

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

***Building 977
Main Post-West Area***

NJDEP UST Registration No. 81533-204

February 2000

**UNDERGROUND STORAGE TANK
CLOSURE AND SITE INVESTIGATION REPORT**

BUILDING 977

**MAIN POST-WEST AREA
NJDEP UST REGISTRATION NO. 81533-204**

FEBRUARY 2000

PREPARED FOR:

**UNITED STATES ARMY, FORT MONMOUTH, NEW JERSEY
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977.DOC

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EXECUTIVE SUMMARY

UST Closure

On May 27, 1998, a fiberglass underground storage tank (UST) was closed by removal in accordance with New Jersey Department of Environmental Protection (NJDEP) closure procedures at the Main Post-West area of the U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 0081533-204 (Fort Monmouth ID No. 977), was located west of Building 977. UST No. 0081533-204 was a 500-gallon diesel 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. Approximately 90 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 494.88 mg/kg, except for samples 1,2, and 8 that had a TPHC concentration of 4574.82 mg/kg, 3129.08 mg/kg, and 4507.65 mg/kg. These sample locations could not be further remediated due to the location of the building. A VOA analysis (EPA Method 8260) was completed on all three samples and all known compounds searched for in the analysis were not detected. Groundwater was encountered at 4.5 feet below ground surface and no sheen was observed.

All post excavation soil samples collected from the UST excavation at Building 977 contained TPHC concentrations below the NJDEP residential direct contact total organic contaminants soil cleanup criteria of 10,000 milligrams per kilogram (mg/kg) (N.J.A.C. 7:26D and revisions dated February 3, 1994). Following receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with a combination of uncontaminated excavated soil and certified clean fill. The excavation site was then restored to its original condition.

In response to the observation of potentially contaminated soil near the water table, two (2) groundwater samples were collected at Building 977. On December 3, 1999, and January 8, 2000, Building 977 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. 81533-204 at Building 977.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 81533-204, was closed at Building 977 at the Main Post-West area of U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on May 27, 1998. Refer to the site location map on Figure 1. This report presents the results of the Department of Public Works' (DPW) implementation of the UST Decommissioning/Closure Plan approved by the NJDEP. The UST was a fiberglass 500-gallon tank containing diesel.

Decommissioning activities for UST No. 81533-204 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 SMC Environmental Services Group personnel who are registered and certified by the NJDEP for performing UST closure activities. Closure of UST No. 81533-204 proceeded under the approval of the NJDEP Bureau of Federal Case Management (NJDEP-BFCM). The Standard Reporting Form and signed Site Assessment Summary form for UST No. 81533-204 are included in Appendices A and B, respectively.

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

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

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

1.2 SITE DESCRIPTION

Building 977 is located in the Main Post-West area of the Fort Monmouth Army Base. UST No. 0081533-204 was located west of Building 977 and appurtenant copper piping ran approximately four (4) feet south from the UST to Building 977. 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 977. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area. A geological map is provided on Figure 1A.

Regional Geology

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

In general, New Jersey Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, and gravel. These formations typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile and were deposited on Precambrian and lower Paleozoic rocks (Zapeczka, 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 Zapeczka, 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 977 is located approximately 500 feet south of Husky Brook, the nearest water body. Based on the Main Post topography, the groundwater flow in the area of Building 977 is anticipated to be to the north.

1.3 HEALTH AND SAFETY

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

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

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

1.4.2 Underground Storage Tank Excavation and Cleaning

Prior to UST decommissioning activities, surficial soil was removed to expose the UST and associated piping. All free product present in the piping was drained into the UST, and the UST was purged to remove vapors prior to cutting and removal of the piping. After removal of the associated piping, a manway was made in the UST to allow for proper cleaning. The UST was completely emptied of all liquids prior to removal from the ground. Approximately 25 gallons of liquid from the UST and its associated piping were pumped directly into a Lionetti Oil Recovery truck where it was then transported to Lionetti Oil Recovery Co., Inc. facility, a NJDEP-approved petroleum recycling and disposal company located in Old Bridge, NJ. Refer to Appendix C for a copy of the waste manifest.

The UST was cleaned prior to removal from the excavation in accordance with the NJDEP regulations. After the UST was removed from the excavation, it was staged on polyethylene sheeting and examined for holes. 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 90 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 494.88 mg/kg, except for samples 1,2, and 8 that had a TPHC concentration of 4574.82 mg/kg, 3129.08 mg/kg, and 4507.65 mg/kg. These sample locations could not be further remediated due to the location of the building. A VOA analysis (EPA Method 8260) was completed on all three samples and all known compounds searched for in the analysis were not detected. Groundwater was encountered at 4.5 feet below ground surface and no sheen was observed.

1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

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

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 90 cubic yards of potentially contaminated soil were removed from the UST excavation. All potentially contaminated soils were stockpiled separately from other excavated material and were placed on and covered with polyethylene sheets. Potentially contaminated soils were transported to the soil staging area. Soils that did not exhibit signs of contamination were used as backfill following the removal of the UST. Groundwater was encountered at 4.5 feet below ground surface and no sheen was observed.

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: David H. Daniels
Employer: SMC Environmental Services Group
Phone Number: (215) 788-7844
NJDEP Certification No.: 10279
- Subsurface Evaluator: Dinker Desai
Employer: U.S. Army, Fort Monmouth
Phone Number: (732) 532-6224
NJDEP Certification No.: 10173
- 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: Anibal Vazquez
Phone Number: (732) 721-0900
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. Approximately 90 cubic yards of potentially petroleum contaminated soil were removed from the excavated area and transported to the Fort Monmouth petroleum contaminated soil holding area. Groundwater was encountered at 4.5 feet below ground surface and no sheen was observed.

2.3 SOIL SAMPLING

On May 28, 1998, following the removal of the UST and associated piping, post-excavation soil samples S/PP, W, N, and DUP W2 were collected from a total of three (3) locations of the UST excavation. Sidewall samples S/PP, W, N, and DUP W2 were collected at a depth of 4.0 feet bgs. All samples were analyzed for total petroleum hydrocarbons (TPHC) and total solids.

On June 10, 1998, following the removal of potentially contaminated soil from the excavated area, post-excavation soil samples 1, 2, 3, 4, 6, 7, 8, and DUP 5 were collected from a total of seven (7) locations of the UST excavation. Excavation floor samples 3, 4, and DUP 5 were collected at a depth of 5.0 feet bgs. Sidewall samples 1, 2, 6, 7, and 8 were collected at a depth of 5.0 feet bgs. All samples were analyzed for total petroleum hydrocarbons (TPHC) and total solids. Based on preliminary TPHC results, a VOA analysis (EPA Method 8260) was completed on samples 1, 2, and 8.

SMC Environmental Services Group 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 December 3, 1999, and January 8, 2000, Building 977 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 May 28, 1998, and June 10, 1998 from a total of ten (10) locations. All samples were analyzed for TPHC and total solids. In addition, samples 1, 2, and 8 were analyzed for VOA. The post-excavation sampling results were compared to the NJDEP residential direct contact total organic contaminants soil cleanup criteria of 10,000 mg/kg (N.J.A.C. 7:26D and revisions dated February 3, 1994). A summary of the analytical results and comparison to the NJDEP soil cleanup criteria is provided in Table 2 and the soil sampling locations are shown on Figure 4. The VOA analysis for samples 1, 2, and 8 were compared to the NJDEP residential direct contact soil cleanup criteria and is included as Table 3. The analytical data package is provided in Appendix E.

All post-excavation soil samples collected on May 28, 1998, and June 10, 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 977 on December 3, 1999, contained acetone at a concentration of 5.11 ug/l and 2-butanone at a concentration of 5.39 ug/l. No other compounds were detected. The field dupe contained acetone at a concentration of 6.64 ug/l and 2-butanone at a concentration of 7.83 ug/l. No other compounds were detected in the field dup.

The sample collected from Building 977 on January 8, 2000, contained bis(2-ethylhexyl)phthalate at a concentration of 1.93 ug/l. No other compounds were detected.

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

Groundwater samples collected on December 3, 1999, and January 8, 2000, 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 977 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 977 on December 3, 1999, and January 8, 2000, groundwater quality at Building 977 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. 81533-204 at Building 977.

F. 1

Ar. 1

F. 2

Ar. 2

F. 3

Ar. 3

F. 4

Ar. 4

F. 5

Ar. 5

F. 6

Ar. 6

F. 7

Ar. 7

F. 8

Ar. 8

F. 9

Ar. 9

F. 10

Ar. 10

F. 11

Ar. 11

F. 12

Ar. 12

F. 13

Ar. 13

F. 14

Ar. 14

F. 15

Ar. 15

F. 16

Ar. 16

F. 17

Ar. 17

F. 18

Ar. 18

F. 19

Ar. 19

TABLES

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING 977, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Page 1 of 3

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	NJDEP Method
**S/PP	5/28/98	5/28/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
**W	5/28/98	5/28/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
**W2	5/28/98	5/28/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
**N	5/28/98	5/28/98	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

* TPHC Total Petroleum Hydrocarbons

** Sample further remediated and resampled

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING 977, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Page 2 of 3

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	NJDEP Method
1	6/10/98	6/10/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
2	6/10/98	6/10/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
3	6/10/98	6/10/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
4	6/10/98	6/10/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
5	6/10/98	6/10/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
6	6/10/98	6/10/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
7	6/10/98	6/10/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
8	6/10/98	6/10/98	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

* TPHC Total Petroleum Hydrocarbons

TABLE 1

SUMMARY OF SAMPLING ACTIVITIES
BUILDING 977, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Page 3 of 3

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Sampling Method**
4977.01	12/3/99	12/6/99	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
5079.03	1/8/00	1/10/00	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 977, MAIN POST-WEST AREA
 FORT MONMOUTH, NEW JERSEY

Page 1 of 2

Sample ID/ Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Parameters	Method Detection Limit (mg/kg)	Compound of Concern	Results (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
***S/PP/4.0=	3597.01	5/28/98	5/28/98	Total Solid	--	--	85.55 %	--	--
				TPHC	179	yes	722.49	10,000	No
***W/4.0=	3597.02	5/28/98	5/28/98	Total Solid	--	--	84.00 %	--	--
				TPHC	184	Yes	1517.10	10,000	No
***W2/4.0=	3597.03	5/28/98	5/28/98	Total Solid	--	--	84.21 %	--	--
				TPHC	185	Yes	1759.62	10,000	No
***N/4.0=	3597.04	5/28/98	5/28/98	Total Solid	--	--	85.73 %	--	--
				TPHC	182	yes	3449.60	10,000	No

Note:

- * Total Solid results are expressed as a percentage.
 ** NJDEP Residential Direct Contact soil cleanup criteria for total organics
 *** Sample further remediated and resampled
 ND Not detected above stated method detection limit
 TPHC Total Petroleum Hydrocarbons

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
 BUILDING 977, MAIN POST-WEST AREA
 FORT MONMOUTH, NEW JERSEY

Page 2 of 2

Sample ID/ Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Parameters	Method Detection Limit (mg/kg)	Compound of Concern	Results (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
1/5.0=	3637.01	6/10/98	6/10/98	Total Solid	--	--	84.35 %	--	--
				TPHC	180	yes	4574.82	10,000	No
2/5.0=	3637.02	6/10/98	6/10/98	Total Solid	--	--	83.91 %	--	--
				TPHC	177	Yes	3129.08	10,000	No
3/5.0=	3637.03	6/10/98	6/10/98	Total Solid	--	--	81.97 %	--	--
				TPHC	191	Yes	ND	10,000	No
4/5.0=	3637.04	6/10/98	6/10/98	Total Solid	--	--	82.75 %	--	--
				TPHC	181	yes	ND	10,000	No
5/5.0=	3637.05	6/10/98	6/10/98	Total Solid	--	--	82.09 %	--	--
				TPHC	189	yes	ND	10,000	No
6/5.0=	3637.06	6/10/98	6/10/98	Total Solid	--	--	80.45 %	--	--
				TPHC	191	Yes	ND	10,000	No
7/5.0=	3637.07	6/10/98	6/10/98	Total Solid	--	--	80.40 %	--	--
				TPHC	192	Yes	494.88	10,000	No
8/5.0=	3637.08	6/10/98	6/10/98	Total Solid	--	--	83.86 %	--	--
				TPHC	184	yes	4507.65	10,000	No

* Total Solid results are expressed as a percentage.

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

*** Sample further remediated and resampled

ND Not detected above stated method detection limit

TPHC Total Petroleum Hydrocarbons

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) SOIL
 Date Sampled: 6/10/98 Location: 977 Lab Sample ID: 3637.01(SAMPLE 1)

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

CAS NO.	PARAMETER	MDL	QUALIFIER	RESIDENTIAL	NON- RESIDENTIAL
107028	Acrolein	1100	U	NA	NA
107131	Acrylonitrile	1100	U	1000	5000
75650	tert-Butyl alcohol	1700	U	NA	NA
1634044	Methyl-tert-Butyl ether	840	U	NA	NA
108203	Di-isopropyl ether	560	U	NA	NA
	Dichlorodifluoromethane	1100	U	NA	NA
74-87-3	Chloromethane	280	U	520000	1000000(d)
75-01-4	Vinyl Chloride	840	U	2000	7000
74-83-9	Bromomethane	560	U	79000	1000000(d)
75-00-3	Chloroethane	840	U	NA	NA
75-69-4	Trichlorofluoromethane	560	U	NA	NA
75-35-4	1, 1-Dichloroethene	280	U	8000	150000
67-64-1	Acetone	560	U	1000000(d)	1000000(d)
75-15-0	Carbon Disulfide	280	U	NA	NA
75-09-2	Methylene Chloride	560	U	49000	210000
156-60-5	trans-1,2-Dichloroethene	560	U	1000000(d)	1000000(d)
75-35-3	1,1-Dichloroethane	280	U	570000	1000000(d)
108-05-4	Vinyl Acetate	840	U	NA	NA
78-93-3	2-Butanone	840	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	560	U	2000(k)	4000(k)
71-43-2	Benzeze	280	U	3000	13000
107-06-2	1,2-Dichloroethane	560	U	6000	24000

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETLNJDEP # 13461Matrix: (soil/water) SOILDate Sampled: 6/10/98Location: 977Lab Sample ID: 3637.01(SAMPLE 1)

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	560	U	NA	NA
10061-01-5	cis-1,3-Dichloropropene	280	U	NA	NA
108-10-1	4-Methyl-2-Pentanone	560	U	1000000(d)	1000000(d)
108-88-3	Toluene	280	U	1000000(d)	1000000(d)
10061-02-6	trans-1,3-Dichloropropene	560	U	NA	NA
79-00-5	1,1,2-Trichloroethane	560	U	22000	420000
127-18-4	Tetrachloroethene	280	U	4000(k)	6000(k)
591-78-6	2-Hexanone	560	U	NA	NA
126-48-1	Dibromochloromethane	560	U	NA	NA
108-90-7	Chlorobenzene	280	U	37000	680000
100-41-4	Ethylbenzene	560	U	1000000(d)	1000000(d)
1330-20-7	m+p-Xylenes	840	U	NA	NA
1330-20-7	o-Xylene	560	U	NA	NA
100-42-5	Styrene	560	U	23000	97000
75-25-2	Bromoform	560	U	86000	370000
79-34-5	1,1,2,2-Tetrachloroethane	560	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)

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETLNJDEP # 13461Matrix: (soil/water) SOILDate Sampled: 6/10/98Location: 977Lab Sample ID: 3637.02(SAMPLE 2)

