United States Army
Fort Monmouth, New Jersey

COPY

Underground Storage Tank Closure and Site Investigation Report

Building 912
Main Post-West Area

NJDEP UST Registration No. 81533-150
Dicar No. 97-12-29-1342-37

December 1998

UNDERGROUND STORAGE TANK
CLOSURE AND SITE INVESTIGATION REPORT

BUILDING 912

MAIN POST-WEST AREA
NJDEP UST REGISTRATION NO. 81533-150

DECEMBER 1998

PREPARED FOR:

UNITED STATES ARMY, FORT MONMOUTH, NEW JERSEY
DIRECTORATE OF PUBLIC WORKS
BUILDING 167
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912.DOC

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UST Closure

On December 29, 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. 0081533-150 (Fort Monmouth ID No. 912), was located west of Building 912. UST No. 0081533-150 was a 1,000-gallon #2 fuel oil UST.

Site Assessment

The site assessment was performed by U.S. Army personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual.* The sampling and laboratory analysis conducted during the site assessment were performed in accordance with Section 7:26E-2.1 of the *Technical Requirements for Site Remediation.* Soils surrounding the tank were screened visually and with air monitoring equipment for evidence of contamination. Following removal, the UST was inspected for corrosion holes. Numerous holes were noted in the UST. Soils at the location of the holes were dark in color and appeared to be contaminated. Based on the inspection of the UST, Directorate of Public Works (DPW) concluded that a discharge was associated with this UST. The NJDEP hotline was notified and the case was assigned DICAR No. 97-12-29-1342-37. Approximately 68 cubic yards of potentially contaminated soil were removed from the excavated area and stored at the Fort Monmouth petroleum contaminated soil staging area. Soil samples, which were collected after the removal of the potentially contaminated soil, contained TPHC concentrations ranging from non-detect to 420.19 mg/kg, except for sample H that had a TPHC concentration of 5909.33 mg/kg. The sample location could not be further remediated due to underground utilities and a water main. A VOA analysis (EPA Method 8260) was completed on sample H and all known compounds searched for in the analysis were not detected. Fifteen tentatively identified compounds were detected below the method detection limit. Perched water was encountered at 6.0 feet below ground surface and sheen was observed.

All post excavation soil samples collected from the UST excavation at Building 912 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 sheen on perched water, two (2) groundwater samples were collected at Building 912. On October 29, 1998, and November 30, 1998, Building 912 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. 81533-150 at Building 912.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 81533-150, was closed at Building 912 at the Main Post-West area of U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on December, 29, 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. 81533-150 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. 81533-150 proceeded under the approval of the NJDEP Bureau of Underground Storage Tanks (NJDEP-BFCM). The Standard Reporting Form and signed Site Assessment Summary form for UST No. 81533-150 are included in Appendices A and B, respectively.

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

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

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

1.2 SITE DESCRIPTION

Building 912 is located in the Main Post-West area of the Fort Monmouth Army Base. UST No. 0081533-150 was located west of Building 912 and appurtenant copper piping ran approximately nine (9) feet east from the excavation to Building 912. 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 912. 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 912 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 912 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 125 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-BUST 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. Approximately 68 cubic yards of potentially contaminated soil were removed from the excavated area and stored at the Fort Monmouth petroleum contaminated soil staging area. Soil samples, which were collected after the removal of the potentially contaminated soil, contained TPHC concentrations ranging from non-detect to 420.19 mg/kg, except for sample H that had a TPHC concentration of 5909.33 mg/kg. The sample location could not be further remediated due to underground utilities and a water main. A VOA analysis (EPA Method 8260) was completed on sample H and all known compounds searched for in the analysis were not detected. Fifteen tentatively identified compounds were detected below the method detection limit. Perched water was encountered at 6.0 feet below ground surface and sheen was observed.

1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The tank was transported in compliance with all applicable regulations and laws to Mazza and Sons, Inc., Metal Recyclers. Please refer to Appendix D for the UST Disposal Certificate and Appendix G for photographs of the tank.

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

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

1.6 MANAGEMENT OF EXCAVATED SOILS

Based on OVA air monitoring and TPHC analysis results from the post-excavation soil samples, approximately 68 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. Perched water was encountered at 6.0 feet below ground surface and sheen was observed.

2.0 SITE INVESTIGATION ACTIVITIES

2.1 OVERVIEW

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

The following Parties participated in Closure and Site Investigation Activities:

- Subsurface Evaluator: Dinker Desai
  Employer: U.S. Army, Fort Monmouth
  Phone Number: (908) 532-0989
  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 15 ppm. Approximately 68 cubic yards of potentially petroleum contaminated soil were removed from the excavated area and transported to the Fort Monmouth petroleum contaminated soil holding area. Perched water was encountered at 6.0 feet below ground surface and sheen was observed.

2.3 SOIL SAMPLING

On January 14, 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 7.5 feet bgs. Sidewall samples D, E, F, G, H, and I were collected at a depth of 6.0 feet bgs. Piping sample J was collected along the former piping length of the excavation, which was approximately nine (9) feet in length. The piping sample was collected at a depth of 1.5 feet bgs. All samples were analyzed for total petroleum hydrocarbons (TPHC) and total solids. Based on preliminary TPHC results, a VOA analysis (EPA Method 8260) was completed on sample H.

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

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

To evaluate soil conditions following removal of the UST and associated piping, post-excavation soil samples were collected on January 14,1998 from a total of ten (10) locations. All samples were analyzed for TPHC and total solids. In addition, sample H was analyzed for VOA. The post-excavation sampling results were compared to the NJDEP residential direct contact total organic contaminants soil cleanup criteria of 10,000 mg/kg (N.J.A.C. 7:26D and revisions dated February 3, 1994). A summary of the analytical results and comparison to the NJDEP soil cleanup criteria is provided in Table 2 and the soil sampling locations are shown on Figure 4. The VOA anaylsis for sample H was compared to the NJDEP residential direct contact soil cleanup criteria and is included as Table 3. The analytical data package is provided in Appendix E.

All post-excavation soil samples collected on January 14, 1998, from the UST excavation and from below piping associated with the UST contained concentrations of TPHC below the NJDEP soil cleanup criteria.

3.2 GROUNDWATER SAMPLING RESULTS

The sample collected from Building 912 on October 29, 1998, contained naphthalene at 14.78 ug/l, 2-methylnaphthalene at 29.65 ug/l, and phenanthrene at 3.72 ug/l . No other compounds were detected. Methylene chloride was detected in the field blank at a concentration of 5.54 ug/l. No other compounds were detected in the field blank. The methylene chloride concentration exceeds the GWQS on account of laboratory contamination.

No compounds were detected in the sample collected from Building 912 on November 30,1998.

A summary of the analytical results and comparison to the NJDEP groundwater cleanup criteria is provided in Table 4 and the groundwater sampling locations are shown on Figure 5. The analytical data package is provided in Appendix F. The full data package, including quality control, is on file at U.S. 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 912 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 912 on October 29, 1998, and November 30, 1998, groundwater quality at Building 912 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. 81533-150 at Building 912.

TABLES

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING 912, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	NJDEP Method
A	1/14/98	1/15/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
B	1/14/98	1/15/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
C	1/14/98	1/15/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
D	1/14/98	1/15/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
E	1/14/98	1/15/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
F	1/14/98	1/15/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
G	1/14/98	1/15/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
H	1/14/98	1/15/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
I	1/14/98	1/15/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
J	1/14/98	1/15/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
DUP B	1/14/98	1/15/98	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:
* TPHC Total Petroleum Hydrocarbons

TABLE 1

SUMMARY OF SAMPLING ACTIVITIES
BUILDING 912, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

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
4016.05	10/29/98	11/4/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4016.06	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
4090.01	11/30/98	12/1/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4090.02	11/30/98	12/1/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP

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

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
BUILDING 912, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID/ Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Parameters	Method Detection Limit (mg/kg)	Compound of Concern	Results (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
A/7.5=	3284.01	1/14/98	1/15/98	Total Solid	--	--	78.88 %	--	--
				TPHC	195	yes	199.80	10,000	No
B/7.5=	3284.02	1/14/98	1/15/98	Total Solid	--	--	82.17 %	--	--
				TPHC	187	Yes	ND	10,000	No
C/7.5=	3284.03	1/14/98	1/15/98	Total Solid	--	--	79.74 %	--	--
				TPHC	192	Yes	ND	10,000	No
D/6.0=	3284.04	1/14/98	1/15/98	Total Solid	--	--	85.97 %	--	--
				TPHC	182	yes	ND	10,000	No
E/6.0=	3284.05	1/14/98	1/15/98	Total Solid	--	--	83.85 %	--	--
				TPHC	186	yes	ND	10,000	No
F/6.0=	3284.06	1/14/98	1/15/98	Total Solid	--	--	86.38 %	--	--
				TPHC	178	yes	ND	10,000	No
G/6.0=	3284.07	1/14/98	1/15/98	Total Solid	--	--	90.12 %	--	--
				TPHC	168	Yes	ND	10,000	No
H/6.0=	3284.08	1/14/98	1/15/98	Total Solid	--	--	88.75 %	--	--
				TPHC	170	yes	5909.33	10,000	No
I/6.0=	3284.09	1/14/98	1/15/98	Total Solid	--	--	82.70 %	--	--
				TPHC	184	yes	ND	10,000	No
J/1.5=	3284.10	1/14/98	1/15/98	Total Solid	--	--	84.57 %	--	--
				TPHC	184	yes	420.19	10,000	No
DUPB/6.0=	3284.12	1/14/98	1/15/98	Total Solid	--	--	80.49 %	--	--
				TPHC	194	yes	215.96	10,000	No

Note:

* Total Solid results are expressed as a percentage.

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

ND Not detected above stated method detection limit

TPHC Total Petroleum Hydrocarbons

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 1/14/98 Location: 912 Lab Sample ID: 3284.08(SAMPLE H)

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

CAS NO.	PARAMETER	MDL	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
107028	Acrolein	2000	U	NA	NA
107131	Acrylonitrile	2000	U	1000	5000
75650	tert-Butyl alcohol	3700	U	NA	NA
1634044	Methyl-tert-Butyl ether	850	U	NA	NA
108203	Di-isopropyl ether	570	U	NA	NA
	Dichlorodifluoromethane	1100	U	NA	NA
74-87-3	Chloromethane	280	U	520000	1000000(d)
75-01-4	Vinyl Chloride	850	U	2000	7000
74-83-9	Bromomethane	570	U	79000	1000000(d)
75-00-3	Chloroethane	850	U	NA	NA
75-69-4	Trichlorofluoromethane	570	U	NA	NA
75-35-4	1, 1-Dichloroethene	280	U	8000	150000
67-64-1	Acetone	570	U	1000000(d)	1000000(d)
75-15-0	Carbon Disulfide	280	U	NA	NA
75-09-2	Methylene Chloride	1300		49000	210000
156-60-5	trans-1,2-Dichloroethene	570	U	1000000(d)	1000000(d)
75-35-3	1,1-Dichloroethane	280	U	570000	1000000(d)
108-05-4	Vinyl Acetate	850	U	NA	NA
78-93-3	2-Butanone	850	U	1000000(d)	1000000(d)
156-59-2	cis-1,2-Dichloroethene	280	U	79000	1000000(d)
67-66-3	Chloroform	280	U	19000(k)	28000(k)
75-55-6	1,1,1-Trichloroethane	280	U	NA	NA
56-23-5	Carbon Tetrachloride	570	U	2000(k)	4000(k)
71-43-2	Benzeze	280	U	3000	13000
107-06-2	1,2-Dichloroethane	280	U	6000	24000

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 1/14/98 Location: 912 Lab Sample ID: 3284.08(SAMPLE H)

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

CAS NO.	PARAMETER	MDL	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
79-01-6	Trichloroethene	280	U	23000	54000(k)
78-87-5	1, 2-Dichloropropane	280	U	10000	43000
75-27-4	Bromodichloromethane	280	U	11000(g)	46000(g)
110-75-8	2-Chloroethyl vinyl ether	570	U	NA	NA
10061-01-5	cis-1,3-Dichloropropene	280	U	NA	NA
108-10-1	4-Methyl-2-Pentanone	570	U	1000000(d)	1000000(d)
108-88-3	Toluene	280	U	1000000(d)	1000000(d)
10061-02-6	trans-1,3-Dichloropropene	570	U	NA	NA
79-00-5	1,1,2-Trichloroethane	570	U	22000	420000
127-18-4	Tetrachloroethene	280	U	4000(k)	6000(k)
591-78-6	2-Hexanone	570	U	NA	NA
126-48-1	Dibromochloromethane	570	U	NA	NA
108-90-7	Chlorobenzene	280	U	37000	680000
100-41-4	Ethylbenzene	570	JD	1000000(d)	1000000(d)
1330-20-7	m+p-Xylenes	850	U	NA	NA
1330-20-7	o-Xylene	570	U	NA	NA
100-42-5	Styrene	570	U	23000	97000
75-25-2	Bromoform	570	U	86000	370000
79-34-5	1,1,2,2-Tetrachloroethane	570	U	34000	70000(k)
541-73-1	1,3-Dichlorobenzene	850	U	5100000	10000000(c)
106-46-7	1,4-Dichlorobenzene	850	U	570000	10000000(c)
95-50-1	1,2-Dichlorobenzene	850	U	5100000	10000000(c)

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

SOIL CLEANUP CRITERIA (MG/KG)

(LAST REVISED-7/11/96)

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

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

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

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

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

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

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

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

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

(J) TYPOGRAPHICAL ERROR.

