United States Army Fort Monmouth, New Jersey **Underground Storage Tank Closure and Site/Remedial Investigation Report Building 1220A** Main Post-West Area NJDEP UST Registration No. 0081533-184 DICAR No. 98-06-12-0835-45 February 2001

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SITE/REMEDIAL INVESTIGATION REPORT

BUILDING 1220A

MAIN POST-WEST AREA NJDEP UST REGISTRATION NO. 0081533-184

FEBRUARY 2001

PREPARED FOR:

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

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PROJECT NO. 4936-127

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TABLE OF CONTENTS

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	v
1.0 BACKGROUND INFORMATION	1
1.1 OVERVIEW 1.2 SITE DESCRIPTION	1 1
1.2.1 Geological/Hydrogeological Setting	1
1.3 HEALTH AND SAFETY 1.4 REMOVAL OF UNDERGROUND STORAGE TANK	3 3
1.4.1 General Procedures 1.4.2 Underground Storage Tank Excavation and Cleaning	3 4
1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL	4
2.0 SITE/REMEDIAL INVESTIGATION ACTIVITIES	5
2.1 OVERVIEW 2.2 FIELD SCREENING/MONITORING 2.3 POST-EXCAVATION SOIL SAMPLING AND RESULTS 2.4 GROUNDWATER SAMPLING	5 5 6 6
3.0 CONCLUSIONS AND RECOMMENDATIONS	7
3.1 SOIL SAMPLING RESULTS 3.2 GROUNDWATER SAMPLING RESULTS 3.3 CONCLUSIONS AND RECOMMENDATIONS	7 7 8

TABLE OF CONTENTS (CONTINUED)

TABLES

F 0

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- Table 1
 Summary of Post-Excavation Sampling Activities
- Table 2 Post-Excavation Soil Sampling Results
- Table 3 Groundwater Sampling Results

FIGURES

- Figure 1 Site Location Map
- Figure 2 Site Map
- Figure 3 Cross Sectional View
- Figure 4 Soil Sampling Location Map

APPENDICES

- Appendix A NJDEP Standard Reporting Form
- Appendix B Site Assessment Summary
- Appendix C Waste Manifest
- Appendix D UST Disposal Certificate
- Appendix E Soil Analytical Data Package
- Appendix F Groundwater Analytical Data Package

EXECUTIVE SUMMARY

UST Closure

On June 12, 1998, a steel underground storage tank (UST) was closed by removal in accordance with the New Jersey Department of Environmental Protection (NJDEP) at the Main Post-West area of the U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 0081533-184 (Fort Monmouth ID No. 1220A), was located south of Building 1220. UST No. 0081533-184 was a 1,000-gallon No. 2 fuel oil UST. The fill port was located directly above the UST. The Standard Reporting Form and signed Site Assessment Summary form for UST No. 0081533-184 are included in Appendices A and B, respectively.

Site Assessment

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The site assessment was performed by U.S. Army personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual*. The sampling and laboratory analysis conducted during the site assessment were performed in accordance with Section 7:26E-2.1 of the *Technical Requirements for Site Remediation*. Soils surrounding the tank were screened visually and with air monitoring equipment for evidence of contamination. Following removal, the UST was inspected for corrosion holes. Numerous holes were noted in the UST. Soils at the location of the holes were dark in color and appeared to be contaminated. Based on the inspection of the UST, Directorate of Public Works (DPW) concluded that a discharge of petroleum products was associated with this UST. The NJDEP hotline was notified and the case was assigned DICAR No. 98-06-12-0835-45. Groundwater was not encountered.

Site/Remedial Investigation and Post-Excavation Soil Sampling

Versar was retained by the U.S. Army DPW to implement a site/remedial investigation adjacent to a former No 2 fuel oil UST. The UST was associated with Building 1220A at the Main Post-West area of the U.S. Army Fort Monmouth Base. The objective of the site/remedial investigation activities were to remove from the ground all soil potentially impacted as the result of the past operation of the former UST. The site/remedial investigation was performed by Versar personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual*.

Visibly stained soils and soils exhibiting elevated PID levels (greater than 5 ppm) of VOCs were excavated. Excavation activities continued until potentially impacted soil had been removed. To confirm the PID readings and verify the effectiveness of the soil excavation activities, 14 post-excavation soil samples were collected from within the excavation between January 25 and January 29, 1999. All samples were analyzed for TPHC and total solids. The post-excavation soil samples collected from the excavation contained concentrations of TPHC below the NJDEP soil cleanup criteria.

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Management of Excavated Soils

All contaminated soil characterization and disposal was handled directly by the U.S. Army Fort Monmouth DPW.

Site Restoration

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

Conclusions and Recommendations

All post excavation soil samples collected from the UST excavation at Building 1220A 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).

In response to the observation of potentially contaminated soil and the potential of groundwater contamination, two (2) groundwater samples were collected at Building 1220A. On April 22, 2000, and May 22, 2000, Building 1220A was sampled for volatile organic compounds calibrated for xylene plus 15 tentatively identified compounds (VOC's), and semivolatile organic compounds plus 15 tentatively identified compounds (SVOC's).

All groundwater analytical results were either below the detection limit or in compliance with the New Jersey Ground Water Quality Criteria (GWQC).

No further action is proposed in regard to the closure and site assessment of UST No. 81533-184 at Building 1220A.

1.0 BACKGROUND INFORMATION

1.1 OVERVIEW

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Versar was retained by the United States Army Directorate of Public Works (DPW) to implement a site/remedial investigation adjacent to a former No 2 fuel oil underground storage tank (UST). The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 81533-184, was associated with Building 1220A at the Main Post-West area of the U.S. Army Fort Monmouth Base, Fort Monmouth, New Jersey. Refer to site location map on Figure 1.

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

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

1.2 SITE DESCRIPTION

Building 1220A is located in the Main Post-West area of the Fort Monmouth Army Base. UST No. 0081533-184 was located south of Building 1220A and appurtenant copper piping ran approximately thirty-eight (38) feet northwest from the excavation to Building 1220A. A Site Map is provided as Figure 2.

1.2.1 GEOLOGICAL/HYDROGEOLOGICAL SETTING

The following is a description of the geological/hydrogeological setting of the area surrounding Building 1220A. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area.

Regional Geology

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

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

- 1 -

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

The formations record several major transgressive/regressive cycles and contain units which are generally thicker to the southeast and reflect a deeper water environment. Over 20 regional geologic units are present within the sediments of the Coastal Plain. Regressive, upward coarsening deposits are usually aquifers (e.g., Englishtown and Kirkwood Formations, and the Cohansey Sand) while the transgressive deposits act as confining units (e.g., the Merchantville, Marshalltown, and Navesink Formations). The individual thickness for these units vary greatly (i.e., from several feet to several hundred feet). The Coastal Plain deposits thicken to the southeast from the Fall Line to greater than 6,500 feet in Cape May County (Brown and Zapecza, 1990).

Local Geology

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

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

Hydrogeology

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

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

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

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

- tidal influence (based on proximity to the Atlantic Ocean, rivers, and tributaries)
- topography

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- nature of the fill material within the Main Post area
- presence of clay and silt lenses in the natural overburden deposits
- local groundwater recharge areas (i.e., streams, lakes)

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

Building 1220A was located approximately 1400 feet north of an unnamed stream, the nearest water body. Based on the Main Post topography, the groundwater flow in the area of Building 1220A is anticipated to be to the south.

1.3 HEALTH AND SAFETY

During all site/remedial investigation activities, hazards at the work site, which may have posed a threat to the Health and Safety of personnel, were minimized. All areas, which posed, or may have been suspected to pose a vapor hazard were monitored by a qualified individual utilizing an organic vapor analyzer (OVA). The individual ascertained if the area was safe, as defined by OSHA.

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

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

- 3 -

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

1.4.2 Underground Storage Tank Excavation and Cleaning

Prior to UST decommissioning activities, surficial soil was removed to expose the UST and associated piping. All free product present in the piping was drained into the UST, and the UST was purged to remove vapors prior to cutting and removal of the piping. After removal of the associated piping, a hole was made in the UST to allow for proper cleaning. Approximately 115 gallons of liquid from the UST and its associated piping were transported by Casie Protank to Casie Ecology Oil Salvage, Inc. facility, a NJDEPapproved petroleum recycling and disposal company located in Vineland, 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. Numerous holes were observed during the inspection by the Sub-Surface Evaluator. Soils at the location of the holes were dark in color and appeared to be contaminated. Approximately 195 cubic yards of potentially contaminated soils were removed from the excavated area and stored at the Fort Monmouth petroleum contaminated soil staging area. 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 UST was transported to Mazza & Sons, Inc., Recycling Division. The transportation of the UST was in compliance with all applicable regulations and laws. Please refer to Appendix D for the UST disposal certificate.

- 4 -

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

• Site of origin

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

2.0 SITE/REMEDIAL INVESTIGATION ACTIVITIES

2.1 OVERVIEW

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The Site/Remedial Investigation was managed and carried out by Versar personnel. All analyses were performed and reported by U.S. Army Fort Monmouth Environmental Laboratory, an NJDEP-certified testing laboratory. All sampling was performed under the direct supervision of a NJDEP Certified Sub-Surface Evaluator according to the methods described in the NJDEP *Field Sampling Procedures Manual*. Sampling frequency and parameters analyzed complied with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E).

The following Parties participated in Site/Remedial Investigation Activities:

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

2.2 FIELD SCREENING/MONITORING

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

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

2.3 POST-EXCAVATION SOIL SAMPLING AND RESULTS

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To confirm the PID readings and verify the effectiveness of the soil excavation activities, 14 post-excavation soil samples were collected from within the excavation between January 25 and January 29, 1999. Of these, five (5) soil samples were collected along the former piping length of the excavation at a depth of 2.0 feet bgs. The piping samples were designated 1220A-P1 through 1220A-P5, where as sample 1220A-P5 was the duplicate. The remaining nine (9) post-excavation soil samples were collected from the bottom and sidewalls of the excavation at depths between 15.0 to 17.0 feet bgs. The samples were designated 1220A-1 through 1220A-11. Samples 1220A-6 and 1220A-11 were the duplicates.

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

All samples were analyzed for total petroleum hydrocarbons (TPHC) and total solids. The TPHC post-excavation sampling results were compared to the NJDEP residential direct contact total organic contaminants soil cleanup criteria of 10,000 mg/kg (N.J.A.C. 7:26D and revisions dated February 3, 1994). A summary of the TPHC analytical results and comparison to the NJDEP soil cleanup criteria is provided in Table 2. The analytical data packages are provided in Appendix E.

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

Upon receiving analytical results and confirming the effectiveness of the excavation activities completed at the site, the excavation was back filled to grade with certified clean crushed stones and sand. Two samples were collected from the overburden material and analyzed for TPHC. The clean stockpile soil samples (1220A-SP1 and 1220A-SP2) revealed TPHC concentrations ranging from non-detect to 233.73 mg/kg.

2.4 GROUNDWATER SAMPLING

On April 22, 2000, and May 22, 2000, Building 1220A 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*.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

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Versar was retained by the U.S. Army DPW to implement a site/remedial investigation adjacent to a former No 2 fuel oil UST. The UST was associated with Building 1220A at the Main Post-West area of the U.S. Army Fort Monmouth Base. The objective of the site/remedial investigation activities were to remove from the ground all soil potentially impacted as the result of the past operation of the former UST.

Visibly stained soils and soils exhibiting elevated PID levels (greater than 5 ppm) of VOCs were excavated. Excavation activities continued until potentially impacted soil had been removed. All contaminated soil characterization and disposal was handled directly by the U.S. Army Fort Monmouth DPW.

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

3.2 GROUNDWATER SAMPLING RESULTS

The sample collected from Building 1220A on April 22, 1999 contained 1,3dichlorobenzene at a concentration of 1.03 ug/l, 1,4-dichlorobenzene at 1.02 ug/l, and 1,2-dichlorobenzene at 0.99 ug/l. No other compounds were detected.

The sample collected from Building 1220A on May 22, 1999 contained chloroform at a concentration of 2.91 ug/l. No other compounds were detected.

A summary of the analytical results and comparison to the NJDEP groundwater cleanup criteria is provided in Table 3 and shown on Figure 4. The analytical data package is provided in Appendix F. The full data package, including quality control, is on file at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey.

Groundwater samples collected on April 22, 2000, and May 22, 2000, were either below the detection limit or in compliance with the New Jersey Ground Water Quality Criteria (GWQC).

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3.3 CONCLUSION AND RECOMMENDATIONS

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n in L The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 1220A 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 1220A on April 22, 2000, and May 22, 2000, groundwater quality at Building 1220A was either below the detection limit or in compliance with the New Jersey Ground Water Quality Criteria (GWQC).

No further action is proposed in regard to the closure and site assessment of UST No. 81533-184 at Building 1220A.

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SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES BUILDING 1220A, MAIN POST-WEST AREA FORT MONMOUTH, NEW JERSEY

of Date Analysis	Matrix			
	Matrix	Sample Type	Analytical Parameters*	Analysis Method
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Note:

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

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SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES BUILDING 1220A, MAIN POST-WEST AREA FORT MONMOUTH, NEW JERSEY

Page 2 of 4						
Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
1	1/25/99	1/25/99	Soil	Post-Excavation	TPHC	OQA-QAM-025
2	1/25/99	1/25/99	Soil	Post-Excavation	TPHC	OQA-QAM-025
3	1/25/99	1/25/99	Soil	Post-Excavation	TPHC	OQA-QAM-025
4	1/25/99	1/25/99	Soil	Post-Excavation	TPHC	OQA-QAM-025
**5	1/25/99	1/25/99	Soil	Post-Excavation	TPHC	OQA-QAM-025
6	1/25/99	1/25/99	Soil	Post-Excavation	TPHC	OQA-QAM-025
SP1	1/25/99	1/25/99	Soil	Post-Excavation	TPHC	OQA-QAM-025
SP2	1/25/99	1/25/99	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

*

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

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES

BUILDING 1220A, MAIN POST-WEST AREA FORT MONMOUTH, NEW JERSEY Page 3 of 4 Sample Type Analytical Parameters* Sample ID Date of Date Analysis Matrix Analysis Method Collection Started P1 1/26/99 1/27/99 Soil Post-Excavation TPHC OQA-QAM-025 **P2 1/27/99 Soil Post-Excavation TPHC OQA-QAM-025 1/26/99 OQA-QAM-025 P3 1/26/99 1/27/99 Soil Post-Excavation TPHC 1/26/99 1/27/99 Soil Post-Excavation TPHC OQA-QAM-025 P4 P5 1/26/99 1/27/99 Soil Post-Excavation TPHC OQA-QAM-025

Note:

* TPHC Total Petroleum Hydrocarbons

** Sample location was further remediated and resampled

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES BUILDING 1220A, MAIN POST-WEST AREA FORT MONMOUTH, NEW JERSEY

Sample ID Date of Date Analysis Matrix Sample Type Analytical Parameters* Analysis Method Collection Started 1/29/99 1/29/99 Soil Post-Excavation TPHC OQA-QAM-025 7 8 1/29/99 Soil Post-Excavation TPHC OQA-QAM-025 1/29/99 1/29/99 Soil Post-Excavation TPHC OQA-QAM-025 9 1/29/99 Soil Post-Excavation TPHC OQA-QAM-025 10 1/29/99 1/29/99 1/29/99 Soil Post-Excavation TPHC OQA-QAM-025 11 1/29/99 P2R 1/29/99 1/29/99 Soil Post-Excavation TPHC OQA-QAM-025

Note:

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Page 4 of 4

TPHC Total Petroleum Hydrocarbons

POST-EXCAVATION SOIL SAMPLING RESULTS BUILDING 1220A, MAIN POST-WEST AREA FORT MONMOUTH, NEW JERSEY

Page 1 of 4		· · ·		·					
Sample ID/ Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Method Used	Method Detection Limit (mg/kg)	Compound of Concern	Results (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
***A/7.5`=	3647.01	6/12/98	6/12/98	Total Solid TPHC		 yes	74.66 % 16711.52	10.000	 Yes
***B/7.5'=	3647.02	6/12/98	6/12/98	Total Solid TPHC	211	yes	74.28 % 14694.36		 Yes

Note:

*

Total Solid results are expressed as a percentage. NJDEP Residential Direct Contact soil cleanup criteria for total organics Sample location was further remediated and resampled **

