United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

Building 552
Main Post-West Area

NJDEP UST Registration No. 81533-81
Dicar No. 95-10-26-1144-06

February 2000

UNDERGROUND STORAGE TANK
CLOSURE AND SITE INVESTIGATION REPORT

BUILDING 552

MAIN POST-WEST AREA
NJDEP UST REGISTRATION NO. 81533-81
DICAR NO. 95-10-26-1144-06

FEBRUARY 2000

PREPARED FOR:

UNITED STATES ARMY, FORT MONMOUTH, NEW JERSEY
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EXECUTIVE SUMMARY

UST Closure

On October 26, 1995, a steel underground storage tank (UST) was closed by removal in accordance with New Jersey Department of Environmental Protection (NJDEP) underground storage tank closure procedures at the Main Post-West area of the U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 81533-81 (Fort Monmouth ID No. 552), was located south of Building 552. UST No. 81533-81 was a 2,000-gallon No. 2 fuel oil UST. The fill port was located directly above the tank.

Site Assessment

The site assessment was performed by U.S. Army personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual.* The sampling and laboratory analysis conducted during the site assessment were performed in accordance with Section 7:26E-2.1 of the *Technical Requirements for Site Remediation*. Soils surrounding the tank were screened visually and with air monitoring equipment for evidence of contamination. Following removal, the UST was inspected for corrosion holes. The UST had several holes located in the sides and bottom. Soil at the location of the holes was dark in color and appeared to be contaminated.

Based on the inspection of the excavation, Directorate of Public Works (DPW) concluded that a discharge was associated with this UST. The NJDEP hotline was notified and the case was assigned DICAR No. 95-10-26-1144-06. Approximately 43 cubic yards of potentially contaminated soil were removed from the excavated area and stored at the Fort Monmouth petroleum contaminated soil staging area. Soil samples, which were collected after the removal of the potentially contaminated soil, contained TPHC concentrations ranging from non-detect to 233.00 mg/kg. Groundwater was encountered at 8.0 feet below ground surface and no sheen was observed.

All post excavation soil samples collected from the UST excavation at Building 552 contained TPHC concentrations below the NJDEP residential direct contact total organic contaminants soil cleanup criteria of 10,000 milligrams per kilogram (mg/kg) (N.J.A.C. 7:26D and revisions dated February 3, 1994). Following receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with a combination of uncontaminated excavated soil and certified clean fill. The excavation site was then restored to its original condition.

In response to the observation of potentially contaminated soil near the water table, two (2) groundwater samples were collected at Building 552. On December 18, 1999, and January 22, 2000, Building 552 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. 81533-81 at Building 552.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 81533-81, was closed at Building 552 at the Main Post-West area of U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on October 26, 1995. Refer to the site location map on Figure 1. This report presents the results of the Department of Public Works' (DPW) implementation of the UST Decommissioning/Closure Plan approved by the NJDEP on September 7, 1993. The UST was a steel 2,000-gallon tank containing No. 2 fuel oil.

Decommissioning activities for UST No. 81533-81 complied with all applicable Federal, State, and Local laws and ordinances in effect at the date of decommissioning. These laws included but were not limited to N.J.A.C. 7:14B-1 et seq., N.J.A.C. 5:23-1 et seq., and Occupational Safety and Health Administration (OSHA) 1910.146 & 1910.120. All permits including but not limited to the NJDEP approved Decommissioning/Closure Plan were posted onsite for inspection. DPW personnel who are registered and certified by the NJDEP for performing UST closure activities conducted the decommissioning activities. Closure of UST No. 81533-81 proceeded under the approval of the NJDEP Bureau of Underground Storage Tanks (NJDEP-BUST). The NJDEP Closure Approval Letter and signed Site Assessment Summary form for UST No. 81533-81 are included in Appendices A and B, respectively.

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

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

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

1.2 SITE DESCRIPTION

Building 552 is located in the Main Post-West area of the Fort Monmouth Army Base. UST No. 81533-81 was located south of Building 552 and appurtenant copper piping ran approximately nineteen (19) feet east from the UST to Building 552. A site map is provided on Figure 2.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the area surrounding Building 552. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area. A geological map is provided on Figure 1A.

Regional Geology

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

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

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

Local Geology

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

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

Hydrogeology

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

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

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

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

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

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

Building 552 is located approximately 1000 feet south of Parkers Creek, the nearest water body. Based on the Main Post topography, the groundwater flow in the area of Building 552 is anticipated to be to the north.