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

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

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

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

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

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

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

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

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 912 Lab Sample ID: 4016.01(Trip Blank)

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

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 912 Lab Sample ID: 4016.01(Trip Blank)

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

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 912 Lab Sample ID: 4016.02(Field Blank)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
107028	Acrolein	1.85	Not Detected	--	50	no
107131	Acrylonitrile	2.78	Not Detected	--	50	no
75650	tert-Butyl alcohol	8.52	Not Detected	--	nle	no
1634044	Methyl-tert-Butyl ether	0.16	Not Detected	--	nle	no
108203	Di-isopropyl ether	0.25	Not Detected	--	nle	no
	Dichlorodifluoromethane	1.68	Not Detected	--	nle	no
74-87-3	Chloromethane	1.16	Not Detected	--	30	no
75-01-4	Vinyl Chloride	1.06	Not Detected	--	5	no
74-83-9	Bromomethane	1.10	Not Detected	--	10	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	5.54	--	2	yes
156-60-5	trans-1,2-Dichloroethene	0.16	Not Detected	--	100	no
75-35-3	1,1-Dichloroethane	0.12	Not Detected	--	70	no
108-05-4	Vinyl Acetate	0.78	Not Detected	--	nle	no
78-93-3	2-Butanone	0.62	Not Detected	--	300	no
156-59-2	cis-1,2-Dichloroethene	0.17	Not Detected	--	10	no
67-66-3	Chloroform	0.30	Not Detected	--	6	no
75-55-6	1,1,1-Trichloroethane	0.23	Not Detected	--	30	no
56-23-5	Carbon Tetrachloride	0.47	Not Detected	--	2	no
71-43-2	Benzeze	0.23	Not Detected	--	1	no
107-06-2	1,2-Dichloroethane	0.18	Not Detected	--	2	no
79-01-6	Trichloroethene	0.23	Not Detected	--	1	no
78-87-5	1, 2-Dichloropropane	0.40	Not Detected	--	1	no
75-27-4	Bromodichloromethane	0.55	Not Detected	--	1	no
110-75-8	2-Chloroethyl vinyl ether	0.65	Not Detected	--	nle	no
10061-01-5	cis-1,3-Dichloropropene	0.69	Not Detected	--	nle	no

Note:
* Compound exceeds criteria due to laboratory contamination

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 912 Lab Sample ID: 4016.02(Field Blank)

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

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 912 Lab Sample ID: 4016.05(Bldg 912)

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

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 912 Lab Sample ID: 4016.05(Bldg 912)

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

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 912 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	no
106-46-7	1,4-Dichlorobenzene	2.50	Not Detected	--	75	no
100-51-6	Benzyl alcohol	2.09	Not Detected	--	nle	no
95-50-1	1,2-Dichlorobenzene	2.44	Not Detected	--	600	no
108-60-1	bis(2-chloroisopropyl)ether	2.96	Not Detected	--	300	no
621-64-7	n-Nitroso-di-n-propylamine	2.22	Not Detected	--	20	no
67-72-1	Hexachloroethane	2.59	Not Detected	--	10	no
98-95-3	Nitrobenzene	2.45	Not Detected	--	10	no
78-59-1	Isophorone	2.31	Not Detected	--	100	no
111-91-1	bis(2-Chloroethoxy)methane	2.54	Not Detected	--	nle	no
120-82-1	1,2,4-Trichlorobenzene	2.58	Not Detected	--	9	no
91-20-3	Naphthalene	3.03	Not Detected	--	nle	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	no

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 912 Lab Sample ID: 4016.02(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	no
83-32-9	Acenaphthene	1.98	Not Detected	--	400	no
132-64-9	Dibenzofuran	2.13	Not Detected	--	nle	no
121-14-2	2,4-Dinitrotoluene	1.22	Not Detected	--	10	no
84-66-2	Diethylphthalate	1.68	Not Detected	--	5000	no
86-73-7	Fluorene	1.93	Not Detected	--	300	no
7005-72-3	4-Chlorophenyl-phenylether	1.53	Not Detected	--	nle	no
100-01-6	4-Nitroaniline	2.70	Not Detected	--	nle	no
86-30-6	n-Nitrosodiphenylamine	1.73	Not Detected	--	20	no
103-33-3	Azobenzene	1.92	Not Detected	--	nle	no
101-55-3	4-Bromophenyl-phenylether	1.54	Not Detected	--	nle	no
118-74-1	Hexachlorobenzene	1.88	Not Detected	--	10	no
85-01-8	Phenanthrene	1.67	Not Detected	--	nle	no
120-12-7	Anthracene	1.79	Not Detected	--	2000	no
84-74-2	Di-n-butylphthalate	1.83	Not Detected	--	900	no
206-44-0	Fluoranthene	1.85	Not Detected	--	300	no
92-87-5	Benzidine	4.11	Not Detected	--	50	no
129-00-0	Pyrene	1.02	Not Detected	--	200	no
85-68-7	Butylbenzylphthalate	1.15	Not Detected	--	100	no
56-55-3	Benzo[a]anthracene	1.57	Not Detected	--	10	no
91-94-1	3,3'-Dichlorobenzidine	2.28	Not Detected	--	60	no
218-01-9	Chrysene	2.32	Not Detected	--	20	no
117-81-7	bis(2-Ethylhexyl)phthalate	1.29	Not Detected	--	30	no
117-84-0	Di-n-octylphthalate	1.30	Not Detected	--	100	no
205-99-2	Benzo[b]fluoranthene	1.31	Not Detected	--	10	no
207-08-9	Benzo[k]fluoranthene	1.57	Not Detected	--	2	no
50-32-8	Benzo[a]pyrene	1.36	Not Detected	--	20	no
193-39-5	Indeno[1,2,3-cd]pyrene	1.22	Not Detected	--	20	no
53-70-3	Dibenz[a,h]anthracene	3.12	Not Detected	--	20	no
191-24-2	Benzo[g,h,i]perylene	1.13	Not Detected	--	nle	no

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 912 Lab Sample ID: 4016.06(Bldg 912)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
110-86-1	Pyridine	2.52	Not Detected	--	nle	no
62-75-9	N-nitroso-dimethylamine	2.64	Not Detected	--	20	no
62-53-3	Aniline	2.90	Not Detected	--	nle	no
111-44-4	bis(2-Chloroethyl)ether	2.45	Not Detected	--	10	no
541-73-1	1,3-Dichlorobenzene	2.65	Not Detected	--	600	no
106-46-7	1,4-Dichlorobenzene	2.50	Not Detected	--	75	no
100-51-6	Benzyl alcohol	2.09	Not Detected	--	nle	no
95-50-1	1,2-Dichlorobenzene	2.44	Not Detected	--	600	no
108-60-1	bis(2-chloroisopropyl)ether	2.96	Not Detected	--	300	no
621-64-7	n-Nitroso-di-n-propylamine	2.22	Not Detected	--	20	no
67-72-1	Hexachloroethane	2.59	Not Detected	--	10	no
98-95-3	Nitrobenzene	2.45	Not Detected	--	10	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	14.78	--	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	29.65	--	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 4
SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 10/29/98 Location: 912 Lab Sample ID: 4016.06(Bldg 912)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
606-20-2	2,6-Dinitrotoluene	1.54	Not Detected	--	nle	no
99-09-2	3-Nitroaniline	1.62	Not Detected	--	nle	no
83-32-9	Acenaphthene	1.98	Not Detected	--	400	no
132-64-9	Dibenzofuran	2.13	Not Detected	--	nle	no
121-14-2	2,4-Dinitrotoluene	1.22	Not Detected	--	10	no
84-66-2	Diethylphthalate	1.68	Not Detected	--	5000	no
86-73-7	Fluorene	1.93	Not Detected	--	300	no
7005-72-3	4-Chlorophenyl-phenylether	1.53	Not Detected	--	nle	no
100-01-6	4-Nitroaniline	2.70	Not Detected	--	nle	no
86-30-6	n-Nitrosodiphenylamine	1.73	Not Detected	--	20	no
103-33-3	Azobenzene	1.92	Not Detected	--	nle	no
101-55-3	4-Bromophenyl-phenylether	1.54	Not Detected	--	nle	no
118-74-1	Hexachlorobenzene	1.88	Not Detected	--	10	no
85-01-8	Phenanthrene	1.67	3.72	--	nle	no
120-12-7	Anthracene	1.79	Not Detected	--	2000	no
84-74-2	Di-n-butylphthalate	1.83	Not Detected	--	900	no
206-44-0	Fluoranthene	1.85	Not Detected	--	300	no
92-87-5	Benzidine	4.11	Not Detected	--	50	no
129-00-0	Pyrene	1.02	Not Detected	--	200	no
85-68-7	Butylbenzylphthalate	1.15	Not Detected	--	100	no
56-55-3	Benzo[a]anthracene	1.57	Not Detected	--	10	no
91-94-1	3,3'-Dichlorobenzidine	2.28	Not Detected	--	60	no
218-01-9	Chrysene	2.32	Not Detected	--	20	no
117-81-7	bis(2-Ethylhexyl)phthalate	1.29	Not Detected	--	30	no
117-84-0	Di-n-octylphthalate	1.30	Not Detected	--	100	no
205-99-2	Benzo[b]fluoranthene	1.31	Not Detected	--	10	no
207-08-9	Benzo[k]fluoranthene	1.57	Not Detected	--	2	no
50-32-8	Benzo[a]pyrene	1.36	Not Detected	--	20	no
193-39-5	Indeno[1,2,3-cd]pyrene	1.22	Not Detected	--	20	no
53-70-3	Dibenz[a,h]anthracene	3.12	Not Detected	--	20	no
191-24-2	Benzo[g,h,i]perylene	1.13	Not Detected	--	nle	no

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 11/30/98 Location: 912 Lab Sample ID: 4089.01(Trip Blank)

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

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 11/30/98 Location: 912 Lab Sample ID: 4089.01(Trip Blank))

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

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 11/30/98 Location: 912 Lab Sample ID: 4089.02(Field Blank)

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

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 11/30/98 Location: 912 Lab Sample ID: 4089.02(Field Blank)

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

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 11/30/98 Location: 912 Lab Sample ID: 4090.01(Bldg 912)

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

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 11/30/98 Location: 912 Lab Sample ID: 4090.01(Bldg 912)

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

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 11/30/98 Location: 912 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	no
111-44-4	bis(2-Chloroethyl)ether	2.45	Not Detected	--	10	no
541-73-1	1,3-Dichlorobenzene	2.65	Not Detected	--	600	no
106-46-7	1,4-Dichlorobenzene	2.50	Not Detected	--	75	no
100-51-6	Benzyl alcohol	2.09	Not Detected	--	nle	no
95-50-1	1,2-Dichlorobenzene	2.44	Not Detected	--	600	no
108-60-1	bis(2-chloroisopropyl)ether	2.96	Not Detected	--	300	no
621-64-7	n-Nitroso-di-n-propylamine	2.22	Not Detected	--	20	no
67-72-1	Hexachloroethane	2.59	Not Detected	--	10	no
98-95-3	Nitrobenzene	2.45	Not Detected	--	10	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	no

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 11/30/98 Location: 912 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	no
83-32-9	Acenaphthene	1.98	Not Detected	--	400	no
132-64-9	Dibenzofuran	2.13	Not Detected	--	nle	no
121-14-2	2,4-Dinitrotoluene	1.22	Not Detected	--	10	no
84-66-2	Diethylphthalate	1.68	Not Detected	--	5000	no
86-73-7	Fluorene	1.93	Not Detected	--	300	no
7005-72-3	4-Chlorophenyl-phenylether	1.53	Not Detected	--	nle	no
100-01-6	4-Nitroaniline	2.70	Not Detected	--	nle	no
86-30-6	n-Nitrosodiphenylamine	1.73	Not Detected	--	20	no
103-33-3	Azobenzene	1.92	Not Detected	--	nle	no
101-55-3	4-Bromophenyl-phenylether	1.54	Not Detected	--	nle	no
118-74-1	Hexachlorobenzene	1.88	Not Detected	--	10	no
85-01-8	Phenanthrene	1.67	Not Detected	--	nle	no
120-12-7	Anthracene	1.79	Not Detected	--	2000	no
84-74-2	Di-n-butylphthalate	1.83	Not Detected	--	900	no
206-44-0	Fluoranthene	1.85	Not Detected	--	300	no
92-87-5	Benzidine	4.11	Not Detected	--	50	no
129-00-0	Pyrene	1.02	Not Detected	--	200	no
85-68-7	Butylbenzylphthalate	1.15	Not Detected	--	100	no
56-55-3	Benzo[a]anthracene	1.57	Not Detected	--	10	no
91-94-1	3,3'-Dichlorobenzidine	2.28	Not Detected	--	60	no
218-01-9	Chrysene	2.32	Not Detected	--	20	no
117-81-7	bis(2-Ethylhexyl)phthalate	1.29	Not Detected	--	30	no
117-84-0	Di-n-octylphthalate	1.30	Not Detected	--	100	no
205-99-2	Benzo[b]fluoranthene	1.31	Not Detected	--	10	no
207-08-9	Benzo[k]fluoranthene	1.57	Not Detected	--	2	no
50-32-8	Benzo[a]pyrene	1.36	Not Detected	--	20	no
193-39-5	Indeno[1,2,3-cd]pyrene	1.22	Not Detected	--	20	no
53-70-3	Dibenz[a,h]anthracene	3.12	Not Detected	--	20	no
191-24-2	Benzo[g,h,i]perylene	1.13	Not Detected	--	nle	no