Not detected above stated method detection limit ND

Total Petroleum Hydrocarbons TPHC

Non Applicable --

POST-EXCAVATION SOIL SAMPLING RESULTS BUILDING 1220A, MAIN POST-WEST AREA FORT MONMOUTH, NEW JERSEY

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Method Used	Method Detection Limit (mg/kg)	Compound of Concern	Result (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
1/16.0'=	4208.01	1/25/99	1/25/99	Total Solid			70.39 %		
				TPHC	217	yes	ND	10,000	No
2/16.0'=	4208.02	1/25/99	1/25/99	Total Solid			72.62 %		
				TPHC	· 214	yes	ND	10,000	No
3/16.0'=	4208.03	1/25/99	1/25/99	Total Solid			73.50 %		
				TPHC	215	yes	ND	10,000	No
4/17.0'=	4208.04	1/25/99	1/25/99	Total Solid			77.46 %	'	
				TPHC	202	yes	ND	10,000	No
***5/10.0'=	4208.05	1/25/99	1/25/99	Total Solid			74.35 %		
		같이 있는 것은 것이 있어. 같이 있는 것은 것은 것이 있어?		TPHC	209	yes	1859.47	10,000	No
6/16.0'=	4208.06	1/25/99	1/25/99	Total Solid	· · · ·		71.13 %		
				TPHC	217	yes	ND	10,000	No
SP1=	4208.07	1/25/99	1/25/99	Total Solid			88.70 %		,
• .				TPHC	168	yes	233.73	10,000	No
SP2=	4208.08	1/25/99	1/25/99	Total Solid			79.49 %	·	
				TPHC	187	yes	ND	10,000	No

Note:

Page 2 of 4

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

Page 3 of 4				· · · · · · · · · · · · · · · · · · ·			····		
Sample ID	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Method Used	Method Detection Limit (mg/kg)	Compound of Concern	Result (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
P1/2.0'=	4215.01	1/26/99	1/27/99	Total Solid TPHC		Yes	83.15% ND	 10,000	 No
***P2/2.0'=	4215.02	1/26/99	1/27/99	Total Solid TPHC	` 184		81.75% 1451.32	 10,000	Ňo
P3/2.0'=	4215.03	1/26/99	1/27/99	Total Solid TPHC		 Yes	81.05% 265.20	 10,000	 No
P4/2.0'=	4215.04	1/26/99	1/27/99	Total Solid TPHC	188	 Yes	81.38% ND	 10,000	 No
P5/2.0'=	4215.05	1/26/99	1/27/99	Total Solid TPHC	170	Yes	89.34% 293.25	10,000	No

TABLE 2 POST-EXCAVATION SOIL SAMPLING RESULTS BUILDING 1220A, MAIN POST-WEST AREA FORT MONMOUTH, NEW JERSEY

Note:

*

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

--

POST-EXCAVATION SOIL SAMPLING RESULTS BUILDING 1220A, MAIN POST-WEST AREA FORT MONMOUTH, NEW JERSEY

Sample Analysis Analytical Compound Sample ID Method NJDEP Exceeds Sample Result Laboratory ID Method of Soil Cleanup Date Date (mg/kg) * Cleanup Detection Criteria ** Used Limit Criteria Concern (mg/kg) (mg/kg) 7/15.0'= 4230.01 1/29/99 1/29/99 Total Solid 74.65% ----------ND TPHC 201 10,000 Yes No 8/15.0'= 4230.02 1/29/99 1/29/99 **Total Solid** 74.78% ------------TPHC 1792.63 208 Yes 10.000 No 9/15.0'= 4230.03 Total Solid 69.63% 1/29/99 1/29/99 --.-----TPHC ND 223 10,000 Yes No 10/16.0'= 4230.04 1/29/99 1/29/99 Total Solid 71.23% -------TPHC ND 10,000 207 Yes No 11/15.0'= 4230.05 1/29/99 1/29/99 Total Solid 73.77% ----------TPHC ND 203 Yes 10,000 No P2R/3.0'=4230.06 1/29/99 Total Solid 85.92% 1/29/99 ---------TPHC 172 Yes 241.97 10,000 No

Note:

Page 4 of 4

* Total Solid results are expressed as a percentage.

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

-- Not detected above stated sample quantitation limit

TPHC Total Petroleum Hydrocarbons

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Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

107028Acrolein107131Acrylonitrik75650tert-Butyl al1634044Methyl-tert-108203Di-isopropy	UND NAME	Location: MDL (ug/L) 1.85 2.78 8.52 0.16 0.25	: <u>1220A</u> RESULTS Not Detected Not Detected Not Detected	umple ID: <u>5370.0</u> REGULATORY LEVEL(ug/L) 50 50	EXCEEDS CRITERIA
107028Acrolein107131Acrylonitrik75650tert-Butyl al1634044Methyl-tert-108203Di-isopropy	cohol Butyl ether l ether	(ug/L) 1.85 2.78 8.52 0.16	Not Detected Not Detected Not Detected	 LEVEL(ug/L) 50	CRITERIA no
107131 Acrylonitrik 75650 tert-Butyl al 1634044 Methyl-tert- 108203 Di-isopropy	cohol Butyl ether I ether	2.78 8.52 0.16	Not Detected	 	
75650 tert-Butyl al 1634044 Methyl-tert- 108203 Di-isopropy	cohol Butyl ether I ether	8.52	Not Detected	50	
1634044 Methyl-tert- 108203 Di-isopropy	Butyl ether I ether	0.16			no
108203 Di-isopropy	lether		Not Detected	nle	no
		0.25		 nle	по
Dichlorodifl	uoromethane		Not Detected	 nle	no
		1.68	Not Detected	 nle	no
74-87-3 Chlorometh	ane	1.16	Not Detected	 30	no
75-01-4 Vinyl Chlor	ide	1.06	Not Detected	 5	no
74-83-9 Bromometh	ane	1.10	Not Detected	 10	no
75-00-3 Chloroethan	e	1.01	Not Detected	 nle	no
75-69-4 Trichloroflu	oromethane	0.50	Not Detected	 nle	по
75-35-4 1, 1-Dichlor	oethene	0.24	Not Detected	 2	no
67-64-1 Acetone		1.36	Not Detected	 700	по
75-15-0 Carbon Dist	ılfide	0.46	Not Detected	 nle	no
75-09-2 Methylene (Chloride	0.24	Not Detected	 2	no
56-60-5 trans-1,2-Di	chloroethene	0.16	Not Detected	 100	no
/5-35-3 1,1-Dichloro	bethane	0.12	Not Detected	 70	no
108-05-4 Vinyl Aceta	te	0.78	Not Detected	 nle	no
78-93-3 2-Butanone		0.62	Not Detected	 300	no
156-59-2 cis-1,2-Dick	loroethene	0.17	Not Detected	 10	по
57-66-3 Chloroform		0.30	Not Detected	 6	no
75-55-6 1,1,1-Trichl	oroethane	0.23	Not Detected	 30	no
56-23-5 Carbon Tetr	achloride	0.47	Not Detected	 2	no
71-43-2 Benzeze		0.23	Not Detected	 1	no
107-06-2 1,2-Dichloro	bethane	0.18	Not Detected	 2	no
79-01-6 Trichloroeth	ene	0.23	Not Detected	 l	no
78-87-5 1, 2-Dichlor	opropane	0.40	Not Detected	 1	no
75-27-4 Bromodichl	promethane	0.55	Not Detected	 1	no
110-75-8 2-Chloroeth	yl vinyl ether	0.65	Not Detected	 nle	по
10061-01-5 cis-1,3-Dict	loropropene	0.69	Not Detected	 nle	no

2 of 8			Table 3			
	VOLATILE	E ORGANIO	CS ANALYS	IS DATA SH	EET	
Lab Name:	FMETL	NJDEP #	<u>13461</u>	Matrix	: (soil/water) WA	<u>rer</u>
Date Sample	d: <u>4/22/00</u>	Location:	: <u>1220A</u>	Lab S	ample ID: <u>5370.(</u>)1(Bldg 1220A)
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	по
10061-02-6	trans-1,3-Dichloropropene	0.87	Not Detected		nle	ΠÖ
79-00-5	1,1,2-Trichloroethane	0.48	Not Detected		3	пò
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	1.03		600	no
106-46-7	1,4-Dichlorobenzene	0.57	1.02		75	по
95-50-1	1,2-Dichlorobenzene	0.64	0.99		600	по

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ler i al	Lab Name:]
F 'D		
Inc. 1. al	Date Sample	ed: <u>4</u>
te i i	CAS NO.	COM
فر.د. عنا	110-86-1	Pyridi
(°) Notae	62-75-9	N-nitro
ſ i	62-53-3	Anilin
la. ma	111-44-4	bis(2-0
r ، ۲	541-73-1	1,3-Di
laiei	106-46-7	1,4-Di
F - 1	100-51-6	Benzy
bi in	95-50-1	1,2-Di
$F(\phi)$	108-60-1	bis(2-c
ka, gas	621-64-7	n-Nitro
<i>р</i> : 1	67-72-1	Hexac
ka wa	98-95-3	Nitrob
	78-59-1	Isopho
	111-91-1	bis(2-0
(°) (at	120-82-1	1,2,4-1
F -1	91-20-3	Naphtl
L. 13	106-47-8	4-Chlc
F .1	87-68-3	Hexac
er. is	91-57-6	2-Metl
n n	77-47-4	Hexac
	91-58-7	2-Chlo
f it	88-74-4	2-Nitro
<u>е</u> ц.	131-11-3	Dimet
r a	208-96-8	Acena
lu 1.9	L	L

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Table 3 SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name:	<u>FMETL</u>	NJDEP #	<u>13461</u>	Matrix: (soil/water) WATER
Date Sampled:	<u>4/22/00</u>	Location:	<u>1220A</u>	Lab Sample ID: <u>5370.01(Bldg 1220A)</u>

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

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Table 3 SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name:	<u>FMETL</u>	NJDEP #	<u>13461</u>	Matrix	x: (soil/water) <u>WA7</u>	<u>rer</u>
Date Sample	ed: <u>4/22/00</u>	Location:	<u>1220A</u>	Lab S	ample ID: <u>5370.(</u>)1(Bldg 1220A
CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERIA
606-20-2	2,6-Dinitrotoluene	0.81	Not Detected		nle	по
99-09-2	3-Nitroaniline	0.79	Not Detected		nle	по
83-32-9	Acenaphthene	1.10	Not Detected		400	по
132-64-9	Dibenzofuran	1.00	Not Detected		nle	no
121-14-2	2,4-Dinitrotoluene	0.87	Not Detected		10	no
84-66-2	Diethylphthalate	1.62	Not Detected		5000	no
86-73-7	Fluorene	0.99	Not Detected		300	по
7005-72-3	4-Chlorophenyl-phenylether	1.10	Not Detected		nle	по
100-01-6	4-Nitroaniline	1.05	Not Detected		nle	ло
86-30-6	n-Nitrosodiphenylamine	1.01	Not Detected		20	no
103-33-3	Azobenzene	0.67	Not Detected		nle	no
101-55-3	4-Bromophenyl-phenylether	0.76	Not Detected		nle	no
118-74-1	Hexachlorobenzene	0.94	Not Detected		10	no
85-01-8	Phenanthrene	1.23	Not Detected		nle	no
120-12-7	Anthracene	1.12	Not Detected		2000	no
84-74-2	Di-n-butylphthalate	1.70	Not Detected		900	no
206-44-0	Fluoranthene	1.64	Not Detected		300	no
92-87-5	Benzidine	4.18	Not Detected		50	по
129-00-0	Pyrene	1.25	Not Detected		200	no
85-68-7	Butylbenzylphthalate	1.05	Not Detected		100	no
56-55-3	Benzo[a]anthracene	1.19	Not Detected		10	по
91-94-1	3,3'-Dichlorobenzidine	1.75	Not Detected		60	ло
218-01-9	Chrysene	1.38	Not Detected		20	no
117-81-7	bis(2-Ethylhexyl)phthalate	1.74	Not Detected		30	по
117-84-0	Di-n-octylphthalate	1.44	Not Detected		100	no
205-99-2	Benzo[b]fluoranthene	1.25	Not Detected		10	no
207-08-9	Benzo[k]fluoranthene	1.29	Not Detected		2	no
50-32-8	Benzo[a]pyrene	1.05	Not Detected		20	no
193-39-5	Indeno[1,2,3-cd]pyrene	0.83	Not Detected		20	no
53-70-3	Dibenz[a,h]anthracene	0.64	Not Detected		20	no
191-24-2	Benzo[g,h,i]perylene	0.84	Not Detected		nle	no

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Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>FMETL</u>		NJDEP #	<u>13461</u>	Matrix: (soil/water) <u>WATER</u>		
Date Samp	bled: <u>5/22/00</u>	Location:	<u>1220A</u>	Lab Sa	ample ID: <u>5426.0</u>	3(Bldg 1220)
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	по
108203	Di-isopropyl ether	0.25	Not Detected		nle	no
	Dichlorodifluoromethane	1.68	Not Detected		nle	no
74-87-3	Chloromethane	1.16	Not Detected		30	no
75-01-4	Vinyl Chloride	1.06	Not Detected		5	no
74-83-9	Bromomethane	1.10	Not Detected		10	no
75-00-3	Chloroethane	1.01	Not Detected		nle	no
75-69-4	Trichlorofluoromethane	0.50	Not Detected		nle	no
75-35-4	1, 1-Dichloroethene	0.24	Not Detected		2	по
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	no
156-60-5	trans-1,2-Dichloroethene	0.16	Not Detected		100	no
75-35-3	1,1-Dichloroethane	0.12	Not Detected		70	no
108-05-4	Vinyl Acetate	0.78	Not Detected		nle	no
78-93-3	2-Butanone	0.62	Not Detected		300	no
156-59-2	cis-1,2-Dichloroethene	0.17	Not Detected		10	no
67-66-3	Chloroform	0.30	2.91		6.	no
75-55-6	1,1,1-Trichloroethane	0.23	Not Detected		30	ло
56-23-5	Carbon Tetrachloride	0.47	Not Detected		2	по
71-43-2	Benzeze	0.23	Not Detected		I	no
107-06-2	1,2-Dichloroethane	0.18	Not Detected		2	no
79-01-6	Trichloroethene	0.23	Not Detected		I	no
78-87-5	1, 2-Dichloropropane	0.40	Not Detected		l .	no
75-27-4	Bromodichloromethane	0.55	Not Detected		۱.	no
110-75-8	2-Chloroethyl vinyl ether	0.65	Not Detected		nle	по
10061-01-5	cis-1,3-Dichloropropene	0.69	Not Detected		nle	no

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Table 3 VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>FMETL</u>		NJDEP # <u>1346</u>		Matrix: (soil/water) WATER		
Date Sample	ed: <u>5/22/00</u>	Location:	<u>1220A</u>	Lab Sa	ample ID: <u>5426.0</u>	<u>3(Bldg 1220A</u>
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

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Table 3 SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name:	<u>FMETL</u>	NJDEP #	<u>13461</u>	Matrix: (soil/water) WATER
Date Sampled:	<u>5/22/00</u>	Location:	<u>1220A</u>	Lab Sample ID: <u>5426.03(Bldg 1220A)</u>

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

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Table 3SEMI-VOLATILE ANALYSIS DATA SHEET

Lab Name:	<u>FMETL</u>	NJDEP #	<u>13461</u>	Matrix: (soil/water) WATER			
Date Sampled: <u>5/22/00</u>		Location:	ocation: <u>1220A</u> Lab Sa		ample ID: <u>5426.0</u>	mple ID: <u>5426.03(Bldg 1220</u>	
CAS NO.	COMPOUND NAME	MDL (ug/L)	RESULTS	QUALIFIER	REGULATORY LEVEL(ug/L)	EXCEEDS CRITERI	
606-20-2	2,6-Dinitrotoluene	0.81	Not Detected		nle	no	
99-09-2	3-Nitroaniline	0.79	Not Detected		nie	по	
83-32-9	Acenaphthene	1.10	Not Detected		400	no	
132-64-9	Dibenzofuran	. 1.00	Not Detected		nle	no	
121-14-2	2,4-Dinitrotoluene	0.87	Not Detected		10	no	
84-66-2	Diethylphthalate	1.62	Not Detected		5000	no	
86-73-7	Fluorene	0.99	Not Detected		300	по	
7005-72-3	4-Chlorophenyl-phenylether	1.10	Not Detected		nle	no	
100-01-6	4-Nitroaniline	1.05	Not Detected		nle	no	
86-30-6	n-Nitrosodiphenylamine	1.01	Not Detected		20	по	
103-33-3	Azobenzene	0.67	Not Detected		nle	no	
101-55-3	4-Bromophenyl-phenylether	0.76	Not Detected		nle	no	
118-74-1	Hexachlorobenzene	0.94	Not Detected		10	no	
85-01-8	Phenanthrene	1.23	Not Detected		nle	по	
120-12-7	Anthracene	1.12	Not Detected		2000	no	
84-74-2	Di-n-butylphthalate	1.70	Not Detected		900	no	
206-44-0	Fluoranthene	1.64	Not Detected		300	. по	
92-87-5	Benzidine	4.18	Not Detected		50	no	
129-00-0	Pyrene	1.25	Not Detected		200	no	
85-68-7	Butylbenzylphthalate	1.05	Not Detected		100	no	
56-55-3	Benzo[a]anthracene	1.19	Not Detected		10	no	
91-94-1	3,3'-Dichlorobenzidine	1.75	Not Detected		60	no	
218-01-9	Chrysene	1.38	Not Detected		20	no	
117-81-7	bis(2-Ethylhexyl)phthalate	1.74	Not Detected		30	по	
117-84-0	Di-n-octylphthalate	1.44	Not Detected		100	пô	
205-99-2	Benzo[b]fluoranthene	1.25	Not Detected		10	no	
207-08-9	Benzo[k]fluoranthene	1.29	Not Detected		2	no	
50-32-8	Benzo[a]pyrene	1.05	Not Detected		20	по	
193-39-5	Indeno[1,2,3-cd]pyrene	0.83	Not Detected		20	no	
53-70-3	Dibenz[a,h]anthracene	0.64	Not Detected		20	по	
191-24-2	Benzo[g,h,i]perylene	0.84	Not Detected		nle	no	

