United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site/Remedial Investigation Report

Building 280
Main Post-East Area

NJDEP UST Registration No. 0090010-25
Dicar No. 97-03-27-1054-57

March 2000

SITE/REMEDIAL INVESTIGATION REPORT

BUILDING 280

MAIN POST-EAST AREA
NJDEP UST REGISTRATION NO. 0090010-25
DICAR NO. 97-03-27-1054-57

MARCH 2000

PREPARED FOR:

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

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UST Closure

On March 27, 1997, a steel underground storage tank (UST) was closed by removal in accordance with the New Jersey Department of Environmental Protection (NJDEP) at the Main Post-East area of the U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 0090010-25 (Fort Monmouth ID No. 280), was located east of Building 280. UST No. 0090010-25 was a 3,000-gallon No. 2 fuel oil UST. The fill port was located directly above the UST. The Standard Reporting Form and signed Site Assessment Summary form for UST No. 0090010-25 are included in Appendices A and B, respectively.

Site Assessment

The site assessment was performed by U.S. Army personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual.* The sampling and laboratory analysis conducted during the site assessment were performed in accordance with Section 7:26E-2.1 of the *Technical Requirements for Site Remediation.* Soils surrounding the tank were screened visually and with air monitoring equipment for evidence of contamination. Following removal, the UST was inspected for corrosion holes. Several large holes and a split seam were noted in the UST. Soils located at the holes and seam were dark in color and appeared to be contaminated. The NJDEP hotline was called and the case was assigned Dicar No. 97-03-27-1054-57. Approximately 32 cubic yards of potentially contaminated soil were removed from the excavated area and stored at the Fort Monmouth petroleum contaminated soil staging area. Groundwater was encountered at 7.0 feet below ground surface and sheen was observed on groundwater.

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 280 at the Main Post-East area of the U.S. Army Fort Monmouth Base. The objective of the site/remedial investigation activities were to remove from the ground all soil potentially impacted as the result of 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 the PID readings and verify the effectiveness of the soil excavation activities, 20 post-excavation soil samples were collected from within the excavation between April 24 and April 29, 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

In all, a total of approximately 412 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 back filled to grade with certified clean crushed stones, sand and clean overburden soil removed from the excavation.

Conclusions and Recommendations

All post excavation soil samples collected from the UST excavation at Building 280 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 280. On December 10, 1998, and January 12, 1999, Building 280 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 280.

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 UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90010-25, was associated with Building 280 at the Main Post-East area of the U.S. Army Fort Monmouth Base, Fort Monmouth, New Jersey. Refer to site location map on 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 were to remove from the ground all soil potentially impacted as the result of the past operation of the former UST.

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

1.2 SITE DESCRIPTION

Building 280 is located in the Main Post-East area of the Fort Monmouth Army Base. The former UST was located a few feet east of the northeast corner of Building 280 and approximately 35 feet west of Building 63. A site map is provided on Figure 2.

1.2.1 GEOLOGICAL/HYDROGEOLOGICAL SETTING

The following is a description of the geological/hydrogeological setting of the area surrounding Building 280. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area.

Regional Geology

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

In general, New Jersey Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, and gravel. These formations typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile and were deposited on Precambrian and lower Paleozoic rocks (Zapecza, 1989). These sediments, predominantly derived from deltaic, shallow marine, and continental shelf environments,

date from Cretaceous through the Quaternary Periods. The mineralogy ranges from quartz to glauconite.

The formations record several major transgressive/regressive cycles and contain units which are generally thicker to the southeast and reflect a deeper water environment. 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 280 is located approximately 600 feet west of Oceanport Creek, the nearest water body. Based on the Main Post topography, the groundwater flow in the area of Building 280 is anticipated to be to the east.

1.3 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 OSHA.

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

- All underground obstructions (utilities, etc.) were identified by the contractor performing the closure prior to excavation activities.

- All activities were carried out with the greatest regard to safety and health and the safeguarding of the environment.

- All excavated soils were visually examined and screened with an OVA for evidence of contamination. Potentially contaminated soils were identified and logged during closure activities.

- Surface materials (i.e., asphalt, concrete, etc.) were excavated and staged separately from all soil and recycled in accordance with all applicable regulations and laws.

- A Sub-Surface Evaluator from the DPW was present during all site assessment activities.

1.4.2 Underground Storage Tank Excavation and Cleaning

Prior to UST decommissioning activities, surficial soil was removed to expose the UST and associated piping. All free product present in the piping was drained into the UST, and the UST was purged to remove vapors prior to cutting and removal of the piping. After removal of the associated piping, a hole was made in the UST to allow for proper cleaning. Approximately 200 gallons of liquid from the UST and its associated piping were pumped directly into a LORCO truck where it was then transported to Lionetti Oil Recovery, Inc. facility, a NJDEP-approved petroleum recycling and disposal company located in Old Bridge, NJ. Refer to Appendix C for a copy of the waste manifest.

The UST was cleaned prior to removal from the excavation in accordance with the NJDEP-BUST regulations. Soils surrounding the UST were screened visually and with an OVA for evidence of contamination. After the UST was removed from the excavation, it was staged on polyethylene sheeting and examined for holes. A split seam and several large holes were observed during the inspection by the Sub-Surface Evaluator. Approximately 32 cubic yards of potentially contaminated soil were removed from the excavated area and transported to the Fort Monmouth petroleum contaminated soil holding area. Soil screening was also performed along the piping run with UST closure. Groundwater was encountered at 7.0 feet below ground surface and sheen was observed on groundwater. See Figure 3 for a cross-sectional view of the excavated area.

1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The UST was transported to Mazza & Sons, Inc., Recycling Division. The transportation of the UST was in compliance with all applicable regulations and laws. Please refer to Appendix D for the UST disposal certificate and Appendix G for photographs of the site.

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

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

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

- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
  Contact Person: Daniel K. Wright
  Phone Number: (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, which displayed elevated PID readings (i.e., above 5 ppm) were stockpiled, separate of the soils which 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

In all, there was a total of approximately 612 cubic yards of material excavated during the remediation activities. Of this, approximately 200 cubic yards of clean overburden soil (soil displaying PID readings below 5 ppm) was removed and stockpiled separate of the contaminated soil. The clean soil pile was later used as backfill after reviewing the sample results for this stockpile. There was approximately 412 cubic yards of contaminated soil (soil displaying PID readings above 5 ppm) excavated and 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

On March 27, 1997, following the removal of the UST and associated piping, post-excavation soil samples A1, A2, B, C, and DUP B were collected from a total of four (4) location of the UST excavation. Sidewall samples A1, A2, and C were collected at a depth of 3.0 feet bgs and 6.0 feet bgs. Piping run samples B and DUP B were collected along the former piping trench at a depth of 1.5 feet bgs. All samples were analyzed for total petroleum hydrocarbons (TPHC) and total solids.

The excavation of the impacted soil proceeded laterally north and south until non-detectable field screening readings (i.e., less than 5 ppm) were obtained with the PID. Along the western portion and northeastern portion of the excavation, the removal of all potentially impacted soil was not feasible due to the presence of the adjacent buildings 280 and 63 and underground utilities. The excavation extended vertically to a depth of 6 feet bgs.

To confirm the PID readings and verify the effectiveness of the soil excavation activities, 20 post-excavation soil samples were collected from within the excavation between April 24 and April 29, 1997. Of these, 14 soil samples were collected from the excavation sidewalls at a depth of 4 feet bgs. The sidewall samples were designated 280-S1 through 280-S16, where as samples 280-S5 and 280-S8 were duplicates. The remaining 6 post-excavation soil samples were collected from the bottom of the excavation at a depth of 6 feet bgs. The bottom samples were designated 280-B1 through 280-B6.

On February 15, 2000, following the soil excavation activities, three (3) post-excavation soil sample locations were resampled. Sidewall samples S10, S12, and S13 were resampled at a depth of 4.0 feet bgs. All samples were analyzed for total petroleum hydrocarbons (TPHC) and total solids. The locations of the post-excavation soil samples are shown on Figure 4.

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 E.

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 back filled to grade with certified clean crushed stones and sand. Two samples were collected from the overburden material and analyzed for TPHC. The clean stockpile soil samples (280-SP1 and 280-SP2) revealed non-detectable TPHC levels; therefore, the soil was used as backfill material. Appendix B provides photographs of the site/remedial investigations.

2.5 GROUNDWATER SAMPLING

On December 10,1998, and January 12, 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 280 at the Main Post-East area of the U.S. Army Fort Monmouth Base. The objective of the site/remedial investigation activities were to remove from the ground all soil potentially impacted as 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 412 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.

Upon receiving analytical results and confirming the effectiveness of the excavation activities completed at the site, the excavation was back filled to grade with certified clean crushed stones, sand and clean overburden material.

3.2 GROUNDWATER SAMPLING RESULTS

The sample collected from Building 280 on December 10, 1998, contained 2-methylnaphthalene at a concentration of 4.18 ug/L. No other compounds were detected.

The sample collected from Building 280 on January 12, 1999, contained hexachloroethane at a concentration of 1.89 ug/L, naphthalene at 1.78 ug/L, 2-methylnaphthalene at 1.31 ug/L, flourene at 1.68 ug/L, phenanthrene at 2.32 ug/L, and bis (2-ethylhexyl) phthalate at 2.11 ug/L. No other compounds were detected.

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

Groundwater samples collected on December 10, 1998, and January 12,1999, 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 280 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 280 on December 10, 1998, and January 12, 1999, groundwater quality at Building 280 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 280.

TABLE 1

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING 280, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
**A-1	3/27/97	3/28/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
**A-2	3/27/97	3/28/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
**B	3/27/97	3/28/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
**C	3/27/97	3/28/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
**DUP B	3/27/97	3/28/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:
* TPHC Total Petroleum Hydrocarbons
** Sample location was further remediated and resampled

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
AREA 280, MAIN POST-EAST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
280-B1	4/24/97	4/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-B2	4/24/97	4/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-S1	4/24/97	4/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-S2	4/24/97	4/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-S3	4/24/97	4/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-B3	4/24/97	4/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-S4	4/25/97	4/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-S5	4/25/97	4/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-S6	4/25/97	4/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-B4	4/25/97	4/25/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:
* TPHC Total Petroleum Hydrocarbons

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
AREA 280, MAIN POST-EAST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
280-S7	4/28/97	4/29/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-S8	4/28/97	4/29/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-B5	4/28/97	4/29/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-S9	4/28/97	4/29/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
**280-S10	4/28/97	4/29/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-S11	4/28/97	4/29/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-SP1	4/28/97	4/29/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-B6	4/29/97	4/29/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
**280-S12	4/29/97	4/29/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
**280-S13	4/29/97	4/29/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-S14	4/29/97	4/29/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-SP2	4/29/97	4/29/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:
* TPHC Total Petroleum Hydrocarbons
** Sample location was resampled

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
AREA 280, MAIN POST-EAST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
280-S15	4/29/97	4/29/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-S16	4/29/97	4/29/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:
* TPHC Total Petroleum Hydrocarbons

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
AREA 280, MAIN POST-EAST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
280-S10	2/15/00	2/18/00	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-S12	2/15/00	2/18/00	Soil	Post-Excavation	TPHC	OQA-QAM-025
280-S13	2/15/00	2/18/00	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:
* TPHC Total Petroleum Hydrocarbons

TABLE 1

SUMMARY OF SAMPLING ACTIVITIES
BUILDING 280, MAIN POST-EAST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Sampling Method**
4138.01	12/10/98	12/15/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4138.02	12/10/98	12/15/98	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4181.03	1/12/99	1/22/99	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
4181.04	1/12/99	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
BUILDING 280, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID/ Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Method Used	Method Detection Limit (mg/kg)	Compound of Concern	Results (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
***A-1/3.0=	2414.01	3/27/97	3/28/97	Total Solid	--	--	82.82 %	--	--
				TPHC	188	yes	00.0	10,000	No
***A-2/6.0=	2414.02	3/27/97	3/28/97	Total Solid	--	--	82.51 %	--	--
				TPHC	181	yes	15736.55	10,000	Yes
***B/1.5=	2414.03	3/27/97	3/28/97	Total Solid	--	--	83.20 %	--	--
				TPHC	183	yes	4410.35	10,000	No
***C/6.0=	2414.04	3/27/97	3/28/97	Total Solid	--	--	85.25 %	--	--
				TPHC	181	yes	702.60	10,000	No
***DUP B/1.5=	2414.05	3/27/97	3/28/97	Total Solid	--	--	82.98 %	--	--
				TPHC	188	yes	8118.16	10,000	No

Note:

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

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
AREA 280, MAIN POST-EAST AREA
FORT MONMOUTH, NEW JERSEY

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
280-B1=	2479.01	4/24/97	4/25/97	Total Solid	--	--	81.90	--	--
				TPHC	189	Yes	ND	10,000	No
280-B2=	2479.02	4/24/97	4/25/97	Total Solid	--	--	83.60	--	--
				TPHC	184	Yes	ND	10,000	No
280-B3=	2479.03	4/24/97	4/25/97	Total Solid	--	--	85.78	--	--
				TPHC	183	Yes	ND	10,000	No
280-B4=	2479.04	4/25/97	4/25/97	Total Solid	--	--	81.80	--	--
				TPHC	186	Yes	ND	10,000	No
280-S1=	2480.01	4/24/97	4/25/97	Total Solid	--	--	79.54	--	--
				TPHC	187	Yes	ND	10,000	No
280-S2=	2480.02	4/24/97	4/25/97	Total Solid	--	--	86.28	--	--
				TPHC	181	Yes	8523.90	10,000	No
280-S3=	2480.03	4/24/97	4/25/97	Total Solid	--	--	100.00	--	--
				TPHC	155	Yes	256.10	10,000	No
280-S4=	2480.04	4/25/97	4/25/97	Total Solid	--	--	84.80	--	--
				TPHC	182	Yes	ND	10,000	No
280-S5=	2480.05	4/25/97	4/25/97	Total Solid	--	--	79.92	--	--
				TPHC	191	Yes	2368.77	10,000	No
280-S6=	2480.06	4/25/97	4/25/97	Total Solid	--	--	88.64	--	--
				TPHC	176	Yes	8958.92	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 280, MAIN POST-EAST AREA
FORT MONMOUTH, NEW JERSEY

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
280-S7=	2483.01	4/28/97	4/29/97	Total Solid	--	--	78.84	--	--
				TPHC	195	Yes	ND	10,000	No
280-S8=	2483.02	4/28/97	4/29/97	Total Solid	--	--	78.46	--	--
				TPHC	189	Yes	ND	10,000	No
280-B5=	2483.03	4/28/97	4/29/97	Total Solid	--	--	74.61	--	--
				TPHC	208	Yes	ND	10,000	No
280-S9=	2483.04	4/28/97	4/29/97	Total Solid	--	--	83.63	--	--
				TPHC	182	Yes	ND	10,000	No
***280-S10=	2483.05	4/28/97	4/29/97	Total Solid	--	--	85.88	--	--
				TPHC	182	Yes	2107.05	10,000	No
280-S11=	2483.06	4/28/97	4/29/97	Total Solid	--	--	83.31	--	--
				TPHC	178	Yes	ND	10,000	No
280-SP1=	2483.07	4/28/97	4/29/97	Total Solid	--	--	82.21	--	--
				TPHC	189	Yes	ND	10,000	No
280-B6=	2483.08	4/29/97	4/29/97	Total Solid	--	--	84.27	--	--
				TPHC	176	Yes	ND	10,000	No
***280-S12=	2483.09	4/29/97	4/29/97	Total Solid	--	--	84.89	--	--
				TPHC	172	Yes	4656.40	10,000	No
***280-S13=	2483.10	4/29/97	4/29/97	Total Solid	--	--	84.14	--	--
				TPHC	186	Yes	6455.57	10,000	No
280-S14=	2483.11	4/29/97	4/29/97	Total Solid	--	--	82.89	--	--
				TPHC	186	Yes	ND	10,000	No
280-SP2=	2483.12	4/29/97	4/29/97	Total Solid	--	--	82.75	--	--
				TPHC	184	Yes	ND	10,000	No

Note:

* Total Solid results are expressed as a percentage.