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 11/30/98 Location: 912 Lab Sample ID: 4090.02(Bldg 912)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
110-86-1	Pyridine	2.52	Not Detected	--	nle	no
62-75-9	N-nitroso-dimethylamine	2.64	Not Detected	--	20	no
62-53-3	Aniline	2.90	Not Detected	--	nle	no
111-44-4	bis(2-Chloroethyl)ether	2.45	Not Detected	--	10	no
541-73-1	1,3-Dichlorobenzene	2.65	Not Detected	--	600	no
106-46-7	1,4-Dichlorobenzene	2.50	Not Detected	--	75	no
100-51-6	Benzyl alcohol	2.09	Not Detected	--	nle	no
95-50-1	1,2-Dichlorobenzene	2.44	Not Detected	--	600	no
108-60-1	bis(2-chloroisopropyl)ether	2.96	Not Detected	--	300	no
621-64-7	n-Nitroso-di-n-propylamine	2.22	Not Detected	--	20	no
67-72-1	Hexachloroethane	2.59	Not Detected	--	10	no
98-95-3	Nitrobenzene	2.45	Not Detected	--	10	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	no

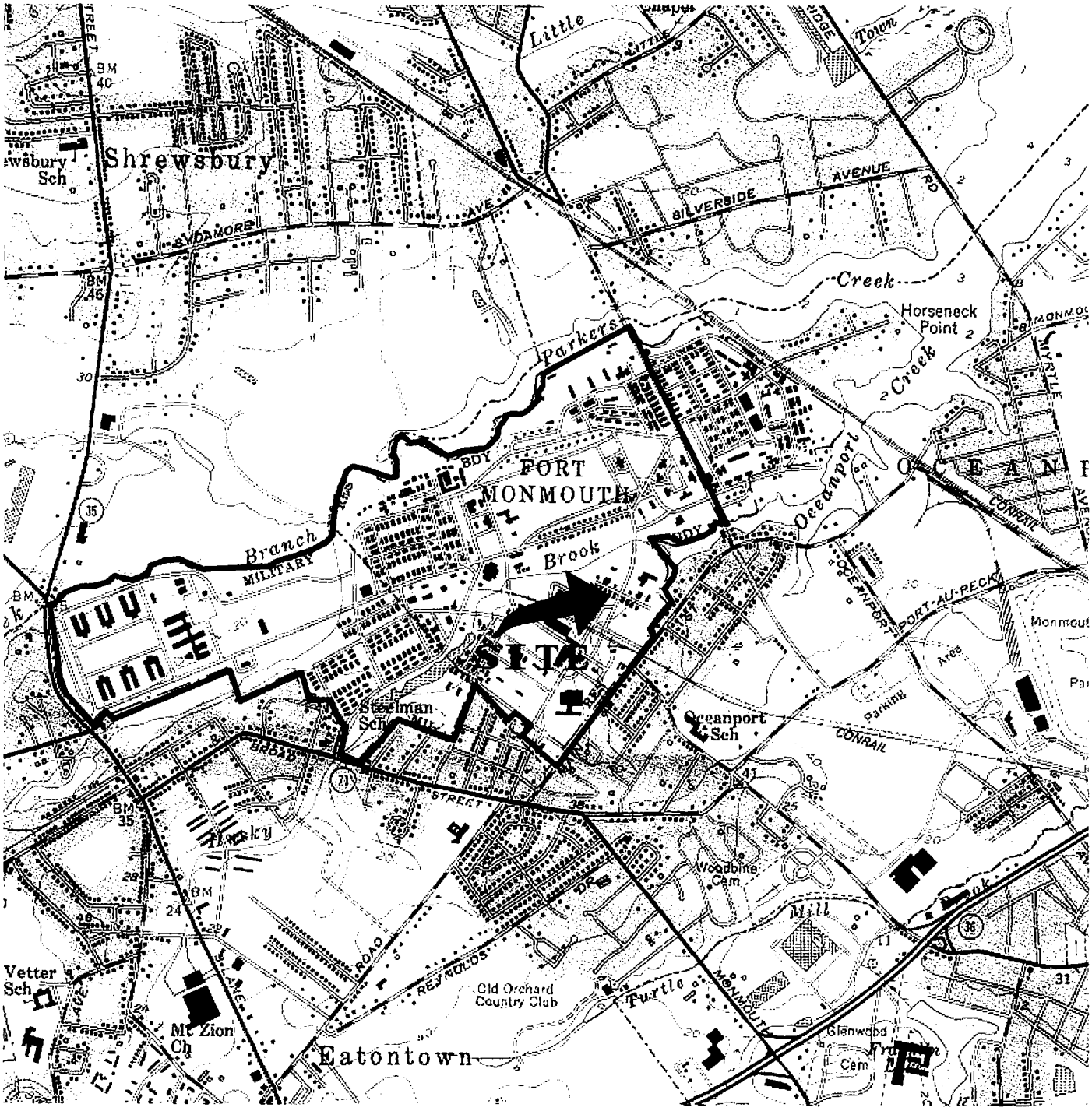
Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 11/30/98 Location: 912 Lab Sample ID: 4090.02(Bldg 912)

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

FIGURES



LONG BRANCH, N. J.

40073-C8-TF-024

1954

PHOTOREVISED 1981

DMA 6164 I SE-SERIES V822

NEW JERSEY

QUADRANGLE LOCATION

Mapped, edited and published by the Geological Survey

FIGURE 1

LOCATION MAP
Building 912
Main-Post West
Fort Monmouth Army Base
Monmouth County, NJ

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

Scale; 1" = 2000'

Date: DEC 1997

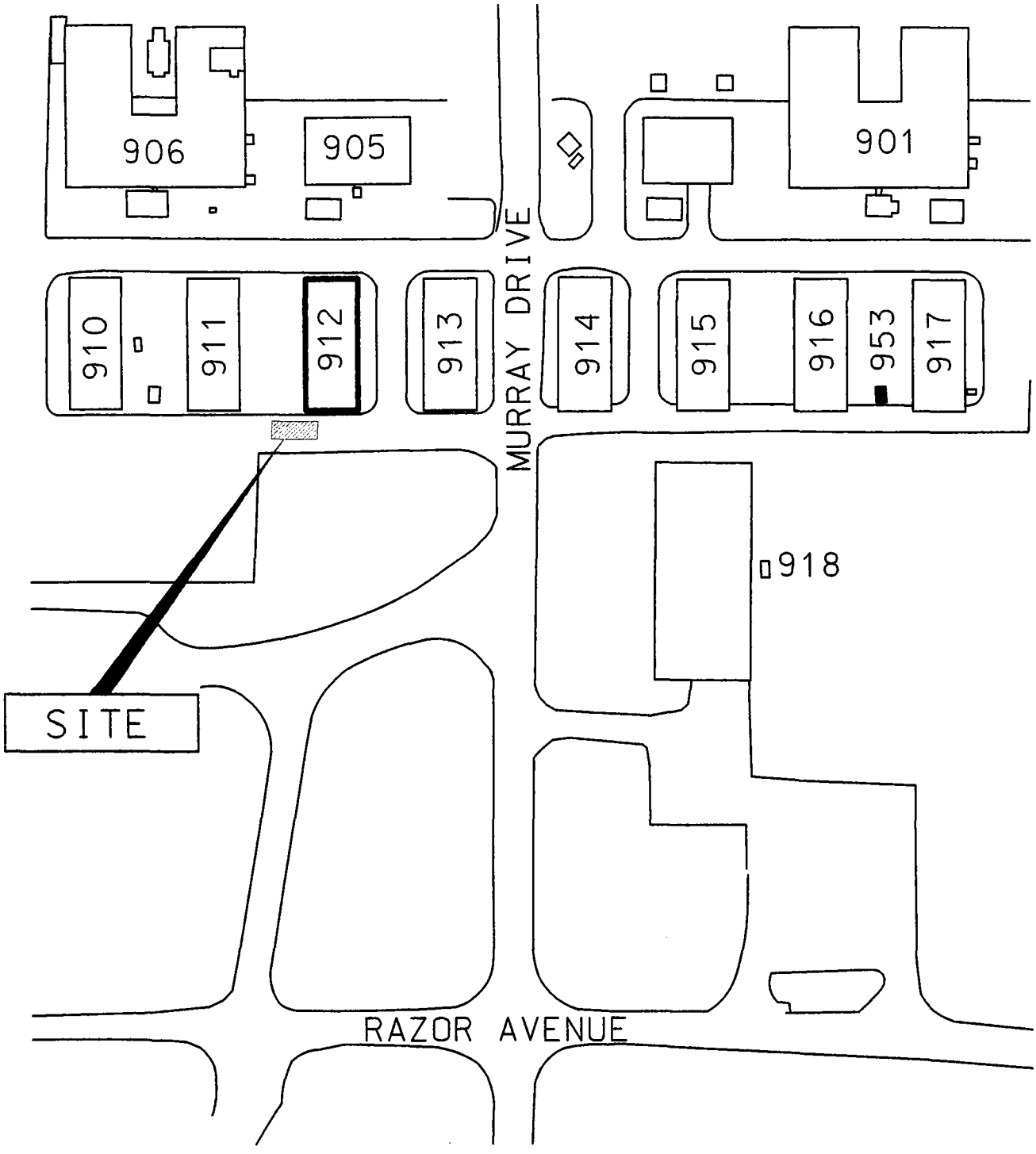


FIGURE 2
SITE MAP
BUILDING 912
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1"=100'

