United States Army

Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

Building 2504A Charles Wood-West Area

NJDEP UST Registration No. 81515-15

May 2000

UNDERGROUND STORAGE TANK CLOSURE AND SITE INVESTIGATION REPORT

BUILDING 2504A

CHARLES WOOD-WEST AREA
NJDEP UST REGISTRATION NO. 81515-15

MAY 2000

PREPARED FOR:

UNITED STATES ARMY, FORT MONMOUTH, NEW JERSEY
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PROJECT NO. 4435-043

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EXECUTIVE SUMMARY

UST Closure

On September 20, 1995, a fiberglass underground storage tank (UST) was closed by removal in accordance with New Jersey Department of Environmental Protection (NJDEP) closure procedures at the Charles Wood-West area of the U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 0081515-15 (Fort Monmouth ID No. 2504A), was located northeast of Building 2504A. UST No. 0081515-15 was a 1,000-gallon #2 fuel oil UST. The fill port was located directly above the tank.

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. No holes were noted in the UST. Samples contained TPHC concentration ranging from non-detect to 858.00 mg/kg. Groundwater was not encountered.

All post excavation soil samples collected from the UST excavation at Building 2504A contained TPHC concentrations below the NJDEP residential direct contact total organic contaminants soil cleanup criteria of 10,000 milligrams per kilogram (mg/kg) (N.J.A.C. 7:26D and revisions dated February 3, 1994). Following receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with a combination of uncontaminated excavated soil and certified clean fill. The excavation site was then restored to its original condition.

In response to the observation of potentially contaminated soil and the potential of groundwater contamination, two (2) groundwater samples were collected at Building 2504A. On November 6, 1998, and December 2, 1998, Building 2504A was sampled for volatile organic compounds calibrated for xylene plus 15 tentatively identified compounds (VOC's), and semivolatile organic compounds plus 15 tentatively identified compounds (SVOC's). All groundwater analytical results were either below the detection limit or in compliance with the New Jersey Ground Water Quality Criteria (GWQC).

No further action is proposed in regard to the closure and site assessment of UST No. 81515-15 at Building 2504A.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 81515-15, was closed at Building 2504A at the Charles Wood-West area of U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on September 20, 1995. Refer to the site location map on Figure 1. This report presents the results of the Department of Public Works' (DPW) implementation of the UST Decommissioning/Closure Plan approved by the NJDEP. The UST was a fiberglass 1,000-gallon tank containing No. 2 fuel oil.

Decommissioning activities for UST No. 81515-15 complied with all applicable Federal, State, and Local laws and ordinances in effect at the date of decommissioning. These laws included but were not limited to N.J.A.C. 7:14B-1 et seq., N.J.A.C. 5:23-1 et seq., and Occupational Safety and Health Administration (OSHA) 1910.146 & 1910.120. All permits including but not limited to the NJDEP approved Decommissioning/Closure Plan were posted onsite for inspection. The decommissioning activities were conducted by DPW personnel who are registered and certified by the NJDEP for performing UST closure activities. Closure of UST No. 81515-15 proceeded under the approval of the NJDEP Bureau of Federal Case Management (NJDEP-BFCM). The Standard Reporting Form and signed Site Assessment Summary form for UST No. 81515-15 are included in Appendices A and B, respectively.

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

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

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

1.2 SITE DESCRIPTION

Building 2504A is located in the Charles Wood area of the Fort Monmouth Army Base. UST No. 81515-15 was located northeast of Building 2504A and appurtenant copper piping ran approximately fifteen (15) feet west from the excavation to Building 2504A. 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 2504A. 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 Charles Wood 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 thicknesses for these units vary greatly (i.e., from several feet to several hundred feet). The Coastal Plain deposits thicken to the southeast from the Fall Line to greater than 6,500 feet in Cape May County (Brown and Zapecza, 1990).

Local Geology

Based on the regional geologic map (Jablonski, 1968), the Cretaceous age Red Bank and Tinton Sands outcrop at the Charles Wood 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 ironoxide encrusted (Minard).

Over the last 80 years, the natural topography of Fort Monmouth has been altered by excavation and filling activities by the military. Topographic elevations for the Charles Wood area range from 20 feet above mean seal level (MSL) to 71 feet above MSL.

Hydrogeology

The water table aquifer in the Charles Wood 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.

Six well records for monitor wells installed at locations within the Charles Wood area in February 1981 were used for reference. The wells were completed to total depths ranging from 20 to 25 feet below ground surface (bgs). Water was encountered at depths ranging from 5 to 12 feet bgs.

The lithologic descriptions for these borings described deposits that were primarily fine to coarse, glauconitic sands, with traces of gravel, silt, and clay. These sediments are part of the Hornerstown Marl, from the Tertiary Period (Paleocene Series, approximately 58 to 66 Ma). According to Jablonski, wells drilled in the Red Bank and Tinton Sands may produce from 2 to 25 gallons per minute (gpm). Some well owners have reported acidic water that requires treatment to remove iron.

Shallow groundwater is locally influenced within the Charles Wood 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 Charles Wood 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. Building 2504A is located approximately 400 feet south of an unnamed stream that runs from east to west through the Charles Wood area. Based on the Charles Wood area topography, the groundwater flow in the area of Building 2504A is anticipated to be to the north.

1.3 HEALTH AND SAFETY

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

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

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

1.4.2 Underground Storage Tank Excavation and Cleaning

Prior to UST decommissioning activities, surficial soil was removed to expose the UST and associated piping. All free product present in the piping was drained into the UST, and the UST was purged to remove vapors prior to cutting and removal of the piping. After removal of the associated piping, a manway was made in the UST to allow for proper cleaning. The UST was completely emptied of all liquids prior to removal from the ground. Approximately 80 gallons of liquid from the UST and its associated piping were transported by Lionetti Oil Recovery Co. Inc. facility, a NJDEP-approved petroleum recycling and disposal company located in Old Bridge, New Jersey. Refer to Appendix C for the waste manifest.

The UST was cleaned prior to removal from the excavation in accordance with the NJDEP regulations. After the UST was removed from the excavation, it was staged on polyethylene sheeting and examined for holes. No holes were observed during the inspection by the Sub-Surface Evaluator. Soil screening was also performed along the piping run associated with the UST closure. No contamination was noted anywhere along the piping length. Groundwater was not encountered. See Figure 3 for a cross-sectional view of the excavated area.

1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

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

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

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

1.6 MANAGEMENT OF EXCAVATED SOILS

Based on OVA air monitoring and TPHC analysis results from the post-excavation soil samples, no soils exhibited signs of contamination. Therefore, the excavated soils were used as backfill following removal of the UST.

2.0 SITE INVESTIGATION ACTIVITIES

2.1 OVERVIEW

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

The following Parties participated in Closure and Site Investigation Activities:

 Subsurface Evaluator: Gene Lesinski Employer: U.S. Army, Fort Monmouth Phone Number: (908) 532-0989
 NJDEP Certification No.: 14537

Analytical Laboratory: U.S.Army Fort Monmouth Environmental laboratory

Contact Person: Daniel K. Wright Phone Number: (908) 532-4359

NJDEP Company Certification No.: 13461

Hazardous Waste Hauler: Lionetti Oil Recovery Co. Inc

Contact Person: Richard Dirienzo Phone Number: (908) 721-0900

NJDEP Hazardous Waste Hauler No.: S6247

2.2 FIELD SCREENING/MONITORING

Field screening was performed by a NJDEP Certified Sub-Surface Evaluator using an OVA and visual observations to identify potentially contaminated material. Soil excavated from around the tank and appurtenant piping, as well as the UST excavation sidewalls and bottom, did not exhibit any evidence of potential contamination. Groundwater was not encountered.

2.3 SOIL SAMPLING

On September 20, 1995, following the removal of the UST and associated piping, post-excavation soil samples A, B, C, D, and E (DUP D) were collected from a total of four (4) locations of the UST excavation. Samples A, B, and C were collected along the excavation floor at depths of 6.0 and 8.0 feet bgs. Sidewall sample D and E (DUP D) were collected at a depth of 6.0 feet bgs. All samples were analyzed for total petroleum hydrocarbons (TPHC) and total solids.

On April 22, 2000, post-excavation soil samples B1, B2, B3, and DUP B1 were collected from a total of three (3) locations of the UST excavation. Sidewall B3 was collected at a depth of 6.0 feet bgs. Samples B1, B2, and DUP B1 were collected along the former piping length of the excavation, which was approximately fifteen (15) feet in length. The piping samples were collected at a depth of 2.0 feet bgs. The samples were analyzed for total petroleum hydrocarbons (TPHC) and total solids.

U.S. Army personnel in accordance with the NJDEP Technical Requirements and the NJDEP Field Sampling Procedures Manual performed the site assessment. A summary of sampling activities including parameters analyzed is provided in Table 1. The post-excavation soil samples were collected using NJDEP *Field Sampling Procedures Manual* (1992) standard sampling procedures. Following soil sampling activities, the samples were chilled and delivered to U.S. Army Fort Monmouth Environmental Laboratory located in Fort Monmouth, New Jersey, for analysis.

2.4 GROUNDWATER SAMPLING

On November 6, 1998, and December 2, 1998, Building 2504A was sampled for volatile organic compounds calibrated for xylene plus 15 tentatively identified compounds (VOC's), and semivolatile organic compounds plus 15 tentatively identified compounds (SVOC's). Sampling and analysis were performed in accordance with the NJDEP *Field Sampling Procedures Manual* and the *Technical Requirements For Site Remediation*. Refer to Appendix F for the field sampling documentation.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

To evaluate soil conditions following removal of the UST and associated piping, post-excavation soil samples were collected on September 20, 1995, and April 22, 2000 from a total of seven (7) locations. All samples were analyzed for TPHC and total solids. The post-excavation sampling results were compared to the NJDEP residential direct contact total organic contaminants soil cleanup criteria of 10,000 mg/kg (N.J.A.C. 7:26D and revisions dated February 3, 1994). A summary of the analytical results and comparison to the NJDEP soil cleanup criteria is provided in Table 2 and the soil sampling locations are shown on Figure 4. The analytical data package is provided in Appendix E.

All post-excavation soil samples collected on September 20, 1995, and April 22, 2000, from the UST excavation and from below piping associated with the UST contained concentrations of TPHC below the NJDEP soil cleanup criteria. Soil samples, which were collected after the removal of the potentially contaminated soil, contained TPHC concentrations ranging from non-detect to 858.00 mg/kg.

3.2 GROUNDWATER SAMPLING RESULTS

No compounds were detected in the samples collected from Building 2504A on November 6, 1998, and December 2, 1998.

A summary of the analytical results and comparison to the NJDEP groundwater cleanup criteria is provided in Table 3 and the groundwater sampling locations are shown on Figure 5. The analytical data package is provided in Appendix F. The full data package, including quality control, is on file at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey.

Groundwater samples collected on November 6, 1998, and December 2, 1998, were either below the detection limit or in compliance with the New Jersey Ground Water Quality Criteria (GWQC).

No further action is proposed in regard to the closure and site assessment of UST No. 81515-15 at Building 2504A.

3.3 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 2504A were below the NJDEP soil cleanup criteria for total organic contaminants.

Based on the post-excavation sampling results, soil with TPHC concentrations exceeding the NJDEP soil cleanup criteria for total organic contaminants of 10,000 mg/kg, do not exist in the former location of the UST or associated piping.

Based on the analytical results of the groundwater samples collected at Building 2504A on November 6, 1998, and December 2, 1998, groundwater quality at Building 2504A was either below the detection limit or in compliance with the New Jersey Ground Water Quality Criteria (GWQC).

No further action is proposed in regard to the closure and site assessment of UST No. 81515-15 at Building 2504A.

TABLES

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES BUILDING 2504A, CHARLES WOOD-WEST AREA FORT MONMOUTH, NEW JERSEY

Page 1 of 3

| Sample ID | Date of Collection | Date Analysis Started | Matrix | Sample Type | Analytical Parameters* | NJDEP Method |
|-----------|-----------------------|--------------------------|--------|-----------------|------------------------|--------------|
| Α | 9/20/95 | 9/26/95 | Soil | Post-Excavation | TPHC | 418.1 |
| В | 9/20/95 | 9/26/95 | Soil | Post-Excavation | TPHC | 418.1 |
| С | 9/20/95 | 9/26/95 | Soil | Post-Excavation | TPHC | 418.1 |
| D | 9/20/95 | 9/26/95 | Soil | Post-Excavation | TPHC | 418.1 |
| E(DUP D) | 9/20/95 | 9/26/95 | Soil | Post-Excavation | TPHC | 418.1 |

Note:

TPHC Total Petroleum Hydrocarbons

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES BUILDING 2504A, CHARLES WOOD-WEST AREA FORT MONMOUTH, NEW JERSEY

Page 2 of 3

| Sample ID | Date of Collection | Date Analysis Started | Matrix | Sample Type | Analytical Parameters* | NJDEP Method |
|--------------|-----------------------|--------------------------|--------------|---------------------------------|------------------------|----------------------------|
| . B1 | 4/22/00 | 4/25/00 | Soil | Post-Excavation | TPHC | OQA-QAM-025 |
| . B2 | 4/22/00 | 4/25/00 | Soil | Post-Excavation | TPHC | OQA-QAM-025 |
| B3 DUP B1 | 4/22/00 4/22/00 | 4/25/00 4/25/00 | Soil Soil | Post-Excavation Post-Excavation | TPHC TPHC | OQA-QAM-025 OQA-QAM-025 |

Note:

^{*} TPHC Total Petroleum Hydrocarbons

TABLE 1

SUMMARY OF SAMPLING ACTIVITIES BUILDING 2504A, CHARLES WOOD-WEST AREA FORT MONMOUTH, NEW JERSEY

Page 3 of 3

| Sample ID | Date of Collection | Date Analysis Started | Matrix | Sample Type | Analytical Parameters* | Sampling Method** |
|-----------|--------------------|--------------------------|---------|-------------|------------------------|-------------------|
| 4035.04 | 11/6/98 | 11/10/98 | Aqueous | Groundwater | VOCs, SVOCs | PPNDP |
| 4099.03 | 12/2/98 | 12/3/98 | Aqueous | Groundwater | VOCs, SVOCs | PPNDP |

Note:

*VOCs:

Volatile Organic Compounds plus 15 tentatively identified compounds

*SVOCs:

Semivolatile organic compounds plus 15 tentatively identified compounds Passively Placed Narrow Diameter Point

**PPNDP:

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS BUILDING 2504A, CHARLES WOOD-WEST AREA FORT MONMOUTH, NEW JERSEY

Page 1 of 2

| Sample ID/ Depth | Sample Laboratory ID | Sample Date | Analysis Date | Analytical Parameters | Method Detection Limit (mg/kg) | Compound of Concern | Results (mg/kg) * | NJDEP Soil Cleanup Criteria ** (mg/kg) | Exceeds Cleanup Criteria |
|---------------------|-------------------------|----------------|------------------|--------------------------|---|---------------------------|----------------------|---|--------------------------------|
| A/6.0'= | 1937.1 | 9/20/95 | 9/26/95 | Total Solid | | | 93.00 % | | |
| | | | | TPHC | 16 | yes | 253.00 | 10,000 | No |
| B/8.0'= | 1937.2 | 9/20/95 | 9/26/95 | Total Solid | | | 83.00 % | | |
| | | | | TPHC | 16 | Yes | 220.00 | 10,000 | No |
| C/6.0'= | 1937.3 | 9/20/95 | 9/26/95 | Total Solid | | | 89.00 % | | <u></u> |
| | | | | TPHC | 16 | Yes | 858.00 | 10,000 | No |
| D/6.0'= | 1937.4 | 9/20/95 | 9/26/95 | Total Solid | | | 93.00 % | | |
| | | | | TPHC | 16 | Yes | 323.00 | 10,000 | No |
| E(DUPD)/6.0'= | 1937.5 | 9/20/95 | 9/26/95 | Total Solid | | | 95.00 % | | |
| | | | | TPHC | 16 | yes | 185.00 | 10,000 | No |

Note:

* Total Solid results are expressed as a percentage.

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

ND Not detected above stated method detection limit

TPHC Total Petroleum Hydrocarbons

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS BUILDING 2504A, CHARLES WOOD-WEST AREA FORT MONMOUTH, NEW JERSEY

Page 2 of 2

| Sample ID/ Depth | Sample Laboratory ID | Sample Date | Analysis Date | Analytical Parameters | Method Detection Limit (mg/kg) | Compound of Concern | Results (mg/kg) * | NJDEP Soil Cleanup Criteria ** (mg/kg) | Exceeds Cleanup Criteria |
|---------------------|-------------------------|----------------|------------------|--------------------------|---|---------------------------|----------------------|---|--------------------------------|
| B1/2.0'= | 5372.01 | 4/22/00 | 4/25/00 | Total Solid TPHC | 179 | VAC | 87.05 % ND | 10,000 | No |
| B2/2.0'= | 5372.02 | 4/22/00 | 4/25/00 | Total Solid | | yes | 90.41 % | | |
| B 2/2.0 — | | | | TPHC | 172 | Yes | ND | 10,000 | No |
| B3/6.0'= | 5372.03 | 4/22/00 | 4/25/00 | Total Solid | | | 92.02 % | | |
| | | | | TPHC | 167 | Yes | ND | 10,000 | No |
| DUP B1/2.0'= | 5372.04 | 4/22/00 | 4/25/00 | Total Solid | | | 88.09 % | | |
| | | | | TPHC | 177 | yes | ND | 10,000 | No |

Note:

Total Solid results are expressed as a percentage.

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

Not detected above stated method detection limit ND

TPHC Total Petroleum Hydrocarbons

Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:

FMETL

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

11/6/98

Location:

2504A

Lab Sample ID: 4035.04(Bldg 2504A)

| Date Samp | led: 11/6/98 | Location | : <u>2504A</u> | Lab Sa | mple ID: 4035.0 |)4(Bldg 2504A) |
|---------------------------------------|---------------------------|---------------|----------------|-------------|---------------------------|---------------------|
| 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 | по |
| 75650 | tert-Butyl alcohol | 8.52 | Not Detected | | nle | no |
| 1634044 | Methyl-tert-Butyl ether | 0.16 | Not Detected | | nle | по |
| 108203 | Di-isopropyl ether | 0.25 | Not Detected | | nle | по |
| | Dichlorodifluoromethane | 1.68 | Not Detected | | 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 | по |
| 75-69-4 | Trichlorofluoromethane | 0.50 | Not Detected | | nle | no |
| 75-35-4 | 1, 1-Dichloroethene | 0.24 | Not Detected | | 2 | no |
| 67-64-1 | Acetone | 1.36 | Not Detected | | 700 | no |
| 75-15-0 | Carbon Disulfide | 0.46 | Not Detected | | nle | по |
| 75-09-2 | Methylene Chloride | 0.24 | Not Detected | | 2 | по |
| 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 | по |
| 56-23-5 | Carbon Tetrachloride | 0.47 | Not Detected | | 2 | по |
| 71-43-2 | Benzeze | 0.23 | Not Detected | <u>-</u> | 1 | no |
| 107-06-2 | 1,2-Dichloroethane | 0.18 | Not Detected | | 2 | no |
| 79-01-6 | Trichloroethene | 0.23 | Not Detected | | 1 | no |
| 78-87-5 | 1, 2-Dichloropropane | 0.40 | Not Detected | | 1 | no |
| 75-27-4 | Bromodichloromethane | 0.55 | Not Detected | | 1 | no |
| 110-75-8 | 2-Chloroethyl vinyl ether | 0.65 | Not Detected | ~- | nle | no |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.69 | Not Detected | | nle | no |
| · · · · · · · · · · · · · · · · · · · | | | | | · | • |

Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:

FMETL

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

11/6/98

Location:

2504A

Lab Sample ID: 4035.04(Bldg 2504A)

| Date Sumpi | 1170/20 | Document. | 250411 | Duo Si | imple 1D. <u>+033.0</u> | +(Didg 250+11) |
|------------|---------------------------|---------------|--------------|-----------|---------------------------|---------------------|
| 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 | по |
| 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 3 SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name:

FMETL

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

11/6/98

Location:

2504A

Lab Sample ID: 4035.04(Bldg 2504A)

CAS NO. COMPOUND NAME **MDL RESULTS** QUALIFIER REGULATORY **EXCEEDS CRITERIA** (ug/L) LEVEL(ug/L) 2.52 110-86-1 по Pyridine Not Detected nle 62-75-9 2.64 Not Detected N-nitroso-dimethylamine 20 2.90 Not Detected no 62-53-3 Aniline nle 2.45 Not Detected no 111-44-4 bis(2-Chloroethyl)ether 10 2.65 541-73-1 1,3-Dichlorobenzene Not Detected по 600 2.50 106-46-7 1,4-Dichlorobenzene Not Detected no 75 2.09 Not Detected no 100-51-6 Benzyl alcohol nle 2.44 Not Detected no 95-50-1 1,2-Dichlorobenzene 600 2.96 108-60-1 bis(2-chloroisopropyl)ether Not Detected 300 по 2.22 Not Detected по 621-64-7 n-Nitroso-di-n-propylamine 20 2.59 Not Detected 67-72-1 Hexachloroethane 10 2.45 no Not Detected 98-95-3 Nitrobenzene 10 78-59-1 2.31 Not Detected no Isophorone 100 111-91-1 bis(2-Chloroethoxy)methane 2.54 Not Detected nle 2.58 no 120-82-1 1,2,4-Trichlorobenzene Not Detected --9 3.03 по 91-20-3 Naphthalene Not Detected nle 2.55 Not Detected no 106-47-8 4-Chloroaniline nle 0.64 Not Detected no 87-68-3 Hexachlorobutadiene 1 2.49 Not Detected 91-57-6 2-Methylnaphthalene nle 1.59 77-47-4 Hexachlorocyclopentadiene Not Detected 50 no 2.15 Not Detected no 91-58-7 2-Chloronaphthalene nle 1.62 Not Detected 88-74-4 2-Nitroaniline nle 2.74 Not Detected Dimethylphthalate 7000 131-11-3 2.35 Not Detected no 208-96-8 Acenaphthylene nle