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

CAS NO.	PARAMETER	MDL	QUALIFIER	RESIDENTIAL	NON- RESIDENTIAL
107028	Acrolein	1100	U	NA	NA
107131	Acrylonitrile	1100	U	1000	5000
75650	tert-Butyl alcohol	1700	U	NA	NA
1634044	Methyl-tert-Butyl ether	840	U	NA	NA
108203	Di-isopropyl ether	560	U	NA	NA
	Dichlorodifluoromethane	1100	U	NA	NA
74-87-3	Chloromethane	280	U	520000	1000000(d)
75-01-4	Vinyl Chloride	840	U	2000	7000
74-83-9	Bromomethane	560	U	79000	1000000(d)
75-00-3	Chloroethane	840	U	NA	NA
75-69-4	Trichlorofluoromethane	560	U	NA	NA
75-35-4	1, 1-Dichloroethene	280	U	8000	150000
67-64-1	Acetone	560	U	1000000(d)	1000000(d)
75-15-0	Carbon Disulfide	280	U	NA	NA
75-09-2	Methylene Chloride	560	U	49000	210000
156-60-5	trans-1,2-Dichloroethene	560	U	1000000(d)	1000000(d)
75-35-3	1,1-Dichloroethane	280	U	570000	1000000(d)
108-05-4	Vinyl Acetate	840	U	NA	NA
78-93-3	2-Butanone	840	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	560	U	2000(k)	4000(k)
71-43-2	Benzene	280	U	3000	13000
107-06-2	1,2-Dichloroethane	560	U	6000	24000

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) SOIL
 Date Sampled: 6/10/98 Location: 977 Lab Sample ID: 3637.02(SAMPLE 2)

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	560	U	NA	NA
10061-01-5	cis-1,3-Dichloropropene	280	U	NA	NA
108-10-1	4-Methyl-2-Pentanone	560	U	1000000(d)	1000000(d)
108-88-3	Toluene	280	U	1000000(d)	1000000(d)
10061-02-6	trans-1,3-Dichloropropene	560	U	NA	NA
79-00-5	1,1,2-Trichloroethane	560	U	22000	420000
127-18-4	Tetrachloroethene	280	U	4000(k)	6000(k)
591-78-6	2-Hexanone	560	U	NA	NA
126-48-1	Dibromochloromethane	560	U	NA	NA
108-90-7	Chlorobenzene	280	U	37000	680000
100-41-4	Ethylbenzene	560	U	1000000(d)	1000000(d)
1330-20-7	m+p-Xylenes	840	U	NA	NA
1330-20-7	o-Xylene	560	U	NA	NA
100-42-5	Styrene	560	U	23000	97000
75-25-2	Bromoform	560	U	86000	370000
79-34-5	1,1,2,2-Tetrachloroethane	560	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)

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) SOIL
 Date Sampled: 6/10/98 Location: 977 Lab Sample ID: 3637.08(SAMPLE 8)

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

CAS NO.	PARAMETER	MDL	QUALIFIER	RESIDENTIAL	NON- RESIDENTIAL
107028	Acrolein	1100	U	NA	NA
107131	Acrylonitrile	1100	U	1000	5000
75650	tert-Butyl alcohol	1600	U	NA	NA
1634044	Methyl-tert-Butyl ether	790	U	NA	NA
108203	Di-isopropyl ether	530	U	NA	NA
	Dichlorodifluoromethane	1100	U	NA	NA
74-87-3	Chloromethane	260	U	520000	1000000(d)
75-01-4	Vinyl Chloride	790	U	2000	7000
74-83-9	Bromomethane	530	U	79000	1000000(d)
75-00-3	Chloroethane	790	U	NA	NA
75-69-4	Trichlorofluoromethane	530	U	NA	NA
75-35-4	1, 1-Dichloroethene	260	U	8000	150000
67-64-1	Acetone	530	U	1000000(d)	1000000(d)
75-15-0	Carbon Disulfide	260	U	NA	NA
75-09-2	Methylene Chloride	530	U	49000	210000
156-60-5	trans-1,2-Dichloroethene	530	U	1000000(d)	1000000(d)
75-35-3	1,1-Dichloroethane	260	U	570000	1000000(d)
108-05-4	Vinyl Acetate	790	U	NA	NA
78-93-3	2-Butanone	790	U	1000000(d)	1000000(d)
156-59-2	cis-1,2-Dichloroethene	260	U	79000	1000000(d)
67-66-3	Chloroform	260	U	19000(k)	28000(k)
75-55-6	1,1,1-Trichloroethane	260	U	NA	NA
56-23-5	Carbon Tetrachloride	530	U	2000(k)	4000(k)
71-43-2	Benzeze	260	U	3000	13000
107-06-2	1,2-Dichloroethane	530	U	6000	24000

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) SOIL
 Date Sampled: 6/10/98 Location: 977 Lab Sample ID: 3637.08(SAMPLE 8)

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

CAS NO.	PARAMETER	MDL	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
79-01-6	Trichloroethene	260	U	23000	54000(k)
78-87-5	1, 2-Dichloropropane	260	U	10000	43000
75-27-4	Bromodichloromethane	260	U	11000(g)	46000(g)
110-75-8	2-Chloroethyl vinyl ether	530	U	NA	NA
10061-01-5	cis-1,3-Dichloropropene	260	U	NA	NA
108-10-1	4-Methyl-2-Pentanone	530	U	1000000(d)	1000000(d)
108-88-3	Toluene	260	U	1000000(d)	1000000(d)
10061-02-6	trans-1,3-Dichloropropene	530	U	NA	NA
79-00-5	1,1,2-Trichloroethane	530	U	22000	420000
127-18-4	Tetrachloroethene	260	U	4000(k)	6000(k)
591-78-6	2-Hexanone	530	U	NA	NA
126-48-1	Dibromochloromethane	530	U	NA	NA
108-90-7	Chlorobenzene	260	U	37000	680000
100-41-4	Ethylbenzene	530	U	1000000(d)	1000000(d)
1330-20-7	m+p-Xylenes	790	U	NA	NA
1330-20-7	o-Xylene	530	U	NA	NA
100-42-5	Styrene	530	U	23000	97000
75-25-2	Bromoform	530	U	86000	370000
79-34-5	1,1,2,2-Tetrachloroethane	530	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)

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: 12/3/99 Location: 977 Lab Sample ID: 4977.01(Bldg 977)

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	5.11 ug/L	--	700	no
75-15-0	Carbon Disulfide	0.46	Not Detected	--	nle	no
75-09-2	Methylene Chloride	0.24	Not Detected	--	2	no
156-60-5	trans-1,2-Dichloroethene	0.16	Not Detected	--	100	no
75-35-3	1,1-Dichloroethane	0.12	Not Detected	--	70	no
108-05-4	Vinyl Acetate	0.78	Not Detected	--	nle	no
78-93-3	2-Butanone	0.62	5.39 ug/L	--	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	Benzene	0.23	Not Detected	--	1	no
107-06-2	1,2-Dichloroethane	0.18	Not Detected	--	2	no
79-01-6	Trichloroethene	0.23	Not Detected	--	1	no
78-87-5	1, 2-Dichloropropane	0.40	Not Detected	--	1	no
75-27-4	Bromodichloromethane	0.55	Not Detected	--	1	no
110-75-8	2-Chloroethyl vinyl ether	0.65	Not Detected	--	nle	no
10061-01-5	cis-1,3-Dichloropropene	0.69	Not Detected	--	nle	no

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) WATER
 Date Sampled: 12/3/99 Location: 977 Lab Sample ID: 4977.01(Bldg 977)

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	1,1,1,2-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: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 12/3/99Location: 977Lab Sample ID: 4977.01(Bldg 977)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
110-86-1	Pyridine	2.25	Not Detected	--	nle	no
62-75-9	N-nitroso-dimethylamine	1.12	Not Detected	--	20	no
62-53-3	Aniline	2.00	Not Detected	--	nle	no
111-44-4	bis(2-Chloroethyl)ether	1.57	Not Detected	--	10	no
541-73-1	1,3-Dichlorobenzene	1.19	Not Detected	--	600	no
106-46-7	1,4-Dichlorobenzene	1.46	Not Detected	--	75	no
100-51-6	Benzyl alcohol	1.25	Not Detected	--	nle	no
95-50-1	1,2-Dichlorobenzene	1.39	Not Detected	--	600	no
108-60-1	bis(2-chloroisopropyl)ether	1.71	Not Detected	--	300	no
621-64-7	n-Nitroso-di-n-propylamine	1.50	Not Detected	--	20	no
67-72-1	Hexachloroethane	1.85	Not Detected	--	10	no
98-95-3	Nitrobenzene	1.19	Not Detected	--	10	no
78-59-1	Isophorone	1.24	Not Detected	--	100	no
111-91-1	bis(2-Chloroethoxy)methane	1.49	Not Detected	--	nle	no
120-82-1	1,2,4-Trichlorobenzene	1.50	Not Detected	--	9	no
91-20-3	Naphthalene	1.56	Not Detected	--	nle	no
106-47-8	4-Chloroaniline	1.34	Not Detected	--	nle	no
87-68-3	Hexachlorobutadiene	0.87	Not Detected	--	1	no
91-57-6	2-Methylnaphthalene	1.33	Not Detected	--	nle	no
77-47-4	Hexachlorocyclopentadiene	1.62	Not Detected	--	50	no
91-58-7	2-Chloronaphthalene	1.24	Not Detected	--	nle	no
88-74-4	2-Nitroaniline	0.97	Not Detected	--	nle	no
131-11-3	Dimethylphthalate	1.87	Not Detected	--	7000	no
208-96-8	Acenaphthylene	1.18	Not Detected	--	nle	no

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 12/3/99Location: 977Lab Sample ID: 4977.01(Bldg 977)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
606-20-2	2,6-Dinitrotoluene	1.00	Not Detected	--	nle	No
99-09-2	3-Nitroaniline	0.97	Not Detected	--	nle	No
83-32-9	Acenaphthene	1.35	Not Detected	--	400	no
132-64-9	Dibenzofuran	1.23	Not Detected	--	nle	no
121-14-2	2,4-Dinitrotoluene	1.07	Not Detected	--	10	no
84-66-2	Diethylphthalate	1.99	Not Detected	--	5000	no
86-73-7	Fluorene	1.22	Not Detected	--	300	no
7005-72-3	4-Chlorophenyl-phenylether	1.35	Not Detected	--	nle	no
100-01-6	4-Nitroaniline	1.29	Not Detected	--	nle	no
86-30-6	n-Nitrosodiphenylamine	1.24	Not Detected	--	20	no
103-33-3	Azobenzene	0.82	Not Detected	--	nle	no
101-55-3	4-Bromophenyl-phenylether	0.93	Not Detected	--	nle	no
118-74-1	Hexachlorobenzene	1.16	Not Detected	--	10	no
85-01-8	Phenanthrene	1.51	Not Detected	--	nle	no
120-12-7	Anthracene	1.38	Not Detected	--	2000	no
84-74-2	Di-n-butylphthalate	2.09	Not Detected	--	900	no
206-44-0	Fluoranthene	2.02	Not Detected	--	300	no
92-87-5	Benzidine	5.14	Not Detected	--	50	no
129-00-0	Pyrene	1.54	Not Detected	--	200	no
85-68-7	Butylbenzylphthalate	1.29	Not Detected	--	100	no
56-55-3	Benzo[a]anthracene	1.46	Not Detected	--	10	no
91-94-1	3,3'-Dichlorobenzidine	2.15	Not Detected	--	60	no
218-01-9	Chrysene	1.70	Not Detected	--	20	no
117-81-7	bis(2-Ethylhexyl)phthalate	2.14	Not Detected	--	30	no
117-84-0	Di-n-octylphthalate	1.77	Not Detected	--	100	no
205-99-2	Benzo[b]fluoranthene	1.54	Not Detected	--	10	no
207-08-9	Benzo[k]fluoranthene	1.59	Not Detected	--	2	no
50-32-8	Benzo[a]pyrene	1.29	Not Detected	--	20	no
193-39-5	Indeno[1,2,3-cd]pyrene	1.02	Not Detected	--	20	no
53-70-3	Dibenz[a,h]anthracene	0.79	Not Detected	--	20	no
191-24-2	Benzo[g,h,i]perylene	1.03	Not Detected	--	nle	no

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) WATER
 Date Sampled: 1/8/00 Location: 977 Lab Sample ID: 5079.03(Bldg 977)

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: 1/8/00 Location: 977 Lab Sample ID: 5079.03(Bldg 977)

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: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 1/8/00Location: 977Lab Sample ID: 5079.03(Bldg 977)

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

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) WATER
 Date Sampled: 1/8/00 Location: 977 Lab Sample ID: 5079.03(Bldg 977)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
606-20-2	2,6-Dinitrotoluene	0.81	Not Detected	--	nle	no
99-09-2	3-Nitroaniline	0.79	Not Detected	--	nle	no
83-32-9	Acenaphthene	1.10	Not Detected	--	400	no
132-64-9	Dibenzofuran	1.00	Not Detected	--	nle	no
121-14-2	2,4-Dinitrotoluene	0.87	Not Detected	--	10	no
84-66-2	Diethylphthalate	1.62	Not Detected	--	5000	no
86-73-7	Fluorene	0.99	Not Detected	--	300	no
7005-72-3	4-Chlorophenyl-phenylether	1.10	Not Detected	--	nle	no
100-01-6	4-Nitroaniline	1.05	Not Detected	--	nle	no
86-30-6	n-Nitrosodiphenylamine	1.01	Not Detected	--	20	no
103-33-3	Azobenzene	0.67	Not Detected	--	nle	no
101-55-3	4-Bromophenyl-phenylether	0.76	Not Detected	--	nle	no
118-74-1	Hexachlorobenzene	0.94	Not Detected	--	10	no
85-01-8	Phenanthrene	1.23	Not Detected	--	nle	no
120-12-7	Anthracene	1.12	Not Detected	--	2000	no
84-74-2	Di-n-butylphthalate	1.70	Not Detected	--	900	no
206-44-0	Fluoranthene	1.64	Not Detected	--	300	no
92-87-5	Benzidine	4.18	Not Detected	--	50	no
129-00-0	Pyrene	1.25	Not Detected	--	200	no
85-68-7	Butylbenzylphthalate	1.05	Not Detected	--	100	no
56-55-3	Benzo[a]anthracene	1.19	Not Detected	--	10	no
91-94-1	3,3'-Dichlorobenzidine	1.75	Not Detected	--	60	no
218-01-9	Chrysene	1.38	Not Detected	--	20	no
117-81-7	bis(2-Ethylhexyl)phthalate	1.74	1.93 ug/L	--	30	no
117-84-0	Di-n-octylphthalate	1.44	Not Detected	--	100	no
205-99-2	Benzo[b]fluoranthene	1.25	Not Detected	--	10	no
207-08-9	Benzo[k]fluoranthene	1.29	Not Detected	--	2	no
50-32-8	Benzo[a]pyrene	1.05	Not Detected	--	20	no
193-39-5	Indeno[1,2,3-cd]pyrene	0.83	Not Detected	--	20	no
53-70-3	Dibenz[a,h]anthracene	0.64	Not Detected	--	20	no
191-24-2	Benzo[g,h,i]perylene	0.84	Not Detected	--	nle	no

