> </del>	not detected	2000		ug/L	⊢–
84-74-2	Di-n-butylphthalate			not detected	900		ug/L	├
206-44-0	Fluoranthene		<u> </u>	not detected	300		ug/L	<b>!</b>
92-87-5	Benzidine	+	<u> </u>	not detected	50	4.11	ug/L	<b>_</b>
129-00-0	Pyrene	┥		not detected	200		ug/L	<b>├</b>
85-68-7	Butylbenzylphthalate	<b></b>	ļ	not detected	100		ug/L	ļ
56-55-3	Benzo[a]anthracene	┿	<u> </u>	not detected	10		ug/L	<u> </u>
91-94-1	3,3'-Dichlorobenzidine	<b>↓</b>	ļ	not detected	60	2,28	ug/L	<b>!</b>
218-01-9	Chrysene			not detected	20	2.32	ug/L	<b>↓</b>
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	1.29	ug/L	<u> </u>
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	$L^-$
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20		ug/L	
53-70-3	Dibenz[a,h]anthracene		[	not detected	20	<del>,                                    </del>	ug/L	
191-24-2	Benzo[g,h,i]perylene		1	not detected	NLE	1.13		1

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

#### 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

R.T. = Retention Time

#### 1F

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

								Child	174
Lab Name:	FMETL			Lab	b Code 1	13461		Sbik	
Project	980932	C	ase No.: 4089	L	Location	UST	_ s	DG No.:	
Matrix: (soil/v	vater)	WATER	_		Lab S	Sample	ID:	Sblk174	
Sample wt/vo	ol:	1000	(g/ml) ML		Lab I	File ID:		BNA01479.	)
Level: (low/n	ned)	LOW			Date	Receiv	/ed:	11/30/98	·
% Moisture:	· · · · · · · · · · · · · · · · · · ·	de	canted: (Y/N)	N	Date	Extrac	ted:	12/01/98	
Concentrated	d Extract	Volume:	1000 (uL)		Date	Analyz	:ed:	12/02/98	
Injection Volu		Dilution Factor: 1			1.0				
GPC Cleanup: (Y/N) N pH: 7									
				CO	NCENTR	ATION	UNI	TS:	
Number TICs	s found:	0		(ug/	L or ug/K	(g)	UG/	<u>L</u>	
CAS NUME	3ER	СОМРО	UND NAME			RT	ES	ST. CONC.	Q