Table 3 SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP # 13461

Matrix: (soil/water) WATER

Date Sampled: <u>11/6/98</u> Location: <u>2504A</u> Lab Sample ID: <u>4035.04(Bldg 2504A)</u>

| | | | | | 1000 10 10 10 10 10 10 10 10 10 10 10 10 | 1(2148 200 111) |
|-----------|----------------------------|------------|--------------|-----------|--|---------------------|
| CAS NO. | COMPOUND NAME | MDL (ug/L) | RESULTS | QUALIFIER | REGULATORY LEVEL(ug/L) | EXCEEDS CRITERIA |
| 606-20-2 | 2,6-Dinitrotoluene | 1.54 | Not Detected | ' | nle | no |
| 99-09-2 | 3-Nitroaniline | 1.62 | Not Detected | | nle | по |
| 83-32-9 | Acenaphthene | 1.98 | Not Detected | | 400 | no |
| 132-64-9 | Dibenzofuran | 2.13 | Not Detected | | nle | по |
| 121-14-2 | 2,4-Dinitrotoluene | 1.22 | Not Detected | | 10 | no |
| 84-66-2 | Diethylphthalate | 1.68 | Not Detected | | 5000 | no |
| 86-73-7 | Fluorene | 1.93 | Not Detected | | 300 | no |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 1.53 | Not Detected | | nle | no |
| 100-01-6 | 4-Nitroaniline | 2.70 | Not Detected | | nle | no |
| 86-30-6 | n-Nitrosodiphenylamine | 1.73 | Not Detected | | 20 | no |
| 103-33-3 | Azobenzene | 1.92 | Not Detected | ' | nle | no |
| 101-55-3 | 4-Bromophenyl-phenylether | 1.54 | Not Detected | | nle | no |
| 118-74-1 | Hexachlorobenzene | 1.88 | Not Detected | | 10 | no |
| 85-01-8 | Phenanthrene | 1.67 | Not Detected | | nle | no |
| 120-12-7 | Anthracene | 1.79 | Not Detected | | 2000 | no |
| 84-74-2 | Di-n-butylphthalate | 1.83 | Not Detected | | 900 | no |
| 206-44-0 | Fluoranthene | 1.85 | Not Detected | | 300 | no |
| 92-87-5 | Benzidine | 4.11 | Not Detected | | 50 | no |
| 129-00-0 | Pyrene | 1.02 | Not Detected | | 200 | no |
| 85-68-7 | Butylbenzylphthalate | 1.15 | Not Detected | | 100 | no |
| 56-55-3 | Benzo[a]anthracene | 1.57 | Not Detected | | 10 | no |
| 91-94-1 | 3,3'-Dichlorobenzidine | 2.28 | Not Detected | | 60 | no |
| 218-01-9 | Chrysene | 2.32 | Not Detected | | 20 | no |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 1.29 | Not Detected | | 30 | no |
| 117-84-0 | Di-n-octylphthalate | 1.30 | Not Detected | | 100 | no |
| 205-99-2 | Benzo[b]fluoranthene | 1.31 | Not Detected | - | 10 | no |
| 207-08-9 | Benzo[k]fluoranthene | 1.57 | Not Detected | | 2 | no |
| 50-32-8 | Benzo[a]pyrene | 1.36 | Not Detected | - | 20 | no |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | 1.22 | Not Detected | | 20 | no |
| 53-70-3 | Dibenz[a,h]anthracene | 3.12 | Not Detected | - | 20 | no |
| 191-24-2 | Benzo[g,h,i]perylene | 1.13 | Not Detected | - | nle | no |

Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:

<u>FMETL</u>

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

12/2/98

Location:

2504A

Lab Sample ID: 4099.03(Bldg 2504A)

| CAS NO. | COMPOUND NAME | MDL (ug/L) | RESULTS | QUALIFIER | REGULATORY LEVEL(ug/L) | EXCEEDS CRITERIA |
|------------|---------------------------|---------------|--------------|-----------|---------------------------|---------------------|
| 107028 | Acrolein | 1.85 | Not Detected | | 50 | no |
| 107131 | Acrylonitrile | 2.78 | Not Detected | | 50 | no |
| 75650 | tert-Butyl alcohol | 8.52 | Not Detected | | nle | no |
| 1634044 | Methyl-tert-Butyl ether | 0.16 | Not Detected | | nle | no |
| 108203 | Di-isopropyl ether | 0.25 | Not Detected | | nle | no |
| - | Dichlorodifluoromethane | 1.68 | Not Detected | _ | nle | no |
| 74-87-3 | Chloromethane | 1.16 | Not Detected | - | 30 | no |
| 75-01-4 | Vinyl Chloride | 1.06 | Not Detected | | 5 | по |
| 74-83-9 | Bromomethane | 1.10 | Not Detected | | 10 | no |
| 75-00-3 | Chloroethane | 1.01 | Not Detected | | nle | 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 | <u></u> | nle | no |
| 75-09-2 | Methylene Chloride | 0.24 | Not Detected | | 2 | no |
| 156-60-5 | trans-1,2-Dichloroethene | 0.16 | Not Detected | <u></u> | 100 | no |
| 75-35-3 | 1,1-Dichloroethane | 0.12 | Not Detected | | 70 | no |
| 108-05-4 | Vinyl Acetate | 0.78 | Not Detected | <u></u> | nle | no |
| 78-93-3 | 2-Butanone | 0.62 | Not Detected | | 300 | по |
| 156-59-2 | cis-1,2-Dichloroethene | 0.17 | Not Detected | <u></u> | 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 | по |
| 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 | по |
| 110-75-8 | 2-Chloroethyl vinyl ether | 0.65 | Not Detected | | nle | no |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.69 | Not Detected | | nle | no |

Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:

FMETL

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

12/2/98

Location:

2504A

Lab Sample ID: 4099.03(Bldg 2504A)

| • | | | | | - | |
|------------|---------------------------|---------------|--------------|-----------|---------------------------|---------------------|
| 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 | по |
| 100-42-5 | Styrene | 0.56 | Not Detected | | 100 | no |
| 75-25-2 | Bromoform | 0.70 | Not Detected | | 4 | no |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.47 | Not Detected | | 2 | no |
| 541-73-1 | 1,3-Dichlorobenzene | 0.55 | Not Detected | | 600 | no |
| 106-46-7 | 1,4-Dichlorobenzene | 0.57 | Not Detected | | 75 | no |
| 95-50-1 | 1,2-Dichlorobenzene | 0.64 | Not Detected | | 600 | no |

Table 3 SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name:

FMETL

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

12/2/98

Location:

2504A

Lab Sample ID: 4099.03(Bldg 2504A)

| CAS NO. | COMPOUND NAME | MDL (ug/L) | RESULTS | QUALIFIER | REGULATORY LEVEL(ug/L) | EXCEEDS CRITERIA |
|----------|-----------------------------|---------------|--------------|-----------|---------------------------|---------------------|
| 110-86-1 | Pyridine | 2.52 | Not Detected | | nle | no |
| 62-75-9 | N-nitroso-dimethylamine | 2.64 | Not Detected | | 20 | no |
| 62-53-3 | Aniline | 2.90 | Not Detected | | nle | no |
| 111-44-4 | bis(2-Chloroethyl)ether | 2.45 | Not Detected | | 10 | no |
| 541-73-1 | 1,3-Dichlorobenzene | 2.65 | Not Detected | | 600 | по |
| 106-46-7 | 1,4-Dichlorobenzene | 2.50 | Not Detected | | 75 | no |
| 100-51-6 | Benzyl alcohol | 2.09 | Not Detected | | nle | no |
| 95-50-1 | 1,2-Dichlorobenzene | 2.44 | Not Detected | | 600 | no |
| 108-60-1 | bis(2-chloroisopropyl)ether | 2.96 | Not Detected | | 300 | no |
| 621-64-7 | n-Nitroso-di-n-propylamine | 2.22 | Not Detected | | 20 | по |
| 67-72-1 | Hexachloroethane | 2.59 | Not Detected | | 10 | no |
| 98-95-3 | Nitrobenzene | 2.45 | Not Detected | | 10 | no |
| 78-59-1 | Isophorone | 2.31 | Not Detected | | 100 | no |
| 111-91-1 | bis(2-Chloroethoxy)methane | 2.54 | Not Detected | | nle | no |
| 120-82-1 | 1,2,4-Trichlorobenzene | 2.58 | Not Detected | | 9 | no |
| 91-20-3 | Naphthalene | 3.03 | Not Detected | | nle | no |
| 106-47-8 | 4-Chloroaniline | 2.55 | Not Detected | | nle | no |
| 87-68-3 | Hexachlorobutadiene | 0.64 | Not Detected | | 1 | no |
| 91-57-6 | 2-Methylnaphthalene | 2.49 | Not Detected | | nle | no |
| 77-47-4 | Hexachlorocyclopentadiene | 1.59 | Not Detected | | 50 | по |
| 91-58-7 | 2-Chloronaphthalene | 2.15 | Not Detected | | nle | no |
| 88-74-4 | 2-Nitroaniline | 1.62 | Not Detected | | nle | no |
| 131-11-3 | Dimethylphthalate | 2.74 | Not Detected | | 7000 | no |
| 208-96-8 | Acenaphthylene | 2.35 | Not Detected | | nle | no |

Table 3 SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name:

FMETL

NJDEP#

13461

Matrix: (soil/water) WATER

Date Sampled:

12/2/98

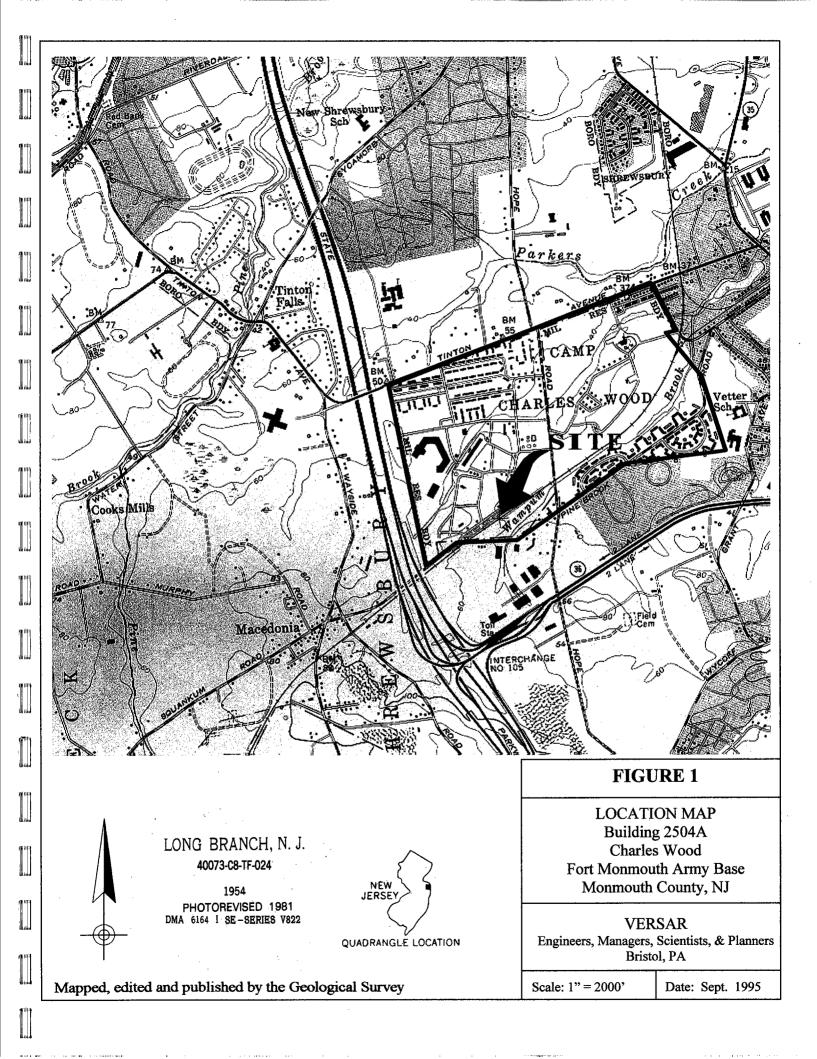
Location:

2504A

Lab Sample ID: 4099.03(Bldg 2504A) CAS NO. COMPOUND NAME MDL RESULTS QUALIFIER REGULATORY **EXCEEDS CRITERIA** (ug/L) LEVEL(ug/L) 1.54 606-20-2 2.6-Dinitrotoluene по Not Detected nle 1.62 99-09-2 3-Nitroaniline nle по Not Detected __ 1.98 83-32-9 Acenaphthene 400 no Not Detected 2.13 132-64-9 Dibenzofuran Not Detected nle по 1.22 no 121-14-2 2,4-Dinitrotoluene Not Detected 10 1.68 Diethylphthalate 84-66-2 Not Detected 5000 1.93 86-73-7 Fluorene 300 no Not Detected 1.53 7005-72-3 4-Chlorophenyl-phenylether no Not Detected nle 2.70 100-01-6 4-Nitroaniline по Not Detected nle 1.73 no 86-30-6 n-Nitrosodiphenylamine Not Detected 20 1.92 no 103-33-3 Azobenzene Not Detected nle 1.54 101-55-3 4-Bromophenyl-phenylether Not Detected nle 1.88 no 118-74-1 Hexachlorohenzene 10 Not Detected 1.67 85-01-8 no Phenanthrene Not Detected nle --1.79 120-12-7 Anthracene 2000 no Not Detected 1.83 84-74-2 Di-n-butylphthalate Not Detected 900 no --1.85 no 206-44-0 Fluoranthene Not Detected 300 4.11 no 92-87-5 Benzidine Not Detected 50 1.02 129-00-0 no Pyrene 200 Not Detected 1.15 no 85-68-7 Butylbenzylphthalate Not Detected 100 1.57 56-55-3 Benzo[a]anthracene 10 по Not Detected 2.28 91-94-1 3,3'-Dichlorobenzidine Not Detected 60 no 2.32 no 218-01-9 Chrysene Not Detected 20 1.29 no 117-81-7 bis(2-Ethylhexyl)phthalate Not Detected 30 1.30 117-84-0 Di-n-octylphthalate 100 Not Detected 1.31 205-99-2 no Benzo[b]fluoranthene 10 Not Detected 1.57 207-08-9 Benzo[k]fluoranthene Not Detected 2 no 1.36 50-32-8 Benzo[a]pyrene Not Detected 20 по 1.22 no 193-39-5 Indeno[1,2,3-cd]pyrene Not Detected 20 3.12 no 53-70-3 Dibenz[a,h]anthracene Not Detected 20 1.13 no 191-24-2 Benzo[g,h,i]perylene Not Detected nle

111

FIGURES



Geologic Map of New Jersey

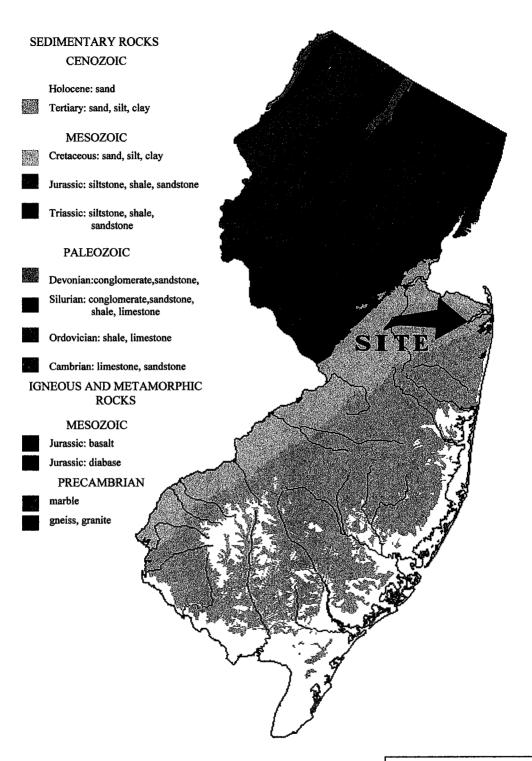
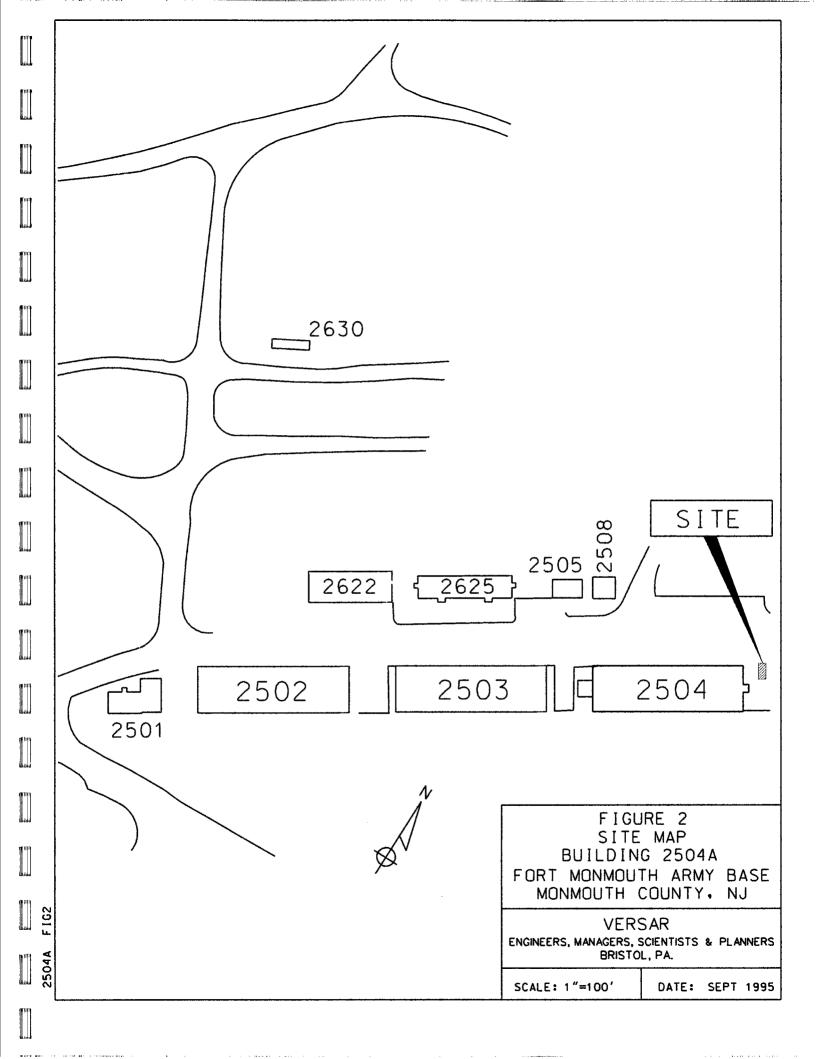
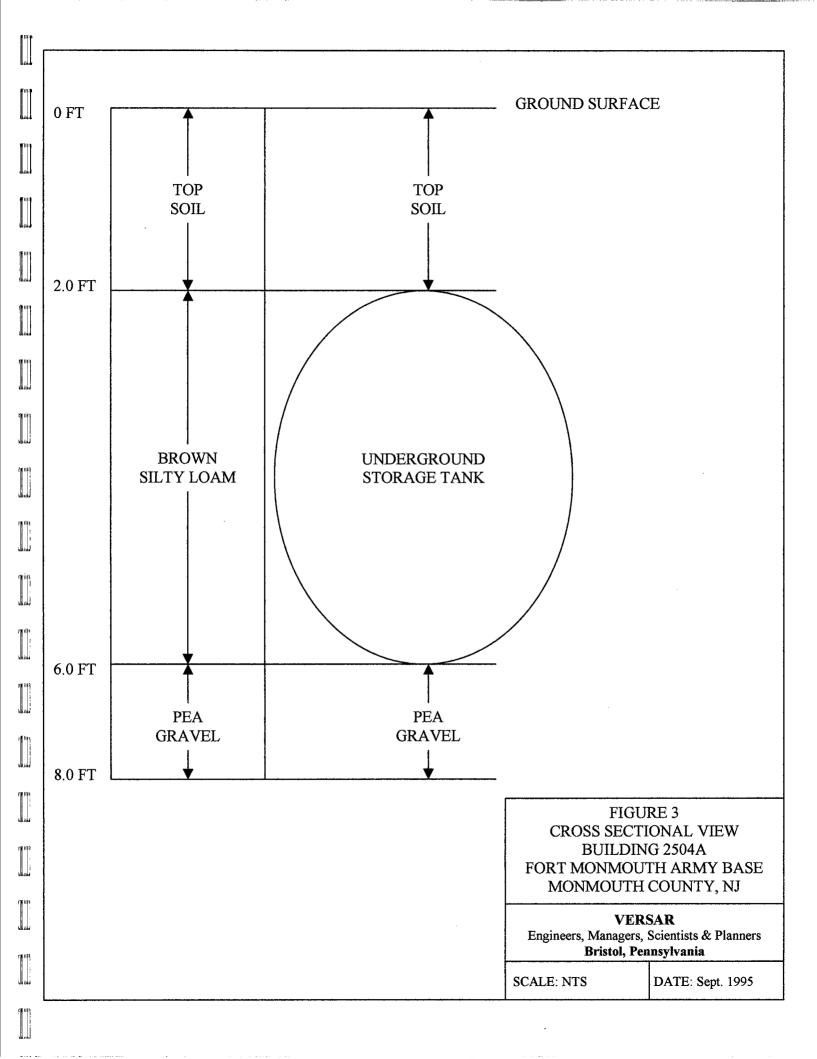


