

United States Army
Fort Monmouth, New Jersey

Site/Remedial Investigation Report

Building 550
Main Post-West Area

July 1999

SITE/REMEDIAL INVESTIGATION REPORT

BUILDING 550

MAIN POST-WEST AREA

JULY 1999

PREPARED FOR:

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

PREPARED BY:

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PROJECT NO. 2429-308

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EXECUTIVE SUMMARY

Site/Remedial Investigation and Post-Excavation Soil Sampling

SMC was retained by the U.S. Army DPW to implement a site/remedial investigation adjacent to a former No. 2 fuel oil UST. The UST was associated with Building 550 at the Main Post-West area of the U.S. Army Fort Monmouth Base. The objective of the site/remedial investigation activities was to remove potentially impacted soil resulting from the past operation of the former UST. The site/remedial investigation was performed by SMC personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual*.

Visibly stained soils and soils exhibiting elevated PID levels (greater than 5 ppm) of VOCs, were excavated. Excavation activities continued until potentially impacted soil had been removed. To confirm PID readings and verify the effectiveness of the soil excavation activities, 30 post-excavation soil samples were collected from within the excavation between June 16 and July 28, 1997. All samples were initially analyzed for TPHC and total solids. Samples revealing TPHC results above 1,000 mg/kg were additionally analyzed for volatile organic compounds. The post-excavation soil samples collected from the excavation contained concentrations of TPHC and volatile organic compounds below the NJDEP soil cleanup criteria.

Management of Excavated Soils

A total of approximately 1000 cubic yards of contaminated soil was excavated from around the former UST location and placed on and covered with tarps. All contaminated soil characterization and disposal was handled directly by the U.S. Army Fort Monmouth DPW.

Site Restoration

Upon receiving analytical results and confirming the effectiveness of the excavation activities completed at the site, the excavation was backfilled to grade with certified clean crushed stone and sand.

Conclusions and Recommendations

All post excavation soil samples collected from the UST excavation at Building 550 contained concentrations of TPHC and volatile organic compounds below the NJDEP residential soil cleanup criteria.

In response to the observation of potentially contaminated soil near the water table, two (2) groundwater samples were collected at Building 550. On December 10, 1998, and January 13, 1999, Building 550 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 at Building 550.

1.0 BACKGROUND INFORMATION

1.1 OVERVIEW

SMC Environmental Services Group (SMC) was retained by the United States Army Directorate of Public Works (DPW) to implement a site/remedial investigation adjacent to a former No. 2 fuel oil underground storage tank (UST). The New Jersey Department of Environmental Protection (NJDEP) UST Registration No. 81533-79, was associated with Building 550 at the Main Post-West area of the U.S. Army Fort Monmouth Base, Fort Monmouth, New Jersey. Refer to site location map in Figure 1.

This report describes the results of the site/remedial investigation activities completed at the site. The objective of the site/remedial investigation activities was to remove all potentially impacted soil resulting from the past operation of the former UST.

This report outlines background information, the site/remedial investigation activities, results of these activities, and conclusions and recommendations drawn from these results.

1.2 SITE DESCRIPTION

Building 550 is located in the Main Post-West area of the Fort Monmouth Army Base. The former UST was located a few feet west of the northwest corner of Building 550. A site map is provided in Figure 2.

1.3 GEOLOGICAL/HYDROGEOLOGICAL SETTING

The following is a description of the geological/hydrogeological setting of the area surrounding Building 550. Included is a description of the regional geology of the area surrounding Fort Monmouth, as well as descriptions of the local geology and hydrogeology of the Main Post area.

Regional Geology

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

In general, New Jersey Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, and gravel. These formations typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile and were deposited on Precambrian and lower Paleozoic rocks (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. Over 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 thickness for these units vary greatly (i.e., from several feet to several hundred feet). The Coastal Plain deposits thicken to the southeast from the Fall Line to greater than 6,500 feet in Cape May County (Brown and Zapecza, 1990).

Local Geology

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

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

Hydrogeology

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

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

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

Therefore, the direction of shallow groundwater should be determined on a case-by-case basis.

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

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

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

Building 550 is located approximately 300 feet north of Husky Brook, the nearest water body. Based on Main Post topography, groundwater flow in the area of Building 550 is anticipated to be to the south.

1.4 HEALTH AND SAFETY

During all site/remedial investigation activities, hazards at the work site, which may have posed a threat to the Health and Safety of personnel, 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 safe, as defined by the Occupational Safety & Health Association (OSHA).

2.0 SITE/REMEDIAL INVESTIGATION ACTIVITIES

2.1 OVERVIEW

The Site/Remedial Investigation was managed and carried out by SMC personnel. All analyses were performed and reported by U.S. Army Fort Monmouth Environmental Laboratory, an 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*. Sampling frequency and parameters analyzed complied with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E).

The following Parties participated in Site/Remedial Investigation Activities:

- Subsurface Evaluator: David H. Daniels
Employer: SMC Environmental Services Group
Phone Number: (215) 788-7844
NJDEP Certification No.: 10279
- Project Manager: Charles Appleby
Employer: DPW U.S. Army, Fort Monmouth
Phone Number: (732) 532-6224
NJDEP Certification No.: 2056
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Phone Number: (732) 532-4359
NJDEP Company Certification No.: 13461

2.2 FIELD SCREENING/MONITORING

Field screening and visual observations to identify potentially contaminated material was performed by a NJDEP Certified Sub-Surface Evaluator. During the excavation activities, all soil removed was screened with a photoionization detector (PID) to check for the presence of elevated volatile organic concentrations (VOCs).

Soils that displayed elevated PID readings (i.e., above 5 ppm) were stockpiled separately from those soils that did not display elevated PID readings (i.e., less than 5 ppm). The ground surface in the areas used to stockpile contaminated soils was covered with tarps. All stockpiled contaminated soil was covered with tarps at the completion of each day of excavation.

2.3 MANAGEMENT OF EXCAVATED SOILS

A total of approximately 1,200 cubic yards of material was excavated during the remediation activities. Of this amount, approximately 200 cubic yards of clean overburden soil (soil displaying PID readings below 5 ppm) was removed and stockpiled separate of the contaminated soil. There was approximately 1000 cubic yards of contaminated soil (soil displaying PID readings above 5 ppm) excavated, placed on and covered with tarps.

All contaminated soil characterization and disposal was handled directly by the U.S. Army Fort Monmouth Directorate of Public Works.

2.4 POST-EXCAVATION SOIL SAMPLING AND RESULTS

The excavation of the impacted soil proceeded laterally north, south and west until non-detectable field screening readings (i.e., less than 5 ppm) were obtained with the PID. Along the eastern portion of the excavation, the removal of all potentially impacted soil was not feasible due to the presence of the adjacent Building 550. The excavation extended vertically to a depth of 9 feet below ground surface (bgs). Groundwater was encountered at a depth of 7 feet bgs.

To confirm the PID readings and verify the effectiveness of soil excavation activities, 30 post-excavation soil samples were collected from within the excavation between June 16 and July 28, 1997. Of these, 16 soil samples were collected from the excavation sidewalls at a depth of 6-½ feet bgs. The sidewall samples were designated 550-S1 through 550-S24, whereas samples 550-S2 through 550-S6 and 550-S11 through 550-S13 were further remediated and resampled. The remaining 14 post-excavation soil samples were collected from the bottom of the excavation at a depth of 9 feet bgs. The bottom samples were designated 550-B1 through 550-B14 and 550-P1 through 550-P5. Samples 550-B3, 550-B7, 550-B12 and 550-P5 were duplicates and sample 550-B9 was further remediated and resampled. The locations of the 30 post-excavation soil samples are shown in Figure 3.

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

All samples were initially analyzed for total petroleum hydrocarbons (TPHC) and total solids. Samples revealing TPHC results above 1,000 mg/kg were additionally analyzed for volatile organic compounds. The TPHC 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 TPHC analytical results and comparison to the NJDEP soil cleanup criteria is provided in Table 2. A summary of the results of the volatile organic compounds and comparison to the NJDEP soil cleanup criteria is provided in Table 3. The analytical data packages are provided in Appendix A.

The post-excavation soil samples collected from the excavation contained concentrations of TPHC and volatile organic compounds below the NJDEP soil cleanup criteria.

Upon receiving analytical results and confirming the effectiveness of the excavation activities completed at the site, the excavation was backfilled to grade with certified clean crushed stone and sand. Appendix C provides photographs of the site/remedial investigations.

2.5 GROUNDWATER SAMPLING

On December 10, 1998, and January 13, 1999, Building 550 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 B for the field sampling documentation.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

SMC was retained by the U.S. Army DPW to implement a site/remedial investigation adjacent to a former No. 2 fuel oil UST. The UST was associated with Building 550 at the Main Post-West area of the U.S. Army Fort Monmouth Base. The objective of the site/remedial investigation activities was to remove all potentially impacted soil resulting from the result of the past operation of the former UST.

Visibly stained soils and soils exhibiting elevated PID levels (greater than 5 ppm) of VOCs were excavated. Excavation activities continued until potentially impacted soil had been removed. In all, a total of approximately 1,000 cubic yards of contaminated soil was excavated from around the former UST location. All contaminated soil characterization and disposal was handled directly by the U.S. Army Fort Monmouth DPW.

To confirm the PID readings and verify the effectiveness of the soil excavation activities, 30 post-excavation soil samples were collected from within the excavation between June 16 and July 28, 1997. All samples were initially analyzed for TPHC and total solids. Samples revealing TPHC results above 1,000 mg/kg were additionally analyzed for volatile organic compounds. The post-excavation soil samples collected from the excavation contained concentrations of TPHC and volatile organic compounds below the NJDEP soil cleanup criteria.

Upon receiving analytical results and confirming the effectiveness of the excavation activities completed at the site, the excavation was backfilled to grade with certified clean crushed stone and sand.

3.2 GROUNDWATER SAMPLING RESULTS

No compounds were detected in the sample collected from Building 550 on December 10, 1998.

The sample collected from Building 550 on January 13, 1999, contained naphthalene at a concentration of 42.80 ug/L, 2-methylnaphthalene at 53.52 ug/l, acenaphthene at 5.26 ug/l, dibenzofuran at 3.01 ug/l, flourene at 7.02 ug/l, and phenanthrene at 10.62 ug/l. No other compounds were detected. Trichloroethene was detected in the trip blank at a concentration of 5.72 ug/l. The trichloroethene concentration exceeds the GWQS on account of laboratory contamination. No other compounds were detected in the trip blank. The field dup contained naphthalene at a concentration of 37.53 ug/L, 2-methylnaphthalene at 48.65 ug/l, acenaphthene at 4.24 ug/l, dibenzofuran at 2.56 ug/l, flourene at 5.52 ug/l, and phenanthrene at 7.74 ug/l. No other compounds were detected in the field dup.

A summary of the analytical results and comparison to the NJDEP groundwater cleanup criteria is provided in Table 4. The analytical data package is provided in Appendix B. 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 10, 1998, and January 13, 1999, were either below the detection limit or in compliance with the New Jersey Ground Water Quality Criteria (GWQC).

3.3 CONCLUSION AND RECOMMENDATIONS

All post excavation soil samples collected from the UST excavation at Building 550 contained concentrations of TPHC and volatile organic compounds below the NJDEP residential soil cleanup criteria.

Based on the analytical results of the groundwater samples collected at Building 550 on December 10, 1998, and January 13, 1999, groundwater quality at Building 550 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 at Building 550.

TABLES

TABLE 1

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
AREA 550, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Page 1 of 8

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
550-B1	6/16/97	6/19/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-B2	6/16/97	6/19/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-B3	6/16/97	6/19/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-S1	6/16/97	6/19/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

* TPHC Total Petroleum Hydrocarbons

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
AREA 550, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Page 2 of 8

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
**550-S2	6/19/97	6/19/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
**550-S3	6/19/97	6/19/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
**550-S4	6/19/97	6/19/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
**550-S5	6/19/97	6/19/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
**550-S6	6/19/97	6/19/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

* TPHC Total Petroleum Hydrocarbons

** Sample area was further remediated and resampled

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
 AREA 550, MAIN POST-WEST AREA
 FORT MONMOUTH, NEW JERSEY

Page 3 of 8

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
550-S7	6/24/97	6/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-S8	6/24/97	6/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-S9	6/24/97	6/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-B4	6/24/97	6/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-B5	6/24/97	6/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-S10	6/24/97	6/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
**550-S11	6/24/97	6/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-B6	6/24/97	6/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-B7	6/24/97	6/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
**550-S12	6/25/97	6/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

* TPHC Total Petroleum Hydrocarbons

** Sample area was further remediated and resampled

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
AREA 550, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Page 4 of 8

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
**550-S13	6/26/97	6/27/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-S14	6/26/97	6/27/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-S15	6/26/97	6/27/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-B8	6/26/97	6/27/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

* TPHC Total Petroleum Hydrocarbons

** Sample area was further remediated and resampled

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
AREA 550, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Page 5 of 8

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
550-S16	7/1/97	7/2/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-S17	7/1/97	7/2/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
**550-B9	7/1/97	7/2/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-S18	7/1/97	7/2/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

* TPHC Total Petroleum Hydrocarbons

** Sample area was further remediated and resampled

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
AREA 550, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

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Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
550-P1	7/15/97	7/16/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-P2	7/15/97	7/16/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-P3	7/15/97	7/16/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-P4	7/15/97	7/16/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-P5	7/15/97	7/16/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

* TPHC Total Petroleum Hydrocarbons

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
AREA 550, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Page 7 of 8

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
550-B10	7/28/97	7/28/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-B11	7/28/97	7/28/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-B12	7/28/97	7/28/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-B13	7/28/97	7/28/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-B14	7/28/97	7/28/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-S19	7/28/97	7/28/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-S20	7/28/97	7/28/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-S21	7/28/97	7/28/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-S22	7/28/97	7/28/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-S23	7/28/97	7/28/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
550-S24	7/28/97	7/28/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

* TPHC Total Petroleum Hydrocarbons

TABLE 1

SUMMARY OF SAMPLING ACTIVITIES
BUILDING 550, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Page 8 of 8

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Sampling Method**
4136.01	12/10/98	12/15/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4136.02	12/10/98	12/15/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4136.01	12/10/98	12/15/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4136.02	12/10/98	12/15/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4187.01	1/13/99	1/22/99	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4187.02	1/13/99	1/22/99	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4187.03	1/13/99	1/22/99	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4187.04	1/13/99	1/22/99	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4187.05	1/13/99	1/22/99	Aqueous	Groundwater	VOCs, SVOCs	PPNDP

Note:

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

TABLE 2

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
 AREA 550, MAIN POST-WEST AREA
 FORT MONMOUTH, NEW JERSEY

Page 1 of 7

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Method Used	Method Detection Limit (mg/kg)	Compound of Concern	Result (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
550-B1=	2699.01	6/16/97	6/19/97	Total Solid	--	--	81.75	--	--
				TPHC	187	Yes	ND	10,000	No
550-B2=	2699.02	6/16/97	6/19/97	Total Solid	--	--	76.54	--	--
				TPHC	201	Yes	ND	10,000	No
550-B3=	2699.03	6/16/97	6/19/97	Total Solid	--	--	77.28	--	--
				TPHC	196	Yes	ND	10,000	No
550-S1=	2699.04	6/16/97	6/19/97	Total Solid	--	--	84.61	--	--
				TPHC	174	Yes	ND	10,000	No

Note:

- * Total Solid results are expressed as a percentage.
 ** NJDEP Residential Direct Contact soil cleanup criteria for total organics
 -- Not detected above stated sample quantitation limit
 TPHC Total Petroleum Hydrocarbons

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
 AREA 550, MAIN POST-WEST AREA
 FORT MONMOUTH, NEW JERSEY

Page 2 of 7

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Method Used	Method Detection Limit (mg/kg)	Compound of Concern	Result (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
***550-S2=	2709.01	6/19/97	6/19/97	Total Solid	--	--	81.92	--	--
				TPHC	183	Yes	6135.65	10,000	No
***550-S3=	2709.02	6/19/97	6/19/97	Total Solid	--	--	85.19	--	--
				TPHC	182	Yes	4366.19	10,000	No
***550-S4=	2709.03	6/19/97	6/19/97	Total Solid	--	--	80.52	--	--
				TPHC	181	Yes	9136.31	10,000	No
***550-S5=	2709.04	6/19/97	6/19/97	Total Solid	--	--	80.62	--	--
				TPHC	195	Yes	3708.27	10,000	No
***550-S6=	2709.05	6/19/97	6/19/97	Total Solid	--	--	81.38	--	--
				TPHC	174	Yes	11887.77	10,000	Yes

Note:

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

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
 AREA 550, MAIN POST-WEST AREA
 FORT MONMOUTH, NEW JERSEY

Page 3 of 7

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Method Used	Method Detection Limit (mg/kg)	Compound of Concern	Result (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
550-S7=	2735.01	6/24/97	6/25/97	Total Solid	--	--	78.52	--	--
				TPHC	196	Yes	ND	10,000	No
550-S8=	2735.02	6/24/97	6/25/97	Total Solid	--	--	74.14	--	--
				TPHC	194	Yes	666.74	10,000	No
550-S9=	2735.03	6/24/97	6/25/97	Total Solid	--	--	72.85	--	--
				TPHC	211	Yes	ND	10,000	No
550-B4=	2735.04	6/24/97	6/25/97	Total Solid	--	--	75.49	--	--
				TPHC	195	Yes	ND	10,000	No
550-B5=	2735.05	6/24/97	6/25/97	Total Solid	--	--	75.17	--	--
				TPHC	199	Yes	ND	10,000	No
550-S10=	2735.06	6/24/97	6/25/97	Total Solid	--	--	81.38	--	--
				TPHC	184	Yes	ND	10,000	No
***550-S11=	2735.07	6/24/97	6/25/97	Total Solid	--	--	80.13	--	--
				TPHC	194	Yes	ND	10,000	No
550-B6=	2735.08	6/24/97	6/25/97	Total Solid	--	--	79.95	--	--
				TPHC	191	Yes	ND	10,000	No
550-B7=	2735.09	6/24/97	6/25/97	Total Solid	--	--	82.95	--	--
				TPHC	181	Yes	ND	10,000	No
***550-S12=	2735.10	6/25/97	6/25/97	Total Solid	--	--	84.79	--	--
				TPHC	167	Yes	3344.46	10,000	No

Note:

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

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
AREA 550, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Page 4 of 7

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Method Used	Method Detection Limit (mg/kg)	Compound of Concern	Result (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
***550-S13=	2748.01	6/26/97	6/27/98	Total Solid	--	--	83.96	--	--
				TPHC	165	Yes	5662.78	10,000	No
550-S14=	2748.02	6/26/97	6/27/98	Total Solid	--	--	84.07	--	--
				TPHC	182	Yes	ND	10,000	No
550-S15=	2748.03	6/26/97	6/27/98	Total Solid	--	--	85.80	--	--
				TPHC	163	Yes	6553.80	10,000	No
550-B8=	2748.04	6/26/97	6/27/98	Total Solid	--	--	81.80	--	--
				TPHC	191	Yes	ND	10,000	No

Note:

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

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
 AREA 550, MAIN POST-WEST AREA
 FORT MONMOUTH, NEW JERSEY

Page 5 of 7

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Method Used	Method Detection Limit (mg/kg)	Compound of Concern	Result (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
550-S16=	2763.07	7/1/97	7/2/97	Total Solid	--	--	80.98	--	--
				TPHC	189	Yes	3311.90	10,000	No
550-S17=	2763.08	7/1/97	7/2/97	Total Solid	--	--	85.49	--	--
				TPHC	181	Yes	ND	10,000	No
***550-B9=	2763.09	7/1/97	7/2/97	Total Solid	--	--	74.58	--	--
				TPHC	201	Yes	20565.24	10,000	Yes
550-S18=	2763.10	7/1/97	7/2/97	Total Solid	--	--	84.10	--	--
				TPHC	186	Yes	ND	10,000	No

Note:

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

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
 AREA 550, MAIN POST-WEST AREA
 FORT MONMOUTH, NEW JERSEY

Page 6 of 7

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Method Used	Method Detection Limit (mg/kg)	Compound of Concern	Result (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
550-P1=	2799.01	7/15/97	7/16/97	Total Solid	--	--	83.33	--	--
				TPHC	183	Yes	ND	10,000	No
550-P2=	2799.02	7/15/97	7/16/97	Total Solid	--	--	83.63	--	--
				TPHC	187	Yes	ND	10,000	No
550-P3=	2799.03	7/15/97	7/16/97	Total Solid	--	--	83.60	--	--
				TPHC	189	Yes	ND	10,000	No
550-P4=	2799.04	7/15/97	7/16/97	Total Solid	--	--	82.42	--	--
				TPHC	191	Yes	ND	10,000	No
550-P5=	2799.05	7/15/97	7/16/97	Total Solid	--	--	78.88	--	--
				TPHC	193	Yes	ND	10,000	No

Note:

* Total Solid results are expressed as a percentage.