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

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

-- Not detected above stated sample quantitation limit

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
AREA 280, MAIN POST-EAST AREA
FORT MONMOUTH, NEW JERSEY

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
280-S15=	2489.01	4/29/97	4/29/97	Total Solid	--	--	81.34	--	--
				TPHC	188	Yes	ND	10,000	No
280-S16=	2489.02	4/29/97	4/29/97	Total Solid	--	--	82.24	--	--
				TPHC	188	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 280, MAIN POST-EAST AREA
FORT MONMOUTH, NEW JERSEY

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
280-S10=	5177.01	2/15/00	2/18/00	Total Solid	--	--	85.24	--	--
				TPHC	178	Yes	ND	10,000	No
280-S12=	5177.02	2/15/00	2/18/00	Total Solid	--	--	87.05	--	--
				TPHC	178	Yes	ND	10,000	No
280-S13=	5177.03	2/15/00	2/18/00	Total Solid	--	--	85.13	--	--
				TPHC	181	Yes	260.20	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

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Project: 2429

Case No.: 2479/2480 Location: AREA 280 SDG No.: _____

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

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

CAS NO.	PARAMETER	RESULTS	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
107028	Acrolein	7	U	NA	NA
107131	Acrylonitrile	7	U	1000	5000
75650	tert-Butyl alcohol	13	U	NA	NA
1634044	Methyl-tert-Butyl ether	3	U	NA	NA
108203	Di-isopropyl ether	2	U	NA	NA
	Dichlorodifluoromethane	4	U	NA	NA
74-87-3	Chloromethane	1	U	520000	1000000(d)
75-01-4	Vinyl Chloride	3	U	2000	7000
74-83-9	Bromomethane	2	U	79000	1000000(d)
75-00-3	Chloroethane	3	U	NA	NA
75-69-4	Trichlorofluoromethane	2	U	NA	NA
75-35-4	1, 1-Dichloroethene	1	U	8000	150000
67-64-1	Acetone	2	U	1000000(d)	1000000(d)
75-15-0	Carbon Disulfide	1	U	NA	NA
75-09-2	Methylene Chloride	2	U	49000	210000
156-60-5	trans-1,2-Dichloroethene	2	U	1000000(d)	1000000(d)
75-35-3	1,1-Dichloroethane	1	U	570000	1000000(d)
108-05-4	Vinyl Acetate	3	U	NA	NA
78-93-3	2-Butanone	3	U	1000000(d)	1000000(d)
156-59-2	cis-1,2-Dichloroethene	1	U	79000	1000000(d)
67-66-3	Chloroform	1	U	19000(k)	28000(k)

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Project: 2429

Case No.: 2479/2480 Location: AREA 280 SDG No.: _____

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

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

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

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Project: 2429

Case No.: 2479/2480 Location: AREA 280 SDG No.: _____

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

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

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

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Project: 2429

Case No.: 2480 Location: AREA 280 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2480.02

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

CAS NO.	PARAMETER	RESULTS	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
107028	Acrolein			NA	NA
107131	Acrylonitrile			1000	5000
75650	tert-Butyl alcohol			NA	NA
1634044	Methyl-tert-Butyl ether			NA	NA
108203	Di-isopropyl ether			NA	NA
	Dichlorodifluoromethane	310	U	NA	NA
74-87-3	Chloromethane	310	U	520000	1000000(d)
75-01-4	Vinyl Chloride	310	U	2000	7000
74-83-9	Bromomethane	310	U	79000	1000000(d)
75-00-3	Chloroethane	310	U	NA	NA
75-69-4	Trichlorofluoromethane	310	U	NA	NA
75-35-4	1, 1-Dichloroethene	310	U	8000	150000
67-64-1	Acetone	310	U	1000000(d)	1000000(d)
75-15-0	Carbon Disulfide	310	U	NA	NA
75-09-2	Methylene Chloride	310	U	49000	210000
156-60-5	trans-1,2-Dichloroethene	310	U	1000000(d)	1000000(d)
75-35-3	1,1-Dichloroethane	310	U	570000	1000000(d)
108-05-4	Vinyl Acetate	310	U	NA	NA
78-93-3	2-Butanone	310	U	1000000(d)	1000000(d)
156-59-2	cis-1,2-Dichloroethene	310	U	79000	1000000(d)
67-66-3	Chloroform	310	U	19000(k)	28000(k)

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Project: 2429

Case No.: 2480 Location: AREA 280 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2480.02

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

CAS NO.	PARAMETER	RESULTS	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
75-55-6	1,1,1-Trichloroethane	310	U	NA	NA
56-23-5	Carbon Tetrachloride	310	U	2000(k)	4000(k)
71-43-2	Benzeze	310	U	3000	13000
107-06-2	1,2-Dichloroethane	310	U	6000	24000
79-01-6	Trichloroethene	310	U	23000	54000(k)
78-87-5	1, 2-Dichloropropane	310	U	10000	43000
75-27-4	Bromodichloromethane	310	U	11000(g)	46000(g)
110-75-8	2-Chloroethyl vinyl ether	310	U	NA	NA
10061-01-5	cis-1,3-Dichloropropene	310	U	NA	NA
108-10-1	4-Methyl-2-Pentanone	310	U	1000000(d)	1000000(d)
108-88-3	Toluene	310	U	1000000(d)	1000000(d)
10061-02-6	trans-1,3-Dichloropropene	310	U	NA	NA
79-00-5	1,1,2-Trichloroethane	310	U	22000	420000
127-18-4	Tetrachloroethene	310	U	4000(k)	6000(k)
591-78-6	2-Hexanone	310	U	NA	NA
126-48-1	Dibromochloromethane	310	U	NA	NA
108-90-7	Chlorobenzene	310	U	37000	680000
100-41-4	Ethylbenzene	670	D	1000000(d)	1000000(d)
1330-20-7	m+p-Xylenes	590	D	NA	NA

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Project: 2429

Case No.: 2480 Location: AREA 280 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2480.02

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

CAS NO.	PARAMETER.	RESULTS	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
1330-20-7	o-Xylene	78	JD	NA	NA
100-42-5	Styrene	310	U	23000	97000
75-25-2	Bromoform	310	U	86000	370000
79-34-5	1,1,2,2-Tetrachloroethane	310	U	34000	70000(k)
541-73-1	1,3-Dichlorobenzene	310	U	5100000	10000000(c)
106-46-7	1,4-Dichlorobenzene	310	U	570000	10000000(c)
95-50-1	1,2-Dichlorobenzene	310	U	5100000	10000000(c)

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Project: 2429

Case No.: 2480 Location: AREA 280 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2480.05

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

CAS NO.	PARAMETER	RESULTS	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
107028	Acrolein			NA	NA
107131	Acrylonitrile			1000	5000
75650	tert-Butyl alcohol			NA	NA
1634044	Methyl-tert-Butyl ether			NA	NA
108203	Di-isopropyl ether			NA	NA
	Dichlorodifluoromethane			NA	NA
74-87-3	Chloromethane	28	U	520000	1000000(d)
75-01-4	Vinyl Chloride	28	U	2000	7000
74-83-9	Bromomethane	28	U	79000	1000000(d)
75-00-3	Chloroethane	28	U	NA	NA
75-69-4	Trichlorofluoromethane	28	U	NA	NA
75-35-4	1, 1-Dichloroethene	28	U	8000	150000
67-64-1	Acetone	56	D	1000000(d)	1000000(d)
75-15-0	Carbon Disulfide	28	U	NA	NA
75-09-2	Methylene Chloride	28	U	49000	210000
156-60-5	trans-1,2-Dichloroethene	28	U	1000000(d)	1000000(d)
75-35-3	1,1-Dichloroethane	28	U	570000	1000000(d)
108-05-4	Vinyl Acetate	28	U	NA	NA
78-93-3	2-Butanone	28	U	1000000(d)	1000000(d)
156-59-2	cis-1,2-Dichloroethene	28	U	79000	1000000(d)
67-66-3	Chloroform	28	U	19000(k)	28000(k)

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Project: 2429

Case No.: 2480 Location: AREA 280 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2480.05

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

CAS NO.	PARAMETER	RESULTS	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
75-55-6	1,1,1-Trichloroethane	28	U	NA	NA
56-23-5	Carbon Tetrachloride	28	U	2000(k)	4000(k)
71-43-2	Benzeze	28	U	3000	13000
107-06-2	1,2-Dichloroethane	28	U	6000	24000
79-01-6	Trichloroethene	28	U	23000	54000(k)
78-87-5	1, 2-Dichloropropane	28	U	10000	43000
75-27-4	Bromodichloromethane	28	U	11000(g)	46000(g)
110-75-8	2-Chloroethyl vinyl ether	28	U	NA	NA
10061-01-5	cis-1,3-Dichloropropene	28	U	NA	NA
108-10-1	4-Methyl-2-Pentanone	28	U	1000000(d)	1000000(d)
108-88-3	Toluene	28	U	1000000(d)	1000000(d)
10061-02-6	trans-1,3-Dichloropropene	28	U	NA	NA
79-00-5	1,1,2-Trichloroethane	28	U	22000	420000
127-18-4	Tetrachloroethene	28	U	4000(k)	6000(k)
591-78-6	2-Hexanone	28	U	NA	NA
126-48-1	Dibromochloromethane	28	U	NA	NA
108-90-7	Chlorobenzene	28	U	37000	680000
100-41-4	Ethylbenzene	28	U	1000000(d)	1000000(d)
1330-20-7	m+p-Xylenes	28	U	NA	NA

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Project: 2429

Case No.: 2480 Location: AREA 280 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2480.05

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

CAS NO.	PARAMETER.	RESULTS	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
1330-20-7	o-Xylene	28	U	NA	NA
100-42-5	Styrene	28	U	23000	97000
75-25-2	Bromoform	28	U	86000	370000
79-34-5	1,1,2,2-Tetrachloroethane	28	U	34000	70000(k)
541-73-1	1,3-Dichlorobenzene	28	U	5100000	10000000(c)
106-46-7	1,4-Dichlorobenzene	28	U	570000	10000000(c)
95-50-1	1,2-Dichlorobenzene	28	U	5100000	10000000(c)

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Project: 2429

Case No.: 2480 Location: AREA 280 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2480.06

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

CAS NO.	PARAMETER	RESULTS	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
107028	Acrolein			NA	NA
107131	Acrylonitrile			1000	5000
75650	tert-Butyl alcohol			NA	NA
1634044	Methyl-tert-Butyl ether			NA	NA
108203	Di-isopropyl ether			NA	NA
	Dichlorodifluoromethane	30	U	NA	NA
74-87-3	Chloromethane	30	U	520000	1000000(d)
75-01-4	Vinyl Chloride	30	U	2000	7000
74-83-9	Bromomethane	30	U	79000	1000000(d)
75-00-3	Chloroethane	30	U	NA	NA
75-69-4	Trichlorofluoromethane	30	U	NA	NA
75-35-4	1, 1-Dichloroethene	30	U	8000	150000
67-64-1	Acetone	56	D	1000000(d)	1000000(d)
75-15-0	Carbon Disulfide	66	D	NA	NA
75-09-2	Methylene Chloride	30	U	49000	210000
156-60-5	trans-1,2-Dichloroethene	30	U	1000000(d)	1000000(d)
75-35-3	1,1-Dichloroethane	30	U	570000	1000000(d)
108-05-4	Vinyl Acetate	30	U	NA	NA
78-93-3	2-Butanone	30	U	1000000(d)	1000000(d)
156-59-2	cis-1,2-Dichloroethene	30	U	79000	1000000(d)
67-66-3	Chloroform	30	U	19000(k)	28000(k)

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Project: 2429

Case No.: 2480 Location: AREA 280 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2480.06

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

CAS NO.	PARAMETER	RESULTS	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
75-55-6	1,1,1-Trichloroethane	30	U	NA	NA
56-23-5	Carbon Tetrachloride	30	U	2000(k)	4000(k)
71-43-2	Benzeze	30	U	3000	13000
107-06-2	1,2-Dichloroethane	30	U	6000	24000
79-01-6	Trichloroethene	30	U	23000	54000(k)
78-87-5	1, 2-Dichloropropane	30	U	10000	43000
75-27-4	Bromodichloromethane	30	U	11000(g)	46000(g)
110-75-8	2-Chloroethyl vinyl ether	30	U	NA	NA
10061-01-5	cis-1,3-Dichloropropene	30	U	NA	NA
108-10-1	4-Methyl-2-Pentanone	30	U	1000000(d)	1000000(d)
108-88-3	Toluene	30	U	1000000(d)	1000000(d)
10061-02-6	trans-1,3-Dichloropropene	30	U	NA	NA
79-00-5	1,1,2-Trichloroethane	30	U	22000	420000
127-18-4	Tetrachloroethene	30	U	4000(k)	6000(k)
591-78-6	2-Hexanone	30	U	NA	NA
126-48-1	Dibromochloromethane	30	U	NA	NA
108-90-7	Chlorobenzene	30	U	37000	680000
100-41-4	Ethylbenzene	780	D	1000000(d)	1000000(d)
1330-20-7	m+p-Xylenes	450	D	NA	NA

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461 Project: 2429

Case No.: 2480 Location: AREA 280 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2480.06

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

CAS NO.	PARAMETER.	RESULTS	QUALIFIER	RESIDENTIAL	NON-RESIDENTIAL
1330-20-7	o-Xylene	30	U	NA	NA
100-42-5	Styrene	30	U	23000	97000
75-25-2	Bromoform	30	U	86000	370000
79-34-5	1,1,2,2-Tetrachloroethane	30	U	34000	70000(k)
541-73-1	1,3-Dichlorobenzene	30	U	5100000	10000000(c)
106-46-7	1,4-Dichlorobenzene	30	U	570000	10000000(c)
95-50-1	1,2-Dichlorobenzene	30	U	5100000	10000000(c)

Definition of Qualifiers

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

SOIL CLEANUP CRITERIA (MG/KG)

(LAST REVISED-7/11/96)

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

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

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

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

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

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

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

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

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

(J) TYPOGRAPHICAL ERROR.