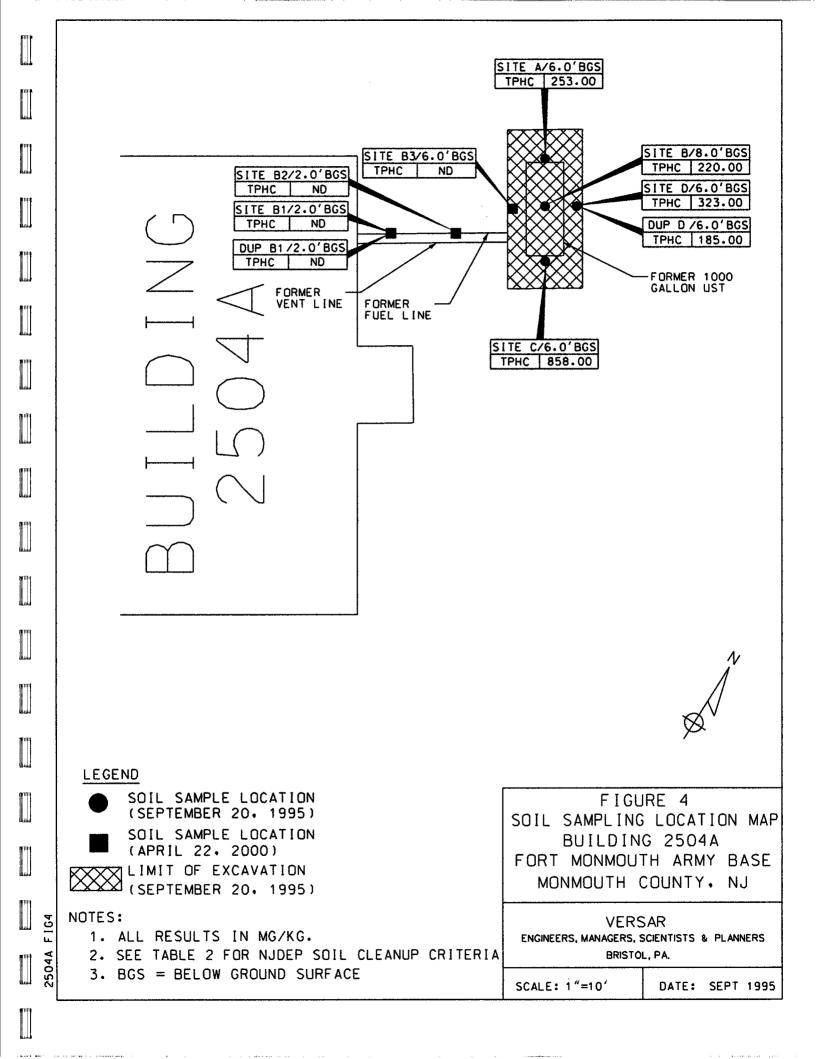
FIGURE 1A GEOLOGICAL MAP FORT MONMOUTH ARMY BASE MONMOUTH COUNTY, NJ

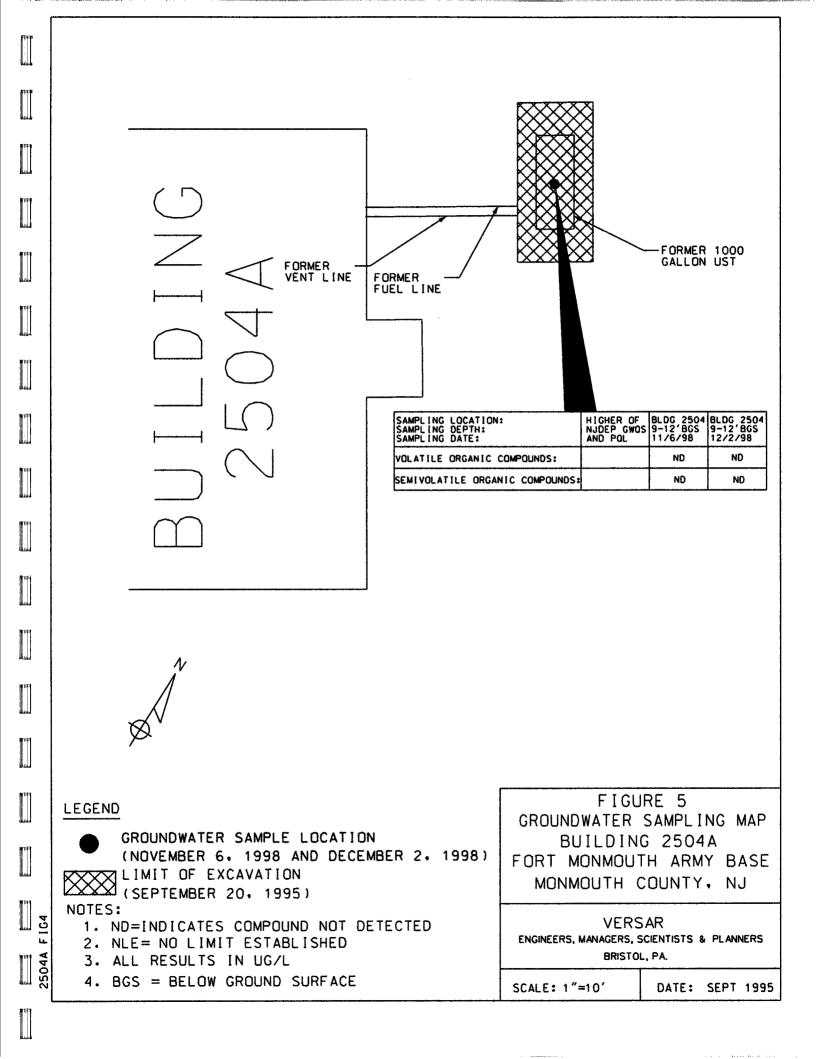
VERSAR

Engineers, Managers, Scientists & Planners Bristol, Pennsylvania









APPENDIX A NJDEP-STANDARD REPORTING FORM



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

Trenton. NJ 08625-0029

ATTN: UST Program (609) 984-3156

| For State Use Using | | | | | |
|---------------------|--|--|--|--|--|
| Date Rec'd. | | | | | |
| Auth. | | | | | |
| Routing | | | | | |
| UST NO. | | | | | |

| (60 |)9) 984-3156 | | |
|---|----------------------|--|-------------------------|
| | ANDARD REPORT | | |
| General Facility Informati Closure (Abandonment o Temporary Closure Change in Service | | Sale or Transfer Substantial Modification Financial Responsibili Address Change Onle | îty |
| Check ONLY One Tyr | pe of Activity - Cor | rplete Form For That Activity | |
| (More tha | n one tank can be | isted per activity) | |
| facilities must submit a | Registration Qu | ations at existing registered estionnaire for the new tanks. | |
| Answer questions 1 through 5 and others as app 1. Company name and address (as it appears on registration questionnaire): | DPW - FORT / | HY - FORT MONMO BUILDING 173 MONMOUTH NIT EUGENE IN L | UTH 67703 ESINSKI |
| Facility name and location (if different from above): | | LUGENT IV. P | 20004 |
| 3. Contact person for this activity: | GENE Telephone Nu | LESINSKI TODET: (908) _532: | -0989 |
| 4. The identification number of the affected tan 25044 | k as it appears in | Question Number 12 on the Regis | stration Questionnaire |
| 5. Registration Number (If known): | ust | 1081515 | |
| 6. For GENERAL FACILITY INFORMATION chan | ges (address, telep | none, contact person, etc. – supply | NEW information only) |
| a. Facility name: b. Facility location: c. Owner's mailing address: | | | |
| | | и | - 4 |
| d. Block: | J | | |
| | (OVER) | | 1 mg 2 g |

| j. | Attach the n | ecessary impl | ementation | n schedule (J (| ∞pies) and all | cocument. | i nesded for | - ' ک ي | |
|-------------------------|--|--|--|--|---|---|---------------------------------------|--|--------------------------|
| | abandonme | m per NJ.A.C | 7:14B-9. | 1 (d). | | | , | ., | - Jeens |
| #160° | b. 🕱 Remova | Date: | 112 | 0/_7_5 | Case No. | | | | |
| | Attach the n | ecessary Impl | ementation | n schedule (3 d | ∞pies). | | | | |
| Contract 1 | B. For CHANGES | IN HAZARDO | US SUBS | TANCES STO | RED (chéck al | that apply): | | | |
| 111 | 🧸 а. 🗋 Тетрога | | | zimum time – | see NJ.A.C. | 7:14B-9.1(b)). | Remove all h | azardous | |
| | | leave tank in | - | | | | | je je se je | |
| attura. | b. Change | | | ed substance t NJAC. 7:148 | | ated substance | e. Tank must i | be cleaned | |
| | c. D Changes | | | | | to another rec | wilsted hazan | doue embeta | nce . |
| البانالة | | | - | | | ••• | | • | · |
| fill | | | | | | New | · · · · · · · · · · · · · · · · · · · | · | |
| | | | ᅄ | | | New | : | | |
| # Nice | | | (Attach a | idditional shee | ets If more spa | ce is needed) | | • | |
| S | . For TRANSFER | OF OWNERS | SHIP: | Effective | Date: | //_ | | | |
| البلة | a. New Owner | (operator) | | | | | | | |
| 1 1143 | b. New Facility | Name | | | | | | | |
| | | | | | | N. | J | | · · |
| | | | | | | ······································ | · | | |
| | | | | Count | У | · · · · · · · · · · · · · · · · · · · | | • | |
| 1.1.1.1 | c. Closing Attor | ney | | _ . | ··· | Tels | ـلـــا : | ······································ | |
| | - | | | | | | | -1 | |
| - 1 ₩3 | 1. For SUBSTANTI | AL MODIFIC | ATIONS (| o include any | retrolitted act | ivity — e.g. the | addition of s | bin oveum | protection, |
| 10: | mönitoring syste | AL MODIFIC | ATIONS (topolection, | o include any etc.): | retrofitted act | ivity — e.g. the | | spil/ovenill | protection, |
| 10: 10: 14:0 | monitoring systems. Type of Modi | AL MODIFIC ms, cathodic lication | protection, | etc.): | | · | e addition of a | / | protection, |
| | a. Type of Modi | AL MODIFIC ms, cathodic lication estantial mod | protection, flications n | etc.): squire a permi | t under NJA | C. 7:14B-10. | _ Date: _ | | |
| | mönitoring syste a. Type of Modi b. "NOTE" Si 1. For changes in F | AL MODIFIC ms, cathodic lication estantial mod mancial R | protection, ilications n ESPONSIE | etc.): equire a permi | it under NJA. | C. 7:14B-10. | _ Date: _ | | |
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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: D | irectorate of Public Works Building 173 | | | | |
| Municipality: Oceanport | County: Monmouth | | | | |
| Block: L | ot(s):Telephone Number :_732-532-6224 | | | | |
| B. Owner (RP)'s Name: | | | | | |
| | 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: 81515-15 (7 digits) Incident Report Number (10 or 12 digits) Tank Closure Number: Federal Case Manager | | | | |
| E. Certification by the Subsurface Evaluator: The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E | | | | | |
| 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 | | | | | |
| | I make a written false statement which I do not believe to be true. I am also nowingly direct or authorize the violation of any statute, I am personally liable for the penalties." James Ott Title: Directorate of Public Works | | | | |
| Signature:Company Name: | U.S. Army Fort Monmouth Date: 9/4/00 | | | | |

| c = 10 | |
|---------------------------------------|---|
| | \sim |
| | UST REMOVAL CHECKLIST TANK INFORMATION FIELD NOTES |
| (11) (11) | BLDG NUMBER 2504 TANK CONTENTS 201L TANK NUMBER 008/5/5-15 TANK MATERIAL FRO TANK SIZE 1000 GALLONS PIPING MAT'L/LENGTH |
| C ((() | TANK DIMENSIONS 4'DIA X 10' LONG |
| 在 實現的 | DATE 9-20-95 CLOSURE NO. VERBAL APPROVAL 9-14-95 FCM |
| (Mul) | KTR/SUPVR SERV-AIR / K. GREEN WEATHER PARTLY CLOUDY - 73°F |
| Land | GOVT SSE LESINSKI DICAR NO. MA |
| 1129 | OIL REMOVED 80 GANGOS DEPTH OF COVER SOIL 2 FT |
| Lakada | SLUDGE REMOVED NONE EXCAV DIMENSIONS 8'X 12' |
| (Bun | SOIL REMOVED GROUNDWATER ENCOUNTERED |
| i II ub | BACKFILL USED NATIVE QTY OF BACKFILL 4 40 |
| نسد | CONDITIONS FOUND FRP UST SECURED TO A 6'X |
| · · · · · · · · · · · · · · · · · · · | 12 CONCRETE PAD - DURING EXCAVATION AN |
| | ABANDONED SSO STEEL UST (FILLED) WAS DISCOVERED |
| 5 (C) | FIELD EQPT USED |
| म् या | NO. OF SAMPLES TAKEN |
| | CHRONOLOGICAL EVENTS $/460 \sim UST PUMPED (9/19/95)$ |
| (# III-) | 1030 - UST REMOVED (9/20/95) |
| | 1/00 - SAMPLES TAKEN |
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| فاسانة | |
| | EXCAVATION WAS FROM ABANDONED UST - DICAR |
| , | EXCAVATION WAS FROM ABANDONED UST - DICARL |
| i. | CALL IN 1-02 DISCOVERED UST |
| | 2) SAMPUNG SCREENED SCHEME ALTERED |
| Anti-la auréa | DUE TO OUTSIDES CONTAMINATION |
| 7: | 3) UST EXCAVATION WAS CLERN |
| -3) | |
| | |

APPENDIX C
WASTE MANIFEST



RD1 Box 5A Old Bridge, N.J. 08857 (908) 721-0900 Fax (908) 721-0231

LORCO REPRESENTATIVE

108/192

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| This is to d | certify that the below named materials are properly classified to the framework of transportation. | | | | roper condition | for transportation | according to the ap | plicable regulations of | the |
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| SALES | | WASTE | SERVICE SECT | | INIT | | | LINE | |
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| 40500 | USED OIL REMOVAL | | | | | | <u> </u> | • | |
| 40501 | OIL WATER DISPOSAL | X723 | 260. | Git | 14205 | · | - | | |
| 40502 41000 | SLUDGE DISPOSAL NON HAZARDOUS DISPOSAL | | <u> </u> | | <u>. </u> | | · · | | \dashv |
| 41000 | RCRA WASTE DISPOSAL | | | | | | | | \dashv |
| 41500 | VAC TRUCK & OPERATOR | | | | | | | | \dashv |
| 41501 | DRUM DISPOSAL | | | | | | | | |
| 415,02 | SEPARATOR CLEANING | | | | | | | | _ |
| 3_ | QAQC ANALYTICAL TESTING | · · · · · · · · · · · · · · · · · · · | | 7(2) 10 | <i>3</i> 00 | | <u> </u> | | _ |
| J4 | TANK CLEANING | | 3- | 2(1)E | 50 | | | | |
| 41505 42000 | MANIFEST PROCESSING FEE | | | | | | | | \dashv |
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| permits | to accept the above described waste. | | | RGE | | | | | |
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RD1 Box 5A Old Bridge, N.J. 08857 (908) 721-0900 Fax (908) 721-0231 STANDARD COLLECTION ORDER FORM

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| 41000 NON HAZARDOUS DISPOSAL | | | | | | |
| 41500 VAC TRUCK & OPERATOR | | | | | | |
| 41501 DRUM DISPOSAL | | | <u> </u> | | | |
| 41502 SEPARATOR CLEANING | | | | | | |
| 41503 ANALYTICAL TESTING | | | | | | |
| 41504 TANK CLEANING | | | | | | |
| 41505 CONFINED SPACE ENTRY | | | <u> </u> | | | |
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| Generator certifies that the waste is | | In accordance the | N.J.A.C. | 7:26-12.1 et seq, LOF | RCO has the | required permits to ac |
| ne above described waste. n accordance with 40,CFR 266 § 43(5) LORC | O has notified the US E | EPA of its location | and used | oil management activ | rities. | |
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| 1111 | | TODAY'S DATE | ベンス | Eller it Co | with | Sel- |
| ORCO REPRESENTATIVE | (SIGNATURE) | _ | GENERATO | DR/CUSTOMER | | (SIGNATURE) |

| Klichow) |
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| 1 that |
| 2-31-95 |
| J. |

L. & L. OIL SERVICE, INC. D.E.P. & E.P.A. Approved RD1 Box 5A

Old Bridge, N.J. 08857

8067

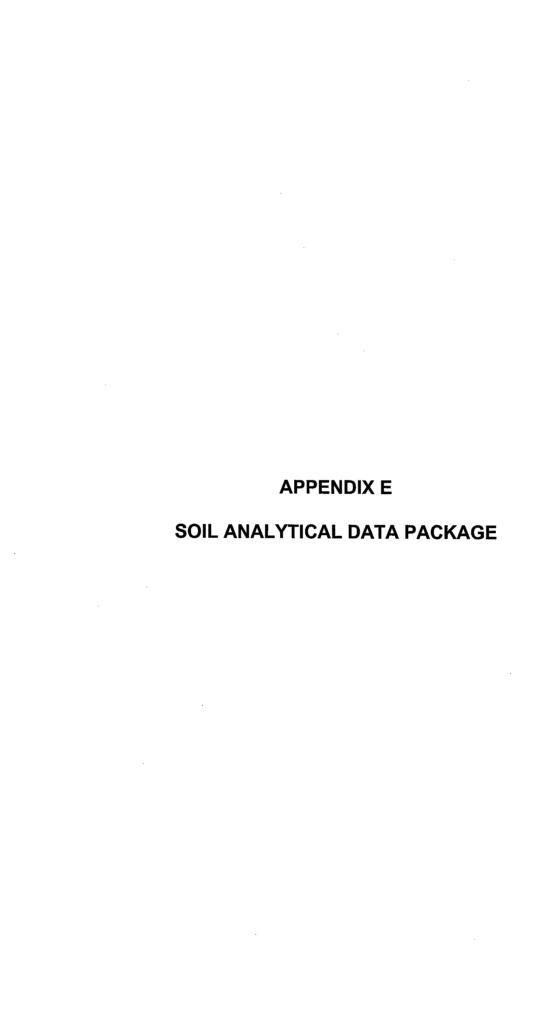
| Tel: 908-721-090 | 0 • Fax(908) 7 | ′21-0231 _/ | |
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| SOLD TO: It Monmouls Rt 35 BLDG#167 | BILL TO: | NC | |
| Eatortown | · | | |
| CONTACT: Joe fallon | ATTN: | , | |
| ACCT. # ORDER DATE DRIVER | | JOB SCHEDULED FOR | <u> </u> |
| PHONE N EPA ID N | CUSTOMER PO # | TERMS | <i>i</i> . |
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| . 2 | | ···· | |
| SPECIAL INSTRUCTIONS: | | | |
| PRICE QUOTED: 1800 | THIS WORK H | IAS BEEN INSPECTED A | AND PERFORMED FACTION. |
| DISPOSAL PER GALLON: | \ | CVIII IN | What I |
| | SIGNATURE: / | Nallein Cera | |
| HOURLY RATE: | This action has been also | annot and an efformed by the access | had at Olicanian to the |
| ENTER & CLEAN TANK: | the grounds in good co | gned and confirmed by the customer ti indition and is not responsible for any | spills or soil contamination. |

YELLOW/DRIVER

PINK/CUSTOMER

WHITE/OFFICE

APPENDIX D UST DISPOSAL CERTIFICATE



SERV-AIR, INC. An E-SYSTEMS Co.

| | •••• | , , | P.O. #: PWS-\$7 | | | | Chain of Custody | | | | tody | |
|-------------------------|------------|----------|--------------------------------------|------------------|--------------------|---------|------------------|-------|-------|----------|----------|------------|
| Project #: | | | Sampler: | | DALE 1 19/20/95 | Time | | alysi | | | 5 | tart: |
| Customer: C. APPLEB | y . | •- | Site Name: 2504 B | -TAUK | 9/2995 | 1199 | Par | amete | rs | /// | F | inish: |
| Phone: 532 | -02 | | KAKUANS | fa. | . | | | | // | /// | ·/ Pro | eservation |
| ab Sample D Number | Date | Time | Customer Sample Location/ID Numbe | Sample Matrix | .# of Bottles | | | | | | n | Method |
| 1937.1 | 9/20 | 91:00 | A EST BOT - | & SOIL | 1 | X | N | | | (· (| | |
| 1.2 | | 11:05 | B Center under S | 46 | | X | N | | | | | |
| -3 | | 11:10 | C WEST BOT - 1 | g' | | X | NI | | | | | |
| .4 | | 11:15 | 7) So. Wall - B' | | | X | NI | | | | | |
| V.5 | V | 11:30 | É Dup | . \ | V | X | NI | | | | | |
| | | | (Carpo | | | | | | | 0 | UA#1 | |
| • . | | | | | | | | 1. | | CA | 8:30 | AM 9/20/9 |
| | | | | | | | | | | | 44= 03 | |
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| | | | | | | | | | | K | Gren | |
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| elynquished | Æy ⟨s | _ / | 95 9/2/95 1530 | Received B | ()d/ | lure> | Shi | pped | Ðy: | <u> </u> | | |
| Relin q uished | By (s | signatur | -e) Date / Time | | | y (sigr | atur | e): · | I | Date / T | ime . | |
| ote: A drawi of cust | ng de | picting | sample location : | should be a | ttached | or draw | n on | the | rever | se side | of this | chain |
| AI-ENV COC F | orm (| 1 | Page | Lof | 1 | _ Pages | | Rey | . FI | Date: 0 | 2 Apr 93 | |
| Enviorn | ımenta | l Labora | ıtory | | | • | | ٠. | - | | • • • | |

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

Client: U.S. Army

Lab. ID #: 1937.1-.5

DPW, SELFM-PW-EV

Sample Rec'd: 09/20/95

Bldg. 173

Analysis Start: 09/26/95

Ft. Monmouth, NJ 07703

Analysis Comp: 09/27/95

Analysis: 418.1 (TPH)

Soil

NJDEPE UST Reg.#:

Closure #: DICAR #:

Analyst: S. Hubbard

Matrix:

Location #: Bldg. 2504

Ext. Meth: 3540A

| Lab ID. | Description | | %Solid | Result (mg/l | • |
|---------|------------------------|--------|--------|-----------------|-----|
| 1937.1 | A East Bottom 6' | OVA=ND | 93 | 253. | 16. |
| 1937.2 | B Center 8' under slab | OVA=ND | 83 | 220. | 16. |
| 1937.3 | C West Bottom 6' | OVA=ND | 89 | 858. | 16. |
| 1937.4 | D So. Wall 6' | OVA=ND | 93 | 323. | 16. |
| 1937.5 | E Dup | OVA=ND | 95 | 185. | 16. |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | · | | | | |
| M. Bl. | Method Blank | | 100 | ND | 3.3 |

Notes: ND = Not Detected, MDL = Method Detection Limit

* = Silica Gel Added, NA = Not Applicable

1944.5S= 93%,1944.5SD=103%,RPD= 1.4%,1944.5Dup=101%

QC Limits: Recovery = 60% to 140% and RPD = 14.9% at 2 Std. Dev.