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

-- Not detected above stated sample quantitation limit

TPHC Total Petroleum Hydrocarbons

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
AREA 550, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Page 7 of 7

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Method Used	Method Detection Limit (mg/kg)	Compound of Concern	Result (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
550-B10=	2838.01	7/28/97	7/28/97	Total Solid	--	--	82.42	--	--
				TPHC	181	Yes	302.72	10,000	No
550-B11=	2838.02	7/28/97	7/28/97	Total Solid	--	--	81.14	--	--
				TPHC	186	Yes	ND	10,000	No
550-B12=	2838.03	7/28/97	7/28/97	Total Solid	--	--	85.50	--	--
				TPHC	182	Yes	ND	10,000	No
550-B13=	2838.04	7/28/97	7/28/97	Total Solid	--	--	82.17	--	--
				TPHC	178	Yes	ND	10,000	No
550-B14=	2838.05	7/28/97	7/28/97	Total Solid	--	--	80.15	--	--
				TPHC	187	Yes	ND	10,000	No
550-S19=	2838.06	7/28/97	7/28/97	Total Solid	--	--	87.54	--	--
				TPHC	167	Yes	ND	10,000	No
550-S20=	2838.07	7/28/97	7/28/97	Total Solid	--	--	82.72	--	--
				TPHC	179	Yes	ND	10,000	No
550-S21=	2838.08	7/28/97	7/28/97	Total Solid	--	--	81.31	--	--
				TPHC	185	Yes	269.29	10,000	No
550-S22=	2838.09	7/28/97	7/28/97	Total Solid	--	--	89.25	--	--
				TPHC	173	Yes	ND	10,000	No
550-S23=	2838.10	7/28/97	7/28/97	Total Solid	--	--	92.11	--	--
				TPHC	164	Yes	ND	10,000	No
550-S24=	2838.11	7/28/97	7/28/97	Total Solid	--	--	89.96	--	--
				TPHC	171	Yes	ND	10,000	No

Note:

* Total Solid results are expressed as a percentage.

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

-- Not detected above stated sample quantitation limit

TPHC Total Petroleum Hydrocarbons

TABLE 3

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

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Project: 961226
Case No.: 2748 Location: AREA 550 SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: 2748.03

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

CAS NO.	PARAMETER	RESULTS	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
107028	Acrolein	580	U	NA	NA
107131	Acrylonitrile	580	U	1000	5000
75650	tert-Butyl alcohol	580	U	NA	NA
1634044	Methyl-tert-Butyl ether	580	U	NA	NA
108203	Di-isopropyl ether	580	U	NA	NA
	Dichlorodifluoromethane	58	U	NA	NA
74-87-3	Chloromethane	58	U	520000	1000000(d)
75-01-4	Vinyl Chloride	58	U	2000	7000
74-83-9	Bromomethane	58	U	79000	1000000(d)
75-00-3	Chloroethane	58	U	NA	NA
75-69-4	Trichlorofluoromethane	58	U	NA	NA
75-35-4	1, 1-Dichloroethene	58	U	8000	150000
67-64-1	Acetone	58	U	1000000(d)	1000000(d)
75-15-0	Carbon Disulfide	58	U	NA	NA
75-09-2	Methylene Chloride	58	U	49000	210000
156-60-5	trans-1,2-Dichloroethene	58	U	1000000(d)	1000000(d)
75-35-3	1,1-Dichloroethane	58	U	570000	1000000(d)
108-05-4	Vinyl Acetate	58	U	NA	NA
78-93-3	2-Butanone	58	U	1000000(d)	1000000(d)
156-59-2	cis-1,2-Dichloroethene	58	U	79000	1000000(d)
67-66-3	Chloroform	58	U	19000(k)	28000(k)

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Project: 961226

Case No.: 2748 Location: AREA 550 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2748.03

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

CAS NO.	PARAMETER	RESULTS	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
75-55-6	1,1,1-Trichloroethane	58	U	NA	NA
56-23-5	Carbon Tetrachloride	58	U	2000(k)	4000(k)
71-43-2	Benzeze	58	U	3000	13000
107-06-2	1,2-Dichloroethane	58	U	6000	24000
79-01-6	Trichloroethene	58	U	23000	54000(k)
78-87-5	1, 2-Dichloropropane	58	U	10000	43000
75-27-4	Bromodichloromethane	58	U	11000(g)	46000(g)
110-75-8	2-Chloroethyl vinyl ether	58	U	NA	NA
10061-01-5	cis-1,3-Dichloropropene	58	U	NA	NA
108-10-1	4-Methyl-2-Pentanone	58	U	1000000(d)	1000000(d)
108-88-3	Toluene	58	U	1000000(d)	1000000(d)
10061-02-6	trans-1,3-Dichloropropene	58	U	NA	NA
79-00-5	1,1,2-Trichloroethane	58	U	22000	420000
127-18-4	Tetrachloroethene	58	U	4000(k)	6000(k)
591-78-6	2-Hexanone	58	U	NA	NA
126-48-1	Dibromochloromethane	58	U	NA	NA
108-90-7	Chlorobenzene	58	U	37000	680000
100-41-4	Ethylbenzene	45	JD	1000000(d)	1000000(d)
1330-20-7	m+p-Xylenes	58	U	NA	NA

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Project: 961226
Case No.: 2748 Location: AREA 550 SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: 2748.03

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

CAS NO.	PARAMETER.	RESULTS	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
1330-20-7	o-Xylene	58	U	NA	NA
100-42-5	Styrene	58	U	23000	97000
75-25-2	Bromoform	58	U	86000	370000
79-34-5	1,1,2,2-Tetrachloroethane	58	U	34000	70000(k)
541-73-1	1,3-Dichlorobenzene	58	U	5100000	10000000(c)
106-46-7	1,4-Dichlorobenzene	58	U	570000	10000000(c)
95-50-1	1,2-Dichlorobenzene	58	U	5100000	10000000(c)

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Project: 961226

Case No.: 2763 Location: AREA 550 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2763.07

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

CAS NO.	PARAMETER	RESULTS	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
107028	Acrolein	7200	U	NA	NA
107131	Acrylonitrile	7200	U	1000	5000
75650	tert-Butyl alcohol	7200	U	NA	NA
1634044	Methyl-tert-Butyl ether	7200	U	NA	NA
108203	Di-isopropyl ether	7200	U	NA	NA
	Dichlorodifluoromethane	720	U	NA	NA
74-87-3	Chloromethane	720	U	520000	1000000(d)
75-01-4	Vinyl Chloride	720	U	2000	7000
74-83-9	Bromomethane	720	U	79000	1000000(d)
75-00-3	Chloroethane	720	U	NA	NA
75-69-4	Trichlorofluoromethane	720	U	NA	NA
75-35-4	1, 1-Dichloroethene	720	U	8000	150000
67-64-1	Acetone	720	U	1000000(d)	1000000(d)
75-15-0	Carbon Disulfide	720	U	NA	NA
75-09-2	Methylene Chloride	720	U	49000	210000
156-60-5	trans-1,2-Dichloroethene	720	U	1000000(d)	1000000(d)
75-35-3	1,1-Dichloroethane	720	U	570000	1000000(d)
108-05-4	Vinyl Acetate	720	U	NA	NA
78-93-3	2-Butanone	720	U	1000000(d)	1000000(d)
156-59-2	cis-1,2-Dichloroethene	720	U	79000	1000000(d)
67-66-3	Chloroform	720	U	19000(k)	28000(k)

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Project: 961226
Case No.: 2763 Location: AREA 550 SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: 2763.07

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

CAS NO.	PARAMETER	RESULTS	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
75-55-6	1,1,1-Trichloroethane	720	U	NA	NA
56-23-5	Carbon Tetrachloride	720	U	2000(k)	4000(k)
71-43-2	Benzeze	720	U	3000	13000
107-06-2	1,2-Dichloroethane	720	U	6000	24000
79-01-6	Trichloroethene	720	U	23000	54000(k)
78-87-5	1, 2-Dichloropropane	720	U	10000	43000
75-27-4	Bromodichloromethane	720	U	11000(g)	46000(g)
110-75-8	2-Chloroethyl vinyl ether	720	U	NA	NA
10061-01-5	cis-1,3-Dichloropropene	720	U	NA	NA
108-10-1	4-Methyl-2-Pentanone	720	U	1000000(d)	1000000(d)
108-88-3	Toluene	720	U	1000000(d)	1000000(d)
10061-02-6	trans-1,3-Dichloropropene	720	U	NA	NA
79-00-5	1,1,2-Trichloroethane	720	U	22000	420000
127-18-4	Tetrachloroethene	720	U	4000(k)	6000(k)
591-78-6	2-Hexanone	720	U	NA	NA
126-48-1	Dibromochloromethane	720	U	NA	NA
108-90-7	Chlorobenzene	720	U	37000	680000
100-41-4	Ethylbenzene	720	U	1000000(d)	1000000(d)
1330-20-7	m+p-Xylenes	720	U	NA	NA

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Project: 961226
Case No.: 2763 Location: AREA 550 SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: 2763.07

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

CAS NO.	PARAMETER.	RESULTS	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
1330-20-7	o-Xylene	720	U	NA	NA
100-42-5	Styrene	720	U	23000	97000
75-25-2	Bromoform	720	U	86000	370000
79-34-5	1,1,2,2-Tetrachloroethane	720	U	34000	70000(k)
541-73-1	1,3-Dichlorobenzene	720	U	5100000	10000000(c)
106-46-7	1,4-Dichlorobenzene	720	U	570000	10000000(c)
95-50-1	1,2-Dichlorobenzene	720	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

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 12/10/98Location: 550Lab Sample ID: 4136.01(Trip Blank)

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

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 12/10/98Location: 550Lab Sample ID: 4136.01(Trip Blank)

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

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) WATER
 Date Sampled: 12/10/98 Location: 550 Lab Sample ID: 4136.02(Field Blank)

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

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) WATER
 Date Sampled: 12/10/98 Location: 550 Lab Sample ID: 4136.02(Field Blank)

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

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 12/10/98Location: 550Lab Sample ID: 4137.01(Bldg 550)

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: 12/10/98 Location: 550 Lab Sample ID: 4137.01(Bldg 550)

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: 12/10/98Location: 550Lab Sample ID: 4136.02(Field Blank)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
110-86-1	Pyridine	5.00	Not Detected	--	nle	no
62-75-9	N-nitroso-dimethylamine	0.94	Not Detected	--	20	no
62-53-3	Aniline	0.15	Not Detected	--	nle	no
111-44-4	bis(2-Chloroethyl)ether	0.48	Not Detected	--	10	no
541-73-1	1,3-Dichlorobenzene	0.23	Not Detected	--	600	no
106-46-7	1,4-Dichlorobenzene	0.23	Not Detected	--	75	no
100-51-6	Benzyl alcohol	0.18	Not Detected	--	nle	no
95-50-1	1,2-Dichlorobenzene	0.16	Not Detected	--	600	no
108-60-1	bis(2-chloroisopropyl)ether	0.61	Not Detected	--	300	no
621-64-7	n-Nitroso-di-n-propylamine	0.33	Not Detected	--	20	no
67-72-1	Hexachloroethane	0.46	Not Detected	--	10	no
98-95-3	Nitrobenzene	0.35	Not Detected	--	10	no
78-59-1	Isophorone	0.46	Not Detected	--	100	no
111-91-1	bis(2-Chloroethoxy)methane	0.26	Not Detected	--	nle	no
120-82-1	1,2,4-Trichlorobenzene	0.25	Not Detected	--	9	no
91-20-3	Naphthalene	0.25	Not Detected	--	nle	no
106-47-8	4-Chloroaniline	0.19	Not Detected	--	nle	no
87-68-3	Hexachlorobutadiene	0.38	Not Detected	--	1	no
91-57-6	2-Methylnaphthalene	0.16	Not Detected	--	nle	no
77-47-4	Hexachlorocyclopentadiene	1.50	Not Detected	--	50	no
91-58-7	2-Chloronaphthalene	0.32	Not Detected	--	nle	no
88-74-4	2-Nitroaniline	0.21	Not Detected	--	nle	no
131-11-3	Dimethylphthalate	0.18	Not Detected	--	7000	no
208-96-8	Acenaphthylene	0.19	Not Detected	--	nle	no

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 12/10/98Location: 550Lab Sample ID: 4136.02(Field Blank)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
606-20-2	2,6-Dinitrotoluene	0.31	Not Detected	--	nle	no
99-09-2	3-Nitroaniline	0.26	Not Detected	--	nle	no
83-32-9	Acenaphthene	0.26	Not Detected	--	400	no
132-64-9	Dibenzofuran	0.32	Not Detected	--	nle	no
121-14-2	2,4-Dinitrotoluene	0.36	Not Detected	--	10	no
84-66-2	Diethylphthalate	0.82	Not Detected	--	5000	no
86-73-7	Fluorene	0.29	Not Detected	--	300	no
7005-72-3	4-Chlorophenyl-phenylether	0.31	Not Detected	--	nle	no
100-01-6	4-Nitroaniline	0.90	Not Detected	--	nle	no
86-30-6	n-Nitrosodiphenylamine	0.23	Not Detected	--	20	no
103-33-3	Azobenzene	0.80	Not Detected	--	nle	no
101-55-3	4-Bromophenyl-phenylether	0.55	Not Detected	--	nle	no
118-74-1	Hexachlorobenzene	0.82	Not Detected	--	10	no
85-01-8	Phenanthrene	0.18	Not Detected	--	nle	no
120-12-7	Anthracene	0.19	Not Detected	--	2000	no
84-74-2	Di-n-butylphthalate	0.23	Not Detected	--	900	no
206-44-0	Fluoranthene	0.41	Not Detected	--	300	no
92-87-5	Benzidine	1.45	Not Detected	--	50	no
129-00-0	Pyrene	0.32	Not Detected	--	200	no
85-68-7	Butylbenzylphthalate	0.47	Not Detected	--	100	no
56-55-3	Benzo[a]anthracene	0.22	Not Detected	--	10	no
91-94-1	3,3'-Dichlorobenzidine	0.46	Not Detected	--	60	no
218-01-9	Chrysene	0.20	Not Detected	--	20	no
117-81-7	bis(2-Ethylhexyl)phthalate	0.51	Not Detected	--	30	no
117-84-0	Di-n-octylphthalate	0.82	Not Detected	--	100	no
205-99-2	Benzo[b]fluoranthene	0.37	Not Detected	--	10	no
207-08-9	Benzo[k]fluoranthene	0.32	Not Detected	--	2	no
50-32-8	Benzo[a]pyrene	0.31	Not Detected	--	20	no
193-39-5	Indeno[1,2,3-cd]pyrene	0.79	Not Detected	--	20	no
53-70-3	Dibenz[a,h]anthracene	0.28	Not Detected	--	20	no
191-24-2	Benzo[g,h,i]perylene	0.40	Not Detected	--	nle	no

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 12/10/98Location: 550Lab Sample ID: 4137.02(Bldg 550)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
110-86-1	Pyridine	5.00	Not Detected	--	nle	no
62-75-9	N-nitroso-dimethylamine	0.94	Not Detected	--	20	no
62-53-3	Aniline	0.15	Not Detected	--	nle	no
111-44-4	bis(2-Chloroethyl)ether	0.48	Not Detected	--	10	no
541-73-1	1,3-Dichlorobenzene	0.23	Not Detected	--	600	no
106-46-7	1,4-Dichlorobenzene	0.23	Not Detected	--	75	no
100-51-6	Benzyl alcohol	0.18	Not Detected	--	nle	no
95-50-1	1,2-Dichlorobenzene	0.16	Not Detected	--	600	no
108-60-1	bis(2-chloroisopropyl)ether	0.61	Not Detected	--	300	no
621-64-7	n-Nitroso-di-n-propylamine	0.33	Not Detected	--	20	no
67-72-1	Hexachloroethane	0.46	Not Detected	--	10	no
98-95-3	Nitrobenzene	0.35	Not Detected	--	10	no
78-59-1	Isophorone	0.46	Not Detected	--	100	no
111-91-1	bis(2-Chloroethoxy)methane	0.26	Not Detected	--	nle	no
120-82-1	1,2,4-Trichlorobenzene	0.25	Not Detected	--	9	no
91-20-3	Naphthalene	0.25	Not Detected	--	nle	no
106-47-8	4-Chloroaniline	0.19	Not Detected	--	nle	no
87-68-3	Hexachlorobutadiene	0.38	Not Detected	--	1	no
91-57-6	2-Methylnaphthalene	0.16	Not Detected	--	nle	no
77-47-4	Hexachlorocyclopentadiene	1.50	Not Detected	--	50	no
91-58-7	2-Chloronaphthalene	0.32	Not Detected	--	nle	no
88-74-4	2-Nitroaniline	0.21	Not Detected	--	nle	no
131-11-3	Dimethylphthalate	0.18	Not Detected	--	7000	no
208-96-8	Acenaphthylene	0.19	Not Detected	--	nle	no