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

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

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

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

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

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

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

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

TABLE 4

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 12/10/98 Location: 280 Lab Sample ID: 4138.01(Bldg 280)

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: 280 Lab Sample ID: 4138.01(Bldg 280)

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

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 12/10/98 Location: 280 Lab Sample ID: 4138.02(Bldg 280)

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	2.65	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	2.22	Not Detected	--	20	no
67-72-1	Hexachloroethane	0.33	Not Detected	--	10	no
98-95-3	Nitrobenzene	0.46	Not Detected	--	10	no
78-59-1	Isophorone	0.35	Not Detected	--	100	no
111-91-1	bis(2-Chloroethoxy)methane	0.46	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	4.18 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: FMETL NJDEP # 13461 Matrix: (soil/water) WATER

Date Sampled: 12/10/98 Location: 280 Lab Sample ID: 4138.02(Bldg 280)

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
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 1/12/99 Location: 280 Lab Sample ID: 4181.03(Bldg 280)

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

Table 4
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 1/12/99 Location: 280 Lab Sample ID: 4181.03(Bldg 280)

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

Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 1/12/99 Location: 280 Lab Sample ID: 4181.04(Bldg 280)

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	2.65	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	2.22	Not Detected	--	20	no
67-72-1	Hexachloroethane	0.33	1.89 ug/L	--	10	no
98-95-3	Nitrobenzene	0.46	Not Detected	--	10	no
78-59-1	Isophorone	0.35	Not Detected	--	100	no
111-91-1	bis(2-Chloroethoxy)methane	0.46	Not Detected	--	nle	no
120-82-1	1,2,4-Trichlorobenzene	0.25	Not Detected	--	9	no
91-20-3	Naphthalene	0.25	1.78 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	1.31 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

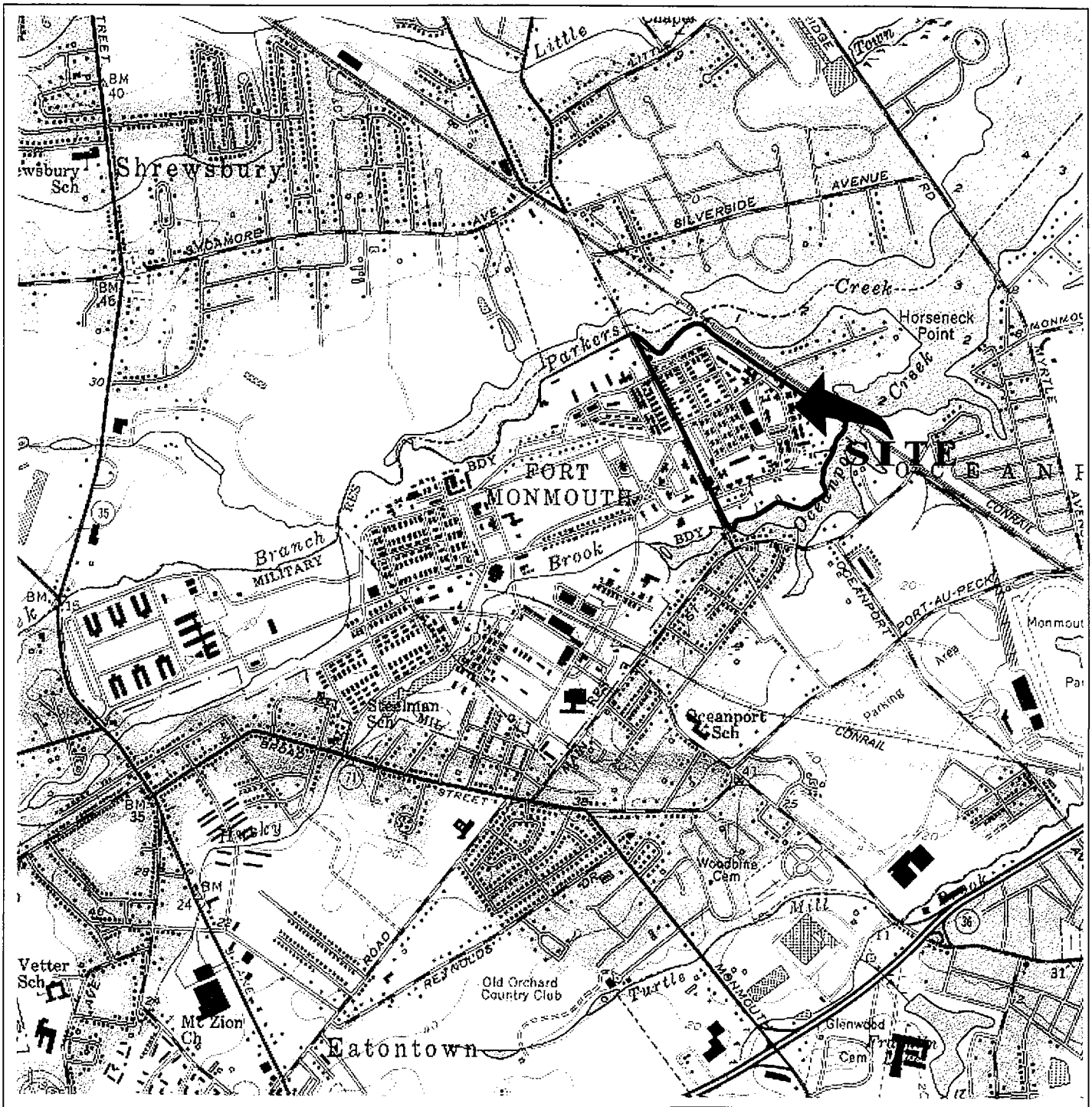
Table 4
SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 1/12/99 Location: 280 Lab Sample ID: 4181.04(Bldg 280)

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	1.68 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	2.32 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	2.11 ug/L	--	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



LONG BRANCH, N. J.

40073-C8-TF-024

1954

PHOTOREVISED 1981

DMA 6164 I SE-SERIES V822

QUADRANGLE LOCATION

Mapped, edited and published by the Geological Survey

FIGURE 1

SITE LOCATION MAP
Building 280
Main Post-East
Fort Monmouth Army Base
Monmouth County, NJ

SMC Environmental Services Group

Engineers, Managers, Scientists & Planners

Valley Forge, PA.

SCALE: 1"= 2000'	DATE: APRIL 1997

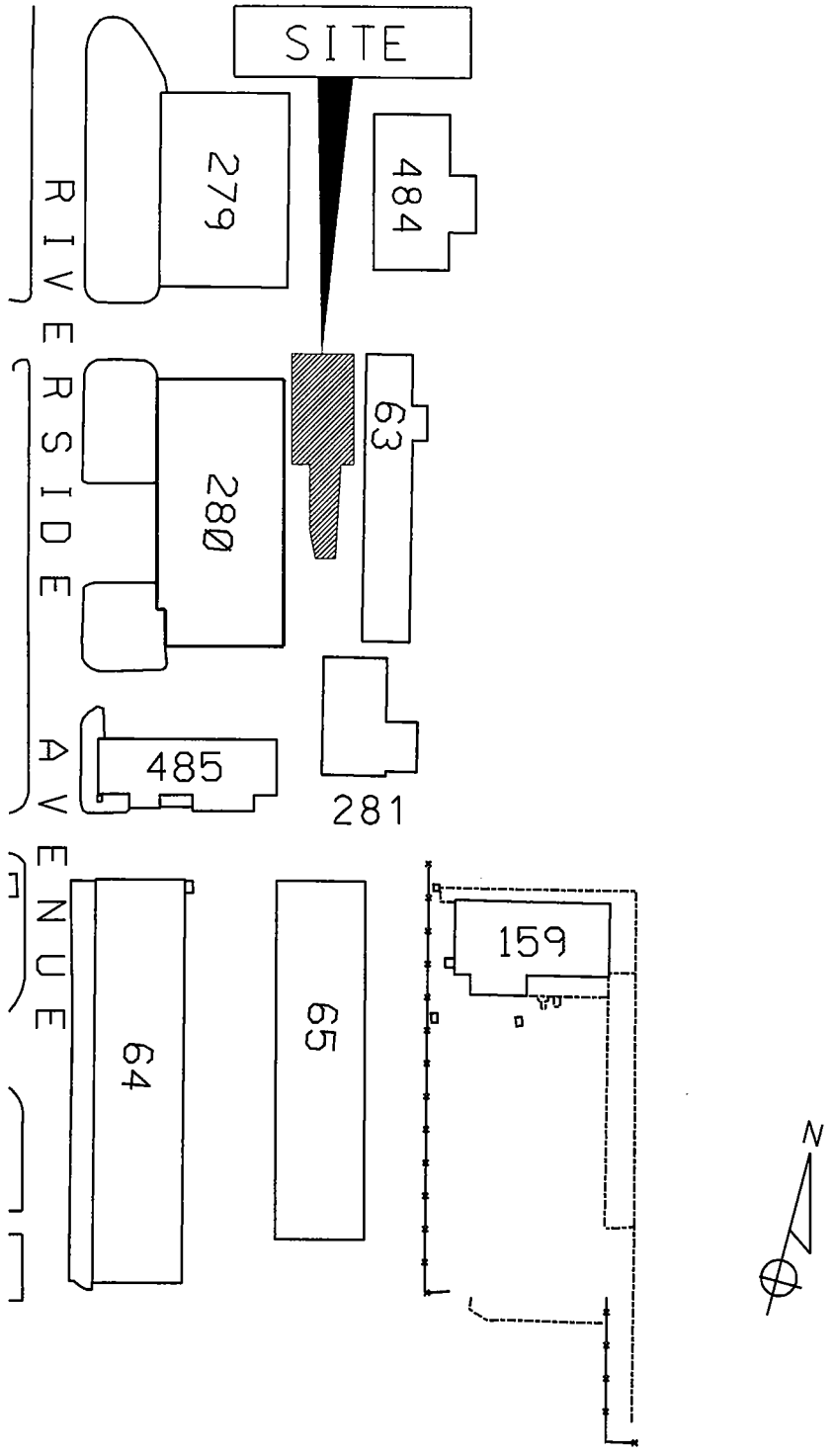


FIGURE 2
SITE MAP
BUILDING 280
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1"=100'