Brian K. McKee

Laboratory Director

| PHC Conformance/Non-conformance Summary Report | <u>No</u> | Yes |
|--|-----------|----------|
| 1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank. | <u>/</u> | |
| 2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | <u>.</u> | <u> </u> |
| | | |
| 3. IR Spectra submitted for standards, blanks, & samples | | <u>~</u> |
| 4. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted. | ng/a | |
| 5. Extraction holding time met. (If not met, list number of days exceeded for each sample) | , — | _ |
| | | |
| 6. Analysis holding time met. (If not met, list number of days exceeded for each sample) | _ | <u>_</u> |
| | | |
| Comments: Vone | | |
| | | |
| 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.

Project #1937

Brian K. McKee

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

CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



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

Bldg. 2504

| | | B | | |
|-----------------------|-----------------------|--------|-----------------------------|---------------|
| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
| B-1 2' | 5372.01 | Soil | 22-Apr-0009:00 | 04/24/00 |
| B-2 2' | 5372.02 | Soil | 22-Apr-00 09:10 | 04/24/00 |
| B-3 6' | 5372.03 | Soil | 22-Apr-00 09:20 | 04/24/00 |
| DUP.2' | 5372.04 | Soil | 22-Apr-00 | 04/24/00 |

ANALYSIS: FORT MONMOUTH ENVIRONMENTAL LAB TPHC, %SOLIDS

ENCLOSURE: CHAIN OF CUSTODY **RESULTS**

> Daniel Wright/Date **Laboratory Director**

4-28-00

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Method Summary

NJDEP Method OQA-QAM-025-10/97
Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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

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

| 1. | Method Detection Limits provided. | | Indicate Yes, No, N/ <u>↓</u> (25 |
|------|--|----------------------|---|
| 2. | Method Blank Contamination – If yes, li corresponding concentrations in each bla | | <u>NO</u> |
| 3. | Matrix Spike Results Summary Meet Cri (If not met, list the sample and correspondable outside the acceptable range). | | yes. |
| 4. | Duplicate Results Summary Meet Criteri (If not met, list the sample and correspor falls outside the acceptable range). | | yes |
| 5. | IR Spectra submitted for standards, blank | ks and samples. | NA |
| 6. | Chromatograms submitted for standards, if GC fingerprinting was conducted. | , blanks and samples | yes |
| 7. | Analysis holding time met. (If not met, list number of days exceeded | for each sample). | yes yes |
| Add | itional comments: | | |
| | | 4-28'-00 | |
| Labo | oratory Manager | Date | |

Fort Mormouth 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

| Custo | mer: D. | DESAI | | Project No: | | | , | Analysis Parameters | | | | | | Comments: | | |
|-----------|---|------------|----------------------|-------------------|---------------------------------------|-------------|----------|---|---------|----------|-------------|-------|-------|-----------|----------|-------------------------------|
| Phone #: | : 12/ | 175 | | Location: 2 | 2504 | | | 7 | % | | | | | | | |
| ()DE | AMOMA | ()Othe | r: | | <u> </u> | | | P H C | Sec | | | | | | | |
| Same | article / Co | mpany: | MAKK LAURA- | TV5- P | W5 07 | Sample | # | z | Č | | | | | | | |
| Las | ample I.D. | Sa | ample Location | Date | Time | Туре | bottles | 3 | ב ט | | | | | | | Remarks / Preservation Method |
| 53 | 72.1 | 8-1 | 21 | 4-22-00 | 0910 | SOIL | 1 | × | × | | | | | | | 2400 |
| | 2 | 8-2 | z' | 11 | 0910 | " | ł | X | X | ļ | | | | | | 11 |
| | 3 | 8-3 | 6' | 4 | 0920 | 11 | 1 | X | X | | | | | | | |
| | _ 4 | DUP, | z' | .1 | | 1) | 1 | X | X | | | | | | | 1) |
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| Relinquis | Relinquished by (signature): Date/Time: | | | Received by | signature): | | Relin | quished | by (sig | nature): | | Date/ | Time: | Recei | ved by (| signature): |
| | Marker | | 4-24-00 0730 | J. Clumu | | | | | | | | | | | | |
| Relinquis | shed by (signat | ure): | Date/Time: | Received by (| | ž., | Relin | telinquished by (signature): Date/Time: Received by (signature): | | | signature): | | | | | |
| | | · | | | U | | <u> </u> | | | | | | | | | |
| Report Ty | pe: ()Full, | Reduced, | ()Standard, ()Screen | n / non-certified | l, ()EDD | | Remarks: | | | | | | | | | |
| Turnarou | nd time: (/)Star | ndard 3 wk | s. ()Rush Days. | ()ASAP Verl | bal Hrs. | | | , | · .: | | | | | | | |

00003

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

Client:

U.S. Army

Project #:

5372

DPW. SELFM-PW-EV

Location: UST Reg. #: Bldg.2504

Bldg. 173

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

24-Apr-00

Matrix:

Soil

Date Extracted :

25-Apr-00

Inst. ID. :

GC TPHC INST. #1

Extraction Method :

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

25-Apr-00

Injection Volume:

1uL

Analyst:

B.Patel

| Sample | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | TPHC Result (mg/kg) |
|--------------|----------|--------------------|------------|---------|----------------|---------------------------|
| 5372.01 | B-1 | 1.00 | 15.04 | 87.05 | 179 | ND |
| 5372.02 | B-2 | 1.00 | 15.12 | 90.41 | 172 | ND |
| 5372.03 | B-3 | 1.00 | 15.27 | 92.02 | 167 | ND |
| 5372.04 | Dup. | 1.00 | 15.08 | 88.09 | 177 | ND |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| METHOD BLANK | TBLK384 | 1.00 | 15.00 | 100.00 | 157 | ND |

ND = Not Detected

MDL = Method Detection Limit

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 | <u> </u> |
| 7 . | Methodology Summary submitted | |
| 8. | Laboratory Chronicle and Holding Time Check submitted | |
| 9. | Results submitted on a dry weight basis | <u> </u> |
| | Method Detection Limits submitted | <u>i/</u> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | <u> </u> |
| Dat | Laboratory Manager or Environmental Consultant's Signature | $\overline{}$ |

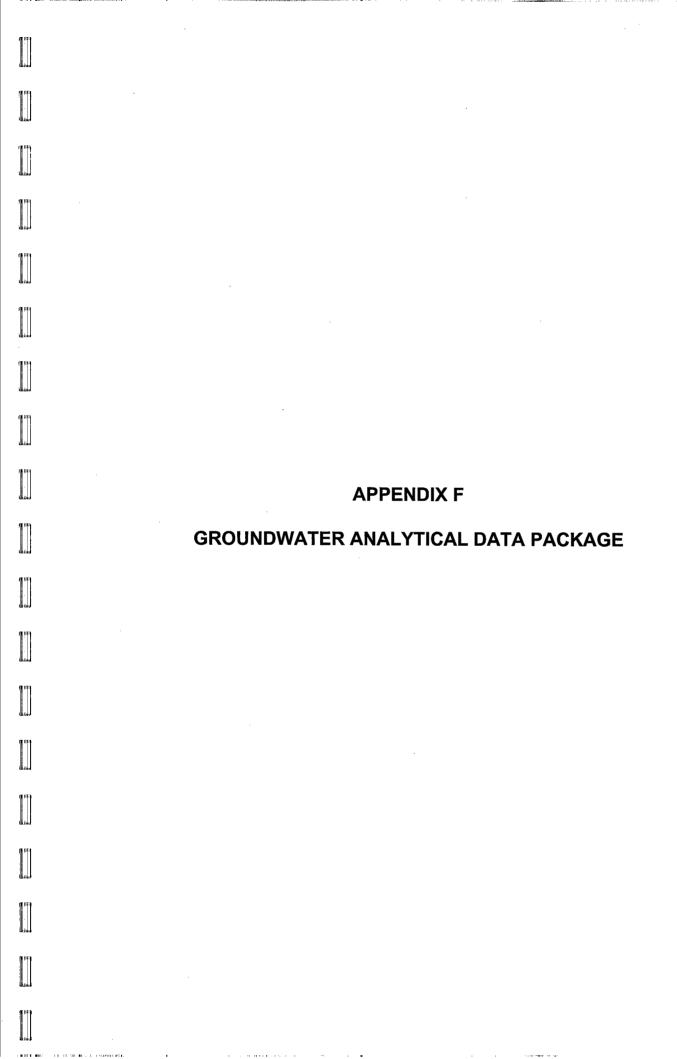
*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

Laboratory Certification #13461

Laboratory Authentication Statement

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

Daniel K. Wright Laboratory Manager



FORT MONMOUTH ENVIRONMENTAL

TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

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

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



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

BLDG. 2504

| Field Location No. & | Laboratory | Matrix | Date and Time | Date Received |
|------------------------|------------|---------|-----------------|---------------|
| Location | Sample ID# | | Of Collection | |
| Trip Blank | 4035.01 | Aqueous | 06-Nov-98 | 11/06/98 |
| Field Blank | 4035.02 | Aqueous | 06-Nov-98 09:29 | 11/06/98 |
| Bldg. 2504 – 8.9-11.9' | 4035.04 | Aqueous | 06-Nov-98 11:00 | 11/06/98 |
| Field Dup | 4035.09 | Aqueous | 06-Nov-98 | 11/06/98 |

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

Daniel Wright/Date
Laboratory Director

ENCLOSURE: CHAIN OF CUSTODY FIELD DOCUMENTATION RESULTS

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CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

| Custor | mer: Om | Alra | RY /WESAL | Project No: | | | | Analysis Parameters | | | | Comments: | | | | |
|---|-------------------|---------------------------------------|---------------------------------------|---|-------------|---------|----------|--|------|-------|-------------|--------------|--------|--------------|---|---|
| Phone #: 12(1224 | | | Location: 2 | 8LBG, 1700 - CW-1 | -117, | | V | B | | | | | | | ' | |
| | A (NOMA) | | | Location: 2700-cw-1-piT, Bloc, 2504+5lDG, 1220 | | | 0 | N | | | | | | | | |
| Sample | rs Name / Cor | npany: | Mark Lau | m TVS | 7 | Sample | # | 4 | + | | | | | | | |
| | ample I.D. | Sat | nple Location | Date | Time | Туре | bottles | 15 | 15 | | | | | | | Remarks / Preservation Method |
| 40: | 35. / | THIP | BLANK | 11-6-98 | | AQ. | 2 | × | | | | - | | | | HCL |
| | | Fiero | BUANK | " | 0929 | 61 | 3 | × | × | | | | | | | HCL/24°C |
| | 3 | 2700 - CH | BUANK 4-2-PIT-5/11.51 | " | 0953 | 11 | 2 | X | | | | | | | | SAMPLES FOR CAPS APAGE [FICE] + JOSEPH FALLON |
| | 4 | 1 | 504 - 8.9-11.9' | (1 | 1100 | 11 | 3 | × | x | | | | | | | 401/2401 |
| | 5 | BLOG. 1 | 220-8-1-16-19' | " | 1330 | 71 | 2 | × | | | | | | | | HCL |
| | 6 | r1 | 4-B-1 - 11 | И | 1415 | 11 | 1 | | X | | | | | | | eyoc |
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| | pe: (_)Full, (//) | | (_)Standard, (_)Screens. (_)Rush Days | en / non-certifi | | s. | | Rema | rks: | | | | | | | |

FIELD DOCUMENTATION

Post Remedial Groundwater Sampling at Former Underground Storage Tank Site [# 2 fuel oil] FOR BLDG. # 2504 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 8.9 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 7 – 12 feet. Riser casing from 7 - +3 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. 2700 CW- 1 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 *Mattrille (2-2-98* Tark 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

2 10 j

| G | C/MS ANALYSIS | CONFORMANCE/NON-CONFORMANCE SUMMA | ARY FORMAT |
|------------|---|---|----------------------------|
| | | | Indicate Yes, No, N/A |
| 1. | | peled/Compounds identified and method blanks) | <u> </u> |
| 2. | Retention times for | chromatograms provided | 198 |
| 3. | GC/MS Tune Spec | ifications | ' |
| | a. b. | BFB Meet Criteria DFTPP Meet Criteria | <u> 425</u> <u> 488</u> |
| 4. | GC/MS Tuning Fre series and 12 hours | equency – Performed every 24 hours for 600 for 8000 series | <u>yes</u> |
| 5 . | analysis and contin | Initial Calibration performed before sample uing calibration performed within 24 hours of 600 series and 12 hours for 8000 series | Yes |
| 6. | GC/MS Calibration | requirements | · |
| | a. b. | Calibration Check Compounds Meet Criteria System Performance Check Compounds Meet Criteria | <u>yes</u> yes |
| 7. | Blank Contamination | on - If yes, List compounds and concentrations in each blank: | NO |
| | a. b. c. | VOA Fraction B/N Fraction Acid Fraction_ Nn | |
| 8. | Surrogate Recoveri | es Meet Criteria | 1002 |
| | If not met, list outside the acc | those compounds and their recoveries, which fall eptable range: | (|
| | a. b. c. | VOA Fraction B/N Fraction Acid Fraction_ んみ | |
| | If not met, were as "estimated" | e the calculations checked and the results qualified | |
| 9. | | x Spike Duplicate Recoveries Meet Criteria e compounds and their recoveries, which fall ole range) | PE |
| | a. b. c. | VOA Fraction B/N Fraction Acid Fraction | |

| GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY | FORMAT (cont.) |
|---|-----------------------|
| | Indicate Yes, No, N/A |
| Internal Standard Area/Retention Time Shift Meet Criteria (If not met, list those compounds, which fall outside the acceptable range) | 1/25 |
| a. VOA Fraction b. B/N Fraction c. Acid Fraction / C | |
| 11. Extraction Holding Time Met If not met, list the number of days exceeded for each sample: | Ves |
| 12. Analysis Holding Time Met If not met, list the number of days exceeded for each sample: | 128 |
| Additional Comments: Field dup genformed on 4035.04 Bldg 2504 8.9-11.9 | |
| Laboratory Manager: Date: (2-8-9-8 | |

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 4035

Site: Bldg. 2504

| | | Date | Hold Time |
|----------|------------------------------------|----------------------------|--------------------|
| Da | te Sampled | 11/06/98 | NA |
| Re | ceipt/Refrigeration | 11/06/98 | NA |
| | tractions Base Neutrals | 11/10/98 | 14 days |
| An | alyses | | |
| 1. 2. | Volatile Organics Base Neutrals | 11/10,11/98 11/18,19/98 | 14 days 40 days |

VOLATILE ORGANICS

200

37 (11)

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 VB02067.D

Sample Name

VBLK64 VBLK64

Operator Skelton
Date Acquired 10 Nov 98 3:32 pm

Field ID Sample Multiplier

1

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | 0 110 |
|------------|--------------------------|-------|--------------|--------------|--------------------------------|------------------------|---------------|
| 107028 | Acrolein | К. 1. | Response | not detected | 50 | 1.85 ug/L | Qualifier |
| 107131 | Acrylonitrile | | | not detected | 50 | 2.78 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | nle | | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | nle | 8.52 ug/L 0.16 ug/L | |
| 108203 | Di-isopropyl ether | | - | not detected | nle | | |
| 106203 | Dichlorodifluoromethan | | | not detected | nle | 0.25 ug/L 1.68 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | 30 | | |
| 75-01-4 | Vinyl Chloride | | | not detected | 5 | 1.16 ug/L 1.06 ug/L | |
| 74-83-9 | Bromomethane | | + | not detected | 10 | | |
| 75-00-3 | Chloroethane | | | not detected | nle | 1.10 ug/L 1.01 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | nle | | |
| 75-35-4 | 1.1-Dichloroethene | | - | not detected | 2 | 0.50 ug/L 0.24 ug/L | |
| 67-64-1 | Acetone | | | not detected | 700 | 0.24 ug/L 1.36 ug/L | |
| 75-15-0 | Carbon Disulfide | | - | not detected | | | |
| 75-09-2 | Methylene Chloride | | | not detected | nle 2 | 0.46 ug/L | _ |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.24 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 70 | 0.16 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | | 0.12 ug/L | |
| | 2-Butanone | | | not detected | nle | 0.78 ug/L | |
| 78-93-3 | cis-1,2-Dichloroethene | | | | 300 | 0.62 ug/L | |
| 67.66.2 | | | <u> </u> | 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 | | <u> </u> | not detected | 1 | 0.55 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ethe | | | not detected | nle | 0.65 ug/L | |
| 10061-01-5 | | | | not detected | nle | 0.69 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | 400 | 0.59 ug/L | - |
| 108-88-3 | Toluene | | - | not detected | 1000 | 0.37 ug/L | |
| | trans-1,3-Dichloroprope | | | not detected | nle | 0.87 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.48 ug/L | · |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.32 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.71 ug/L | |
| 126-48-1 | Dibromochloromethane | | - | not detected | 10 | 0.86 ug/L | - |
| 108-90-7 | Chlorobenzene | | | not detected | 4 | 0.39 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.65 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 1.14 ug/L | |
| 1330-20-7 | o-Xylene | | ļ., | 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 | | <u> </u> | 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

1E VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS L Project 980932

FIELD ID

EST. CONC.

RT

| | | TENTAT | VELY IDENT | IFIED COMPO | DUNDS | | |
|----------------|----------|-----------|--------------|-------------|---------------|--------------------|-------|
| Lab Name: | FMETL | | <u> </u> | Project | 980932 | \VE | olk64 |
| NJDEP# | 13461 | Cas | se No.: 4035 | SDG N | lo | Location L | JST |
| Matrix: (soil/ | water) | WATER | _ | Lá | ab Sample II | D: VBLK64 | ··· |
| Sample wt/ve | ol: | 5.0 | (g/ml) ML | La | ab File ID: | VB02067. | D |
| Level: (low/r | med) | LOW | _ | Da | ate Receive | d: <u>11/06/98</u> | |
| % Moisture: | not dec. | | | Da | ate Analyze | d: <u>11/10/98</u> | |
| GC Column: | HP5M | S ID: 0.2 | 25 (mm) | Di | lution Facto | r: <u>1.0</u> | |
| Soil Extract \ | Volume: | | _ (uL) | Sc | oil Aliquot V | olume: | (uL) |
| | | | | CONCENTRA | | S: | |
| Number TICs | s found: | 0 | | | | | |
| | | | | | | | |

COMPOUND NAME

CAS NO.