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Matrix: (soil/water) WATER
 Date Sampled: 12/10/98 Location: 550 Lab Sample ID: 4137.02(Bldg 550)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
606-20-2	2,6-Dinitrotoluene	0.31	Not Detected	--	nle	no
99-09-2	3-Nitroaniline	0.26	Not Detected	--	nle	no
83-32-9	Acenaphthene	0.26	Not Detected	--	400	no
132-64-9	Dibenzofuran	0.32	Not Detected	--	nle	no
121-14-2	2,4-Dinitrotoluene	0.36	Not Detected	--	10	no
84-66-2	Diethylphthalate	0.82	Not Detected	--	5000	no
86-73-7	Fluorene	0.29	Not Detected	--	300	no
7005-72-3	4-Chlorophenyl-phenylether	0.31	Not Detected	--	nle	no
100-01-6	4-Nitroaniline	0.90	Not Detected	--	nle	no
86-30-6	n-Nitrosodiphenylamine	0.23	Not Detected	--	20	no
103-33-3	Azobenzene	0.80	Not Detected	--	nle	no
101-55-3	4-Bromophenyl-phenylether	0.55	Not Detected	--	nle	no
118-74-1	Hexachlorobenzene	0.82	Not Detected	--	10	no
85-01-8	Phenanthrene	0.18	Not Detected	--	nle	no
120-12-7	Anthracene	0.19	Not Detected	--	2000	no
84-74-2	Di-n-butylphthalate	0.23	Not Detected	--	900	no
206-44-0	Fluoranthene	0.41	Not Detected	--	300	no
92-87-5	Benzidine	1.45	Not Detected	--	50	no
129-00-0	Pyrene	0.32	Not Detected	--	200	no
85-68-7	Butylbenzylphthalate	0.47	Not Detected	--	100	no
56-55-3	Benzo[a]anthracene	0.22	Not Detected	--	10	no
91-94-1	3,3'-Dichlorobenzidine	0.46	Not Detected	--	60	no
218-01-9	Chrysene	0.20	Not Detected	--	20	no
117-81-7	bis(2-Ethylhexyl)phthalate	0.51	Not Detected	--	30	no
117-84-0	Di-n-octylphthalate	0.82	Not Detected	--	100	no
205-99-2	Benzo[b]fluoranthene	0.37	Not Detected	--	10	no
207-08-9	Benzo[k]fluoranthene	0.32	Not Detected	--	2	no
50-32-8	Benzo[a]pyrene	0.31	Not Detected	--	20	no
193-39-5	Indeno[1,2,3-cd]pyrene	0.79	Not Detected	--	20	no
53-70-3	Dibenz[a,h]anthracene	0.28	Not Detected	--	20	no
191-24-2	Benzo[g,h,i]perylene	0.40	Not Detected	--	nle	no

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 1/13/99Location: 550Lab Sample ID: 4187.01(Trip Blank)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
107028	Acrolein	1.85	Not Detected	--	50	no
107131	Acrylonitrile	2.78	Not Detected	--	50	no
75650	tert-Butyl alcohol	8.52	Not Detected	--	nle	no
1634044	Methyl-tert-Butyl ether	0.16	Not Detected	--	nle	no
108203	Di-isopropyl ether	0.25	Not Detected	--	nle	no
	Dichlorodifluoromethane	1.68	Not Detected	--	nle	no
74-87-3	Chloromethane	1.16	Not Detected	--	30	no
75-01-4	Vinyl Chloride	1.06	Not Detected	--	5	no
74-83-9	Bromomethane	1.10	Not Detected	--	10	no
75-00-3	Chloroethane	1.01	Not Detected	--	nle	no
75-69-4	Trichlorofluoromethane	0.50	Not Detected	--	nle	no
75-35-4	1, 1-Dichloroethene	0.24	Not Detected	--	2	no
67-64-1	Acetone	1.36	Not Detected	--	700	no
75-15-0	Carbon Disulfide	0.46	Not Detected	--	nle	no
75-09-2	Methylene Chloride	0.24	Not Detected	--	2	no
156-60-5	trans-1,2-Dichloroethene	0.16	Not Detected	--	100	no
75-35-3	1,1-Dichloroethane	0.12	Not Detected	--	70	no
108-05-4	Vinyl Acetate	0.78	Not Detected	--	nle	no
78-93-3	2-Butanone	0.62	Not Detected	--	300	no
156-59-2	cis-1,2-Dichloroethene	0.17	Not Detected	--	10	no
67-66-3	Chloroform	0.30	Not Detected	--	6	no
75-55-6	1,1,1-Trichloroethane	0.23	Not Detected	--	30	no
56-23-5	Carbon Tetrachloride	0.47	Not Detected	--	2	no
71-43-2	Benzeze	0.23	Not Detected	--	1	no
107-06-2	1,2-Dichloroethane	0.18	Not Detected	--	2	no
79-01-6	*Trichloroethene	0.23	5.72 ug/L	--	1	yes
78-87-5	1, 2-Dichloropropane	0.40	Not Detected	--	1	no
75-27-4	Bromodichloromethane	0.55	Not Detected	--	1	no
110-75-8	2-Chloroethyl vinyl ether	0.65	Not Detected	--	nle	no
10061-01-5	cis-1,3-Dichloropropene	0.69	Not Detected	--	nle	no

Note:

* Compound exceeds criteria due to laboratory contamination

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 1/13/99Location: 550Lab Sample ID: 4187.01 (Trip Blank)

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

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 1/13/99Location: 550Lab Sample ID: 4187.02(Field Blank)

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

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 1/13/99Location: 550Lab Sample ID: 4187.02(Field Blank)

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

Lab Name: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 1/13/99Location: 550Lab Sample ID: 4187.03(Bldg 550)

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: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 1/13/99Location: 550Lab Sample ID: 4187.03(Bldg 550)

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

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 1/13/99Location: 550Lab Sample ID: 4187.05(Dup 550)

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: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 1/13/99Location: 550Lab Sample ID: 4187.05(Dup 550)

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: 1/13/99Location: 550Lab Sample ID: 4187.02(Field Blank)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
110-86-1	Pyridine	5.00	Not Detected	--	nle	no
62-75-9	N-nitroso-dimethylamine	0.94	Not Detected	--	20	no
62-53-3	Aniline	0.15	Not Detected	--	nle	no
111-44-4	bis(2-Chloroethyl)ether	0.48	Not Detected	--	10	no
541-73-1	1,3-Dichlorobenzene	0.23	Not Detected	--	600	no
106-46-7	1,4-Dichlorobenzene	0.23	Not Detected	--	75	no
100-51-6	Benzyl alcohol	0.18	Not Detected	--	nle	no
95-50-1	1,2-Dichlorobenzene	0.16	Not Detected	--	600	no
108-60-1	bis(2-chloroisopropyl)ether	0.61	Not Detected	--	300	no
621-64-7	n-Nitroso-di-n-propylamine	0.33	Not Detected	--	20	no
67-72-1	Hexachloroethane	0.46	Not Detected	--	10	no
98-95-3	Nitrobenzene	0.35	Not Detected	--	10	no
78-59-1	Isophorone	0.46	Not Detected	--	100	no
111-91-1	bis(2-Chloroethoxy)methane	0.26	Not Detected	--	nle	no
120-82-1	1,2,4-Trichlorobenzene	0.25	Not Detected	--	9	no
91-20-3	Naphthalene	0.25	Not Detected	--	nle	no
106-47-8	4-Chloroaniline	0.19	Not Detected	--	nle	no
87-68-3	Hexachlorobutadiene	0.38	Not Detected	--	1	no
91-57-6	2-Methylnaphthalene	0.16	Not Detected	--	nle	no
77-47-4	Hexachlorocyclopentadiene	1.50	Not Detected	--	50	no
91-58-7	2-Chloronaphthalene	0.32	Not Detected	--	nle	no
88-74-4	2-Nitroaniline	0.21	Not Detected	--	nle	no
131-11-3	Dimethylphthalate	0.18	Not Detected	--	7000	no
208-96-8	Acenaphthylene	0.19	Not Detected	--	nle	no

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 1/13/99Location: 550Lab Sample ID: 4187.02(Field Blank)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
606-20-2	2,6-Dinitrotoluene	0.31	Not Detected	--	nle	no
99-09-2	3-Nitroaniline	0.26	Not Detected	--	nle	no
83-32-9	Acenaphthene	0.26	Not Detected	--	400	no
132-64-9	Dibenzofuran	0.32	Not Detected	--	nle	no
121-14-2	2,4-Dinitrotoluene	0.36	Not Detected	--	10	no
84-66-2	Diethylphthalate	0.82	Not Detected	--	5000	no
86-73-7	Fluorene	0.29	Not Detected	--	300	no
7005-72-3	4-Chlorophenyl-phenylether	0.31	Not Detected	--	nle	no
100-01-6	4-Nitroaniline	0.90	Not Detected	--	nle	no
86-30-6	n-Nitrosodiphenylamine	0.23	Not Detected	--	20	no
103-33-3	Azobenzene	0.80	Not Detected	--	nle	no
101-55-3	4-Bromophenyl-phenylether	0.55	Not Detected	--	nle	no
118-74-1	Hexachlorobenzene	0.82	Not Detected	--	10	no
85-01-8	Phenanthrene	0.18	Not Detected	--	nle	no
120-12-7	Anthracene	0.19	Not Detected	--	2000	no
84-74-2	Di-n-butylphthalate	0.23	Not Detected	--	900	no
206-44-0	Fluoranthene	0.41	Not Detected	--	300	no
92-87-5	Benzidine	1.45	Not Detected	--	50	no
129-00-0	Pyrene	0.32	Not Detected	--	200	no
85-68-7	Butylbenzylphthalate	0.47	Not Detected	--	100	no
56-55-3	Benzo[a]anthracene	0.22	Not Detected	--	10	no
91-94-1	3,3'-Dichlorobenzidine	0.46	Not Detected	--	60	no
218-01-9	Chrysene	0.20	Not Detected	--	20	no
117-81-7	bis(2-Ethylhexyl)phthalate	0.51	Not Detected	--	30	no
117-84-0	Di-n-octylphthalate	0.82	Not Detected	--	100	no
205-99-2	Benzo[b]fluoranthene	0.37	Not Detected	--	10	no
207-08-9	Benzo[k]fluoranthene	0.32	Not Detected	--	2	no
50-32-8	Benzo[a]pyrene	0.31	Not Detected	--	20	no
193-39-5	Indeno[1,2,3-cd]pyrene	0.79	Not Detected	--	20	no
53-70-3	Dibenz[a,h]anthracene	0.28	Not Detected	--	20	no
191-24-2	Benzo[g,h,i]perylene	0.40	Not Detected	--	nle	no

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 1/13/99Location: 550Lab Sample ID: 4187.04(Bldg 550)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
110-86-1	Pyridine	5.00	Not Detected	--	nle	no
62-75-9	N-nitroso-dimethylamine	0.94	Not Detected	--	20	no
62-53-3	Aniline	0.15	Not Detected	--	nle	no
111-44-4	bis(2-Chloroethyl)ether	0.48	Not Detected	--	10	no
541-73-1	1,3-Dichlorobenzene	0.23	Not Detected	--	600	no
106-46-7	1,4-Dichlorobenzene	0.23	Not Detected	--	75	no
100-51-6	Benzyl alcohol	0.18	Not Detected	--	nle	no
95-50-1	1,2-Dichlorobenzene	0.16	Not Detected	--	600	no
108-60-1	bis(2-chloroisopropyl)ether	0.61	Not Detected	--	300	no
621-64-7	n-Nitroso-di-n-propylamine	0.33	Not Detected	--	20	no
67-72-1	Hexachloroethane	0.46	Not Detected	--	10	no
98-95-3	Nitrobenzene	0.35	Not Detected	--	10	no
78-59-1	Isophorone	0.46	Not Detected	--	100	no
111-91-1	bis(2-Chloroethoxy)methane	0.26	Not Detected	--	nle	no
120-82-1	1,2,4-Trichlorobenzene	0.25	Not Detected	--	9	no
91-20-3	Naphthalene	0.25	42.80 ug/L	--	nle	no
106-47-8	4-Chloroaniline	0.19	Not Detected	--	nle	no
87-68-3	Hexachlorobutadiene	0.38	Not Detected	--	1	no
91-57-6	2-Methylnaphthalene	0.16	53.52 ug/L	--	nle	no
77-47-4	Hexachlorocyclopentadiene	1.50	Not Detected	--	50	no
91-58-7	2-Chloronaphthalene	0.32	Not Detected	--	nle	no
88-74-4	2-Nitroaniline	0.21	Not Detected	--	nle	no
131-11-3	Dimethylphthalate	0.18	Not Detected	--	7000	no
208-96-8	Acenaphthylene	0.19	Not Detected	--	nle	no

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 1/13/99Location: 550Lab Sample ID: 4187.04(Bldg 550)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
606-20-2	2,6-Dinitrotoluene	0.31	Not Detected	--	nle	no
99-09-2	3-Nitroaniline	0.26	Not Detected	--	nle	no
83-32-9	Acenaphthene	0.26	5.26 ug/L	--	400	no
132-64-9	Dibenzofuran	0.32	3.01 ug/L	--	nle	no
121-14-2	2,4-Dinitrotoluene	0.36	Not Detected	--	10	no
84-66-2	Diethylphthalate	0.82	Not Detected	--	5000	no
86-73-7	Fluorene	0.29	7.02 ug/L	--	300	no
7005-72-3	4-Chlorophenyl-phenylether	0.31	Not Detected	--	nle	no
100-01-6	4-Nitroaniline	0.90	Not Detected	--	nle	no
86-30-6	n-Nitrosodiphenylamine	0.23	Not Detected	--	20	no
103-33-3	Azobenzene	0.80	Not Detected	--	nle	no
101-55-3	4-Bromophenyl-phenylether	0.55	Not Detected	--	nle	no
118-74-1	Hexachlorobenzene	0.82	Not Detected	--	10	no
85-01-8	Phenanthrene	0.18	10.62 ug/L	--	nle	no
120-12-7	Anthracene	0.19	Not Detected	--	2000	no
84-74-2	Di-n-butylphthalate	0.23	Not Detected	--	900	no
206-44-0	Fluoranthene	0.41	Not Detected	--	300	no
92-87-5	Benzidine	1.45	Not Detected	--	50	no
129-00-0	Pyrene	0.32	Not Detected	--	200	no
85-68-7	Butylbenzylphthalate	0.47	Not Detected	--	100	no
56-55-3	Benzo[a]anthracene	0.22	Not Detected	--	10	no
91-94-1	3,3'-Dichlorobenzidine	0.46	Not Detected	--	60	no
218-01-9	Chrysene	0.20	Not Detected	--	20	no
117-81-7	bis(2-Ethylhexyl)phthalate	0.51	Not Detected	--	30	no
117-84-0	Di-n-octylphthalate	0.82	Not Detected	--	100	no
205-99-2	Benzo[b]fluoranthene	0.37	Not Detected	--	10	no
207-08-9	Benzo[k]fluoranthene	0.32	Not Detected	--	2	no
50-32-8	Benzo[a]pyrene	0.31	Not Detected	--	20	no
193-39-5	Indeno[1,2,3-cd]pyrene	0.79	Not Detected	--	20	no
53-70-3	Dibenz[a,h]anthracene	0.28	Not Detected	--	20	no
191-24-2	Benzo[g,h,i]perylene	0.40	Not Detected	--	nle	no

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 1/13/99Location: 550Lab Sample ID: 4187.05(Dup 550)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
110-86-1	Pyridine	5.00	Not Detected	--	nle	no
62-75-9	N-nitroso-dimethylamine	0.94	Not Detected	--	20	no
62-53-3	Aniline	0.15	Not Detected	--	nle	no
111-44-4	bis(2-Chloroethyl)ether	0.48	Not Detected	--	10	no
541-73-1	1,3-Dichlorobenzene	0.23	Not Detected	--	600	no
106-46-7	1,4-Dichlorobenzene	0.23	Not Detected	--	75	no
100-51-6	Benzyl alcohol	0.18	Not Detected	--	nle	no
95-50-1	1,2-Dichlorobenzene	0.16	Not Detected	--	600	no
108-60-1	bis(2-chloroisopropyl)ether	0.61	Not Detected	--	300	no
621-64-7	n-Nitroso-di-n-propylamine	0.33	Not Detected	--	20	no
67-72-1	Hexachloroethane	0.46	Not Detected	--	10	no
98-95-3	Nitrobenzene	0.35	Not Detected	--	10	no
78-59-1	Isophorone	0.46	Not Detected	--	100	no
111-91-1	bis(2-Chloroethoxy)methane	0.26	Not Detected	--	nle	no
120-82-1	1,2,4-Trichlorobenzene	0.25	Not Detected	--	9	no
91-20-3	Naphthalene	0.25	37.53 ug/L	--	nle	no
106-47-8	4-Chloroaniline	0.19	Not Detected	--	nle	no
87-68-3	Hexachlorobutadiene	0.38	Not Detected	--	1	no
91-57-6	2-Methylnaphthalene	0.16	48.65 ug/L	--	nle	no
77-47-4	Hexachlorocyclopentadiene	1.50	Not Detected	--	50	no
91-58-7	2-Chloronaphthalene	0.32	Not Detected	--	nle	no
88-74-4	2-Nitroaniline	0.21	Not Detected	--	nle	no
131-11-3	Dimethylphthalate	0.18	Not Detected	--	7000	no
208-96-8	Acenaphthylene	0.19	Not Detected	--	nle	no

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name: FMETLNJDEP # 13461Matrix: (soil/water) WATERDate Sampled: 1/13/99Location: 550Lab Sample ID: 4187.05(Dup 550)

CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
606-20-2	2,6-Dinitrotoluene	0.31	Not Detected	--	nle	no
99-09-2	3-Nitroaniline	0.26	Not Detected	--	nle	no
83-32-9	Acenaphthene	0.26	4.24 ug/L	--	400	no
132-64-9	Dibenzofuran	0.32	2.56 ug/L	--	nle	no
121-14-2	2,4-Dinitrotoluene	0.36	Not Detected	--	10	no
84-66-2	Diethylphthalate	0.82	Not Detected	--	5000	no
86-73-7	Fluorene	0.29	5.52 ug/L	--	300	no
7005-72-3	4-Chlorophenyl-phenylether	0.31	Not Detected	--	nle	no
100-01-6	4-Nitroaniline	0.90	Not Detected	--	nle	no
86-30-6	n-Nitrosodiphenylamine	0.23	Not Detected	--	20	no
103-33-3	Azobenzene	0.80	Not Detected	--	nle	no
101-55-3	4-Bromophenyl-phenylether	0.55	Not Detected	--	nle	no
118-74-1	Hexachlorobenzene	0.82	Not Detected	--	10	no
85-01-8	Phenanthrene	0.18	7.74 ug/L	--	nle	no
120-12-7	Anthracene	0.19	Not Detected	--	2000	no
84-74-2	Di-n-butylphthalate	0.23	Not Detected	--	900	no
206-44-0	Fluoranthene	0.41	Not Detected	--	300	no
92-87-5	Benzidine	1.45	Not Detected	--	50	no
129-00-0	Pyrene	0.32	Not Detected	--	200	no
85-68-7	Butylbenzylphthalate	0.47	Not Detected	--	100	no
56-55-3	Benzo[a]anthracene	0.22	Not Detected	--	10	no
91-94-1	3,3'-Dichlorobenzidine	0.46	Not Detected	--	60	no
218-01-9	Chrysene	0.20	Not Detected	--	20	no
117-81-7	bis(2-Ethylhexyl)phthalate	0.51	Not Detected	--	30	no
117-84-0	Di-n-octylphthalate	0.82	Not Detected	--	100	no
205-99-2	Benzo[b]fluoranthene	0.37	Not Detected	--	10	no
207-08-9	Benzo[k]fluoranthene	0.32	Not Detected	--	2	no
50-32-8	Benzo[a]pyrene	0.31	Not Detected	--	20	no
193-39-5	Indeno[1,2,3-cd]pyrene	0.79	Not Detected	--	20	no
53-70-3	Dibenz[a,h]anthracene	0.28	Not Detected	--	20	no
191-24-2	Benzo[g,h,i]perylene	0.40	Not Detected	--	nle	no

FIGURES

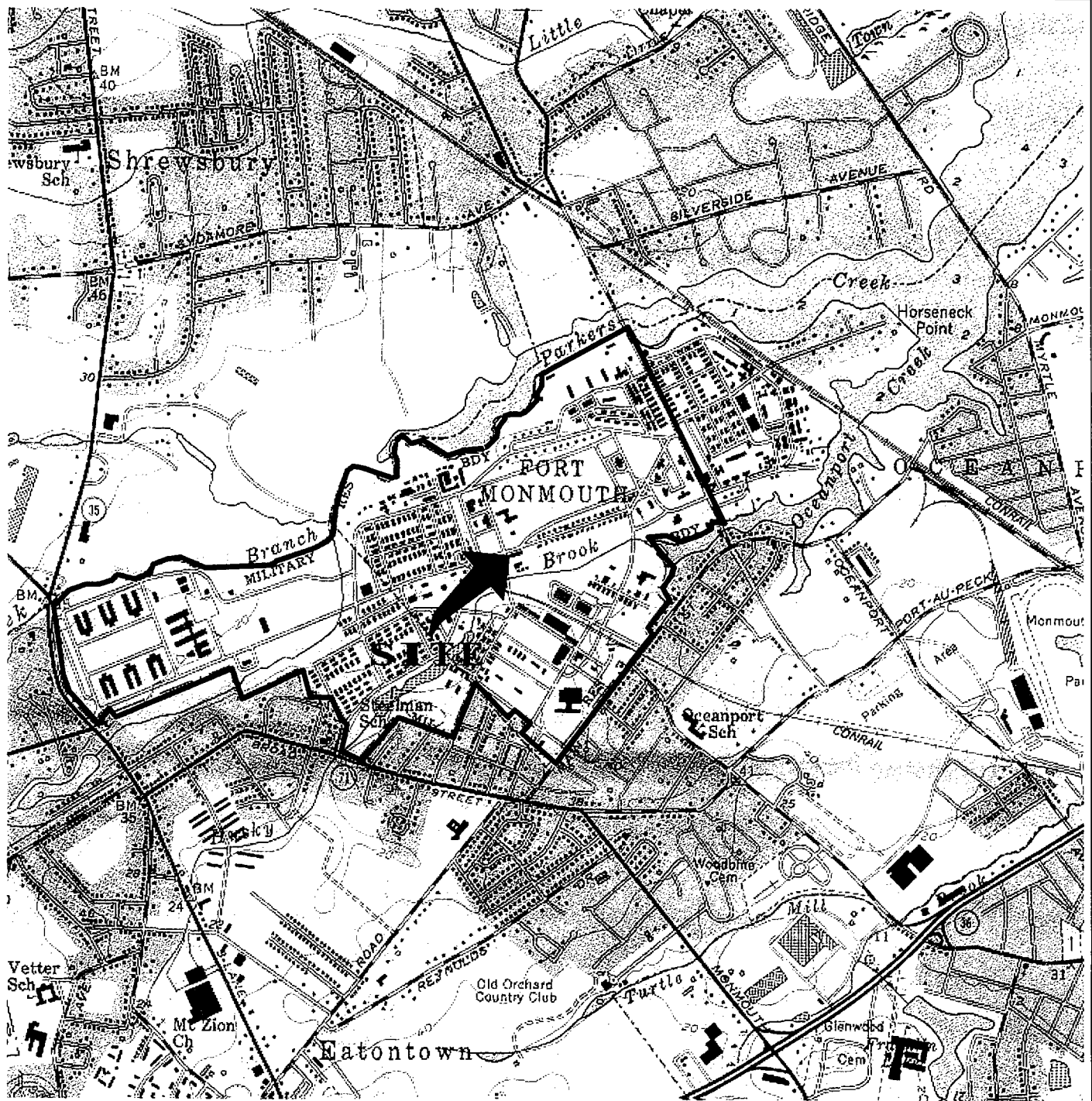


FIGURE 1

SITE LOCATION MAP
 Building 550
 Main Post-West
 Fort Monmouth Army Base
 Monmouth County, NJ



SMC Environmental
Services Group
 Engineers, Managers, Scientists & Planners
 Valley Forge, PA.

SCALE: 1"= 2000'

DATE: JUNE 1997

LONG BRANCH, N. J.

40073-C8-TF-024

1954

PHOTOREVISED 1981
 DMA 6164 I SE-SERIES V822

NEW
 JERSEY

QUADRANGLE LOCATION

Mapped, edited and published by the Geological Survey

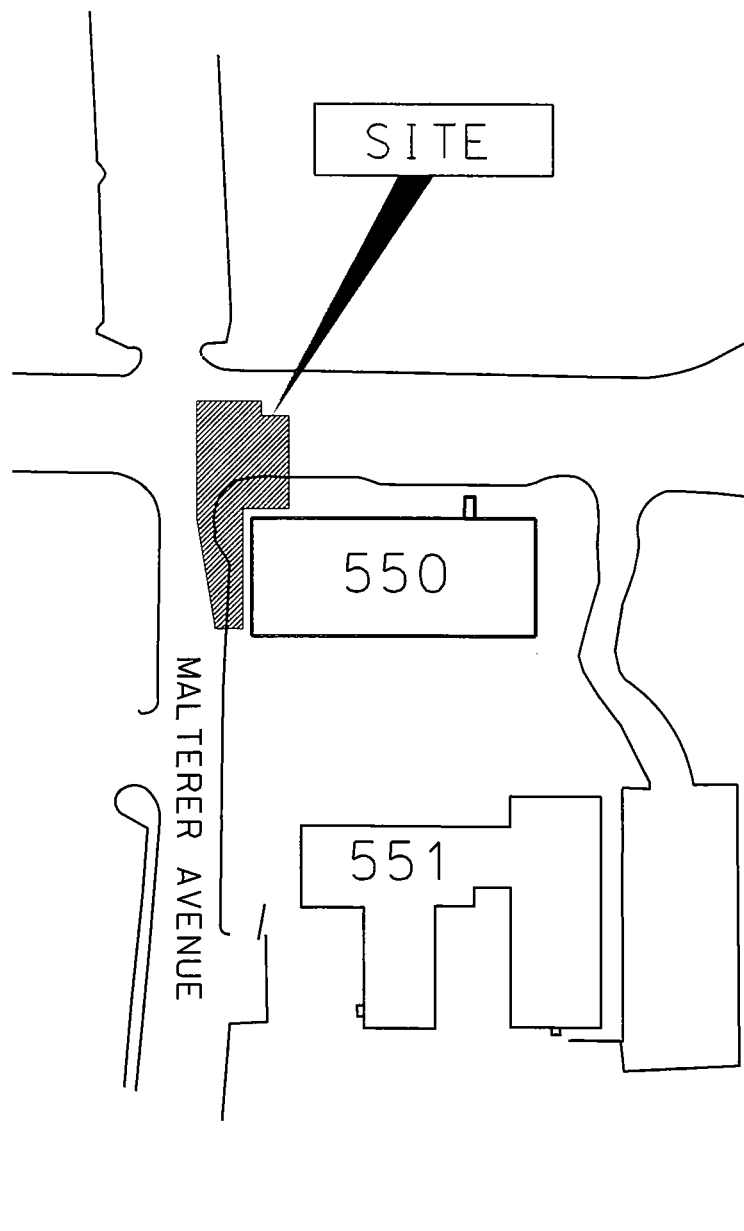


FIGURE 2
SITE MAP
BUILDING 550
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

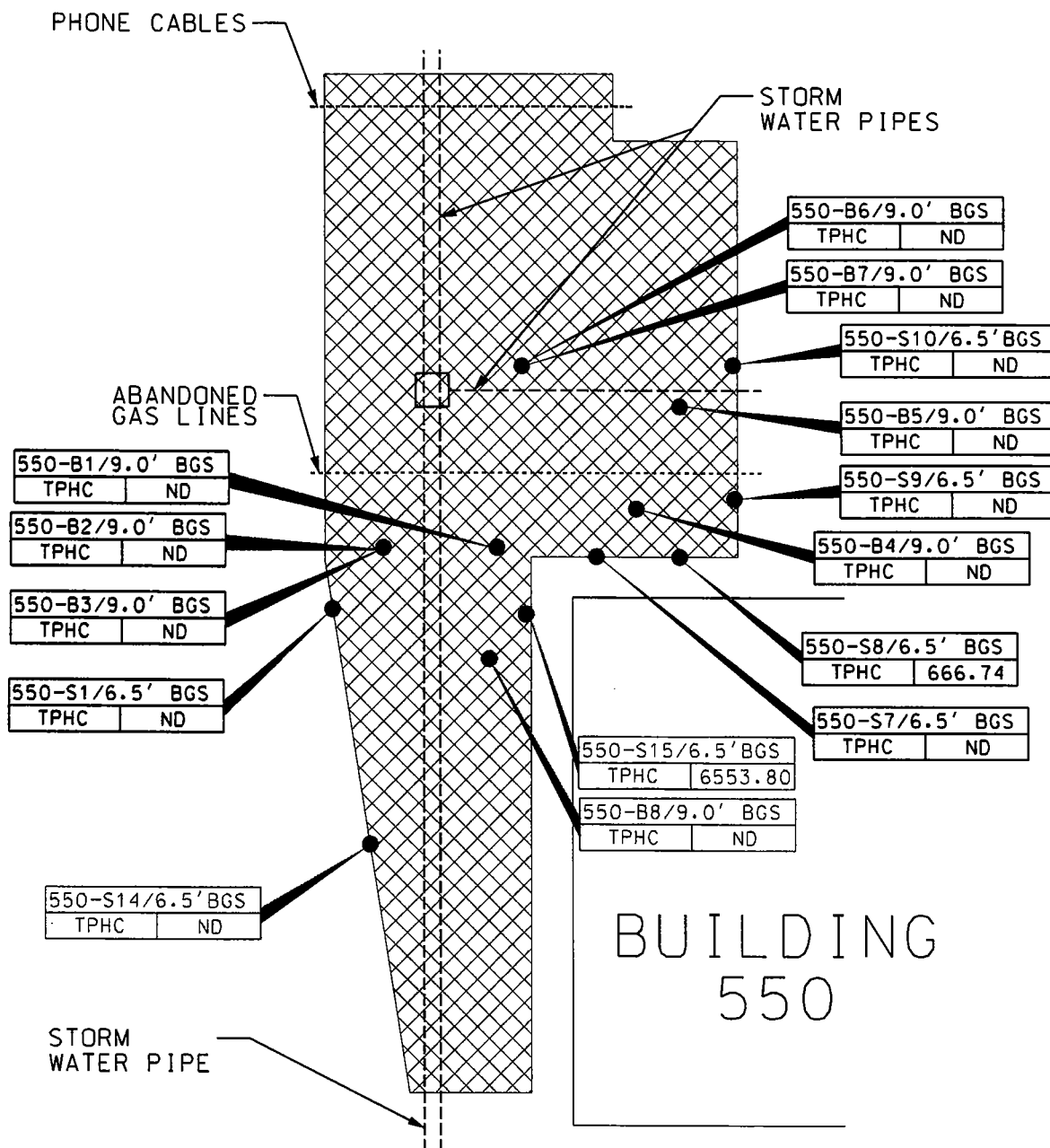


SMC ENVIRONMENTAL
SERVICES GROUP

Engineers, Managers, Scientists & Planners
VALLEY FORGE, PA.

SCALE: 1"=100'

DATE: JUNE 1997



LEGEND

- SOIL SAMPLE LOCATION (JUNE 16, 1997)
- SOIL SAMPLE LOCATION (JUNE 24-25, 1997)
- SOIL SAMPLE LOCATION (JUNE 28, 1997)

▨ LIMIT OF EXCAVATION (JULY 28, 1997)

NOTES:

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

FIGURE 3
SOIL SAMPLING LOCATION MAP
BUILDING 550
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

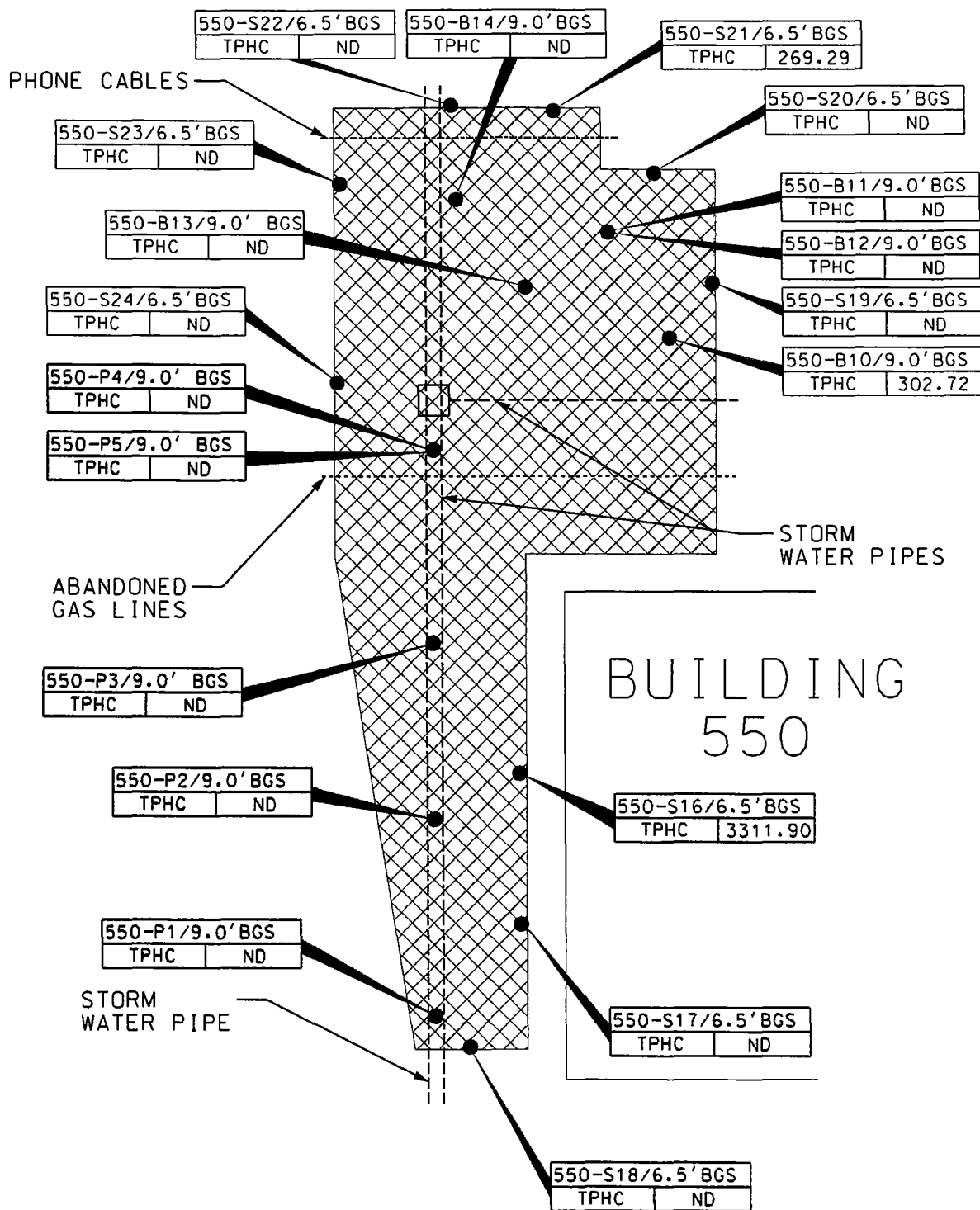


SMC ENVIRONMENTAL
SERVICES GROUP

Engineers, Managers, Scientists & Planners
VALLEY FORGE, PA.

SCALE: 1"=20'

DATE: JUNE 1997



LEGEND

- SOIL SAMPLE LOCATION (JULY 1, 1997)
- SOIL SAMPLE LOCATION (JULY 15, 1997)
- SOIL SAMPLE LOCATION (JULY 28, 1997)

▨ LIMIT OF EXCAVATION (JULY 28, 1997)

NOTES:

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

FIGURE 3
SOIL SAMPLING LOCATION MAP
BUILDING 550
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ



SMC ENVIRONMENTAL
SERVICES GROUP

Engineers, Managers, Scientists & Planners
VALLEY FORGE, PA.