The UST was cleaned prior to removal from the excavation in accordance with the NJDEP-BUST 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. Based on the inspection of the excavation, Directorate of Public Works (DPW) concluded that a discharge was associated with this UST. The NJDEP hotline was notified and the case was assigned DICAR No. 95-10-26-1144-06. Approximately 43 cubic yards of potentially contaminated soil were removed from the excavated area and stored at the Fort Monmouth petroleum contaminated soil staging area. Soil samples, which were collected after the removal of the potentially contaminated soil, contained TPHC concentrations ranging from non-detect to 233.00 mg/kg. Groundwater was encountered at 8.0 feet below ground surface and no sheen was observed. See Figure 3 for a cross-sectional view of the excavated area.

1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

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

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

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

1.6 MANAGEMENT OF EXCAVATED SOILS

Based on OVA air monitoring and TPHC analysis results from the post-excavation soil samples, approximately 43 cubic yards of potentially contaminated soil were removed from the UST excavation. All potentially contaminated soils were stockpiled separately from other excavated material and were placed on and covered with polyethylene sheets. Potentially contaminated soils were transported to the soil staging area. Soils that did not exhibit signs of contamination were used as backfill following the removal of the UST. Groundwater was encountered at 8.0 feet below ground surface and no sheen was observed.

2.0 SITE INVESTIGATION ACTIVITIES

2.1 OVERVIEW

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

The following Parties participated in Closure and Site Investigation Activities:

- Subsurface Evaluator: Gene Lesinski
  Employer: U.S. Army, Fort Monmouth
  Phone Number: (908) 532-0989
  NJDEP Certification No.: 0014537

- Analytical Laboratory:U.S.Army Fort Monmouth Environmental Laboratory
  Contact Person: Brian Mckee
  Phone Number: (908) 532-4359
  NJDEP Company Certification No.: 13461

- Hazardous Waste Hauler: Lorco Petroleum Services
  Contact Person: Chuck Clayton
  Phone Number: (732) 721-0900

2.2 FIELD SCREENING/MONITORING

Field screening was performed by a NJDEP Certified Sub-Surface Evaluator using visual observations to identify potentially contaminated material. Soil excavated from around the tank-exhibited evidence of potential contamination. Soils were removed from the excavation until no evidence of contamination remained. Groundwater was encountered at 8.0 feet below ground surface and no sheen was observed.

2.3 SOIL SAMPLING

On October 26, 1995, and November 1, 1995, following the removal of the UST, associated piping, and potentially contaminated soil from the excavated area, post-excavation soil samples A, B, C, D, E, F, G, H, I, and Dup J were collected from a total of nine (9) locations of the UST excavation. Samples A and B were collected along the former piping length of the excavation, which was approximately nineteen (19) feet in length. The piping samples were collected at a depth of 1.0 feet bgs and 1.3 feet bgs. Samples C, D, E, G, H, I, and Dup J were collected along the sidewall at a depth of 7.0 feet bgs. Excavation floor sample F was collected at a depth of 10.0 feet bgs. All samples were analyzed for TPHC and total solids.

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

2.4 GROUNDWATER SAMPLING

On December 18, 1999, and January 22, 2000, Building 552 was sampled for volatile organic compounds calibrated for xylene plus 15 tentatively identified compounds (VOC's), and semivolatile organic compounds plus 15 tentatively identified compounds (SVOC's). Sampling and analysis were performed in accordance with the NJDEP *Field Sampling Procedures Manual* and the *Technical Requirements For Site Remediation.* Refer to Appendix F for the field sampling documentation.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

To evaluate soil conditions following removal of the UST and associated piping, post-excavation soil samples were collected on October 26, 1995, and November 1, 1995 from a total of nine (9) locations. All samples were analyzed for TPHC and total solids. The post-excavation sampling results were compared to the NJDEP residential direct contact total organic contaminants soil cleanup criteria of 10,000 mg/kg (N.J.A.C. 7:26D and revisions dated February 3, 1994). A summary of the analytical results and comparison to the NJDEP soil cleanup criteria is provided in Table 2 and the soil sampling locations are shown on Figure 4. The analytical data package is provided in Appendix E.