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

Data File Nam vb02079.d Operator

Skelton

Date Acquired 11 Nov 98 12:38 am

Sample Name

Field ID

4035.01 Trip Blank

Sample Multiplier

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | Qualifier |
|----------|--------------------------|------|----------|--------------|--------------------------------|-----------|--------------|
| 107028 | Acrolein | | | not detected | 50 | 1.85 ug/L | - Quantities |
| 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 | <u> </u> |
| | Dichlorodifluoromethan | | | not detected | nle | 1.68 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | 30 | 1.16 ug/L | <u> </u> |
| 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 | - |
| 70 70 0 | cis-1,2-Dichloroethene | | | not detected | 10 | 0.17 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 6 | 0.30 ug/L | <u> </u> |
| 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 | |
| | 1,2-Dichloropropane | | | not detected | 1 | 0.40 ug/L | |
| | Bromodichloromethane | | | not detected | 1 | 0.55 ug/L | |
| | 2-Chloroethyl vinyl ethe | | | not detected | nle | 0.65 ug/L | |
| | cis-1,3-Dichloropropene | | | not detected | nle | 0.69 ug/L | |
| | 4-Methyl-2-Pentanone | | | not detected | 400 | 0.59 ug/L | |
| | Toluene | | | not detected | 1000 | 0.37 ug/L | |
| | trans-1,3-Dichloroprope | | | not detected | nle | 0.87 ug/L | |
| | 1.1.2-Trichloroethane | | | not detected | 3 | 0.48 ug/L | |
| | Tetrachloroethene | | | not detected | 1 | 0.32 ug/L | |
| | 2-Hexanone | | | not detected | nle | 0.71 ug/L | |
| | Dibromochloromethane | | | not detected | 10 | 0.86 ug/L | • |
| | Chlorobenzene | | | not detected | 4 | 0.39 ug/L | |
| | Ethylbenzene | | | not detected | 700 | 0.65 ug/L | |
| | m+p-Xylenes | | | not detected | nle | 1.14 ug/L | |
| | o-Xylene | | | not detected | nle | 0.62 ug/L | |
| | Styrene | | | not detected | 100 | 0.56 ug/L | - |
| | Bromoform | | | not detected | 4 | 0.70 ug/L | |
| | 1,1,2,2-Tetrachloroethan | | | not detected | 2 | 0.47 ug/L | |
| | 1,3-Dichlorobenzene | | | not detected | 600 | 0.55 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.57 ug/L | |
| | 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

1E

| | FIELD | ID | | | | | |
|----------------------|---------------------|-----------|-----------------|---------------|---------|----------|-----|
| Lab Name: FMETL | TENTATIVELY IDENTII | FIED COMP | OUNDS 980932 | | Tri | ip Blani | k |
| NJDEP# 13461 | Case No.: 4035 | SDG | No | Loc | ation | UST | |
| Matrix: (soil/water) | WATER | L | ab Sample | D: 4 | 035.01 | | |
| Sample wt/vol: | 5.0 (g/ml) ML | L | ab File ID: | <u> </u> | /B0207 | 9.D | - |
| Level: (low/med) | LOW | | ate Recei | ved: <u>1</u> | 1/06/98 | 3 | |
| % Moisture: not dec. | <u> </u> | | ate Analy | zed: <u>1</u> | 1/11/98 | 3 | |
| GC Column: HP5N | /IS ID: 0.25 (mm) | | ilution Fac | tor: 1 | .0 | | |
| Soil Extract Volume: | (uL) | 5 | oil Aliquot | Volum | ne: | | (uL |
| Number TICs found: | | CONCENTRA | | | | | |
| CAS NO. | COMPOUND NAME | <u>.</u> | RT | EST | . CON | C | Q |

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

Data File Nam vb02080.d Operator

Skelton

Date Acquired 11 Nov 98 1:23 am

Sample Name

Field ID

4035.02 Field Blank

Sample Multiplier

1

| G / G" | 6 W | D. m. | ·n | . | Regulatory Level | | |
|------------|--------------------------|-------|--------------|--------------|---------------------|-----------|--------------|
| CAS# | Compound Name | R.T. | Response | Result | (ug/l)* | MDL | Qualifier |
| 107028 | Acrolein | | | not detected | 50 | 1.85 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 50 | 2.78 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | nle | 8.52 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | nle | 0.16 ug/L | ├── |
| 108203 | Di-isopropyl ether | | | not detected | nle | 0.25 ug/L | |
| 74.07.3 | 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 | | ļ | 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 | <u> </u> |
| 75-15-0 | Carbon Disulfide | | | not detected | nle | 0.46 ug/L | <u> </u> |
| 75-09-2 | Methylene Chloride | | | not detected | 2 | 0.24 ug/L | ļ |
| 156-60-5 | trans-1,2-Dichloroethene | | L | not detected | 100 | 0.16 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | <u> </u> | not detected | 70 | 0.12 ug/L | <u> </u> |
| 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 | · | <u>_</u> | not detected | 10 | 0.17 ug/L | <u> </u> |
| 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 | | <u> </u> | 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 | 11 | 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 | |
| | 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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

| Lab Name: | FMETL | | Project | 980932 | | Field I | Blank |
|----------------|----------|------------------------|-----------------------------|-------------|---------------|----------|-------------|
| NJDEP# | 13461 | Case No.: 4035 | SDG N | lo | Loc | ation US | ST |
| Matrix: (soil/ | water) | WATER | La | ab Sample | ID: 4 | 035.02 | |
| Sample wt/v | ol: | 5.0 (g/ml) ML | La | ab File ID: | V | B02080.D | <u> </u> |
| Level: (low/ | med) | LOW | Da | ate Receiv | /ed: <u>1</u> | 1/06/98 | |
| % Moisture: | not dec. | · | Da | ate Analyz | ed: 1 | 1/11/98 | |
| GC Column: | HP5M | S ID: <u>0.25</u> (mm) | Di | lution Fac | tor: <u>1</u> | .0 | |
| Soil Extract | Volume: | (uL) | Sc | oil Aliquot | Volum | ie: | (uL) |
| Number TIC | s found: | 0 | CONCENTRA (ug/L or ug/Kg | | | | |
| CAS NO. | | COMPOUND NAME | | RT | EST | . CONC. | Q |

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

Data File Nam vb02082.d

Sample Name Field ID

4035.04 Bldg 2504

Operator Skelton Date Acquired 11 Nov 98 2:54 am

Sample Multiplier

| | | | | | Regulatory Level | | |
|------------|--------------------------|----------|----------|--------------|---------------------|------------------------|-----------|
| CAS# | Compound Name | R.T. | Response | Result | (ug/l)* | MDL | Qualifier |
| 107028 | Acrolein | | | not detected | 50 | 1.85 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 50 | 2.78 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | nle | 8.52 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | nle | 0.16 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | nle | 0.25 ug/L | |
| | Dichlorodifluoromethan | <u> </u> | | 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 | <u> </u> | | not detected | 10 | 1.10 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 1.01 ug/L | |
| 75-69-4 | Trichlorofluoromethane | ļ | | 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 | 0.47 ug/L 0.55 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.57 ug/L 0.57 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.57 ug/L 0.64 ug/L | |
| 23-30-1 | 1,2-Dictionocitzene | المجتوب | CDOLL | not detected | 1 000 | 0.04 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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

| FIELD I | D |
|---------|---|
|---------|---|

| Lab Name: | FMETL | | Project | 980932 | | В | ldg250 | 4 |
|----------------|----------|------------------------|---------------------------|--------------|-------|---------|--------|--------|
| NJDEP# | 13461 | Case No.: 403 | 35 SDG | No | Lo | cation | UST | |
| Matrix: (soil/ | water) | WATER | L | _ab Sample | D: | 4035.04 | • | |
| Sample wt/v | ol: | 5.0 (g/ml) M | <u>L</u> L | _ab File ID: | | VB0208 | 2.D | |
| Level: (low/i | med) | LOW | ſ | Date Receiv | ved: | 11/06/9 | 8 | |
| % Moisture: | not dec. | | [| Date Analyz | zed: | 11/11/9 | 8 | |
| GC Column: | HP5M | S ID: <u>0.25</u> (mm) | [| Dilution Fac | ctor: | 1.0 | | |
| Soil Extract \ | Volume: | (uL) | 5 | Soil Aliquot | Volu | me: | | _ (uL) |
| Number TIC: | s found: | 0 | CONCENTR (ug/L or ug/K | | | | | |
| CAS NO. | | COMPOUND NAME | | RT | ES | T. CON | c. | Q |

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

Data File Nam vb02085.d Operator

Skelton

Date Acquired 11 Nov 98 5:10 am

Sample Name Field ID

4035.09 Field Dup

Sample Multiplier

1

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | Qualifier |
|--------------------|--|--|----------|------------------------------|--------------------------------|------------------------|-------------|
| 107028 | Acrolein | T | response | not detected | 50 | 1.85 ug/L | Quantier |
| 107131 | Acrylonitrile | 1 | | not detected | 50 | 2.78 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | nle | 8.52 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | nle | 0.16 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | nle | 0.16 ug/L 0.25 ug/L | |
| 100203 | Dichlorodifluoromethan | | l | 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 | 0.30 ug/L 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 | 0.46 ug/L 0.24 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.24 ug/L 0.16 ug/L | |
| 75-35-3 | 1.1-Dichloroethane | | | not detected | 70 | 0.10 ug/L 0.12 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | nle | 0.12 ug/L 0.78 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | | |
| 76-93-3 | cis-1,2-Dichloroethene | - | | not detected | | 0.62 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 10 | 0.17 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | - | | not detected | 6 | 0.30 ug/L | |
| 56-23-5 | | | | | 30 | 0.23 ug/L | |
| 71-43-2 | Carbon Tetrachloride | | | not detected | 2 | 0.47 ug/L | |
| 107-06-2 | Benzene 1,2-Dichloroethane | - | | not detected | 1 -1 | 0.23 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 2 | 0.18 ug/L | |
| 79-01-6 78-87-5 | | | | not detected | 1 | 0.23 ug/L | |
| 75-27-4 | 1,2-Dichloropropane Bromodichloromethane | | | not detected not detected | 1 | 0.40 ug/L | |
| | | | | | | 0.55 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ethe | | | not detected | nle | 0.65 ug/L | |
| | cis-1,3-Dichloropropene | | | not detected | nle | 0.69 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | 25.00 | 150461 | not detected | 400 | 0.59 ug/L | |
| 108-88-3 | Toluene | 25.00 | 159461 | 1.10 ug/L | 1000 | 0.37 ug/L | |
| | trans-1,3-Dichloroprope | | | not detected | nle | 0.87 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.48 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 11 | 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 | <u> </u> | | 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

1E VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

| Lab Name: | FMETL | | | Project | 980932 | | Field D |)up |
|-------------------------|----------|-----------|--------------|---|-------------|------|------------|----------------|
| NJDEP# | 13461 | Ca | se No.: 4035 | SDG N | lo | Lo | cation UST | Γ |
| Matrix: (soil/water) W/ | | WATER | | La | ab Sample | ID: | 4035.09 | |
| Sample wt/vol: | | 5.0 | (g/ml) ML | La | ab File ID: | | VB02085.D | |
| Level: (low/i | med) | LOW | _ | Da | ate Receiv | /ed: | 11/06/98 | _ _ |
| % Moisture: | not dec. | | | D | ate Analyz | ed: | 11/11/98 | |
| GC Column: | HP5M | S_ ID: 0. | 25 (mm) | Di | lution Fac | tor: | 1.0 | |
| Soil Extract | Volume: | | (uL) | Soil Aliquot Volume: | | | | |
| Number TIC | s found: | 0 | | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | | | | |
| CAS NO. | | COMPOL | JND NAME | | RT | ES | T. CONC. | Q |

BASE NEUTRALS

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

Data File Name bna01289.d

Sample Name

Sblk162

Operator

Skelton

Misc Info

Sblk162 A 981110

Date Acquired 18 Nov 1998 10:48 pm

Sample Multiplier 1

| CAS# | Name | R.T. | Response | Result | GW Criteria | MDL | | Qualifiers |
|----------|-----------------------------|------|----------|--------------|----------------|--------|------|------------|
| 110-86-1 | Pyridine | | | not detected | NLE | 2.52 t | ug/L | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 2.64 | ug/L | |
| 62-53-3 | Aniline | | | not detected | NLE | 2.90 ւ | ug/L | |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 2.45 | ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 2.65 | ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 2.50 | ug/L | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 2.09 1 | ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 2.44 | ug/L | |
| 108-60-1 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 2.96 | ug/L | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | 2.22 | ug/L | |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | 2.59 | ug/L | |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | 2.45 | ug/L | |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 2.54 | ug/L | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 2.58 | ug/L | |
| 91-20-3 | Naphthalene | | | not detected | NLE | 3.03 | ug/L | |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 2.55 | ug/L | |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 0.64 | ug/L | |
| 91-57-6 | 2-Methylnaphthalene | | | not detected | NLE | 2.49 | ug/L | |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 1.59 | ug/L | |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | NLE | 2.15 | ug/L | |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 1.62 | ug/L | |
| 131-11-3 | Dimethylphthalate | 1 | | not detected | 7000 | 2.74 | ug/L | |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 2.35 | ug/L | |
| 606-20-2 | 2,6-Dinitrotoluene | | | not detected | NLE | 1.54 | ug/L | |
| 99-09-2 | 3-Nitroaniline | į | | not detected | NLE | 1.62 | ug/L | |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 1.98 | ug/L | |
| 132-64-9 | Dibenzofuran | | | not detected | NLE | 2.13 | ug/L | |

Semi-Volatile Analysis Report Page 2

Data File Name bna01289.d

Sample Name

Sblk162

Operator

Skelton

Misc Info

Sblk162 A 981110

Date Acquired

18 Nov 1998 10:48 pm

Sample Multiplier 1

| 121-14-2 | 2,4-Dinitrotoluene | | not detected | 10 | 1.22 | ug/L | |
|-----------|----------------------------|---|--------------|------|------|------|----------|
| 84-66-2 | Diethylphthalate | | not detected | 5000 | 1.68 | ug/L | |
| 86-73-7 | Fluorene | | not detected | 300 | 1.93 | ug/L | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | | not detected | NLE | 1.53 | ug/L | |
| 100-01-6 | 4-Nitroaniline | | not detected | NLE | 2.70 | ug/L | |
| 86-30-6 | n-Nitrosodiphenylamine | | not detected | 20 | 1.73 | ug/L | |
| 103-33-3 | Azobenzene | | not detected | NLE | 1.92 | ug/L | |
| 101-55-3 | 4-Bromophenyl-phenylether | | not detected | NLE | 1.54 | ug/L | <u> </u> |
| 118-74-1 | Hexachlorobenzene | | not detected | 10 | 1.88 | ug/L | |
| 85-01-8 | Phenanthrene | | not detected | NLE | 1.67 | ug/L | |
| 120-12-7 | Anthracene | | not detected | 2000 | 1.79 | ug/L | |
| 84-74-2 | Di-n-butylphthalate | | not detected | 900 | 1.83 | ug/L | |
| 206-44-0 | Fluoranthene | | not detected | 300 | 1.85 | ug/L | |
| 92-87-5 | Benzidine | · | not detected | 50 | 4.11 | ug/L | |
| 129-00-0 | Pyrene | | not detected | 200 | 1.02 | ug/L | |
| 85-68-7 | Butylbenzylphthalate | | not detected | 100 | 1.15 | ug/L | |
| 56-55-3 | Benzo[a]anthracene | | not detected | 10 | 1.57 | ug/L | |
| 91-94-1 | 3,3'-Dichlorobenzidine | | not detected | 60 | 2.28 | ug/L | |
| 218-01-9 | Chrysene | | not detected | 20 | 2.32 | ug/L | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | | not detected | 30 | 1.29 | ug/L | |
| 117-84-0 | Di-n-octylphthalate | | not detected | 100 | 1.30 | ug/L | |
| 205-99-2 | Benzo[b]fluoranthene | | not detected | 10 | 1.31 | ug/L | |
| 207-08-9 | Benzo[k]fluoranthene | | not detected | 2 | 1.57 | ug/L | |
| 50-32-8 | Benzo[a]pyrene | | not detected | 20 | 1.36 | ug/L | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | | not detected | 20 | 1.22 | ug/L | |
| 53-70-3 | Dibenz[a,h]anthracene | | not detected | 20 | | ug/L | |
| 191-24-2 | Benzo[g,h,i]perylene | | not detected | NLE | | ug/L | |

Qualifiers !

E = Value exceded linear range

D = Value from dilution

B = Compound in related blank

MDL = Method Detection Limit

NLE = No Limit Established

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID

TENTATIVELY IDENTIFIED COMPOUNDS

| Lab Name: | FMETL | | | L | ab Code 13461 | Sblk162 |
|-----------------|-----------------|---------|----------------|---|------------------|------------|
| Project | 980932 | | Case No.: 4035 | | Location UST S | DG No.: |
| Matrix: (soil/v | vater) | WATER | | | Lab Sample ID: | Sblk162 |
| Sample wt/vo | ol: | 1000 | (g/ml) ML | | Lab File ID: | BNA01289.D |
| Level: (low/r | ned) | LOW | | | Date Received: | 11/06/98 |
| % Moisture: | | de | canted: (Y/N) | N | Date Extracted: | 11/10/98 |
| Concentrated | Extract | Volume: | 1000 (uL) | | Date Analyzed: | 11/18/98 |
| Injection Volu | ıme: <u>1.0</u> | (uL) | | | Dilution Factor: | 1.0 |
| GPC Cleanu | p: (Y/N) | N | pH: <u>7</u> | | | |

CONCENTRATION UNITS:

| Number HCs found: | | (ug/L or ug/Kg) | UG/L | T |
|-------------------|------------------------|-----------------|------------|----|
| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
| 1. 000301-02-0 | 9-Octadecenamide, (Z)- | 23.23 | 23 | JN |
| 2. | unknown | 26.39 | 48 | J |

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

Data File Name bna01291.d

Sample Name

4035.02

Operator

Skelton

Misc Info

Field Blank

Date Acquired

19 Nov 1998 12:11 am

Sample Multiplier 1

| CAS# | Name | R.T. | Response | Result | GW Criteria | MDL | Qualifiers |
|----------|-----------------------------|----------|----------|--------------|----------------|-----------|------------|
| 110-86-1 | Pyridine | | | not detected | NLE | 2.52 ug/I | , |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 2.64 ug/I | , |
| 62-53-3 | Aniline | | | not detected | NLE | 2.90 ug/I | , |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 2.45 ug/I | |
| 541-73-1 | 1,3-Dichlorobenzene | } | | not detected | 600 | 2.65 ug/I | , |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 2.50 ug/I | , |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 2.09 ug/I | , |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 2.44 ug/I | 4_ |
| 108-60-1 | bis(2-chloroisopropyl)ether | | \ (; \) | not detected | 300 | 2.96 ug/I | |
| 621-64-7 | n-Nitroso-di-n-propylamine | 1 | 1.5 5 | not detected | 20 | 2.22 ug/I | , |
| 67-72-1 | Hexachloroethane | | Market | not detected | 10 | 2.59 ug/l | |
| 98-95-3 | Nitrobenzene | <u> </u> | | not detected | 10 | 2.45 ug/l | |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 2.54 ug/l | , |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 2.58 ug/l | , |
| 91-20-3 | Naphthalene | | | not detected | NLE | 3.03 ug/l | |
| 106-47-8 | 4-Chloroaniline | <u> </u> | | not detected | NLE | 2.55 ug/l | , |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 0.64 ug/l | |
| 91-57-6 | 2-Methylnaphthalene | <u> </u> | ļ | not detected | NLE | 2.49 ug/l | , |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 1.59 ug/l | , |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | NLE | 2.15 ug/l | |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 1.62 ug/l | , |
| 131-11-3 | Dimethylphthalate | <u> </u> | | not detected | 7000 | 2.74 ug/l | |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 2.35 ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | <u> </u> | | not detected | NLE | 1.54 ug/ | |
| 99-09-2 | 3-Nitroaniline | | | not detected | NLE | 1.62 ug/ | |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 1.98 ug/ | |
| 132-64-9 | Dibenzofuran | | | not detected | NLE | 2.13 ug/ | |

Semi-Volatile Analysis Report Page 2

Data File Name bna01291.d

Sample Name

4035.02

Operator

Skelton

Misc Info

Field Blank

Date Acquired

19 Nov 1998 12:11 am

Sample Multiplier 1

| 121-14-2 | 2,4-Dinitrotoluene | not detected | 10 | 1 22 | ug/L | |
|-----------|----------------------------|------------------|------|------|------|--------------|
| 84-66-2 | Diethylphthalate | not detected | 5000 | | ug/L | |
| 86-73-7 | Fluorene | not detected | 300 | | ug/L | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | not detected | NLE | | ug/L | ··· <u> </u> |
| 100-01-6 | 4-Nitroaniline | not detected | NLE | | ug/L | |
| 86-30-6 | n-Nitrosodiphenylamine | not detected | 20 | | ug/L | |
| 103-33-3 | Azobenzene | not detected | NLE | | ug/L | |
| 101-55-3 | 4-Bromophenyl-phenylether | not detected | NLE | 1.54 | | |
| 118-74-1 | Hexachlorobenzene | not detected | 10 | | ug/L | |
| 85-01-8 | Phenanthrene | not detected | NLE | | ug/L | |
| 120-12-7 | Anthracene | not detected | 2000 | | ug/L | |
| 84-74-2 | Di-n-butylphthalate | not detected | 900 | 1.83 | ug/L | |
| 206-44-0 | Fluoranthene | not detected | 300 | 1.85 | ug/L | |
| 92-87-5 | Benzidine | not detected | 50 | 4.11 | ug/L | |
| 129-00-0 | Pyrene | not detected | 200 | 1.02 | ug/L | |
| 85-68-7 | Butylbenzylphthalate | not detected | 100 | 1.15 | ug/L | |
| 56-55-3 | Benzo[a]anthracene | not detected | 10 | 1.57 | ug/L | |
| 91-94-1 | 3,3'-Dichlorobenzidine | not detected | 60 | 2.28 | ug/L | |
| 218-01-9 | Chrysene | not detected | 20 | 2.32 | ug/L | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | not detected | 30 | 1.29 | ug/L | |
| 117-84-0 | Di-n-octylphthalate | not detected | 100 | 1.30 | ug/L | |
| 205-99-2 | Benzo[b]fluoranthene | not detected | 10 | 1.31 | ug/L | |
| 207-08-9 | Benzo[k]fluoranthene | not detected | 2 | 1.57 | ug/L | |
| 50-32-8 | Benzo[a]pyrene | not detected | 20 | 1.36 | ug/L | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | not detected | 20 | 1.22 | ug/L | |
| 53-70-3 | Dibenz[a,h]anthracene | not detected | 20 | 3.12 | ug/L | |
| 191-24-2 | Benzo[g,h,i]perylene | not detected | NLE | 1.13 | ug/L | |

Qualifiers

E = Value exceded linear range

D = Value from dilution

B = Compound in related blank

MDL = Method Detection Limit

NLE = No Limit Established

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

| Lab Name: | FMETL | · | · | Lab Code 1346 | 1 | Fleid Blank |
|-----------------|-----------------|-----------|--------------|---------------|----------------|-------------|
| Project | 980932 | Ca | se No.: 4035 | Location US | Γ Si | DG No.: |
| Matrix: (soil/v | vater) | WATER | _ | Lab Samp | ole ID: | 4035.02 |
| Sample wt/vo | ol: | 1000 | (g/ml) ML | Lab File I | D: | BNA01291.D |
| Level: (low/n | ned) | LOW | _ | Date Rec | eived: | 11/06/98 |
| % Moisture: | | dec | anted: (Y/N) | N Date Extr | acted: | 11/10/98 |
| Concentrated | Extract \ | Volume: _ | 1000 (uL) | Date Ana | lyzed: | 11/19/98 |
| Injection Volu | ıme: <u>1.0</u> | (uL) | | Dilution F | actor: | 1.0 |
| GPC Cleanu | p: (Y/N) | N | pH: <u>7</u> | - | | |
| Number TICs | s found: | 2 | | CONCENTRATIO | N UNIT UG/I | |