SCALE: 1"=20'

DATE: JUNE 1997

APPENDIX A
SOIL ANALYTICAL DATA PACKAGE

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

REPORT OF ANALYSIS

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

Project: Total Petroleum Hydrocarbons
96-1226
550

Project # 2699
Date Rec. 06/16/97
Date Comp. 06/19/97
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



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

Chain of Custody Record

[illegible]

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

Client :	U.S. Army	Lab. ID # :	2699
	DPW. SELFM-PW-EV	Date Rec'd:	16-Jun-97
	Bldg. 173	Analysis Start:	19-Jun-97
	Ft. Monmouth, NJ 07703	Analysis Complete:	19-Jun-97

Analysis:	OQA-QAM-025	UST Reg. #:	
Matrix:	Soil	Closure #:	
Analyst:	P. Skelton	DICAR #:	
Ext. Meth:	Shake	Location #:	550

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
2699.01	550-B1	1.00	15.37	81.75	187	ND
2699.02	550-B2	1.00	15.24	76.54	201	ND
2699.03	550-B3	1.00	15.51	77.28	196	ND
2699.04	550-S1	1.00	15.93	84.61	174	ND
METHOD BLANK	17-Jun-97	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
 Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature

Date 10/29/96

Laboratory Certification #13461

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

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

REPORT OF ANALYSIS

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

Project: Total Petroleum Hydrocarbons
96-1226
Bldg.. 550

Project # 2709
Date Rec. 06/19/97
Date Comp. 06/19/97
Released by:



Daniel K. Wright
Laboratory Director

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X Quality Control Spike Summary	11
X Raw Sample Data	12-13
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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.

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

PHC Conformance/Non-conformance Summary Report

	No	Yes
1. Method Detection Limits provided.	—	✓
2. Method Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank. _____ _____	✓	—
3. Matrix Spike Results Summary Meet Criteria. (If not met, list the sample and corresponding recovery which falls outside the acceptable range). 2692.56 = 135% _____	✓	—
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

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 1/26/93



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
96-1226
Bldg.. 550

Project # 2735
Date Rec. 06/25/97
Date Comp. 06/27/97
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.

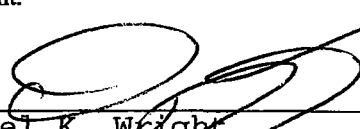
The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

	<u>No</u>	<u>Yes</u>
1. Method Detection Limits provided.	<u>—</u>	<u>✓</u>
2. Method Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank. _____ _____	<u>✓</u>	<u>—</u>
3. Matrix Spike Results Summary Meet Criteria. (If not met, list the sample and corresponding recovery which falls outside the acceptable range). <u>7697.04 = 133%</u> _____	<u>✓</u>	<u>—</u>
4. Duplicate Results Summary Meet Criteria. _____ (If not met, list the sample and corresponding recovery which falls outside the acceptable range). _____	<u>—</u>	<u>✓</u>
5. IR Spectra submitted for standards, blanks, & samples	<u>—</u>	<u>NA</u>
6. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.	<u>—</u>	<u>✓</u>
7. Analysis holding time met. (If not met, list number of days exceeded for each sample) _____ _____	<u>—</u>	<u>✓</u>
Additional Comments: _____ _____ _____		

Laboratory Authentication Statement

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



Daniel K. Wright
Laboratory Manager



Fort Monmouth Environmental Testing Laboratory

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

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

NJDEP Certification #13461

Chain of Custody Record

Customer: SMC/Chuck Appleby		Project No: 96-1226		Analysis Parameters				Comments: RUSH		
Phone #: 610 265-2700		Location: 550								
() DERA (X) OMA () Other:										
Samplers Name / Company: David H. Daniels				Sample #						
Lab Sample I.D.	Sample Location	Date	Time	Type	bottles	TPHC	% Solids	Vot15	Lead	Remarks / Preservation Method
2735.01	550-57	6-24-97	8:30	soil	2	X	X	?		If TPHC over 1,000 Oue vot15
02	550-58		8:35		2					
03	550-59		8:40		1					
04	550-B4		8:45		1					
05	550-B5		15:30		1					
06	550-510		15:35		1					
07	550-511		15:40		1					
08	550-B6		18:10		1					
09	550-B7		18:15		1					
10	550-512	6-25-97	8:30		2	X	X	X	X	
Relinquished by (signature): David H. Daniels		Date/Time: 6-25-97 9:00		Received by (signature): [Signature]		Relinquished by (signature):		Date/Time:		Received by (signature):
Relinquished by (signature):		Date/Time:		Received by (signature):		Relinquished by (signature):		Date/Time:		Received by (signature):
Report Type: () Full (X) Reduced () Standard () Screen / non-certified						Remarks:				
Turnaround time: () Standard 4 wks (X) Rush Days () ASAP Verbal Hrs.						No Rush on lead				

RUSH

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
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4. Document paginated and legible
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6. Samples submitted to lab within 48 hours of sample collection
7. Methodology Summary submitted
8. Laboratory Chronicle and Holding Time Check submitted
9. Results submitted on a dry weight basis
10. Method Detection Limits submitted
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP

✓
✓
✓
✓
✓
✓
✓
✓
✓
✓
✓

Laboratory Manager or Environmental Consultant's Signature

Date 1/21/94

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: Total Petroleum Hydrocarbons
96-1226
Bldg. 550

Project # 2748
Date Rec. 06/26/97
Date Comp. 06/27/97
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.

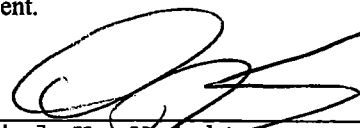
The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

	<u>No</u>	<u>Yes</u>
1. Method Detection Limits provided.	<u>—</u>	<u>✓</u>
2. Method Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank.	<u>✓</u>	<u>—</u>
3. Matrix Spike Results Summary Meet Criteria. (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	<u>✓</u>	<u>—</u>
<u>2746.01 mg = 223% High TPH sample</u>		
4. Duplicate Results Summary Meet Criteria. (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	<u>—</u>	<u>✓</u>
5. IR Spectra submitted for standards, blanks, & samples	<u>—</u>	<u>NA</u>
6. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.	<u>—</u>	<u>✓</u>
7. Analysis holding time met. (If not met, list number of days exceeded for each sample)	<u>—</u>	<u>✓</u>
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



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

Chain of Custody Record

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

Client :	U.S. Army	Lab. ID # :	2748
	DPW. SELFM-PW-EV	Date Rec'd:	26-Jun-97
	Bldg. 173	Analysis Start:	27-Jun-97
	Ft. Monmouth, NJ 07703	Analysis Complete:	27-Jun-97

Analysis:	OQA-QAM-025	UST Reg. #:	
Matrix:	Soil	Closure #:	
Analyst:	P. Skelton	DICAR #:	
Ext. Meth:	Shake	Location #:	550

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
2748.01	550-S13	1.00	16.96	83.96	165	5662.78
2748.02	550-S14	1.00	15.34	84.07	182	ND
2748.03	550-S15	1.00	16.79	85.80	163	6553.80
2748.04	550-B8	1.00	15.06	81.80	191	ND
METHOD BLANK	27-Jun-97	1.00	15.00	100.00	157	ND

ND = Not Detected
MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature

Date 3 / 26 / 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: Total Petroleum Hydrocarbons
96-1226
Bldg. 550

Project # 2763
Date Rec. 07/01/97
Date Comp. 07/03/97
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.

No Yes

-



NA

- ✓

- _____

Additional Comments: _____

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Daniel K. Wright
Laboratory Manager

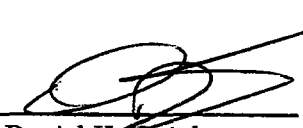
Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	Lab. ID # :	2763
	DPW. SELFM-PW-EV	Date Rec'd:	01-Jul-97
	Bldg. 173	Analysis Start:	02-Jul-97
	Ft. Monmouth, NJ 07703	Analysis Complete:	03-Jul-97

Analysis:	OQA-QAM-025	UST Reg. #:	
Matrix:	Soil	Closure #:	
Analyst:	P. Skelton	DICAR #:	
Ext. Meth:	Shake	Location #:	550

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
2763.07	550-S16	1.00	15.35	80.98	189	3311.90
2763.08	550-S17	1.00	15.19	85.49	181	ND
2763.09	550-B9	2.00	15.66	74.58	201	20565.24
2763.10	550-S18	1.00	15.01	84.10	186	ND
METHOD BLANK	2-Jul-97	1.00	15.00	100.00	157	ND

ND = Not Detected
MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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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

✓
✓
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✓
✓
✓
✓
✓

Laboratory Manager or Environmental Consultant's Signature

Date 1/26/96



Laboratory Certification #13461

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

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

REPORT OF ANALYSIS

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

Project: Total Petroleum Hydrocarbons
96-1226
550

Project # 2799
Date Rec. 07/15/97
Date Comp. 07/17/97
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.

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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). <u>276.2</u> <u>125.6%</u>	☒	—
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	—	<u>NA</u>
6. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.	—	☒
7. Analysis holding time met. (If not met, list number of days exceeded for each sample) _____ _____	—	☒
Additional Comments: _____ _____ _____		

Laboratory Authentication Statement

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


Daniel K. Wright
Laboratory Manager



Fort Monmouth Environmental Testing Laboratory

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

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

NJDEP Certification #13461

Chain of Custody Record

Customer: <u>SNC / Chuck Appleby</u>		Project No: <u>61226</u>		Analysis Parameters								Comments:							
Phone #: <u>610 265 2700</u>		Location: <u>550</u>		TPHC 0% Solids															
() DERA (X) OMA () Other: _____																			
Samplers Name / Company: <u>David H. Daniels / SNC</u>				Sample #	Remarks / Preservation Method														
Lab Sample I.D.	Sample Location	Date	Time	Type									bottles						
2799.01	550-P1	7-15-97	8:30	Soil	1	X	X												
↓	02 550-P2	↓	8:35	↓	↓	↓	↓												
↓	03 550-P3	↓	8:40	↓	↓	↓	↓												
↓	04 550-P4	↓	8:45	↓	↓	↓	↓												
↓	05 550-P5	↓	8:50	↓	↓	↓	↓												
Relinquished by (signature): <u>[Signature]</u>		Date/Time: <u>7-15-97 15:50</u>		Received by (signature): <u>[Signature]</u>		Relinquished by (signature):		Date/Time:		Received by (signature):									
Relinquished by (signature):		Date/Time:		Received by (signature):		Relinquished by (signature):		Date/Time:		Received by (signature):									
Report Type: () Full, (X) Reduced, () Standard, () Screen / non-certified						Remarks:													
Turnaround time: () Standard 4 wks, (X) Rush _____ Days, (X) ASAP Verbal _____ Hrs.																			

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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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 6/25/97

Laboratory Certification #13461

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

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

REPORT OF ANALYSIS

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

Project: Total Petroleum Hydrocarbons
96-1226
550

Project # 2838
Date Rec. 07/28/97
Date Comp. 07/29/97
Released by:



Daniel K. Wright
Laboratory Director

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Method Summary

NJDEP Method OQA-OAM-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

Fort Monmouth Environmental Testing Laboratory

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

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

NJDEP Certification #13461

Chain of Custody Record

Customer: <u>SMC/Chuck Appleby</u>		Project No: <u>96-1226</u>		Analysis Parameters								Comments: <u>RUSH</u>		
Phone #: <u>610 265-2700</u>		Location: <u>550</u>												
() DERA (X) DEMA () Other: _____														
Samplers Name / Company: <u>David H. Daniels / SMC</u>				Sample #										
Lab Sample I.D.	Sample Location	Date	Time	Type	bottles	TPH	HC	% Solids						Remarks / Preservation Method
2838-01	550-B10	7-28-97	10:30	Soil	1	X	X							
.02	550-B11		10:35											
.03	550-B12		10:40											
.04	550-B13		10:45											
.05	550-B14		10:50											
.06	550-S19		10:55											
.07	550-S20		11:00											
.08	550-S21		11:05											
.09	550-S22		11:10											
.10	550-S23		11:15											
.11	550-S24	✓	11:20	✓	✓	✓	✓							
Relinquished by (signature): <u>[Signature]</u>		Date/Time: <u>7-28-97 11:55</u>		Received by (signature): <u>[Signature]</u>		Relinquished by (signature):		Date/Time:		Received by (signature):				
Relinquished by (signature):		Date/Time:		Received by (signature):		Relinquished by (signature):		Date/Time:		Received by (signature):				
Report Type: () Full, (X) Reduced, () Standard, () Screen / non-certified						Remarks: <u>RUSH</u>								
Turnaround time: () Standard 4 wks, () Rush Days, (X) ASAP Verbal Hrs.														

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 11 / 29 / 97



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
96-1226
550

Project # 2748
Date Rec. 06/26/97
Date Compl. 07/09/97
Released by:



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)	<u>Y</u>
2. Retention times for chromatograms provided	<u>Y</u>
3. GC/MS Tune Specifications	
a. BFB Meet Criteria	<u>Y</u>
b. DFTPP Meet Criteria	<u> </u>
4. GC/MS Tuning Frequency - Performed every 24 hours for 600 series and 12 hours for 8000 series	<u>Y</u>
5. GC/MS Calibration - Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series	<u>Y</u>
6. GC/MS Calibration Requirements	
a. Calibration Check Compounds Meet Criteria	<u>Y</u>
b. System Performance Check Compounds Meet Criteria	<u>Y</u>
7. Blank Contamination - If yes, List compounds and concentrations in each blank:	<u>N</u>
a. VOA Fraction _____	
b. B/N Fraction _____	
c. Acid Fraction _____	
8. Surrogate Recoveries Meet Criteria	<u>2</u>
If not met, list those compounds and their recoveries which fall outside the acceptable range:	
a. VOA Fraction <u>BFB 157%</u>	
b. B/N Fraction _____	
c. Acid Fraction _____	
If not met, were the calculations checked and the results qualified as "estimated"?	
	<u>Y</u>
9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries which fall outside the acceptable range)	<u>Y</u>
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)

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

2

11. Extraction Holding Time Met

1

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

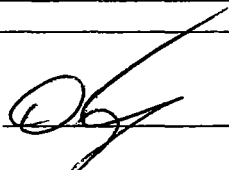
12. Analysis Holding Time Met

4

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

Additional Comments:

Laboratory Manager :



Date:

1-26-26



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

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

NJDEP Certification #13461

Chain of Custody Record

[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.

Daily Blank

Lab Name: FMETL NJDEP # 13461

Project: 961226 Case No.: 2748 Location: 550 SDG No.: _____

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

Sample wt/vol: 5.0 (g/ml) G Lab File ID: V01201.D

Level: (low/med) LOW Date Received: 06/26/97

% Moisture: not dec. 0 Date Analyzed: 07/09/97

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

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

CONCENTRATION UNITS:

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Daily Blank

Lab Name: FMETL NJDEP # 13461

Project: 961226 Case No.: 2748 Location: 550 SDG No.: _____

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

Sample wt/vol: 5.0 (g/ml) G Lab File ID: V01201.D

Level: (low/med) LOW Date Received: 06/26/97

% Moisture: not dec. 0 Date Analyzed: 07/09/97

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

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

CONCENTRATION UNITS:

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

1330-20-7	m+p-Xylenes	3	U
1330-20-7	o-Xylene	2	U
100-42-5	Styrene	2	U
75-25-2	Bromoform	2	U
79-34-5	1,1,2,2-Tetrachloroethane	2	U
541-73-1	1,3-Dichlorobenzene	3	U
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

S15

Lab Name: FMETL NJDEP # 13461

Project: 961226 Case No.: 2748 Location: 550 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2748.03

Sample wt/vol: 5.0 (g/ml) G Lab File ID: V01207.D

Level: (low/med) LOW Date Received: 06/26/97

% Moisture: not dec. 14.2 Date Analyzed: 07/09/97

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 10.0

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		580	U
107131	Acrylonitrile		580	U
75650	tert-Butyl alcohol		580	U
1634044	Methyl-tert-Butyl ether		580	U
108203	Di-isopropyl ether		580	U
	Dichlorodifluoromethane		58	U
74-87-3	Chloromethane		58	U
75-01-4	Vinyl Chloride		58	U
74-83-9	Bromomethane		58	U
75-00-3	Chloroethane		58	U
75-69-4	Trichlorofluoromethane		58	U
75-35-4	1,1-Dichloroethene		58	U
67-64-1	Acetone		58	U
75-15-0	Carbon Disulfide		58	U
75-09-2	Methylene Chloride		58	U
156-60-5	trans-1,2-Dichloroethene		58	U
75-35-3	1,1-Dichloroethane		58	U
108-05-4	Vinyl Acetate		58	U
78-93-3	2-Butanone		58	U
	cis-1,2-Dichloroethene		58	U
67-66-3	Chloroform		58	U
75-55-6	1,1,1-Trichloroethane		58	U
56-23-5	Carbon Tetrachloride		58	U
71-43-2	Benzene		58	U
107-06-2	1,2-Dichloroethane		58	U
79-01-6	Trichloroethene		58	U
78-87-5	1,2-Dichloropropane		58	U
75-27-4	Bromodichloromethane		58	U
110-75-8	2-Chloroethyl vinyl ether		58	U
10061-01-5	cis-1,3-Dichloropropene		58	U
108-10-1	4-Methyl-2-Pentanone		58	U
108-88-3	Toluene		58	U
10061-02-6	trans-1,3-Dichloropropene		58	U
79-00-5	1,1,2-Trichloroethane		58	U
127-18-4	Tetrachloroethene		58	U
591-78-6	2-Hexanone		58	U
126-48-1	Dibromochloromethane		58	U
108-90-7	Chlorobenzene		58	U
100-41-4	Ethylbenzene		45	JD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

S15

Lab Name: FMETL NJDEP # 13461

Project: 961226 Case No.: 2748 Location: 550 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2748.03

Sample wt/vol: 5.0 (g/ml) G Lab File ID: V01207.D

Level: (low/med) LOW Date Received: 06/26/97

% Moisture: not dec. 14.2 Date Analyzed: 07/09/97

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 10.0

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

CONCENTRATION UNITS:

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

1330-20-7	m+p-Xylenes	58	U
1330-20-7	o-Xylene	58	U
100-42-5	Styrene	58	U
75-25-2	Bromoform	58	U
79-34-5	1,1,2,2-Tetrachloroethane	58	U
541-73-1	1,3-Dichlorobenzene	58	U
106-46-7	1,4-Dichlorobenzene	58	U
95-50-1	1,2-Dichlorobenzene	58	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

S15

Lab Name: FMETL NJDEP # 13461

Project: 961226 Case No.: 2748 Location: 550 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 2748.03

Sample wt/vol: 5.0 (g/ml) G Lab File ID: V01207.D

Level: (low/med) LOW Date Received: 06/26/97

% Moisture: not dec. 14.2 Date Analyzed: 07/09/97

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 10.0

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

CONCENTRATION UNITS:

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

Number TICs found: 15

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown hydrocarbon	27.34	730	JD
2. 015869-94-0	Octane, 3,6-dimethyl-	29.99	1200	JND
3. 014676-29-0	Heptane, 3-ethyl-2-methyl-	30.43	1100	JND
4.	unknown hydrocarbon	30.95	1400	JD
5.	unknown	32.08	820	JD
6. 017302-28-2	Nonane, 2,6-dimethyl-	32.83	2500	JND
7. 013151-34-3	Decane, 3-methyl-	33.45	770	JND
8. 000095-36-3	1,2,4-Trimethylbenzene	34.02	1400	JND
9. 001678-93-9	Cyclohexane, butyl-	34.26	1600	JND
10. 000493-02-7	Naphthalene, decahydro-, trans-	35.97	1900	JND
11. 000934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	36.51	820	JND
12. 000535-77-3	Benzene, 1-methyl-3-(1-methylet	36.60	1400	JND
13. 000933-98-2	Benzene, 1-ethyl-2,3-dimethyl-	36.81	1300	JND
14.	unknown	37.43	1500	JD
15. 000874-41-9	Benzene, 1-ethyl-2,4-dimethyl-	38.00	1100	JND

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

Laboratory Manager or Environmental Consultant's Signature _____
Date 1/24/98

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
96-1226
550

Project # 2763
Date Rec. 07/01/97
Date Compl. 07/09/97
Released by:



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)	<u>Y</u>
2. Retention times for chromatograms provided	<u>Y</u>
3. GC/MS Tune Specifications	
a. BFB Meet Criteria	<u>Y</u>
b. DFTPP Meet Criteria	<u>Y</u>
4. GC/MS Tuning Frequency - Performed every 24 hours for 600 series and 12 hours for 8000 series	<u>Y</u>
5. GC/MS Calibration - Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series	<u>Y</u>
6. GC/MS Calibration Requirements	
a. Calibration Check Compounds Meet Criteria	<u>Y</u>
b. System Performance Check Compounds Meet Criteria	<u>Y</u>
7. Blank Contamination - If yes, List compounds and concentrations in each blank:	<u>N</u>
a. VOA Fraction _____	
b. B/N Fraction _____	
c. Acid Fraction _____	
8. Surrogate Recoveries Meet Criteria	<u>Y</u>
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)	<u>Y</u>
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 Y
(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 Y

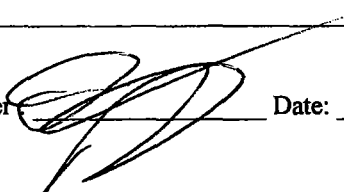
If not met, list number of days exceeded for each sample: _____

12. Analysis Holding Time Met Y

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

Additional Comments:

Laboratory Manager



Date:

1-26-20



Fort Monmouth Environmental Testing Laboratory

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

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

NJDEP Certification #13461

Chain of Custody Record

Customer: <u>SMC / Check Appleby</u>		Project No: <u>961226</u>		Analysis Parameters								Comments: <u>MeOH Bottle #</u>		
Phone #: <u>610-265 2700</u>		Location: <u>550</u>												
() DERA (X) OMA () Other: _____														
Samplers Name / Company: <u>DAVID H DANIELS / SMC</u>				Sample #										
Lab Sample I.D.	Sample Location	Date	Time	Type	bottles	VOA+15	% Solids	TPHC					Remarks / Preservation Method	
2763-01	550-INV6	7-1-97	1400	60ml	2	X	X						970630-01	
.02	550-INV7		1405			X	X						.02	
.03	550-INV8		1410			X	X						.03	
.04	550-INV9		1415			X	X						.11	
.05	550-INV10		1420			X	X						.05	
.06	550-INV11		1425			X	X						.06 * HAS 0	
.07	550-516		1430			X	X	X					.07	
.08	550-517		1435			X	X	X					* NO VOA+15 on Sample	
.09	550-139		1440			X	X	X					970630 .08	
.10	550-518		1445				X	X						
Relinquished by (signature): <u>David H Daniels</u>				Date/Time: <u>7-1-97 15:20</u>	Received by (signature): <u>[Signature]</u>				Relinquished by (signature):				Date/Time:	Received by (signature):
Relinquished by (signature):				Date/Time:	Received by (signature):				Relinquished by (signature):				Date/Time:	Received by (signature):
Report Type: () Full, (X) Reduced, () Standard, () Screen / non-certified					Remarks: <u>VOA+15 - Sampled using methods (meat r old)</u>									
Turnaround time: (X) Standard 4 wks, () Rush Days, () ASAP Verbal Hrs.					<u>INV10 is dup of INV9</u>									

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.

Daily Blank

Lab Name: FMETL NJDEP # 13461

Project: 961226 Case No.: 2763 Location: 550 SDG No.: _____

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

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V01089.D

Level: (low/med) MED Date Received: 07/01/97

% Moisture: not dec. 0 Date Analyzed: 07/08/97

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

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

CONCENTRATION UNITS:

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Daily Blank

Lab Name: FMETL NJDEP # 13461

Project: 961226 Case No.: 2763 Location: 550 SDG No.: _____

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

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V01089.D

Level: (low/med) MED Date Received: 07/01/97

% Moisture: not dec. 0 Date Analyzed: 07/08/97

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

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

CONCENTRATION UNITS:

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Daily Blank

Lab Name: FMETL NJDEP # 13461

Project: 961226 Case No.: 2763 Location: 550 SDG No.: _____

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

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V01201.D

Level: (low/med) MED Date Received: 07/01/97

% Moisture: not dec. 0 Date Analyzed: 07/09/97

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

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

CONCENTRATION UNITS:

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Daily Blank

Lab Name: FMETL NJDEP # 13461

Project: 961226 Case No.: 2763 Location: 550 SDG No.: _____

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

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V01201.D

Level: (low/med) MED Date Received: 07/01/97

% Moisture: not dec. 0 Date Analyzed: 07/09/97

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

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

CONCENTRATION UNITS:

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

1330-20-7	m+p-Xylenes	620	U
1330-20-7	o-Xylene	620	U
100-42-5	Styrene	620	U
75-25-2	Bromoform	620	U
79-34-5	1,1,2,2-Tetrachloroethane	620	U
541-73-1	1,3-Dichlorobenzene	620	U
106-46-7	1,4-Dichlorobenzene	620	U
95-50-1	1,2-Dichlorobenzene	620	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

550-S16

Lab Name: FMETL NJDEP # 13461

Project: 961226 Case No.: 2763 Location: 550 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2763.07

Sample wt/vol: 10.7 (g/ml) G Lab File ID: V01202.D

Level: (low/med) MED Date Received: 07/01/97

% Moisture: not dec. 19.02 Date Analyzed: 07/09/97

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	7200	U	
107131	Acrylonitrile	7200	U	
75650	tert-Butyl alcohol	7200	U	
1634044	Methyl-tert-Butyl ether	7200	U	
108203	Di-isopropyl ether	7200	U	
	Dichlorodifluoromethane	720	U	
74-87-3	Chloromethane	720	U	
75-01-4	Vinyl Chloride	720	U	
74-83-9	Bromomethane	720	U	
75-00-3	Chloroethane	720	U	
75-69-4	Trichlorofluoromethane	720	U	
75-35-4	1,1-Dichloroethene	720	U	
67-64-1	Acetone	720	U	
75-15-0	Carbon Disulfide	720	U	
75-09-2	Methylene Chloride	720	U	
156-60-5	trans-1,2-Dichloroethene	720	U	
75-35-3	1,1-Dichloroethane	720	U	
108-05-4	Vinyl Acetate	720	U	
78-93-3	2-Butanone	720	U	
	cis-1,2-Dichloroethene	720	U	
67-66-3	Chloroform	720	U	
75-55-6	1,1,1-Trichloroethane	720	U	
56-23-5	Carbon Tetrachloride	720	U	
71-43-2	Benzene	720	U	
107-06-2	1,2-Dichloroethane	720	U	
79-01-6	Trichloroethene	720	U	
78-87-5	1,2-Dichloropropane	720	U	
75-27-4	Bromodichloromethane	720	U	
110-75-8	2-Chloroethyl vinyl ether	720	U	
10061-01-5	cis-1,3-Dichloropropene	720	U	
108-10-1	4-Methyl-2-Pentanone	720	U	
108-88-3	Toluene	720	U	
10061-02-6	trans-1,3-Dichloropropene	720	U	
79-00-5	1,1,2-Trichloroethane	720	U	
127-18-4	Tetrachloroethene	720	U	
591-78-6	2-Hexanone	720	U	
126-48-1	Dibromochloromethane	720	U	
108-90-7	Chlorobenzene	720	U	
100-41-4	Ethylbenzene	720	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

550-S16

Lab Name: FMETL NJDEP # 13461

Project: 961226 Case No.: 2763 Location: 550 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2763.07

Sample wt/vol: 10.7 (g/ml) G Lab File ID: V01202.D

Level: (low/med) MED Date Received: 07/01/97

% Moisture: not dec. 19.02 Date Analyzed: 07/09/97

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

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

CONCENTRATION UNITS:

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

1330-20-7	m+p-Xylenes	720	U
1330-20-7	o-Xylene	720	U
100-42-5	Styrene	720	U
75-25-2	Bromoform	720	U
79-34-5	1,1,2,2-Tetrachloroethane	720	U
541-73-1	1,3-Dichlorobenzene	720	U
106-46-7	1,4-Dichlorobenzene	720	U
95-50-1	1,2-Dichlorobenzene	720	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

550-S16

Lab Name: FMETL NJDEP # 13461

Project: 961226 Case No.: 2763 Location: 550 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 2763.07

Sample wt/vol: 10.7 (g/ml) G Lab File ID: V01202.D

Level: (low/med) MED Date Received: 07/01/97

% Moisture: not dec. 19.02 Date Analyzed: 07/09/97

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

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

CONCENTRATION UNITS:

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

Number TICs found: 15

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1. 000589-90-2	Cyclohexane, 1,4-dimethyl-	24.84	6400	JN
2. 000103-65-1	Benzene, propyl-	32.61	3200	JN
3. 000095-36-3	1,2,4-Trimethylbenzene	34.00	13000	JN
4. 000141-93-5	Benzene, 1,3-diethyl-	35.57	3800	JN
5. 001074-55-1	Benzene, 1-methyl-4-propyl-	35.71	2900	JN
6. 000104-51-8	Benzene, butyl-	35.79	3700	JN
7. 000493-02-7	Naphthalene, decahydro-, trans-	35.96	3300	JN
8. 000934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	36.49	5800	JN
9. 000874-41-9	Benzene, 1-ethyl-2,4-dimethyl-	36.59	5800	JN
10. 000933-98-2	Benzene, 1-ethyl-2,3-dimethyl-	36.79	8300	JN
11. 003333-13-9	Benzene, 1-methyl-4-(2-propenyl)	37.16	3500	JN
12. 000767-58-8	Indan, 1-methyl-	37.40	4800	JN
13. 000099-87-6	Benzene, 1-methyl-4-(1-methylet	37.77	5000	JN
14. 000095-93-2	Benzene, 1,2,4,5-tetramethyl-	37.98	13000	JN
15. 002050-24-0	Benzene, 1,3-diethyl-5-methyl-	38.36	3000	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	<u>Y</u>
2. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted	<u>Y</u>
3. Summary Table cross-referencing field ID #'s vs. Lab ID #'s Lab ID's submitted	<u>Y</u>
4. Document bound, paginated and legible	<u>Y</u>
5. Chain of Custody submitted	<u>Y</u>
6. Samples submitted to lab within 48 hours of sample collection	<u>Y</u>
7. Methodology Summary submitted	<u>Y</u>
8. Results submitted on a dry weight basis	<u>Y</u>
9. Method Detection Limits	<u>Y</u>
10. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	<u>Y</u>

Laboratory Manager or Environmental Consultant's Signature _____
Date 1/16/16

Laboratory Certification # 13461

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

APPENDIX B

GROUNDWATER ANALYTICAL DATA PACKAGE

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



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

Bldg. 550

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
Trip Blank	4136.01	Aqueous	10-Dec-98	12/10/98
Field Blank	4136.02	Aqueous	10-Dec-98 10:20	12/10/98
Bldg. 550 13-15'	4137.01	Aqueous	10-Dec-98 15:24	12/10/98
Bldg. 550 13-15'	4137.02	Aqueous	10-Dec-98 15:30	12/10/98

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

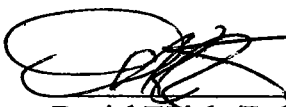

2-5-99
Daniel Wright/Date
Laboratory Director

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CHAIN OF CUSTODY

000001



Fort Monmouth Environmental Testing Laboratory

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

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

NJDEP Certification #13461

Chain of Custody Record

[illegible]



Fort Monmouth Environmental Testing Laboratory

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

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

NJDEP Certification #13461

Chain of Custody Record

[illegible]

FIELD DOCUMENTATION

000004

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

FOR BLDG. # 550

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

Objective:

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

1. Methods

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

2. Installation

- A. Using a Geoprobe, a borehole was advanced with a pre-probe with a diameter slightly larger than the casing. The hole was made to a depth of 15 feet. The water table was at 13 feet below ground surface.
- B. The screened section of PVC was placed into the borehole so the screened section was across the ground water table from 10 - 15 feet. Riser casing from 10 - 0 feet.

3. Purging

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

4. Sampling

- A. Sampling methods, sample preservation requirements, sample handling times, decontamination procedure for field equipment, and frequency for field blanks, field duplicates and trip blanks conform to applicable industry methods such as those specified in the NJDEP "Field Sampling Procedures Manual" in effect as of the date on which sampling is performed. Any deviations from the methods in the "Field Sampling Procedures Manual" pursuant to N.J.A.C. 7:26E-1.6(c) has been approved by the person responsible for conducting the remediation.

000005

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

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

5. Quality Assurance/Quality Control

A. Decontamination

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

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

B. Field Blanks

1 Field blank was shared with bldg. 447, taken same day.

- C. Sample bottles: Supplied by Environmental Sampling Supply, Oakland, Calif.
The sample bottles are certified clean and are sealed upon delivery.

- D. P.V.C. Screens: Supplied by Bedrock Enterprises, Forked River N.J.

Geoprobe Operator: Mark Laura
Employer: U.S. Army, Fort Monmouth
Phone Number: [732] 532-8990
NJDEP License #: J-1486

Mark Laura 12-10-98
Mark Laura / Date

000006

METHODOLOGY SUMMARY

000007

Methodology Summary

EPA Method 624

Gas Chromatographic Determination of Volatiles in Water

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

EPA Method 3510/8270

Gas Chromatographic Determination of Semi-volatiles in Water

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

CONFORMANCE/ NON-CONFORMANCE SUMMARY

000009

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 _____

000010

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT (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 N/A

11. Extraction Holding Time Met

yes

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

12. Analysis Holding Time Met

yes

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

Additional Comments:

Laboratory Manager: _____

Date: 2-5-99

000011

LABORATORY CHRONICLE

000012

Laboratory Chronicle

Lab ID: 4137

Site: Bldg. 550

	Date	Hold Time
Date Sampled	12/10/98	NA
Receipt/Refrigeration	12/10/98	NA
Extractions		
1. Base Neutrals	12/14/98	14 days
Analyses		
1. Volatile Organics	12/15/98	14 days
2. Base Neutrals	12/21,22/98	40 days

000013

VOLATILE ORGANICS

000014

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

Definition of Qualifiers

MDL : Method Detection Limit

J : Compound identified below detection limit

B : Compound in both sample and blank

D : Results from dilution of sample

U : Compound searched for but not detected

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

Data File Nam vb02376.d
 Operator Skelton
 Date Acquired 15 Dec 98 11:53 am

Sample Name Vblk74
 Field ID Vblk74
 Sample Multiplier 1

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

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

Qualifiers

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

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

000016

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Vblk74

Lab Name: FMETL Project 980211
NJDEP# 13461 Case No.: 4136 SDG No Location UST
Matrix (soil/water) WATER Lab Sample ID: Vblk74
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02376.D
Level: (low/med) LOW Date Received: 12/10/98
% Moisture: not dec. Date Analyzed: 12/15/98
GC Column: HP5MS ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

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

Number TICs found: 0

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

Data File Nam **vb02381.d**
 Operator **Skelton**
 Date Acquired **15 Dec 98 4:07 pm**

Sample Name **4136.01**
 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	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-35-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ethe			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloroprope			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethan			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

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

Qualifiers

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

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

000018

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Trip Blank

Lab Name: FMETL Project 980211
NJDEP# 13461 Case No.: 4136 SDG No Location UST
Matrix (soil/water) WATER Lab Sample ID: 4136.01
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02381.D
Level: (low/med) LOW Date Received: 12/10/98
% Moisture: not dec. Date Analyzed: 12/15/98
GC Column: HP5MS ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

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

Number TICs found: 0

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

Data File Nam vb02382.d
 Operator Skelton
 Date Acquired 15 Dec 98 4:52 pm

Sample Name 4136.02
 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	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethan			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-35-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ethe			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-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-Tetrachloroethan			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

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

Qualifiers

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

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

000020

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Field Blank

Lab Name: FMETL Project 980211
NJDEP# 13461 Case No.: 4136 SDG No Location UST
Matrix (soil/water) WATER Lab Sample ID: 4136.02
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02382.D
Level: (low/med) LOW Date Received: 12/10/98
% Moisture: not dec. Date Analyzed: 12/15/98
GC Column: HP5MS 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 Nam vb02384.d
 Operator Skelton
 Date Acquired 15 Dec 98 6:22 pm

Sample Name 4137.01
 Field ID Bldg550
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethan			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-35-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ethe			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-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-Tetrachloroethan			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

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

Qualifiers

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

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

000022

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Bldg. 550

Lab Name: FMETL Project 980211
 NJDEP# 13461 Case No.: 4137 SDG No Location UST
 Matrix (soil/water) WATER Lab Sample ID: 4137.01
 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02384.D
 Level: (low/med) LOW Date Received: 12/10/98
 % Moisture: not dec. Date Analyzed: 12/15/98
 GC Column: HP5MS 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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BASE NEUTRAL

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

Data File Name **BN02453.D**
 Operator **Skelton**
 Date Acquired **21-Dec-98**

Sample Name **Sblk180**
 Misc Info **Sblk180 A 981214**
 Sample Multiplier **1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifiers
110-86-1	Pyridine			not detected	NLE	5.00 ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.94 ug/L	
62-53-3	Aniline			not detected	NLE	0.15 ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.48 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.23 ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	0.18 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.16 ug/L	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	0.61 ug/L	
67-72-1	Hexachloroethane			not detected	10	0.33 ug/L	
98-95-3	Nitrobenzene			not detected	10	0.46 ug/L	
78-59-1	Isophorone			not detected	100	0.35 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	0.46 ug/L	
65-85-0	Benzoic Acid			not detected	NLE	0.26 ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	0.25 ug/L	
91-20-3	Naphthalene			not detected	NLE	0.25 ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	0.19 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.38 ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	0.16 ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.50 ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	0.32 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.21 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	0.18 ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.19 ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.31 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.26 ug/L	
83-32-9	Acenaphthene			not detected	400	0.26 ug/L	
132-64-9	Dibenzofuran			not detected	NLE	0.32 ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	0.36 ug/L	
84-66-2	Diethylphthalate			not detected	5000	0.82 ug/L	
86-73-7	Fluorene			not detected	300	0.29 ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.31 ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	0.90 ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	0.23 ug/L	
103-33-3	Azobenzene			not detected	NLE	0.80 ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.55 ug/L	
118-74-1	Hexachlorobenzene			not detected	10	0.82 ug/L	
85-01-8	Phenanthrene			not detected	NLE	0.18 ug/L	
120-12-7	Anthracene			not detected	2000	0.19 ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	0.23 ug/L	
206-44-0	Fluoranthene			not detected	300	0.41 ug/L	
92-87-5	Benzidine			not detected	50	1.45 ug/L	
129-00-0	Pyrene			not detected	200	0.32 ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	0.47 ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	0.22 ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.46 ug/L	
218-01-9	Chrysene			not detected	20	0.20 ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.51 ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	0.82 ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	0.37 ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	0.32 ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	0.31 ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	0.79 ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	0.28 ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	0.40 ug/L	