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

Data File Name hna01492 d

Sample Name

4089.02 Field Blank

1

Onerator Date Acquired Skelton 3 Dec 1998 2:22 am Misc Info Sample Multiplier

Regulatory Level CAS# R.T. MDL Response Result Qualifier (ug/l)' 110-86-1 Pyridine not detected NLE 2.52 ug/L 62-75-9 N-nitroso-dimethylamine 2.64 ug/L not detected 20 62-53-3 Aniline 2.90 not detected NLE ug/L 111-44-4 ug/L bis(2-Chloroethyl)ether 2.45 not detected 10 541-73-1 2.65 1,3-Dichlorobenzene 600 ug/L not detected 106-46-7 1,4-Dichlorobenzene not detected 2.50 ug/L 100-51-6 Benzyl alcohol not detected 2.09 ug/L 95-50-1 2.44 1,2-Dichlorobenzene not detected ug/L 108-60-1 bis(2-chloroisopropyl)ether 2.96 not detected 300 ug/L n-Nitroso-di-n-propylamine 621-64-7 not detected 2.22 ug/L 20 2.59 67-72-1 Hexachloroethane not detected 10 ug/L 98-95-3 Nitrobenzene not detected 10 2.45 ug/L 2.31 ug/L 78-59-1 Isophorone not detected 100 2.54 ug/L 111-91-1 NLE bis(2-Chloroethoxy)methane not detected 1,2,4-Trichlorobenzene 2.58 ug/L 120-82-1 not detected 91-20-3 Naphthalene not detected 3.03 ug/L not detected 106-47-8 4-Chloroaniline NLE 2.55 ug/L Hexachlorobutadiene 0.64 87-68-3 ug/L 91-57-6 2-Methylnaphthalene not detected NLE 2.49 ug/L 77-47-4 1.59 ug/L Hexachlorocyclopentadiene not detected 50 2.15 ug/L 91-58-7 2-Chloronaphthalene not detected NLE 2-Nitroaniline 1.62 ug/L 88-74-4 not detected NLE 2.74 ug/L 131-11-3 Dimethylphthalate 7000 not detected Acenaphthylene 2.35 ug/L not detected 606-20-2 2,6-Dinitrotoluene 1.54 ug/L not detected 99-09-2 3-Nitroaniline NLE 1.62 ug/L 1 98 83-32-9 Acenaphthene not detected ug/L 132-64-9 not detected 2.13 Dibenzofuran NLE ug/L 121-14-2 2,4-Dinitrotoluene not detected 10 1.22 ug/L 84-66-2 Diethylphthalate not detected 5000 1.68 ug/L 1.93 ug/L 86-73-7 Fluorene not detected 300 1.53 7005-72-3 4-Chlorophenyl-phenylether NLE ug/L not detected 100-01-6 4-Nitroaniline NLE 2.70 ug/L not detected 86-30-6 n-Nitrosodiphenylamine 1.73 ug/L 1.92 103-33-3 Azobenzene not detected ug/L 101-55-3 1.54 4-Bromophenyl-phenylether NLE ug/L 118-74-1 Hexachlorobenzene 1.88 not detected 10 ug/L 85-01-8 1.67 Phenanthrene not detected NLE ug/L Anthracene not detected 120-12-7 2000 1.79 ug/L 1.83 ug/L 84-74-2 Di-n-butylphthalate not detected 900 1.85 ug/L 206-44-0 Fluoranthene not detected 300 4.11 ug/L 92-87-5 Benzidine not detected 50 129-00-0 Pyrene not detected 200 1.02 ug/L 85-68-7 Butylbenzylphthalate 1.15 ug/L 1.57 56-55-3 Benzo[a]anthracen not detected ug/L 91-94-1 3,3'-Dichlorobenzidine 2 28 not detected ug/L 218-01-9 2,32 Chrysene not detected 20 ug/L 117-81-7 1.29 ug/L bis(2-Ethylhexyl)phthalate not detected 30 117-84-0 Di-n-octylphthalate 1.30 ug/L not detected 100 not detected 1.31 ug/L 205-99-2 Benzo[b]fluoranthene 10 207-08-9 1.57 ug/L Benzo[k]fluoranthene not detected 1.36 ug/L 50-32-8 Benzo[a]pyrene not detected 20 193-39-5 Indeno[1,2,3-cd]pyrene 1.22 ug/L not detected 70 53-70-3 Dibenz[a,h]anthracene not detected 20 3.12 ug/L 191-24-2 Benzo[g,h,i]perylene NLE 1.13 ug/L

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

#### 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

R.T. = Retention Time

not detected

#### 1F SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Г	IELU	IL

Lab Name:	FMETL		Lab Cod	de 13461		Field B	lank	
Project	980932	Case No.: 4089	<del></del>	ion UST	s	DG No.:		
Matrix: (soil/	water)	WATER		Lab Sampl	e ID:	4089.02		
Sample wt/vo	ol:	1000 (g/ml) ML	(	Lab File ID		BNA01492.D	)	
Level: (low/r	med)	LOW	i	Date Recei	ved:	11/30/98		
% Moisture:		decanted: (Y/N)	N I	Date Extra	cted:	12/01/98		
Concentrate	d Extract	Volume: <u>1000</u> (uL)	Date Analyzed: 1			12/03/98		
Injection Vol	ume: <u>1.0</u>	0 (uL)	Dilution Factor: 1			1.0		
GPC Cleanup: (Y/N) N pH: 7								
Number TICs	s found:	0	CONCEI	NTRATION ug/Kg)	UNI UG/			
CAS NUME	BER	COMPOUND NAME		RT	ES	ST. CONC.	Q	