DATE: APRIL 1997

280 2429 FIG2

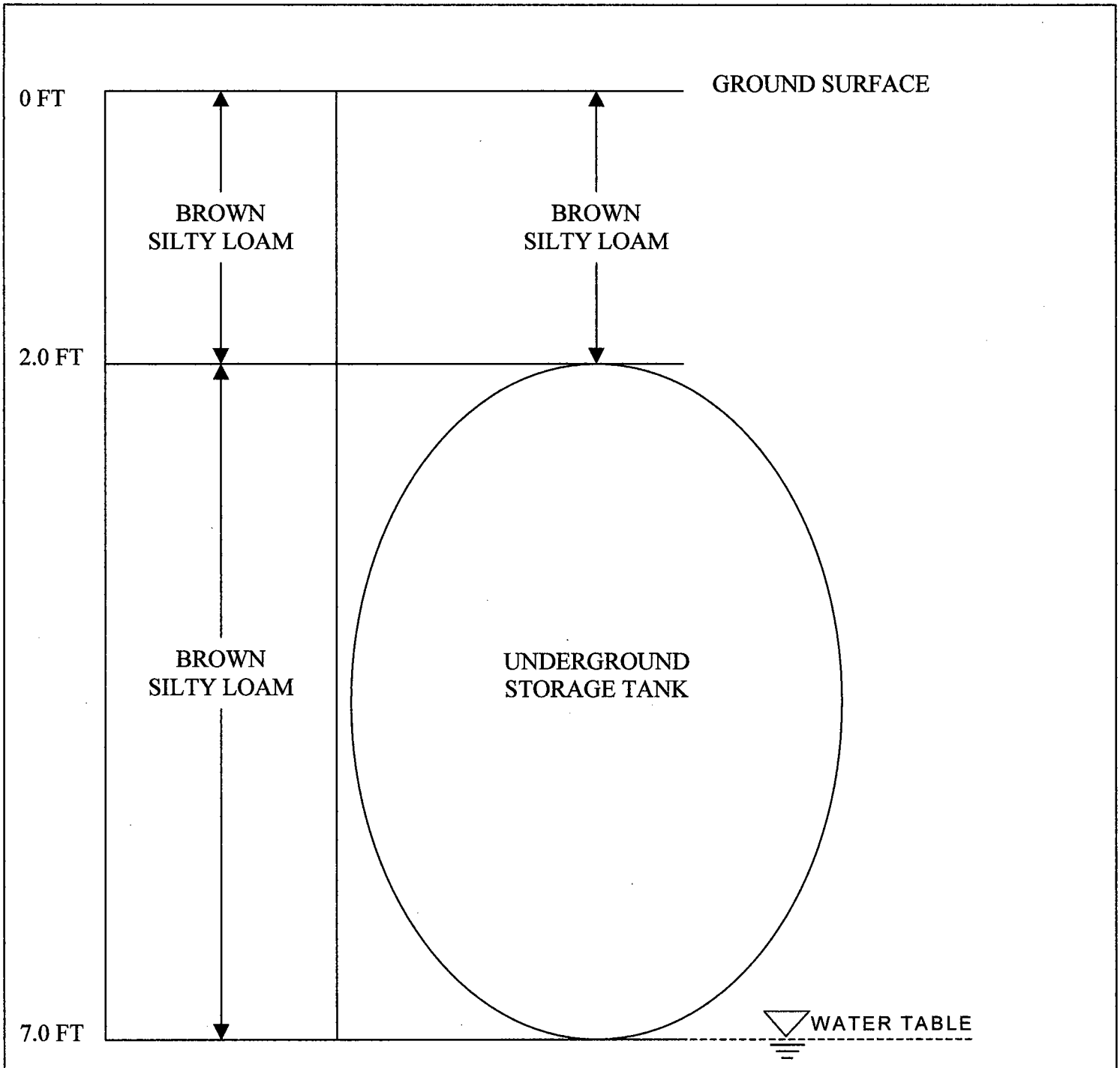
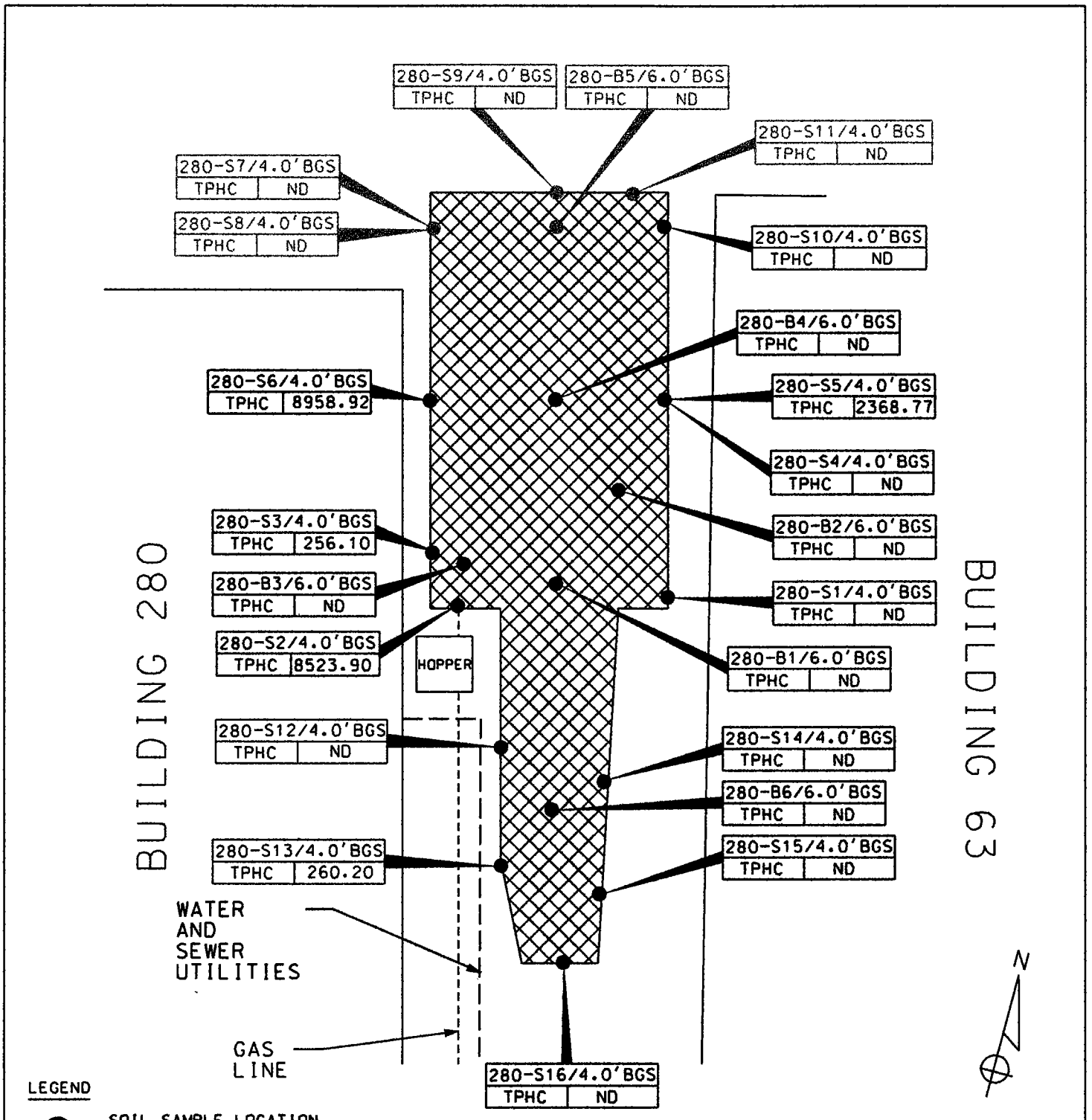


FIGURE 3
CROSS SECTIONAL VIEW
BUILDING 280
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
Engineers, Managers, Scientists & Planners
Bristol, Pennsylvania

SCALE: NTS	DATE: March 1997



LEGEND

- SOIL SAMPLE LOCATION (APRIL 24, 1997)
- SOIL SAMPLE LOCATION (APRIL 25, 1997)
- SOIL SAMPLE LOCATION (APRIL 28, 1997)
- SOIL SAMPLE LOCATION (APRIL 29, 1997)
- SOIL SAMPLE LOCATION (FEBRUARY 15, 2000)
- LIMIT OF EXCAVATION (APRIL 29, 1997)

NOTES:

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

FIGURE 4
SOIL SAMPLING LOCATION MAP
BUILDING 280
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1"= 20'

DATE: APRIL 1997

280 2429 FIG4

APPENDIX A

NJDEP-STANDARD REPORTING FORM

Departmen Environmental Protection and Energy
Divisic of Responsible Party Site Remediation
CN 028
Trenton, NJ 08625-0029

ATTN: UST Program
(609) 984-3156

Date Rec'd.	
Auth.	
Routing	
UST NO.	

STANDARD REPORTING FORM
for reporting activities at an UST facility:

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

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

(More than one tank can be listed per activity)

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

Answer questions 1 through 5 and others as applicable.

1. Company name and address (as it appears on registration questionnaire): U.S. ARMY – FORT MONMOUTH
DPW – BUILDING 173
FORT MONMOUTH N.J 07703
ATTN: EUGENE N. LESINSKI

2. Facility name and location (if different from above): _____

3. Contact person for this activity: GENE LESINSKI
Telephone Number: (908) 532-0989

4. The identification number of the affected tank as it appears in Question Number 12 on the Registration Questionnaire: BLDG 250 25

5. Registration Number (if known): UST - 009001

6. For GENERAL FACILITY INFORMATION changes (address, telephone, contact person, etc. – supply NEW information only):

   a. Facility name: _____
   b. Facility location: _____
   c. Owner's mailing address: _____
   _____
   _____ NJ _____
   _____
   d. Block: _____ Lot: _____
   e. Contact person (facility operator): _____
   f. Contact telephone number: (_____) _____ – _____
   g. Other (Specify): _____

(OVER)

a. ☐ Abandonment Date: ___/___/___

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

b. ☒ Removal Date: 3/27/97 Case No. 97-3-27-1054-57 OGR #17

Attach the necessary implementation schedule (3 copies).

8. For CHANGES IN HAZARDOUS SUBSTANCES STORED (check all that apply):

a. ☐ Temporary Closure (12 month maximum time – see N.J.A.C. 7:14B-9.1(b)). Remove all hazardous substances; leave tank in place.

b. ☐ Change in service from a regulated substance to a non-regulated substance. Tank must be cleaned and site assessment performed per N.J.A.C. 7:14B-9.1(e).

c. ☐ Changes in service from one regulated hazardous substance to another regulated hazardous substance.

Tank No. _____ Old _____ New _____

Tank No. _____ Old _____ New _____

Tank No. _____ Old _____ New _____

(Attach additional sheets if more space is needed)

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

a. New Owner (operator) _____

b. New Facility Name _____

_____

_____ NJ _____

_____

County

c. Closing Attorney _____ Tele: (___) ___-___

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

a. Type of Modification _____ Date: ___/___/___

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

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

a. Policy Type: ☐ d. Company/Carrier: ☐

b. Policy Number: ☐ e. Expiration Date: ☐

c. Other: ☐

_____

_____

_____

(Specify)

NOTE: ALL appropriate and applicable permits, licenses and certificates required by the above activity(ies) from any local, state and/or federal agencies must be obtained separately from this notification.

CERTIFICATION

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

"I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including fines and/or imprisonment."

Signature: James Ott

Name (print or type): JAMES OTT

Title: DIRECTOR - DEPT OF PUBLIC WORKS Date: 5/20/97

SRS-USE

(INT/MOD-2/92)

APPENDIX B

SITE ASSESSMENT SUMMARY

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

Site Remediation Program

UST Site/Remedial Investigation Report Certification Form

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

Facility Street Address : Directorate of Public Works Building 173

Municipality: Oceanport County : Monmouth

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

B. Owner (RP)'s Name:

Street Address: City :

State: Zip: Telephone Number :

C. (Check as appropriate)

___ Site Investigation Report (SIR) $500 Fee

___ Remedial Investigation Report (RIR) $1000 Fee

_X_ NA – Federal Agreement

D. (Complete all that apply)

- Assigned Case Manager : Ian Curtis, Federal Case Manager
- UST Registration Number : 90010-25 (7 digits)
- Incident Report Number 97 – 03 – 27 – 1054 – 57 (10 or 12 digits)

___ – ___ – ___ – ___ – ___ – ___

- Tank Closure Number : Federal Case Manager

E. Certification by the Subsurface Evaluator:

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

Name: Eugene Lesinski Signature: See signed subsurface removal log UST Cert. No.: 14537

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

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

State: NJ Zip: 07703 Telephone Number : 732-532-6224

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

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

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

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

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

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

Signature: James Ott

Company Name: U.S. Army Fort Monmouth Date: 9/4/00

[illegible] ARMY, SELFM-PW-E[illegible]

DAILY UST SUBSURFACE REMOVAL LOG

BLDG.#: 280 REG.#: 0090010 - 25 CLOSURE#: N/A

DATE: 3-27-97 TOA: 1015 TOD: 1045

GOV. SSE: LESINSKI NJDEP CERT.#: 004537

REMOVAL CONTRACTOR: ~~SAI Inc.~~ TVS

CLOSURE SUPERVISOR: DeMartinis NJDEP CERT.#: —

WEATHER: SUNNY - 50°F

ACTIVITY	YES / NO
THE SUPERVISOR (CLOSURE CERT.) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	Y
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	Y
ALL ON-SITE PERSONNEL HAD TRAINING IAW ALL SAFETY REQUIREMENTS (E.G. 29CFR)	Y
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	Y
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	Y
A DISCHARGE WAS REPORTED TO THE NJDEP (609-292-7172), CASE# 97-3-27-1054-57	Y
PHOTOS HAVE UST#, BLDG. #, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK	Y
GROUNDWATER WAS ENCOUNTERED AT 7.0 FEET BG, A SHEEN (WAS/WAS NOT) OBSERVED ON GW	Y
IF OVA/Hnu WAS USED: WAS IT CAL. AND FOUND TO BE OPERATIONAL (cal. data on COC)	N/A
IF SAMPLES WERE TAKEN: COC, SCALED SITE MAP (VERT. SOIL HORIZONS AND PLOT PLAN)	N/A
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM, 1992	N/A
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7:26E-3.6 et seq.	N/A
ALL PETROL. CONT. SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	Y
THE SSE AUTHORIZED BACKFILLING THE EXCAVATION (STONE TO 1" ABOVE GROUNDWATER)	N/A
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	N
THE FOLLOWING DOCUMENTS WERE ADDED TO THE PROJECT FOLDER TODAY: (CIRCLE EACH) SCRAP TICKET, CSE PERMIT, ACCIDENT REPORT, HAZ. WASTE MANIFEST, DAILY UST CLOSURE LOG, SCALED SITE MAP ~~(SAMPLING)~~, SRF-CLOSURE, CHAIN OF CUSTODY, SOIL ANALYTICAL RESULTS, CLEAN FILL TICKETS (IN YDS^3), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS)	Y

CHECK ALL BOXES, LEAVE NO BLANKS

I certify under penalty of law that tank decommissioning activities were performed in compliance with N.J.A.C. 7:14B-9.2(b)3 and 7:26 et seq.. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment.

SIGNATURE: _____ DATE: 3-27-97

ca\ms\ust\removal\sitessls.doc

APPENDIX C

WASTE MANIFEST

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

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. NJ321002597 | Manifest Document No. 03346 | 2. Page 1 of 1 | NH2 003346

GENERATOR

3. Generator's Name and Mailing Address
US. Army Communications Electronics Commans
Main Post c/o J. Fallon Bldg #173
4. Generator's Phone 908-532-0959 ATTN: SELFM-PW-EV Fort Monmouth NJ. 07703

Same

5. Transporter 1 Company Name: LIONETTI OIL RECOVERY CO INC | 6. US EPA ID Number: N J D 0 8 4 0 4 4 0 6 4 | A. Transporter's Phone: 908 721-0900

7. Transporter 2 Company Name | 8. US EPA ID Number | B. Transporter's Phone

9. Designated Facility Name and Site Address
LIONETTI OIL RECOVERY CO INC DBA LORCO PETROLEUM SVCS
RUNYON&CHEESEQUAKE RDS
OLD BRIDGE, NJ 08857
10. US EPA ID Number: N J D 0 8 4 0 4 4 0 6 4
C. Facility's Phone: 908 721-0900

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. PETROLEUM OIL(PETROLEUM OIL) COMBUSTIBLEL LIQUID UN1270 PGIII	0 0 1	T	x5.500	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
T,L PETROLEUM OIL 10 %
WATER 90 %

E. Handling Codes for Wastes Listed Above
T04 FILTRATION

15. Special Handling Instructions and Additional Information
24 HR EMERGENCY RESPONSE#(908) 721-0900
DECAL#73633 ERG#128 DEXSIL TEST KIT RESULTS N/A PPM
MANIFEST USED FOR TRACKING PURPOSES ONLY

FOR TRACKING PURPOSES ONLY

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: EUGENE W LESINSKI | Signature | Month 03 | Day 25 | Year 97

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Chuck Clayton | Signature | Month 03 | Day 25 | Year 97

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Richard LaBella | Signature | Month 03 | Day 25 | Year 97