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Table 1

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FIGURES

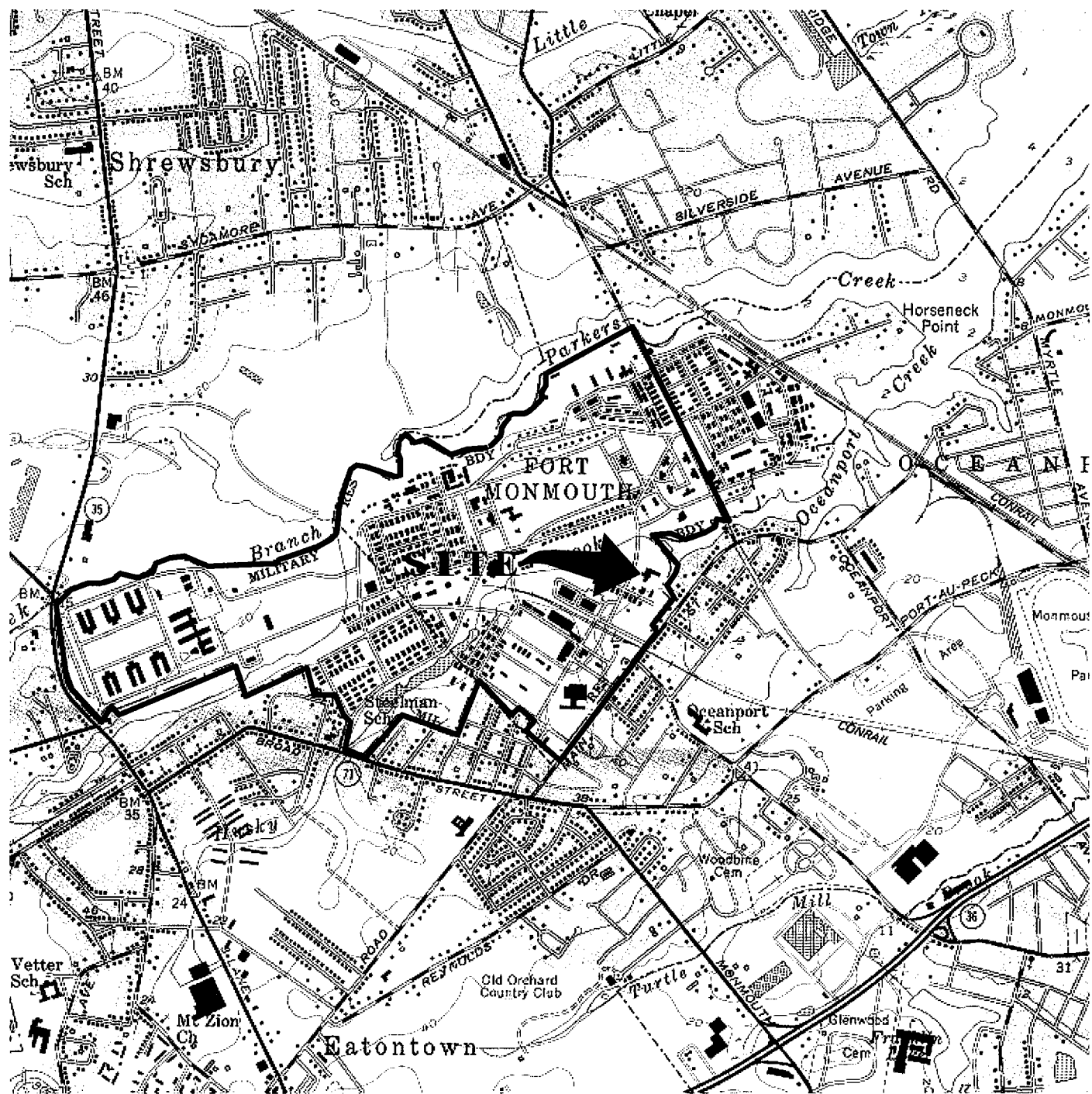


FIGURE 1

LOCATION MAP
 Building 977
 Main-Post West
 Fort Monmouth Army Base
 Monmouth County, NJ

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

Scale: 1" = 2000'

Date: MAY 1998

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

Geologic Map of New Jersey

SEDIMENTARY ROCKS

CENOZOIC

- Holocene: sand
- Tertiary: sand, silt, clay

MESOZOIC

- Cretaceous: sand, silt, clay
- Jurassic: siltstone, shale, sandstone
- Triassic: siltstone, shale, sandstone

PALEOZOIC

- Devonian: conglomerate, sandstone, shale, limestone
- Silurian: conglomerate, sandstone, shale, limestone
- Ordovician: shale, limestone
- Cambrian: limestone, sandstone

IGNEOUS AND METAMORPHIC ROCKS

MESOZOIC

- Jurassic: basalt
- Jurassic: diabase

PRECAMBRIAN

- marble
- gneiss, granite

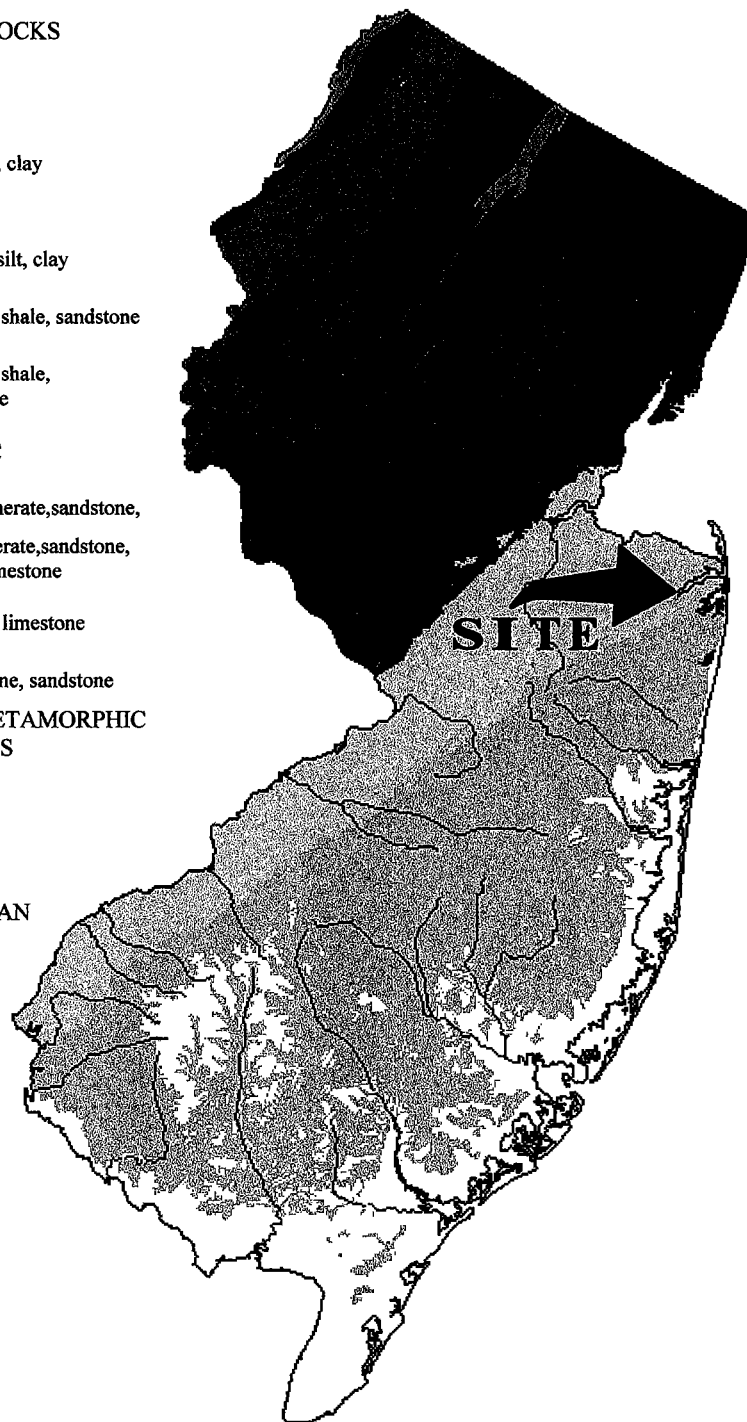


FIGURE 1A
GEOLOGICAL MAP
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
 Engineers, Managers, Scientists & Planners
 Bristol, Pennsylvania

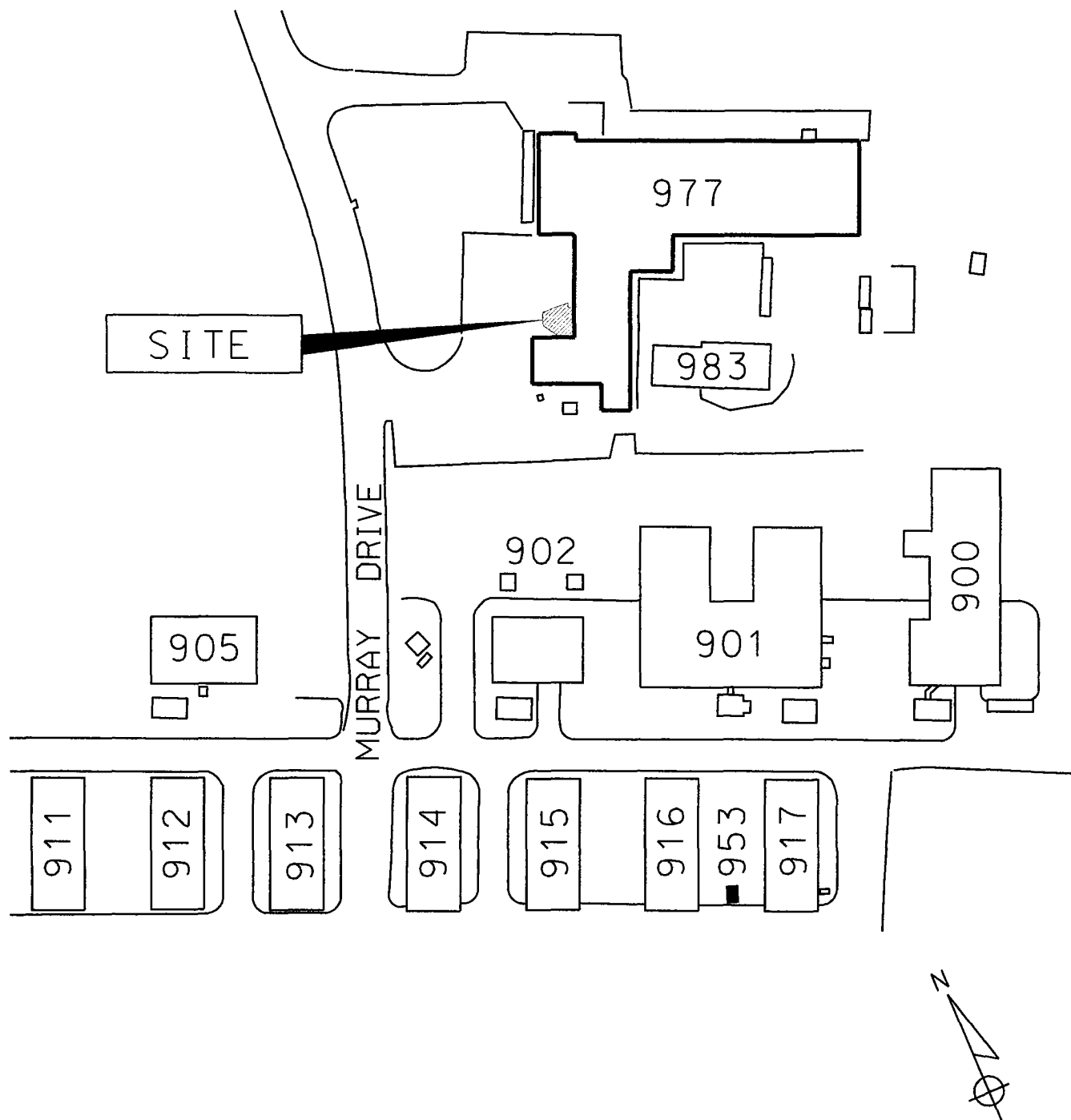


FIGURE 2
SITE MAP
BUILDING 977
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1"=100'

DATE: MAY 1998

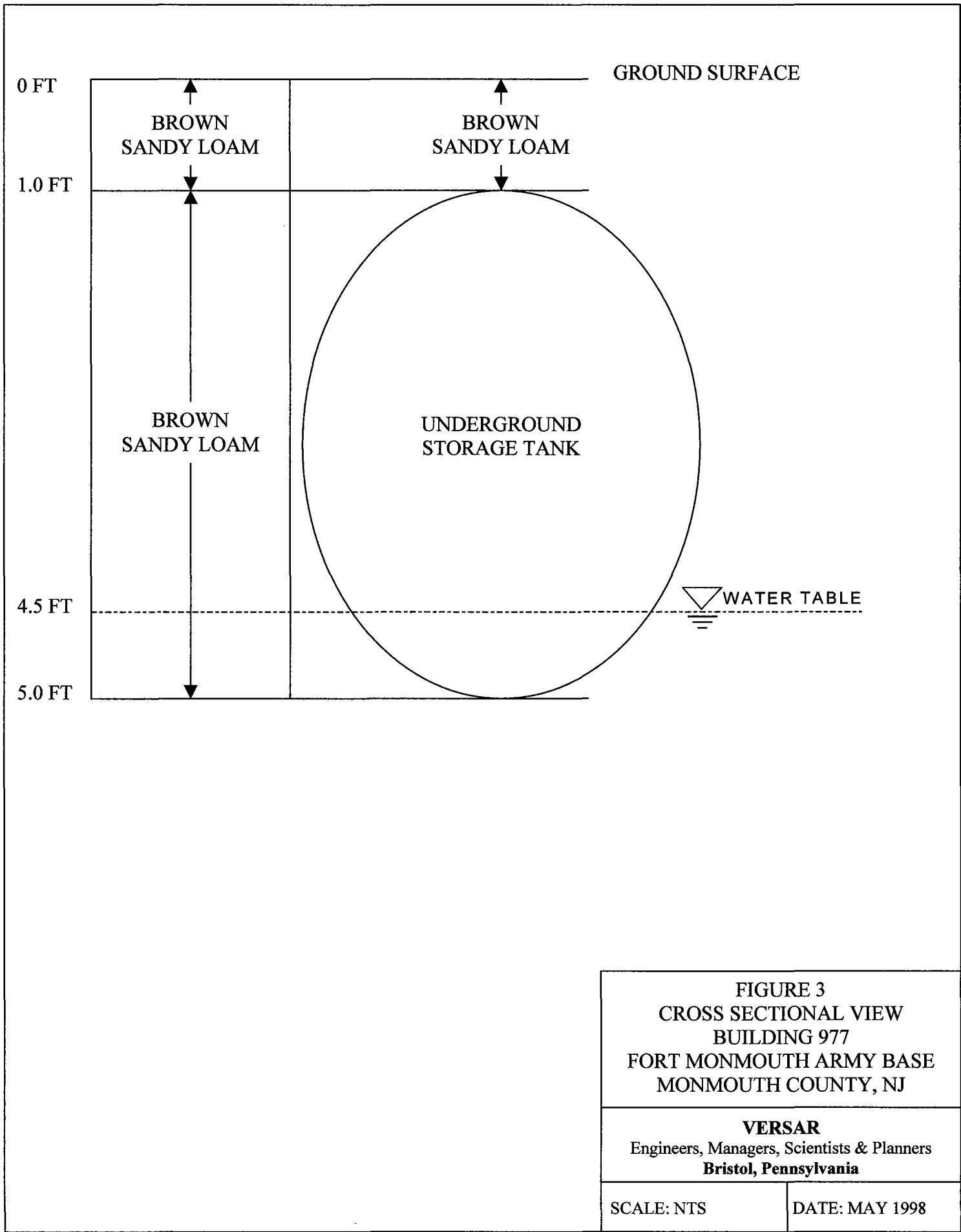
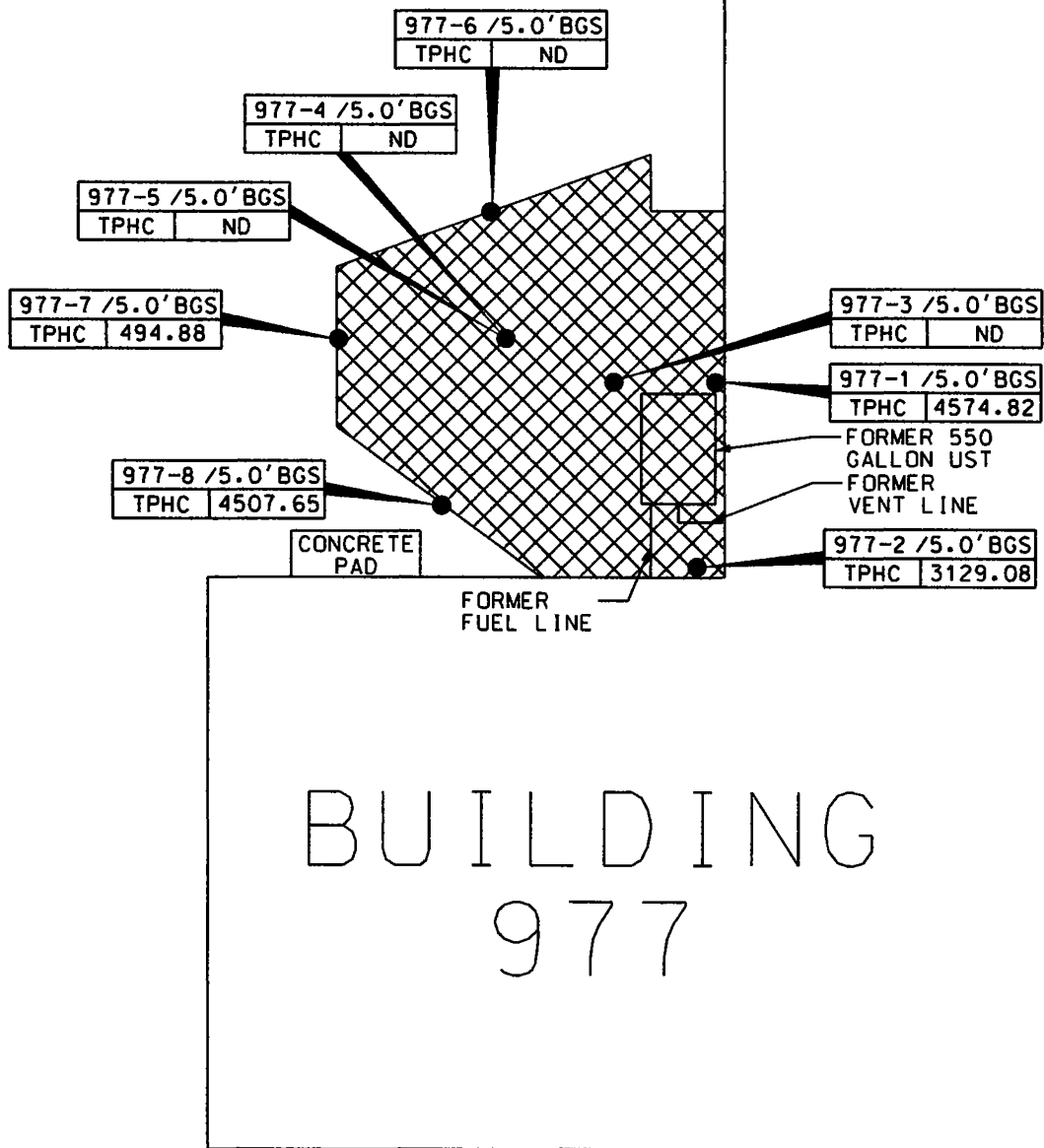