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

 Data File Name
 bna01495.d
 Sample Name
 4091.02

 Operator
 Skelton
 Misc Info
 Bldg913

 Date Acquired
 3 Dec 1998 4:32 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/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	$\vdash$		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	<del>                                     </del>		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	<del></del>
91-57-6	2-Methylnaphthalene			not detected	NLE	2.49 ug/L	
77-47-4	Hexachlorocyclopentadiene	<b> </b>		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	<del>                                     </del>
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			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	<del></del>
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	<b></b>		not detected	NLE	1.54 ug/L	<b>—</b> —
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	1.73 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	<u> </u>		not detected	200	1.02 ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.02 ug/L	
56-55-3	Benzo[a]anthracene		<del></del>	not detected	100	1.13 ug/L 1.57 ug/L	<del></del>
91-94-1	3,3'-Dichlorobenzidine	<del>                                     </del>		not detected	60	2.28 ug/L	
218-01-9	Chrysene	<del>                                     </del>		not detected	20	2.28 ug/L 2.32 ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate	24.51	90509		30	1.29 ug/L	
117-84-0		24.31	90309	2.68 ug/L	_	1.29 ug/L 1.30 ug/L	<u> </u>
	Di-n-octylphthalate	<del> </del>	<del></del>	not detected	100	<del></del>	
205-99-2	Benzo[b]fluoranthene	-		not detected	10	1.31 ug/L	
207-08-9	Benzo[k]fluoranthene	<del> </del>		not detected	2	1.57 ug/L	<del>                                     </del>
50-32-8	Benzo[a]pyrene	<del>   </del>		not detected	20	1.36 ug/L	<b></b>
193-39-5	Indeno[1,2,3-cd]pyrene	<del> </del>	<u> </u>	not detected	20	1.22 ug/L	<del></del>
53-70-3	Dibenz[a,h]anthracene	<del> </del>		not detected	20	3.12 ug/L	<u> </u>
191-24-2	Benzo[g,h,i]perylene	<u>.                                    </u>	L	not detected	NLE	1.13 ug/L	

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

#### 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

R.T. = Retention Time

1F

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID

TENTATIVELY IDENTIFIED COMPOUND:
----------------------------------

511.04

Lab Name:	FMETL		Lab Code 13461	Bldg913
			<del></del>	
Project	980932	Case No.: 4091	Location UST SD	G No.:
Matrix: (soil/	water)	WATER	Lab Sample ID: 4	091.02
Sample wt/v	ol:	1000 (g/ml) ML	Lab File ID:	BNA01495.D
Level: (low/r	med)	LOW	Date Received: _1	1/30/98
% Moisture:		decanted: (Y/N)	N Date Extracted: 1	2/01/98
Concentrate	d Extract	Volume: <u>1000</u> (uL)	Date Analyzed: 1	2/03/98
Injection Vol	ume: <u>1.0</u>	0 (uL)	Dilution Factor: 1	.0
GPC Cleanu	ıp: (Y/N)	N pH: 7	_	
			CONCENTRATION UNITS	<b>3</b> :
Number TIC	s found:	0	(ug/L or ug/Kg) UG/L	
CAS NUMI	BER	COMPOUND NAME	RT EST	CONC. Q

FORM I SV-TIC

#### 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.	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 Methods for further guidance.

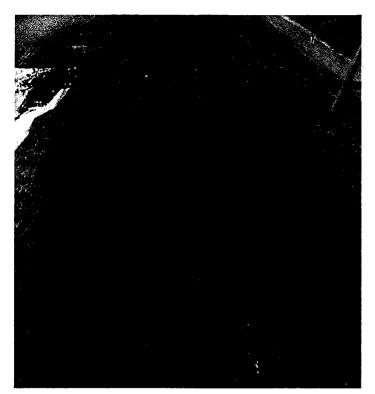
Laboratory Certification #13461

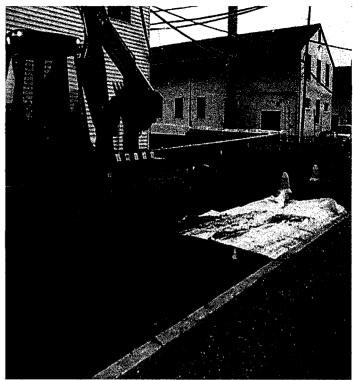
#### **Laboratory Authentication Statement**

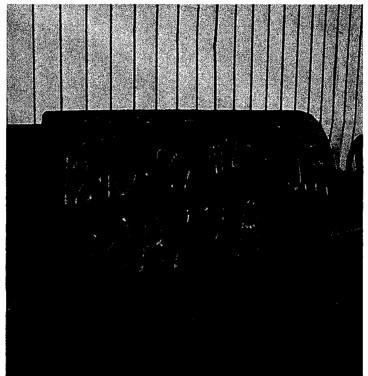
I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information 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

the state of







**DECEMBER 10, 1997** 

## **PHOTOGRAPHIC LOG**

UST NO. 81533-151

**Building 913 Main Post-West Fort Monmouth** 

VERSAR

Engineers, Managers, Scientists & Planners Bristol, PA