All post-excavation soil samples collected on October 26, 1995, and November 1, 1995, from the UST excavation and from below piping associated with the UST contained concentrations of TPHC below the NJDEP soil cleanup criteria. Samples contained TPHC concentrations ranging from non-detect to 233.00 mg/kg.

3.2 GROUNDWATER SAMPLING RESULTS

No compounds were detected in the sample collected from Building 552 on December 18, 1999, and January 22, 2000.

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

Groundwater samples collected on December 18, 1999, and January 22, 2000, were either below the detection limit or in compliance with the New Jersey Ground Water Quality Criteria (GWQC).

3.3 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 552 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 552 on December 18, 1999, and January 22, 2000, groundwater quality at Building 552 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. 81533-81 at Building 552.

TABLES

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING 552, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	NJDEP Method
A	10/26/95	11/2/95	Soil	Post-Excavation	TPHC	418.1
B	10/26/95	11/2/95	Soil	Post-Excavation	TPHC	418.1

Note:
* TPHC Total Petroleum Hydrocarbons

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING 552, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	NJDEP Method
C	11/1/95	11/2/95	Soil	Post-Excavation	TPHC	418.1
D	11/1/95	11/2/95	Soil	Post-Excavation	TPHC	418.1
E	11/1/95	11/2/95	Soil	Post-Excavation	TPHC	418.1
F	11/1/95	11/2/95	Soil	Post-Excavation	TPHC	418.1
G	11/1/95	11/2/95	Soil	Post-Excavation	TPHC	418.1
H	11/1/95	11/2/95	Soil	Post-Excavation	TPHC	418.1
I	11/1/95	11/2/95	Soil	Post-Excavation	TPHC	418.1
DUP J	11/1/95	11/2/95	Soil	Post-Excavation	TPHC	418.1

Note:
* TPHC Total Petroleum Hydrocarbons

TABLE 1

SUMMARY OF SAMPLING ACTIVITIES
BUILDING 552, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Sampling Method**
5026.01	12/18/99	12/21/99	Aqueous	Groundwater	VOCs, SVOCs	PPNDP
5114.1	1/22/00	1/27/00	Aqueous	Groundwater	VOCs, SVOCs	PPNDP

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

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
BUILDING 552, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID/ Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Parameters	Method Detection Limit (mg/kg)	Compound of Concern	Results (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
A/1.0'=	1961.1	10/26/95	11/2/95	Total Solid	--	--	86 %	--	--
				TPHC	100	yes	ND	10,000	No
B/1.3'=	1961.2	10/26/95	11/2/95	Total Solid	--	--	93 %	--	--
				TPHC	100	yes	ND	10,000	No

Note:

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

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
BUILDING 552, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID/ Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Parameters	Method Detection Limit (mg/kg)	Compound of Concern	Results (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
C/7.0'=	1963.1	11/1/95	11/2/95	Total Solid	--	--	82 %	--	--
				TPHC	100	yes	181.00	10,000	No
D/7.0'=	1963.2	11/1/95	11/2/95	Total Solid	--	--	84 %	--	--
				TPHC	100	yes	54.30	10,000	No
E/7.0'=	1963.3	11/1/95	11/2/95	Total Solid	--	--	84 %	--	--
				TPHC	100	yes	94.80	10,000	No
F/10.0'=	1963.4	11/1/95	11/2/95	Total Solid	--	--	80 %	--	--
				TPHC	100	yes	233.00	10,000	No
G/7.0'=	1963.5	11/1/95	11/2/95	Total Solid	--	--	83 %	--	--
				TPHC	100	yes	102.00	10,000	No
H/7.0'=	1963.6	11/1/95	11/2/95	Total Solid	--	--	82 %	--	--
				TPHC	100	yes	84.50	10,000	No
I/7.0'=	1963.7	11/1/95	11/2/95	Total Solid	--	--	85 %	--	--
				TPHC	100	yes	203.00	10,000	No
DUP J/7.0'=	1963.8	11/1/95	11/2/95	Total Solid	--	--	83 %	--	--
				TPHC	100	yes	87.30	10,000	No

Note:

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

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 12/18/99 Location: 552 Lab Sample ID: 5026.01(552-1)

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

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 12/18/99 Location: 552 Lab Sample ID: 5026.01(552-1)

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

Table 3
SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 12/18/99 Location: 552 Lab Sample ID: 5026.01(552-1)