ORIGINAL - RETURN TO GENERATOR

APPENDIX D

UST DISPOSAL CERTIFICATE

APPENDIX E

SOIL ANALYTICAL DATA PACKAGE

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

REPORT OF ANALYSIS

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

Project: Total Petroleum Hydrocarbons
96-1262
Bldg. 280

Project # 2414
Date Rec. 03/27/97
Date Comp. 03/28/97
Released by:

Daniel K. Wright
Laboratory Director

Table of Contents

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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

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

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

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

PHC Conformance/Non-conformance Summary Report

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

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

Additional Comments:

Laboratory Authentication Statement

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

Daniel K. Wright
Laboratory Manager

Fort Monmouth Environmental ting 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

Page 1 of 1

HCl

Customer: GENE LESINSKI - DPW ( )DERA ( )OMA ( )Other:	Project No:	Location: B.280	Analysis Parameters						Comments: DEDICATED SAMPLING TOOLS USED. SEE ATTACHED SKETCH FOR SAMPLING LOCATIONS. *=SAMPLES KEPT BELOW 4°C.
Sampler's Signature:			TPHC	% SOLIDS	MUSSEL	VOA+15	2 TO BE DETERMINED	QUA	
Lab Sample I.D.	Sample Location	Date / Time / Sample Type							Remarks / Preservation Method
2414-01	280-A1	3-27-97 1054 SOIL	X	X	X	X		10	SIDEWALL@3.0' *
02	280-A2	1104						100	SIDEWALL@6.0'
03	280-B	1403						15	PIPING RUN@1.5'
04	280-C	1515						100	SIDEWALL@6.0'
~~280-D~~									~~SIDEWALL@6.0'~~
05	280-DUP	—						—	FIELD DUPLICATE
06	280-FB	1535 AQ						—	FIELD BLANK

SAMPLE "D" NOT COLLECTED

NOTE: OVA CALIBRATED W/85 PPM CH4 ZERO(0) AIR @ 1035 HRS. ON 3-27-97 BY G. DiMARTINIS. (SERIAL #A51903)

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
	3/28/97 1005	Sarah Hubbard			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Relinquished by (signature):	Date/Time:	Received for laboratory by (signature):	Date/Time:	Remarks:	

print legibly

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

Client :	U.S. Army	**Lab. ID # :**	2414
	DPW. SELFM-PW-EV	**Date Rec'd:**	27-Mar-97
	Bldg. 173	**Analysis Start:**	28-Mar-97
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	28-Mar-97
Analysis:	OQA-QAM-025	**UST Reg. #:**	
Matrix:	Soil	**Closure #:**	
Analyst:	P. Skelton	**DICAR #:**	
Ext. Meth:	Shake	**Location #:**	B418

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
2414.01	280-A1	**1.00**	15.10	82.82	188	**0.00**
2414.02	280-A2	**1.00**	15.75	82.51	181	**15736.55**
2414.03	280-B	**1.00**	15.40	83.20	183	**4410.35**
2414.04	280-C	**1.00**	15.22	85.25	181	**702.60**
2414.05	280-DUP	**1.00**	15.07	82.98	188	**8118.16**
METHOD BLANK		**1.00**	15.00	100.00	157	**0.00**

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature _____

Date 1 /12/ 25

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
AREA-280

Project # 2479/2480
Date Rec. 04/25/97
Date Comp. 04/28/97
Released by:

Daniel K. Wright
Laboratory Director

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Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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PHC Conformance/Non-conformance Summary Report

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

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

Additional Comments:

Laboratory Authentication Statement

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

Daniel K. Wright
Laboratory Manager

Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: SMC / Chuck Appleby
Phone #: (610) 265-2700
( )DERA (X)OMA ( )Other:
Project No:
Location: Area 280
Samplers Name / Company : David H. Daniels / SMC

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: % Solids	TPHC		VOA +15					Comments: Remarks / Preservation Method
2479.01	280-B1	4.24.97	11:45	SOIL	2	X	X							
2479.02	280-B2		11:50											
2480.01	280-S1		11:55											
2480.02	280-S2		14:50											✓ High OVA Readings
2480.03	280-S3		14:55											✓ High OVA Readings
2479.03	280-B3		15:00											
2480.04	280-S4	4.25.97	9:35											✓ High OVA Readings
2480.05	280-S5		9:40											✓ High OVA Readings
2480.06	280-S6		9:45											✓ High OVA Reading
2479.04	280-B4		9:50											

Do VOA +15 on All samples that have a TPHC above 1,000 ppm

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
David H. Daniels	4.25.97 11:10				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: (_)Full, (X)Reduced, (_)Standard, (_)Screen / non-certified
Turnaround time: (_)Standard 4 wks, (X)Rush ~~2~~ 5 Days For TPHS, (_)ASAP Verbal ____ Hrs.
~~Need Tuesday Morning at 8:00 AM~~ S.H.S.

Remarks:

print legibly

Custody.xls4/3/97

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

Client :	U.S. Army	**Lab. ID # :**	2479/2480
	DPW. SELFM-PW-EV	**Date Rec'd:**	25-Apr-97
	Bldg. 173	**Analysis Start:**	25-Apr-97
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	28-Apr-97
Analysis:	OQA-QAM-025	**UST Reg. #:**	
Matrix:	Soil	**Closure #:**	
Analyst:	P. Skelton	**DICAR #:**	
Ext. Meth:	Shake	**Location #:**	Area 280

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
2479.01	280-B1	1.00	15.16	81.90	189	ND
2479.02	280-B2	1.00	15.25	83.60	184	ND
2479.03	280-B3	1.00	15.01	85.78	183	ND
2479.04	280-B4	1.00	15.46	81.80	186	ND
2480.01	280-S1	1.00	15.78	79.54	187	ND
2480.02	280-S2	1.00	15.02	86.26	181	8523.90
2480.03	280-S3	1.00	15.16	100.00	155	256.10
2480.04	280-S4	1.00	15.21	84.80	182	ND
2480.05	280-S5	1.00	15.41	79.92	191	2368.77
2480.06	280-S6	1.00	15.08	88.64	176	8958.92
METHOD BLANK	25-Apr-97	1.00	15.00	100.00	157	0.00

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 1/21/96

Laboratory Certification #13461

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

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

REPORT OF ANALYSIS

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

Project: Volatiles - EPA Method 8260
Area 280

Project # 2479/2480
Date Rec. 04/25/97
Date Compl. 05/06/97
Released by:

Daniel K. Wright
Laboratory Director

Table of Contents

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) — Y

2. Retention times for chromatograms provided — Y

3. GC/MS Tune Specifications

   a. BFB Meet Criteria — Y
   b. DFTPP Meet Criteria — ____

4. GC/MS Tuning Frequency - Performed every 24 hours for 600 series and 12 hours for 8000 series — Y

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 — Y

6. GC/MS Calibration Requirements

   a. Calibration Check Compounds Meet Criteria — Y
   b. System Performance Check Compounds Meet Criteria — Y

7. Blank Contamination - If yes, List compounds and concentrations in each blank: — N

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

8. Surrogate Recoveries Meet Criteria — N

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

   a. VOA Fraction TOL - 164, 164, 135, 152 BFB - 538, 189, 159, 160
   b. B/N Fraction _____
   c. Acid Fraction _____

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

9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria — Y
   (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 _____

4

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

Indicate
Yes, No, N/A

10. Internal Standard Area/Retention Time Shift Meet Criteria — N
    (If not met, list those compounds which fall outside the acceptable range)
    a. VOA Fraction chlorobenzene-d5
    b. B/N Fraction _____
    c. Acid Fraction _____

11. Extraction Holding Time Met — —

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

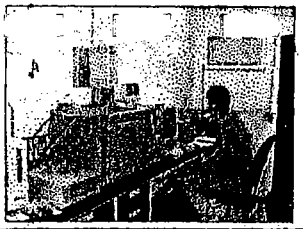
12. Analysis Holding Time Met — Y

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

Additional Comments:
_____
_____
_____

Laboratory Manager : _____ Date: 2-11-96

5



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 Applebx | **Project No:** | **Location:** Area 280

Phone #: (610) 265-2700

( )DERA (X)OMA ( )Other: _____

Samplers Name / Company : David H. Daniels / SMC

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	% Solids	TPHC		VOA+15					Comments: Remarks / Preservation Method
2479.01	280- B1	4.24.97	11:45	50:1	2	X	X							
2479.02	280- B2		11:50											
2480.01	280- S1		11:55											
2480.02	280-S2		14:50											✓ High OVA Readings
2480.03	280-S3		14:55											✓ High OVA Readings
2479.03	280-B3		15:00											
2480.04	280-S4	4.25.97	9:35											✓ High OVA Readings
2480.05	280-S5		9:40											✓ High OVA Readings
2480.06	280-S6		9:45											✓ High OVA Reading
2479.04	280-B4		9:50											

Comments: Do VOA+15 on All samples that have a TPHC above 1,000 ppm

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
David H. Daniels	4.25.97 11:10				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified

Turnaround time: ( )Standard 4 wks, (X)Rush ~~2~~ 5 Days For TPHS, ( )ASAP Verbal ____ Hrs.

~~Need Tuesday Morning at 8:00 AM~~

D.H.D.

Remarks:

print legibly

Custody.xls4/3/97

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 Project

NJDEP # 13461 Case No.: 2479/248 Location Area28 SDG No.:

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

Sample wt/vol: 5.0 (g/ml) G Lab File ID: V00779.D

Level: (low/med) LOW Date Received: 04/25/97

% Moisture: not dec. 0 Date Analyzed: 05/06/97

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

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

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

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

Daily Blank

Lab Name: FMETL Project

NJDEP # 13461 Case No.: 2479/248 Location Area28 SDG No.:

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

Sample wt/vol: 5.0 (g/ml) G Lab File ID: V00779.D

Level: (low/med) LOW Date Received: 04/25/97

% Moisture: not dec. 0 Date Analyzed: 05/06/97

GC Column: RTX-502 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.

280-S2

Lab Name: FMETL NJDEP # 13461

Project: Case No.: 2480 Location: Area 2 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 2480.02

Sample wt/vol: 5.0 (g/ml) G Lab File ID: V00794.D

Level: (low/med) LOW Date Received: 04/25/97

% Moisture: not dec. 19.08 Date Analyzed: 05/07/97

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 50.0

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
	Dichlorodifluoromethane	310	U
74-87-3	Chloromethane	310	U
75-01-4	Vinyl Chloride	310	U
74-83-9	Bromomethane	310	U
75-00-3	Chloroethane	310	U
75-69-4	Trichlorofluoromethane	310	U
75-35-4	1,1-Dichloroethene	310	U
67-64-1	Acetone	310	U
75-15-0	Carbon Disulfide	310	U
75-09-2	Methylene Chloride	310	U
156-60-5	trans-1,2-Dichloroethene	310	U
75-35-3	1,1-Dichloroethane	310	U
108-05-4	Vinyl Acetate	310	U
78-93-3	2-Butanone	310	U
	cis-1,2-Dichloroethene	310	U
67-66-3	Chloroform	310	U
75-55-6	1,1,1-Trichloroethane	310	U
56-23-5	Carbon Tetrachloride	310	U
71-43-2	Benzene	310	U
107-06-2	1,2-Dichloroethane	310	U
79-01-6	Trichloroethene	310	U
78-87-5	1,2-Dichloropropane	310	U
75-27-4	Bromodichloromethane	310	U
110-75-8	2-Chloroethyl vinyl ether	310	U
10061-01-5	cis-1,3-Dichloropropene	310	U
108-10-1	4-Methyl-2-Pentanone	310	U
108-88-3	Toluene	310	U
10061-02-6	trans-1,3-Dichloropropene	310	U
79-00-5	1,1,2-Trichloroethane	310	U
127-18-4	Tetrachloroethene	310	U
591-78-6	2-Hexanone	310	U
126-48-1	Dibromochloromethane	310	U
108-90-7	Chlorobenzene	310	U
100-41-4	Ethylbenzene	670	D
1330-20-7	m+p-Xylenes	590	D
1330-20-7	o-Xylene	78	JD
100-42-5	Styrene	310	U
75-25-2	Bromoform	310	U
79-34-5	1,1,2,2-Tetrachloroethane	310	U

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

280-S2

Lab Name: FMETL NJDEP # 13461

Project: Case No.: 2480 Location: Area 2 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 2480.02

Sample wt/vol: 5.0 (g/ml) G Lab File ID: V00794.D

Level: (low/med) LOW Date Received: 04/25/97

% Moisture: not dec. 19.08 Date Analyzed: 05/07/97

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 50.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	310	U
106-46-7	1,4-Dichlorobenzene	310	U
95-50-1	1,2-Dichlorobenzene	310	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

280-S5

Lab Name: FMETL NJDEP # 13461

Project: Case No.: 2480 Location: Area 2 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 2480.05

Sample wt/vol: 5.0 (g/ml) G Lab File ID: V00781.D

Level: (low/med) LOW Date Received: 04/25/97

% Moisture: not dec. 11.18 Date Analyzed: 05/06/97

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	Dichlorodifluoromethane	28	U
74-87-3	Chloromethane	28	U
75-01-4	Vinyl Chloride	28	U
74-83-9	Bromomethane	28	U
75-00-3	Chloroethane	28	U
75-69-4	Trichlorofluoromethane	28	U
75-35-4	1,1-Dichloroethene	28	U
67-64-1	Acetone	56	D
75-15-0	Carbon Disulfide	28	U
75-09-2	Methylene Chloride	28	U
156-60-5	trans-1,2-Dichloroethene	28	U
75-35-3	1,1-Dichloroethane	28	U
108-05-4	Vinyl Acetate	28	U
78-93-3	2-Butanone	28	U
	cis-1,2-Dichloroethene	28	U
67-66-3	Chloroform	28	U
75-55-6	1,1,1-Trichloroethane	28	U
56-23-5	Carbon Tetrachloride	28	U
71-43-2	Benzene	28	U
107-06-2	1,2-Dichloroethane	28	U
79-01-6	Trichloroethene	28	U
78-87-5	1,2-Dichloropropane	28	U
75-27-4	Bromodichloromethane	28	U
110-75-8	2-Chloroethyl vinyl ether	28	U
10061-01-5	cis-1,3-Dichloropropene	28	U
108-10-1	4-Methyl-2-Pentanone	28	U
108-88-3	Toluene	28	U
10061-02-6	trans-1,3-Dichloropropene	28	U
79-00-5	1,1,2-Trichloroethane	28	U
127-18-4	Tetrachloroethene	28	U
591-78-6	2-Hexanone	28	U
126-48-1	Dibromochloromethane	28	U
108-90-7	Chlorobenzene	28	U
100-41-4	Ethylbenzene	28	U
1330-20-7	m+p-Xylenes	28	U
1330-20-7	o-Xylene	28	U
100-42-5	Styrene	28	U
75-25-2	Bromoform	28	U
79-34-5	1,1,2,2-Tetrachloroethane	28	U