FIGURE 3
CROSS SECTIONAL VIEW
BUILDING 977
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
Engineers, Managers, Scientists & Planners
Bristol, Pennsylvania

SCALE: NTS

DATE: MAY 1998



LEGEND

- SOIL SAMPLE LOCATION (JUNE 10, 1998)
- ▨ LIMIT OF EXCAVATION (JUNE 10, 1998)

NOTES:

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

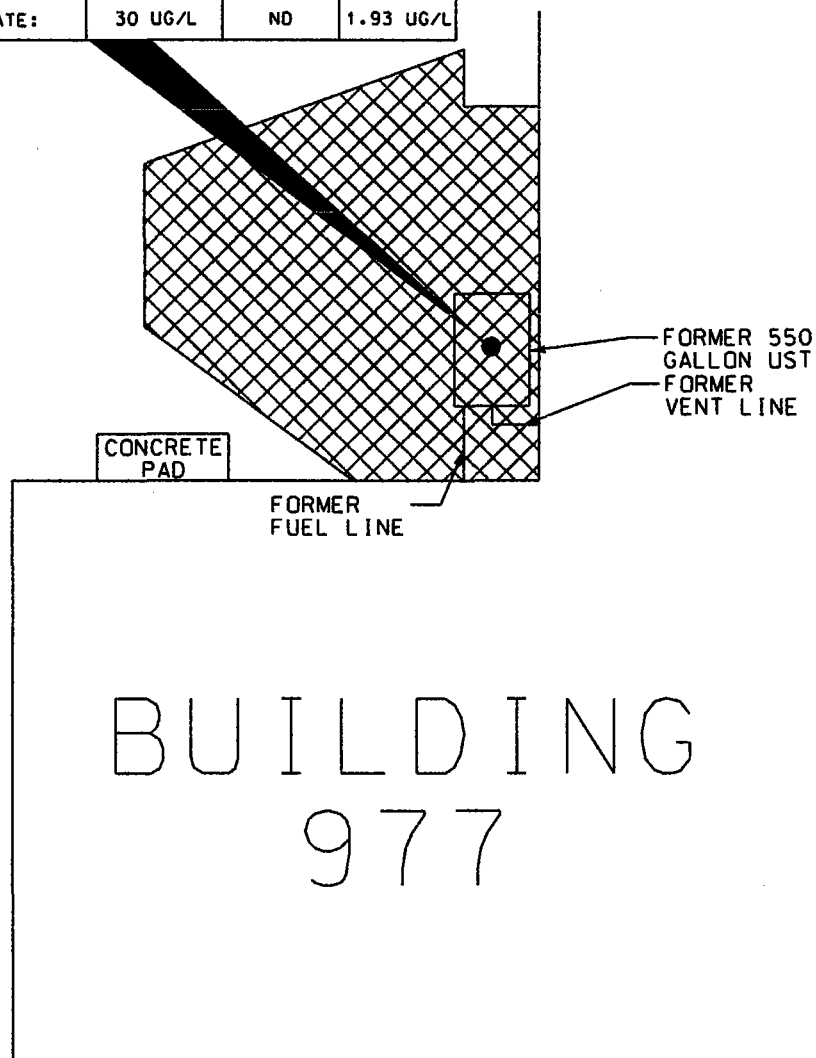
FIGURE 4
SOIL SAMPLING LOCATION MAP
BUILDING 977
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1"=10'

DATE: MAY 1998

SAMPLING LOCATION: SAMPLING DEPTH: SAMPLING DATE:	HIGHER OF NJDEP GWQS AND POL	BLDG 977 7-12' BGS 12/3/99	BLDG 977 7-12' BGS 1/8/00
VOLATILE ORGANIC COMPOUNDS:			
ACETONE:	700 UG/L	5.11 UG/L	ND
2-BUTANONE:	300 UG/L	5.39 UG/L	ND
SEMIVOLATILE ORGANIC COMPOUNDS:			
BIS(2-ETHYLHEXYL)PHTHALATE:	30 UG/L	ND	1.93 UG/L



LEGEND

- GROUNDWATER SAMPLE LOCATION
(DECEMBER 3, 1999 AND JANUARY 8, 2000)
- ▨ LIMIT OF EXCAVATION
(JUNE 10, 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 977
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1"=10'

DATE: MAY 1998

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APPENDIX A

NJDEP-STANDARD REPORTING FORM

FOR STATE USE ONLY

Check In ☐ Yes ☐ No

STATUS COMCODE
Active Inactive

☐	☐	☐	☐	☐
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

UNDERGROUND STORAGE TANK FACILITY QUESTIONNAIRE

FACILITY UST # 81533 (Tank # 204) Building 977

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

(Check appropriate box(es))

- A. ☐ Is this a registration of a proposed or newly installed underground storage tank? (This form must be filed at least 30 days prior to operation)
- B. ☐ Is this a registration of an existing underground storage tank not presently registered?
- C. ☒ Is this a correction or amendment to an existing facility registration? UST # 81533-204
- D. ☐ There have been no changes to the facility registration since last submittal. UST # _____ (Go to certification page for signatures)

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

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

SECTION A - GENERAL FACILITY INFORMATION

1. Facility Name MAIN POST FORT MONMOUTH

2. Facility Location _____

NUMBER AND STREET

CITY OR MUNICIPALITY

COUNTY

STATE

ZIP CODE

BLOCK

LOT

3. Facility Operator _____

Contact

Tele. No.

(Area Code)

(Extension)

PERSON OR TITLE

Operator Address _____

(if different than

#2)

NUMBER AND STREET

CITY OR MUNICIPALITY

STATE

ZIP CODE

4. Tank Owner _____

5. Tank Owner Address _____

Address

NUMBER AND STREET

CITY OR MUNICIPALITY

STATE

ZIP CODE

Contact Person _____

(Tank Owner)

Contact

Tele. No.

(Area Code)

(Extension)

7. EPA ID #

8. Total number of regulated underground storage tanks at facility (Complete Section B for each tank)

10. Facility Type: A ☐ State ☐ County/Municipal ☐ Charitable / P School ☐ Other
 B ☐ Commercial/Industrial ☐ Federal ☐ Residence ☐ Farm (as defined in N.J.S.A. 54:4-23.1 et seq.)

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

SECTION B - SPECIFIC TANK INFORMATION

12. Underground tanks, including those taken out of operation (UNLESS THE TANK WAS REMOVED FROM THE GROUND PRIOR TO 10/3/86) must be registered. Report all tank/piping status changes unless previously submitted.

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

Tank Identification Number	Tank		Piping		Tank		Piping		Tank		Piping		Tank		Piping			
1. Type of Monitoring/Detection System. (Mark one X for each tank)																		
2. Overfill Protection (tank only) (Mark one X for each tank)																		
A. Yes																		
B. No																		
10. Spill Containment Around Fill Pipe (Mark one X for each tank)																		
A. Yes																		
B. No																		
11. Tank Status (Mark one X for each tank)																		
A. In-use																		
B. Empty less than 12 months																		
C. Empty 12 months or more																		
D. Emergency spill tank (sump)																		
E. Emergency backup generator tank																		
F. Abandoned in Place																		
G. Removed																		
H. Other (please specify)																		
12. If box 11B, C, or D above has been marked, indicate the estimated date last used (month/day/year)	Mo.	Day	Year	Mo.	Day	Year	Mo.	Day	Year	Mo.	Day	Year	Mo.	Day	Year	Mo.	Day	Year
13. Closure Information - Tank ID No.	TANK NO.		TANK NO.		TANK NO.		TANK NO.		TANK NO.		TANK NO.		TANK NO.		TANK NO.			
	0204																	
A. Date abandoned in place	Mo.	Day	Year	Mo.	Day	Year	Mo.	Day	Year	Mo.	Day	Year	Mo.	Day	Year	Mo.	Day	Year
B. Date taken temporarily out of service																		
C. Date removed	05	27	1998															
D. Date of Sale or Transfer																		
E. TMS # (if applicable)																		
F. ISRA # (if applicable)																		

SECTION C - FINANCIAL RESPONSIBILITY

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

Type	Carrier / Issuing Agency
Effective Date	Expiration Date
Policy Number	Amount

SECTION D - MONITORING SYSTEMS

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

SECTION E - RECORDKEEPING/COMPLIANCE

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

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

IMPORTANT INFORMATION

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

DATES TO KNOW (critical deadlines)

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

CERTIFICATIONS

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

CERTIFICATION NO. 1:

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

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

JAMES OTT

(Typed / Printed Name)

DIRECTOR, DPW

(Title)

James Ott

(Signature)

5/30/98

(Date)

CERTIFICATION NO. 2:

Must be signed as follows:

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

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

(Typed / Printed Name)

(Signature)

(Title)

(Date)

CERTIFICATION NO. 3:

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

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

David H. Daniels, Site Manager

(Typed / Printed Name)

(Title)

SMC Site Manager Services

(Name of Firm, if applicable)

Environmental

UST-021 (9/94)

David H. Daniels

(Signature)

0010279

(N.J. Certification Number)

(Date)

5/27/98

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APPENDIX B

SITE ASSESSMENT SUMMARY

Site Remediation Program

UST Site/Remedial Investigation Report Certification Form

A. Facility Name : U.S. Army Fort Monmouth New JerseyFacility Street Address : Directorate of Public Works Building 173Municipality: Oceanport County : MonmouthBlock: _____ Lot(s): _____ Telephone Number : 732-532-6224**B. Owner (RP)'s Name:** _____

Street Address: _____ City : _____

State: _____ Zip: _____ Telephone Number : _____

C. (Check as appropriate)

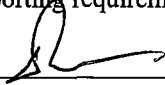
- ☐ Site Investigation
Report (SIR) \$500 Fee
- ☐ Remedial Investigation
Report (RIR) \$1000 Fee

☒ NA – Federal Agreement**D. (Complete all that apply)**

- Assigned Case Manager : Ian Curtis, Federal Case Manager
- UST Registration Number : 81533-204 (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. 7:26EYes No

Name: Diker Desai Signature:  UST Cert. No.: 10173Firm: U.S. Army Fort Monmouth Firm's UST Cert. Number: NA-U.S. ArmyFirm Address: Directorate of Public Works Building 173 City: Fort MonmouthState: NJ Zip: 07703 Telephone Number : 732-532-6224

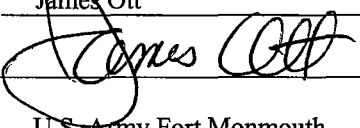
(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

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

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

- 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
- For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
- 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 WorksSignature: Company Name: U.S. Army Fort Monmouth Date: 9/4/00

APPENDIX C

WASTE MANIFEST



RD1 Box 5A
Old Bridge, N.J. 08857
(732) 721-0900
Fax (732) 721-0231

STANDARD
COLLECTION
ORDER FORM
199329

GENERATOR/LOCATION Fort Monmouth SALES ORDER #

NAME Fort Monmouth ACCOUNT APPROVAL CODE:

INFORMATION/ATTENTION LINE

DELIVERY ADDRESS Riverside Ave Bldg 280-281

CITY Fort Monmouth STATE NJ ZIP

PHONE NUMBER PURCHASE ORDER NUMBER

USA EPA ID NO. (IF APPLICABLE) NJ3219028597 STATE ID NO.

BILL TO (IF DIFFERENT FROM LOCATION)

NAME SMC Environmental

INFORMATION/ATTENTION LINE ACCOUNT APPROVAL CODE:

DELIVERY ADDRESS

CITY STATE ZIP

PHONE NUMBER PURCHASE ORDER NUMBER

MANIFEST NUMBER 14023

SHIPPING INFORMATION

This is to certify that the below named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

NO.	TYPE	QTY.	UNIT	US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	SALES REPRESENTATIVE

SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT PRICE	Building	Drums	gallons
40500	USED OIL REMOVAL				1221	1	20
40300	ANTI-FREEZE REMOVAL						
40600	USED OIL FILTER REMOVAL				1700	1	25
40501	OILY-WATER DISPOSAL						
40502	SLUDGE DISPOSAL				400	1	25
41001	GASOLINE/WATER				949	1	30
41501	DRUM DISPOSAL						
41504	TANK ENTRY				979	1	20
40800	PARTS WASHER SERVICE				286	1	30
41500	TRUCK & OPERATOR						
41511	NEW 55 GAL DRUM /17H				2018	1	25
41503	QAQC ANALYTICAL TESTING				977	1	25
42001	DEXSIL TEST KIT	TAX					
41509	TRANSPORTATION				2021A	1	20

CHARGE MY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT SECTION.

INVOICES REFLECTING CHARGES TO CUSTOMER ARE SUBJECT TO AN INTEREST RATE OF THE LESSER OF 1½% PER MONTH (18% PER ANNUM) OR THE MAXIMUM RATE ALLOWED BY LAW ON ANY INVOICES THAT ARE NOT PAID WITHIN 30 DAYS. IN THE EVENT OF DEFAULT, LORCO SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION, INCLUDING REASONABLE ATTORNEY'S FEES.