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

Table 3
SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 12/18/99 Location: 552 Lab Sample ID: 5026.01(552-1)

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

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 1/22/00 Location: 552 Lab Sample ID: 5114.01(552-1)

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

Table 3
VOLATILE ORGANICS ANALYSIS DATA SHEET

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

Date Sampled: 1/22/00 Location: 552 Lab Sample ID: 5114.01(552-1)

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

Table 3
SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 1/22/00 Location: 552 Lab Sample ID: 5114.01(552-1)

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

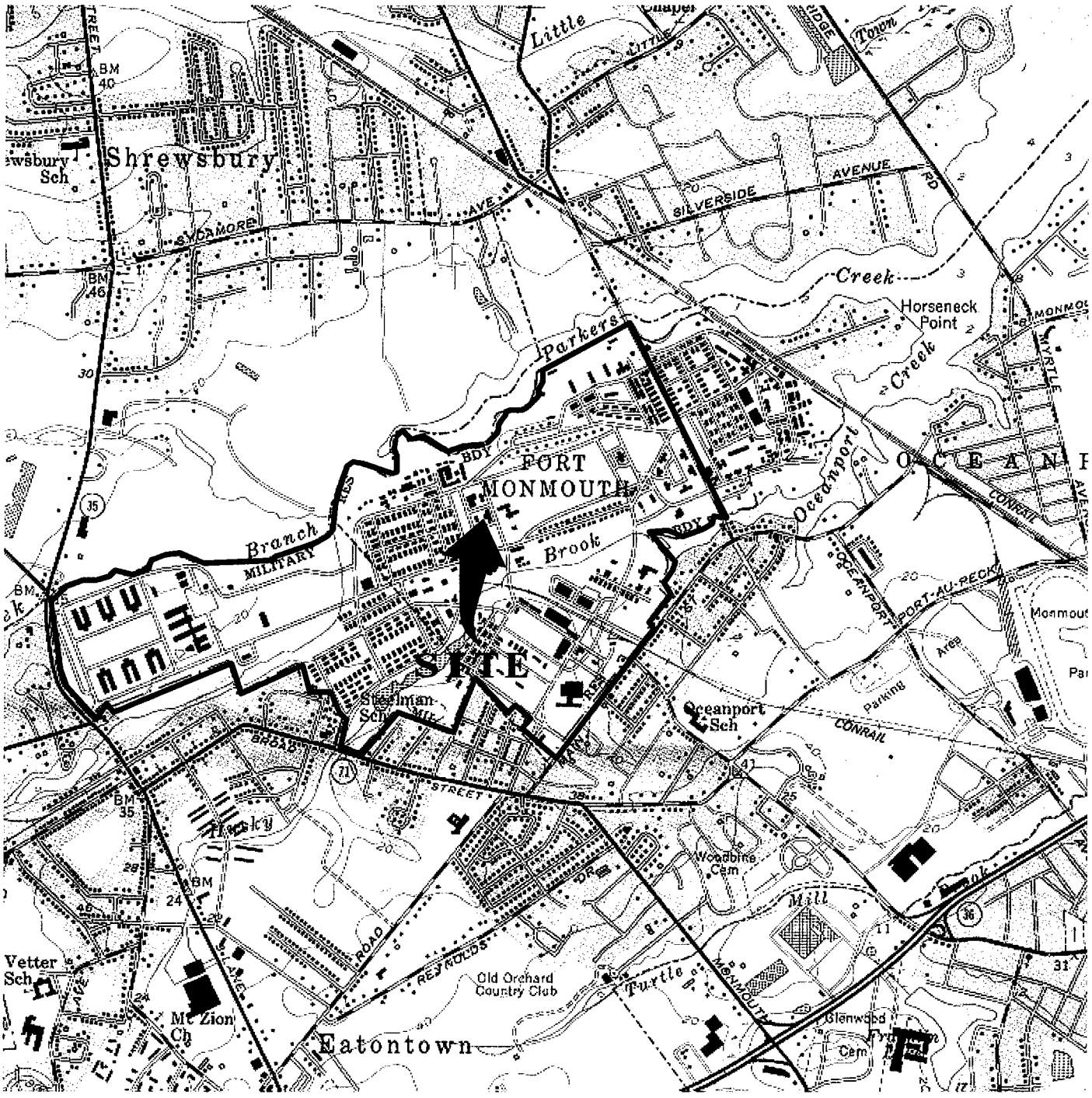
Table 3
SEMI-VOLATILE ANALYSIS DATA SHEET

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

Date Sampled: 1/22/00 Location: 552 Lab Sample ID: 5114.01(552-1)

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

FIGURES



LONG BRANCH, N. J.