DATE: DEC 1997

912 2429 FIG2

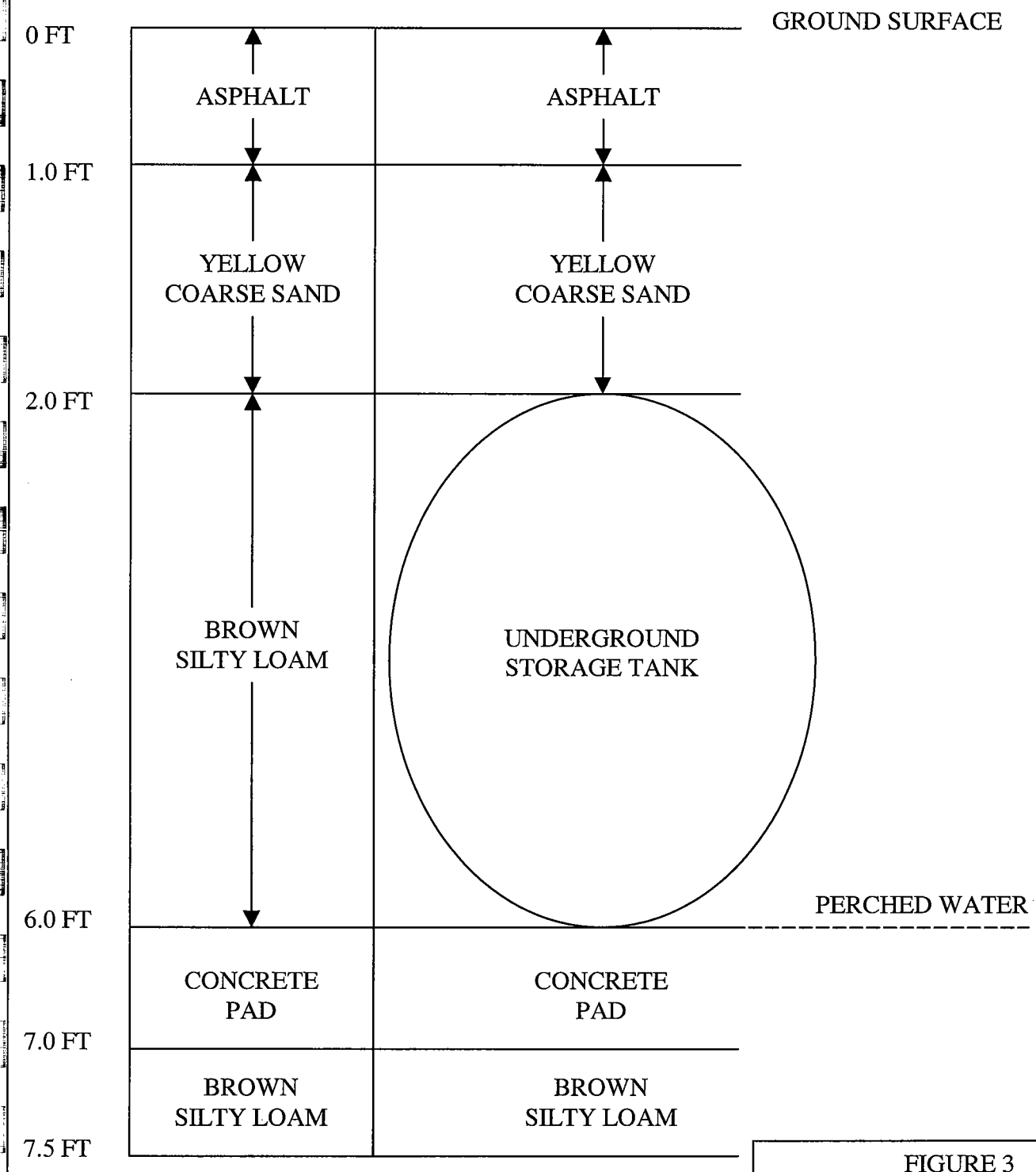
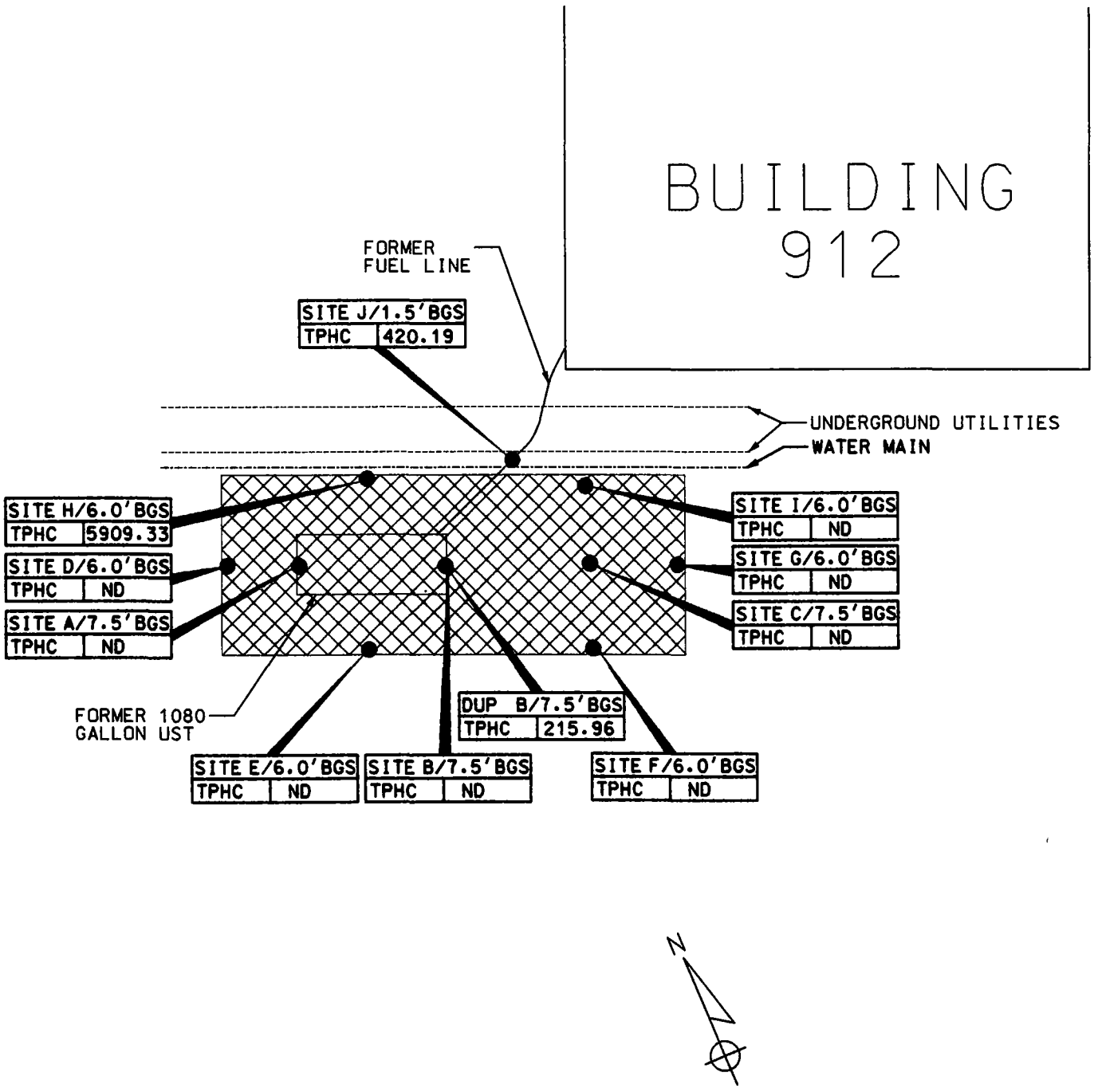


FIGURE 3
CROSS SECTIONAL VIEW
BUILDING 912
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
Engineers, Managers, Scientists & Planners
Bristol, Pennsylvania

SCALE: NTS | DATE: DEC 1997



LEGEND

- SOIL SAMPLE LOCATION (JANUARY 14, 1998)
- LIMIT OF EXCAVATION (JANUARY 14, 1998)

NOTES:

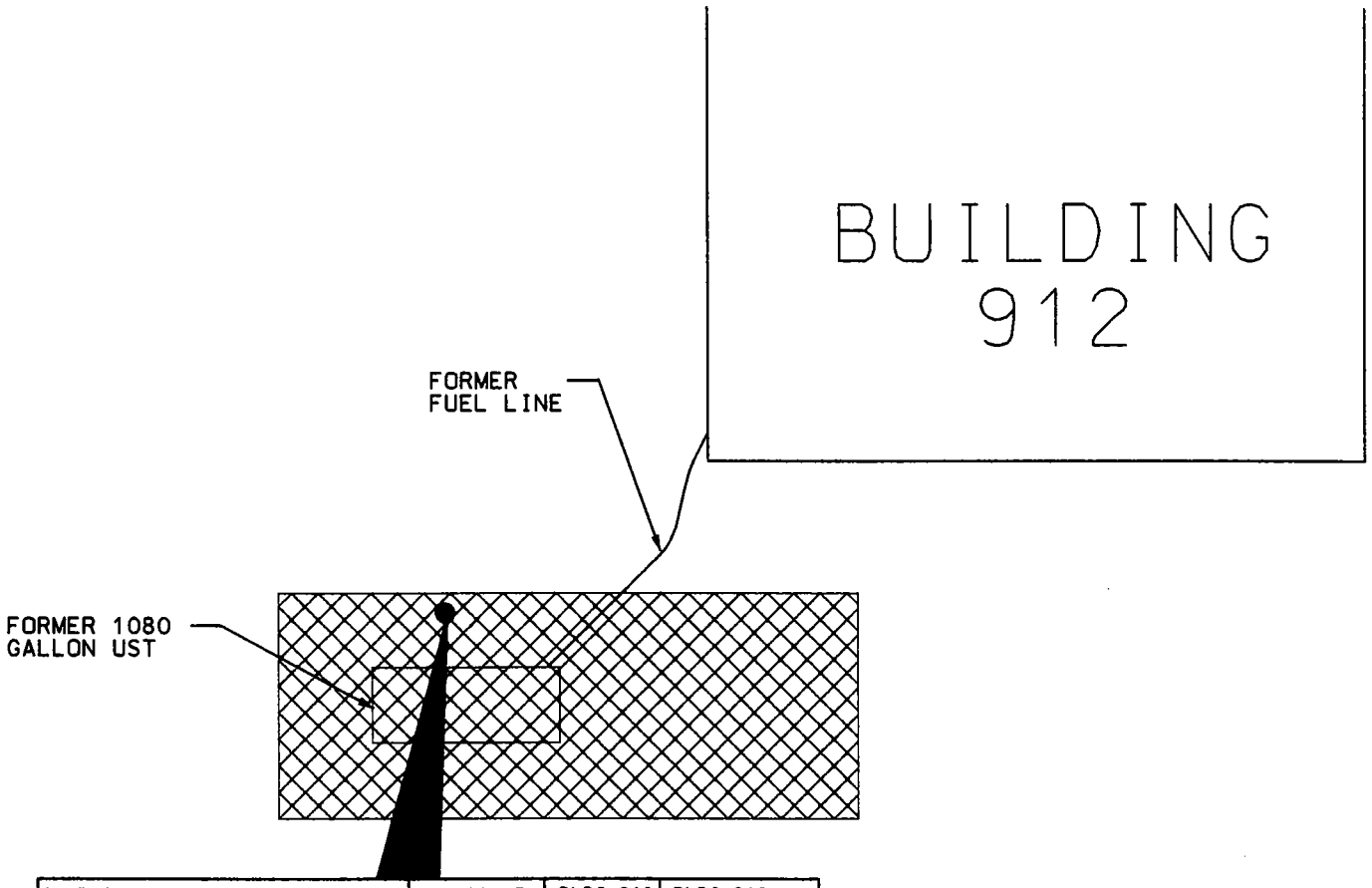
1. ALL RESULTS IN MG/KG.
2. SEE TABLE 2 FOR NJDEP SOIL CLEANUP CRITERIA
3. BGS = BELOW GROUND SURFACE

FIGURE 4
SOIL SAMPLING LOCATION MAP
BUILDING 912
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1"=10' | DATE: DEC 1997

912 2429 FIG4



SAMPLING LOCATION: SAMPLING DEPTH: SAMPLING DATE:	HIGHER OF NJDEP GWQS AND PQL	BLDG 912 7-10'BGS 10/29/98	BLDG 912 7.5-10.5'BGS 11/30/98
VOLATILE ORGANIC COMPOUNDS:		ND	ND
SEMIVOLATILE ORGANIC COMPOUNDS:			
NAPHTHALENE:	NLE	14.78	ND
2-METHYLNAPHTHALENE:	NLE	29.65	ND
PHENANTHRENE:	NLE	3.72	ND

LEGEND

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

LIMIT OF EXCAVATION (JANUARY 14, 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 912
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1"=10' | DATE: DEC 1998

912 2429 FIG5

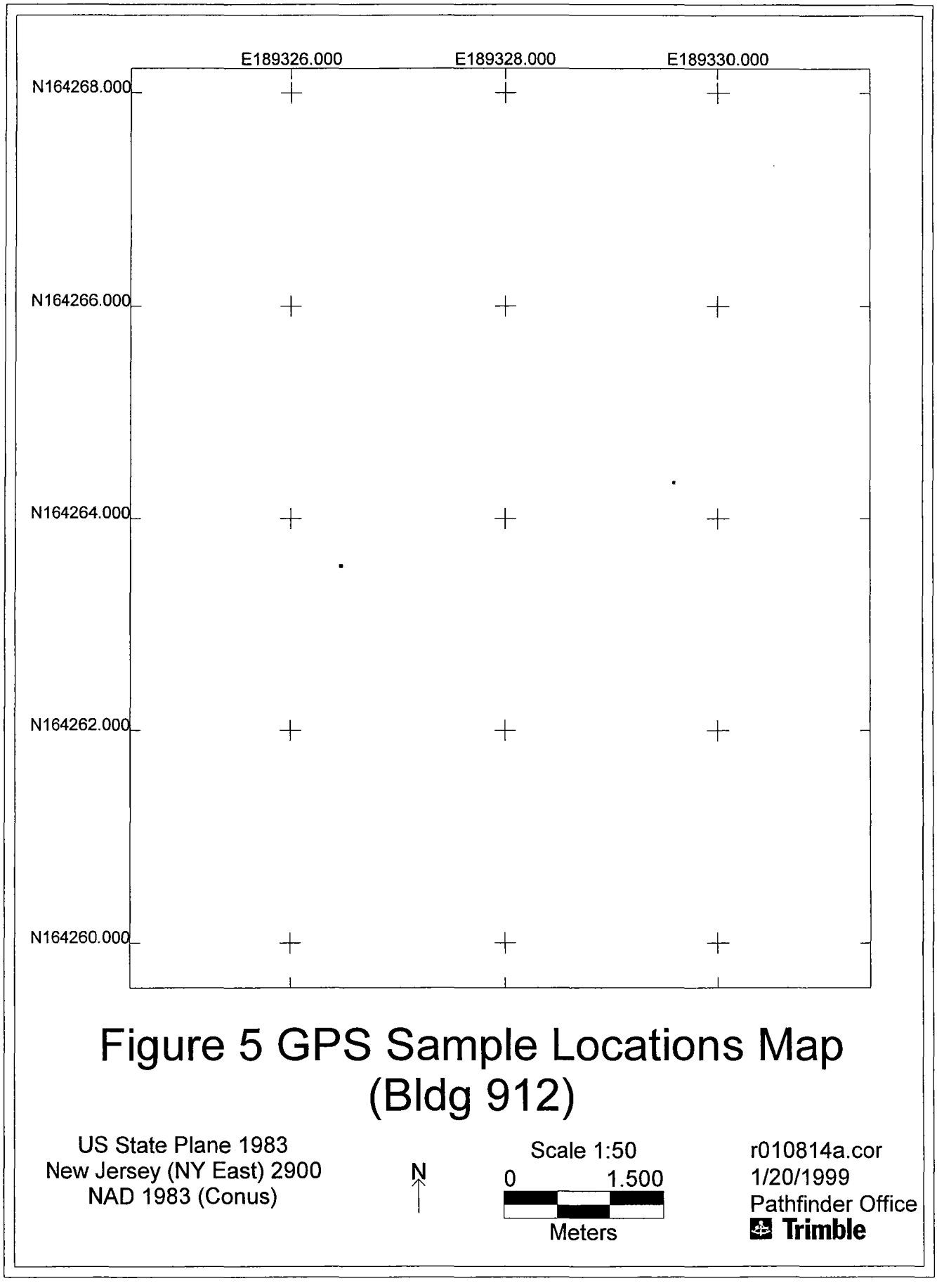


Figure 5 GPS Sample Locations Map (Bldg 912)

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

N

Scale 1:50
0 1.500
Meters

r010814a.cor
1/20/1999
Pathfinder Office
Trimble

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)
912GW	164263.557	189326.458

(GW denotes Ground Water)

Reference Point

Location / Desc.	Y Coord. (Northing)	X Coord. (Easting)
912 BLDG	164264.346	189329.578

APPENDIX A

NJDEP-STANDARD REPORTING FORM

UST File Copy

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
(609) 984-3156

For DSRA Use Only
Date Rec'd.
Auth.
Routing
UST NO.