FIGURES

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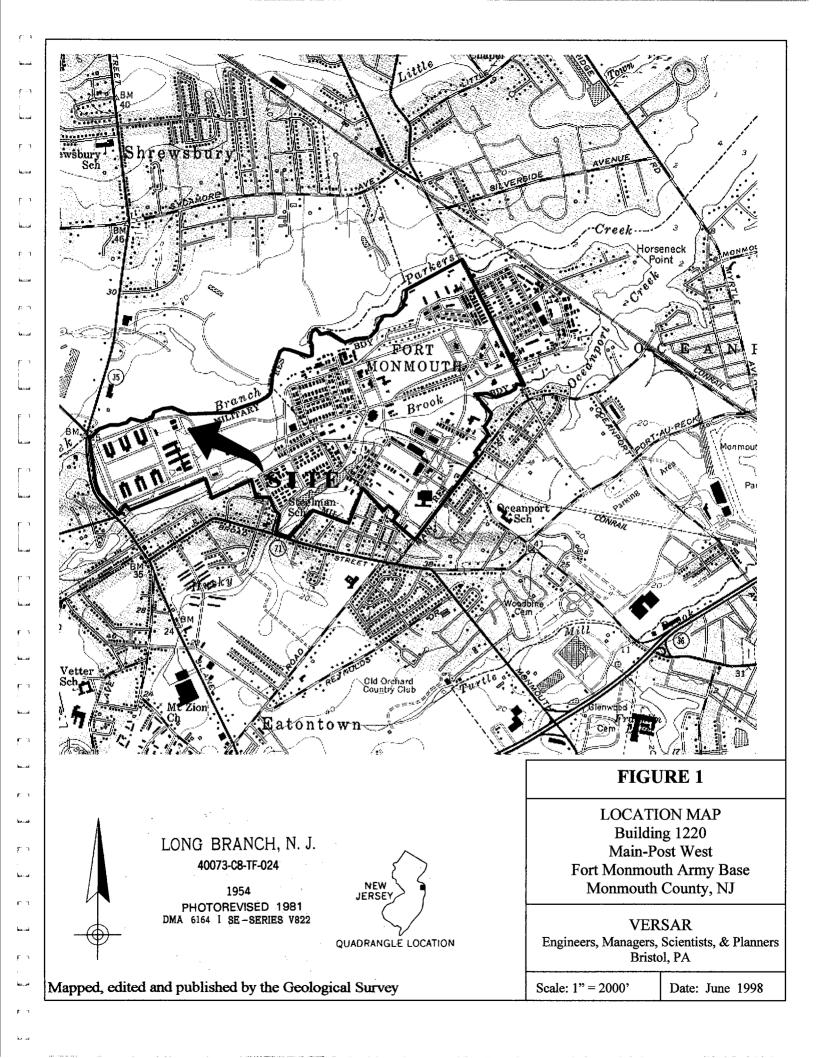
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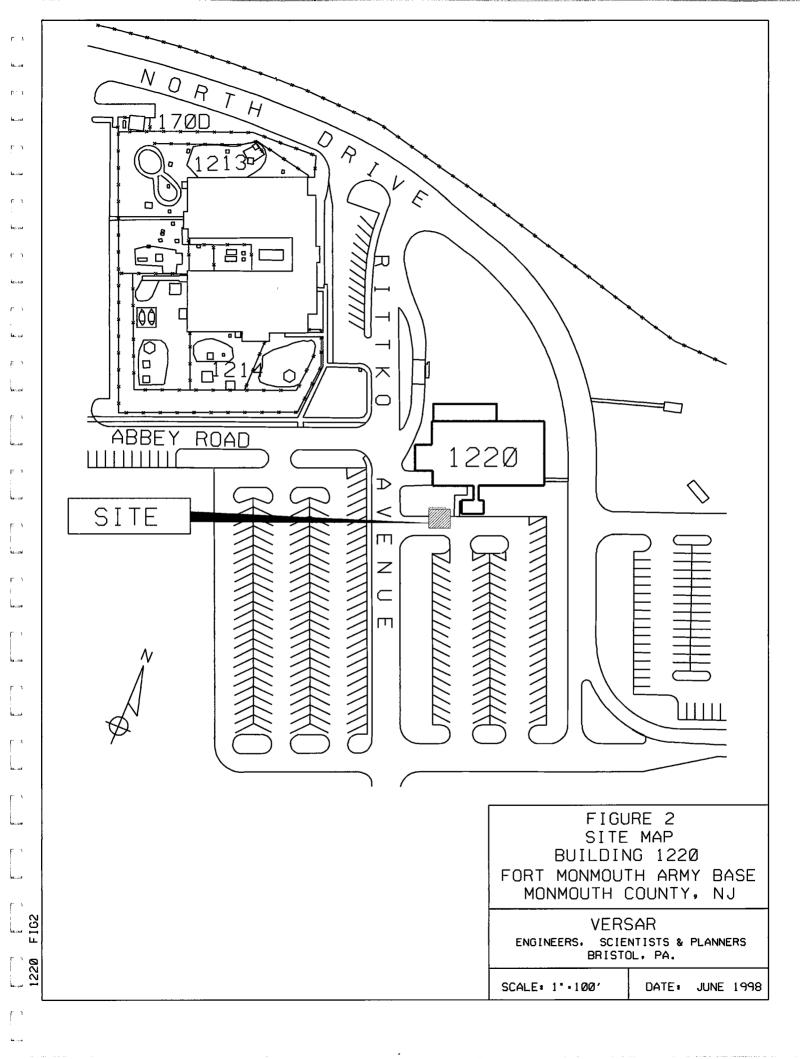
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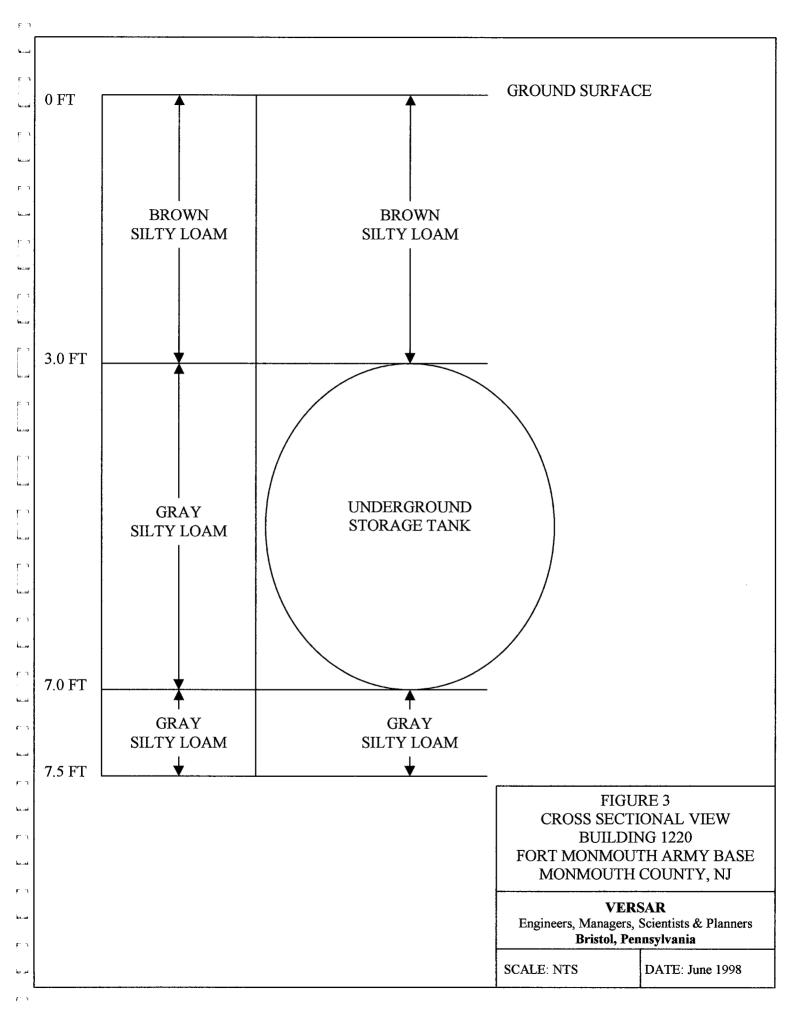
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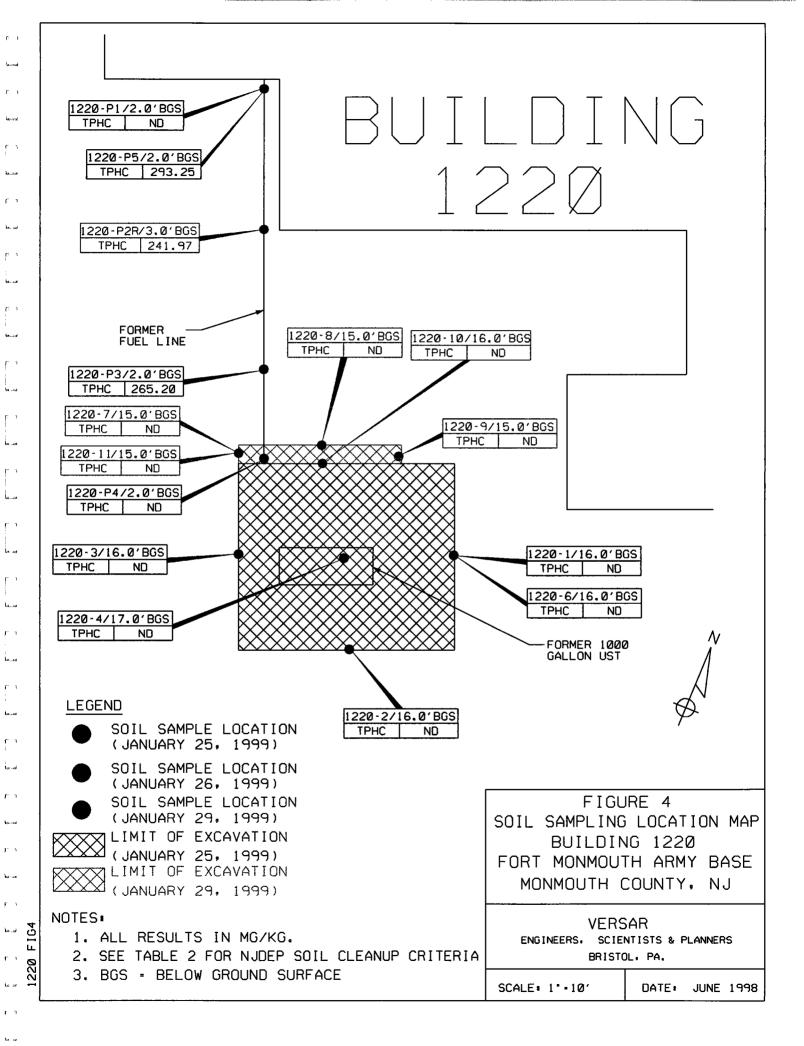
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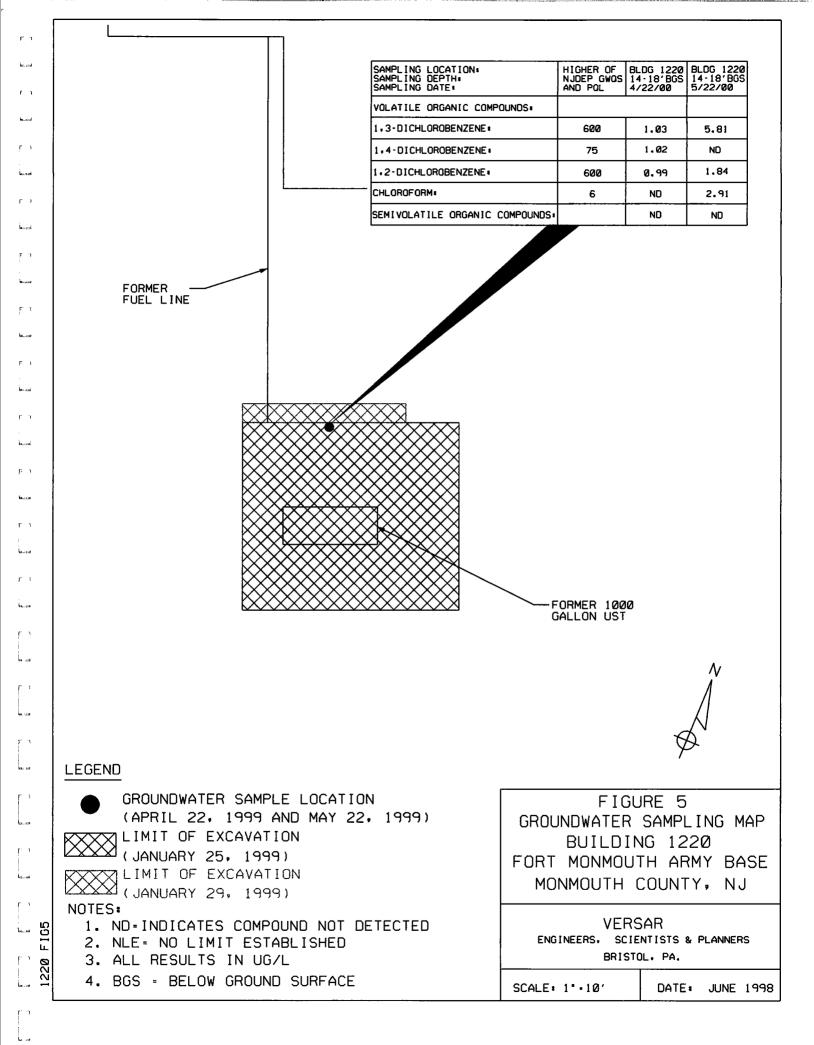






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APPENDIX A

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NJDEP-STANDARD REPORTING FORM

		Enter C	File Cap.	6/15/88 C
·		. —)	•/ •/	6/15/28 G
1	LEW JERSEY DÉPARTMENT OF ENVIROI DIVISION OF RESPONSIBLE PARTY S BUREAU OF APPLICABILITY AND C	SITE REMEDIATION	TION	FOR STATE USE ONLY
	Registration and Billing U CN 028, Trenton, N.J. 08625	Init		
	1-609-984-3156 UNDERGROUND STOR	AGE TANK	A	STATUS COMCODE
	FACILITY QUESTION	NNAIRE	le L	
FACILITY UST #_	Diag 10	00 A		
	s Registration Questionnaire will satisfy the ances Act, N.J.S.A. 58:10A-21, and the Reg			
B. Is this a regis C. X Is this a corre	box(es)] stration of a proposed or newly installed undergro stration of an existing underground storage tank r action or amendment to an existing facility registra- been no changes to the facility registration since I	not presently registered? ration? UST #2	P1533	least 30 days prior to operat
•	ove, please check the appropriate type of change	ə(s) below		
Owner Name ar Facility Operato	nd/or Address Change nd/or Address Change r and/or Address Change Person Change Type of Product(s Spills, Leaks, Rel Tank(s) and/or Pi Closure (Complet	leases Siping Changes S	inancial Responsib Substantial Modifica Sale or Transfer (Co Other <i>(please specif</i>	tion(s) mplete Questions 4,5,6 &
SECTION A - G	ENERAL FACILITY INFORMATION	-		· · · · · · · · · · · · · · · · · · ·
1. Facility Name	MAIN POST, WEST,	┨╼┟┉┠╼┨╼┨╸┠╶┨╴┨╴		
2. Facility Location	Ft. Monmouth			<u></u>
			<u></u>	
3. Facility Operator	PERSON OR TITLE		ntact	
Operator Address (if different than		NUMBER AND STREET		
#2)		<u> </u>		
4. Tank Owner				
5. Tank Owner Address		NUMBER AND STREET	<u></u>	
				L
		CITY OR MUNICIPALITY	<u></u>	
	STATE ZIP CODE	· ·		
Contact Person (Tank Owner)			Intact	(Extension
7. EPA ID#		·		
8. Total number of	regulated underground storage tanks at facility	(Complete :	Section B for each t	ank)