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|----------------|------------------------|-------|------------|----|
| 1. 000301-02-0 | 9-Octadecenamide, (Z)- | 23.24 | 27 | JN |
| 2. | unknown | 26.40 | 62 | J |

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

Data File Name bna01292.d

Sample Name

4035.04

Operator

Skelton

Misc Info

Bldg 2504

Date Acquired

19 Nov 1998 12:53 am

Sample Multiplier 1

| CAS# | Name | R.T. | Response | Result | GW Criteria | MDL | Qualifiers |
|----------|-----------------------------|------|-------------|--------------|----------------|--------|------------|
| 110-86-1 | Pyridine | | | not detected | NLE | 2.52 ս | g/L |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 2.64 u | g/L |
| 62-53-3 | Aniline | | | not detected | NLE | 2.90 u | g/L |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 2.45 u | g/L |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 2.65 u | g/L |
| 106-46-7 | 1,4-Dichlorobenzene |] | | not detected | 75 | 2.50 u | g/L |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 2.09 u | g/L |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 2.44 u | g/L |
| 108-60-1 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 2.96 ս | g/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | 2.22 u | g/L |
| 67-72-1 | Hexachloroethane | | this is a | not detected | 10 | 2.59 u | g/L |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | 2.45 ս | g/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 2.54 u | g/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 2.58 u | g/L |
| 91-20-3 | Naphthalene | 1 | | not detected | NLE | 3.03 u | g/L |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 2.55 u | g/L |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 0.64 u | g/L |
| 91-57-6 | 2-Methylnaphthalene | | | not detected | NLE | 2.49 u | g/L |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 1.59 u | g/L |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | NLE | 2.15 u | g/L |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 1.62 u | g/L |
| 131-11-3 | Dimethylphthalate | | | not detected | 7000 | 2.74 u | g/L |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 2.35 u | g/L |
| 606-20-2 | 2,6-Dinitrotoluene | | | not detected | NLE | 1.54 u | g/L |
| 99-09-2 | 3-Nitroaniline | | تدايما بالا | not detected | NLE | 1.62 u | g/L |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 1.98 u | g/L |
| 132-64-9 | Dibenzofuran | | | not detected | NLE | 2.13 u | g/L |

Semi-Volatile Analysis Report Page 2

Data File Name bna01292.d

Sample Name

4035.04

Operator

Skelton

Misc Info

Bldg 2504

Date Acquired

19 Nov 1998 12:53 am

Sample Multiplier 1

| 121-14-2 | 2,4-Dinitrotoluene | | not detected | 10 | 1.22 | ug/L | |
|------------------|----------------------------|------------|--------------|------|------|------|-------|
| 84-66-2 | Diethylphthalate | | not detected | 5000 | 1.68 | ug/L | |
| 86-73-7 | Fluorene | | not detected | 300 | 1.93 | ug/L | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | | not detected | NLE | 1.53 | ug/L | |
| 100-01-6 | 4-Nitroaniline | | not detected | NLE | 2.70 | ug/L | |
| 86-30-6 | n-Nitrosodiphenylamine | | not detected | 20 | 1.73 | ug/L | |
| 103-33-3 | Azobenzene | | not detected | NLE | 1.92 | ug/L | |
| 101-55-3 | 4-Bromophenyl-phenylether | | not detected | NLE | 1.54 | ug/L | |
| 118-74-1 | Hexachlorobenzene | | not detected | 10 | 1.88 | ug/L | |
| 85-01-8 | Phenanthrene | | not_detected | NLE | 1.67 | ug/L | L |
| 120-12-7 | Anthracene | | not detected | 2000 | 1.79 | ug/L | |
| 84-74-2 | Di-n-butylphthalate | | not detected | 900 | 1.83 | ug/L | |
| 206-44-0 | Fluoranthene | · | not detected | 300 | 1.85 | ug/L | |
| 92-87-5 | Benzidine | | not detected | 50 | 4.11 | ug/L | |
| 129-00-0 | Pyrene | | not detected | 200 | 1.02 | ug/L | |
| 85-68 - 7 | Butylbenzylphthalate | | not detected | 100 | 1.15 | ug/L | L |
| 56-55-3 | Benzo[a]anthracene | | not detected | 10 | 1.57 | ug/L | |
| 91-94-1 | 3,3'-Dichlorobenzidine | | not detected | 60 | 2.28 | ug/L | |
| 218-01-9 | Chrysene | | not detected | 20 | 2.32 | ug/L | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | | not detected | 30 | 1.29 | ug/L | |
| 117-84-0 | Di-n-octylphthalate | | not detected | 100 | 1.30 | ug/L | |
| 205-99-2 | Benzo[b]fluoranthene | 21 × A = 4 | not detected | 10 | 1.31 | ug/L | Ĺ |
| 207-08-9 | Benzo[k]fluoranthene | PW 18.1 | not detected | 2 | 1.57 | ug/L | |
| 50-32-8 | Benzo[a]pyrene | | not detected | 20 | 1.36 | ug/L | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | | not detected | 20 | 1.22 | ug/L | |
| 53-70-3 | Dibenz[a,h]anthracene | | not detected | 20 | 3.12 | ug/L | |
| 191-24-2 | Benzo[g,h,i]perylene | T | not detected | NLE | 1.13 | ug/L | |

Qualifiers

E = Value exceded linear range

D = Value from dilution

B = Compound in related blank

MDL = Method Detection Limit

NLE = No Limit Established

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

| Lab Name: | FMETL | | | Lab Code | 13461 | Blug2504 |
|-----------------|-----------------|-----------|-------------|----------|-------------|------------|
| Project | 980932 | Cas | e No.: 4035 | Location | USTS | DG No.: |
| Matrix: (soil/v | vater) | WATER | | Lab | Sample ID: | 4035.04 |
| Sample wt/vo | ol: | 1000 | (g/ml) ML | Lab | File ID: | BNA01292.D |
| Level: (low/r | ned) | LOW | | Date | Received: | 11/06/98 |
| % Moisture: | | deca | nted: (Y/N) | N Date | Extracted: | 11/10/98 |
| Concentrated | d Extract \ | Volume: 1 | 000 (uL) | Date | Analyzed: | 11/19/98 |
| Injection Volu | ıme: <u>1.0</u> | (uL) | | Dilut | ion Factor: | 1.0 |
| GPC Cleanu | p: (Y/N) | <u> </u> | oH: 7 | | | |
| Number TICs | s found: | 2 | an da | CONCENTR | | |

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

Data File Name bna01295.d

Sample Name

4035.09

Operator

Skelton

Misc Info

Field Dup

Date Acquired

19 Nov 1998 2:58 am

Sample Multiplier 1

| CAS# | CAS# Name R | | Response | Result | GW Criteria | MDL | Qualifiers |
|----------|-----------------------------|---|-----------------------|--------------|----------------|--------|------------|
| 110-86-1 | Pyridine | | | not detected | NLE | 2.52 u | ıg/L |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 2.64 u | ıg/L |
| 62-53-3 | Aniline | | | not detected | NLE | 2.90 u | ig/L |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 2.45 u | ıg/L |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 2.65 u | ıg/L |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 2.50 u | ıg/L |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 2.09 u | ıg/L |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 2.44 u | ıg/L |
| 108-60-1 | bis(2-chloroisopropyl)ether | | , , , , , | not detected | 300 | 2.96 u | ıg/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | | + 3 (e) = 1 | not detected | 20 | 2.22 u | ıg/L |
| 67-72-1 | Hexachloroethane | | * | not detected | 10 | 2.59 u | ıg/L |
| 98-95-3 | Nitrobenzene | 1 | | not detected | 10 | 2.45 u | ıg/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 2.54 1 | ıg/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 2.58 ι | ıg/L |
| 91-20-3 | Naphthalene | | | not detected | NLE | 3.03 t | ıg/L |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 2.55 u | ıg/L |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 0.64 ı | ıg/L |
| 91-57-6 | 2-Methylnaphthalene | | | not detected | NLE | 2.49 ι | ıg/L |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 1.59 ı | ıg/L |
| 91-58-7 | 2-Chloronaphthalene | | ,, ., ., | not detected | NLE | 2.15 | ıg/L |
| 88-74-4 | 2-Nitroaniline | | and selection of the | not detected | NLE | 1.62 ı | ıg/L |
| 131-11-3 | Dimethylphthalate | | and the second second | not detected | 7000 | 2.74 1 | |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 2.35 ι | ıg/L |
| 606-20-2 | 2,6-Dinitrotoluene | | 21 m = 1 | not detected | NLE | 1.54 u | ıg/L |
| 99-09-2 | 3-Nitroaniline | | | not detected | NLE | 1.62 | |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 1.98 1 | |
| 132-64-9 | Dibenzofuran | | | not detected | NLE | 2.13 | |

Semi-Volatile Analysis Report Page 2

Data File Name bna01295.d

Sample Name

4035.09

Operator

Skelton

Misc Info

Field Dup

Date Acquired

19 Nov 1998 2:58 am

Sample Multiplier 1

| | | | | | | | |
|------------------|----------------------------|--------|--------------|------|------|------|-------------|
| 121-14-2 | 2,4-Dinitrotoluene | | not detected | 10 | 1.22 | ug/L | |
| 84-66-2 | Diethylphthalate | | not detected | 5000 | 1.68 | ug/L | |
| 86-73-7 | Fluorene | | not detected | 300 | 1.93 | ug/L | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | | not detected | NLE | 1.53 | ug/L | |
| 100-01-6 | 4-Nitroaniline | | not detected | NLE | 2.70 | ug/L | |
| 86-30-6 | n-Nitrosodiphenylamine | | not detected | 20 | 1.73 | ug/L | |
| 103-33-3 | Azobenzene | | not detected | NLE | 1.92 | ug/L | |
| 101-55-3 | 4-Bromophenyl-phenylether | | not detected | NLE | 1.54 | ug/L | |
| 118-74-1 | Hexachlorobenzene | | not detected | 10 | 1.88 | ug/L | |
| 85-01-8 | Phenanthrene | | not detected | NLE | 1.67 | ug/L | |
| 120-12-7 | Anthracene | | not detected | 2000 | 1.79 | ug/L | |
| 84-74-2 | Di-n-butylphthalate | | not detected | 900 | 1.83 | ug/L | |
| 206-44-0 | Fluoranthene | | not detected | 300 | 1.85 | ug/L | |
| 92-87-5 | Benzidine | | not detected | 50 | 4.11 | ug/L | |
| 129-00-0 | Pyrene | | not detected | 200 | 1.02 | ug/L | |
| 85-68-7 | Butylbenzylphthalate | | not detected | 100 | 1.15 | ug/L | |
| 56-55-3 | Benzo[a]anthracene | | not detected | 10 | 1.57 | ug/L | |
| 91 - 94-1 | 3,3'-Dichlorobenzidine | | not detected | 60 | 2.28 | ug/L | |
| 218-01-9 | Chrysene | | not detected | 20 | 2.32 | ug/L | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | | not detected | 30 | 1.29 | ug/L | |
| 117-84-0 | Di-n-octylphthalate | | not detected | 100 | 1.30 | ug/L | |
| 205-99-2 | Benzo[b]fluoranthene | | not detected | 10 | 1.31 | ug/L | |
| 207-08-9 | Benzo[k]fluoranthene | - ' . | not detected | 2 | 1.57 | ug/L | |
| 50-32-8 | Benzo[a]pyrene | ** *** | not detected | 20 | 1.36 | ug/L | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | | not detected | 20 | | ug/L | |
| 53-70-3 | Dibenz[a,h]anthracene | | not detected | 20 | | ug/L | |
| 191-24-2 | Benzo[g,h,i]perylene | | not detected | NLE | | ug/L | |

Qualifiers

E = Value exceded linear range

D = Value from dilution

B = Compound in related blank

MDL = Method Detection Limit

NLE = No Limit Established

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

| Lab Name: | FMETL | | Lab Code 13461 | | | | | | |
|-----------------|-----------------|-------------|----------------|---|------------------|------------|--|--|--|
| Project | 980932 | Case | No.: 4035 | | Location UST S | DG No.: | | | |
| Matrix: (soil/v | water) | WATER | i | | Lab Sample ID: | 4035.09 | | | |
| Sample wt/vo | ol: | 1000 (| g/ml) ML | | Lab File ID: | BNA01295.D | | | |
| Level: (low/r | ned) | LOW | | | Date Received: | 11/06/98 | | | |
| % Moisture: | | decant | ed: (Y/N) | N | Date Extracted: | 11/10/98 | | | |
| Concentrated | d Extract | Volume: 100 | 0 (uL) | | Date Analyzed: | 11/19/98 | | | |
| Injection Volu | ume: <u>1.0</u> |) (uL) | | | Dilution Factor: | 1.0 | | | |
| GPC Cleanu | p: (Y/N) | Np⊦ | : <u>7</u> | | | | | | |

CONCENTRATION UNITS:

26.40

| Number 110s lound. | | | (ug/L Oi | <u> </u> | _ | | |
|--------------------|------------|---------------|----------|----------|------------|---|---|
| | CAS NUMBER | COMPOUND NAME | | RT | EST. CONC. | Q | |
| | 1. | unknown | | 23.24 | 27 | J | 1 |

unknown

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 | <u>/</u> |
| 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 | _ |
| Date | oratory Manager or Environmental Consultant's Signature | > |
| Lab | oratory Certification #13461 | |

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

Laboratory Authentication Statement

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

Daniel K. Wright
Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL

TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484 WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



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

Bldg. 2504

| Field Location No. & Location | Laboratory Sample ID# | Matrix | Date and Time Of Collection | Date Received |
|----------------------------------|--------------------------|---------|-----------------------------|---------------|
| Trip Blank | 4099.01 | Aqueous | 02-Dec-98 | 12/02/98 |
| Field Blank | 4099.02 | Aqueous | 02-Dec-98 11:25 | 12/02/98 |
| Bldg. 2504 | 4099.03 | Aqueous | 02-Dec-98 11:50 | 12/02/98 |
| Field Dup. | 4099.04 | Aqueous | 02-Dec-98 | 12/02/98 |

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

Daniel Wright/Date
Laboratory Director

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CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

| Customer: CHAS. APPLAY VERSAL | | Project No: | | | | Analysis Parameters Comments: | | | | Comments: | | | | |
|--|---|---|-------------|------------------------------|---------|-------------------------------|---------|--------------------------|------------------------|-----------|----------|-------------|--|---------------------------------------|
| Phone #: 12(0224 | | Location: BLOS, 2504 | | 1 | 12 | | | | | | | | | |
| ()DERA ()OMA ()Other: | | | | | | Ö | BN | | | | | | | |
| Samplers Name / Co | mpany: Mark Laura | T.V.S. P | US 07 | Sample | # | V0A + | + | | | | | | | • |
| Lab Sample I.D. | Sample Location | Date | Time | Туре | bottles | | IS | | | | | | | Remarks / Preservation Method |
| 4099. 1 | TRIP BLANK | 12-2-98 | ~ | Aa. | 2 | K | | | | | | | | HCL |
| 2 | FICED BLANK | . In | 1125 | 11 | 3 | × | X | | | | | | | 400/2400 |
| 3 | BLOG, 2504 | í, | 1150 | 11 | 3 | × | ኣ | | | | | | | 11 |
| 4 | FICIO DUP. | 11 | |) (| 3 | × | × | | | | | | | |
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| Relinquished by (signatu | | 1 \ / / / / / / / / / / / / / / / / / / | | Reling | quished | by (sig | nature) | : | Date/Time: Received by | | red by (| signature): | | |
| Marin 12-2-98 1455 | | | effer | | | | | | | | | | | |
| Relinquished by (signature): Date/Time: | | Received by (| signature): | Relinquished by (signature): | | Date/ | Time: | Received by (signature): | | | | | | |
| Report Type: (_)Full, KReduced, (_)Standard, (_)Screen / non-certified | | | | | | Remar | ks: | | | | | ···· —— | | |
| , , | naround time: (Standard 4 wks, ()Rush Days, ()ASAP Verbal Hrs. | | | | | | | | | | | | | |

FIELD DOCUMENTATION

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

FOR BLDG. # 2504

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 8.9 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 7 12 feet. Riser casing from 7 +3 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. 2700 CW- 1 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 / 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 n | | yes |
| 2. | Retention times for chron | natograms provided | yes. |
| 3. | GC/MS Tune Specification | ons | |
| | a. BF | B Meet Criteria | <u>Ves</u> |
| | b. DF | TPP Meet Criteria | yes |
| 4. | | cy – Performed every 24 hours for 600 | |
| | series and 12 hours for 80 | 000 series | -yes |
| 5. | | tial Calibration performed before sample | |
| | | ralibration performed within 24 hours of series and 12 hours for 8000 series | 1.05 |
| | sample allalysis for ooo's | eries and 12 hours for 6000 series | 403 |
| 6. | GC/MS Calibration requi | rements | • |
| | a. Ca | libration Check Compounds Meet Criteria | Ves |
| | | stem Performance Check Compounds Meet Criteria | Yes |
| 7. | Blank Contamination - If | yes, List compounds and concentrations in each blank: | <u> NO</u> |
| | a. VC | DA Fraction | |
| | b. B/1 | N Fraction | |
| | c. Ac | id Fraction | |
| 8. | Surrogate Recoveries Me | et Criteria | yes |
| | If not met, list those outside the acceptabl | compounds and their recoveries, which fall e range: | (|
| | a. VO | DA Fraction | |
| | b. B/1 | N Fraction | |
| | c. Ac | id Fraction NA | |
| | If not met, were the cas "estimated"? | calculations checked and the results qualified | |
| 9. | Matrix Spike/Matrix Spik | te Duplicate Recoveries Meet Criteria | ives |
| | (If not met, list those com | pounds and their recoveries, which fall | - 1 |
| | outside the acceptable ran | nge) | |
| | a. VO | OA Fraction | |
| | | N Fraction | |
| | c. Ac | id Fraction NA | |

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

| | | | Indicate Yes, No, N/A |
|-----|----------------------|---|--------------------------|
| 0. | | Area/Retention Time Shift Meet Criteria | <u>ys</u> |
| | (If not met, list th | ose compounds, which fall outside the acceptable range) | 1 |
| | a. | VOA Fraction | |
| | Ъ. | B/N Fraction | |
| | C. | Acid Fraction NR | |
| 1. | Extraction Holdin | ng Time Met | yes |
| | If not met, list the | number of days exceeded for each sample: | |
| _ | | | ∕ محت |
| 2. | Analysis Holding | I ime Met | 700 |
| | If not met, list the | number of days exceeded for each sample: | • |
| | | · · · · · · · · · · · · · · · · · · · | |
| Add | itional Comments: | | |
| | | | |
| | | | |
| ab | oratory Manager: | Date: 1-4-99 | |

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 4099

Site: Bldg 2504

| | Date | Hold Time |
|--|----------------------|--------------------|
| Date Sampled | 12/02/98 | NA |
| Receipt/Refrigeration | 12/02/98 | NA |
| Extractions 1. Base Neutrals | 12/03/98 | 14 days |
| Analyses | | |
| Volatile Organics Base Neutrals | 12/03/98 12/08/98 | 14 days 40 days |

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY NJDEPE # 13461

Definition of Qualifiers

MDL: Method Detection Limit

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

U : Compound searched for but not detected

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

Data File Name v05171.d Operator

Date Acquired

Skelton

3 Dec 1998 9:28

Sample Name Field ID

Vblk126 Vblk126

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 | <u> </u> | | 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 | |
| 70-75-5 | cis-1,2-Dichloroethene | | | not detected | 10 | 0.02 ug/L 0.17 ug/L | |
| 67-66-3 | Chloroform | - | | not detected | 6 | 0.17 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.30 ug/L 0.23 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 2 | 0.23 ug/L 0.47 ug/L | - |
| 71-43-2 | Benzene | | | not detected | | | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 1 2 | 0.23 ug/L 0.18 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 1 | | |
| 78-87-5 | 1,2-Dichloropropane | <u> </u> | | not detected | 1 | 0.23 ug/L | |
| | Bromodichloromethane | | | | | 0.40 ug/L | |
| 75-27-4 | | | | 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 | | <u> </u> | not detected | 3 | 0.48 ug/L | <u> </u> |
| 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 | | <u> </u> | not detected | 10 | 0.86 ug/L | ļ |
| 108-90-7 | Chlorobenzene | | | not detected | 4 | 0.39 ug/L | ├ ── |
| 100-41-4 | Ethylbenzene | _ | 1 | 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 | <u> </u> | | 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 | <u></u> | | not detected | 75 | 0.57 ug/L | <u> </u> |
| 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

COMPOUND NAME

CAS NO.

1E ORGANICS ANALYSIS DATA SHEE

| LE ORGANICS ANALYSIS DATA SHEET | FIELD ID |
|---------------------------------|----------|
| TATIVELY IDENTIFIED COMPOUNDS | |

EST. CONC.