STANDARD REPORTING FORM
for reporting activities at an UST facility:

___ General Facility Information Changes	___ Sale or Transfer
___ Closure (Abandonment or Removal)	___ Substantial Modification
___ Temporary Closure	___ Financial Responsibility
___ Change in Service	___ Address Change Only

Check ONLY One Type of Activity – Complete Form For That Activity

(More than one tank can be listed per activity)

*** NOTE *** ALL NEW tank installations at existing registered facilities must submit a Registration Questionnaire for the new tanks.

Answer questions 1 through 5 and others as applicable.

1. Company name and address (as it appears on registration questionnaire): U.S. ARMY – FORT MONMOUTH DPW – BUILDING 173 FORT MONMOUTH, NJ 07703

2. Facility name and location (if different from above): MAIN POST WEST

3. Contact person for this activity: CHARLES AGGLESTON/DINKER DESAI
Telephone number: (732) 532-6224

4. The identification number of the affected tank as it appears in Question Number 12 on the Registration Questionnaire: 028533

5. Registration Number (if known): UST # 150

6. For GENERAL FACILITY INFORMATION changes (address, telephone, contact person, etc.) supply NEW information only:
   a. Facility name:
   b. Facility location:
   c. Owner's mailing address:
   NJ
   d. Block: Lot:
   e. Contact person (facility operator):
   f. Contact telephone number: ( )
   g. Other (Specify):

BLDG. 912

(OVER)

7. For CLOSURE (abandonment or removal – check all that apply):

a. ☐ Abandonment Date: ____/____/____ Case No: ______________

Attach the necessary implementation schedule (3 copies) and all documentation needed for abandonment per N.J.A.C. 7:14B-9.1 (d).

b. ☒ Removal Date: 12/29/97 Case No. 97-12-29-1342-37

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. 7:14B-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)

9. For TRANSFER OF OWNERSHIP: Effective Date: ____/____/____

a. New Owner (operator) ______________

b. New Facility Name ______________

____

______________ NJ ______________

____

County

c. Closing Attorney ______________ Tel: (____) ____-______

10. For SUBSTANTIAL MODIFICATIONS (to include any monitored activity – e.g. the addition of spill/overfill protection, monitoring systems, cathodic protection, etc.):

a. Type of Modification ______________ Date: ____/____/____

b. * NOTE * Substantial modifications require a permit under N.J.A.C. 7:14B-10.

11. For changes in FINANCIAL RESPONSIBILITY to (check appropriate changes and attach copies of new information):

a. Policy Type: ☐

b. Policy Number: ☐

c. Other: ☐

d. Company/Carrier: ☐

e. Expiration Date: ☐

____

____

____

(Specify)

NOTE: ALL appropriate and applicable [illegible] must be obtained separately from local, state and/or federal agencies [illegible].

CERTIFICATION

This registration form shall be signed by the highest ranking individual at the facility [illegible] facility (N.J.A.C. 7:14B-2.3 (a) 1).

"I certify under penalty of law that the information provided in this document is true, [illegible] that there are significant civil and criminal penalties for submitting false, [illegible] fines and/or imprisonment."

Signature: [signature]

Name (print or type): JAMES OTT

Title: DIRECTOR – DEPT. OF PUBLIC WORKS Date: [illegible]

[illegible]

(INT/MOD-2/92)

APPENDIX B

SITE ASSESSMENT SUMMARY

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

Site Remediation Program

UST Site/Remedial Investigation Report Certification Form

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

Facility Street Address : Directorate of Public Works Building 173

Municipality: Oceanport County : Monmouth

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

B. Owner (RP)'s Name:

Street Address: City :

State: Zip: Telephone Number :

C. (Check as appropriate)

___ Site Investigation Report (SIR) $500 Fee

___ Remedial Investigation Report (RIR) $1000 Fee

_X_ NA – Federal Agreement

D. (Complete all that apply)

- Assigned Case Manager : Ian Curtis, Federal Case Manager
- UST Registration Number : 81533-150 (7 digits)
- Incident Report Number ___•___•___•_____•___ (10 or 12 digits)
  ___•___•___•_____•___
- Tank Closure Number : Federal Case Manager

E. Certification by the Subsurface Evaluator:

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

Name: Dinker DeSai Signature: UST Cert. No.: 10173

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

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

State: New Jersey Zip: 07703 Telephone Number : 732-532-6224

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

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

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

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

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

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

Signature:

Company Name: U.S. Army Fort Monmouth Date: 3/25/99

APPENDIX C

WASTE MANIFEST

LORCO PETROLEUM SERVICES
RD. 1, BOX 5A - OLD BRIDGE, NJ 08857

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. N/A | Manifest Document No. 09783 | 2. Page 1 of 1 | NHZ 009783

GENERATOR

3. Generator's Name and Mailing Address
US Army Communications Electronics Command
Main Post C/O J. Fallon, Bldg 173
ATTN: SELFM-PW-EV
Fort Monmouth, NJ 07703

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

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
LIONETTI OIL RECOVERY CO INC	NJD084044064	908 721-0900
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone

9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
LIONETTI OIL RECOVERY CO INC DBA LCRCO PETROLEUM SVCS RUNYON&CHEESEQUAKE RDS OLD BRIDGE, NJ 08857	NJD084044064	908 721-0900

11. Waste Shipping Name and Description	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol
a. PETROLEUM OIL(PETROLEUM OIL) COMBUSTIBLEL LIQUID UN1270 PGIII	00	1T	0.1025	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above	E. Handling Codes for Wastes Listed Above
T,L PETROLEUM OIL 99 % WATER 1 %	T04 FILTRATION

15. Special Handling Instructions and Additional Information
24 HR EMERGENCY RESPONSE#(908) 721-0900
DECAL#8703 ERG#128 DEXSIL TEST KIT RESULTS <1000 PPM
MANIFEST USED FOR TRACKING PURPOSES ONLY

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Joseph M. Fallon	Joseph M. Fallon	10	02	98

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Dan MacKay	D MacKay	10	02	98

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year
Richard LaBelle	Richard LaBelle	10	02	98

ORIGINAL - RETURN TO GENERATOR

APPENDIX D

UST DISPOSAL CERTIFICATE

THIS CHECK IS DELIVERED FOR PAYMENT ON THE FOLLOWING ACCOUNTS

DATE		AMOUNT	
TOTAL OF INVOICES			
LESS % DISCOUNT			
LESS FREIGHT			
LESS			
TOTAL DEDUCTIONS			
AMOUNT OF CHECK			

1626

MAZZA & SONS, INC.
RECYCLING DIVISION
P.O. BOX 245
OAKHURST, N.J. 07755

55-7233/2212

DATE 1/23/98

PAY TO THE ORDER OF Tecom Vinnell Services $ 93.10

Ninety Three + 10/100 DOLLARS

Sovereign Bank

⑈001626⑈ ⑆221272332⑆000 109109926⑈

B.912

MAZZA & SONS, INC.

Metal Recyclers
3230 Shafto Rd.
Tinton Falls, NJ
(908) 922-9292

NO. 275

DATE. 23 JAN 98

Customer's Name Tecom - Vinnell

Address

	Weight	Price		Weight	Price
Cast Iron				Lt. Copper	
Steel				Brass	
Truck		19.60	14360 LB		
Lt. Iron				Alum Clean	
			13800 LB		
Copper #1				Lead	
			560		
Copper #2				Stainless	
				Battery	
					$ 19.60
				TOTAL AMOUNT:	

PAID
JAN 23 1998
Ck# 1626

Weigher

Customer

APPENDIX E

SOIL ANALYTICAL DATA PACKAGE

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

REPORT OF ANALYSIS

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

Project: Total Petroleum Hydrocarbons
98-0001
Bldg. 912

Project # 3284
Date Rec. 01/15/98
Date Compl. 01/15/98
Released by:

Daniel K. Wright
Laboratory Director

Table of Contents

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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

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

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

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

PHC Conformance/Non-conformance Summary Report

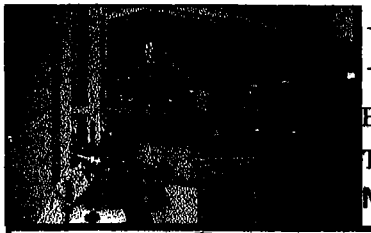
	No	Yes
1. Method Detection Limits provided.	—	✓
2. Method Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank.	✓	—
3. Matrix Spike Results Summary Meet Criteria. (If not met, list the sample and corresponding recovery which falls outside the acceptable range).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

Additional Comments: _____

Laboratory Authentication Statement

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

Daniel K. Wright
Laboratory Manager



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (908)532-4359 Fax (908)532-3484 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: DPW-ENV.
Phone #:
( )DERA (X)OMA ( )Other:_____

Project No: 98-0001
Location: B. 912

Samplers Name / Company : GARY DIMARTINIS - TUS

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	TPHC	CA SOLIDS	MANSFIELD	VOA'S (TO BE DETERMINED)	VOA I.D #	QA/A	Remarks / Preservation Method
3284.01	912-A	1-14-98	1426	SOIL	1	X	X	X			10	EXC. FLOOR @7.5' *
02	B		1422								1	
03	C		1345								ND	
04	D		~~1348~~ 1438	ND							40	SIDEWALL @6.0'
05	E		1434								ND	
06	F		1347								1	
07	G		1350		↓						ND	
08	H		1452		2				X	98014.01	50	
09	I		1352		↓				↓	98014.02	ND	
10	J		1458		1						ND	Piping Run @1.5'
11	DUP		—	↓		↓	↓	↓			—	Field Duplicate
12	TB	↓	—	METHANOL	↓				X	98014.03	—	TRIP BLANK

NOTE: QA(#ASSIGN) CALIBRATED W/500ppm CH4 + ZERO(0) AIR @ 1315 HRS. ON 1-14-98 by G. DIMARTINIS

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	1-15-98 0920	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
		[signature]			

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

Remarks: DEDICATED SAMPLING TOOLS USED.

Comments: *=SAMPLES KEPT BELOW 4°c.

print legibly

~me0753.xls1/13/98

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

Client :	U.S. Army	**Lab. ID # :**	3284
	DPW. SELFM-PW-EV	**Date Rec'd:**	15-Jan-98
	Bldg. 173	**Analysis Start:**	15-Jan-98
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	15-Jan-98
Analysis:	OQA-QAM-025	**UST Reg. #:**	
Matrix:	Soil	**Closure #:**	
Analyst:	D.DEINHARDT	**DICAR #:**	
Ext. Meth:	Shake	**Location #:**	B. 912

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3284.01	912-A	**1.00**	15.27	78.88	195	**199.80**
3284.02	912-B	**1.00**	15.27	82.17	187	**ND**
3284.03	912-C	**1.00**	15.36	79.74	192	**ND**
3284.04	912-D	**1.00**	15.04	85.97	182	**ND**
3284.05	912-E	**1.00**	15.03	83.85	186	**ND**
3284.06	912-F	**1.00**	15.28	86.38	178	**ND**
3284.07	912-G	**1.00**	15.54	90.12	168	**ND**
3284.08	912-H	**1.00**	15.56	88.75	170	**5909.33**
3284.09	912-I	**1.00**	15.47	82.70	184	**ND**
3284.10	912-J	**1.00**	15.09	84.57	184	**420.19**
3284.11	912-DUP	**1.00**	15.08	80.49	194	**215.96**
METHOD BLANK	15-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 ✓
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted ✓
4. Document paginated and legible ✓
5. Chain of Custody submitted ✓
6. Samples submitted to lab within 48 hours of sample collection ✓
7. Methodology Summary submitted ✓
8. Laboratory Chronicle and Holding Time Check submitted ✓
9. Results submitted on a dry weight basis ✓
10. Method Detection Limits submitted ✓
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP ✓

Laboratory Manager or Environmental Consultant's Signature _____

Date 1/16/96

Laboratory Certification #13461

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

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

REPORT OF ANALYSIS

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

Project: Volatiles - EPA Method 8260
98-0001
B.912

Project # 3284
Date Rec. 01/15/98
Date Compl. 01/26/98
Released by:

Daniel K. Wright
Laboratory Director

[redacted]

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: DPW-ENV.
Phone #:
( )DERA (X)OMA ( )Other:______

Project No: 98-0001
Location: B 912

Samplers Name / Company: GARY DIMARTINIS - TVS

Comments: * = SAMPLES KEPT BELOW 4°c.