GENERATOR WARRANTS AND REPRESENTS THAT THE MATERIALS PROVIDED LORCO HEREUNDER HAVE NOT BEEN MIXED, COMBINED, OR OTHERWISE BLENDED IN ANY QUANTITY WITH MATERIALS CONTAINING POLYCHLORINATED BIPHENYLS (PCB) OR ANY OTHER MATERIAL DEFINED AS HAZARDOUS WASTE UNDER APPLICABLE LAWS, INCLUDING BUT NOT LIMITED TO 40 CFR PART 261. GENERATOR AGREES TO INDEMNIFY AND HOLD LORCO HARMLESS FOR ANY DAMAGES, COSTS, ATTORNEY'S FEES, ETC. ARISING OUT OF OR IN ANY WAY RELATED TO A BREACH OF THE ABOVE WARRANTY BY THE GENERATOR.

Generator certifies that the waste is ID72
In accordance the N.J.A.C. 7:26-12.1 et seq, LORCO has the required permits to accept the above described waste.

DINKER. M. DESAI Title

Signature Date 6.1.98

GENERATOR/CUSTOMER

SMALL QUANTITY TOTAL GENERATOR CERTIFICATION

I certify that this generator generates less than 100 kilograms of hazardous waste per month, as defined at 40 C.F.R. 261, and does not accumulate more than 1,000 kilograms of such waste during the month.

GENERATOR'S SIGNATURE

LARGE QUANTITY GENERATOR CERTIFICATION

DEXSIL CDT
TEST RESULTS
2.100C
TA PPM

Total → 9 → 220 gallons

PAYMENT RECEIVED SECTION

CASH ☐	TOTAL RECEIVED
CHECK NUMBER	

CUSTOMER SERVICED EVERY 30 DAYS

In accordance with 40 CFR 266 § 43(5) LORCO has notified the US EPA of its location and used oil management activities.

Anibal Vucograc Print Name

 Signature Date

LORCO REPRESENTATIVE



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

NON-HAZARDOUS
WASTE MANIFEST

1. Generator's US EPA ID No.

NJ321002059.7

Manifest
Document No.

14023

2. Page 1
of 1

NHZ 014023

3. Generator's Name and Mailing Address

U.S. Army Communications Electronics Command
Main Post, Bldg. 173 Joe Fallon Bttn: SCLem-PW-EV

4. Generator's Phone

(732) 532-6223 Fort Monmouth, NJ 07703

5. Transporter 1 Company Name

LIONETTI OIL RECOVERY CO INC

6.

US EPA ID Number

NJ D 0 8 4 0 4 4 0 6 4

A. Transporter's Phone

SLM

908 721-0900

7. Transporter 2 Company Name

8.

US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

LIONETTI OIL RECOVERY CO INC DBA LORCO PETROLEUM SVCS
RUNYON & CHEESEQUAKE RDS
OLD BRIDGE, NJ 08857

10.

US EPA ID Number

NJ D 0 8 4 0 4 4 0 6 4

C. Facility's Phone

908 721-0900

11. Waste Shipping Name and Description

12. Containers

No.

Type

13.
Total
Quantity14.
Unit
Wt/Vola. PETROLEUM OIL (PETROLEUM OIL)
COMBUSTIBLE LIQUID UN1270 PGIII

0 0

T T

1220

G

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

T, L PETROLEUM OIL 90 %
WATER 10 %

E. Handling Codes for Wastes Listed Above

T04 FILTRATION

15. Special Handling Instructions and Additional Information

24 HR EMERGENCY RESPONSE#(908) 721-0900
DECAL 87066 ERG#128 DEXSIL TEST KIT RESULTS 4100PM
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

DINKER, M. DESAI

[Signature]

06/01/98

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

Anibal Vazquez

[Signature]

06/01/98

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

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

ORIGINAL RETURN TO GENERATOR

APPENDIX D

UST DISPOSAL CERTIFICATE



Reader From:
The Drawing Board
P.O. Box 2044 • Hartford, CT 06104-2044
Call Toll Free: 1-800-527-6230

REORDER ITEM # BLN74

STRAIGHT BILL OF LADING
ORIGINAL - NOT NEGOTIABLE

Shipper No. _____

Carrier No. _____

Date _____

SMC ENVIRONMENTAL SERVICES GROUP
(Name of Carrier)

To: Designer	Mapal Company, INC.	From: Shipper	Fort Monmouth (U.S. Army)
Street	1861 Wayside Road	Street	Building # 977
Post Office	Tinton Falls, NJ 07724	Origin	Oceanport, N.J.

No. Shipping Unit	Unit	Kind of Packaging, Description of Articles, Special Marks and Endorsements	Weight (Subject to Correction)	RATE	CHARGES
①		FOR SCRAP ONLY (ERP) 1-500 Gallon U.S.T. Skid "Claim"			
		TANK # 81533-204 Building # 977			

REMIT C.O.D. TO: ADDRESS	COD Amt: \$	C.O.D. FEE: PREPAID ☐ \$ COLLECT ☐
NOTE: Where the rate is dependent on being shipped by rail, the shipper is notified by state specifically in writing the grade or class of the property.	This is to certify that the above named material is in proper condition for transportation according to the applicable regulations of the Department of Transportation.	TOTAL CHARGES: \$
The actual or declared value of the property is hereby voluntarily stated by the shipper to be not exceeding	Signature of Shipper	Signature of Carrier

RECEIVED, subject to the demurrage and bills in effect on the date of the issue of this Bill of Lading, the property described above is apparent good order, except as noted (contents and condition of contents of packages unknown, repacked, unopened, and sealed as indicated above which said carrier has more carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER	Fort Monmouth (U.S. Army)	CARRIER	SMC ENVIRONMENTAL SERVICES GROUP
PER		PER	Mapal Co.
		DATE	5/29/98

*Mark with "X" to designate Hazardous Material as defined in Title 49 of the Code of Federal Regulations.

Reader From BLN74 The Drawing Board, P.O. Box 2044, Hartford, CT 06104-2044
© ERI, 1992, Printed in U.S.A.

FROM JMT ENVIRON. TECH. 610 759 6149

1995 8:52PM

DAVE

DEPENDABILITY GUARANTEED

76243

(732) 542-2348
(732) 542-2920MARPA
CO. INC.
DISPOSAL

P.O. Box 100, Lincroft, NJ 07738

Office
WAYSIDE ROAD
TINTON FALLS, NJNAME SMC Enviro DATE 5/29/98
ADDRESS BLDG 281
CITY FT MON STATE NJ
JOB SITE _____

QTY	SIZE	DESCRIPTION	TOTAL	TYPE(✓)
				REAR LOADER
1	10	W/RETON		FRONT LOADER
				OPEN
				CLOSED
				CLEAN-UP
				CONT. MOVED

TYPE OF WASTE		□ CONTAINER OVERFILLED*
☐ MUNICIPAL ☐ COMMERCIAL ☐ BULK	☐ DEMOLITION ☐ OTHER	NO CONTAINER PICK-UP ☐ CONTAINER REMOVED ☐ CONTAINER IMPROPERLY LOADED

* DRIVER NOT RESPONSIBLE FOR SPILLAGE IF CONTAINER IS OVERFILLED. CUSTOMER IS RESPONSIBLE FOR ANY FINES DUE TO OVERFILLED OR OVERWEIGHT CONTAINERS. DRIVER NOT RESPONSIBLE FOR DAMAGE TO DRIVEWAYS.

 DRIVER 12
 TRUCK # 9
 WEIGHT 0.69
 DUMP _____

Kevin J. Phelan
 CUSTOMER'S SIGNATURE
 (For Dave Daniels, SMC)

DAVE

DEPENDABILITY GUARANTEED

76162

(732) 542-2348
(732) 542-2920MARPA
CO. INC.
DISPOSAL

P.O. Box 100, Lincroft, NJ 07738

Office
WAYSIDE ROAD
TINTON FALLS, NJNAME SMC DATE 5/29/98
ADDRESS BLDG 281 MOTOR POOL AREA
CITY FT MON STATE NJ
JOB SITE _____

QTY	SIZE	DESCRIPTION	TOTAL	TYPE(✓)
				REAR LOADER
1	10	C/O		FRONT LOADER
				OPEN
				CLOSED
				CLEAN-UP
				CONT. MOVED

TYPE OF WASTE		□ CONTAINER OVERFILLED*
☐ MUNICIPAL ☐ COMMERCIAL ☐ BULK	☐ DEMOLITION ☐ OTHER	NO CONTAINER PICK-UP ☐ CONTAINER REMOVED ☐ CONTAINER IMPROPERLY LOADED

* DRIVER NOT RESPONSIBLE FOR SPILLAGE IF CONTAINER IS OVERFILLED. CUSTOMER IS RESPONSIBLE FOR ANY FINES DUE TO OVERFILLED OR OVERWEIGHT CONTAINERS. DRIVER NOT RESPONSIBLE FOR DAMAGE TO DRIVEWAYS.

 DRIVER 12
 TRUCK # 9
 WEIGHT 0.88
 DUMP _____

Dave Daniels
 CUSTOMER'S SIGNATURE
 SMC Environmental

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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
98-0779
Bldg. 977
Tetra Tech - BRAC

Project # 3597
Date Rec. 05/28/98
Date Compl. 05/29/98
Released by:



Daniel K. Wright
Laboratory Director

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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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

	<u>No</u>	<u>Yes</u>
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



NJDEP Certification #13461

Chain of Custody Record

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 6/15/93

Laboratory Certification #13461

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

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

REPORT OF ANALYSIS

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

Project: Total Petroleum Hydrocarbons
98-0932
Bldg. 977
SMC

Project # 3637
Date Rec. 06/10/98
Date Compl. 06/11/98
Released by:

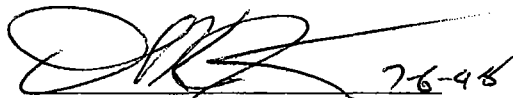

Daniel K. Wright Date: 7-6-98
Laboratory Director

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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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

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

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

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

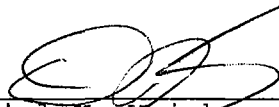
PHC Conformance/Non-conformance Summary Report

	<u>No</u>	<u>Yes</u>
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

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

Client :	U.S. Army	Lab. ID # :	3637
	DPW. SELFM-PW-EV	Date Rec'd:	10-Jun-98
	Bldg. 173	Analysis Start:	10-Jun-98
	Ft. Monmouth, NJ 07703	Analysis Complete:	11-Jun-98

Analysis:	OQA-QAM-025	UST Reg. #:	
Matrix:	Soil	Closure #:	
Analyst:	D.DEINHARDT	DICAR #:	
Ext. Meth:	Shake	Location #:	BLDG. 977

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3637.01	977-1	1.00	15.47	84.35	180	4574.82
3637.02	977-2	1.00	15.78	83.91	177	3129.08
3637.03	977-3	1.00	15.02	81.97	191	ND
3637.04	977-4	1.00	15.71	82.75	181	ND
3637.05	977-5	1.00	15.12	82.09	189	ND
3637.06	977-6	1.00	15.26	80.45	191	ND
3637.07	977-7	1.00	15.19	80.40	192	494.88
3637.08	977-8	1.00	15.24	83.86	184	4507.65
METHOD BLANK	TBLK 112	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature
Date 7/6/94

Laboratory Certification #13461

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

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

REPORT OF ANALYSIS

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

Project: Volatiles - EPA Method 8260 Soil
Building 977
SMC

Project # 3637
Date Rec. 06/10/98
Date Compl. 06/11/98
Released by:

 76-48

Daniel K. Wright
Laboratory Director

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Method Summary

NJDEP Method 8260

Gas Chromatographic Determination of Volatiles in Soil

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

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

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

Indicate
Yes, No, N/A

1. Chromatograms Labeled/Compounds Identified
(Field Samples and Method Blanks)
2. Retention times for chromatograms provided
3. GC/MS Tune Specifications
 - a. BFB Meet Criteria
 - b. DFTPP Meet Criteria
4. GC/MS Tuning Frequency - Performed every 24 hours for 600 series and 12 hours for 8000 series
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
6. GC/MS Calibration Requirements
 - a. Calibration Check Compounds Meet Criteria
 - b. System Performance Check Compounds Meet Criteria
7. Blank Contamination - If yes, List compounds and concentrations in each blank:
 - a. VOA Fraction _____
 - b. B/N Fraction _____
 - c. Acid Fraction _____
8. Surrogate Recoveries Meet Criteria

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

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

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

Y

Y

Y

Y

Y

Y

N

Y

Y

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

Indicate
Yes, No, N/A

10. Internal Standard Area/Retention Time Shift Meet Criteria

(If not met, list those compounds which fall outside the acceptable range)

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

11. Extraction Holding Time Met

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

12. Analysis Holding Time Met

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

Additional Comments:

Laboratory Manager :

Date:



Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

Chain of Custody Record

[illegible]

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

Definition of Qualifiers

MDL : Method Detection Limit

J : Compound identified below detection limit

B : Compound in both sample and blank

D : Results from dilution of sample

U : Compound searched for but not detected

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

VLBK74

Lab Name: FMETL NJDEP # 13461

Project: _____ Case No.: 3637 Location: B.977 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: VLBK74

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V04066.D

Level: (low/med) MED Date Received: 06/10/98

% Moisture: not dec. 0 Date Analyzed: 06/10/98

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	1000	U	
107131	Acrylonitrile	1000	U	
75650	tert-Butyl alcohol	1500	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.

VBK74

Lab Name: FMETL NJDEP # 13461

Project: _____ Case No.: 3637 Location: B.977 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: VBK74

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V04066.D

Level: (low/med) MED Date Received: 06/10/98

% Moisture: not dec. 0 Date Analyzed: 06/10/98

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

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

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

977-1

Lab Name: FMETL NJDEP # 13461

Project: _____ Case No.: 3637 Location: B.977 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 3637.01

Sample wt/vol: 10.6 (g/ml) G Lab File ID: V04079.D

Level: (low/med) MED Date Received: 06/10/98

% Moisture: not dec. 15.65 Date Analyzed: 06/10/98

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	1100	U
107131	Acrylonitrile	1100	U
75650	tert-Butyl alcohol	1700	U
1634044	Methyl-tert-Butyl ether	840	U
108203	Di-isopropyl ether	560	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	840	U
74-83-9	Bromomethane	560	U
75-00-3	Chloroethane	840	U
75-69-4	Trichlorofluoromethane	560	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	560	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	560	U
156-60-5	trans-1,2-Dichloroethene	560	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	840	U
78-93-3	2-Butanone	840	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	560	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	560	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	560	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	560	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	560	U
79-00-5	1,1,2-Trichloroethane	560	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	560	U
126-48-1	Dibromochloromethane	560	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	560	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

977-1

Lab Name: FMETL NJDEP # 13461

Project: _____ Case No.: 3637 Location: B.977 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 3637.01

Sample wt/vol: 10.6 (g/ml) G Lab File ID: V04079.D

Level: (low/med) MED Date Received: 06/10/98

% Moisture: not dec. 15.65 Date Analyzed: 06/10/98

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	840	U
1330-20-7	o-Xylene	560	U
100-42-5	Styrene	560	U
75-25-2	Bromoform	560	U
79-34-5	1,1,2,2-Tetrachloroethane	560	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

977-2

Lab Name: FMETL NJDEP # 13461

Project: _____ Case No.: 3637 Location: B.977 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 3637.02