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

280-S5

Lab Name: FMETL NJDEP # 13461

Project: Case No.: 2480 Location: Area 2 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 2480.05

Sample wt/vol: 5.0 (g/ml) G Lab File ID: V00781.D

Level: (low/med) LOW Date Received: 04/25/97

% Moisture: not dec. 11.18 Date Analyzed: 05/06/97

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	28	U
106-46-7	1,4-Dichlorobenzene	28	U
95-50-1	1,2-Dichlorobenzene	28	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

280-S6

Lab Name: FMETL NJDEP # 13461

Project: Case No.: 2480 Location: Area 2 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 2480.06

Sample wt/vol: 5.0 (g/ml) G Lab File ID: V00782.D

Level: (low/med) LOW Date Received: 04/25/97

% Moisture: not dec. 15.85 Date Analyzed: 05/06/97

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	Dichlorodifluoromethane	30	U
74-87-3	Chloromethane	30	U
75-01-4	Vinyl Chloride	30	U
74-83-9	Bromomethane	30	U
75-00-3	Chloroethane	30	U
75-69-4	Trichlorofluoromethane	30	U
75-35-4	1,1-Dichloroethene	30	U
67-64-1	Acetone	56	D
75-15-0	Carbon Disulfide	66	D
75-09-2	Methylene Chloride	30	U
156-60-5	trans-1,2-Dichloroethene	30	U
75-35-3	1,1-Dichloroethane	30	U
108-05-4	Vinyl Acetate	30	U
78-93-3	2-Butanone	30	U
	cis-1,2-Dichloroethene	30	U
67-66-3	Chloroform	30	U
75-55-6	1,1,1-Trichloroethane	30	U
56-23-5	Carbon Tetrachloride	30	U
71-43-2	Benzene	30	U
107-06-2	1,2-Dichloroethane	30	U
79-01-6	Trichloroethene	30	U
78-87-5	1,2-Dichloropropane	30	U
75-27-4	Bromodichloromethane	30	U
110-75-8	2-Chloroethyl vinyl ether	30	U
10061-01-5	cis-1,3-Dichloropropene	30	U
108-10-1	4-Methyl-2-Pentanone	30	U
108-88-3	Toluene	30	U
10061-02-6	trans-1,3-Dichloropropene	30	U
79-00-5	1,1,2-Trichloroethane	30	U
127-18-4	Tetrachloroethene	30	U
591-78-6	2-Hexanone	30	U
126-48-1	Dibromochloromethane	30	U
108-90-7	Chlorobenzene	30	U
100-41-4	Ethylbenzene	780	D
1330-20-7	m+p-Xylenes	450	D
1330-20-7	o-Xylene	30	U
100-42-5	Styrene	30	U
75-25-2	Bromoform	30	U
79-34-5	1,1,2,2-Tetrachloroethane	30	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

280-S6

Lab Name: FMETL NJDEP # 13461

Project: Case No.: 2480 Location: Area 2 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 2480.06

Sample wt/vol: 5.0 (g/ml) G Lab File ID: V00782.D

Level: (low/med) LOW Date Received: 04/25/97

% Moisture: not dec. 15.85 Date Analyzed: 05/06/97

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 5.0

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
541-73-1	1,3-Dichlorobenzene	30	U
106-46-7	1,4-Dichlorobenzene	30	U
95-50-1	1,2-Dichlorobenzene	30	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Daily Blank**

Lab Name: FMETL Project

NJDEP # 13461 Case No.: 2479/248 Location Area28 SDG No.:

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

Sample wt/vol: 5.0 (g/ml) G Lab File ID: V00779.D

Level: (low/med) LOW Date Received: 04/25/97

% Moisture: not dec. 0 Date Analyzed: 05/06/97

GC Column: RTX-502 ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

280-S2

Lab Name: FMETL NJDEP # 13461

Project: Case No.: 2480 Location: Area 2 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 2480.02

Sample wt/vol: 5.0 (g/ml) G Lab File ID: V00780.D

Level: (low/med) LOW Date Received: 04/25/97

% Moisture: not dec. 19.08 Date Analyzed: 05/06/97

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 5.0

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. 000591-76-4	Hexane, 2-methyl-	18.60	330	JND
2. 000589-34-4	Hexane, 3-methyl-	19.16	440	JND
3.	unknown hydrocarbon	21.98	470	JD
4. 000108-87-2	Cyclohexane, methyl-	22.53	2300	JND
5. 000592-27-8	Heptane, 2-methyl-	23.46	2200	JND
6.	unknown hydrocarbon	23.58	940	JD
7. 000589-81-1	Heptane, 3-methyl-	23.89	2100	JND
8. 000638-04-0	Cyclohexane, 1,3-dimethyl-, cis-	24.86	2300	JND
9. 000111-65-9	Octane	25.00	1600	JND
10. 003726-47-4	Cyclopentane, 1-ethyl-3-methyl-	25.15	370	JND
11. 002216-34-4	Octane, 4-methyl-	27.51	590	JND
12.	unknown hydrocarbon	27.85	340	JD
13.	unknown hydrocarbon	30.95	950	JD
14. 000526-73-8	Benzene, 1,2,3-trimethyl-	34.03	490	JND
15. 000496-11-7	Indane	36.09	370	JND

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID. **280-S5**

Lab Name: FMETL NJDEP # 13461

Project: Case No.: 2480 Location: Area 2 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 2480.05

Sample wt/vol: 5.0 (g/ml) G Lab File ID: V00781.D

Level: (low/med) LOW Date Received: 04/25/97

% Moisture: not dec. 11.18 Date Analyzed: 05/06/97

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 5.0

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. 004175-53-5	1H-Indene, 2,3-dihydro-1,3-dimet	27.86	210	JND
2.	unknown hydrocarbon	30.93	200	JD
3. 000091-20-3	Naphthalene	31.19	210	JND
4. 017302-28-2	Nonane, 2,6-dimethyl-	32.79	370	JND
5. 013151-35-4	Decane, 5-methyl-	33.89	200	JND
6.	unknown hydrocarbon	34.00	150	JD
7.	unknown	34.07	190	JD
8.	unknown hydrocarbon	35.57	360	JD
9. 000493-02-7	Naphthalene, decahydro-, trans-	35.95	420	JND
10. 000933-98-2	Benzene, 1-ethyl-2,3-dimethyl-	36.79	190	JND
11.	unknown hydrocarbon	37.16	160	JD
12. 004292-92-6	Cyclohexane, pentyl-	37.23	170	JND
13. 002958-76-1	Naphthalene, decahydro-2-methyl	37.41	210	JND
14. 002958-76-1	Naphthalene, decahydro-2-methyl	38.05	180	JND
15. 006044-71-9	Dodecane, 6-methyl-	38.18	260	JND

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

280-S6

Lab Name: FMETL NJDEP # 13461

Project: Case No.: 2480 Location: Area 2 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 2480.06

Sample wt/vol: 5.0 (g/ml) G Lab File ID: V00782.D

Level: (low/med) LOW Date Received: 04/25/97

% Moisture: not dec. 15.85 Date Analyzed: 05/06/97

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 5.0

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. 000589-34-4	Hexane, 3-methyl-	19.15	270	JND
2. 000108-87-2	Cyclohexane, methyl-	22.51	710	JND
3. 000592-27-8	Heptane, 2-methyl-	23.45	660	JND
4.	unknown hydrocarbon	23.57	320	JD
5. 000589-81-1	Heptane, 3-methyl-	23.88	680	JND
6. 000638-04-0	Cyclohexane, 1,3-dimethyl-, cis-	24.85	1100	JND
7. 002216-34-4	Octane, 4-methyl-	27.51	280	JND
8.	unknown hydrocarbon	30.95	840	JD
9. 005911-04-6	Nonane, 3-methyl-	31.29	280	JND
10. 007154-80-5	Heptane, 3,3,5-trimethyl-	32.83	260	JND
11. 000526-73-8	Benzene, 1,2,3-trimethyl-	34.03	380	JND
12. 000141-93-5	Benzene, 1,3-diethyl-	35.59	300	JND
13. 000091-17-8	Naphthalene, decahydro-	35.97	280	JND
14. 000496-11-7	Indane	36.09	340	JND
15.	unknown	37.42	280	JD

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

Laboratory Manager or Environmental Consultant's Signature _____

Date 2/11/16

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
AREA-280

Project # 2483
Date Rec. 04/29/97
Date Comp. 04/30/97
Released by:

Daniel K. Wright
Laboratory Director

Table of Contents

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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

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

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

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

PHC Conformance/Non-conformance Summary Report

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

Additional Comments:_____

Laboratory Authentication Statement

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

Daniel K. Wright
Laboratory Manager

Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: SMC / Chuck Appleby
Phone #: (610) 265-2700
( )DERA (X)OMA ( )Other:_____
Project No: 96-1226
Location: Area 280
Samplers Name / Company : David H. Daniels / SMC

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	% Solids	TPHC		VOA+15					Comments: Remarks / Preservation Method
248.3.01	280-S7	4-28-97	13:00	Soil	1	X	X							
.02	280-S8		13:05		1									
.03	280-B5		13:10		1									
.04	280-S9		13:30		1									
.05	280-S10		14:10		2									✓ High OVA / H-AM
.06	280-S11		14:20		1									
.07	280-SP1		15:15		1									
.08	280-B6	4-29-97	10:20		1									
.09	280-S12		10:25		2									✓ High OVA / H-AM
.10	280-S13		10:30		2									✓ High OVA / H-AM
.11	280-S14		10:35		1									
.12	280-SP2		10:40		1									

Comments: DO VOA+15 on samples that have a TPHC above 1,000 ppm

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
David H. Daniels	4-29-97 11:00	Sarah Hilliard			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Remarks:

print legibly

Custody.xls4/3/97

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

Client :	U.S. Army	**Lab. ID # :**	2483
	DPW. SELFM-PW-EV	**Date Rec'd:**	29-Apr-97
	Bldg. 173	**Analysis Start:**	29-Apr-97
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	30-Apr-97
Analysis:	OQA-QAM-025	**UST Reg. #:**	
Matrix:	Soil	**Closure #:**	
Analyst:	P. Skelton	**DICAR #:**	
Ext. Meth:	Shake	**Location #:**	Area 280

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
2483.01	280-S7	1.00	15.32	78.84	195	ND
2483.02	280-S8	1.00	15.83	78.46	189	ND
2483.03	280-B5	1.00	15.13	74.61	208	ND
2483.04	280-S9	1.00	15.46	83.63	182	ND
2483.05	280-S10	1.00	15.04	85.88	182	2107.05
2483.06	280-S11	1.00	15.85	83.31	178	ND
2483.07	280-SP1	1.00	15.13	82.21	189	ND
2483.08	280-B6	1.00	15.84	84.27	176	ND
2483.09	280-S12	1.00	16.14	84.89	172	4656.40
2483.10	280-S13	1.00	15.00	84.14	186	6455.57
2483.11	280-S14	1.00	15.28	82.89	186	ND
2483.12	280-SP2	1.00	15.42	82.75	184	ND
METHOD BLANK	29-Apr-97	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

6

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature _____

Date 10/3/97

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
AREA-280

Project # 2489
Date Rec. 04/29/97
Date Comp. 04/30//97
Released by:

Daniel K. Wright
Laboratory Director

Table of Contents

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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

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

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

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

PHC Conformance/Non-conformance Summary Report

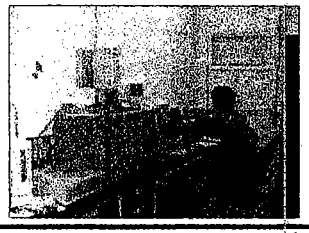
	No	Yes
1. Method Detection Limits provided.	__	✓
2. Method Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank.	✓	__
3. Matrix Spike Results Summary Meet Criteria. (If not met, list the sample and corresponding recovery which falls outside the acceptable range).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

Additional Comments: _____

Laboratory Authentication Statement

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

Daniel K. Wright
Laboratory Manager



Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: SMC / Chuck Appleby
Phone #: (908) 532-2700
( )DERA (X)OMA ( )Other:_____
Project No: 96-1226
Location: Area 280
Samplers Name / Company : David H. Daniels / SMC

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: % Solids	Analysis Parameters: TPHC	Comments: Remarks / Preservation Method
2489.01	280-S15	4-29-97	15:15	Soil	1	X	X	
↓ .02	280-S16	4-29-97	15:20	Soil	1	X	X	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
David H. Daniels	4-29-97 15:30				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Remarks:

print legibly

Custody.xls4/3/97

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

Client :	U.S. Army	**Lab. ID # :**	2489
	DPW. SELFM-PW-EV	**Date Rec'd:**	29-Apr-97
	Bldg. 173	**Analysis Start:**	29-Apr-97
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	30-Apr-97
Analysis:	OQA-QAM-025	**UST Reg. #:**	
Matrix:	Soil	**Closure #:**	
Analyst:	P. Skelton	**DICAR #:**	
Ext. Meth:	Shake	**Location #:**	AREA 280

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
2489.01	280-S15	1.00	15.35	81.34	188	ND
2489.02	280-S16	1.00	15.20	82.24	188	ND
METHOD BLANK	29-Apr-97	1.00	15.00	100.00	157	0.00

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature 

Date 11/23/99

Laboratory Certification #13461

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

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS
PHONE: (732) 532-6224 FAX: (732) 532-6263
WET-CHEM - METALS - ORGANICS - FIELD SAMPLING
CERTIFICATIONS: NJDEP #13461, NYSDOH #11699

ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: IJO# 100004

Bldg. 280

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
280-S10 4'	5177.01	Soil	15-Feb-00 13:40	02/15/00
280-S12 4'	5177.02	Soil	15-Feb-00 14:00	02/15/00
280-S13 4'	5177.03	Soil	15-Feb-00 14:30	02/15/00

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

2-24-00
Daniel Wright/Date
Laboratory Director

Table of Contents

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a orbital 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.