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	TPHC	% Solids	MM/SECL	VOA+15 (TO BE DETERMINED)	VOA I.D. #	OVA	Remarks / Preservation Method
3284.01	912-A	1-14-98	1426	SOIL	1	X	X	X	15.27		10	EXC. FLOOR @7.5' *
02	B	↓	1422	↓	↓	↓	↓	↓	15.27		1	↓
03	C		1345						15.36		ND	
04	D		~~1348~~ 1438						15.04		40	SIDEWALL @6.0'
05	E		1434						15.03		ND	
06	F		1347						15.28		1	
07	G		1350		↓				15.54		ND	
08	H		1452		2		15.56		X	980114.01	50	
09	I		1352		↓		15.47		↓	980114.02	ND	↓
10	J		1458		1		15.59				ND	Piping Run @1.5'
11	DUP		—	↓		↓	↓	↓			—	Field Duplicate
12	TB	↓	--	METHANOL	↓				X	980114.03	—	TRIP BLANK ↓

NOTE: OVA (#A5214) CALIBRATED W/95ppm CH_4 + ZERO(O) AIR @ 1315 HRS ON 1-14-98 by G. DiMARTINIS

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	1-15-98 0920	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Remarks: DEDICATED SAMPLING TOOLS USED.

111 15.08
11MS 15.31
11MSD 15.19

print legibly

~me0753.xls1/13/98

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK17

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3284 Location: B.912 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: VBLK17

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V02808.D

Level: (low/med) MED Date Received: 01/15/98

% Moisture: not dec. 0 Date Analyzed: 01/26/98

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

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

CONCENTRATION UNITS:

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

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

VBLK17

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3284 Location: B.912 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: VBLK17

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V02808.D

Level: (low/med) MED Date Received: 01/15/98

% Moisture: not dec. 0 Date Analyzed: 01/26/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U
541-73-1	1,3-Dichlorobenzene	750	U
106-46-7	1,4-Dichlorobenzene	750	U
95-50-1	1,2-Dichlorobenzene	750	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

VBLK17

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3284 Location: B.912 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: VBLK17

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V02808.D

Level: (low/med) MED Date Received: 01/15/98

% Moisture: not dec. 0 Date Analyzed: 01/26/98

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

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

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

Number TICs found: 1

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown hydrocarbon	12.15	1400	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

912-H

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3284 Location: B.912 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3284.08

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V02811.D

Level: (low/med) MED Date Received: 01/15/98

% Moisture: not dec. 11.25 Date Analyzed: 01/26/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3700	U
1634044	Methyl-tert-Butyl ether	850	U
108203	Di-isopropyl ether	570	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	850	U
74-83-9	Bromomethane	570	U
75-00-3	Chloroethane	850	U
75-69-4	Trichlorofluoromethane	570	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	570	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	1300	
156-60-5	trans-1,2-Dichloroethene	570	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	850	U
78-93-3	2-Butanone	850	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	570	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	570	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	570	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	570	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	570	U
79-00-5	1,1,2-Trichloroethane	570	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	570	U
126-48-1	Dibromochloromethane	570	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	570	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

912-H

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3284 Location: B.912 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3284.08

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V02811.D

Level: (low/med) MED Date Received: 01/15/98

% Moisture: not dec. 11.25 Date Analyzed: 01/26/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	850	U
1330-20-7	o-Xylene	570	U
100-42-5	Styrene	570	U
75-25-2	Bromoform	570	U
79-34-5	1,1,2,2-Tetrachloroethane	570	U
541-73-1	1,3-Dichlorobenzene	850	U
106-46-7	1,4-Dichlorobenzene	850	U
95-50-1	1,2-Dichlorobenzene	850	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

912-H

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3284 Location: B.912 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3284.08

Sample wt/vol: 9.9 (g/ml) G Lab File ID: V02811.D

Level: (low/med) MED Date Received: 01/15/98

% Moisture: not dec. 11.25 Date Analyzed: 01/26/98

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

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

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

Number TICs found: 15

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1. 001678-92-8	Cyclohexane, propyl-	30.87	2900	JN
2.	unknown hydrocarbon	31.98	1900	J
3. 000526-73-8	Benzene, 1,2,3-trimethyl-	32.92	2000	JN
4. 000108-67-8	Benzene, 1,3,5-trimethyl-	33.92	6200	JN
5. 001678-93-9	Cyclohexane, butyl-	34.16	3600	JN
6. 000135-98-8	Benzene, (1-methylpropyl)-	34.35	2000	JN
7. 001074-43-7	Benzene, 1-methyl-3-propyl-	35.49	12000	JN
8. 000934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	35.68	15000	JN
9. 000493-02-7	Naphthalene, decahydro-, trans-	35.87	6100	JN
10. 001074-17-5	Benzene, 1-methyl-2-propyl-	36.19	3800	JN
11. 001758-88-9	Benzene, 2-ethyl-1,4-dimethyl-	36.40	5500	JN
12. 000527-84-4	Benzene, 1-methyl-2-(1-methylet	36.50	4500	JN
13. 000934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	36.70	8700	JN
14.	unknown	36.97	5500	J
15. 000767-58-8	Indan, 1-methyl-	37.32	8600	JN

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

912-TB

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3284 Location: B.912 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3284.12

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V02812.D

Level: (low/med) MED Date Received: 01/15/98

% Moisture: not dec. 0 Date Analyzed: 01/26/98

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	1100	
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

912-TB

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3284 Location: B.912 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3284.12

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V02812.D

Level: (low/med) MED Date Received: 01/15/98

% Moisture: not dec. 0 Date Analyzed: 01/26/98

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U
541-73-1	1,3-Dichlorobenzene	750	U
106-46-7	1,4-Dichlorobenzene	750	U
95-50-1	1,2-Dichlorobenzene	750	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

912-TB

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3284 Location: B.912 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3284.12

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V02812.D

Level: (low/med) MED Date Received: 01/15/98

% Moisture: not dec. 0 Date Analyzed: 01/26/98

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

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

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

Number TICs found: 7

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown hydrocarbon	24.12	4300	J
2.	unknown hydrocarbon	26.60	3000	J
3. 017057-82-8	1H-Indene, 2,3-dihydro-1,2-dimet	28.87	1100	JN
4. 004218-48-8	Benzene, 1-ethyl-4-(1-methylethyl	29.34	3400	JN
5.	unknown	30.78	9200	J
6. 017059-48-2	1H-Indene, 2,3-dihydro-1,6-dimet	30.96	1300	JN
7.	unknown	31.81	1000	J

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 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. 912

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
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. 912 – 7-10'	4016.05	Aqueous	29-Oct-98 12:00	10/29/98
Bldg. 912 – 7-10'	4016.06	Aqueous	29-Oct-98 12:40	10/29/98

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

12/3/98
Daniel Wright/Date
Laboratory Director

ENCLOSURE:
CHAIN OF CUSTODY
FIELD DOCUMENTATION
RESULTS

Table of Contents

CHAIN OF CUSTODY

Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: CHAS. APPLBY / VERSAR
Phone #: X26224
( )DERA (✓)OMA ( )Other:_________

Project No:
Location: BLDGS. 911, 912 913

Samplers Name / Company : MARK LAURA / TVS

Analysis Parameters

Comments:

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	VOA+15	BN+15							Remarks / Preservation Method
4016. 1	TRIP BLANK	10-29-98	—	AQ	2	X								HCL
2	FIELD BLANK	"	1058	"	3	X	X							HCL/<4°C
3	BLDG. 911 - 7-10'	"	1119	"	2	X								HCL
4	BLDG 911 - "	"	1300	"	1		X							<4°C
5	BLDG. 912 - 7-10'	"	1200	"	2	X								HCL
6	BLDG. 912 - "	"	1240	"	1		X							<4°C
7	BLDG. 913 - 7-10'	"	1403	"	2	X								HCL
8	BLDG. 913 - "	"	1539	"	1		X							<4°C
9	FIELD DUP. - "	"	—	"	3	X	X							HCL/<4°C

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	10-29-98 1550	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Remarks:

print legibly

coc.XLS10/8/98

FIELD DOCUMENTATION

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

FOR BLDG. # 912

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

12-2-98
Mark Laura / Date

METHODOLOGY SUMMARY

Methodology Summary

EPA Method 624
Gas Chromatographic Determination of Volatiles in Water

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

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

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

CONFORMANCE/ NON-CONFORMANCE SUMMARY

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

Indicate Yes, No, N/A

1. Chromatograms labeled/Compounds identified (Field samples and method blanks) — yes
2. Retention times for chromatograms provided — yes
3. GC/MS Tune Specifications
   a. BFB Meet Criteria — yes
   b. DFTPP Meet Criteria — yes
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series — yes
5. GC/MS Calibration – Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series — yes
6. GC/MS Calibration requirements
   a. Calibration Check Compounds Meet Criteria — yes
   b. System Performance Check Compounds Meet Criteria — yes
7. Blank Contamination – If yes, List compounds and concentrations in each blank: — NO
   a. VOA Fraction _____
   b. B/N Fraction _____
   c. Acid Fraction NA
8. Surrogate Recoveries Meet Criteria — yes

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

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

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

Indicate
Yes, No, N/A

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

    a. VOA Fraction _____
    b. B/N Fraction _____
    c. Acid Fraction NA

11. Extraction Holding Time Met — yes

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

12. Analysis Holding Time Met — yes

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

Additional Comments:
Field Duplicate performed on Bldg 913 7-16' (4016.07, 08)

Laboratory Manager: _____ Date: 12/3/94

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID:4016 **Site: Bldg. 912**

	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		
1. Volatiles	11/04,05/98	14 days
2. Base Neutrals	11/04/98	40 days

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

Definition of Qualifiers

MDL : Method Detection Limit
J : Compound identified below detection 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	Sample Name	VBLK62
Operator	Skelton	Field ID	VBLK62
Date Acquired	4 Nov 98 3:54 pm	Sample Multiplier	1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethan			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-35-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ethe			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloroprope			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethan			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			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: VBLK62

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4016 SDG No _____ Location UST

Matrix (soil/water) WATER Lab Sample ID: VBLK62

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB01984.D

Level: (low/med) LOW Date Received: 10/29/98

% Moisture: not dec. _____ Date Analyzed: 11/04/98

GC Column: HP5MS ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File Nam	vb02006.d	Sample Name	4016.01
Operator	Skelton	Field ID	Trip Blank
Date Acquired	5 Nov 98 9:08 am	Sample Multiplier	1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	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	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloroprope			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethan			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			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: **Trip Blank**

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4016 SDG No _____ Location UST

Matrix (soil/water) WATER Lab Sample ID: 4016.01

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02006.D

Level: (low/med) LOW Date Received: 10/29/98

% Moisture: not dec. _____ Date Analyzed: 11/05/98

GC Column: HP5MS ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File Nam	vb02007.d	Sample Name	4016.02
Operator	Skelton	Field ID	Field Blank
Date Acquired	5 Nov 98 9:54 am	Sample Multiplier	1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	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	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	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ethe			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloroprope			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethan			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			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: **Field Blank**

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4016 SDG No _____ Location UST

Matrix (soil/water) WATER Lab Sample ID: 4016.02

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02007.D

Level: (low/med) LOW Date Received: 10/29/98

% Moisture: not dec. _____ Date Analyzed: 11/05/98

GC Column: HP5MS ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File Nam	vb02009.d	Sample Name	4016.05
Operator	Skelton	Field ID	Bldg 912 7-10'
Date Acquired	5 Nov 98 11:25 am	Sample Multiplier	1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	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	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloroprope			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethan			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			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: **Bldg 912**

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4016 SDG No _____ Location UST