Sample wt/vol: 10.7 (g/ml) G Lab File ID: V04080.D

Level: (low/med) MED Date Received: 06/10/98

% Moisture: not dec. 16.09 Date Analyzed: 06/10/98

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	1100	U	
107131	Acrylonitrile	1100	U	
75650	tert-Butyl alcohol	1700	U	
1634044	Methyl-tert-Butyl ether	840	U	
108203	Di-isopropyl ether	560	U	
	Dichlorodifluoromethane	1100	U	
74-87-3	Chloromethane	280	U	
75-01-4	Vinyl Chloride	840	U	
74-83-9	Bromomethane	560	U	
75-00-3	Chloroethane	840	U	
75-69-4	Trichlorofluoromethane	560	U	
75-35-4	1,1-Dichloroethene	280	U	
67-64-1	Acetone	560	U	
75-15-0	Carbon Disulfide	280	U	
75-09-2	Methylene Chloride	560	U	
156-60-5	trans-1,2-Dichloroethene	560	U	
75-35-3	1,1-Dichloroethane	280	U	
108-05-4	Vinyl Acetate	840	U	
78-93-3	2-Butanone	840	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	560	U	
71-43-2	Benzene	280	U	
107-06-2	1,2-Dichloroethane	560	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	560	U	
10061-01-5	cis-1,3-Dichloropropene	280	U	
108-10-1	4-Methyl-2-Pentanone	560	U	
108-88-3	Toluene	280	U	
10061-02-6	trans-1,3-Dichloropropene	560	U	
79-00-5	1,1,2-Trichloroethane	560	U	
127-18-4	Tetrachloroethene	280	U	
591-78-6	2-Hexanone	560	U	
126-48-1	Dibromochloromethane	560	U	
108-90-7	Chlorobenzene	280	U	
100-41-4	Ethylbenzene	560	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

977-2

Lab Name: FMETL NJDEP # 13461

Project: _____ Case No.: 3637 Location: B.977 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 3637.02

Sample wt/vol: 10.7 (g/ml) G Lab File ID: V04080.D

Level: (low/med) MED Date Received: 06/10/98

% Moisture: not dec. 16.09 Date Analyzed: 06/10/98

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	840	U
1330-20-7	o-Xylene	560	U
100-42-5	Styrene	560	U
75-25-2	Bromoform	560	U
79-34-5	1,1,2,2-Tetrachloroethane	560	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

977-8

Lab Name: FMETL NJDEP # 13461

Project: _____ Case No.: 3637 Location: B.977 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 3637.08

Sample wt/vol: 11.3 (g/ml) G Lab File ID: V04081.D

Level: (low/med) MED Date Received: 06/10/98

% Moisture: not dec. 16.14 Date Analyzed: 06/10/98

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	1100	U
107131	Acrylonitrile	1100	U
75650	tert-Butyl alcohol	1600	U
1634044	Methyl-tert-Butyl ether	790	U
108203	Di-isopropyl ether	530	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	260	U
75-01-4	Vinyl Chloride	790	U
74-83-9	Bromomethane	530	U
75-00-3	Chloroethane	790	U
75-69-4	Trichlorofluoromethane	530	U
75-35-4	1,1-Dichloroethene	260	U
67-64-1	Acetone	530	U
75-15-0	Carbon Disulfide	260	U
75-09-2	Methylene Chloride	530	U
156-60-5	trans-1,2-Dichloroethene	530	U
75-35-3	1,1-Dichloroethane	260	U
108-05-4	Vinyl Acetate	790	U
78-93-3	2-Butanone	790	U
	cis-1,2-Dichloroethene	260	U
67-66-3	Chloroform	260	U
75-55-6	1,1,1-Trichloroethane	260	U
56-23-5	Carbon Tetrachloride	530	U
71-43-2	Benzene	260	U
107-06-2	1,2-Dichloroethane	530	U
79-01-6	Trichloroethene	260	U
78-87-5	1,2-Dichloropropane	260	U
75-27-4	Bromodichloromethane	260	U
110-75-8	2-Chloroethyl vinyl ether	530	U
10061-01-5	cis-1,3-Dichloropropene	260	U
108-10-1	4-Methyl-2-Pentanone	530	U
108-88-3	Toluene	260	U
10061-02-6	trans-1,3-Dichloropropene	530	U
79-00-5	1,1,2-Trichloroethane	530	U
127-18-4	Tetrachloroethene	260	U
591-78-6	2-Hexanone	530	U
126-48-1	Dibromochloromethane	530	U
108-90-7	Chlorobenzene	260	U
100-41-4	Ethylbenzene	530	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

977-8

Lab Name: FMETL NJDEP # 13461

Project: _____ Case No.: 3637 Location: B.977 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 3637.08

Sample wt/vol: 11.3 (g/ml) G Lab File ID: V04081.D

Level: (low/med) MED Date Received: 06/10/98

% Moisture: not dec. 16.14 Date Analyzed: 06/10/98

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	790	U
1330-20-7	o-Xylene	530	U
100-42-5	Styrene	530	U
75-25-2	Bromoform	530	U
79-34-5	1,1,2,2-Tetrachloroethane	530	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

VBK74

Lab Name: FMETL NJDEP # 13461
Project: _____ Case No.: 3637 Location: B.977 SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: VBK74
Sample wt/vol: 10.0 (g/ml) G Lab File ID: V04066.D
Level: (low/med) MED Date Received: 06/10/98
% Moisture: not dec. 0 Date Analyzed: 06/10/98
GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

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

CAS NO.	COMPOUND	RT	EST. CONC.	Q
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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

977-1

Lab Name: FMETL NJDEP # 13461
Project: _____ Case No.: 3637 Location: B.977 SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: 3637.01
Sample wt/vol: 10.6 (g/ml) G Lab File ID: V04079.D
Level: (low/med) MED Date Received: 06/10/98
% Moisture: not dec. 15.65 Date Analyzed: 06/10/98
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. 001678-92-8	Cyclohexane, propyl-	30.62	1900	JN

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

977-2

Lab Name: FMETL NJDEP # 13461

Project: _____ Case No.: 3637 Location: B.977 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 3637.02

Sample wt/vol: 10.7 (g/ml) G Lab File ID: V04080.D

Level: (low/med) MED Date Received: 06/10/98

% Moisture: not dec. 16.09 Date Analyzed: 06/10/98

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: 11

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown hydrocarbon	14.46	2200	J
2.	unknown hydrocarbon	24.71	1200	J
3.	unknown hydrocarbon	26.86	1300	J
4.	unknown hydrocarbon	27.21	1900	J
5.	unknown hydrocarbon	27.54	1600	J
6.	unknown hydrocarbon	29.07	1200	J
7.	unknown	29.67	1900	J
8.	unknown hydrocarbon	30.11	1700	J
9.	unknown hydrocarbon	30.62	1700	J
10.	unknown	30.97	1200	J
11.	unknown hydrocarbon	31.74	1400	J

18

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

977-8

Lab Name: FMETL NJDEP # 13461
Project: _____ Case No.: 3637 Location: B.977 SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: 3637.08
Sample wt/vol: 11.3 (g/ml) G Lab File ID: V04081.D
Level: (low/med) MED Date Received: 06/10/98
% Moisture: not dec. 16.14 Date Analyzed: 06/10/98
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: 14

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown hydrocarbon	21.67	1400	J
2.	unknown hydrocarbon	23.27	1600	J
3.	unknown hydrocarbon	23.58	1400	J
4. 000638-04-0	Cyclohexane, 1,3-dimethyl-, cis-	24.54	6100	JN
5. 006876-23-9	Cyclohexane, 1,2-dimethyl-, trans	25.55	2200	JN
6. 003073-66-3	Cyclohexane, 1,1,3-trimethyl-	27.02	4400	JN
7. 007667-60-9	Cyclohexane, 1,2,4-trimethyl-, (1.	27.55	2800	JN
8.	unknown hydrocarbon	28.64	1900	J
9.	unknown hydrocarbon	29.07	4300	J
10.	unknown hydrocarbon	29.67	2200	J
11.	unknown hydrocarbon	29.87	4100	J
12.	unknown hydrocarbon	30.31	1400	J
13. 001678-92-8	Cyclohexane, propyl-	30.63	7800	JN
14. 006783-92-2	Cyclohexane, 1,1,2,3-tetramethyl-	31.74	4400	JN

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

Laboratory Manager or Environmental Consultant's Signature

Date 7/6/97



Laboratory Certification # 13461

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

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APPENDIX F

GROUNDWATER ANALYTICAL DATA PACKAGE

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



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

Bldg. 977

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
Bldg. 977	4977.01	Aqueous	03-Dec-99 09:05	12/03/99

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

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

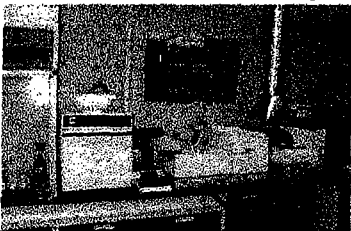

Daniel Wright/Date
Laboratory Director 4-8-00

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CHAIN OF CUSTODY

000001



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

Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@mail1.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

[illegible]

000002

METHODOLOGY SUMMARY

000003

Method Summary

EPA Method 624

Gas Chromatographic Determination of Volatiles in Water

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

EPA Method 3510/8270

Gas Chromatographic Determination of Semi-volatiles in Water

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

000004

CONFORMANCE NON-CONFORMANC SUMMARY

000005

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 YES
 - 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 YES
 - a. Calibration Check Compounds Meet Criteria YES
 - b. System Performance Check Compounds Meet Criteria YES
7. Blank Contamination - If yes, List compounds and concentrations in each blank: YES
 - a. VOA Fraction Methylene Chloride @ 2.83ppb
 - b. B/N Fraction _____
 - c. Acid Fraction _____
8. Surrogate Recoveries Meet Criteria YES

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

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

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

9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria 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 _____

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

Indicate
Yes,
No,
N/A

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

yes

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

11. Extraction Holding Time Met

yes

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

12. Analysis Holding Time Met

yes

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

Additional Comments:

Laboratory Manager :  Date: 4-8-00

LABORATORY CHRONICLE

000008

Laboratory Chronicle

Lab ID: 4977

Site: Bldg. 977

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

000009

VOLATILE ORGANICS

000010

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

Definition of Qualifiers

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

000011

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

Data File VB004963.D
 Operator Skelton
 Date Acquired 6 Dec 1999 10:02 am

Sample Name Vblk151
 Field ID Vblk151
 Sample Multiplier 1

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

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

Qualifiers

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

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab ID.

Vblk151

Lab Name: FMETL Project: 100004
NJDEP#: 13461 Case No.: 4977 Location: 977 SDG No.:
Matrix: (soil/water) WATER Lab Sample ID: Vblk151
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB004963.D
Level: (low/med) LOW Date Received: 12/3/99
% Moisture: not dec. Date Analyzed: 12/6/99
GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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Volatile Analysis Report
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Data File **VB004988.D**
 Operator **Skelton**
 Date Acquired **7 Dec 1999 2:57 am**

Sample Name **4977.01**
 Field ID **Bldg977**
 Sample Multiplier **1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone	9.26	37695	5.11 ug/L	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone	15.55	59027	5.39 ug/L	300	0.62 ug/L	
156-59-4	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

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

Qualifiers

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

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab ID.

Bldg977

Lab Name: FMETL Project: 100004
NJDEP#: 13461 Case No.: 4977 Location: 977 SDG No.: _____
Matrix: (soil/water) WATER Lab Sample ID: 4977.01
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB004988.D
Level: (low/med) LOW Date Received: 12/3/99
% Moisture: not dec. _____ Date Analyzed: 12/7/99
GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

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

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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Volatile Analysis Report
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Data File **VB004989.D**
 Operator **Skelton**
 Date Acquired **7 Dec 1999 3:36 am**

Sample Name **4977.02**
 Field ID **Dupe**
 Sample Multiplier **1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone	9.23	49172	6.64 ug/L	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone	15.54	85965	7.83 ug/L	300	0.62 ug/L	
156-59-4	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

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

Qualifiers

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

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab ID.

Dupe

Lab Name: FMETL Project: 100004
NJDEP#: 13461 Case No.: 4977 Location: 977 SDG No.:
Matrix: (soil/water) WATER Lab Sample ID: 4977.02
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB004989.D
Level: (low/med) LOW Date Received: 12/3/99
% Moisture: not dec. Date Analyzed: 12/7/99
GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

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

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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BASE NEUTRAL

000035

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name BN04072.D

Sample Name Sblk325

Operator Bhaskar

Misc Info Sblk325 A 991206

Date Acquired 7-Dec-99

Sample Multiplier 1

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

Semi-Volatile Analysis Report

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Data File Name **BN04072.D**
 Operator **Bhaskar**
 Date Acquired **7-Dec-99**

Sample Name **Sblk325**
 Misc Info **Sblk325 A 991206**
 Sample Multiplier **1**

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

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

Qualifiers

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

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

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID:

Sblk325

Lab Name: FMETL Lab Code 13461
Project: UST Case No.: 4977 Location: Bld.977 SDG No:
Matrix: (soil/water) WATER Lab Sample ID: Sblk325
Sample wt/vol: 1000 (g/ml) ML Lab File ID: BN04072.D
Level: (low/med) LOW Date Received: 12/3/99
% Moisture: decanted: (Y/N) N Date Extracted: 12/6/99
Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/7/99
Injection Volume: 1.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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Semi-Volatile Analysis Report
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Data File Name **BN04077.D**
 Operator **Bhaskar**
 Date Acquired **7-Dec-99**

Sample Name **4977.01**
 Misc Info **Bldg.977**
 Sample Multiplier **1.23**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifiers
110-86-1	Pyridine			not detected	NLE	2.25 ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	1.12 ug/L	
62-53-3	Aniline			not detected	NLE	2.00 ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	1.57 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	1.49 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	1.46 ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	1.25 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	1.39 ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	1.71 ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.98 ug/L	
67-72-1	Hexachloroethane			not detected	10	1.85 ug/L	
98-95-3	Nitrobenzene			not detected	10	1.19 ug/L	
78-59-1	Isophorone			not detected	100	1.24 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.49 ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.50 ug/L	
91-20-3	Naphthalene			not detected	NLE	1.56 ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	1.34 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.87 ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	1.33 ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.62 ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.24 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.97 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.87 ug/L	
208-96-8	Acenaphthylene			not detected	NLE	1.18 ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	1.00 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.97 ug/L	
83-32-9	Acenaphthene			not detected	400	1.35 ug/L	
132-64-9	Dibenzofuran			not detected	NLE	1.23 ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	1.07 ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.99 ug/L	
86-73-7	Fluorene			not detected	300	1.22 ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.35 ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	1.29 ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.24 ug/L	
103-33-3	Azobenzene			not detected	NLE	0.82 ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.93 ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.16 ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.51 ug/L	
120-12-7	Anthracene			not detected	2000	1.38 ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	2.09 ug/L	
206-44-0	Fluoranthene			not detected	300	2.02 ug/L	

Semi-Volatile Analysis Report

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Data File Name **BN04077.D**
 Operator **Bhaskar**
 Date Acquired **7-Dec-99**

Sample Name **4977.01**
 Misc Info **Bldg.977**
 Sample Multiplier **1.23**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifiers
92-87-5	Benzidine			not detected	50	5.14 ug/L	
129-00-0	Pyrene			not detected	200	1.54 ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.29 ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.46 ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	2.15 ug/L	
218-01-9	Chrysene			not detected	20	1.70 ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	2.14 ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.77 ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.54 ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.59 ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.29 ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.02 ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	0.79 ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.03 ug/L	

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

Qualifiers

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

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

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID:

Bldg.977

Lab Name: FMETL Lab Code 13461
Project: UST Case No.: 4977 Location: Bld.977 SDG No: _____
Matrix: (soil/water) WATER Lab Sample ID: 4977.01
Sample wt/vol: 810 (g/ml) ML Lab File ID: BN04077.D
Level: (low/med) LOW Date Received: 12/3/99
% Moisture: _____ decanted: (Y/N) N Date Extracted: 12/6/99
Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/7/99
Injection Volume: 1.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name **BN04078.D**