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

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

000050

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID:

Sblk180

Lab Name: FMETL Lab Cod 13461
Project: 98-0932 Case No.: 4137 Location: UST SDG No: _____
Matrix: (soil/water) WATER Lab Sample ID: Sblk180
Sample wt/vol: 1000 (g/ml) ML Lab File ID: BN02453.D
Level: (low/med) LOW Date Received: 12/10/98
% Moisture: _____ decanted: (Y/N) N Date Extracted: 12/14/98
Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/21/98
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 **BN02467.D**
 Operator **Skelton**
 Date Acquired **22-Dec-98**

Sample Name **4136.02**
 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	5.00 ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.94 ug/L	
62-53-3	Aniline			not detected	NLE	0.15 ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.48 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.23 ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	0.18 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.16 ug/L	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	0.61 ug/L	
67-72-1	Hexachloroethane			not detected	10	0.33 ug/L	
98-95-3	Nitrobenzene			not detected	10	0.46 ug/L	
78-59-1	Isophorone			not detected	100	0.35 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	0.46 ug/L	
65-85-0	Benzoic Acid			not detected	NLE	0.26 ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	0.25 ug/L	
91-20-3	Naphthalene			not detected	NLE	0.25 ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	0.19 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.38 ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	0.16 ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.50 ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	0.32 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.21 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	0.18 ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.19 ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.31 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.26 ug/L	
83-32-9	Acenaphthene			not detected	400	0.26 ug/L	
132-64-9	Dibenzofuran			not detected	NLE	0.32 ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	0.36 ug/L	
84-66-2	Diethylphthalate			not detected	5000	0.82 ug/L	
86-73-7	Fluorene			not detected	300	0.29 ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.31 ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	0.90 ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	0.23 ug/L	
103-33-3	Azobenzene			not detected	NLE	0.80 ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.55 ug/L	
118-74-1	Hexachlorobenzene			not detected	10	0.82 ug/L	
85-01-8	Phenanthrene			not detected	NLE	0.18 ug/L	
120-12-7	Anthracene			not detected	2000	0.19 ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	0.23 ug/L	
206-44-0	Fluoranthene			not detected	300	0.41 ug/L	
92-87-5	Benzidine			not detected	50	1.45 ug/L	
129-00-0	Pyrene			not detected	200	0.32 ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	0.47 ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	0.22 ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.46 ug/L	
218-01-9	Chrysene			not detected	20	0.20 ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.51 ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	0.82 ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	0.37 ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	0.32 ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	0.31 ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	0.79 ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	0.28 ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	0.40 ug/L	

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

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:

Field Blank

Lab Name: FMETL Lab Cod 13461
Project 98-0932 Case No.: 4136 Location: UST SDG No: _____
Matrix: (soil/water) WATER Lab Sample ID: 4136.02
Sample wt/vol: 1000 (g/ml) ML Lab File ID: BN02467.D
Level: (low/med) LOW Date Received: 12/10/98
% Moisture: _____ decanted: (Y/N) N Date Extracted: 12/14/98
Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/22/98
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 **BN02469.D**
 Operator **Skelton**
 Date Acquired **22-Dec-98**

Sample Name **4137.02**
 Misc Info **Bldg550**
 Sample Multiplier **1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifiers
110-86-1	Pyridine			not detected	NLE	5.00 ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.94 ug/L	
62-53-3	Aniline			not detected	NLE	0.15 ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.48 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.23 ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	0.18 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.16 ug/L	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	0.61 ug/L	
67-72-1	Hexachloroethane			not detected	10	0.33 ug/L	
98-95-3	Nitrobenzene			not detected	10	0.46 ug/L	
78-59-1	Isophorone			not detected	100	0.35 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	0.46 ug/L	
65-85-0	Benzoic Acid			not detected	NLE	0.26 ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	0.25 ug/L	
91-20-3	Naphthalene			not detected	NLE	0.25 ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	0.19 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.38 ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	0.16 ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.50 ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	0.32 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.21 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	0.18 ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.19 ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.31 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.26 ug/L	
83-32-9	Acenaphthene			not detected	400	0.26 ug/L	
132-64-9	Dibenzofuran			not detected	NLE	0.32 ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	0.36 ug/L	
84-66-2	Diethylphthalate			not detected	5000	0.82 ug/L	
86-73-7	Fluorene			not detected	300	0.29 ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.31 ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	0.90 ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	0.23 ug/L	
103-33-3	Azobenzene			not detected	NLE	0.80 ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.55 ug/L	
118-74-1	Hexachlorobenzene			not detected	10	0.82 ug/L	
85-01-8	Phenanthrene			not detected	NLE	0.18 ug/L	
120-12-7	Anthracene			not detected	2000	0.19 ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	0.23 ug/L	
206-44-0	Fluoranthene			not detected	300	0.41 ug/L	
92-87-5	Benzdine			not detected	50	1.45 ug/L	
129-00-0	Pyrene			not detected	200	0.32 ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	0.47 ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	0.22 ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.46 ug/L	
218-01-9	Chrysene			not detected	20	0.20 ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.51 ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	0.82 ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	0.37 ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	0.32 ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	0.31 ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	0.79 ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	0.28 ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	0.40 ug/L	

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

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:

Bldg.550

Lab Name: FMETL Lab Cod 13461
Project: 98-0932 Case No.: 4137 Location: UST SDG No: _____
Matrix: (soil/water) WATER Lab Sample ID: 4137.02
Sample wt/vol: 1000 (g/ml) ML Lab File ID: BN02469.D
Level: (low/med) LOW Date Received: 12/10/98
% Moisture: _____ decanted: (Y/N) N Date Extracted: 12/14/98
Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/22/98
Injection Volume: 1.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

Number TICs found: 4 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000629-78-7	Heptadecane	14.31	13	JN
2. 054105-67-8	Heptadecane, 2,6-dimethyl-	16.51	16	JN
3. 054105-67-8	Heptadecane, 2,6-dimethyl-	17.13	28	JN
4. 000629-62-9	Pentadecane	18.23	12	JN

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature

Date 2/5/99

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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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.

A handwritten signature in black ink, appearing to read 'Daniel K. Wright', is written over a horizontal line.

**Daniel K. Wright
Laboratory Manager**

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

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

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



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

Bldg. 550

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
Trip Blank	4187.01	Aqueous	13-Jan-99	01/13/99
Field Blank	4187.02	Aqueous	13-Jan-99 09:10	01/13/99
Bldg. 550	4187.03	Aqueous	13-Jan-99 09:50	01/13/99
Bldg. 550	4187.04	Aqueous	13-Jan-99 09:59	01/13/99
Dup.	4187.05	Aqueous	13-Jan-99	01/13/99

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


Daniel Wright/Date
Laboratory Director

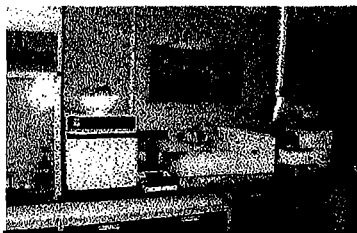
2-15-99

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CHAIN OF CUSTODY

000001



Fort Monmouth Environmental Testing Laboratory

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

Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

[illegible]

Field Duplicate Identification

Sample Id	Lab ID	Field Duplicate
Bldg. 550	4187.03	4187.05
Bldg. 550	4187.04	4187.05

000003

FIELD DOCUMENTATION

000004

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

FOR BLDG. # 550

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

Objective:

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

1. Methods

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

2. Installation

- A. Using a Geoprobe, a borehole was advanced with a pre-probe with a diameter slightly larger than the casing. The hole was made to a depth of 15 feet. The water table was at 13 feet below ground surface.
- B. The screened section of PVC was placed into the borehole so the screened section was across the ground water table from 10 - 15 feet. Riser casing from 10 - 0 feet.

3. Purging

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

4. Sampling

- A. Sampling methods, sample preservation requirements, sample handling times, decontamination procedure for field equipment, and frequency for field blanks, field duplicates and trip blanks conform to applicable industry methods such as those specified in the NJDEP "Field Sampling Procedures Manual" in effect as of the date on which sampling is performed. Any deviations from the methods in the "Field Sampling Procedures Manual" pursuant to N.J.A.C. 7:26E-1.6(c) has been approved by the person responsible for conducting the remediation.

000005

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

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

5. Quality Assurance/Quality Control

A. Decontamination

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

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

B. Field Blanks

1 Field blank was shared with bldg. 447, taken same day.

- C. Sample bottles: Supplied by Environmental Sampling Supply, Oakland, Calif.
The sample bottles are certified clean and are sealed upon delivery.

- D. P.V.C. Screens: Supplied by Bedrock Enterprises, Forked River N.J.

Geoprobe Operator: Mark Laura
Employer: U.S. Army, Fort Monmouth
Phone Number: [732] 532-8990
NJDEP License #: J-1486

Mark Laura 12-10-95
Mark Laura / Date

METHODOLOGY SUMMARY

000007

Methodology Summary

EPA Method 624

Gas Chromatographic Determination of Volatiles in Water

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

EPA Method 3510/8270

Gas Chromatographic Determination of Semi-volatiles in Water

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

CONFORMANCE/ NON-CONFORMANCE SUMMARY

000003

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 no

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

 - a. VOA Fraction _____
 - b. B/N Fraction 4187.04 NHeobenzene is low at 29%
 - c. Acid Fraction NA

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

000010

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT (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 N/A _____

11. Extraction Holding Time Met

yes

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

12. Analysis Holding Time Met

yes

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

Additional Comments:

Laboratory Manager: _____

Date: 2-15-99

000011

LABORATORY CHRONICLE

000012

Laboratory Chronicle

Lab ID: 4187

Site: Bldg. 550

	Date	Hold Time
Date Sampled	01/13/99	NA
Receipt/Refrigeration	01/13/99	NA
Extractions		
1. Base Neutrals	01/14/99	7 Days
Analyses		
1. Volatile Organics	01/22/99	14 Days
2. Base Neutrals	01/26/99	40 Days

000013

VOLATILE ORGANICS

000014

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

Definition of Qualifiers

MDL : Method Detection Limit

J : Compound identified below detection limit

B : Compound in both sample and blank

D : Results from dilution of sample

U : Compound searched for but not detected

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

Data File Name v05520.d
 Operator Skelton
 Date Acquired 22 Jan 1999 9:08

Sample Name Vblk146
 Field ID Vblk146
 Sample Multiplier 1

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

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

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

000016

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Vblk146

Lab Name: FMETL Project 980932
NJDEP # 13461 Case No.: 4187 Location UST SDG No.: _____
Matrix: (soil/water) WATER Lab Sample ID: Vblk146
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: V05520.D
Level: (low/med) LOW Date Received: 01/13/99
% Moisture: not dec. _____ Date Analyzed: 01/22/99
GC Column: RTX-502 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 Name v05538.d
 Operator Skelton
 Date Acquired 22 Jan 1999 22:21

Sample Name 4187.01
 Field ID Trip Blank
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifiers
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-35-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene	21.82	23212	5.72 ug/L	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl 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

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

000018

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Trip Blank

Lab Name: FMETL Project 980932
NJDEP # 13461 Case No.: 4187 Location UST SDG No.: _____
Matrix: (soil/water) WATER Lab Sample ID: 4187.01
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: V05538.D
Level: (low/med) LOW Date Received: 01/13/99
% Moisture: not dec. _____ Date Analyzed: 01/22/99
GC Column: RTX-502 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 Name **v05539.d**
 Operator **Skelton**
 Date Acquired **22 Jan 1999 23:04**

Sample Name **4187.02**
 Field ID **Field Blank**
 Sample Multiplier **1**

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

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

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

000020

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Field Blank

Lab Name: FMETL Project 980932
NJDEP # 13461 Case No.: 4187 Location UST SDG No.:
Matrix: (soil/water) WATER Lab Sample ID: 4187.02
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: V05539.D
Level: (low/med) LOW Date Received: 01/13/99
% Moisture: not dec. Date Analyzed: 01/22/99
GC Column: RTX-502 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 Name v05540.d
 Operator Skelton
 Date Acquired 22 Jan 1999 23:47

Sample Name 4187.03
 Field ID Bldg550
 Sample Multiplier 1

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

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

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

000022

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Bldg550

Lab Name: FMETL Project 980932
 NJDEP # 13461 Case No.: 4187 Location UST SDG No.:
 Matrix: (soil/water) WATER Lab Sample ID: 4187.03
 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: V05540.D
 Level: (low/med) LOW Date Received: 01/13/99
 % Moisture: not dec. Date Analyzed: 01/22/99
 GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0
 Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

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

Number TICs found: 15

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 005911-04-6	Nonane, 3-methyl-	29.47	7	JN
2.	unknown	30.42	10	J
3. 000103-65-1	Benzene, propyl-	32.08	12	JN
4. 017302-28-2	Nonane, 2,6-dimethyl-	32.29	13	JN
5. 000526-73-8	Benzene, 1,2,3-trimethyl-	33.47	39	JN
6.	unknown	33.71	8	J
7. 000141-93-5	Benzene, 1,3-diethyl-	35.04	19	JN
8.	unknown	35.28	10	J
9.	unknown	35.42	12	J
10. 000496-11-7	Indane	35.53	22	JN
11. 000934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	35.96	11	JN
12. 000527-84-4	Benzene, 1-methyl-2-(1-methylet	36.05	12	JN
13. 001758-88-9	Benzene, 2-ethyl-1,4-dimethyl-	36.25	17	JN
14. 001587-04-8	Benzene, 1-methyl-2-(2-propenyl)	36.61	11	JN
15. 000767-58-8	Indan, 1-methyl-	36.86	20	JN

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

Data File Name **V05541.D**
 Operator **Skelton**
 Date Acquired **23 Jan 1999 00:30**

Sample Name **4187.05**
 Field ID **Field Dup**
 Sample Multiplier **1**

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

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

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

000024

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

Dupe

Lab Name: FMETL Project 980932
 NJDEP # 13461 Case No.: 4187 Location UST SDG No.: _____
 Matrix: (soil/water) WATER Lab Sample ID: 4187.05
 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: V05541.D
 Level: (low/med) LOW Date Received: 01/13/99
 % Moisture: not dec. _____ Date Analyzed: 01/23/99
 GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

Number TICs found: 15 (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	29.46	8	J
2.	unknown	30.42	11	J
3. 000103-65-1	Benzene, propyl-	32.09	11	JN
4.	unknown	32.29	14	J
5. 000095-36-3	1,2,4-Trimethylbenzene	33.47	30	JN
6.	unknown	33.71	10	J
7. 017057-82-8	1H-Indene, 2,3-dihydro-1,2-dimet	34.23	12	JN
8. 000141-93-5	Benzene, 1,3-diethyl-	35.04	19	JN
9.	unknown	35.42	8	J
10. 000496-11-7	Indane	35.53	28	JN
11.	unknown	35.74	16	J
12. 000933-98-2	Benzene, 1-ethyl-2,3-dimethyl-	35.95	10	JN
13. 000934-74-7	Benzene, 1-ethyl-3,5-dimethyl-	36.05	9	JN
14. 000527-84-4	Benzene, 1-methyl-2-(1-methylet	36.26	14	JN
15. 000767-58-8	Indan, 1-methyl-	36.86	18	JN

BASE NEUTRAL

000053

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

Data File Name **BN02687.D**
 Operator **Bhaskar**
 Date Acquired **26-Jan-99**

Sample Name **Sblk192**
 Misc Info **Sblk192 A 990114**
 Sample Multiplier **1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifiers
110-86-1	Pyridine			not detected	NLE	5.00 ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.94 ug/L	
62-53-3	Aniline			not detected	NLE	0.15 ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.48 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.23 ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	0.18 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.16 ug/L	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	0.61 ug/L	
67-72-1	Hexachloroethane			not detected	10	0.33 ug/L	
98-95-3	Nitrobenzene			not detected	10	0.46 ug/L	
78-59-1	Isophorone			not detected	100	0.35 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	0.46 ug/L	
65-85-0	Benzoic Acid			not detected	NLE	0.26 ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	0.25 ug/L	
91-20-3	Naphthalene			not detected	NLE	0.25 ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	0.19 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.38 ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	0.16 ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.50 ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	0.32 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.21 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	0.18 ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.19 ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.31 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.26 ug/L	
83-32-9	Acenaphthene			not detected	400	0.26 ug/L	
132-64-9	Dibenzofuran			not detected	NLE	0.32 ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	0.36 ug/L	
84-66-2	Diethylphthalate			not detected	5000	0.82 ug/L	
86-73-7	Fluorene			not detected	300	0.29 ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.31 ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	0.90 ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	0.23 ug/L	
103-33-3	Azobenzene			not detected	NLE	0.80 ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.55 ug/L	
118-74-1	Hexachlorobenzene			not detected	10	0.82 ug/L	
85-01-8	Phenanthrene			not detected	NLE	0.18 ug/L	
120-12-7	Anthracene			not detected	2000	0.19 ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	0.23 ug/L	
206-44-0	Fluoranthene			not detected	300	0.41 ug/L	
92-87-5	Benzidine			not detected	50	1.45 ug/L	
129-00-0	Pyrene			not detected	200	0.32 ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	0.47 ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	0.22 ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.46 ug/L	
218-01-9	Chrysene			not detected	20	0.20 ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.51 ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	0.82 ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	0.37 ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	0.32 ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	0.31 ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	0.79 ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	0.28 ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	0.40 ug/L	

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

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

000054

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID:

Sblk192

Lab Name: FMETL Lab Cod 13461
Project: UST Case No.: 4187 Location: 550 SDG No: _____
Matrix: (soil/water) WATER Lab Sample ID: Sblk192
Sample wt/vol: 1000 (g/ml) ML Lab File ID: BN02687.D
Level: (low/med) LOW Date Received: 1/13/99
% Moisture: _____ decanted: (Y/N) N Date Extracted: 1/14/99
Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/26/99
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 **BN02692.D**
 Operator **Bhaskar**
 Date Acquired **26-Jan-99**