Matrix (soil/water) WATER Lab Sample ID: 4016.05

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02009.D

Level: (low/med) LOW Date Received: 10/29/98

% Moisture: not dec. _____ Date Analyzed: 11/05/98

GC Column: HP5MS ID: 0.25 (mm) Dilution Factor: 1.0

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

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

Number TICs found: 15

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000620-14-4	Benzene, 1-ethyl-3-methyl-	32.23	5	JN
2. 000108-67-8	Benzene, 1,3,5-trimethyl-	32.38	6	JN
3. 000622-96-8	Benzene, 1-ethyl-4-methyl-	33.05	5	JN
4. 000095-63-6	Benzene, 1,2,4-trimethyl-	33.38	20	JN
5. 000526-73-8	Benzene, 1,2,3-trimethyl-	34.60	9	JN
6.	unknown	34.96	10	J
7. 000934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	35.15	13	JN
8.	unknown	35.42	5	J
9. 000135-98-8	Benzene, (1-methylpropyl)-	35.66	5	JN
10. 000934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	35.88	8	JN
11. 000527-84-4	Benzene, 1-methyl-2-(1-methylet	35.97	8	JN
12. 000933-98-2	Benzene, 1-ethyl-2,3-dimethyl-	36.18	9	JN
13. 000767-58-8	Indan, 1-methyl-	36.77	9	JN
14. 000527-53-7	Benzene, 1,2,3,5-tetramethyl-	37.15	8	JN
15. 000095-93-2	Benzene, 1,2,4,5-tetramethyl-	37.35	18	JN

BASE NEUTRALS

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**

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 exceeded 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

TENTATIVELY IDENTIFIED COMPOUNDS

Sblk155

Lab Name: FMETL Lab Code 13461

Project 980932 Case No.: 4016 Location UST SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: SBLK155

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA01129.D

Level: (low/med) LOW Date Received: 10/29/98

% Moisture: decanted: (Y/N) N Date Extracted: 10/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000295-17-0	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	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	**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

E = Value exceeded 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

TENTATIVELY IDENTIFIED COMPOUNDS

Field Blank

Lab Name: FMETL Lab Code 13461

Project 980932 Case No.: 4016 Location UST SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 4016.02

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA01143.D

Level: (low/med) LOW Date Received: 10/29/98

% Moisture: decanted: (Y/N) N Date Extracted: 10/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File Name	bna01145.d	Sample Name	4016.06
Operator	Skelton	Misc Info	Bldg 912 7-10'
Date Acquired	4 Nov 1998 5:13 pm	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	10.43	612227	14.78 ug/L	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	12.05	827862	29.65 ug/L	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	**bna01145.d**	Sample Name	**4016.06**
Operator	**Skelton**	Misc Info	**Bldg 912 7-10'**
Date Acquired	**4 Nov 1998 5:13 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	17.93	149387	3.72 ug/L	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 exceeded 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

TENTATIVELY IDENTIFIED COMPOUNDS

Bldg 912

Lab Name: FMETL Lab Code 13461

Project 980932 Case No.: 4016 Location UST SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 4016.06

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA01145.D

Level: (low/med) LOW Date Received: 10/29/98

% Moisture: decanted: (Y/N) N Date Extracted: 10/30/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/04/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 13 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000112-40-3	Dodecane	10.65	13	JN
2. 001680-51-9	Naphthalene, 1,2,3,4-tetrahydro-6	11.63	11	JN
3. 000090-12-0	Naphthalene, 1-methyl-	12.28	18	JN
4. 000629-59-4	Tetradecane	13.41	10	JN
5. 000581-42-0	Naphthalene, 2,6-dimethyl-	13.53	16	JN
6. 000581-40-8	Naphthalene, 2,3-dimethyl-	13.72	16	JN
7. 000575-37-1	Naphthalene, 1,7-dimethyl-	13.77	11	JN
8. 001120-21-4	Undecane	14.19	9	JN
9. 000629-62-9	Pentadecane	14.66	14	JN
10. 000544-76-3	Hexadecane	15.84	10	JN
11. 000629-78-7	Heptadecane	16.97	11	JN
12. 006975-98-0	Decane, 2-methyl-	17.03	8	JN
13. 000593-45-3	Octadecane	18.03	8	JN

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature _____

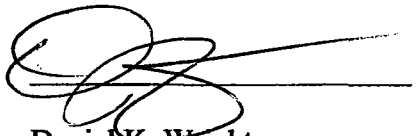
Date 12/3/98

Laboratory Certification #13461

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

Laboratory Authentication Statement

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



Daniel K. Wright
Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS
PHONE: (732)532-6224 FAX: (732)532-3484
WET-CHEM - METALS - ORGANICS - FIELD SAMPLING
NJDEP LABORATORY CERTIFICATION # 13461

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

BLDG. 912

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
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. 912 7.5-10.5'	4090.01	Aqueous	30-Nov-98 10:53	11/30/98
Bldg. 912 7.5-10.5'	4090.02	Aqueous	30-Nov-98 11:45	11/30/98

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

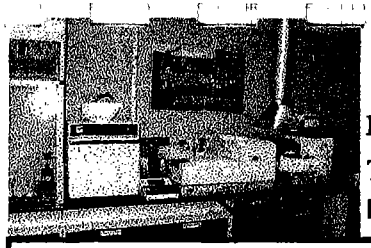
12-16-98

Daniel ~~Wright/Date~~
Laboratory Director

ENCLOSURE:
CHAIN OF CUSTODY
FIELD DOCUMENTATION
RESULTS

Table of Contents

CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: CHRIS. APPLEBY / VERSAR
Phone #:
( )DERA (✓)OMA ( )Other:_____
Project No:
Location: BLDG. 912
Samplers Name / Company : MARK LANZA T.V.S. PWS-07

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: VOA + 15	Analysis Parameters: BN + 15	Comments: Remarks / Preservation Method
4090. 1	BLDG. 912 - 75-10.5'	11-30-98	1053	AQ.	2	X		HCL
2	" "	"	1145	"	1		X	<4°C

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	11-30-98 1450	[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
Turnaround time: (_)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____Hrs.

Remarks: SHARED TRIP/FIELD BLANK W/ BLDG. 911 (SAME DAY)

00302

print legibly

coc.XLS10/8/98

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/VERSAR
Phone #: X26424
( )DERA (✓)OMA ( )Other:_____

Project No:
Location: BLDG. 911

Samplers Name / Company: MARK LAUDA T.V.S. PWS 07

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	VOA + IS	BN + IS							Comments: Remarks / Preservation Method
4089. 1	TRIP BLANK	11-30-98		AQ.	2	X								HCL
2	FIELD BLANK	"	0930	"	3	X	X							HCL/cool
3	BLDG. 911 - 7.5-10.5'	"	0940	"	2	X								HCL
4	" "	"	1030	"	1		X							cool

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	11-30-98 1450	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]		[signature]			

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

Remarks:

000003

print legibly

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FIELD DOCUMENTATION

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

FOR BLDG. # 912

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

12-2-98
Mark Laura / Date

METHODOLOGY SUMMARY

Methodology Summary

EPA Method 624
Gas Chromatographic Determination of Volatiles in Water

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

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

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

CONFORMANCE/ NON-CONFORMANCE SUMMARY

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

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

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

Indicate
Yes, No, N/A

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

a. VOA Fraction _____
b. B/N Fraction _____
c. Acid Fraction NA

11. Extraction Holding Time Met — Yes

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

12. Analysis Holding Time Met — Yes

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

Additional Comments:
Trip Blank + Field Blank on Chain of Custody, Sample ID 4089
Field Dup performed on Bldg 917 4093.012

Laboratory Manager: _____ Date: 12-10-96

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 4090 **Site:** Bldg 912

	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 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	**vb02266.d**	Sample Name	**Vblk69**
Operator	**Skelton**	Field ID	**Vblk69**
Date Acquired	**1 Dec 98 12:16 pm**	Sample Multiplier	**1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethan			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-35-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ethe			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloroprope			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethan			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			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: **Vblk69**

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4090 SDG No _____ Location UST

Matrix: (soil/water) WATER Lab Sample ID: Vblk69

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02266.D

Level: (low/med) LOW Date Received: 11/30/98

% Moisture: not dec. _____ Date Analyzed: 12/01/98

GC Column: HP5MS ID: 0.25 (mm) Dilution Factor: 1.0

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

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File Nam	**vb02274.d**	Sample Name	**4089.01**
Operator	**Skelton**	Field ID	**Trip Blank**
Date Acquired	**1 Dec 98 6:31 pm**	Sample Multiplier	**1**

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

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4089 SDG No _____ Location UST

Matrix: (soil/water) WATER Lab Sample ID: 4089.01

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02274.D

Level: (low/med) LOW Date Received: 11/30/98

% Moisture: not dec. _____ Date Analyzed: 12/01/98

GC Column: HP5MS ID: 0.25 (mm) Dilution Factor: 1.0

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

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File Nam	**vb02275.d**	Sample Name	**4089.02**
Operator	**Skelton**	Field ID	**Field Blank**
Date Acquired	**1 Dec 98 7:17 pm**	Sample Multiplier	**1**

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

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4089 SDG No _____ Location UST

Matrix: (soil/water) WATER Lab Sample ID: 4089.02

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02275.D

Level: (low/med) LOW Date Received: 11/30/98

% Moisture: not dec. _____ Date Analyzed: 12/01/98

GC Column: HP5MS ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File Nam	**vb02277.d**	Sample Name	**4090.01**
Operator	**Skelton**	Field ID	**Bldg912**
Date Acquired	**1 Dec 98 8:48 pm**	Sample Multiplier	**1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethan			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-35-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ethe			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloroprope			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethan			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			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: **Bldg. 912**

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4090 SDG No _____ Location UST

Matrix: (soil/water) WATER Lab Sample ID: 4090.01

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02277.D

Level: (low/med) LOW Date Received: 11/30/98

% Moisture: not dec. _____ Date Analyzed: 12/01/98

GC Column: HP5MS ID: 0.25 (mm) Dilution Factor: 1.0

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

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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	Sblk174
Operator	Skelton	Misc Info	Sblk174 A 98120
Date Acquired	2 Dec 1998 5:00 pm	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			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			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	
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	

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

Qualifiers

E = Value exceeded 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 COMPOUNDS

Sblk174

Lab Name: FMETL Lab Code 13461

Project 980932 Case No.: 4090 Location UST SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: Sblk174

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA01479.D

Level: (low/med) LOW Date Received: 11/30/98

% Moisture: decanted: (Y/N) N Date Extracted: 12/01/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/02/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File Name	bna01492.d	Sample Name	4089.02
Operator	Skelton	Misc Info	Field Blank
Date Acquired	3 Dec 1998 2:22 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			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			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	
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	

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

Qualifiers

E = Value exceeded 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 COMPOUNDS

Field Blank

Lab Name: FMETL Lab Code 13461

Project 980932 Case No.: 4089 Location UST SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 4089.02

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA01492.D

Level: (low/med) LOW Date Received: 11/30/98

% Moisture: decanted: (Y/N) N Date Extracted: 12/01/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/03/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File Name	bna01494.d	Sample Name	4090.02
Operator	Skelton	Misc Info	Bldg912
Date Acquired	3 Dec 1998 3:49 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			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			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	
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	

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

Qualifiers

E = Value exceeded 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 COMPOUNDS

Bldg912

Lab Name: FMETL Lab Code 13461

Project 980932 Case No.: 4090 Location UST SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 4090.02

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA01494.D

Level: (low/med) LOW Date Received: 11/30/98

% Moisture: decanted: (Y/N) N Date Extracted: 12/01/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/03/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature _____

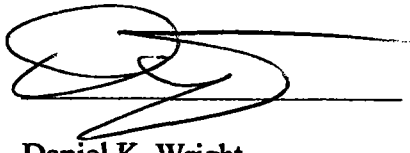
Date 12/10/94

Laboratory Certification #13461

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

Laboratory Authentication Statement

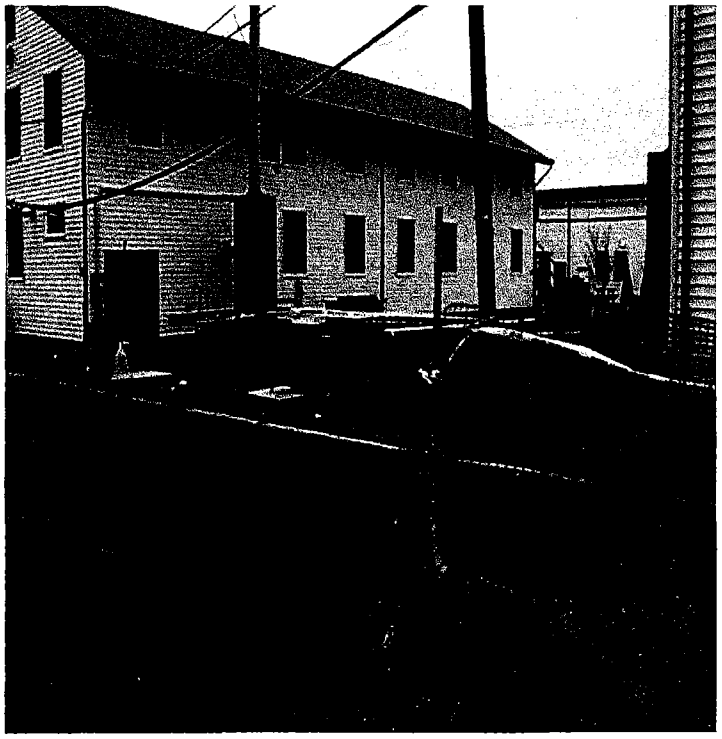
I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information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