Sample Name **4977.02**

Operator **Bhaskar**

Misc Info **Dupe**

Date Acquired **7-Dec-99**

Sample Multiplier **1.23**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifiers
110-86-1	Pyridine			not detected	NLE	2.25 ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	1.12 ug/L	
62-53-3	Aniline			not detected	NLE	2.00 ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	1.57 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	1.49 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	1.46 ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	1.25 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	1.39 ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	1.71 ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.98 ug/L	
67-72-1	Hexachloroethane			not detected	10	1.85 ug/L	
98-95-3	Nitrobenzene			not detected	10	1.19 ug/L	
78-59-1	Isophorone			not detected	100	1.24 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.49 ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.50 ug/L	
91-20-3	Naphthalene			not detected	NLE	1.56 ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	1.34 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.87 ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	1.33 ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.62 ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.24 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.97 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.87 ug/L	
208-96-8	Acenaphthylene			not detected	NLE	1.18 ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	1.00 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.97 ug/L	
83-32-9	Acenaphthene			not detected	400	1.35 ug/L	
132-64-9	Dibenzofuran			not detected	NLE	1.23 ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	1.07 ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.99 ug/L	
86-73-7	Fluorene			not detected	300	1.22 ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.35 ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	1.29 ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.24 ug/L	
103-33-3	Azobenzene			not detected	NLE	0.82 ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.93 ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.16 ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.51 ug/L	
120-12-7	Anthracene			not detected	2000	1.38 ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	2.09 ug/L	
206-44-0	Fluoranthene			not detected	300	2.02 ug/L	

Semi-Volatile Analysis Report

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Data File Name **BN04078.D**
 Operator **Bhaskar**
 Date Acquired **7-Dec-99**

Sample Name **4977.02**
 Misc Info **Dupe**
 Sample Multiplier **1.23**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifiers
92-87-5	Benzidine			not detected	50	5.14 ug/L	
129-00-0	Pyrene			not detected	200	1.54 ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.29 ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.46 ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	2.15 ug/L	
218-01-9	Chrysene			not detected	20	1.70 ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	2.14 ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.77 ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.54 ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.59 ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.29 ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.02 ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	0.79 ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.03 ug/L	

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

Qualifiers

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

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

Page 2 of 2

000043

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID:

Dupe

Lab Name: FMETL Lab Code 13461
Project: UST Case No.: 4977 Location: Bld.977 SDG No:
Matrix: (soil/water) WATER Lab Sample ID: 4977.02
Sample wt/vol: 810 (g/ml) ML Lab File ID: BN04078.D
Level: (low/med) LOW Date Received: 12/3/99
% Moisture: decanted: (Y/N) N Date Extracted: 12/6/99
Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/7/99
Injection Volume: 1.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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5B

**SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)**

Lab Name: FMETL Lab Code 13461
 Project 100004 Case No.: 4977 Location Bld.977 SDG No.:
 Lab File ID: BNA03321.D DFTPP Injection Date: 10/27/99
 Instrument ID: BNA#2 DFTPP Injection Time: 9:32

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

1-Value is % mass 69

2-Value is % mass 442

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

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

Data File : C:\HPCHEM\1\DATA\991027\BNA03321.D

Vial: 99

Acq On : 27 Oct 1999 9:32 am

Operator: Bhaskar

Sample : DFTPP TUNE

Inst : GC BNA 2

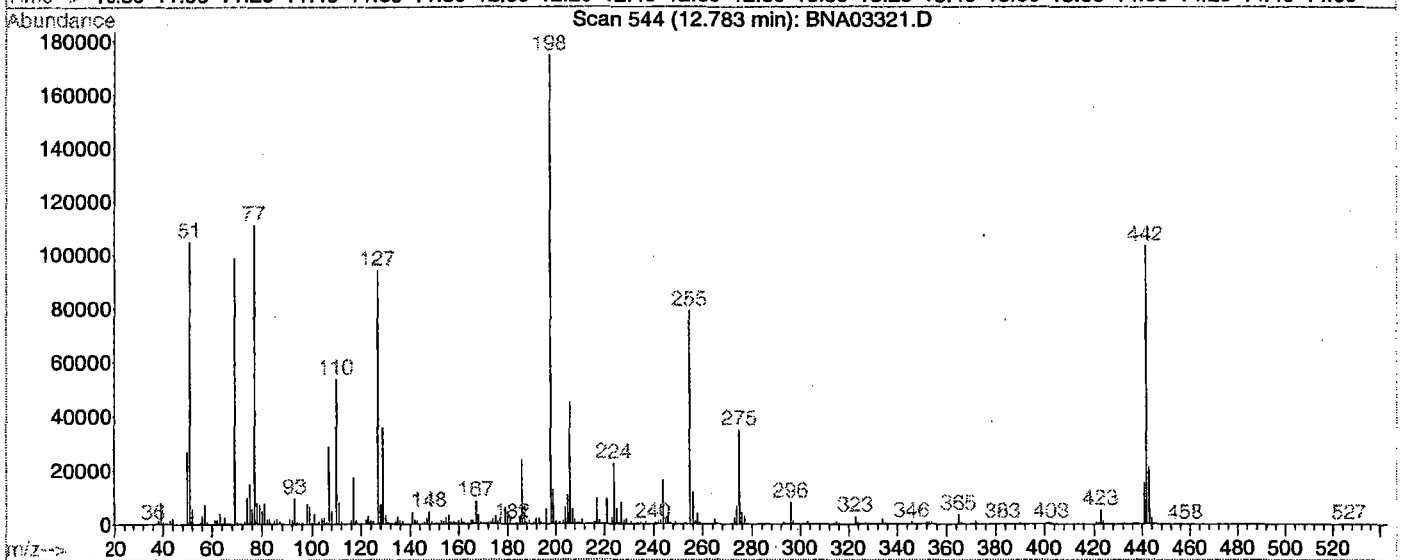
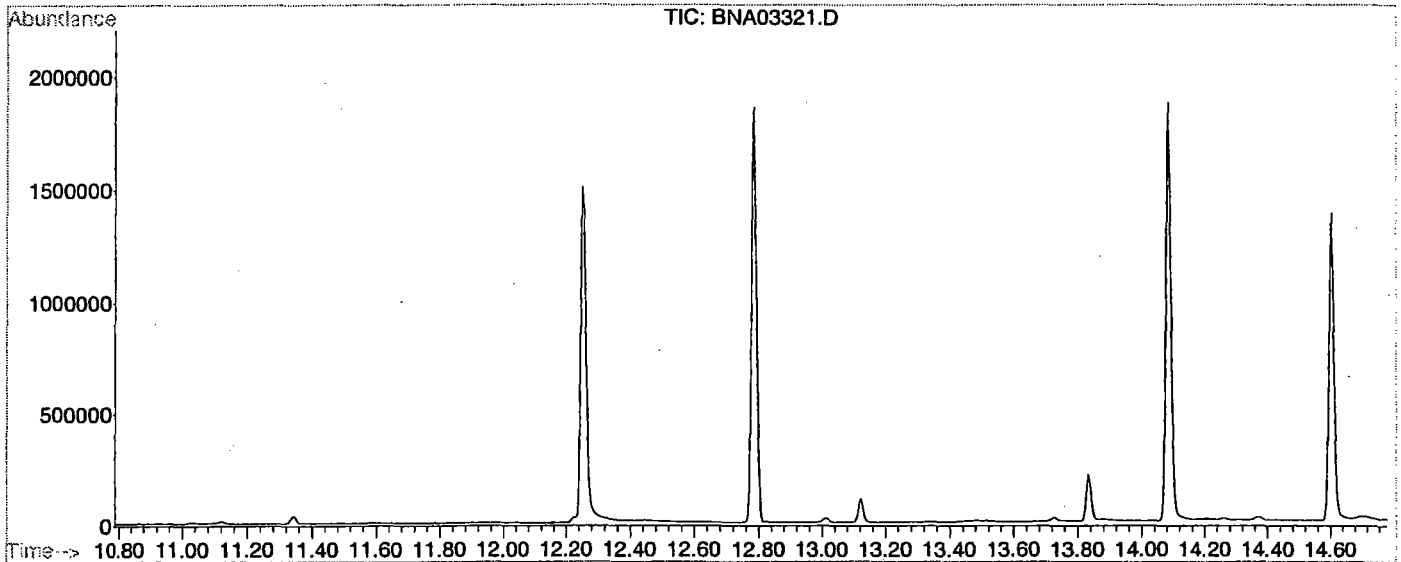
Misc : 50NG/2UL

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\M262534.M (RTE Integrator)

Title : BNA Calibration



Spectrum Information: Scan 544

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

**SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)**

Lab Name: FMETL Lab Code 13461
 Project: UST Case No.: 4977 Location: Bld.977 SDG No: _____
 Lab File ID: BN04064.D DFTPP Injection Date: 11/29/99
 Instrument ID: SVoa#1 DFTPP Injection Time: 13:16

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	48.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	59.4
70	Less than 2.0% of mass 69	0.3 (0.5)1
127	25.0 - 75.0% of mass 198	44.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 30.0% of mass 198	15.3
365	Greater than 0.75% of mass 198	1.4
441	Present, but less than mass 443	6.7
442	40.0 - 110.0% of mass 198	41.9
443	15.0 - 24.0% of mass 442	8.2 (19.6)2

1-Value is % mass 69

2-Value is % mass 442

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

	Field ID:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD120	120 PPM CAL	BN04065.D	11/29/99	13:47
02	SSTD080	80 PPM CAL	BN04066.D	11/29/99	14:37
03	SSTD050	50 PPM CAL	BN04067.D	11/29/99	15:21
04	SSTD020	20 PPM CAL	BN04068.D	11/29/99	16:06
05	SSTD010	10 PPM CAL	BN04069.D	11/29/99	16:52

DFTPP

Data File : C:\HPCHEM\1\DATA\991129\BN04064.D

Vial: 99

Acq On : 29 Nov 1999 1:16 pm

Operator: Bhaskar

Sample : DFTPP TUNE

Inst : GC/MS Ins

Misc : 50 NG/2UL

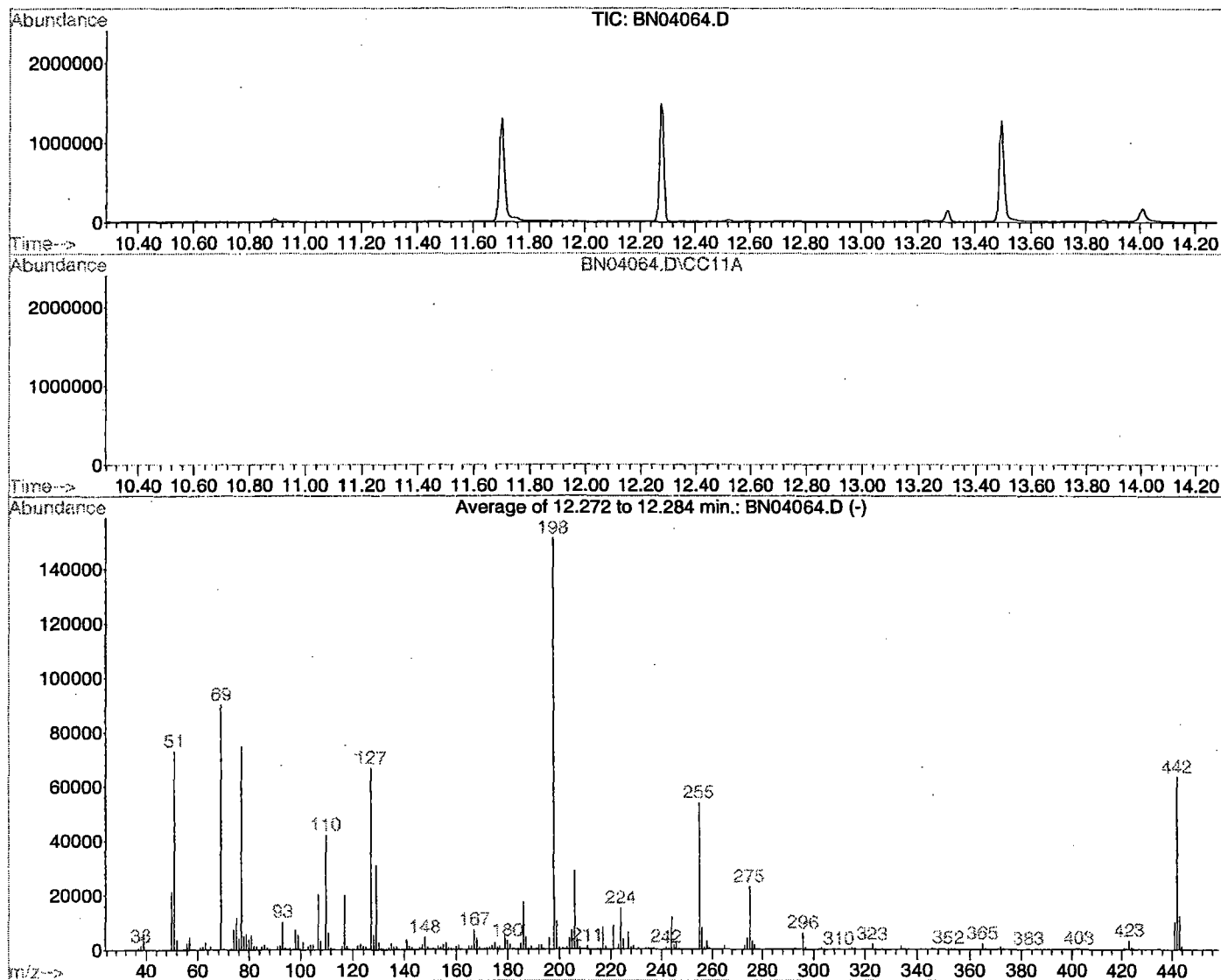
Multiplr: 1.00

MS Integration Params: RTEINT.P

GC Integration Params: rteint2.p

Method : C:\HPCHEM\1\METHODS\M62538.M (RTE Integrator)

Title : BNA Calibration



Spectrum Information: Average of 12.272 to 12.284 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.2	73005	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	59.4	90010	PASS
70	69	0.00	2	0.5	426	PASS
127	198	40	60	44.0	66547	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	151413	PASS
199	198	5	9	6.8	10318	PASS
275	198	10	30	15.3	23106	PASS
365	198	1	100	1.4	2185	PASS
441	443	1	99	81.1	10084	PASS
442	198	40	100	41.9	63450	PASS
443	442	17	23	19.6	12433	PASS

000048

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature

Date 4/8/00

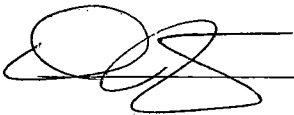
Laboratory Certification #13461

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

000072

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

000073

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



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

Bldg. 977

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
Trip Blank	5079.01	Aqueous	08-Jan-00	01/10/00
Field Blank	5079.02	Aqueous	08-Jan-00 08:30	01/10/00
977-1 7-12'	5079.03	Aqueous	08-Jan-00 08:45	01/10/00

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

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

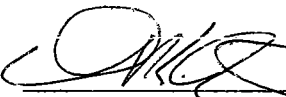
 5-8-00
Daniel Wright/Date
Laboratory Director

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CHAIN OF CUSTODY

000001

METHODOLOGY SUMMARY

000003

Method Summary

EPA Method 624

Gas Chromatographic Determination of Volatiles in Water

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

EPA Method 3510/8270

Gas Chromatographic Determination of Semi-volatiles in Water

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

000004

CONFORMANCE NON-CONFORMANC SUMMARY

000005

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 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

000006

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

Indicate
Yes,
No,
N/A

10. Internal Standard Area/Retention Time Shift Meet Criteria

(If not met, list those compounds, which fall outside the acceptable range)

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

yes

11. Extraction Holding Time Met

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

yes

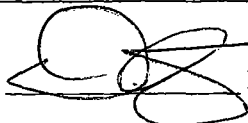
12. Analysis Holding Time Met

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

yes

Additional Comments:

Laboratory Manager :



Date:

5-8-00

000007

LABORATORY CHRONICLE

000008

Laboratory Chronicle

Lab ID: 5079

Site: Bldg. 977

	Date	Hold Time
Date Sampled	01/08/00	NA
Receipt/Refrigeration	01/08/00	NA

Extractions

1. Base Neutral	01/10/00	14 days
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Analyses

1. Volatile Organics	01/11,12/00	14 days
2. Base Neutral	01/11/00	40 days

- Samples collected and refrigerated on 01/08/00, Laboratory received the sample on Monday 01/10/00.