TPHC Conformance/Non-conformance Summary Report

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

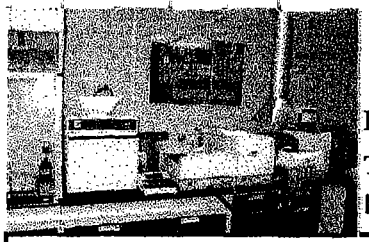
Additional comments: _____

_____

_____

_____ 2-29-00

Laboratory Manager Date



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: D. DESAI
Phone #: X2175
( )DERA (✓)OMA ( )Other:_____

Project No:
Location: BLDG. 280

Samplers Name / Company: MARK LAURA

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	TPHC	% SOLID							Remarks / Preservation Method
5177. 1	280-S10 4'	2-15-00	1340	SOIL	1	X	X							<4°C
2	" -S12 4'	"	1400	"	1	X	X							"
3	" -S13 4'	"	1430	"	1	X	X							"

Comments:

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	2-15-00 1440	[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, ( )EDD
Turnaround time: (X)Standard 3 wks, ( )Rush ____ Days, ( )ASAP Verbal ____ Hrs.

Remarks:

000003

print legibly

Coc.xls2/8/00

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

Client :	U.S. Army DPW. SELFM-PW-EV Bldg. 173 Ft. Monmouth, NJ 07703	**Project # :** **Location :** **UST Reg. # :**	5177 Bldg.280
Analysis :	OQA-QAM-025	**Date Received :**	15-Feb-00
Matrix :	Soil	**Date Extracted :**	18-Feb-00
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	18-Feb-00
Injection Volume :	1uL	**Analyst :**	D. Costagliola

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
5177.01	280-S10	**1.00**	15.50	79.98	190	**ND**
5177.02	280-S12	**1.00**	15.15	82.13	189	**ND**
5177.03	280-S13	**1.00**	15.26	82.13	188	**260.20**
METHOD BLANK	TBLK329	**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 2/24/02

Laboratory Certification #13461

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

Laboratory Authentication Statement

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

Daniel K. Wright
Laboratory Manager

APPENDIX F

GROUNDWATER ANALYTICAL DATA PACKAGE

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

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

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

Bldg. 280

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. 280 5-10'	4138.01	Aqueous	10-Dec-98 14:20	12/10/98
Bldg. 280 5-10'	4138.02	Aqueous	10-Dec-98 14:30	12/10/98

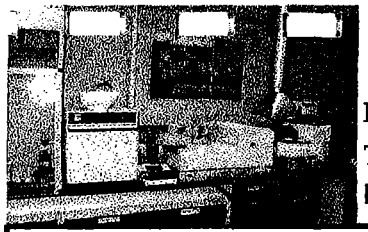
ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
VOA+15, BN+15

2-5-99

Daniel Wright/Date
Laboratory Director

Table of Contents

CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: CA / NERSAR
Phone #: X26224
( )DERA (✓)OMA ( )Other:_____

Project No:
Location: BLDG. 280

Samplers Name / Company : MARK LAURA / TVS

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: VOA + 15	Analysis Parameters: BN + 15	Comments: Remarks / Preservation Method
41138 . 1	BLDG. 280-S.10'	12-10-98	1420	AQ.	2	X		HCL
2	" - "	"	1430	"	1		X	<4oC

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Mark Laura	12-10-98 1540				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Remarks:

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Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

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

Project No:
Location: BLDG. 447

Samplers Name / Company : MARK LAURA T.V.S. DWS 07

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	VOA+15	BN+15							Remarks / Preservation Method
41136 . 1	TRIP BLANK	12-10-98	—	AQ.	2	X								HCL
2	FIELD BLANK	"	1020	"	3	X	X							HCL/4°C
3	BLDG. 447 - 6.5-10.5'	"	1050	"	2	X								
4	" - "	"	1122	"	1		X							

Comments:

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
	12-10-98 1540				

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Remarks:

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FIELD DOCUMENTATION

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

FOR BLDG. # 280

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

Objective:

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

1. Methods

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

2. Installation

A. Using a Geoprobe, a borehole was advanced with a pre-probe with a diameter slightly larger than the casing. The hole was made to a depth of 12 feet. The water table was at 5 feet below ground surface.

B. The screened section of PVC was placed into the borehole so the screened section was across the ground water table from 4 - 9 feet. Riser casing from 4 - +1 feet.

3. Purging

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

4. Sampling

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

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

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

5. Quality Assurance/Quality Control

A. Decontamination

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

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

B. Field Blanks

1 Field blank was shared with bldg. 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

METHODOLOGY SUMMARY

Methodology Summary

EPA Method 624
Gas Chromatographic Determination of Volatiles in Water

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

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

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

CONFORMANCE/ NON-CONFORMANCE SUMMARY

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

Indicate Yes, No, N/A

1. Chromatograms labeled/Compounds identified (Field samples and method blanks) — Yes

2. Retention times for chromatograms provided — Yes

3. GC/MS Tune Specifications

   a. BFB Meet Criteria — Yes
   b. DFTPP Meet Criteria — Yes

4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series — Yes

5. GC/MS Calibration – Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series — Yes

6. GC/MS Calibration requirements

   a. Calibration Check Compounds Meet Criteria — Yes
   b. System Performance Check Compounds Meet Criteria — Yes

7. Blank Contamination – If yes, List compounds and concentrations in each blank: — NO

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

8. Surrogate Recoveries Meet Criteria — Yes

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

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

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

9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries, which fall outside the acceptable range) — Yes

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

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

Indicate
Yes, No, N/A

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

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

11. Extraction Holding Time Met — Yes

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

12. Analysis Holding Time Met — Yes

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

Additional Comments:

Laboratory Manager:_____ Date: 2-5-99

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 4138 **Site:** Bldg. 280

	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

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

Definition of Qualifiers

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

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

Data File Nam	**vb02376.d**	Sample Name	**Vblk74**
Operator	**Skelton**	Field ID	**Vblk74**
Date Acquired	**15 Dec 98 11:53 am**	Sample Multiplier	**1**

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

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

Qualifiers

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

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Vblk74**

Lab Name: FMETL Project 980211

NJDEP# 13461 Case No.: 4138 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

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

Data File Nam	**vb02381.d**	Sample Name	**4136.01**
Operator	**Skelton**	Field ID	**Trip Blank**
Date Acquired	**15 Dec 98 4:07 pm**	Sample Multiplier	**1**

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

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

Qualifiers

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

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Trip Blank**

Lab Name: FMETL Project 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

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

Data File Nam	**vb02382.d**	Sample Name	**4136.02**
Operator	**Skelton**	Field ID	**Field Blank**
Date Acquired	**15 Dec 98 4:52 pm**	Sample Multiplier	**1**

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

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

Qualifiers

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

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Field Blank**

Lab Name: FMETL Project 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:

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File Nam	**vb02385.d**	Sample Name	**4138.01**
Operator	**Skelton**	Field ID	**Bldg280**
Date Acquired	**15 Dec 98 7:07 pm**	Sample Multiplier	**1**

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

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

Qualifiers

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

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Bldg. 280**

Lab Name: FMETL Project 980211

NJDEP# 13461 Case No.: 4138 SDG No _____ Location UST

Matrix (soil/water) WATER Lab Sample ID: 4138.01

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02385.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: 1

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000095-93-2	Benzene, 1,2,4,5-tetramethyl-	37.35	8	JN

BASE NEUTRAL

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BN02453.D**	Sample Name	**Sblk180**
Operator	**Skelton**	Misc Info	**Sblk180 A 981214**
Date Acquired	**21-Dec-98**	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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **Sblk180**

Lab Name: FMETL Lab Cod 13461

Project: 98-0932 Case No.: 4138 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:

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	BN02467.D	Sample Name	4136.02
Operator	Skelton	Misc Info	Field Blank
Date Acquired	22-Dec-98	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

1F

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

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BN02470.D**	Sample Name	**4138.02**
Operator	**Skelton**	Misc Info	**Bldg280**
Date Acquired	**22-Dec-98**	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	12.45	13552	4.18 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			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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **Bldg.280**

Lab Name: FMETL Lab Cod 13461

Project: 98-0932 Case No.: 4138 Location: UST SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 4138.02

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BN02470.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

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Cod 13461

Project: 98-0932 Case No.: 4138 Location: UST SDG No:

Lab File ID: BN02442.D DFTPP Injection Date: 12/21/98

Instrument ID: SVoa#1 DFTPP Injection Time: 14:36

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	58.9
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	83.4
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	25.0 - 75.0% of mass 198	50.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.0
275	10.0 - 30.0% of mass 198	17.6
365	Greater than 0.75% of mass 198	3.6
441	Present, but less than mass 443	9.2
442	40.0 - 110.0% of mass 198	58.7
443	15.0 - 24.0% of mass 442	11.4 (19.5)2

1-Value is % mass 69 2-Value is % mass 442

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

	Field ID:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD120	120 PPM STD	BN02443.D	12/21/98	15:05
02	SSTD80	80 PPM STD	BN02444.D	12/21/98	15:46
03	SSTD50	50 PPM STD	BN02445.D	12/21/98	16:26
04	SSTD20	20 PPM STD	BN02446.D	12/21/98	17:07
05	SSTD10	10 PPM STD	BN02447.D	12/21/98	17:47
06	SBLK180	SBLK180	BN02453.D	12/21/98	21:47
07	SBLK180MS	SBLK180MS	BN02454.D	12/21/98	22:27
08	BLDG.280	4138.02	BN02470.D	12/22/98	9:11

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 _____

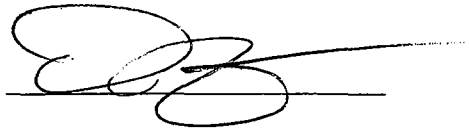
Date 2/5/95

Laboratory Certification #13461

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

Laboratory Authentication Statement

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



Daniel K. Wright
Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS
PHONE: (732)532-6224 FAX: (732)532-6263
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. 280

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
Trip Blank	4181.01	Aqueous	12-Jan-99	01/12/99
Field Blank	4181.02	Aqueous	12-Jan-99 11:50	01/12/99
Bldg. 280	4181.03	Aqueous	12-Jan-99 13:51	01/12/99
Bldg. 280	4181.04	Aqueous	12-Jan-99 13:59	01/12/99
Dup.	4181.05	Aqueous	12-Jan-99	01/12/99
Dup.	4181.06	Aqueous	12-Jan-99	01/12/99

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

2-15-99
Daniel Wright/Date
Laboratory Director

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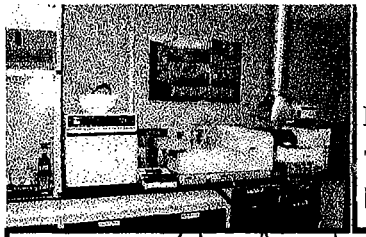
CHAIN OF CUSTODY

000001



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: C. Appleby
Phone #: 532-4359
( )DERA ( )OMA ( )Other:_____

Project No:
Location: Bldg 280 UST

Samplers Name / Company : Corey McCormack, TVS

Analysis Parameters: B/N 625 | V.O 624 + Xylene | Hand

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	B/N 625	V.O 624 + Xylene						Hand	Comments: Remarks / Preservation Method
4181. .01	Trip	1/12/99	0815	AQ	2		✓						✓	0.0 ppm
.02	Field Blank		1150		3	✓	✓							
.03	* Bldg 280		1351		2		✓							wtr depth:
.04	"		1359		1	✓								6.21 ft
.05	Dupe		—		2		✓							
.06	"		—		1	✓								

HCl/4°C

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Corey McCormack	1/12/99 1445	J. Appleby			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Remarks: Shows Dup/Blank/Trip w/ 429, 447

2000002

print legibly

coc.XLS12/29/98

Field Duplicate Identification

Sample Id	Lab ID	Field Duplicate
Bldg. 280	4181.03	4181.05
Bldg. 280	4181.04	4181.06

FIELD DOCUMENTATION

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

FOR BLDG. # 280

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

Objective:

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

1. Methods

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

2. Installation

A. Using a Geoprobe, a borehole was advanced with a pre-probe with a diameter slightly larger than the casing. The hole was made to a depth of 12 feet. The water table was at 5 feet below ground surface.

B. The screened section of PVC was placed into the borehole so the screened section was across the ground water table from 4 - 9 feet. Riser casing from 4 - +1 feet.

3. Purging

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

4. Sampling

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

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

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

5. Quality Assurance/Quality Control

A. Decontamination

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

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

B. Field Blanks

1 Field blank was shared with bldg. 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

METHODOLOGY SUMMARY

Methodology Summary

EPA Method 624
Gas Chromatographic Determination of Volatiles in Water

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

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

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

CONFORMANCE/ NON-CONFORMANCE SUMMARY

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

Indicate Yes, No, N/A

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

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

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

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

Indicate
Yes, No, N/A

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

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

11. Extraction Holding Time Met — Yes

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

12. Analysis Holding Time Met — Yes

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

Additional Comments:

Laboratory Manager: _____ Date: 2-15-99

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 4181 Site: Bldg. 280

	Date	Hold Time
Date Sampled	01/12/99	NA
Receipt/Refrigeration	01/12/99	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

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

Definition of Qualifiers

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

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

Data File Name	**v05520.d**	Sample Name	**Vblk146**
Operator	**Skelton**	Field ID	**Vblk146**
Date Acquired	**22 Jan 1999 9:08**	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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Vblk146**

Lab Name: FMETL Project 980932

NJDEP # 13461 Case No.: 4181 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: 01/12/99

% 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: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

000017

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

Data File Name	**v05532.d**	Sample Name	**4181.01**
Operator	**Skelton**	Field ID	**Trip Blank**
Date Acquired	**22 Jan 1999 18:01**	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

000068

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Trip Blank**

Lab Name: FMETL Project 980932

NJDEP # 13461 Case No.: 4181 Location UST SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 4181.01

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: V05532.D

Level: (low/med) LOW Date Received: 01/12/99

% 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: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File Name	**v05533.d**	Sample Name	**4181.02**
Operator	**Skelton**	Field ID	**Field Blank**
Date Acquired	**22 Jan 1999 18:45**	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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Field Blank**

Lab Name: FMETL Project 980932

NJDEP # 13461 Case No.: 4181 Location UST SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 4181.02

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: V05533.D

Level: (low/med) LOW Date Received: 01/12/99

% 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: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File Name	**v05534.d**	Sample Name	**4181.03**
Operator	**Skelton**	Field ID	**Bldg280**
Date Acquired	**22 Jan 1999 19:28**	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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Bldg280**

Lab Name: FMETL Project 980932

NJDEP # 13461 Case No.: 4181 Location UST SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 4181.03