Sample Name **4187.02**
 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	5.00 ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.94 ug/L	
62-53-3	Aniline			not detected	NLE	0.15 ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.48 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.23 ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	0.18 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.16 ug/L	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	0.61 ug/L	
67-72-1	Hexachloroethane			not detected	10	0.33 ug/L	
98-95-3	Nitrobenzene			not detected	10	0.46 ug/L	
78-59-1	Isophorone			not detected	100	0.35 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	0.46 ug/L	
65-85-0	Benzoic Acid			not detected	NLE	0.26 ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	0.25 ug/L	
91-20-3	Naphthalene			not detected	NLE	0.25 ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	0.19 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.38 ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	0.16 ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.50 ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	0.32 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.21 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	0.18 ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.19 ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.31 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.26 ug/L	
83-32-9	Acenaphthene			not detected	400	0.26 ug/L	
132-64-9	Dibenzofuran			not detected	NLE	0.32 ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	0.36 ug/L	
84-66-2	Diethylphthalate			not detected	5000	0.82 ug/L	
86-73-7	Fluorene			not detected	300	0.29 ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.31 ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	0.90 ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	0.23 ug/L	
103-33-3	Azobenzene			not detected	NLE	0.80 ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.55 ug/L	
118-74-1	Hexachlorobenzene			not detected	10	0.82 ug/L	
85-01-8	Phenanthrene			not detected	NLE	0.18 ug/L	
120-12-7	Anthracene			not detected	2000	0.19 ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	0.23 ug/L	
206-44-0	Fluoranthene			not detected	300	0.41 ug/L	
92-87-5	Benzidine			not detected	50	1.45 ug/L	
129-00-0	Pyrene			not detected	200	0.32 ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	0.47 ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	0.22 ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.46 ug/L	
218-01-9	Chrysene			not detected	20	0.20 ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.51 ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	0.82 ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	0.37 ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	0.32 ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	0.31 ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	0.79 ug/L	
53-70-3	Dibenzo[a,h]anthracene			not detected	20	0.28 ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	0.40 ug/L	

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

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

000056

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID:

Field Blank

Lab Name: FMETL Lab Cod 13461
Project: UST Case No.: 4187 Location: 550 SDG No: _____
Matrix: (soil/water) WATER Lab Sample ID: 4187.02
Sample wt/vol: 1000 (g/ml) ML Lab File ID: BN02692.D
Level: (low/med) LOW Date Received: 1/13/99
% Moisture: _____ decanted: (Y/N) N Date Extracted: 1/14/99
Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/26/99
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 **BN02693.D**
 Operator **Bhaskar**
 Date Acquired **26-Jan-99**

Sample Name **4187.04**
 Misc Info **Bldg550**
 Sample Multiplier **1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifiers
110-86-1	Pyridine			not detected	NLE	5.00 ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.94 ug/L	
62-53-3	Aniline			not detected	NLE	0.15 ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.48 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.23 ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	0.18 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.16 ug/L	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	0.61 ug/L	
67-72-1	Hexachloroethane			not detected	10	0.33 ug/L	
98-95-3	Nitrobenzene			not detected	10	0.46 ug/L	
78-59-1	Isophorone			not detected	100	0.35 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	0.46 ug/L	
65-85-0	Benzoic Acid			not detected	NLE	0.26 ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	0.25 ug/L	
91-20-3	Naphthalene	10.36	2892681	42.80 ug/L	NLE	0.25 ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	0.19 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.38 ug/L	
91-57-6	2-Methylnaphthalene	11.99	2940828	53.52 ug/L	NLE	0.16 ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.50 ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	0.32 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.21 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	0.18 ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.19 ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.31 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.26 ug/L	
83-32-9	Acenaphthene	14.46	170776	5.26 ug/L	400	0.26 ug/L	
132-64-9	Dibenzofuran	14.84	146411	3.01 ug/L	NLE	0.32 ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	0.36 ug/L	
84-66-2	Diethylphthalate			not detected	5000	0.82 ug/L	
86-73-7	Fluorene	15.63	245677	7.02 ug/L	300	0.29 ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.31 ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	0.90 ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	0.23 ug/L	
103-33-3	Azobenzene			not detected	NLE	0.80 ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.55 ug/L	
118-74-1	Hexachlorobenzene			not detected	10	0.82 ug/L	
85-01-8	Phenanthrene	17.82	435549	10.62 ug/L	NLE	0.18 ug/L	
120-12-7	Anthracene			not detected	2000	0.19 ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	0.23 ug/L	
206-44-0	Fluoranthene			not detected	300	0.41 ug/L	
92-87-5	Benzidine			not detected	50	1.45 ug/L	
129-00-0	Pyrene			not detected	200	0.32 ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	0.47 ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	0.22 ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.46 ug/L	
218-01-9	Chrysene			not detected	20	0.20 ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.51 ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	0.82 ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	0.37 ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	0.32 ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	0.31 ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	0.79 ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	0.28 ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	0.40 ug/L	

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

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

000058

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID:

Bldg.550

Lab Name: FMETL Lab Cod 13461

Project: UST Case No.: 4187 Location: 550 SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 4187.04

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BN02693.D

Level: (low/med) LOW Date Received: 1/13/99

% Moisture: decanted: (Y/N) N Date Extracted: 1/14/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/26/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

Number TICs found: 25 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000108-67-8	Benzene, 1,3,5-trimethyl-	7.21	41	JN
2. 000496-11-7	Indane	7.94	30	JN
3. 000527-84-4	Benzene, 1-methyl-2-(1-methylet	8.68	30	JN
4. 000934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	9.14	13	JN
5. 000933-98-2	Benzene, 1-ethyl-2,3-dimethyl-	9.29	15	JN
6. 000488-23-3	Benzene, 1,2,3,4-tetramethyl-	9.36	14	JN
7. 002039-89-6	Benzene, 2-ethenyl-1,4-dimethyl-	9.65	19	JN
8. 027133-93-3	2,3-Dihydro-1-methylindene	9.83	23	JN
9. 000119-64-2	Naphthalene, 1,2,3,4-tetrahydro-	10.01	24	JN
10.	unknown	10.56	17	J
11. 017301-23-4	Undecane, 2,6-dimethyl-	10.75	14	JN
12. 002809-64-5	Naphthalene, 1,2,3,4-tetrahydro-5	11.55	23	JN
13. 000091-57-6	Naphthalene, 2-methyl-	12.22	42	JN
14.	unknown	12.56	14	J
15. 000092-52-4	Biphenyl	13.11	16	JN
16. 000939-27-5	Naphthalene, 2-ethyl-	13.29	23	JN
17. 000575-43-9	Naphthalene, 1,6-dimethyl-	13.45	35	JN
18. 000581-40-8	Naphthalene, 2,3-dimethyl-	13.64	46	JN
19. 000571-61-9	Naphthalene, 1,5-dimethyl-	13.69	27	JN
20. 000571-58-4	Naphthalene, 1,4-dimethyl-	13.89	19	JN
21. 000575-37-1	Naphthalene, 1,7-dimethyl-	14.08	24	JN
22. 002131-42-2	Naphthalene, 1,4,6-trimethyl-	15.00	16	JN
23.	unknown	16.26	26	J
24. 074645-98-0	Dodecane, 2,7,10-trimethyl-	16.90	36	JN
25. 054833-48-6	Heptadecane, 2,6,10,15-tetramet	17.99	21	JN

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

Data File Name **BN02694.D**
 Operator **Bhaskar**
 Date Acquired **26-Jan-99**

Sample Name **4187.05**
 Misc Info **Dupe**
 Sample Multiplier **1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifiers
110-86-1	Pyridine			not detected	NLE	5.00 ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.94 ug/L	
62-53-3	Aniline			not detected	NLE	0.15 ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.48 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.23 ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	0.18 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.16 ug/L	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	0.61 ug/L	
67-72-1	Hexachloroethane			not detected	10	0.33 ug/L	
98-95-3	Nitrobenzene			not detected	10	0.46 ug/L	
78-59-1	Isophorone			not detected	100	0.35 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	0.46 ug/L	
65-85-0	Benzoic Acid			not detected	NLE	0.26 ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	0.25 ug/L	
91-20-3	Naphthalene	10.36	2522449	37.53 ug/L	NLE	0.25 ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	0.19 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.38 ug/L	
91-57-6	2-Methylnaphthalene	11.98	2658081	48.65 ug/L	NLE	0.16 ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.50 ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	0.32 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.21 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	0.18 ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.19 ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.31 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.26 ug/L	
83-32-9	Acenaphthene	14.45	135860	4.24 ug/L	400	0.26 ug/L	
132-64-9	Dibenzofuran	14.83	122785	2.56 ug/L	NLE	0.32 ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	0.36 ug/L	
84-66-2	Diethylphthalate			not detected	5000	0.82 ug/L	
86-73-7	Fluorene	15.63	190556	5.52 ug/L	300	0.29 ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.31 ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	0.90 ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	0.23 ug/L	
103-33-3	Azobenzene			not detected	NLE	0.80 ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.55 ug/L	
118-74-1	Hexachlorobenzene			not detected	10	0.82 ug/L	
85-01-8	Phenanthrene	17.82	318663	7.74 ug/L	NLE	0.18 ug/L	
120-12-7	Anthracene			not detected	2000	0.19 ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	0.23 ug/L	
206-44-0	Fluoranthene			not detected	300	0.41 ug/L	
92-87-5	Benzydine			not detected	50	1.45 ug/L	
129-00-0	Pyrene			not detected	200	0.32 ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	0.47 ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	0.22 ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.46 ug/L	
218-01-9	Chrysene			not detected	20	0.20 ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.51 ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	0.82 ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	0.37 ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	0.32 ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	0.31 ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	0.79 ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	0.28 ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	0.40 ug/L	

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

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

000060

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID:

Dupe

Lab Name: FMETL Lab Cod 13461
 Project: UST Case No.: 4187 Location: 550 SDG No: _____
 Matrix: (soil/water) WATER Lab Sample ID: 4187.05
 Sample wt/vol: 1000 (g/ml) ML Lab File ID: BN02694.D
 Level: (low/med) LOW Date Received: 1/13/99
 % Moisture: _____ decanted: (Y/N) N Date Extracted: 1/14/99
 Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/26/99
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

Number TICs found: 25 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000108-67-8	Benzene, 1,3,5-trimethyl-	7.21	35	JN
2. 000496-11-7	Indane	7.94	25	JN
3. 000934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	8.67	27	JN
4. 000933-98-2	Benzene, 1-ethyl-2,3-dimethyl-	9.13	11	JN
5. 000095-93-2	Benzene, 1,2,4,5-tetramethyl-	9.29	14	JN
6. 000527-53-7	Benzene, 1,2,3,5-tetramethyl-	9.36	14	JN
7.	unknown	9.65	18	J
8. 000767-58-8	Indan, 1-methyl-	9.83	23	JN
9. 000119-64-2	Naphthalene, 1,2,3,4-tetrahydro-	10.01	23	JN
10.	unknown	10.56	15	J
11.	unknown	11.11	11	J
12. 002809-64-5	Naphthalene, 1,2,3,4-tetrahydro-5	11.54	22	JN
13. 000090-12-0	Naphthalene, 1-methyl-	12.21	44	JN
14. 013065-07-1	Naphthalene, 1,2,3,4-tetrahydro-2	12.28	11	JN
15. 000092-52-4	Biphenyl	13.11	12	JN
16. 000939-27-5	Naphthalene, 2-ethyl-	13.29	20	JN
17. 000571-61-9	Naphthalene, 1,5-dimethyl-	13.44	30	JN
18. 000569-41-5	Naphthalene, 1,8-dimethyl-	13.64	37	JN
19. 000582-16-1	Naphthalene, 2,7-dimethyl-	13.68	22	JN
20. 000573-98-8	Naphthalene, 1,2-dimethyl-	13.88	16	JN
21. 000571-58-4	Naphthalene, 1,4-dimethyl-	14.07	17	JN
22. 002245-38-7	Naphthalene, 1,6,7-trimethyl-	14.99	11	JN
23.	unknown	16.25	14	J
24. 054105-67-8	Heptadecane, 2,6-dimethyl-	16.89	19	JN
25. 000630-02-4	Octacosane	17.97	11	JN

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature

Date 2 / 15 / 99

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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Laboratory Authentication Statement

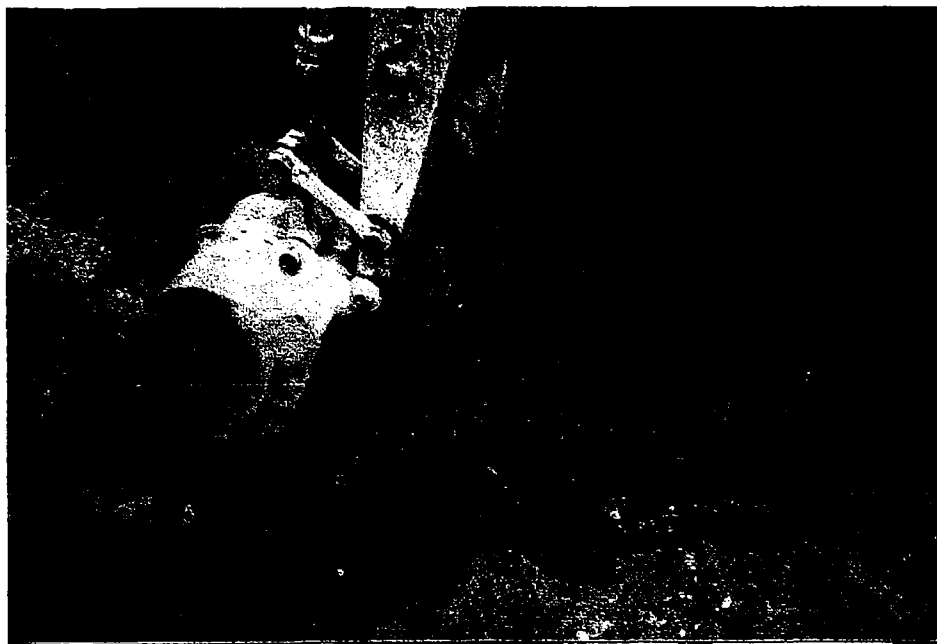
I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information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



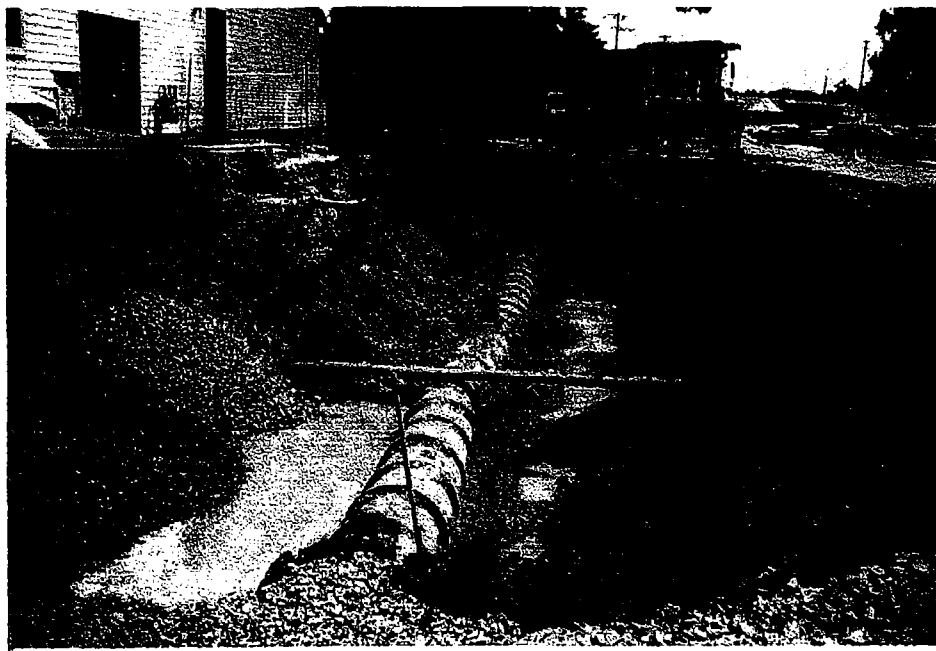
2-15-99

**Daniel K. Wright
Laboratory Manager**

APPENDIX C PHOTOGRAPHS



REMEDICATION ALONG 24" STORM WATER PIPE



REMEDiated AREA AROUND STORM WATER
PIPE BENEATH MALTERER AVENUE



**SMC ENVIRONMENTAL
SERVICES GROUP**

Engineers, Managers, Scientists & Planners
VALLEY FORGE, PA.



REMEDIATION BENEATH ABANDONED GAS
LINES IN FRONT OF BUILDING 550



REMEDIATION BENEATH SALTZMAN AVENUE



**SMC ENVIRONMENTAL
SERVICES GROUP**
Engineers, Managers, Scientists & Planners
VALLEY FORGE, PA.

GPS SAMPLE LOCATION MAP(BLDG.550)

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>
16-Jun		
B1	539449.488	619787.052
B2	539446.760	619775.664
B3	539446.760	619775.664
S1	539438.408	619770.692
19-Jun		
S2	539465.220	619786.088
S3	539469.556	619799.404
S4	539466.984	619806.620
S5	539458.636	619802.288
S6	539458.636	619802.288
24-Jun		
S7	539453.096	619800.204
S8	539455.664	619807.744
S9	539467.532	619811.112
B4	539463.844	619800.844
B5	539471.544	619805.016
S10	539476.996	619807.904
S11	539479.576	619762.832
B6	539469.620	619786.248
B7	539469.620	619786.248
S12	539460.788	619769.244
26-Jun		
S13	539423.628	619796.196
S14	539408.328	619782.560
S15	539443.868	619792.824
B8	539435.360	619792.024

GPS SAMPLE LOCATION MAP(BLDG.550)

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>
1-Jul		
S16	539421.988	619799.996
S17	539403.104	619806.520
B9	539411.516	619798.624
S18	539385.592	619801.540
15-Jul		
P1	539389.712	619798.452
P2	539413.248	619790.384
P3	539436.964	619782.484
P4	539460.456	619773.388
P5	539460.456	619773.388
28-Jul		
B10	539481.804	619801.028
B11	539491.084	619787.808
B12	539491.084	619787.808
B13	539482.320	619781.800
B14	539491.256	619770.812
S19	539490.912	619802.916
S20	539502.600	619792.444
S21	539503.800	619776.476
S22	539499.848	619765.148
S23	539485.412	619754.332
S24	539461.868	619762.572

BLDG. 550 UST GROUND WATER SAMPLE GPS POSITION & COORIDINATES

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>
550 GW (GW denotes <u>G</u> round <u>W</u> ater)	539445.384	619792.374

REFERENCE POINTS

<u>POSITION / DESC.</u>	<u>Y COORD. (NORTHING)</u>	<u>X COORD. (EASTING)</u>
550 BLDG CRNR	539386.472	619812.239
550 BLDG CRNR	539448.701	619798.719