40073-C8-TF-024

1954

PHOTOREVISED 1981

DMA 6164 I SE-SERIES V822

QUADRANGLE LOCATION

Mapped, edited and published by the Geological Survey

FIGURE 1

LOCATION MAP
Building 552
Main-Post West
Fort Monmouth Army Base
Monmouth County, NJ

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

Scale: 1" = 2000'

Date: OCT 1995

Geologic Map of New Jersey

SEDIMENTARY ROCKS

CENOZOIC

Holocene: sand

Tertiary: sand, silt, clay

MESOZOIC

Cretaceous: sand, silt, clay

Jurassic: siltstone, shale, sandstone

Triassic: siltstone, shale, sandstone

PALEOZOIC

Devonian:conglomerate,sandstone,

Silurian: conglomerate,sandstone, shale, limestone

Ordovician: shale, limestone

Cambrian: limestone, sandstone

IGNEOUS AND METAMORPHIC ROCKS

MESOZOIC

Jurassic: basalt

Jurassic: diabase

PRECAMBRIAN

marble

gneiss, granite

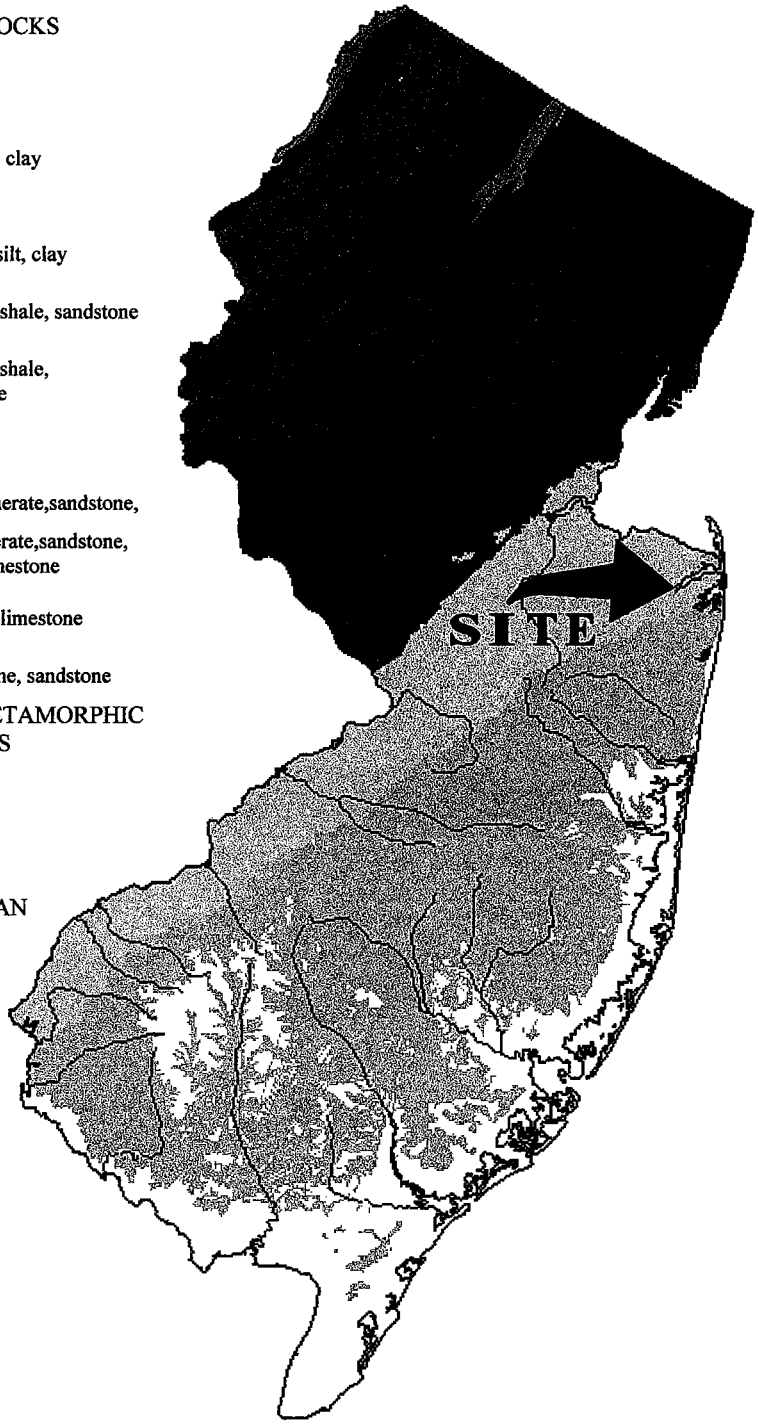


FIGURE 1A
GEOLOGICAL MAP
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
Engineers, Managers, Scientists & Planners
Bristol, Pennsylvania

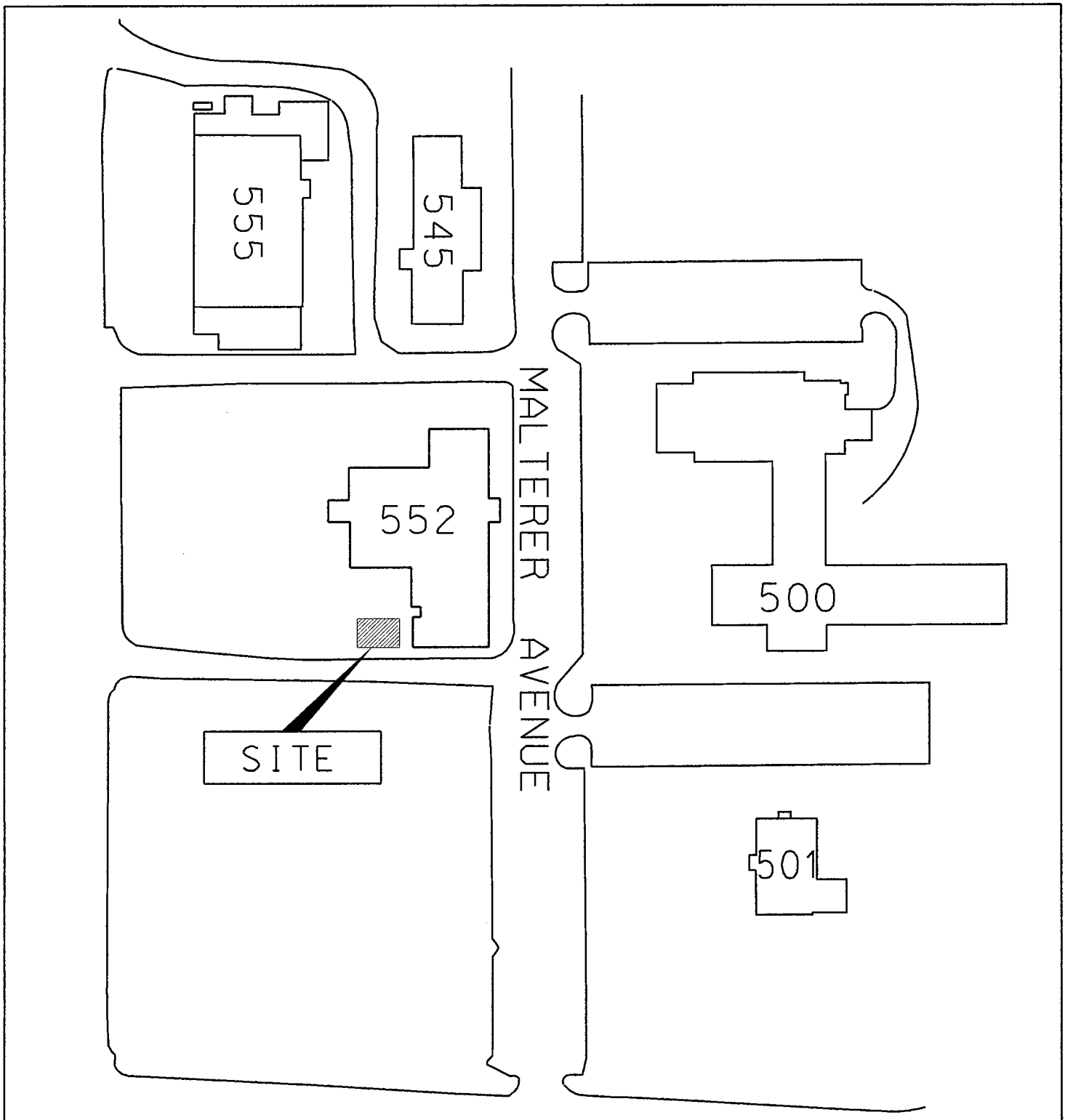


FIGURE 2
SITE MAP
BUILDING 552
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1"=100'