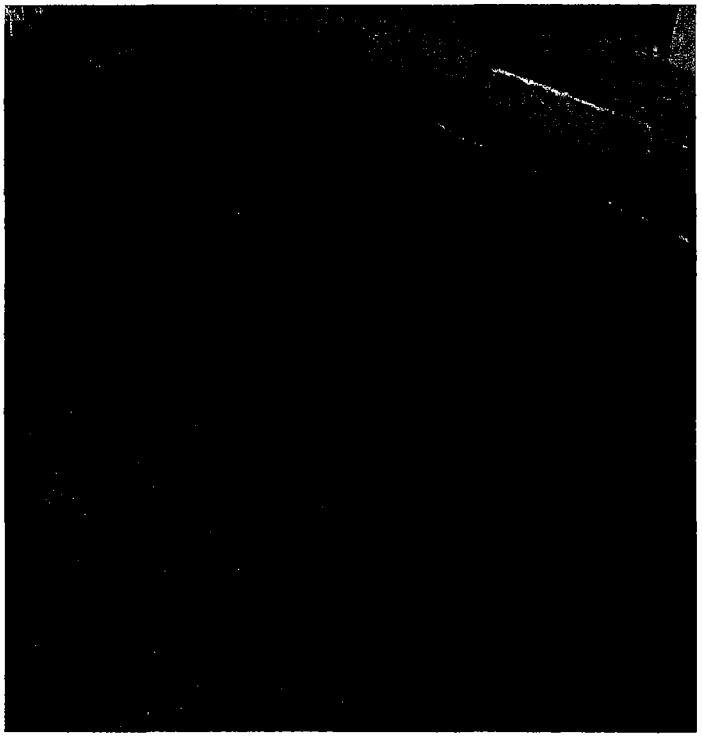


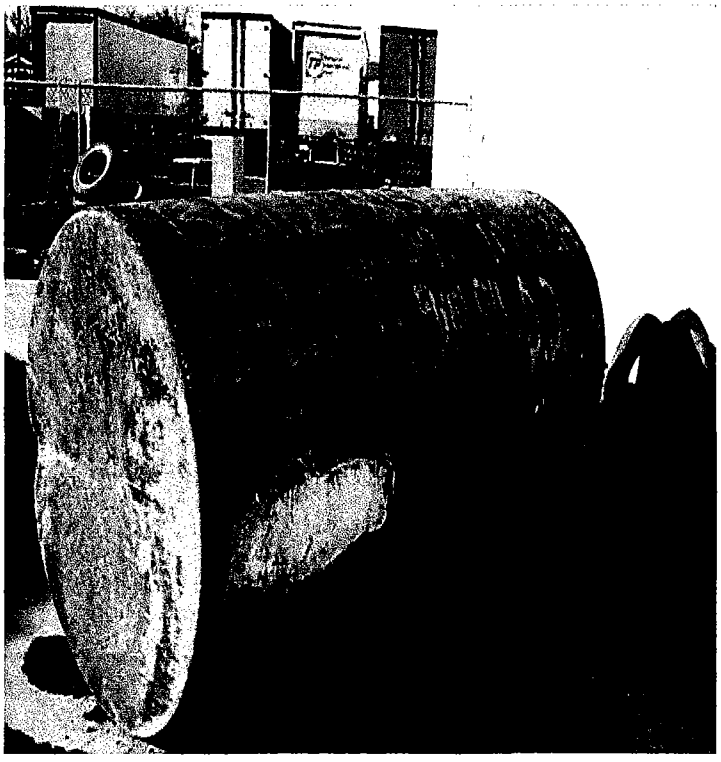
Daniel K. Wright
Laboratory Manager

APPENDIX G

PHOTOGRAPHS







DECEMBER 29, 1997

PHOTOGRAPHIC LOG

UST NO. 81533-150

Building 912
Main Post-West
Fort Monmouth

VERSAR
Engineers, Managers, Scientists & Planners
Bristol, PA

Done

BLDG. 912 UST SAMPLES GPS POSITION & COORDINATES

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

(IN US SURVEY FEET)

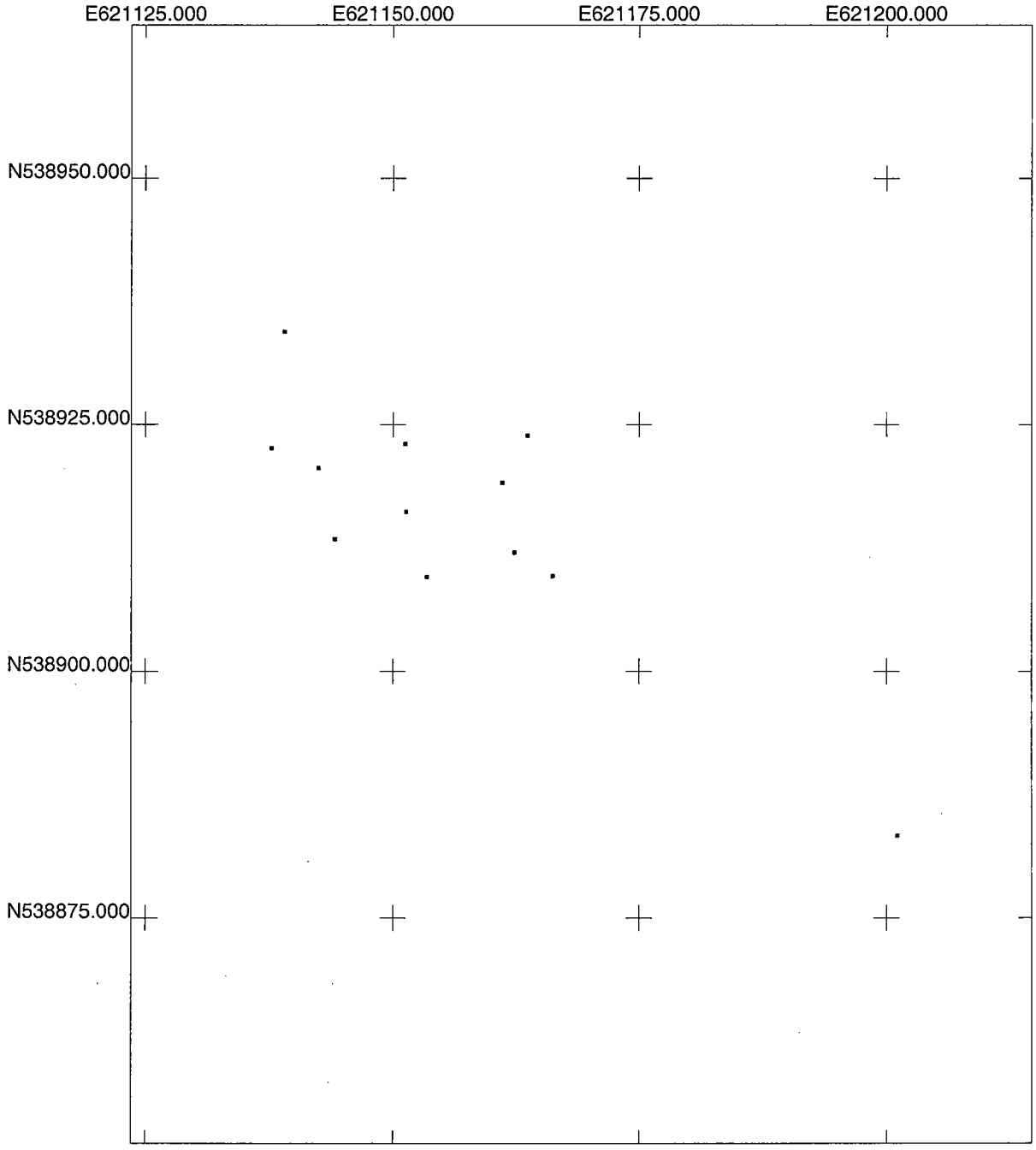
SAMPLE POINTS

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
A	538920.647	621142.398
B	538916.195	621151.282
C	538912.079	621162.279
D	538922.674	621137.639
E	538913.445	621144.063
F	538909.637	621153.371
G	538909.712	621166.184
H	538923.069	621151.194
I	538919.125	621161.02
J	538923.95	621163.608

REFERENCE POINTS

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
MANHOLE	538883.355	621201.041
CNTR CONCRETE SLAB	538934.533	621139.022

81533-150



Bldg. 912 UST Sample Location GPS Map

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

N

Scale 1:200
0 25.00
US Survey Feet

r030414a.cor
3/13/2000
Pathfinder Office
Trimble

FIGURE 5 GPS SAMPLE POINT LOCATION DATA

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

(IN US SURVEY FEET)

SAMPLE POINTS

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
912 GW	538921.355	621148.555

(GW denotes Ground Water)

REFERENCE POINTS

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
912 BLDG	538923.942	621158.791

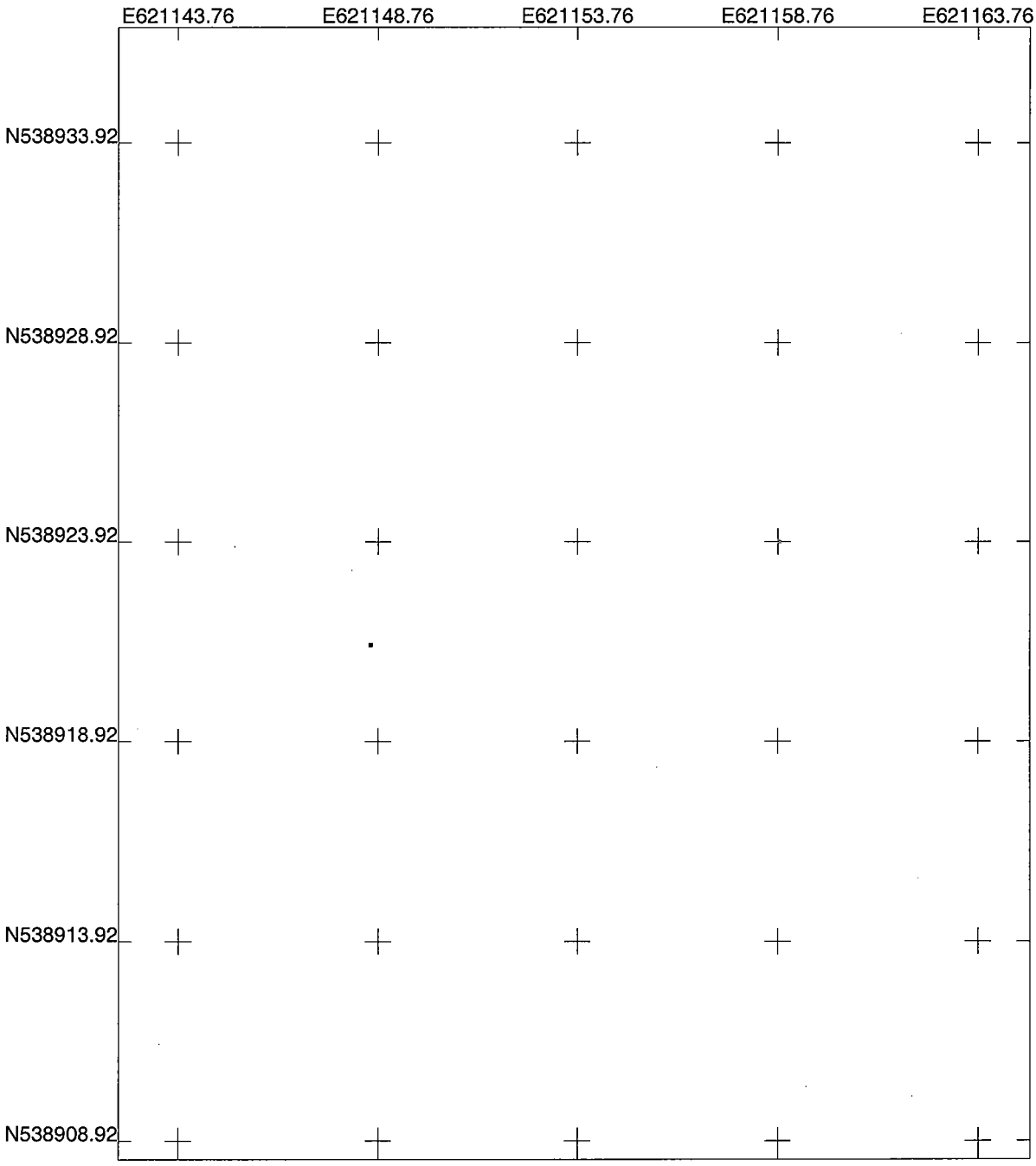


Figure 5 GPS Sample Locations Map (BLDG. 912)

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

N

Scale 1:50
0 6.000
US Survey Feet

copy of r010814a912.cor
11/12/1999
Pathfinder Office
Trimble