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: V05534.D

Level: (low/med) LOW Date Received: 01/12/99

% 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: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File Name	**v05535.d**	Sample Name	**4181.05**
Operator	**Skelton**	Field ID	**Field Dup**
Date Acquired	**22 Jan 1999 20:11**	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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Dupe**

Lab Name: FMETL Project 980932

NJDEP # 13461 Case No.: 4181 Location UST SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 4181.05

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: V05535.D

Level: (low/med) LOW Date Received: 01/12/99

% 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: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

BASE NEUTRAL

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BN02687.D**	Sample Name	**Sblk192**
Operator	**Bhaskar**	Misc Info	**Sblk192 A 990114**
Date Acquired	**26-Jan-99**	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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **Sblk192**

Lab Name: FMETL Lab Cod 13461

Project: UST Case No.: _____ Location: 280 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: 1/12/99

% 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: _____

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BN02688.D**	Sample Name	**4181.02**
Operator	**Bhaskar**	Misc Info	**Field Blank**
Date Acquired	**26-Jan-99**	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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **Field Blank**

Lab Name: FMETL Lab Cod 13461

Project: UST Case No.: _____ Location: 280 SDG No: _____

Matrix: (soil/water) WATER Lab Sample ID: 4181.02

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BN02688.D

Level: (low/med) LOW Date Received: 1/12/99

% 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: _____

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BN02689.D**	Sample Name	**4181.04**
Operator	**Bhaskar**	Misc Info	**Bldg280**
Date Acquired	**26-Jan-99**	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	8.72	23658	1.89 ug/L	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	98312	1.78 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	11.96	58728	1.31 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			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	15.64	49473	1.68 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	17.83	79335	2.32 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	24.56	73191	2.11 ug/L	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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **Bldg.280**

Lab Name: FMETL Lab Cod 13461

Project: UST Case No.: Location: 280 SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 4181.04

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BN02689.D

Level: (low/med) LOW Date Received: 1/12/99

% 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:

Number TICs found: 6 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 017301-23-4	Undecane, 2,6-dimethyl-	10.75	8	JN
2.	unknown	11.59	9	J
3. 018344-37-1	Heptadecane, 2,6,10,14-tetramet	14.07	14	JN
4.	unknown	16.27	22	J
5. 074645-98-0	Dodecane, 2,7,10-trimethyl-	16.90	37	JN
6. 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	**BN02690.D**	Sample Name	**4181.06**
Operator	**Bhaskar**	Misc Info	**Dupe**
Date Acquired	**26-Jan-99**	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	89189	1.60 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	11.96	47327	1.04 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			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	17.83	40739	1.19 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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **Dupe**

Lab Name: FMETL Lab Cod 13461

Project: UST Case No.: Location: 280 SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 4181.06

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BN02690.D

Level: (low/med) LOW Date Received: 1/12/99

% 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: 4 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000112-40-3	Dodecane	14.07	9	JN
2. 017301-22-3	Undecane, 2,5-dimethyl-	16.26	14	JN
3. 031295-56-4	Dodecane, 2,6,11-trimethyl-	16.90	22	JN
4. 054833-48-6	Heptadecane, 2,6,10,15-tetramet	17.99	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 2/19/99

Laboratory Certification #13461

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

Laboratory Authentication Statement

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

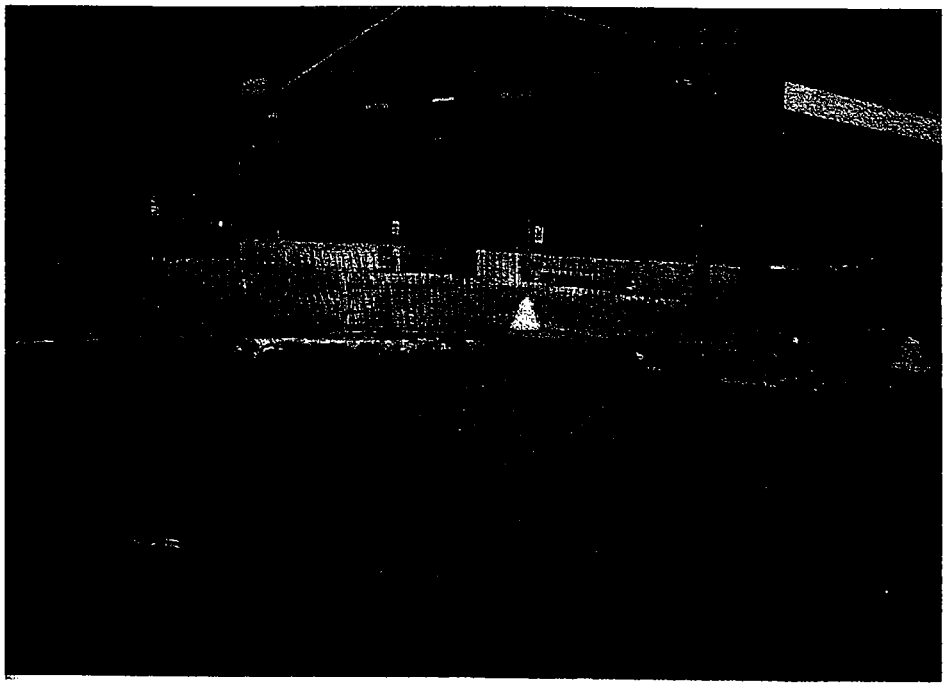
2-15-99

Daniel K. Wright
Laboratory Manager

APPENDIX G

PHOTOGRAPHS

REMEDIATION BETWEEN BUILDING 280 AND 63



REMEDIATED AREA IN THE NORTHWEST
SECTION OF THE EXCAVATION

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

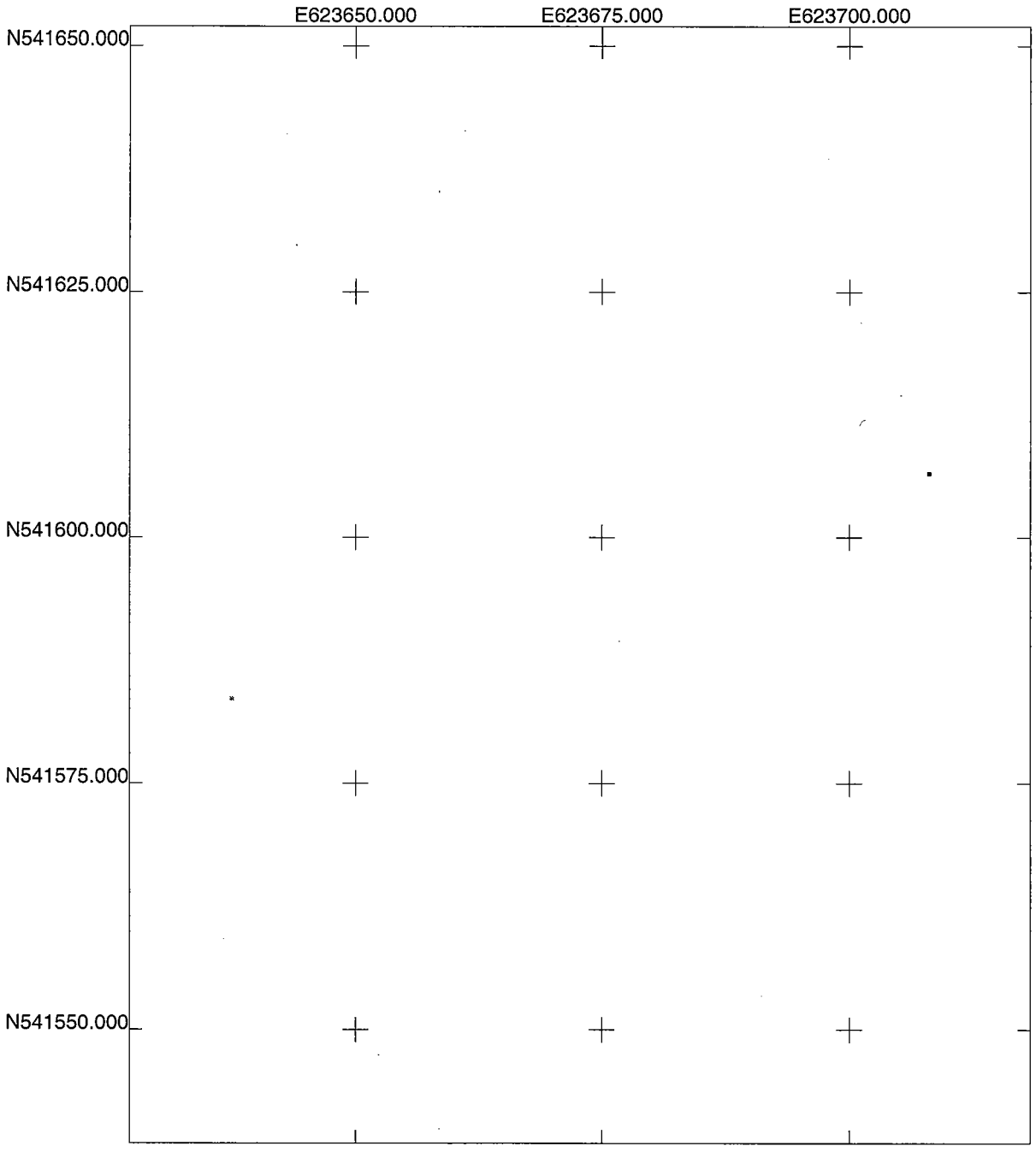
REMEDIATION IN THE NORTHEAST SECTION OF THE EXCAVATION

REMEDIATION OF SOUTHERN PORTION OF THE EXCAVATION

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

APPENDIX H

ELECTRONIC DATA DELIVERABLES



Bldg. 280 UST Ground Water Sample GPS Location Map

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

N

Scale 1:200
0 25.00
US Survey Feet

r011319agw280.cor
2/10/2000
Pathfinder Office
Trimble

BLDG. 280 UST GROUND WATER SAMPLE GPS POSITION & COORDINATES

US STATE PLANE 2983 NJ (NY EAST) 2900 NAD 1983 (CONUS)

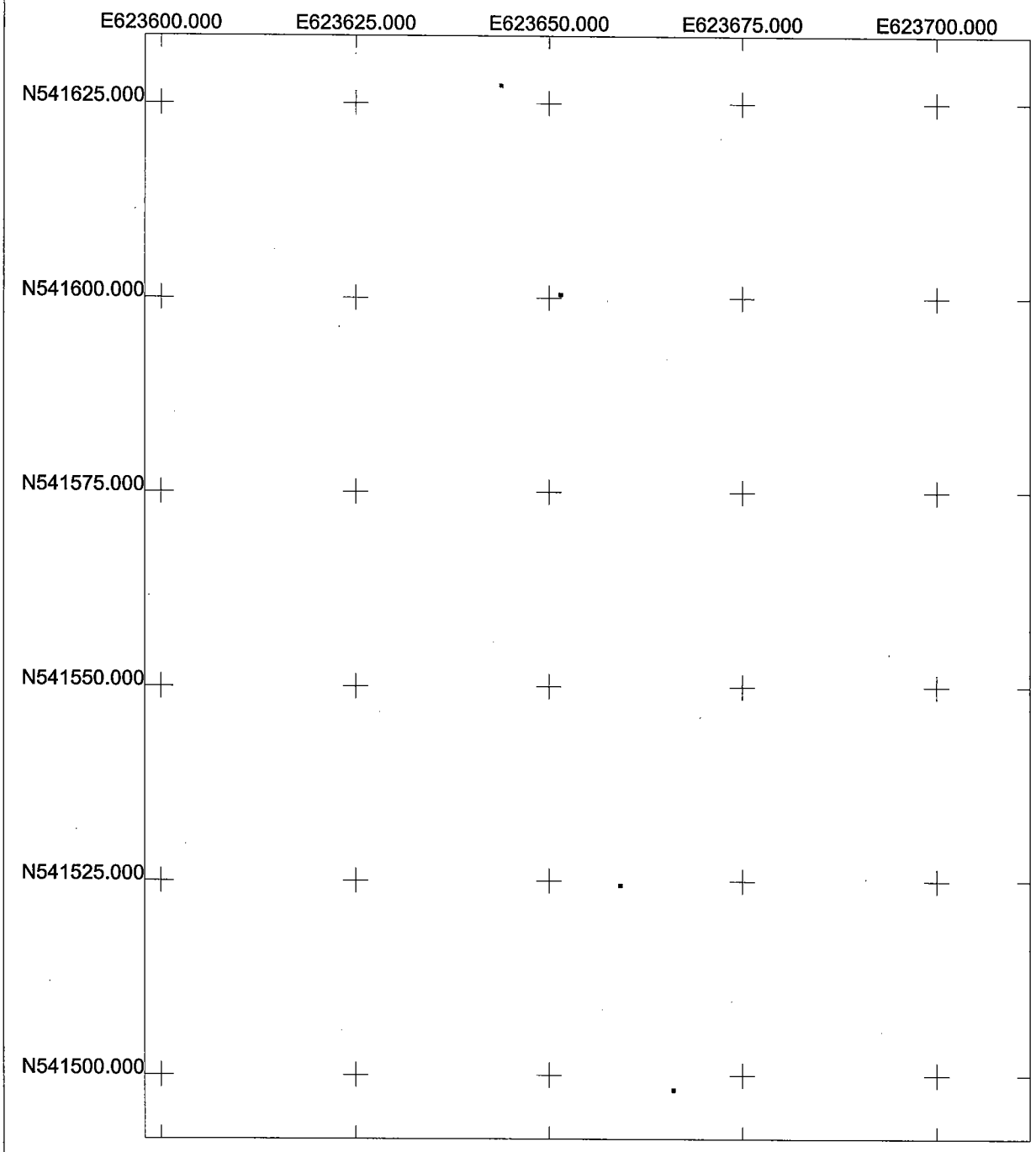
(IN US SURVEY FEET)

SAMPLE POINTS

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
280 GW	541606.595	623707.981

REFERENCE POINTS

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
280 BLDG CRNR	541583.706	623637.478



Bldg. 280 UST Soil Samples GPS Map

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

N

Scale 1:250
0 30.00
US Survey Feet

r051314b.cor
5/17/2000
Pathfinder Office
Trimble

Bldg. 280 UST Soil Samples GPS Positions & Coordinates

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

(IN US SURVEY FEET)

SAMPLE POINTS

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
S12	541524.52	623659.147
S13	541498.17	623666.004
S10	541600.506	623651.426

REFERENCE POINTS

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
CENTER STORM DRAIN	541627.352	623643.717