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9. Total regulated underground storage	k capa	\mathcal{B} city at faci	ldeg 1 d	-		Ì				
		-			uritabla / E	ublic Scho				
		County/Mu Federal	F	Res	idence	JOIC SCH	H H	Farm (a	as define 3.1 et sec	
11. Is a copy of the facility site plan submitte	ed with t	his registr	ation purs	uant to N.J	I.A.C. 7:1	4B-2?	YES			4-/
SECTION B - SPECIFIC TANK INFO	RMATI	ON								
ALL underground tanks, including those take	en out of	i operatior	UNLES		IK WAS	REMOVED	FROM	THE GROL		OR TO
9/3/86) must be registered. Report all tank/p	piping st	atus chan	ges uniess	s previous!	y submitt	əd.				
1. Tank Identification Number	TANK	K NO.	TANI	<u> (NO.</u>	TAN	K NO.	TAN	(NO.		NK NC
2. CAS Number (hazardous substances only)								······································		¹ 1
3. Date Tank Installed (Month/Day/Year)	Mo. Day	Year	Mo. Day	Year	Mo. Day	Year	Mo. Day	Year	Mo. Day	; ; ;
4. Tank Size (gallons)									┟╌┵╌┖╴╹ ╽┌─┬╌┯╾	
5. Tank Contents (Mark one "X" for each tank)		_ <u>_</u>							┠┸╌╌┸═╌┸╴ ╏	
A. Leaded gasoline			┨		ļ		I[L[
B. Unleaded gasoline		_	-}		<u>↓</u> ↓	+	┟───┤			
C. Alcohol endriched gasoline			+		┠	+	┠		┝───┴	_
D. Light diesel fuel (No. 1-D)	+		╂──┼		╞───┼		┠	+	┠────┼	
E. Medium diesel fuel (No. 2-D) F. Waste Oil			++		┠───┼-	- <u></u>	┠╌╌╌┼	+	┠╼╼╾┼	
G. Kerosene (No. 1)			╅──┼	+	┣───┼		┝───┼		┠╍╍╍┼	_{
H, Home heating oil (No. 2)			++		┠───┠	+	┟╌╌─┼		┢╼─┼	
J. Heating oil (No. 4)			1		<u>├</u> ──		┟┈───┼	+	┟───┼	+
K. Heavy heating oil (No. 6)									├─── 	+-
L. Aviation fuel		T								
M. Motor oil										
N. Lubricating oil			↓		↓ ↓					
P. Sewage			┼──┼		├ ────┼	+	┣──┤		┞───┼	
Q. Sewage sludge			╂───┶		<u>├</u>		╂───└	<u> </u>	┣───┴	
R. Other hazardous substances (specify) S. Hazardous waste (specify ID number)			+		<u> </u>		<u> </u>		├ ────	
S. Hazardous waste (specify 1D number) T. Mixtures (please specify)			+		<u> </u>			<u> </u>	<u>├</u>	
U. Emergency spill tank (specify substance)			1			. <u>.</u>	<u> </u>		<u> </u>	
V. Other petroleum products (please specify)							<u></u>		<u> </u>	
W. Other (please specify)	(· <u>·</u>		•
6. Tank & Piping Construction	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Pip
(Mark one each for both tank & piping) A. Bare Steel										- 1
B. Cathodically protected steel	┢╍┠╌╂─		╉╌╋╼╪╌		╞╌┼─┼─		╂─┼─┼─		┠╌┼╌├─	-+
C. Fiberglass-coated steel					╏╎╴╎		╏─╎╴┼─		┠─┼╌┼╌	- -
D. Fiberglass-reinforced plastic			1+1					-+-+	┠╌┼╌┼╴	-+-
E. Internally lined										-+-
F. Other (please specify)										
7. Tank & Piping Structure	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Pip
(Mark one each for both tank & piping) A. Single wall										
B. Double wall	<u> </u>		+		$\begin{bmatrix} 1 \\ - \end{bmatrix}$					
C. Other (please specify) 8. Type of Monitoring/Detection System			+		 		 		 	
	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Pi
(Mark all that apply for both tank & nining)		\square								٢
(Mark all that apply for both tank & piping) A. Statistical Inventory Reconciliation	1 1 1		╺╋╼╼╄╼╌┼╍╸		╅╌╁╼┾╼╸				┢╌┼╾┼╴	
					\$ 1 1	1 1				
A. Statistical Inventory Reconciliation			+ $+$ $+$				╊╌┠╌┝			
A. Statistical Inventory Reconciliation B. Manual Tank Gauging										
A. Statistical Inventory Reconciliation B. Manual Tank Gauging C. Inventory Control D. Interstitial E. Precision Test										
A. Statistical Inventory Reconciliation B. Manual Tank Gauging C. Inventory Control D. Interstitial E. Precision Test F. Ground water observation wells										
A. Statistical Inventory Reconciliation B. Manual Tank Gauging C. Inventory Control D. Interstitial E. Precision Test										

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Tank Identification Number		IK NO.	TAN	<u>(NO.</u>		IK NO.		NK NO.	TAN	K NO.
8. Type of Monitoring/Detection System K. None	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Pipir
L Other (please specify)	╏╌└╌╵╾		┠──┴─┞─╸				<u></u>		┠╌┴─┴──	
Overfill Protection (tank only)					1		1			
(Mark one X for each tank)	}			_						
A. Yes			ļ	<u> </u>						
B. No	 				ļļ		ļ			
 Spill Containment Around Fill Pipe (Mark one X for each tank) 					l r					
A. Yes	╂╂					-+	<u> </u>		┣	
B. No		<u></u>	-					B ' '		
11. Tank Status (Mark one X for each tank) A. In-use	Tank	Piping	Tank	Piping	Tank		Tank	Piping	Tank	Pipi
B. Empty less than 12 months	┠╌┠╌┠		┠┈┼╌┼╍		+++		┠┼┼		┟╌┼╌┼╌	
C. Empty 12 months or more	┠╶╂╌╂╼		┠╼┾╾┾╌	-++	╂╌┼╌┼╌		╂─┼─┼╸		┠╌┼╶┼╌	
D. Emergency spill tank (sump) E. Emergency backuo generator tank	┠╍┼╍╂╌		┠┼┼╴		╊╋╋	-++	┟┼┼┼		╊╾┼╌┼╶╴	
E. Emergency backup generator tank F. Abandoned in Place	╋╌┾╌╆╌	╾┼╌┼╌	┠╌┼╌┼╌		╂╌┼╌┾╌	-+-+	╊╌┾╌┼╴	╶╾┼╌┼╌╴	┠╌┼╌┼╼	
G. Removed	╏╴┼╶┼╴		╏─┼╌┼╌		 		† † †		t + t - t	
H. Other (please specify)	╋ ╺╴┙ ╸┶╸ ╎							kk	<u>₹</u>	k
	<u> </u>		1				T			
2. If box 11B, C, or D above has been marked, indicate the estimated date	Mo. Day	Year	Mo. Day	Year	Mo. Daj	Year	Mo. Day	y Year	Mo. Day	Yes
last used (month/day/year)	1111			11 1 1		1111				111
3. Closure Information - Tank ID No. Bida 1000M		nk no. 1 8 9		K NO.				NK NO.		
y y y y y y y y y y y y y y y y	Mo. Day	Year Year	Mo. Day	Year	Mo. Da	y Year	No. D	ey Year	Mo. Da	y Ye
A. Date abandoned in place		111	111	111.			11			
B. Date taken temporarily out of service	111			111	111				1 1	1
C. Date removed	0610	21998			\uparrow	+ · · · · · · · · · · · · · · · · · · ·				
D. Date of Sale or Transfer		- <u>, , , , , , , , , , , , , , , , , , ,</u>			╋ ╸ ┿╾╝			<u>, , , , , , ,</u>		
E. TMS # (if applicable)	┨╌╧╼╌└╼╌└		<u><u></u> </u>		1		+		<u> </u>	
	00	01-11		225-4			+		<u> </u>	
F. ISRA # (if applicable)	178-	06-12	<u>x-08</u>	153-7	<u> </u>		<u>.</u>		ļ	
SECTION C - FINANCIAL RESPONS looes this facility have a Financial Responsil Please list the appropriate financial informat	oility Ass	പ് urance Me	chanism :	as required	in 40 Cf	R 280? [] YES	- NO		
Туре					Carrier	Issuing Ag	gency			
///////	_/	<u> </u>						\$		
Effective Date Expiration C	Date			Policy 1	Number			A	mount	
SECTION D - MONITORING SYSTE	MS								_	
oes this facility have a release detection m	onitoring	system w	hich is in	compliance	with N.	J.A.C. 7:14	B-6?		YES	
f "No", please be aware that the facility mus	ज्ञ meet ti	ne appropri	iate deadi	N10. (200)	Uales IC	KIIOW" ON	rage 4)			
SECTION E - RECORDKEEPING/C		NCE								
					:			O1 a b b	k	
Please answer all the questions in this sections in the section of						iance requi	ires a "N	O [−] answer		
 Does this facility have cathodic prote If "Yes", are the systems properly of 	orated	stems for a	II Steel tal	uant to N ⁻¹	MO?	48-52		┣	YES	
 trest estimation and doc Are the performance claims and doc 	umentati	ion of moni	torina svs	tems main	tained by	-u-u: the owner		ator		
pursuant to N.J.A.C. 7:148-5?	anonali] YES [
3. Are the proper monitoring, testing, s	ampling,	repair and	inventory	records ke	ept on-sit	e pursuant	to			-
N.J.A.C. 7:14B-5 and 6?				•					YES	
4. Is the proper Release Response Pla						2.40	<i>i</i> .		YES	
5. Does the facility have spill and over	till protec	tion system	ns pursua	INT TO N.J.A		5-4/ 7:140 CO			YES	
6. Have all Fill Ports been permanently	r marked	as per AP	i#1637.p	ursuant to	N.J.A.C.	1.140-57	, ,	· · · · ·		Dense frank 197

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	IMPORTANT INFORMATION
FEE:	Please make checks payble to: "Treasurer, State of New Jersey". Use of the enclosed return envelope will expedite processing. Registration and Billing Schedule can be found in NJ.A.C. 7:14B. All Initial Registration fees are \$100 per facility.
PENALTY:	Failure by owner or operator of a regulated underground storage tank to comply with any requirement of the State UST Act or regulations may result in the penalties set forth in NJS.A. 58:10A-10.
EMERGENCY:	If a discharge or spill occurs, the NJDEP Hotline at (609) 292-7172 must be called IMMEDIATELY - 24 hours a day.
UPGRADE EXEMPTION:	Residential heating oil underground storage tanks are exempt from all upgrade requirements.
	DATES TO KNOW (critical deadlines)
December 22, 1988 –	 All new federally regulated tank systems must have cathodic protection and spill/overfill protection.
September 4, 1990	- All new State-only regulated tank systems must have cathodic protection and spill/overfill protection.
December 22, 1990 –	 All federally regulated piping must have begun leak detection.
February 19, 1993 –	 All federally regulated tank systems must maintain financial responsibility assurance.
December 22, 1993 –	 All federally regulated tank systems must have begun leak detection.
December 22, 1998 -	- All regulated tanks shall install cathodic protection and spill/overfill protection.

CERTIFICATIONS

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

CERTIFICATION NO. 1:

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

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

(Typed/Printed Name) (Typed/Printed Name) Secondor of Public Works () (Title)

CERTIFICATION NO. 2:

Must be signed as follows:

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

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

(Typed / Printed Name)

(Title)

(Signature)

(Date)

CERTIFICATION NO. 3:

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

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

MR. Charles Appleby Env. Pro. Spec.	$-\frac{35}{2}$	6/12/98
(Typed / Printed Name) (Title) U.S. ARmy	(Signature) Das 6	(Date)
(Name of Firm, if applieable)	(N.J. Certification Number)	

APPENDIX B

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SITE ASSESSMENT SUMMARY

2/97)	×	f Environmental Protection
UST Site/I		tion Program ion Report Certification Form
A. Facility Name : <u>U.S. Army</u>	Fort Monmouth New Jersey	
Facility Street Address :	irectorate of Public Works Bui	lding 173
Municipality: Oceanport		
Block:L	ot(s):	Telephone Number :732-532-6224
B. Owner (RP)'s Name:		
Street Address:		City :
State:	Zip:Telepl	none Number :
C. (Check as appropriate)	D. (Complete all that apply)	
Site Investigation	_	Ian Curtis, Federal Case Manager
Report (SIR) \$500 Fee		: <u>81533-184</u> (7 digits)
Remedial Investigation		08 - 06 - 12 - 0835 - 45 (10 or 12 digits)
Report (RIR) \$1000 Fee	· _	
X NA – Federal Agreement	• Tank Closure Number : Fee	deral Case Manager
Name: <u>Charles Appleby</u> Firm: <u>U.S. Army Fort Mon</u>		l subsurface removal log_ UST Cert. No.: 2056 Firm's UST Cert. Number: <u>NA-U.S. Army</u>
Firm Address: Directorate o	f Public Works Building 173	City: Fort Monmouth
State: NJ Z	ip: <u>07703</u> Tel	ephone Number :732-532-6224
(NOTE: Certification numbers	required only if work was conduct	ed on USTs regulated per N.J.S.A. 58:10A-21 et seq.)
 The following certification sh For a Corporation by a peresolution, certified as a true For a partnership or sole prise For a municipality, State, for "I certify under prise 	rson authorized by a resolution of e copy by the secretary of the corr oprietorship, by a general partner ederal or other public agency by ei- enalty of law that I have personally e	uirements of N.J.A.C. 7:14B-1.7(b)]as follows: f the board of directors to sign the document. A copy of the poration, shall be submitted along with the certification; or or the proprietor, respectively; or ther a principal executive officer or ranking elected Official. examined and am familiar with the information submitted in this
information, I b significant civil committing a cri aware that if I kr	elieve that the submitted informatio penalties for knowingly submitting me of the fourth degree if I make a we owingly direct or authorize the violat	I on my inquiry of those individuals responsible for obtaining the on is true, accurate, and complete. I am aware that there are g false, inaccurate, or incomplete information and that I am ritten false statement which I do not believe to be true. I am also ion of any statute, I am personally liable for the penalties."
Name (Print or Type):	James Ott	Title:Directorate of Public Works
Signature:		
Company Name:	U.S. Army Fort Monmouth	Date:

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US ARMY, SELFM-PW-EV DAILY UST SUBSURFACE REMOVAL LOG	
BLDG. #: 100 BLDG. #: 100 BLDG. #: 100 BLDG. #: 100 DATE: 6112/98 GOV. SSE: 1.499/- GOV. SSE: 1.499/- REMOVAL CONTRACTOR: CLOSURE SUPERVISOR: 100 REMOVAL CONTRACTOR: CLOSURE SUPERVISOR: 100 REMOVAL CONTRACTOR: WEATHER: 100 REMOVAL CONTRACTOR: WEATHER: 100 REMOVAL CONTRACTOR: WEATHER: 100 REMOVAL CONTRACTOR: WEATHER: 100 REMOVAL CONTRACTOR: WEATHER: 100 REMOVAL CONTRACTOR: REMOVAL CONTRACTOR: REMOVAL CONTRACTOR: REMOVAL CONTRACTOR: REMOVAL CONTRACTOR: REMOVAL CONTRACTOR:	-
	YES NO
THE SUPERVISOR (CLOSURE CERT.) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	90
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	40
ALL ON-SITE PERSONNEL HAD TRAINING IAW ALL SAFETY REQUIREMENTS (E.G. 29CFR)	<u>E</u>
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR fun About	NA
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	Ges
A DISCHARGE WAS REPORTED TO THE NJDEP (609-29277172), CASE# 18-06-12-0835-45	405
PHOTOS HAVE UST#, BLDG. #, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK 72-3	915
GROUNDWATER WAS ENCOUNTERED AT Mon FEET BG, A SHEEN (WAS NOT) OBSERVED ON GW	NA
IF OVA/Hnu WAS USED: WAS IT CAL. AND FOUND TO BE OPERATIONAL (cal. data on COC)	NK
IF SAMPLES WERE TAKEN: COC, SCALED SITE MAP (VERT. SOIL HORIZONS AND PLOT PLAN)	NY
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM, 1992	NI
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7:26E-3.6 et seq.	N
ALL PETROL. CONT. SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	NA
THE SSE AUTHORIZED BACKFILLING THE EXCAVATION (STONE TO 1" ABOVE GROUNDWATER)	NO
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	405
THE FOLLOWING DOCUMENTS WERE ADDED TO THE PROJECT FOLDER TODAY: (CIRCLE EACH) SCRAP TICKET, CSE PERMIT, ACCIDENT REPORT, HAZ. WASTE MANIFEST, DAILY UST CLOSURE LOG, SCALED SITE MAP (SAMPLING) SRF-CLOSURE, CHAIN OF CUSTODY, SOIL ANALYTICAL RESULTS, CLEAN FILL TICKETS (IN YDS ³), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS)	
CHECK ALL BOXES, LEAVE I certify under penalty of law that tank decommissioning activities were perfo	
in compliance with N.J.A.C. $7:14B-9.2(b)3$ and $7:26 \text{ et seq.}$. I am aware that the significant penalties for submitting false, inaccurate, or incomp	ther

are significant penalties for submitting f information, including files and/or imprisonment. SIGNATURE:

DATE:

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APPENDIX C

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se type or print in block letters. (For	m designed for use on elit	le (12-pitch) tyr	pewriter.)					:		
NON-HAZARDOL MANIFEST	JS 1. Genera	ator's US EPA I	D No. 2 0 5 9 7	Docum	entNo	2. Pag	ge 1			
3. Generator's Name and Mailing	Address U.S. Army	Com. El	ec.Comman	d 14 14			on-hazardous	: Janifest	Documer	nt Numt
	Main Post						zo20 18			
•	Fort Monm					the state of the s	ate Generator's I	D		
4. Generator's Phone (73- 5. Transporter 1 Company Name	1 532-6	ख्युरेउ	US EPA ID	Number			c/o J	LACE .	Shirgh Non	10/
Casie Ecology Oil S		NJ ₁ D ₁ O ₁			1 1	C. SI		167		<u>.</u>
7. Transporter 2 Company Name	······································	8.	US EPA ID	Number	• • ••••••••••••••••••••••••••••••••••	<u> </u>	ansporter's Phor			-440
9. Designated Facility Name and				111		E. St	ate Trans. ID		11	
Casie Ecology Oil S			US EFA ID	Number		F. Tra	insporter's Phone		<u> </u>	
3209 N. MILL Rd		ank °				G. St	ate Facility's 96	L4D1H1		<u> </u>
Vineland NJ 08360		N J	D 0 4 5 9			the surgery surgery designed in the local distance of the local di		5097 (596-44	01
11. US DOT Description (Includin	ng Proper Shipping Name,	Hazard Class,	and ID Number)		12. Conta		13. Total	14. Unit	Was	L ·
a. Combustible 1	liquid, n.o.s.(Fuel Oil)		No.	Туре	Quantity	Wt/Vol		
NA1993, PGIII							X3370	וי		
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J. Additional Descriptions for Ma L.T %0il/sed.	aterials Listed Above					к. на	andling Codes fo	r wastes	Listed Ab	ove
a.	c.					a.		c.	1	-1 -1
							·····			
b. 15. Special Handling Instructions	d.					Ь.		d.		
ia, opecial mananing manuellona										
						`	~~			
a.24 Hr. Emergency					NAER					
 GENERATOR'S CERTIFICATI proper shipping name and are according to applicable intern 	classified, packed, marke	d, and labeled,	and are in all res	spects in pi	roper co	ndition	for transport by	highway		
I hereby certify that the above-r	-	-		R Part 261,	264-jand	279 or a	any applicable sta	te law.		
				71	/		,		i	
Painted/Typed Name			Signature			_	······································		Month	Day, Y
	by SELFM-	AJ-EN	1	X	C	<u> </u>			OH	2/19
(hades APPle	entol Receipt of Materials	3		7	\angle	2	<u>/ · ·</u>			
17. Transporter Acknowledgem	1 5		Signature	/ /					Month	SIC
Pripred/Typed Name	and I and		120	10	2	\mathbf{i}	<u> </u>	<u></u> .	VIV	
Pripted/Typed Name	ent of Receipt of Materials	}							Month	Day Y
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Printed Typed Name	ent of Receipt of Materials	5	Signature					:		
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Priored/Typed Mame DD 18. Transporter 2 Acknowledgem Printed/Typed Name	ent of Receipt of Materials	3	Signature							<u> _</u>

APPENDIX D

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UST DISPOSAL CERTIFICATE

B. 1220		Metal Recyclers 3230 Shafto Rd. Tinton Falls, NJ (908) 922-9292		NO. 29) DATE. 12 مردت 24
Cı	stomer's Name	eTec	UM - UININ	ett
Ad	ldress			
Weight	Price			Weight Pric
Cast Iron			•	Lt. Copper
Steel The May You	9.15		10560 LB	Brass
Lt. Iron		Ν	12500 LB	Alum Clean
Copper #1			1060	Lead
Copper #2			,	Stainless
				Battery
	<u> </u>	RID Da		
		Drv 1220	10	\$ 29.12
	· <u> </u>	+ II	12	TOTAL AMOUNT:
		Alt Alt	1910	And
Weigher			Customer	How Heller
THIS CHECK IS DELIVERED FOR INCOMENTATION OF THE POLLOWING ACCOLDATE		MAZZA & SO RECYCLING D P.O. BOX OAKHURST, NJ	IVISION 246 07755	191 DATE 6/11/98 55-7233
TOTAL OF INVOICES	PA TO ORI	THE TECOM VI	nnell noty Four +	\$194-75
TOTAL DEDUCTIONS		Sovereign Bar	nk (AND GOD
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APPENDIX E

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SOIL ANALYTICAL DATA PACKAGE

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY NJDEPE # 13461

REPORT OF ANALYSIS

Client:

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

Project:

Total Petroleum Hydrocarbons 98-0001 Bldg. 1220 1000 GAL.Steel Tank

 Project #
 3647

 Date Rec.
 06/12/98

 Date Compl.
 06/14/98

 Released by:

7-6-96

Daniel K. Wright Date: Laboratory Director

Section	Pages
Cover Sheet	1
Table of Contents	2
Method Summary	3
Conformance/Non-Conformance	4
Chain of Custody	5-6
Results Summary	7
Initial Calibration Summary	8
Continuing Calibration Summary	9-10
Surrogate Results Summary	11
MS/MSD Results Summary	12
Quality Control Spike Summary	13
Raw Sample Data	14-17
Laboratory Deliverable Checklist	18

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Table of Contents

F 1 basel

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Method Summary

NJDEP Method OQA-QAM-025-10/97

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Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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

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

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

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

PHC Conformance/Non-conformance Summary Report

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

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

	Bldg. 173, SELFN Tel (732)532-435 NJDEP Certific	9 Fax (732)532				m6.mo	onmout	h.army.i	mil		Cha	ain	of Custody Recor
Customer: C. An	eleting - DPW	Project No:	98.000	11				Analy	ysis Pa	rameters	5		Comments:
$\frac{\text{Phone #: } 26224}{\text{DERA ($$$$)}\text{OMA (}}$)Other:	Location:	12201	GAL. SI GAL. SI TANK	neel)	, J	101						* · SAMPLES KEPT BELLS 4°C.
Samplers Name / Com	pany: GARY DiMA	RTINIS-T	ŪS.	Sample		Ø	50						
Lab Sample I.D.	Sample Location	Date	Time	Туре	bottles		~ 7						Remarks / Preservation Metho
3647.01	1220-A	6-12-98		Solu	<u> </u>	X	\succ						EXC. FLOOR @ 7.5'
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elinquished by (signature		Received by (s	71		Relind	quished	by (sig	nature):	I	Date/Time:	Recei	ived by	(signature):

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

Client :	U.S. Army			Lab. ID # :		3647
	DPW. SELFM-P	W-EV		Date Rec'd:		12-Jun-98
	Bldg. 173			Analysis Star	t:	12-Jun-98
	Ft. Monmouth, N	J 07703		Analysis Com	nplete:	14-Jun-98
Analysis:	OQA-QAM-025			UST Reg. #:		
Matrix:	Soil			Closure #:		
Analyst:	D.DEINHARDT			DICAR #:		
Ext. Meth:	Shake			Location #:		B.1220
Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3647.01	1220-A	1.00	14.97	74.66	210	16711.52
3647.02	1220-В	1.00	15.02	74.28	211	14694.36
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METHOD BLANK	TBLK 114	1.00	15.00	100.00	157	ND

ND = Not Detected

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MDL = Method Detection Limit

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Daniel K. Wright Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature Date 1/6/94

K

Laboratory Certification #13461

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

FORT MONMOUTH ENVIRONMENTAL

TESTING LABORATORY

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

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ANALYTICAL DATA REPORT Fort Monmouth Environmental Laboratory ENVIRONMENTAL DIVISION Fort Monmouth, New Jersey PROJECT: #99-0078

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received									
1220-1 (16')	4208.01	Soil	25-Jan-99 11:10	01/25/99									
1220-2 (16')	4208.02	Soil	25-Jan-99 11:15	01/25/99									
1220-3 (16')	4208.03	Soil	25-Jan-99 11:20	01/25/99									
1220-4 (17')	4208.04	Soil	25-Jan-99 11:25	01/25/99									
1220-5 (10')	4208.05	Soil	25-Jan-99 11:30	01/25/99									
1220-6 (16')	4208.06	Soil	25-Jan-99 11:35	01/25/99									
1220-SP-1	4208.07	Soil	25-Jan-99 14:05	01/25/99									
1220-SP-2	4208.08	Soil	25-Jan-99 14:10	01/25/99									

Bldg. 1220

ANALYSIS: FORT MONMOUTH ENVIRONMENTAL LAB TPHC, %SOLIDS

Jilza lag

Daniel Wright/Date Laboratory Director

Section	Pages
Method Summary	1
Conformance/Non-Conformance	2
Chain of Custody	3
Results Summary	4
Initial Calibration Summary	5-10
Continuing Calibration Summary	11-14
Surrogate Results Summary	15
MS/MSD Results Summary	16
Blank Spike Summary	17
Raw Sample Data	18-34
Laboratory Deliverable Checklist	35
Laboratory Authentication Statement	36

Table of Contents

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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.

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

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PHC Conformance/Non-conformance Summary Report

Indicate Yes, No, N/A Method Detection Limits provided. 1. 14CS 2. Method Blank Contamination - If yes, list the sample and the NO corresponding concentrations in each blank. 3. Matrix Spike Results Summary Meet Criteria Yes (If not met, list the sample and corresponding recovery which falls outside the acceptable range). **Duplicate Results Summary Meet Criteria** <u>405</u> 4. (If not met, list the sample and corresponding recovery which falls outside the acceptable range). pa IR Spectra submitted for standards, blanks and samples. 5. 6. Chromatograms submitted for standards, blanks and samples 405 if GC fingerprinting was conducted. yes 7. Analysis holding time met. (If not met, list number of days exceeded for each sample). _____ Additional comments: _____ 1/24/99

Laboratory Manager

6. 3



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

Chain of Custody Record

NJDEP Certification #13461

Customer: Charle	s Appleby	Project No:	IJO 99-00	78 UST (I	REM.)			Analy	ysis I	Param	eters			Comments:
Phone #: X26224	47 UST Remediation	Location:	UILDIA 3-184	G 12	20		SOLIDS						EEADIAE	RUSH
	npany : Tim Walker (SMC	CASE# 98-06-92-0835 - C/VERSAR) Sample				Ц Ч	10							
Lab Sample I.D.	Sample Location	Date	Time		bottles	TPHC	8						un-H	Remarks / Preservation Method
4208.01	1220 - 1(16')	1-25-99	1110	SOIL	1	X	X						0	ICE
02	1220-2(16')		1115	1	1	X	K						0	-
03	1220-3(16')		1120		1	X	K					1	0	
04	1220-4(17')		1125		1	X	K						0	
CT CT	1220-5(10')		1130		1	X	K						12	
06	1220-6(16')		1135		1	K	X						0	
07	1220-5P1		1405		1	X	K						D	
A8	1220-582		1410	4	1	K	K			·			0	
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Relinquished by (signatur	re): // Date/Time: Du 1-25471 1425	Received by	signature):	ia	Reline	quished	l by (sig	gnature):		Date/	Time:	Receiv	ved by	(signature):
Relinquished by (signatur	re): Date/Time:				quished by (signature): Date/Time:				Time:	Received by (signature):				
Report Type: (_)Full, (X) Turnaround time: (_)Stand	Reduced, (_)Standard, (_)Scre lard 4 wks, (g)Rush Days	en / non-certifi s, (V)ASAP Ve		· · · · · · · · · · · · · · · · · · ·		Rema	rks: H 10 51	-NU C. DO PPM NC H	ALIBI Isi -NL	2ATIO. 8114 1 # 1	U-Z LEN	eno e;s N	5AS = 58 ff. 701 4	0.0 AM 1 C 9.8 SAAN 163

Page ____ of ___

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

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Client :	U.S. Army	Lab. ID # :	4208		
	DPW. SELFM-PW-EV	Date Rec'd:	25-Jan-99		
	Bldg. 173	Analysis Start:	25-Jan-99		
	Ft. Monmouth, NJ 07703	Analysis Complete:	26-Jan-99		
Analysis:	OQA-QAM-025	UST Reg. #:			
Matrix:	Soil	Closure #:			
Analyst:	D.DEINHARDT	DICAR #:			
Inst. ID.	GC TPHC INST. #1	Injection Volume	1 ul		
Column Type	RTX 5	Column ID	0.32 um		
Ext. Meth:	Shake	Location #:	Bldg. 1220		

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4208.01	1220-1(16')	1.00	15.42	70.39	217	ND
4208.02	1220-2(16')	1.00	15.09	72.62	214	ND
4208.03	1220-3(16')	1.00	14.90	73.50	215	ND
4208.04	1220-4(17')	1.00	15.02	77.46	202	ND
4208.05	1220-5(10')	1.00	15.12	74.35	209	1859.47
4208.06	1220-6(16')	1.00	15.24	71.13	217	ND
4208.07	1220-SP1	1.00	15.80	88.70	168	233.73
4208.08	1220-SP2	1.00	15.83	79.49	187	ND
			+			<u> </u>
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METHOD BLANK	TBLK 211	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright

Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted 2 Table of Contents submitted Summary Sheets listing analytical results for all targeted and non-targeted 3. compounds submitted 4. Document paginated and legible Chain of Custody submitted 5. 6 Samples submitted to lab within 48 hours of sample collection 7. Methodology Summary submitted 8. Laboratory Chronicle and Holding Time Check submitted ____ Results submitted on a dry weight basis 9. \checkmark 10. Method Detection Limits submitted 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP Laboratory Manager or Environmental Consultant's Signature Date 1 / 2999 Laboratory Certification #13461

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

Laboratory Authentication Statement

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

Daniel K. Wright Laboratory Manager

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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

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ANALYTICAL DATA REPORT Fort Monmouth Environmental Laboratory ENVIRONMENTAL DIVISION Fort Monmouth, New Jersey PROJECT: #99-0078

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received	
1220-P1 (2')	4215.01	Soil	26-Jan-99 14:00	01/26/99	
1220-P2 (2')	4215.02	Soil	26-Jan-99 14:05	01/26/99	
1220-P3 (2')	4215.03	Soil	26-Jan-99 14:10	01/26/99	
1220-P4 (2')	4215.04	Soil	26-Jan-99 14:15	01/26/99	
1220-P5 (2')	4215.05	Soil	26-Jan-99 14:20	01/26/99	

Bldg. 1220

ANALYSIS: FORT MONMOUTH ENVIRONMENTAL LAB TPHC, %SOLIDS

2-5-99

Daniel Wright/Date-Laboratory Director

Section	Pages
Method Summary	1
Conformance/Non-Conformance	2
Chain of Custody	3
Results Summary	4
Initial Calibration Summary	5-10
Continuing Calibration Summary	11-12
Surrogate Results Summary	13
MS/MSD Results Summary	14
Blank Spike Summary	15
Raw Sample Data	16-27
Laboratory Deliverable Checklist	28
Laboratory Authentication Statement	29

Table of Contents

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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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

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

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

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

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PHC Conformance/Non-conformance Summary Report

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

Laboratory Manager

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Fort Monmouth Environmental Testing Laboratory

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

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

Chain of Custody Record

NJDEP Certification #13461

Customer: Charle	es Appleby	Project No:	NO 99-00.	78 UST (F	REM.)			Ana	Analysis Parameters			-		Comments:
Phone #: X26224 (X)OMA FM0097F1	147 UST Remediation	Location: 1 UST # E CASE#98	Building 31533-1 -06-12-0	5 122 84 835-4	0 15		SOLIDS						REA DINE:	RUSH 3-5 DAYS
Samplers Name / Co	<u>mpany : Tim Walker (SM</u>			Sample #		TPHC							6 R	
Lab Sample I.D.	Sample Location	Date	Time	Туре	bottles	F	%						11-Ne	Remarks / Preservation Method
4215.01	1220-F1 (2')	1-26-99	1400	SOIL	1	X	K						0	ICE
02	1220-P2(2')		1405		1	K	K					 	0	
03	1220-P3(2')		1410		1	K	K	l					0	
04	1220-P4(2')		1415		1	K	K						0	
- 05	1220-P5(2')	+	1420			K	K						0	<u> </u>
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Rednquished by (signatu	Date/Time:	Received by		<i>A</i> ,	Relin	quished	l by (sig	gnature)	н: -	Date/	Time:	Recei	ved by ((signature):
Relinquished by (signatu					(signature):									
× · · ·	Reduced, (_)Standard, (_)Sca ndard 4 wks, (WRush 3-5 Day			rs.		Rema	rks: H 10 DMC	-NU OPP	CALI M ISU JU H	BRATI OBUT	ION YLEN S/N	ZEE	58 f	5 =0.0 ррм РМС 9.8 SPAN З

Page ____ of ____

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

U.S. Army Lab. ID # : 4215 Client : DPW. SELFM-PW-EV Date Rec'd: 26-Jan-99 Analysis Start: 27-Jan-99 Bldg. 173 Ft. Monmouth, NJ 07703 Analysis Complete: 28-Jan-99 OQA-QAM-025 UST Reg. #: Analysis: Matrix: Soil Closure #: Analyst: D.DEINHARDT DICAR #: inst. ID. GC TPHC INST. #1 **Injection Volume** 1 ul Column Type RTX 5 Column ID 0.32 um Location #: Ext. Meth: Shake Bldg. 1220

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4215.01	1220-P1(2')	1.00	15.01	83.15	188	ND
4215.02	1220-P2(2')	1.00	15.64	81.75	184	1451.32
4215.03	1220-P3(2')	1.00	15.41	81.05	188	265.20
4215.04	1220-P4(2')	1.00	15.37	81.38	188	ND
4215.05	1220-P5(2')	1.00	15.51	89.34	170	293.25
METHOD BLANK	TBLK 212	1.00	15.00	100.00	157	ND

ND = Not Detected

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MDL = Method Detection Limit

Daniel K. Wright Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

/

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

Laboratory Manager or Environmental Consultant's Signature _____ Date __2/5/99

Laboratory Certification #13461

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*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.