Q

RT

| TENTATIVELY IDENTIFIED COMP | | | | | | CONDS | | | - 1 |
|-----------------------------|----------|------------|-----------|-------------|---------------|----------------|-----|----------|-----|
| Lab Name: | FMETL | | | | Project | 980932 | | Vblk126 | |
| NJDEP# | 13461 | Cas | se No.: 4 | 099 | Locatio | n <u>UST</u> | SE | OG No.: | |
| Matrix: (soil/v | vater) | WATER | _ | | La | b Sample I | D: | Vblk126 | |
| Sample wt/vo | ol: | 5.0 | (g/ml) | ML | _ La | b File ID: | | V05171.D | |
| Level: (low/n | ned) | LOW | _ | | Da | ate Receive | ed: | 12/02/98 | |
| % Moisture: | not dec. | | | | Da | ate Analyze | d: | 12/03/98 | |
| GC Column: | RTX-5 | 02 ID: 0.2 | 25 (mr | n) | Di | lution Facto | OF: | 1.0 | |
| Soil Extract Volume: (uL) | | | | So | oil Aliquot V | oluı | me: | (uL) | |
| | | | | | NCENTRA | • | - | | |
| Number TICs | s found: | 0 | | (นดู | g/L or ug/Kg |) <u>UG/</u> L | - | | |
| | | | | | | | | | |

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

Data File Name v05178.d Орегаtот

Date Acquired

Skelton

3 Dec 1998 14:48

Sample Name Field ID

4099.01

Sample Multiplier

Trip Blank

| 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 | | | | detected | nle | 1.68 ug/L | |
| 74-87-3 | Chloromethane | | | | detected | 30 | 1.16 ug/L | |
| 75-01-4 | Vinyl Chloride | | | | 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 | | | | detected | nle | 0.46 ug/L | |
| 75-09-2 | Methylene Chloride | | | | 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 | 1 |
| 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 | | <u> </u> | not | detected | 3 | 0.48 ug/L | |
| 127-18-4 | Tetrachloroethene | | | | detected | 1 | 0.32 ug/L | |
| 591-78-6 | 2-Hexanone | <u> </u> | | not | detected | nle | 0.71 ug/L | <u> </u> |
| 126-48-1 | Dibromochloromethane | <u> </u> | <u> </u> | not | detected | 10 | 0.86 ug/L | <u> </u> |
| 108-90-7 | Chlorobenzene | <u> </u> | | not | detected | 4 | 0.39 ug/L | |
| 100-41-4 | Ethylbenzene | <u> </u> | <u> </u> | | detected | 700 | 0.65 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | | detected | nle | 1.14 ug/L | |
| 1330-20-7 | o-Xylene | | | | detected | nle | 0.62 ug/L | 1 |
| 100-42-5 | Styrene | | | not | detected | 100 | 0.56 ug/L | |
| 75-25-2 | Bromoform | | | no | detected | 4 | 0.70 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | no | detected | 2 | 0.47 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | no no | t detected | 600 | 0.55 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | no | t detected | 75 | 0.57 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | CDOLL | no | t 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

1E VOLATILE ORGANICS ANALYSIS DATA SHEET

| TENTATIVELY | IDENTIFIED | |
|--------------------|------------|-----------|
| | | COMPOUNDS |

| TENTIAL BENTH LED COMM CONDO | | | | | | | | _ |
|------------------------------|----------|--------------------|--------------|-----------------------------|--------------|---------------|----------|---------------|
| Lab Name: | FMETL | | | Project | 980932 | | Trip Bl | ank |
| NJDEP# | 13461 | Ca | se No.: 4099 | Locatio | n <u>UST</u> | _ SD | G No.: | |
| Matrix: (soil/v | water) | WATER | - | La | ab Sample | D: 4 | 099.01 | |
| Sample wt/vo | ol: | 5.0 | (g/ml) ML | La | ab File ID: | <u>\</u> | /05178.D | _ |
| Level: (low/r | med) | LOW | _ | Da | ate Recei | /ed: <u>1</u> | 2/02/98 | |
| % Moisture: | not dec. | | | Da | ate Analyz | zed: 1 | 2/03/98 | |
| GC Column: | RTX- | 502 ID: <u>0</u> . | 25_ (mm) | D | ilution Fac | tor: 1 | .0 | |
| Soil Extract \ | √olume: | | (uL) | S | oil Aliquot | Volum | ie: | (uL) |
| Number TIC | s found: | 1 | | CONCENTRA (ug/L or ug/Kg | | | | |
| CAS NO. | | СОМРО | JND NAME | | RT | EST | CONC. | Q |
| 1. 00011 | 0-54-3 | Hexane | | | 14.22 | | 6 | JN |

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

Data File Name Operator

Date Acquired

v05179.d

Skelton 3 Dec 1998 15:30 Sample Name

4099.02

Field ID

Sample Multiplier

Field Blank

| 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 | <u> </u> | | not detected | 1 | 0.40 ug/L | |
| 75-27-4 | Bromodichloromethane | <u> </u> | | not detected | 11 | 0.55 ug/L | <u> </u> |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.65 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | <u> </u> | | not detected | nle | 0.69 ug/L | <u> </u> |
| 108-10-1 | 4-Methyl-2-Pentanone | ļ | | not detected | 400 | 0.59 ug/L | <u></u> |
| 108-88-3 | Toluene | <u> </u> | | not detected | 1000 | 0.37 ug/L | <u> </u> |
| 10061-02-6 | trans-1,3-Dichloropropene | | <u> </u> | not detected | nle | 0.87 ug/L | <u> </u> |
| 79-00-5 | 1,1,2-Trichloroethane | <u> </u> | | not detected | 3 | 0.48 ug/L | <u> </u> |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.32 ug/L | <u> </u> |
| 591-78-6 | 2-Hexanone | <u> </u> | L | not detected | nle | 0.71 ug/L | |
| 126-48-1 | Dibromochloromethane | <u> </u> | | not detected | 10 | 0.86 ug/L | L |
| 108-90-7 | Chlorobenzene | <u> </u> | | not detected | 4 | 0.39 ug/L | |
| 100-41-4 | Ethylbenzene | 1 | | not detected | 700 | 0.65 ug/L | <u> </u> |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 1.14 ug/L | <u> </u> |
| 1330-20-7 | o-Xylene | | <u> </u> | not detected | nle | 0.62 ug/L | <u> </u> |
| 100-42-5 | Styrene | | <u> </u> | not detected | 100 | 0.56 ug/L | <u> </u> |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.70 ug/L | <u> </u> |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | | not detected | 2 | 0.47 ug/L | <u> </u> |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.55 ug/L | 1 |
| 106-46-7 | 1,4-Dichlorobenzene | | <u> </u> | not detected | 75 | 0.57 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | 1 | 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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

| 7L I | SIS | אואט | | LIEL | ו ט. | |
|------|-----|------|--|------|------|--|
| | | | | | | |
| | ~~ | | | | | |

| F | IEL | .D | ID | |
|---|-----|----|----|--|
| | | | | |
| | | | | |

| | ICHIATIVEET IDEI | THE COME CONDS | 1 1 |
|---------------------|-----------------------------|---|-------------|
| Lab Name: FME | ETL | Project <u>980932</u> | Field Blank |
| NJDEP# 134 | 61 Case No.: 4099 | Location UST SE | OG No.: |
| Matrix: (soil/water |) WATER | Lab Sample ID: | 4099.02 |
| Sample wt/vol: | 5.0 (g/ml) ML | Lab File ID: | V05179.D |
| Level: (low/med) | LOW | Date Received: | 12/02/98 |
| % Moisture: not d | ec | Date Analyzed: | 12/03/98 |
| GC Column: R | TX-502 ID: <u>0.25</u> (mm) | Dilution Factor: | 1.0 |
| Soil Extract Volun | ne: (uL) | Soil Aliquot Volur | ne: (uL) |
| Number TICs fou | nd: <u>1</u> | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | |
| CAS NO. | COMPOUND NAME | RT ES | T. CONC. Q |
| 1. | unknown | 14.24 | 6 J |

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

Data File Name v05180.d Operator Date Acquired

Skelton

3 Dec 1998 16:13

Sample Name

4099.03

Field ID

Bldg2504

Sample Multiplier

| 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 | <u> </u> | | not detected | nle | 0.25 ug/L | |
| | Dichlorodifluoromethane | <u> </u> | | 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 | Vinvl Acetate | | | not detected | nle | 0.78 ug/L | <u> </u> |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.62 ug/L | |
| | cis-1,2-Dichloroethene | | | not detected | 10 | 0.17 ug/L | <u> </u> |
| 67-66-3 | Chloroform | T | | not detected | 6 | 0.30 ug/L | <u> </u> |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.23 ug/L | † <u> </u> |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 2 | 0.47 ug/L | |
| 71-43-2 | Benzene | † <u>-</u> | | not detected | 1 | 0.23 ug/L | i - |
| 107-06-2 | 1,2-Dichloroethane | | <u> </u> | not detected | 2 | 0.18 ug/L | |
| 79-01-6 | Trichloroethene | † | | not detected | 1 | 0.23 ug/L | <u> </u> |
| 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 | | <u> </u> | 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 | | l | 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 | 1 | 1 | not detected | 3 | 0.48 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.48 ug/L 0.32 ug/L | + |
| 591-78-6 | 2-Hexanone | | 1 | not detected | nle | 0.32 ug/L 0.71 ug/L | 1 |
| 126-48-1 | Dibromochloromethane | - | | not detected | 10 | 0.71 ug/L 0.86 ug/L | † |
| 108-90-7 | Chlorobenzene | + | | not detected | 4 | 0.80 ug/L 0.39 ug/L | + |
| 100-41-4 | Ethylbenzene | + | | not detected | 700 | 0.39 ug/L 0.65 ug/L | |
| 1330-20-7 | m+p-Xylenes | + | | not detected | nle | 0.63 ug/L 1.14 ug/L | |
| 1330-20-7 | o-Xylene | + | | not detected | | | |
| 100-42-5 | Styrene | + | † | not detected | nle 100 | 0.62 ug/L | |
| | | 1 | + | not detected | 100 | 0.56 ug/L | |
| 75-25-2 | Bromoform | + | 1 | not detected | 2 | 0.70 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | + | | | | 0.47 ug/L | T- |
| 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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

| FIELD | ID |
|-------|----|
|-------|----|

| | | TENTATIVELY | IDENTIFIE | ED COMPOL | 2011 | | | |
|----------------|-----------|---------------|-----------|---------------------------|-------------|---------------|---------|------|
| Lab Name: | FMETL | | | Project | 980932 | | Bldg. 2 | 504 |
| NJDEP# | 13461 | Case No | .: 4099 | Location | UST | SDO | 3 No.: | |
| Matrix: (soil/ | water) | WATER | | Lab | Sample | ID: 4 | 099.03 | |
| Sample wt/ve | ol: | 5.0 (g/n | ni) ML | Lat | File ID: | <u>v</u> | 05180.D | |
| Level: (low/r | med) | LOW | | Dat | te Receive | ed: <u>1</u> | 2/02/98 | |
| % Moisture: | not dec. | | - | Da | te Analyz | ed: <u>1</u> | 2/03/98 | |
| GC Column: | RTX-5 | 0.25 ID: 0.25 | (mm) | Dilu | ution Fact | or: <u>1</u> | .0 | |
| Soil Extract \ | Volume: | (uL | .) | Soi | l Aliquot \ | /olum | e: | (uL) |
| Number TIC | e found: | 4 | | NCENTRAT g/L or ug/Kg) | | | | |
| Number 110 | o iouilu. | | | | | . | | |
| CAS NO. | | COMPOUND N | IAME | | RT | EST | CONC. | Q |
| 1. 00011 | 0-54-3 | Hexane | | | 14.24 | | 8 | JN |

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

Data File Name v05181.d Operator

Date Acquired

Skelton

3 Dec 1998 16:56

Sample Name

4099.04

Field ID

Sample Multiplier

Field Dup 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 | <u> </u> | <u> </u> | 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 | | <u> </u> | not detected | 1 | 0.32 ug/L | |
| 591-78-6 | 2-Hexanone | 1 | · · · · · · · · · · · · · · · · · · · | not detected | nle | 0.71 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 10 | 0.86 ug/L | |
| 108-90-7 | Chlorobenzene | | <u> </u> | 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 | 1 | 1 | not detected | nle | 0.62 ug/L | |
| 100-42-5 | Styrene | 1 | <u> </u> | 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 | 1 |

* 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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

| D |
|---|
| D |

| Lob Nome: | | | | Drainet | 000003 | 2 | Field D | up. |
|-----------------|---------|------------|--------------|---------------------------------------|--------------|---------------|----------|------|
| Lab Name: | FMETL | | | Project | 980093 | | | |
| NJDEP# | 13461 | Cas | se No.: 4099 | Locatio | n <u>UST</u> | _ SD | G No.: | |
| Matrix: (soil/w | ater) | WATER | _ | La | ab Sample | ID: 4 | 1099.04 | |
| Sample wt/vo | 1: | 5.0 | (g/ml) ML | La | ab File ID: | <u>\</u> | /05181.D | |
| Level: (low/m | ned) | LOW | _ | Da | ate Receiv | /ed: <u>1</u> | 2/02/98 | |
| % Moisture: n | ot dec. | | | D | ate Analyz | zed: 1 | 12/03/98 | |
| GC Column: | RTX-5 | 02 ID: 0.2 | 25 (mm) | Di | ilution Fac | tor: 1 | 1.0 | |
| Soil Extract V | olume: | | (uL) | S | oil Aliquot | Volum | ne: | (uL) |
| | | | | CONCENTRA | | | | |
| Number TICs | found: | 1 | _ | (ug/L or ug/Kg |) <u>UG</u> | /L | | |
| CAS NO. | | COMPOL | JND NAME | <u></u> | RT | EST | T. CONC. | Q |
| 1 | | unknown | | · · · · · · · · · · · · · · · · · · · | 14.24 | T | 7 | J |

BASE NEUTRAL

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

Data File Name BNA01545.D

Skelton

Sample Name

Sblk175

Operator Date Acquired

8 Dec 1998 2:00 am

Misc Info SЫk175 A 98120 Sample Multiplier 1

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | | Qualifier |
|---------------------|---------------------------------------|--|--|--------------|--------------------------------|--------------|------|--|
| 110-86-1 | Pyridine | | | not detected | NLE | 2.52 | ug/L | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 2.64 | ug/L | |
| 62-53-3 | Aniline | | | not detected | NLE | 2.90 | ug/L | |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 2.45 | ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 2,65 | ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 2,50 | ug/L | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 2.09 | ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 2.44 | ug/L | |
| 108-60-I | bis(2-chloroisopropyl)ether | | | not detected | 300 | | ug/L | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | 2.22 | ug/L | |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | 2.59 | | |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | | ug/L | |
| 78-59-1 | Isophorone | | | not detected | 100 | | ug/L | |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | | ug/L | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | | ug/L | |
| 91-20-3 | Naphthalene | | | not detected | NLE | | ug/L | |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 2.55 | | |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 0.64 | | |
| 91-57-6 | 2-Methylnaphthalene | | | not detected | NLE | 2.49 | | |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 1.59 | | - |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | | 2.15 | | |
| | 2-Nitroaniline | | | | NLE | 1.62 | | \vdash |
| 88-74-4 131-11-3 | Dimethylphthalate | - | | not detected | NLE 7000 | 2,74 | | |
| 208-96-8 | | | | not detected | NLE | 2.35 | | |
| | Acenaphthylene 2.6-Dinitrotoluene | | _ | | | 1.54 | | |
| 606-20-2 99-09-2 | 3-Nitroaniline | | | not detected | NLE | | | |
| 83-32-9 | | | | not detected | NLE | 1.62 | _ | |
| 132-64-9 | Acenaphthene Dibenzofuran | | | not detected | 400 | | | |
| | 2,4-Dinitrotoluene | \vdash | | not detected | NLE 10 | 2.13 1.22 | | - |
| 121-14-2 | · · · · · · · · · · · · · · · · · · · | | | not detected | | | ug/L | - |
| 84-66-2 | Diethylphthalate | ├ | | not detected | 5000 | | ug/L | |
| 86-73-7 | Fluorene | | | not detected | 300 | | ug/L | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | - | | not detected | NLE | | ug/L | |
| 100-01-6 | 4-Nitroaniline | | | not detected | NLE | | ug/L | |
| 86-30-6 | n-Nitrosodiphenylamine | | | not detected | 20 | | ug/L | - |
| 103-33-3 | Azobenzene | } | | not detected | NLE | 1.92 | ug/L | |
| 101-55-3 | 4-Bromophenyl-phenylether | | | not detected | NLE | | _ | |
| 118-74-1 | Hexachlorobenzene | | | not detected | 10 | | ug/L | |
| 85-01-8 | Phenanthrene | - | | not detected | NLE | 1.67 | _ | 1 |
| 120-12-7 | Anthracene | ₩ | <u> </u> | not detected | 2000 | 1.79 | ug/L | |
| 84-74-2 | Di-n-butylphthalate | ₩ | <u> </u> | not detected | 900 | 1.83 | | |
| 206-44-0 | Fluoranthene | | | not detected | 300 | 1.85 | ug/L | |
| 92-87-5 | Benzidine | | | not detected | 50 | 4,11 | ug/L | - |
| 129-00-0 | Pyrene | ļ | | not detected | 200 | | ug/L | <u> </u> |
| 85-68-7 | Butylbenzylphthalate | ↓ | ļ | not detected | 100 | | ug/L | |
| 56-55-3 | Benzo[a]anthracene | 1 | | not detected | 10 | 1.57 | ug/L | <u> </u> |
| 91-94-1 | 3,3'-Dichlorobenzidine | <u> </u> | L | not detected | 60 | 2,28 | ug/L | |
| 218-01-9 | Chrysene | <u> </u> | | not detected | 20 | 2.32 | ug/L | L |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | | | not detected | 30 | 1.29 | ug/L | |
| 117-84-0 | Di-n-octylphthalate | | | not detected | 100 | 1.30 | ug/L | |
| 205-99-2 | Benzo[b]fluoranthene | · | | not detected | 10 | 1.31 | ug/L | |
| 207-08-9 | Benzo[k]fluoranthene | | | not detected | 2 | 1.57 | ug/L | |
| 50-32-8 | Benzo[a]pyrene | | | not detected | 20 | 1.36 | ug/L | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | T | | not detected | 20 | 1.22 | ug/L | I |
| 53-70-3 | Dibenz[a,h]anthracene | T | | not detected | 20 | | ug/L | T |
| | | | | | | | | |

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

Qualifiers

E = Value exceded linear range

D = Value from dilution

B = Compound in related blank

PQL = Practical Quantitation Limit

MDL = Method Detection Limit

NLE = No Limit Established

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

| Lab Names | CARTI | | Lab Codo 12461 | | Sblk17 | 75 |
|-----------------|----------------|-------------------|-----------------------|---------------------------|------------|----|
| Lab Name: | FMETL | | Lab Code <u>13461</u> | | _ | |
| Project | 980932 | Case No.: 409 | 9 Location UST | SI | DG No.: | |
| Matrix: (soil/v | water) | WATER | Lab Samp | le ID: | Sblk175 | |
| Sample wt/vo | ol: | 1000 (g/ml) ML | Lab File IC |) : | BNA01545.D | |
| Level: (low/r | med) | LOW | Date Rece | eived: | 12/02/98 | |
| % Moisture: | | decanted: (Y/N) | N Date Extra | cted: | 12/03/98 | |
| Concentrated | d Extract | Volume: 1000 (uL) | Date Analy | yzed: | 12/08/98 | |
| Injection Volu | ume: <u>1.</u> | 0 (uL) | Dilution Fa | actor: | 1.0 | |
| GPC Cleanu | p: (Y/N) | N pH: 7 | | | | |
| Number TICs | s found: | 0 | CONCENTRATIO | N UNI [*] UG/ | | |
| CAS NUME | BER | COMPOUND NAME | RT | ES | ST. CONC. | Q |