000009

VOLATILE ORGANICS

000010

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

Definition of Qualifiers

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

000011

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

Data File **VC001962.D**
 Operator **Skelton**
 Date Acquired **11 Jan 2000 11:17 am**

Sample Name **Vblk51**
 Field ID **Vblk51**
 Sample Multiplier **1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75343	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	
156594	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-35-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m-p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	593	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

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

Qualifiers

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

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

Vblk51

Lab Name: FMETL NJDEP#: 13461

Project: 100004 Case No.: 5079 Location: 977 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: Vblk51

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC001962.D

Level: (low/med) LOW Date Received: 1/10/00

% Moisture: not dec. Date Analyzed: 1/11/00

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

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

CONCENTRATION UNITS:

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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Volatile Analysis Report
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Data File **VC001985.D**
 Operator **Skelton**
 Date Acquired **12 Jan 2000 3:29 am**

Sample Name **5079.01**
 Field ID **Trip Blank**
 Sample Multiplier **1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75343	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	
156594	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	16.23	85324	1.74 ug/L	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9-6.2-Sept-9

Qualifiers

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

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

Trip Blank

Lab Name: FMETL NJDEP#: 13461
Project: 100004 Case No.: 5079 Location: 977 SDG No.:
Matrix: (soil/water) WATER Lab Sample ID: 5079.01
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC001985.D
Level: (low/med) LOW Date Received: 1/10/00
% Moisture: not dec. Date Analyzed: 1/12/00
GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

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

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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Volatile Analysis Report
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Data File **VC001986.D**
 Operator **Skelton**
 Date Acquired **12 Jan 2000 4:10 am**

Sample Name **5079.02**
 Field ID **Field Blank**
 Sample Multiplier **1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75343	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	
156594	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	16.23	97662	2.02 ug/L	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	500	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

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

Qualifiers

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

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

Field Blank

Lab Name: FMETL NJDEP#: 13461
Project: 100004 Case No.: 5079 Location: 977 SDG No.:
Matrix: (soil/water) WATER Lab Sample ID: 5079.02
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC001986.D
Level: (low/med) LOW Date Received: 1/10/00
% Moisture: not dec. Date Analyzed: 1/12/00
GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

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

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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Volatile Analysis Report
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Data File **VC001987.D**
 Operator **Skelton**
 Date Acquired **12 Jan 2000 4:51 am**

Sample Name **5079.03**
 Field ID **977-1**
 Sample Multiplier **1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75343	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	
156594	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-35-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

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

Qualifiers

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

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

977-1

Lab Name: FMETL NJDEP#: 13461

Project: 100004 Case No.: 5079 Location: 977 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 5079.03

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC001987.D

Level: (low/med) LOW Date Received: 1/10/00

% Moisture: not dec. Date Analyzed: 1/12/00

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

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

CONCENTRATION UNITS:

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

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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BASE NEUTRAL

000041

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name BNA03543.D
Operator Bhaskar
Date Acquired 11-Jan-00

Sample Name Sblk335
Misc Info Sblk335 A 000110
Sample Multiplier 1

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifiers
110-86-1	Pyridine			not detected	NLE	1.83 ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.91 ug/L	
62-53-3	Aniline			not detected	NLE	1.63 ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	1.28 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	1.21 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	1.19 ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	1.02 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	1.13 ug/L	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	1.39 ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.80 ug/L	
67-72-1	Hexachloroethane			not detected	10	1.50 ug/L	
98-95-3	Nitrobenzene			not detected	10	0.97 ug/L	
78-59-1	Isophorone			not detected	100	1.01 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.21 ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.22 ug/L	
91-20-3	Naphthalene			not detected	NLE	1.27 ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	1.09 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.71 ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	1.08 ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.32 ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.01 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.96 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.52 ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.96 ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.81 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.79 ug/L	
83-32-9	Acenaphthene			not detected	400	1.10 ug/L	
132-64-9	Dibenzofuran			not detected	NLE	1.00 ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	0.87 ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.62 ug/L	
86-73-7	Fluorene			not detected	300	0.99 ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.10 ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	1.05 ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.01 ug/L	
103-33-3	Azobenzene			not detected	NLE	0.67 ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.76 ug/L	
118-74-1	Hexachlorobenzene			not detected	10	0.94 ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.23 ug/L	
120-12-7	Anthracene			not detected	2000	1.12 ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	1.70 ug/L	
206-44-0	Fluoranthene			not detected	300	1.64 ug/L	

000042

Semi-Volatile Analysis Report **Page 2**

Data File Name **BNA03543.D**
Operator **Bhaskar**
Date Acquired **11-Jan-00**

Sample Name **Sblk335**
Misc Info **Sblk335 A 000110**
Sample Multiplier **1**

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

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

Qualifiers

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

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

Page 2 of 2

000043

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Sblk335

Lab Name: FMETL Lab Code 13461
Project 100004 Case No.: 5079 Location Bld.977 SDG No.:
Matrix: (soil/water) WATER Lab Sample ID: Sblk335
Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA03543.D
Level: (low/med) LOW Date Received: 1/10/00
% Moisture: decanted: (Y/N) N Date Extracted: 1/10/00
Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/11/00
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
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Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name **BNA03534.D**
Operator **Bhaskar**
Date Acquired **10-Jan-00**

Sample Name **5079.02**
Misc Info **Field Blank**
Sample Multiplier **1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifiers
110-86-1	Pyridine			not detected	NLE	1.83 ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.91 ug/L	
62-53-3	Aniline			not detected	NLE	1.63 ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	1.28 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	1.21 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	1.19 ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	1.02 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	1.13 ug/L	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	1.39 ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.80 ug/L	
67-72-1	Hexachloroethane			not detected	10	1.50 ug/L	
98-95-3	Nitrobenzene			not detected	10	0.97 ug/L	
78-59-1	Isophorone			not detected	100	1.01 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.21 ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.22 ug/L	
91-20-3	Naphthalene			not detected	NLE	1.27 ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	1.09 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.71 ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	1.08 ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.32 ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.01 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.96 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.52 ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.96 ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.81 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.79 ug/L	
83-32-9	Acenaphthene			not detected	400	1.10 ug/L	
132-64-9	Dibenzofuran			not detected	NLE	1.00 ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	0.87 ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.62 ug/L	
86-73-7	Fluorene			not detected	300	0.99 ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.10 ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	1.05 ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.01 ug/L	
103-33-3	Azobenzene			not detected	NLE	0.67 ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.76 ug/L	
118-74-1	Hexachlorobenzene			not detected	10	0.94 ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.23 ug/L	
120-12-7	Anthracene			not detected	2000	1.12 ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	1.70 ug/L	
206-44-0	Fluoranthene			not detected	300	1.64 ug/L	

Semi-Volatile Analysis Report

Page 2

Data File Name **BNA03534.D**
 Operator **Bhaskar**
 Date Acquired **10-Jan-00**

Sample Name **5079.02**
 Misc Info **Field Blank**
 Sample Multiplier **1**

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

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

Qualifiers

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

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Field Blank

Lab Name: FMETL Lab Code 13461
Project 100004 Case No.: 5079 Location Bld.977 SDG No.:
Matrix: (soil/water) WATER Lab Sample ID: 5079.02
Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA03534.D
Level: (low/med) LOW Date Received: 1/10/00
% Moisture: decanted: (Y/N) N Date Extracted: 1/10/00
Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/10/00
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
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Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name BNA03535.D

Sample Name 5079.03

Operator Bhaskar

Misc Info 977-1

Date Acquired 11-Jan-00

Sample Multiplier 1

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifiers
110-86-1	Pyridine			not detected	NLE	1.83 ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.91 ug/L	
62-53-3	Aniline			not detected	NLE	1.63 ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	1.28 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	1.21 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	1.19 ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	1.02 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	1.13 ug/L	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	1.39 ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.80 ug/L	
67-72-1	Hexachloroethane			not detected	10	1.50 ug/L	
98-95-3	Nitrobenzene			not detected	10	0.97 ug/L	
78-59-1	Isophorone			not detected	100	1.01 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.21 ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.22 ug/L	
91-20-3	Naphthalene			not detected	NLE	1.27 ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	1.09 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.71 ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	1.08 ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.32 ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.01 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.96 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.52 ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.96 ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.81 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.79 ug/L	
83-32-9	Acenaphthene			not detected	400	1.10 ug/L	
132-64-9	Dibenzofuran			not detected	NLE	1.00 ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	0.87 ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.62 ug/L	
86-73-7	Fluorene			not detected	300	0.99 ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.10 ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	1.05 ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.01 ug/L	
103-33-3	Azobenzene			not detected	NLE	0.67 ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.76 ug/L	
118-74-1	Hexachlorobenzene			not detected	10	0.94 ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.23 ug/L	
120-12-7	Anthracene			not detected	2000	1.12 ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	1.70 ug/L	
206-44-0	Fluoranthene			not detected	300	1.64 ug/L	

Semi-Volatile Analysis Report

Page 2

Data File Name **BNA03535.D**
 Operator **Bhaskar**
 Date Acquired **11-Jan-00**

Sample Name **5079.03**
 Misc Info **977-1**
 Sample Multiplier **1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifiers
92-87-5	Benidine			not detected	50	4.18 ug/L	
129-00-0	Pyrene			not detected	200	1.25 ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.05 ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.19 ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	1.75 ug/L	
218-01-9	Chrysene			not detected	20	1.38 ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate	26.75	23074	1.93 ug/L	30	1.74 ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.44 ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.25 ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.29 ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.05 ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	0.83 ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	0.64 ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	0.84 ug/L	

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

Qualifiers

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

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

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

977-1

Lab Name: FMETL Lab Code 13461
Project 100004 Case No.: 5079 Location Bld.977 SDG No.:
Matrix: (soil/water) WATER Lab Sample ID: 5079.03
Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA03535.D
Level: (low/med) LOW Date Received: 1/10/00
% Moisture: decanted: (Y/N) N Date Extracted: 1/10/00
Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/11/00
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
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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.

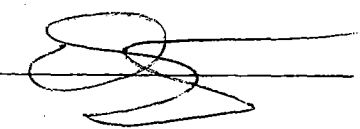
It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

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

✓
✓
✓
✓
✓
✓
✓
✓
NA
✓
✓

Laboratory Manager or Environmental Consultant's Signature

Date 5/8/00



Laboratory Certification #13461

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

000078

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

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References

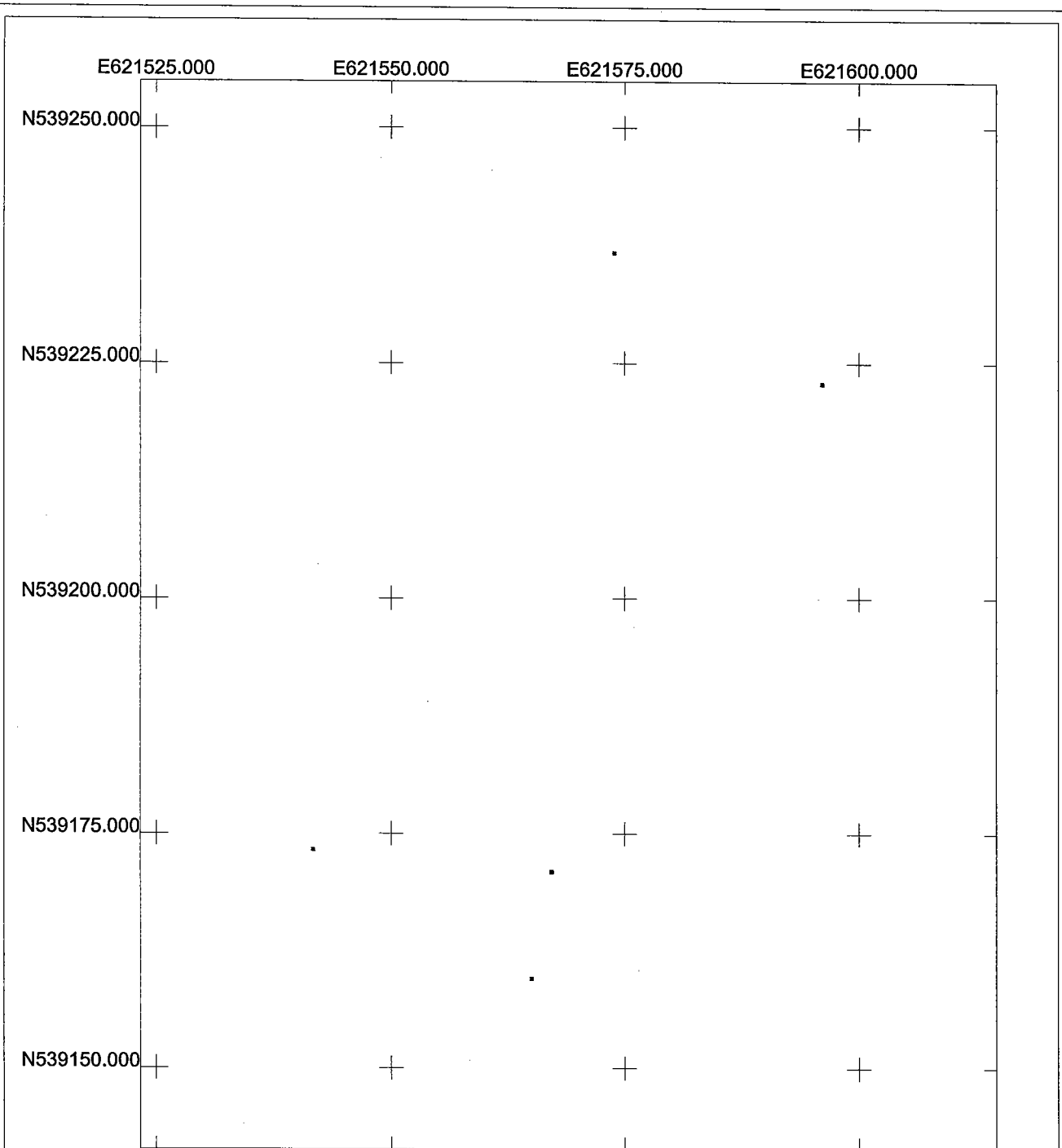
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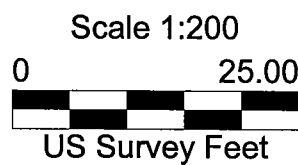
APPENDIX G

ELECTRONIC DATA DELIVERABLES



Bldg. 977 UST Ground Water Sample GPS Map

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



r100114a.cor
5/19/2000
Pathfinder Office
 **Trimble**

GPS SAMPLE LOCATION MAP(BLDG.977)

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

(IN US SURVEY FEET)

SAMPLE POINT

<u>POSITION/DESC.</u>	<u>Y COORD.(NORTHING)</u>	<u>X COORD.(EASTING)</u>
S/PP	539167.344	621562.640
W	539176.088	621563.572
W2	539176.088	621563.572
N	539177.784	621568.996
1	539172.948	621571.032
2	539166.328	621564.844
3	539174.728	621567.556
4	539181.180	621561.536
5	539181.180	621561.536
6	539186.868	621564.336
7	539185.592	621555.940
8	539174.476	621554.668

BLDG. 977 UST GROUND WATER GPS POSITION & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

<u>POSITION / DESC.</u>	<u>Y COORD. (NORTHING)</u>	<u>X COORD. (EASTING)</u>
977 GW	539171.011	621567.071

(GW denotes Ground Water)

REFERENCE POINTS

<u>POSITION / DESC.</u>	<u>Y COORD. (NORTHING)</u>	<u>X COORD. (EASTING)</u>
BLDG. CORNER 977	539173.362	621541.575
BLDG. CORNER 977	539159.613	621564.946
BLDG. CORNER 977	539222.927	621595.988
BLDG. CORNER 977	539236.863	621573.807