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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: #99-0078

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
1220-7 (15')	4230.01	Soil	29-Jan-99 08:25	01/29/99
1220-8 (15')	4230.02	Soil	29-Jan-99 08:20	01/29/99
1220-9(15')	4230.03	Soil	29-Jan-99 08:15	01/29/99
1220-10 (16')	4230.04	Soil	29-Jan-99 08:00	01/29/99
1220-11 (15')	4230.05	Soil	29-Jan-99 08:30	01/29/99
1220-P2R (3')	4230.06	Soil	29-Jan-99 10:20	01/29/99

Bldg. 1220

ANALYSIS: FORT MONMOUTH ENVIRONMENTAL LAB TPHC, %SOLIDS

2-5-99

Daniel Wright/Date Laboratory Director

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Section	Pages
Method Summary	1
Conformance/Non-Conformance	2
Chain of Custody	3
Results Summary	4
Initial Calibration Summary	5-10
Continuing Calibration Summary	11-12
Surrogate Results Summary	13
MS/MSD Results Summary	14
Blank Spike Summary	15
Raw Sample Data	16-29
Laboratory Deliverable Checklist	30
Laboratory Authentication Statement	31

Table of Contents

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Method Summary

NJDEP Method OQA-QAM-025-10/97

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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.

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

PHC Conformance/Non-conformance Summary Report

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Laboratory Manager

Indicate Yes, No, N/A 1. Method Detection Limits provided. <u>185</u> 2. Method Blank Contamination - If yes, list the sample and the NO corresponding concentrations in each blank. Matrix Spike Results Summary Meet Criteria 3. (If not met, list the sample and corresponding recovery which falls outside the acceptable range). 4. **Duplicate Results Summary Meet Criteria** (If not met, list the sample and corresponding recovery which falls outside the acceptable range). NA IR Spectra submitted for standards, blanks and samples. 5. -423 (423 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. 7. Analysis holding time met. (If not met, list number of days exceeded for each sample). ______ Additional comments: _____

2-5-45

Date



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: Charle	es Appleby	Project No:	IJO 99-00	78 UST (R	EM.)	Analysis Parameters				Comments:				
Phone #: X26224 (X)OMA FM0097F147 UST Remediation		Location: BUILDING 1220 UST#81533-184 CASE#98-06-12-0835-45		SCI 1		SOLIDS				Sturing	READINES	RUSH ASAP		
Samplers Name / Co	mpany : Tim Walker (SM)			Sample		TPHC	SOI						h RE	ASAT
Lab Sample I.D.	Sample Location	Date	Time	Туре	bottles	TP	%						\$-No	Remarks / Preservation Method
42,30.01	1220-7(15')	1-29-99	0825	SOIL		X	K						Ø	ILE.
02	1220-8(15')	<u> </u>	0820			X	K						0	
03	1220-9(15)		0815		1	K	K						0	
04	1220-10(16)	↓_ <i>↓</i>	0800		1	K	K						0	
d05	1220-11(15')	<u> </u>	0830		1	X	K						0	······································
d 04	1220-P2R(3')	+	1020	SOIL		K	K						0	· · · · · · · · · · · · · · · · · · ·
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Report Type: (_)Full,	Reduced, (_)Standard, (_)Scruderd, (_)Scrude	een / non-certif /s, ∯)ASAP V		rs.		Rema	rks: H- IQ	NJ C	ALIE	BUTYL	ON ENE	2EE0 (;581	545 = PM (= 0.0 PPM 9.8 SF4N
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Report of Analysis U.S. Army, Fort Monmouth Environmental Laboratory NJDEP Certification # 13461

Client :	U.S. Army	Lab. ID # :	4230
	DPW. SELFM-PW-EV	Date Rec'd:	29-Jan-99
	Bldg. 173	Analysis Start:	29-Jan-99
	Ft. Monmouth, NJ 07703	Analysis Complete:	01-Feb-99
Analysis:	0QA-QAM-025	UST Reg. #:	
-		•	
Matrix:	Soil	Closure #:	
Analyst:	D.DEINHARDT	DICAR #:	
Inst. ID.	GC TPHC INST. #1	Injection Volume	1 ul
Column Type	RTX 5	Column ID	0.32 um
Ext. Meth:	Shake	Location #:	Bldg. 1220

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4230.01	1220-7(15')	1.00	15.64	74.65	201	ND
4230.02	1220-8(15')	1.00	15.10	74.78	208	ND
4230.03	1220-9(15')	1.00	15.13	69.63	223	ND
4230.04	1220-10(16')	1.00	15.96	71.23	207	ND
4230.05	1220-11(15')	1.00	15.70	73.77	203	ND
4230.06	1220-PR2(3')	1.00	15.86	85.92	172	241.97
METHOD BLANK	TBLK 213	1.00	15.00	100.00	157	ND

ND = Not Detected

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Daniel K. Wright

Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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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	\leq
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	V
	boratory Manager or Environmental Consultant's Signature	
Lał	boratory 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.

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Daniel K. Wright Laboratory Manager



APPENDIX F

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GROUNDWATER ANALYTICAL DATA PACKAGE

FORT MONMOUTH ENVIRONMENTAL

TESTING LABORATORY

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



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

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Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
1220-A	5370.01	Aqueous	22-Apr-00 11:00	04/24/00

RIdg 1220A

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

ENCLOSURE: CHAIN OF CUSTODY RESULTS

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Daniel Wright/Date Laboratory Director

Section	Pages
Chain of Custody	1-2
Methodology Summary	3-4
Conformance/Non-Conformance Summary	5-7
Laboratory Chronicle	8-9
Volatile Organics Analytical Results Summary Tune Results Summary Method Blank Results Summary Calibration Summary Surrogate Recovery Summary MS/MSD Results Summary Internal Standard Area & RT Summary Chromatograms	10-11 12-15 16-21 22 23-44 45 46-47 48-49 50-53
Base Neutrals Analytical Results Summary Tune Results Summary Method Blank Results Summary Calibration Summary Surrogate Recovery Summary MS/MSD Results Summary Internal Standard Area & RT Summary Chromatograms	54 55-60 61-66 67 68-71 72 73-76 77-80 81-89

Table of Contents

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Fort Monmouth Environmental Testing Laboratory

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

NJDEP Certification #13461

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

Chain of Custody Record

Customer: lettel **Analysis Parameters** Comments: Project No: Location: 1220A Phone #: HCL/LY°C)DERA ()OMA ()Other: Х 5 /си 4 B/N oren McCormack VS Samplers Name / Company: # Sample Remarks / Preservation Method Lab Sample I.D. Sample Location Date Time Type bottles 5.370. .01 AQ 3,0 4/22/00 1220A-1 3 1100 1 Relinquished by (signature): Date/Time: Received by (signature): Relinquished by (signature): Date/Time: Received by (signature): 4/200 730 Date/Time: Received by (signature): Relinquished by (signature): Relinquished by (signature): Date/Time: Received by (signature): Shares Trip/FB/Dype from 875 Some dute. D. Com Report Type: ()Full, ()Reduced, ()Standard, ()Screen / non-certified, ()EDD Remarks: Turnaround time: WStandard 3 wks, ()Rush Days, ()ASAP Verbal Hrs.

METHODOLOGY SUMMARY

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Methodology Summary

EPA Method 624 Gas Chromatographic Determination of Volatiles in Water

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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.

LABORATORY CHRONICLE

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Laboratory Chronicle

Lab ID: 5370

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Site: Bldg. 876

	Date	Hold Time
Date Sampled	04/22/00	NA
Receipt/Refrigeration	04/22,24/00*	NA
Extractions		
1. Base Neutral	04/26/00	14 days
Analyses		
 Volatile Organics Base Neutral 	04/26,27/00 04/27/00	14 days 40 days

• Samples collected and refrigerated on 04/22/00, Laboratory received the sample on Monday 04/24/00.

CONFORMANCE NON-CONFORMANCE SUMMARY

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

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

c. Acid Fraction NA

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

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 10. Internal Standard Area/Retention Time Shift Meet Criteria (If not met, list those compounds, which fall outside the acceptable range) a. VOA Fraction b. B/N Fraction c. Acid Fraction DA. 11. Extraction Holding Time Met If not met, list number of days exceeded for each sample:	yes
If not met, list number of days exceeded for each sample:	
12. Analysis Holding Time Met	<u>yes</u>
If not met, list number of days exceeded for each sample:	<u>ycs</u>
Additional Comments:	

VOLATILES ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY NJDEP CERTIFICATION # 13461

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Definition of Qualifiers

MDL : Method Detection Limit

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J : Compound Identified Below Detection Limit

B : Compound is in Both Sample and Blank

D : Results are from a Dilution of the Sample

: Compound Searched for but not Detected

E : Compound Exceeds Calibration Limit

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

Data File	VC003143.D	Sample Name	Vblk80
Operator	Skelton	Field ID	Vblk80
Date Aquired	26-Apr-00	Multiplier	1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualif
07028	Acrolein			not detected	50	1.85 ug/L	
07131	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	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride		1	not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	1
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
156594	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	1
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
78-87-5	1,2-Dichloropropane		1	not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene		· · · · · · · · · · · · · · · · · · ·	not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	1
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	1
591-78-6	2-Hexanone		- <u> </u>	not detected	nle	0.71 ug/L	1
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		- <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	+
<u>541-73-1</u>	1,3-Dichlorobenzene		+	not detected	600	0.47 ug/L 0.55 ug/L	+
106-46-7	1.4-Dichlorobenzene		+	not detected	75	0.55 ug/L 0.57 ug/L	+
					600		
95-50-1	1,2-Dichlorobenzene	+TT'.1		not detected Water Quality Criteria as p		0.64 ug/L	<u> </u>

Qualifiers

B = Compound found in related blank

E = Value above linear range

D = Value from dilution

PQL = Practical Quantitation Limit

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

Page 1 of 1

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5/3/00 11:16 AM 000012

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	VOLATILE ORGANICS A	NALYSIS DATA SHEET	FIE	ELD ID:	
	TENTATIVELY IDENT	IFIED COMPOUNDS		Vblk8	0
Lab Name: FMETL	•	NJDEP#: <u>13461</u>			
Project: UST	Case No.: 5370	Location: 12204		lo.:	
Matrix: (soil/water)	WATER	Lab Sample	D: <u>Vblk</u>	80	
Sample wt/vol:	5.0 (g/ml) <u>ML</u>	Lab File ID:	VC0	03143.D	
Level: (low/med)	LOW	Date Receiv	ved: <u>4/24</u>	/00	
% Moisture: not dec.		Date Analyz	zed: <u>4/26</u>	/00	
GC Column: RTX5	502. ID: <u>0.25</u> (mm)	Dilution Fac	tor: <u>1.0</u>		
Soil Extract Volume:	(uL)	Soil Aliquot	Volume:		(uL)
		CONCENTRATION UN (ug/L or ug/Kg) UG			
Number TICs found:	0				
CAS NO.	COMPOUND NAME	RT	EST. C	ONC.	Q

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

Data File	VC003170.D	Sample Name	5370.01
Operator	Skelton	Field ID	1220A-1
Date Aquired	27-Apr-00	Multiplier	1

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CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifie
107028	Acrolein			not detected	50	1.85 ug/L	1
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	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane	•		not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
156594	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	1
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1 1	0.23 ug/L	1
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	1
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	1
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		h	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	1
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	1
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	1
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	1
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	1
108-90-7	Chlorobenzene		1	not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene	······································		not detected	700	0.65 ug/L	1
1330-20-7	m+p-Xylenes	······································	1	not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	1
100-42-5	Styrene		1	not detected	100	0.56 ug/L	+
75-25-2	Bromoform		1	not detected	4	0.70 ug/L	+
79-34-5	1,1,2,2-Tetrachloroethane		1	not detected	2	0.47 ug/L	1
541-73-1	1,3-Dichlorobenzene	33.08	57081	1.03 ug/L	600	0.55 ug/L	+
	1,4-Dichlorobenzene	33.08	57081	1.02 ug/L	75	0.57 ug/L	1
106-46-7							

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C., 7:9-6 2-Sept 97

Qualifiers

B = Compound found in related blank

E = Value above linear range

D = Value from dilution

PQL = Practical Quantitation Limit

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

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	١	/OLATILE (ORGANICS A	ANALYSIS DA ⁻	TA SHEET		FIELD ID:	
		TENTAT	IVELY IDEN		DUNDS		4000 A	
Lab Name:	FMETL			NJDEP#	#: <u>13461</u>		1220A-'	1
Project:	UST	Ca	se No.: 537) Locat	ion: <u>1220A</u>	SI	DG No.:	
Matrix: (soil/	water)	WATER	_	· L	.ab Sample	ID:	5369.01	<u>_</u>
Sample wt/ve	ol:	5.0	(g/ml) ML	l	ab File ID:		VC003169.D	
Level: (low/r	ned)	LOW		[Date Receiv	ved:	4/24/00	
% Moisture:	not dec.			[Date Analyz	ed:	4/27/00	
GC Column:	RTX5	<u>02.</u> ID: <u>0</u> .	25 (mm)	Ĩ	Dilution Fac	tor:	1.0	
Soil Extract	Volume:		(uL)	\$	Soil Aliquot	Volu	me:	(uL)
				CONCENTR				
Number TIC:	s found:	0		(ug/L or ug/K	(g) <u>UG</u>	/L		
CAS NO.		COMPO	JND NAME		RT	ES	ST. CONC.	Q

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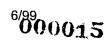
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BASE NEUTRAL

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Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	BNA03856.I
Operator	Bhaskar
Date Acquired	27-Apr-00

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Sample Name Misc Info Sample Multiplier Sblk365 Sblk365 A 000426 1

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

Semi-Volatile Analysis Report Page 2

Data File Name	BNA03856.D	Sample Name	Sblk365
Operator	Bhaskar	Misc Info	Sblk365 A 000426
Date Acquired	27-Apr-00	Sample Multiplier	1

Regulatory Level (ug/L)* CAS# R.T. Result MDL Name Response Qualifiers 92-87-5 Benzidine 4.18 ug/L 50 not detected 129-00-0 Pyrene 1.25 ug/L not detected 200 85-68-7 Butylbenzylphthalate 100 1.05 ug/L not detected 1.19 ug/L 56-55-3 Benzo[a]anthracene not detected 10 91-94-1 3,3'-Dichlorobenzidine 60 1.75 ug/L not detected Chrysene 1.38 218-01-9 20 ug/L not detected 1<u>17-81-7</u> bis(2-Ethylhexyl)phthalate 30 1.74 ug/L not detected 1<u>17-84-0</u> Di-n-octylphthalate 100 1.44 ug/L not detected 205-99-2 Benzo[b]fluoranthene 1.25 ug/L not detected 10 1.29 ug/L 207-08-9 Benzo[k]fluoranthene not detected 2 50-32-8 Benzo[a]pyrene 20 1.05 ug/L not detected 193-39-5 20 0.83 ug/L Indeno[1,2,3-cd]pyrene not detected 53-70-3 Dibenz[a,h]anthracene not detected 20 0.64 ug/L 191-24-2 NLE 0.84 ug/L Benzo[g,h,i]perylene not detected

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

<u>Qualifiers</u>

E= Value Exceeds Linear Range D= Value from dilution

B= Compound in Related Blank

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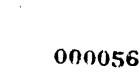
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Г 1 і....а PQL= Practical Quantitation Limit

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

Page 2 of 2



			1F					
	SEI	MIVOLATI	LE ORGANICS	ANALYSIS [DATA SH	EET	FIELD ID	
		TENTA	TIVELY IDENTI	FIED COMP	OUNDS		Sblk3	65
Lab Name:	FMETL			Lab Coo	le <u>1346</u> 1			
Project	100004	C	ase No.: 5370	Locat	ion <u>122</u>	0A_ S	DG No.:	
Matrix: (soil/	water)	WATER		ŧ	ab Samp	ole ID:	Sblk365	
Sample wt/v	ol:	1000	(g/ml) <u>ML</u>	1	ab File II	D:	BNA03856.D)
Level: (low/	med)	LOW		[Date Reco	eived:	4/24/00	
% Moisture:		de	canted: (Y/N) _	<u>N</u> [Date Extra	acted:	4/26/00	
Concentrate	d Extract	Volume:	<u>1000</u> (uL)	I	Date Anal	yzed:	4/27/00	
Injection Vol	ume: <u>1</u> .	0 (uL)		ſ	Dilution Fa	actor:	1.0	
GPC Cleanu	ıp: (Y/N)	N	pH: <u>7</u>					
				CONCE	NTRATIO		TS:	
Number TIC	s found:	0		(ug/L or	ug/Kg)	UG/	Ľ	
CAS NUM	BER	COMPC			RT	ES	ST. CONC.	Q

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Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	BNA03862.D	Sample Name	5370.01
Operator	Bhaskar	Misc Info	1220A-1
Date Acquired	27-Apr-00	Sample Multiplier	1