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

Data File Name

bna01556.d

Sample Name

Misc Info

4099.02 Field Blank

Operator

Date Acquired

Skelton 8 Dec 1998 9:46 am

Sample Multiplier

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/l)^ | MDL | | Qualifier |
|-----------|-----------------------------|----------------|----------|--------------|--|--------|---------------|--|
| 110-86-1 | Pyridine | | | not detected | NLE | 2.52 u | g/L | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 2.64 u | | |
| 62-53-3 | Aniline | | | not detected | NLE | 2.90 u | | |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 2.45 u | _ | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 2.65 u | | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 2.50 u | _ | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 2.09 u | $\overline{}$ | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 2.44 u | | |
| 108-60-1 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 2.96 u | _ | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | | g/L g/L | |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | | | i |
| | Nitrobenzene | | - | | | 2.59 u | _ | |
| 98-95-3 | | | | not detected | 10 | 2.45 u | | |
| 78-59-1 | Isophorone | | | not detected | 100 | 2.31 u | | · |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 2.54 u | | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 2.58 u | _ | |
| 91-20-3 | Naphthalene | | | not detected | NLE | 3.03 u | _ | |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 2.55 u | | |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 11 | 0.64 u | | |
| 91-57-6 | 2-Methylnaphthalene | | | not detected | NLE | 2.49 ս | | _ |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 1.59 u | g/L | |
| 91-58-7 | 2-Chloronaphthalene | \vdash | | not detected | NLE | 2.15 u | g/L | |
| 88-74-4 | 2-Nitroaniline | \vdash | | not detected | NLE | 1.62 u | g/L | |
| 131-11-3 | Dimethylphthalate | | | not detected | 7000 | 2.74 u | g/L | |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 2.35 ս | g/L | <u> </u> |
| 606-20-2 | 2,6-Dinitrotoluene | \sqcup | | not detected | NLE | 1.54 u | g/L | |
| 99-09-2 | 3-Nitroaniline | | | not detected | NLE | 1.62 u | g/L | |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 1.98 u | g/L | L |
| 132-64-9 | Dibenzofuran | LI | | not detected | NLE | 2.13 u | g/L | İ |
| 121-14-2 | 2,4-Dinitrotoluene | 11 | | not detected | 10 | 1.22 u | ıg/L | |
| 84-66-2 | Diethylphthalate | | • | not detected | 5000 | 1.68 u | ıg/L | |
| 86-73-7 | Fluorene | | | not detected | 300 | 1.93 u | ıg/L | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | <u> </u> | • | not detected | NLE | 1.53 u | ıg/L | |
| 100-01-6 | 4-Nitroaniline | | | not detected | NLE | 2.70 u | ıg/L | |
| 86-30-6 | n-Nitrosodiphenylamine | | | not detected | 20 | 1.73 u | ıg/L | |
| 103-33-3 | Azobenzene | | | not detected | NLE | 1.92 u | ıg/L | |
| 101-55-3 | 4-Bromophenyl-phenylether | | | not detected | NLE | 1.54 u | ıg/L | |
| 118-74-1 | Hexachlorobenzene | | | not detected | 10 | 1.88 u | ıg/L | |
| 85-01-8 | Phenanthrene | | | not detected | NLE | | ıg/L | |
| 120-12-7 | Anthracene | | | not detected | 2000 | | ıg/L | |
| 84-74-2 | Di-n-butylphthalate | | | not detected | 900 | | ıg/L | |
| 206-44-0 | Fluoranthene | 1 | | not detected | 300 | 1.85 u | | |
| 92-87-5 | Benzidine | | | not detected | 50 | 4,11 v | | |
| 129-00-0 | Pyrene | | | not detected | 200 | 1.02 u | <u> </u> | |
| 85-68-7 | Butylbenzylphthalate | 1 | | not detected | 100 | 1.15 u | | |
| 56-55-3 | Benzo[a]anthracene | | | not detected | 10 | | 1g/L | |
| 91-94-1 | 3.3'-Dichlorobenzidine | 1 | | not detected | 60 | 2.28 1 | | |
| | | | | not detected | 20 | 2.32 u | | |
| 218-01-9 | Chrysene | 24.49 | 69823 | 2.83 ug/L | 30 | 1.29 u | | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 24.49 | 07623 | | | | | |
| 117-84-0 | Di-n-octylphthalate | - | | not detected | 100 | 1.30 u | | - |
| 205-99-2 | Benzo[b]fluoranthene | + | | not detected | 10 | 1.31 t | _ | ₩ |
| 207-08-9 | Benzo[k]fluoranthene | + | | not detected | 2 | 1.57 1 | _ | |
| 50-32-8 | Benzo[a]pyrene | | | not detected | 20 | 1.36 ı | | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | + | | not detected | 20 | 1.22 t | | |
| 53-70-3 | Dibenz[a,h]anthracene | | | not detected | 20 | 3.12 ι | | ─ |
| 191-24-2 | Benzo[g,h,i]perylene | 1 | l | not detected | NLE | 1.13 u | ug/L | i |

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

Qualifiers

E = Value exceded linear range

D = Value from dilution

B = Compound in related blank

PQL = Practical Quantitation Limit

MDL = Method Detection Limit

NLE = No Limit Established

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

| Lab Name: | FMETL | | Lab Code 13461 | Field Blank |
|-----------------|-----------------|-------------------|--|-------------|
| Project | 980932 | Case No.: 4099 | Location UST SD | G No.: |
| Matrix: (soil/v | water) | WATER | Lab Sample ID: 4 | 099.02 |
| Sample wt/vo | ol: | 1000 (g/ml) ML | Lab File ID: B | NA01556.D |
| Level: (low/r | med) | LOW | Date Received: 1 | 2/02/98 |
| % Moisture: | | decanted: (Y/N) | N Date Extracted: 1 | 2/03/98 |
| Concentrated | d Extract | Volume: 1000 (uL) | Date Analyzed: 1 | 2/08/98 |
| Injection Volu | ume: <u>1.</u> | <u>0</u> (uL) | Dilution Factor: 1 | .0 |
| GPC Cleanu | p: (Y/N) | N pH: <u>7</u> | - | |
| Number TICs | s found: | 0 | CONCENTRATION UNITS (ug/L or ug/Kg) UG/L | S: |
| CAS NUME | BER | COMPOUND NAME | RT EST | CONC. Q |

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

Data File Name

bna01548.d

8 Dec 1998 4:07 am

Sample Name

4099.03 Bldg2504

Operator Date Acquired Skelton

Misc Info

Sample Multiplier

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | | Qualifier |
|-----------|-----------------------------|--|--------------|--------------|--------------------------------|----------|--------------|--|
| 110-86-1 | Pyridine | 1 | | not detected | NLE | 2.52 | ug/L | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 2.64 | ug/L | |
| 62-53-3 | Aniline | | | not detected | NLE | 2.90 | ug/L | |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 2.45 | ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 2.65 | ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 2.50 | ug/L | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 2.09 | ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 2.44 | ug/L | |
| 108-60-1 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 2.96 | ug/L | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | 2.22 | ug/L | |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | 2.59 | ug/L | |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | 2.45 | ug/L | |
| 78-59-1 | Isophorone | | | not detected | 100 | | ug/L | |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | | ug/L | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | | not detected | 9 | | ug/L | |
| 91-20-3 | Naphthalene | t | Ì | not detected | NLE | | ug/L | |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | | ug/L ug/L | |
| 87-68-3 | Hexachlorobutadiene | | | not detected | I I | | ug/L | |
| 91-57-6 | | | | | | 2,49 | | |
| 77-47-4 | 2-Methylnaphthalene | | | not detected | NLE 60 | 1,59 | | |
| | Hexachlorocyclopentadiene | | | not detected | 50 | | ug/L | |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | NLE | 2.15 | ug/L | |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 1.62 | ug/L | |
| 131-11-3 | Dimethylphthalate | | ļ | not detected | 7000 | 2.74 | ug/L | } |
| 208-96-8 | Acenaphthylene | - | | not detected | NLE | 2.35 | ug/L | |
| 606-20-2 | 2,6-Dinitrotoluene | ļ | ļ | not detected | NLE | 1.54 | ug/L | |
| 99-09-2 | 3-Nitroaniline | ļ | ļ | not detected | NLE | 1.62 | ug/L | |
| 83-32-9 | Acenaphthene | ļ | | not_detected | 400 | 1.98 | ug/L | |
| 132-64-9 | Dibenzofuran | | ļ | not detected | NLE | 2.13 | ug/L | |
| 121-14-2 | 2,4-Dinitrotoluene | <u> </u> | | not_detected | 10 | 1.22 | ug/L | <u> </u> |
| 84-66-2 | Diethylphthalate | <u> </u> | | not detected | 5000 | 1.68 | ug/L | |
| 86-73-7 | Fluorene | <u> </u> | | not detected | 300 | 1.93 | ug/L | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | L | | not detected | NLE | 1.53 | ug/L | |
| 100-01-6 | 4-Nitroaniline | <u> </u> | | not detected | NLE | 2.70 | ug/L | |
| 86-30-6 | n-Nitrosodiphenylamine | | | not detected | 20 | 1.73 | ug/L | |
| 103-33-3 | Azobenzene | | | not detected | NLE | 1.92 | ug/L | |
| 101-55-3 | 4-Bromophenyl-phenylether | T | | not detected | NLE | 1.54 | ug/L | |
| 118-74-1 | Hexachlorobenzene | 1 | | not detected | 10 | 1.88 | ug/L | |
| 85-01-8 | Phenanthrene | | | not detected | NLE | 1.67 | ug/L | |
| 120-12-7 | Anthracene | T | | not detected | 2000 | 1.79 | | |
| 84-74-2 | Di-n-butylphthalate | 1 | | not detected | 900 | 1.83 | ug/L | |
| 206-44-0 | Fluoranthene | 1 | | not detected | 300 | 1.85 | ug/L | |
| 92-87-5 | Benzidine | 1 | 1 | not detected | 50 | 4.11 | ug/L | 1 |
| 129-00-0 | Pyrene | † | | not detected | 200 | | ug/L | |
| 85-68-7 | Butylbenzylphthalate | 1 | <u> </u> | not detected | 100 | | ug/L | 1 |
| 56-55-3 | Benzo[a]anthracene | | | not detected | 10 | | ug/L | |
| 91-94-1 | 3,3'-Dichlorobenzidine | + | | not detected | 60 | | | ├ |
| | | + | 1 | | | | ug/L | |
| 218-01-9 | Chrysene | + | | not detected | 20 | 1 | ug/L | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | + | | not detected | 30 | | ug/L | ┼ |
| 117-84-0 | Di-n-octylphthalate | + | ! | not detected | 100 | | ug/L | |
| 205-99-2 | Benzo[b]fluoranthene | - | <u> </u> | not_detected | 10 | _ | ug/L | |
| 207-08-9 | Benzo[k]fluoranthene | + | | not_detected | 2 | | ug/L | |
| 50-32-8 | Benzo[a]pyrene | ↓ | | not detected | 20 | <u> </u> | ug/L | Ļ |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | 1 | <u> </u> | not detected | 20 | 1.22 | ug/L | L |
| 53-70-3 | Dibenz[a,h]anthracene | | | not detected | 20 | 3.12 | ug/L | |
| 191-24-2 | Benzo[g,h,i]perylene | 1 | 1 | not detected | NLE | 1.13 | ug/L | 1 |

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

Qualifiers

E = Value exceded linear range

D = Value from dilution

B = Compound in related blank

PQL = Practical Quantitation Limit

MDL = Method Detection Limit

NLE = No Limit Established

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

| Lab Name: | FMETL | | | L | ab Code | e 1346 | 61 | Bldg2 | 504 |
|----------------|----------------|---------|----------------|--------------|----------|-----------|----------|------------|-----|
| Project | 980932 | C | ase No.: 4099 | - | | on US | | | |
| Matrix: (soil/ | water) | WATER | | | L | ab Sam | nple ID: | 4099.03 | |
| Sample wt/vo | ol: | 1000 | (g/ml) ML | | L | ab File | ID: | BNA01548.C |) |
| Level: (low/r | med) | LOW | | | D | ate Re | ceived: | 12/02/98 | |
| % Moisture: | | de | ecanted: (Y/N) | N | _ D | ate Ext | racted | : 12/03/98 | |
| Concentrated | d Extract | Volume: | 1000 (uL) | | D | ate Ana | alyzed: | 12/08/98 | |
| Injection Volu | ume: <u>1.</u> | 0 (uL) | | | D | ilution I | Factor: | 1.0 | |
| GPC Cleanu | p: (Y/N) | N | _ pH: <u>7</u> | | | | | | |
| | | - | | C | ONCEN | TRATI | ON UN | IITS: | |
| Number TICs | s found: | 0 | | (u | g/L or u | g/Kg) | UG | 6/L | |
| CAS ALI IME | RER | COMPO | NIND NAME | | | RT | F | ST CONC | 0 |

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

Data File Name bna01557.d

Skelton

Sample Name Misc Info

4099.04 Field Dup

Operator Date Acquired

8 Dec 1998 10:29 am

Sample Multiplier

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | Quali |
|-----------|--|--|--|--------------|--------------------------------|--------|-------|
| 110-86-1 | Pyridine | | , | not detected | NLE | 2.52 u | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 2.64 u | |
| 62-53-3 | Aniline | | | not detected | NLE | 2.90 u | |
| 111-44-4 | bis(2-Chloroethyl)ether | 1 | | not detected | 10 | 2.45 u | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 2.65 | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 2.50 u | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | | g/L |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 2,44 u | |
| 108-60-1 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 2.96 | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | | g/L |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | 2.59 | |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | 2.45 1 | |
| 78-59-1 | Isophorone | | | not detected | 100 | 2.31 u | |
| 111-91-1 | bis(2-Chloroethoxy)methane | <u> </u> | | not detected | NLE | 2.54 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | | |
| 91-20-3 | Naphthalene | | | not detected | | 2.58 1 | |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 3.03 L | |
| 87-68-3 | | 1 | | | NLE | 2.55 1 | - |
| | Hexachlorobutadiene 2-Methylnaphthalene | + | + | not detected | l NIE | 0.64 t | |
| 91-57-6 | | | | | NLE | 2.49 ι | |
| 77-47-4 | Hexachlorocyclopentadiene | ┼── | | not detected | 50 | 1.59 | |
| 91-58-7 | 2-Chloronaphthalene | + | | not detected | NLE | 2.15 1 | |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 1.62 1 | |
| 131-11-3 | Dimethylphthalate | | | not detected | 7000 | 2.74 ι | * |
| 208-96-8 | Acenaphthylene | ╁ | | not detected | NLE | 2.35 t | |
| 606-20-2 | 2,6-Dinitrotoluene | ┼ | | not detected | NLE | 1.54 | |
| 99-09-2 | 3-Nitroaniline | ├ | | not detected | NLE | 1.62 ι | |
| 83-32-9 | Acenaphthene | ╄ | | not detected | 400 | 1.98 ι | |
| 132-64-9 | Dibenzofuran | | : | not detected | NLE | 2.13 | |
| 121-14-2 | 2,4-Dinitrotoluene | | | not detected | 10 | 1.22 t | * |
| 84-66-2 | Diethylphthalate | - | | not detected | 5000 | 1.68 ι | |
| 86-73-7 | Fluorene | - | | not detected | 300 | | ıg/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | + | | not detected | NLE | 1.53 | |
| 100-01-6 | 4-Nitroaniline | | | not detected | NLE | 2.70 | |
| 86-30-6 | n-Nitrosodiphenylamine | | | not detected | 20 | 1,73 | ıg/L |
| 103-33-3 | Azobenzene | | | not detected | NLE | 1.92 | ıg/L |
| 101-55-3 | 4-Bromophenyl-phenylether | . | <u> </u> | not detected | NLE | 1.54 1 | ıg/L |
| 118-74-1 | Hexachlorobenzene | 1 | | not detected | 10 | 1.88 | |
| 85-01-8 | Phenanthrene | - | | not detected | NLE | 1.67 | |
| 120-12-7 | Anthracene | | <u> </u> | not detected | 2000 | 1.79 | ıg/L |
| 84-74-2 | Di-n-butylphthalate | ļ | <u> </u> | not detected | 900 | | ıg/L |
| 206-44-0 | Fluoranthene | ↓ | | not detected | 300 | 1.85 | ~ |
| 92-87-5 | Benzidine | | | not detected | 50 | 4.11 | ıg/L |
| 129-00-0 | Pyrene | | | not detected | 200 | 1.02 | ıg/L |
| 85-68-7 | Butylbenzylphthalate | ↓ | <u> </u> | not detected | 100 | 1.15 | ıg/L |
| 56-55-3 | Benzo[a]anthracene | | · | not detected | 10 | 1.57 | ıg/L |
| 91-94-1 | 3,3'-Dichlorobenzidine | | | not detected | 60 | 2.28 | ıg/L |
| 218-01-9 | Chrysene | | | not detected | 20 | 2.32 | ıg/L |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | | | not detected | 30 | 1.29 | ıg/L |
| 117-84-0 | Di-p-octylphthalate | | | not detected | 100 | 1,30 | 1g/(|
| 205-99-2 | Benzo[b]fluoranthene | | | not detected | 10 | 1.31 | |
| 207-08-9 | Benzo[k]fluoranthene | | | not detected | 2 | 1.57 | |
| 50-32-8 | Benzo[a]pyrene | 1 | | not detected | 20 | 1.36 | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | 1 | 1 1 | not detected | 20 | 1.22 | |
| 53-70-3 | Dibenz[a,h]anthracene | 1 | | not detected | 20 | 3.12 | |
| | | + | | | - £v | | |

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

Qualifiers

E = Value exceded linear range

D = Value from dilution

B = Compound in related blank

PQL = Practical Quantitation Limit

MDL = Method Detection Limit

NLE = No Limit Established

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

| | | | | | | Field D |)IIIn |
|--|----------|-----------------|--------------------|-----------------|------|------------|------------------|
| Lab Name: | FMETL | | Lab Cod | de <u>13461</u> | | i leiu L | ,up |
| Project | 980932 | Case No.: 4099 | Locat | tion <u>UST</u> | SE | OG No.: | |
| Matrix: (soil/ | water) | WATER | I | Lab Sample | ID: | 4099.04 | , |
| Sample wt/ve | ol: | 1000 (g/ml) ML | | Lab File ID: | | BNA01557.D | |
| Level: (low/r | med) | LOW | ı | Date Recei | ved: | 12/02/98 | |
| % Moisture: | | decanted: (Y/N) | N i | Date Extrac | ted: | 12/03/98 | |
| Concentrated Extract Volume: 1000 (uL) | | | Date Analyzed: 1 | | | 12/08/98 | |
| Injection Volume: 1.0 (uL) | | | Dilution Factor: 1 | | | 1.0 | |
| GPC Cleanup: (Y/N) N pH: 7 | | | | | | | |
| | - | | | | | | |
| | | | CONCE | NTRATION | UNIT | S: | |
| Number TIC | s found: | 1 | (ug/L or | ug/Kg) | UG/L | | |
| CAS NUME | BER | COMPOUND NAME | | RT | ES | T. CONC. | Q |

26.17

9-Octadecenamide, (Z)-

1. 000301-02-0

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 <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 | <u> </u> |
|--------------|---|----------|
| 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 | |
| Labo Date | oratory Manager or Environmental Consultant's Signature | |

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

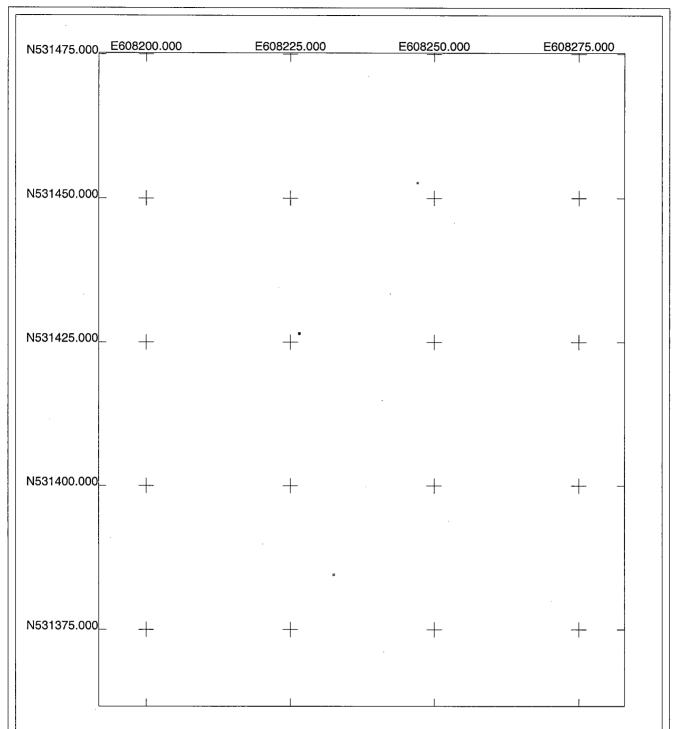
Laboratory Certification #13461

Laboratory Authentication Statement

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

Daniel K. Wright Laboratory Manager

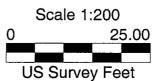
APPENDIX G ELECTRONIC DATA DELIVERABLES



Bldg. 2504 UST Ground Water Sample GPS Location Map

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





r011319agw2504.cor 2/10/2000 Pathfinder Office

BLDG. 2504 UST GROUND WATER SAMPLE GPS POSITION & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

POSITION / DESC.

Y COORD. (NORTHING)

X COORD. (EASTING)

2504 GW

531426.538

608226.487

(GW denotes Ground Water)

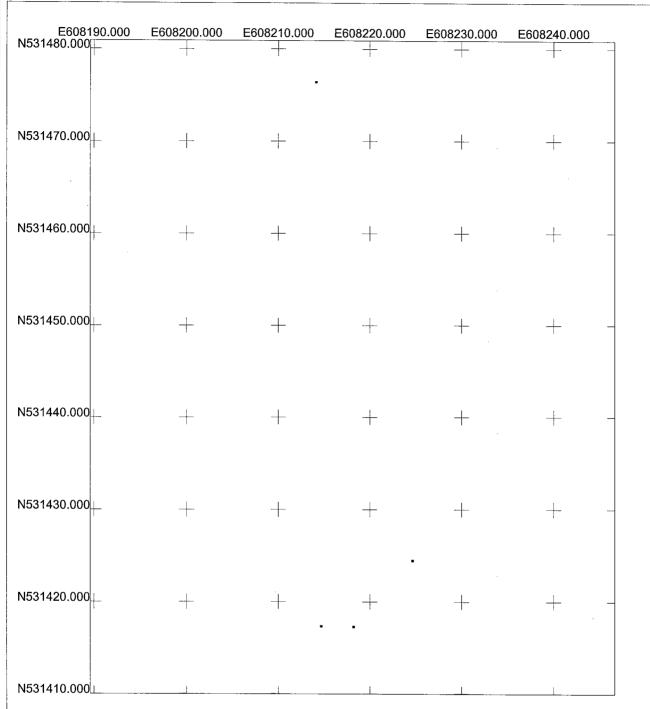
REFERENCE POINTS

POSITION / DESC.

Y COORD. (NORTHING)

X COORD. (EASTING)

2504 BLDG CRNR 2506 BLDG CRNR 531384.637 531452.755 608232.456 608247.058



Bldg. 2504 UST Soil Samples GPS Map

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



Scale 1:125 15.00 **US Survey Feet**

r071014a.cor 7/10/2000 Pathfinder Office

Trimble

BLDG. 2504 UST SOIL SAMPLE GPS POSITION & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

| POSITION / DESC. | Y COORD. (NORTHING) | X COORD. (EASTING) |
|------------------|-----------------------|----------------------|
| 2504A SOIL B1 | 531417.388 | 608214.656 |
| 2504A SOIL B2 | 531417.322 | 608218.198 |
| 2504A SOIL B3 | 531424.527 | 608224.626 |
| | REFERENCE POINTS | |
| POSITION / DESC. | Y COORD. (NORTHING) | X COORD. (EASTING) |
| STORM GRATE | 531476.446 | 608214.115 |