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CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	0
110-86-1	Pyridine			not detected	NLE	1.83 u	<u>Qualifi</u>
<u>62-75-9</u>	N-nitroso-dimethylamine			not detected	20	0.91 u	
62-53-3	Aniline		<u> </u>	not detected	NLE	<u>0.51 u</u> 1.63 u	
<u>111-44-4</u>	bis(2-Chloroethyl)ether	<u> </u>		not detected	10	1.05 u	
541-73-1	1,3-Dichlorobenzene		·····	not detected	600	1.20 u	
106-46-7	1,4-Dichlorobenzene			not detected	75	1.19 u	
100-51-6	Benzyl alcohol			not detected	NLE	1.02 u	
95-50-1	1,2-Dichlorobenzene			not detected	600	1.13 u	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	1.39 u	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.80 u	
67-72-1	Hexachloroethane			not detected	10	1.50 u	
98-95-3	Nitrobenzene			not detected	10		g/L
78-59-1	Isophorone			not detected	100		g/L
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.21 u	g/L
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.22 u	
91-20-3	Naphthalene			not detected	NLE	1.27 u	g/L
106-47-8	4-Chloroaniline			not detected	NLE	1.09 u	g/L
87-68-3	Hexachlorobutadiene			not detected	1	0.71 u	g/L
91-57-6	2-Methylnaphthalene			not detected	NLE	1.08 u	g/L
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.32 u	g/L
91-58-7	2-Chloronaphthalene			not detected	NLE	1.01 u	g/L
88-74-4	2-Nitroaniline			not detected	NLE	0.96 u	g/L
131-11-3	Dimethylphthalate			not detected	7000	1.52 u	g/L
208-96-8	Acenaphthylene			not detected	NLE	0.96 u	g/L
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.81 u	g/L
9 <u>9-09-2</u>	3-Nitroaniline			not detected	NLE	0.79 u	g/L
<u>83-32-9</u>	Acenaphthene			not detected	400	1.10 u	g/L
132-64-9	Dibenzofuran			not detected	NLE	1.00 u	g/L
121-14-2	2,4-Dinitrotoluene			not detected	10	0.87 u	g/L
84-66-2	Diethylphthalate			not detected	5000	1.62 u	g/L
86-73-7	Fluorene			not detected	300	0.99 u	g/L
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.10 u	g/L
100-01-6	4-Nitroaniline			not detected	NLE	1.05 u	g/L
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.01 u	g/L
103-33-3	Azobenzene			not detected	NLE	0.67 u	g/L
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.76 u	g/L
118-74-1	Hexachlorobenzene			not detected	10	0.94 u	g/L
85-01-8	Phenanthrene			not detected	NLE	<u> </u>	g/L
120-12-7	Anthracene			not detected	2000	1.12 u	g/L
84-74-2	Di-n-butylphthalate	_		not detected	900	1.70 u	g/L
206-44-0	Fluoranthene			not detected	300	<u>1.64</u> u	9/L

Page 1 of 2

Semi-Volatile Analysis Report Page 2

Data File Name	BNA03862.D	Sample Name	5370.01
Operator	Bhaskar	Misc Info	1220A-1
Date Acquired	27-Apr-00	Sample Multiplier	1

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CAS#	Name	<u>R.T.</u>	Response	Result	Level (ug/L)*	MDL_		Qualifier
92-87-5	Benzidine			not detected	50	4.18	ug/L	
129-00-0	Pyrene			not detected	200	1.25	ug/L	
<u>85-68-7</u>	Butylbenzylphthalate			not detected	100	1.05	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.19	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	1.75	ug/L	
218-01-9	Chrysene			not detected	20	1.38	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	1.74	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.44	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.25	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.29	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.05	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene		_	not detected	20	_0.83	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	0.64	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	0.84	ug/L	

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

<u>Qualifiers</u>

E= Value Exceeds Linear Range D= Value from dilution B= Compound in Related Blank

PQL= Practical Quantitation Limit

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

Page 2 of 2

			1F						
	FIELD ID								
		1220A-1							
Lab Name:	FMETL			Lab Cod	Lab Code 13461			\- !	
Project	100004	Ca	se No.: <u>5370</u>	Location 1220-A SD			G No.:		
Matrix: (soil/v	water)	WATER	_	i	.ab Samp	le ID:	5370.01		
Sample wt/vol:		1000	(g/ml) ML	Lab File ID:			BNA03862.D		
Levei: (low/med)		LOW	_	l	Date Rece	ived:	4/24/00		
% Moisture:		dec	anted: (Y/N)	<u>N</u> I	Date Extra	cted:	4/26/00		
Concentrated	Date Analyzed:			4/27/00					
Injection Volu	ume: <u>1.(</u>) (uL)		I	Dilution Fa	ctor:	1.0		
GPC Cleanu	p: (Y/N)	<u>N</u>	рН: 7						
				CONCE	NTRATIO	S:			
Number TICs	(ug/L or ug/Kg) UG/L								
CAS NUME	BER	COMPO			RT	ES	T. CONC.	Q	

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LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted 2. Table of Contents submitted Summary Sheets listing analytical results for all targeted and non-targeted 3. compounds submitted 4. Document paginated and legible Chain of Custody submitted 5. Samples submitted to lab within 48 hours of sample collection 6. 7. Methodology Summary submitted Laboratory Chronicle and Holding Time Check submitted 9. Results submitted on a dry weight basis 10. Method Detection Limits submitted 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP Laboratory Manager or Environmental Consultant's Signature Date 514100 Laboratory Certification #13461

8

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

Laboratory Authentication Statement

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

Daniel K. Wright Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL

TESTING LABORATORY

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



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

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Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
Trip Blank	5426.01	Aqueous	22-May-00	05/22/00
Field Blank	5426.02	Aqueous	22-May-00 09:50	05/22/00
1220.1-14-18'	5426.03	Aqueous	22-May-00 1015	05/22/00

Bldg. 1220

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

ENCLOSURE: CHAIN OF CUSTODY RESULTS

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6-8-22 Daniel Wright/Date

Laboratory Director

Table of Contents

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Section	Pages
Chain of Custody	1-2
Methodology Summary	3-4
Conformance/Non-Conformance Summary	5-7
Laboratory Chronicle	8-9
Volatile Organics	10-11
Analytical Results Summary	12-19
Tune Results Summary	20-23
Method Blank Results Summary	24
Calibration Summary	25-26
Surrogate Recovery Summary	27
MS/MSD Results Summary	28-29
Internal Standard Area & RT Summary	30
Chromatograms	31-38
Base Neutrals	39
Analytical Results Summary	40-48
Tune Results Summary	449-54
Method Blank Results Summary	55
Calibration Summary	56-61
Surrogate Recovery Summary	62
MS/MSD Results Summary	63-64
Internal Standard Area & RT Summary	65-68
Chromatograms	69-80
Laboratory Deliverables Checklist	81
Laboratory Authentication Statement	82

CHAIN OF CUSTODY

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Fort Monmouth Environmental Testing Laboratory

Cu	tomer: D		DES,	A i	Project No:	00.00	out				Ana	lysis .	Param	eters			Comments:
Phor					Location: 7		-		V	B							
)D	RA (HOMA	()Other	*					0 A	N							
San	plers Name / C	om	pany:	MARK LAUR	A- TV5-1	PWS 07	Sample	#	A +	+							
_	ib Sample LD.	1	Sar	mple Location	Date	Time	Туре	bottles	15	15							Remarks / Preservation Method
52	26	<u>'</u>	TRIP	BLANK	5.22.00		AQ.	2	×				ļ	ļ			HCL
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Page ____ of ____

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METHODOLOGY SUMMARY



Methodology Summary

EPA Method 624 Gas Chromatographic Determination of Volatiles in Water

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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.

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CONFORMANCE NON-CONFORMANCE SUMMARY

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GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

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

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	Indicat Yes, No, N/A
 10. Internal Standard Area/Retention Time Shift Meet Criteria (If not met, list those compounds, which fall outside the acceptable range) a. VOA Fraction b. B/N Fraction c. Acid Fraction 	
 Extraction Holding Time Met If not met, list number of days exceeded for each sample:	tes
12. Analysis Holding Time Met If not met, list number of days exceeded for each sample:	Yes
Additional Comments:	
Laboratory Manager : Date: 6-8-22	

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LABORATORY CHRONICLE

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Laboratory Chronicle

Lab ID: 5426

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 Site: Bldg. 1220

	Date	Hold Time
Date Sampled	05/22/00	NA
Receipt/Refrigeration	05/22/00	NA
Extractions		
1. Base Neutral	05/24/00	14 days
Analyses		
 Volatile Organics Base Neutral 	05/24/00 05/26/00	14 days 40 days

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VOLATILES ORGANICS

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US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY NJDEP CERTIFICATION # 13461

Definition of Qualifiers

MDL : Method Detection Limit

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J : Compound Identified Below Detection Limit

B : Compound is in Both Sample and Blank

D : Results are from a Dilution of the Sample

U : Compound Searched for but not Detected

E : Compound Exceeds Calibration Limit

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

Data File	VB006952.D	Sample Name	Vblk212
Operator	Skelton	Field ID	Vblk212
Date Acquired	24 May 2000 1:29 pm	Sample Multiplier	10

CAS#	Compound Name	<u>R.T</u> .	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	18.50 ug/L	
107131	Acrylonitrile			not detected	50	27.80 ug/L	
75650	tert-Butyl alcohol			not detected	nle	85.20 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	. 70	1.60 ug/L	
108203	Di-isopropyl ether			not detected	nle	2.50 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	16.80 ug/L	
74-87-3	Chloromethane			not detected	30	11.60 ug/L	
75-01-4	Vinyl Chloride			not detected	5	10.60 ug/L	
74-83-9	Bromomethane			not detected	10	11.00 ug/L	
75-00-3	Chloroethane			not detected	nle	10.10 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	5.00 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	2.40 ug/L	
67-64-1	Acetone			not detected	700	13.60 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	4.60 ug/L	
75-09-2_	Methylene Chloride			not detected	2	2.40 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	1.60 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	1.20 ug/L	1
108-05-4	Vinyl Acetate			not detected	nle	7.80 ug/L	
78-93-3	2-Butanone			not detected	300	6.20 ug/L	
156-59-4	cis-1.2-Dichloroethene			not detected	10	1.70 ug/L	
67-66-3	Chloroform			not detected	6	3.00 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	2.30 ug/L	T
56-23-5	Carbon Tetrachloride			not detected	2	4.70 ug/L	
71-43-2	Benzene			not detected	1	2.30 ug/L	Ĩ
107-06-2	1,2-Dichloroethane			not detected	2	1.80 ug/L	
79-01-6	Trichloroethene			not detected	1	2.30 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	4.00 ug/L	
75-27-4	Bromodichloromethane			not detected	1	5.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	6.50 ug/L	1
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	6.90 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	5.90 ug/L	
108-88-3	Toluene			not detected	1000	3.70 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	8.70 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	4.80 ug/L	
127-18-4	Tetrachloroethene			not detected	1	3.20 ug/L	
591-78-6	2-Hexanone			not detected	nle	7.10 ug/L	· · · · ·
126-48-1	Dibromochloromethane		· ·	not detected	10	8.60 ug/L	
108-90-7	Chlorobenzene		[not detected	4	3.90 ug/L	
100-41-4	Ethylbenzene			not detected	700	6.50 ug/L	1
1330-20-7	m+p-Xylenes			not detected	nle	11.40 ug/L	
1330-20-7	o-Xylene			not detected	nle	6.20 ug/L	
100-42-5	Styrene			not detected	100	5.60 ug/L	1
75-25-2	Bromoform			not detected	4	7.00 ug/L	<u> </u>
79-34-5	1,1,2,2-Tetrachloroethane			_not detected	2	4.70 ug/L	1
541-73-1	1.3-Dichlorobenzene		1	not detected	600	5.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	5.70 ug/L	T
95-50-1	1,2-Dichlorobenzene	[not detected	600	6.40 ug/L	1

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

Qualifiers

B = Compound found in related blank

E = Value above linear range

D = Value from dilution

PQL = Practical Quantitation Limit

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

Page 1 of 1



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	•	VOLATILE O	RGANICS	ANALYSIS DA	TA SHEET	-	Lab ID.	
		TENTATI	VELY IDEN	TIFIED COMP	OUNDS			
Lab Name:	FMETL			Project:	000004	۱ <u>.</u>	Vblk21	2
NJDEP#:	13461	Cas	e No.: <u>542</u>	6 Locat	ion: <u>1220</u>	S	DG No.:	
Matrix: (soil/v	water)	WATER		l	Lab Sampl	e ID:	Vblk212	·····
Sample wt/vo	ol:	5.0	(g/ml) <u>ML</u>	I	ab File ID	:	VB006952.D	
Level: (low/r	ned)	LOW		I	Date Recei	ved:	5/22/00	
% Moisture:	not dec.			I	Date Analy	zed:	5/24/00	
GC Column:	RTX5	02. ID: <u>0.2</u>	5 (mm)	I	Dilution Fa	ctor:	1.0	
Soil Extract \	/olume:	<u></u>	_ (uL)		Soil Aliquot	t Volu	me:	(uL)
				CONCENTR (ug/L or ug/k				
Number TICs	s found:	0	·		<i></i>		<u></u>	
CAS NO.		COMPOU	ND NAME		RT	ES	T. CONC.	Q

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

VB006962.D Data File Sample Name Skelton Operator Field ID Date Acquired 24 May 2000 8:35 pm Sample Multiplier

5426.01 **Trip Blank** 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nie	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1.1-Dichloroethene			not detected	2	0.24 ug/L	<u> </u>
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	l		not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
156-59-4	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene		1	not detected	1	0.23 ug/L	
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	
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	1
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	ř
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane	<u> </u>	1	not detected	10	0.86 ug/L	1
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	пle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane	I		not detected	2	0.47 ug/L	1
541-73-1	1,3-Dichlorobenzene		1	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	T

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

Qualifiers

B = Compound found in related blank

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- E = Value above linear range
- D = Value from dilution

PQL = Practical Quantitation Limit

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

Page 1 of 1

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	•	VOLATILE	ORGANI	CS ANAL	YSIS DAT	A SHEET		Lab ID.	
		TENTAT	IVELY IC	DENTIFIE	D COMPC	OUNDS			.]
Lab Name:	FMETL				Project:	000004		Trip Blar	1К
NJDEP#:	13461	Ca	se No.:	5426	Locati	on: <u>1220</u>	SI	DG No.:	
Matrix: (soil/	water)	WATER	_		L	ab Sample	ID:	5426.01	
Sample wt/vo	ol:	5.0	(g/ml)	ML	_ · L	ab File ID:		VB006962.D	-
Level: (low/r	ned)	LOW	_		D	ate Receiv	/ed:	5/22/00	_
% Moisture:	not dec.	<u> </u>			D	ate Analyz	ed:	5/24/00	<u> </u>
GC Column:	RTX5	<u>02.</u> ID: <u>0.</u>	<u>25</u> (m	nm)	D	ilution Fac	tor:	1.0	- .
Soil Extract \	Volume:		(uL)		S	oil Aliquot	Volu	me:	_ (uL)
Number TIC:	s found:	0			NCENTRA /L or ug/Ko	ATION UNI 3) UG/			
CAS NO.		COMPO	JND NAI	ME		RT	ES	T. CONC.	Q

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

Data File	VB006963.D	Sample Name	5426.02
Operator	Skelton	Field ID	Field Blank
Date Acquired	24 May 2000 9:15 pm	Sample Multiplier	1

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

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

Qualifiers

B = Compound found in related blank

E = Value above linear range

 $\mathbf{D} = \mathbf{Value}$ from dilution

PQL = Practical Quantitation Limit

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

Page 1 of 1

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	VOLATILE ORGANICS	ANALYSIS DATA SHE	ET Lab ID.	
	TENTATIVELY IDEN	FIFIED COMPOUNDS		
Lab Name: FME	TL	Project: 0000	004 Field B	llank
NJDEP#: <u>1346</u>	61 Case No.: 542	Location: <u>12</u>	20 SDG No.:	
Matrix: (soil/water)	WATER	Lab Sam	nple ID: <u>5426.02</u>	
Sample wt/vol:	5.0 (g/ml) <u>ML</u>	Lab File	ID: VB006963.D)
Level: (low/med)	LOW	Date Re	ceived: <u>5/22/00</u>	
% Moisture: not de	ec.	Date An	alyzed: <u>5/24/00</u>	
GC Column: RT	X502. ID: 0.25 (mm)	Dilution	Factor: 1.0	
Soil Extract Volum	ne: (uL)	Soil Aliq	uot Volume:	(uL)
Number TICs four	nd:	CONCENTRATION (ug/L or ug/Kg)	UNITS: UG/L	
CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File	VB006964.D	Sample Name	5426.03
Operator	Skelton	Field ID	1220-1
Date Acquired	24 May 2000 9:55 pm	Sample Multiplier	1

CAS#	Compound Name	<u>R.T.</u>	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifie
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
<u>75-0</u> 0-3	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	
75-34-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	1
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	†
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
156-59-4	cis-1.2-Dichloroethene			not detected	10	0.17 ug/L	r
67-66-3	Chloroform	16.44	75226	2.91 ug/L	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	f
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	1
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	1
110-75-8	2-Chloroethyl vinyl ether	<u> </u>		not detected	nle	0.65 ug/L	t
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	<u>† </u>
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	<u>†</u>
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	<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	<u> </u>
126-48-1	Dibromochloromethane	├─── 		not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	1
100-41-4	Ethylbenzene	h		not detected	700	0.65 ug/L	<u> </u>
	m+p-Xylenes			not detected	nle	1.14 ug/L	
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	[
79-34-5	1,1,2,2-Tetrachloroethane	<u> </u>		not detected	2	0.47 ug/L	1
541-73-1	1.3-Dichlorobenzene	†		not detected	600	0.47 ug/L 0.55 ug/L	t
106-46-7	1,4-Dichlorobenzene	<u>├</u> ──┤		not detected		0.55 ug/L 0.57 ug/L	<u> </u>
100-40-7	1,4-Dictitorobenzene			not detected	75		

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

Qualifiers

B = Compound found in related blank

E = Value above linear range

D = Value from dilution

PQL = Practical Quantitation Limit

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

Page 1 of 1

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	l N	OLATILE (ORGANICS /	ANALYSIS DAT	A SHEET		Lab ID.	
		TENTAT	IVELY IDEN	TIFIED COMPC	UNDS		1000	
Lab Name:	FMETL			Project:	000004		1220-	1
NJDEP#:	13461	Ca	se No.: 542	6 Locati	on: <u>1220</u>	S	DG No.:	
Matrix: (soil/v	vater)	WATER	_	L	ab Sample	D:	5426.03	
Sample wt/vo	ol:	5.0	(g/mi) <u>ML</u>	L	ab File ID:		VB006964.D	
Level: (low/n	ned)	LOW		D	ate Receiv	ved:	5/22/00	
% Moisture: r	not dec.		·	D	ate Analyz	zed:	5/24/00	
GC Column:	RTX50	02. ID: <u>0</u> .	25 (mm)	D	ilution Fac	tor:	1.0	
Soil Extract V	/olume:		(uL)	S	oil Aliquot	Volu	me:	(uL)
				CONCENTRA	ATION UN	ITS:		
Number TICs	s found:	0		(ug/L or ug/K୍	g) <u>UG</u>	/L		
CAS NO.	ĺ	COMPOL	JND NAME		RT	ES	ST. CONC.	Q

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Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	BN04379.D	Sample Name	Sblk374
Operator	Bhaskar	Misc Info	Sblk374 A 000524
Date Acquired	26-May-00	Sample Multiplier	1

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CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifia
110-86-1	Pyridine	<u> </u>	Kesponse	not detected	NLE	1.83	лаЛ	<u>Qualifier</u>
62-75-9	N-nitroso-dimethylamine			not detected	20	0.91		<u> </u>
62-53-3	Aniline			not detected	NLE	1.63		
111-44-4	bis(2-Chloroethyl)ether			not detected	10	1.05		·
541-73-1	1,3-Dichlorobenzene		······	not detected	600	1.20		<u> </u>
106-46-7	1,4-Dichlorobenzene		·····	not detected	75	1.19		├───
100-51-6	Benzyl alcohol			not detected	NLE	1.02		
95-50-1	1,2-Dichlorobenzene			not detected	600	1.13		
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	1.39		
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.80		<u> </u>
67-72-1	Hexachloroethane		· · · · · · · · · · · · · · · · · · ·	not detected	10	1.50		
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	1.22		
91-20-3	Naphthalene			not detected	NLE	1.27		
106-47-8	4-Chloroaniline			not detected	NLE	1.09		
87-68-3	Hexachlorobutadiene			not detected	1		ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	1.08		
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.32		
91-58-7	2-Chloronaphthalene			not detected	NLE	1.01		
88-74-4	2-Nitroaniline			not detected	NLE	0.79	ug/L	
131-11-3	Dimethylphthalate			not_detected	7000	1.52	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.96	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.81	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.79	ug/L	
83-32-9	Acenaphthene			not detected	400	1.10	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	1.00	ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	0.87	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.62	ug/L	
86-73-7	Fluorene			not detected	300	0.99	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.10	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	1.05	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.01	ug/L	
103-33-3	Azobenzene			not detected	NLE	0.67	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.76	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	0.94	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.23	ug/L	
120-12-7	Anthracene			not detected	2000	1.12		
84-74-2	Di-n-butylphthalate			not detected	900	1.70	ug/L	
206-44-0	Fluoranthene			not detected	300	1.64		

Page 1 of 2

Semi-Volatile Analysis Report Page 2

Data File Name	BN04379.D	Sample Name	Sblk374
Operator	Bhaskar	Misc Info	Sblk374 A 000524
Date Acquired	26-May-00	Sample Multiplier	1

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

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

<u>Qualifiers</u>

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

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

Page 2 of 2

			1F					
	SEM	IVOLATILE (ORGANICS AN	ALYSIS [DATA SHEE	Т	Field ID:	
		TENTATIV	ELY IDENTIFIE	ED COMP	OUNDS		0	- 4
Lab Name: F	METL			_ Lab Coo	de <u>13461</u>		Sblk3	/4
Project: 0	00004	Case	No.: <u>5426</u>	Locat	ion: <u>Bl.122</u>	<u>o</u> sdo	G No:	
Matrix: (soil/wa	ater)	WATER		i	_ab Sample	ID: S	blk374	
Sample wt/vol:		1000	(g/ml) ML	i	_ab File ID:	E	N04379.D	
Level: (low/me	ed)	LOW		ſ	Date Receiv	ed: <u>5</u>	/22/00	
% Moisture:		decan	ted: (Y/N)	<u>N</u>	Date Extract	ed: 5	/24/00	
Concentrated E	Extract \	/olume: <u>10</u>	00 (uL)	I	Date Analyz	ed: 5	/26/00	
Injection Volum	ne: <u>1.0</u>	(uL)		l	Dilution Fact	tor: <u>1</u>	.0	
GPC Cleanup:	(Y/N)	N pł	ł:					
Number TICs f	ound:	0				UNITS UG/L	S:	
		<u> </u>		(ug/L or				
CAS NUMBE	R	COMPOUN	D NAME		RT	EST	. CONC.	Q

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Semi-Volatile Analysis Report U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	BN04386.D	Sample Name	5426.02
Operator	Bhaskar	Misc Info	Field Blank
Date Acquired	26-May-00	Sample Multiplier	1

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CAS#	Nome	R.T.	Decremes	Decryld	Regulatory Level (ug/L)*	MDI		0 110
	Name Pyridine	<u></u>	Response	Result		MDL	~	Qualifie
110-86-1		┼╌╌╢		not detected	NLE	1.83		
<u>62-75-9</u>	N-nitroso-dimethylamine	+	· · · · · · · · · · · · · · · · · · ·	not detected	20	0.91		
62-53-3	Aniline		· · · · · · · · · · · · · · · · · · ·	not detected	NLE	1.63		
<u>111-44-4</u> 541-73-1	bis(2-Chloroethyl)ether 1,3-Dichlorobenzene		· · · · · · · · · · · · · · · · · · ·	not detected	10 600	1.28		
				not detected		1.21		
<u>106-46-7</u> 100-51-6	1,4-Dichlorobenzene		····	not detected	<u>75</u>	<u>1.19</u> 1.02		<u> </u>
95-50-1	Benzyl alcohol		··	not detected	NLE			
	1,2-Dichlorobenzene			not detected	600	1.13		<u> </u>
<u>39638-32-9</u>	bis(2-chloroisopropyl)ether			not detected	300	1.39		
<u>621-64-7</u>	n-Nitroso-di-n-propylamine			not detected	20	0.80		
<u>67-72-1</u> 98-95-3	Hexachloroethane Nitrobenzene			not detected	10	<u> </u>		
<u>98-95-3</u> 78-59-1	Isophorone			not detected not detected	10 100	<u> </u>		
						1.01		
<u>111-91-1</u>	bis(2-Chloroethoxy)methane			not detected	NLE 9			<u> </u>
<u>120-82-1</u> 91-20-3	Naphthalene			not_detected	y NLE		ug/L	
<u>91-20-3</u> 106-47-8	4-Chloroaniline			not detected		<u> </u>		
87-68-3	Hexachlorobutadiene			not detected not detected	NLE 1	0.71		
<u>87-08-5</u> 91-57-6	2-Methylnaphthalene			not detected	NLE		ug/L ug/L	
91-37-0 77-47-4	Hexachlorocyclopentadiene	-		not detected	50	1.32		
91-58-7	2-Chloronaphthalene			not detected	NLE	1.52		
88-74-4	2-Nitroaniline			not detected	NLE	0.79		
131-11-3	Dimethylphthalate			not detected	7000	1.52		
208-96-8	Acenaphthylene			not detected	NLE	0.96		<u> </u>
<u>208-90-8</u>	2,6-Dinitrotoluene	+		not detected	NLE	0.96		
<u>99-09-2</u>	3-Nitroaniline			not detected	NLE	0.79		
83-32-9	Acenaphthene			not detected	400	1.10		
132-64-9	Dibenzofuran			not detected	NLE		ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	0.87		<u>├</u> ──
84-66-2	Diethylphthalate	-		not detected	5000	1.62		
86-73-7	Fluorene			not detected	300	0.99		
7005-72-3	4-Chlorophenyl-phenylether	+	<u> </u>	not detected	NLE	1.10		-
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	1		not detected	NLE		ug/L ug/L	
101- <u>33-3</u> 118-74-1	Hexachlorobenzene		· · · · · · ·	not detected	10		ug/L ug/L	<u> </u>
85-01-8	Phenanthrene			not detected	NLE		ug/L ug/L	
	Anthracene				NLE 2000			
<u>120-12-7</u>		-		not detected			ug/L ug/L	<u> </u>
84-74-2 206-44-0	Di-n-butylphthalate Fluoranthene		····	not detected	900	1.70	ug/L	

Page 1 of 2

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Semi-Volatile Analysis Report Page 2

Data File Name	BN04386.D	Sample Name	
Operator	Bhaskar	Misc Info	
Date Acquired	26-May-00	Sample Multiplier	

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Field Blank

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifie
92-87-5	Benzidine			not detected	50	4.18	
129-00-0	Pyrene			not detected	200	1.25	ıg/L
85-68-7	Butylbenzylphthalate			not detected	100	1.05	_
56-55-3	Benzo[a]anthracene			not_detected	10	1.19	ıg/L
91-94-1	3,3'-Dichlorobenzidine			not detected	60	1.75	ıg/L
218-01-9	Chrysene			not detected	20	1.38	1g/L
117-81-7	bis(2-Ethylhexyl)phthalate	30.11	355635	7.53 ug/L	30	1.74	1g/L
117-84-0	Di-n-octylphthalate			not detected	100	1.44	1g/L
205-99-2	Benzo[b]fluoranthene			not detected	10	1.25	ıg/L
207-08-9	Benzo[k]fluoranthene			not detected	2	1.29	ıg/L
50-32-8	Benzo[a]pyrene			not detected	20	1.05	ng/L
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	0.83	ıg/L
53-70-3	Dibenz[a,h]anthracene			not detected	20	0.64	ıg/L
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	0.84	1g/L

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

Qualifiers

E= Value Exceeds Linear Range D= Value from dilution B= Compound in Related Blank PQL= Practical Quantitation Limit MDL= Method Detection Limit NLE= No Limit Established R.T.=Retention Time

Page 2 of 2

			1F			
	SEN	IVOLATIL	E ORGANICS	ANAL	YSIS DATA SHEET	Field ID:
		TENTA	FIVELY IDENTI	FIED	COMPOUNDS	Field Blenk
Lab Name:	FMETL			Ĺ	ab Code 13461	Field Blank
Project:	000004	Ca	ase No.: <u>5426</u>		Location: BI.1220 S	DG No:
Matrix: (soil/v	vater)	WATER	·		Lab Sample ID:	5426.02
Sample wt/vo	ol:	1000	(g/ml) <u>ML</u>	<u>-</u>	Lab File ID:	BN04386.D
Level: (low/n	ned)	LOW	_		Date Received:	5/22/00
% Moisture:		dec	canted: (Y/N)	N	Date Extracted:	5/24/00
Concentrated	d Extract	Volume:	1000 (uL)		Date Analyzed:	5/26/00
Injection Volu	ume: <u>1.0</u>) (uL)			Dilution Factor:	1.0
GPC Cleanu	p: (Y/N)	Ν	pH:			

CONCENTRATION UNITS:

Number TICs found: 1

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

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

Data File Name	BN04387.D	Sample Name	5426.03
Operator	Bhaskar	Misc Info	1220-1
Date Acquired	26-May-00	Sample Multiplier	1

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CAS#	Name	<u>R.T.</u>	Response	Result	Level (ug/L)*	MDL	Qualifier
110-86-1	Pyridine			not detected	NLE	1.83 ug/I	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.91 ug/I	
62-53-3	Aniline			not detected	NLE	1.63 ug/I	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	1.28 ug/I	
541-73-1	1,3-Dichlorobenzene			not detected	600	1.21 ug/I	
106-46-7	1,4-Dichlorobenzene			not detected	75	1.19 ug/I	
100-51-6	Benzyl alcohol			not detected	NLE	1.02 ug/I	
95-50-1	1,2-Dichlorobenzene			not detected	600	1.13 ug/I	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	1.39 ug/I	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.80 ug/I	
67-72-1	Hexachloroethane			not detected	10	1.50 ug/I	
98-95-3	Nitrobenzene			not detected	10	0.97 ug/I	
78-59-1	Isophorone			not detected	100	1.01 ug/I	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.21 ug/I	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.22 ug/I	
91-20-3	Naphthalene			not detected	NLE	1.27 ug/I	
106-47-8	4-Chloroaniline			not detected	NLE	1.09 ug/I	
87-68-3	Hexachlorobutadiene			not detected	1	0.71 ug/1	4
91-57-6	2-Methylnaphthalene			not detected	NLE	1.08 ug/I	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.32 ug/I	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.01 ug/I	
88-74-4	2-Nitroaniline			not detected	NLE	0.79 ug/I	
131-11-3	Dimethylphthalate			not detected	7000	1.52 ug/I	
208-96-8	Acenaphthylene			not detected	NLE	0.96 ug/I	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.81 ug/I	
99-09-2	3-Nitroaniline			not detected	NLE	0.79 ug/I	_
83-32-9	Acenaphthene			not detected	400	1.10 ug/I	
132-64-9	Dibenzofuran			not detected	NLE	1.00 ug/I	
121-14-2	2,4-Dinitrotoluene			not detected	10	0.87 ug/I	
84-66-2	Diethylphthalate			not detected	5000	1.62 ug/I	
86-73-7	Fluorene		-	not detected	300	0.99 ug/I	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.10 ug/I	_
100-01-6	4-Nitroaniline			not detected	NLE	1.05 ug/I	
86-30-6	• n-Nitrosodiphenylamine			not detected	20	1.01 ug/I	
103-33-3	Azobenzene			not detected	NLE	0.67 ug/I	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.76 ug/I	
118-74-1	Hexachlorobenzene			not detected	10	<u>0.94</u> ug/I	
85-01-8	Phenanthrene			not detected	NLE	1.23 ug/I	
120-12-7	Anthracene	1		not detected	2000	1.12 ug/I	
84-74-2	Di-n-butylphthalate	1		not detected	900	1.70 ug/I	
206-44-0	Fluoranthene			not detected	300	1.64 ug/I	

Page 1 of 2

Semi-Volatile Analysis Report Page 2

Data File Name	BN04387.D	Sample Name	5426.03
Operator	Bhaskar	Misc Info	1220-1
Date Acquired	26-May-00	Sample Multiplier	1

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

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

<u>Qualifiers</u>

E= Value Exceeds Linear Range D= Value from dilution B= Compound in Related Blank

PQL= Practical Quantitation Limit

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

Page 2 of 2

	05		1F				Field ID:
	SE .		E ORGANICS			= 1	
Lab Name:	FMETL			Lab Co	de 13461		1220-1
Project:	000004	Ca	ase No.: 5426	Loca	tion: BI.122	20 SE	DG No:
Matrix: (soil/	water)	WATER		ł	Lab Sample	D:	5426.03
Sample wt/v	ol:	1000	(g/ml) <u>ML</u>		Lab File ID:		BN04387.D
Level: (low/r	med)	LOW		ļ	Date Receiv	/ed:	5/22/00
% Moisture:		dec	canted: (Y/N)	N	Date Extrac	ted:	5/24/00
Concentrate	d Extract	Volume:	1000 (uL)	I	Date Analyz	ed:	5/26/00
Injection Vol	ume: <u>1.</u>	0 (uL)			Dilution Fac	tor:	1.0
GPC Cleanu	ip: (Y/N)	<u>N</u>	рН:				
				CONCE	NTRATION	UNIT	S:
Number TIC	s found:	0		(ug/L or	ug/Kg)	UG/L	-

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CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature _____ Date ______51__5__0

Laboratory Certification #13461

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

Laboratory Authentication Statement

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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