DATE: OCT 1995

552 FIG2

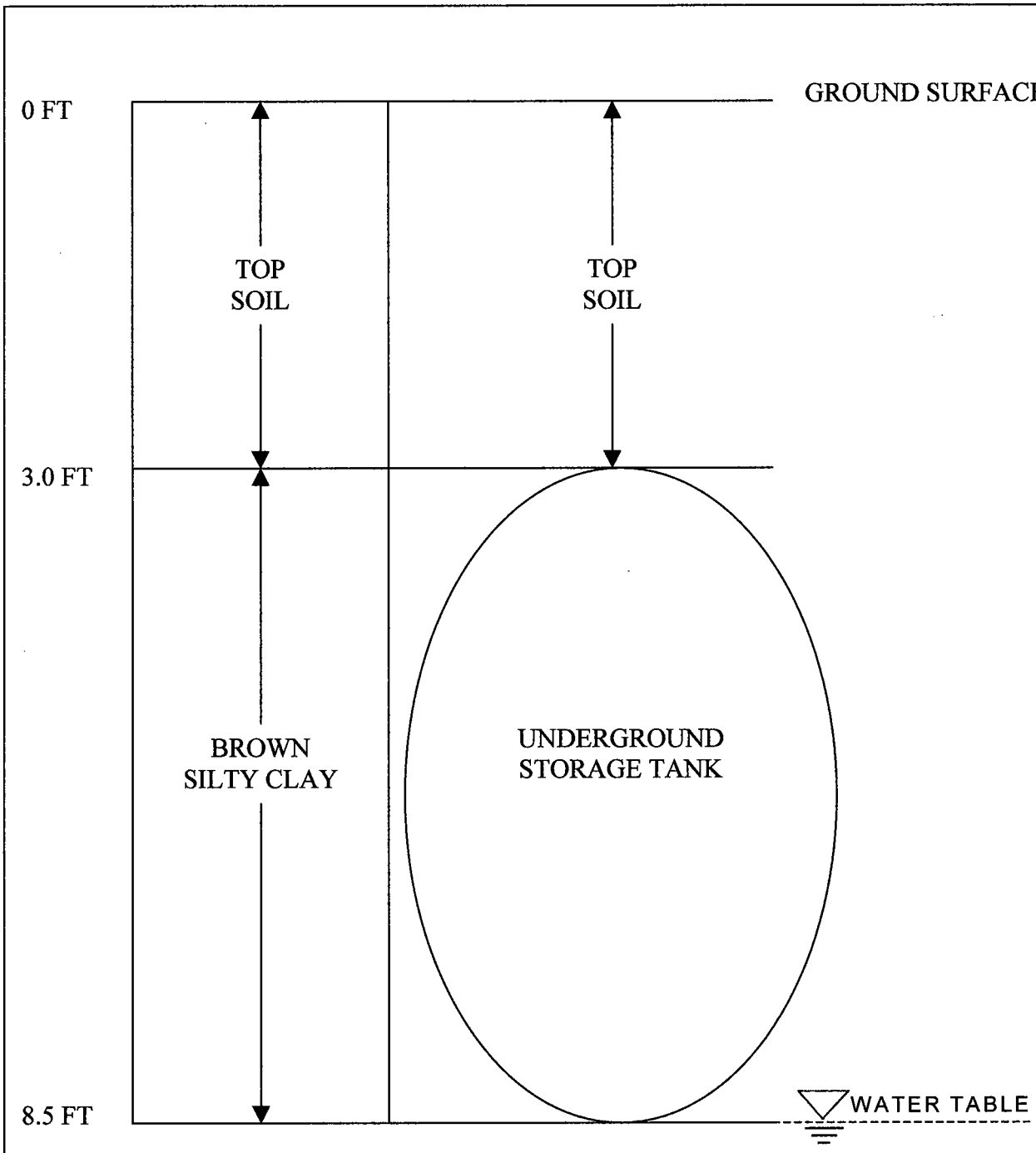
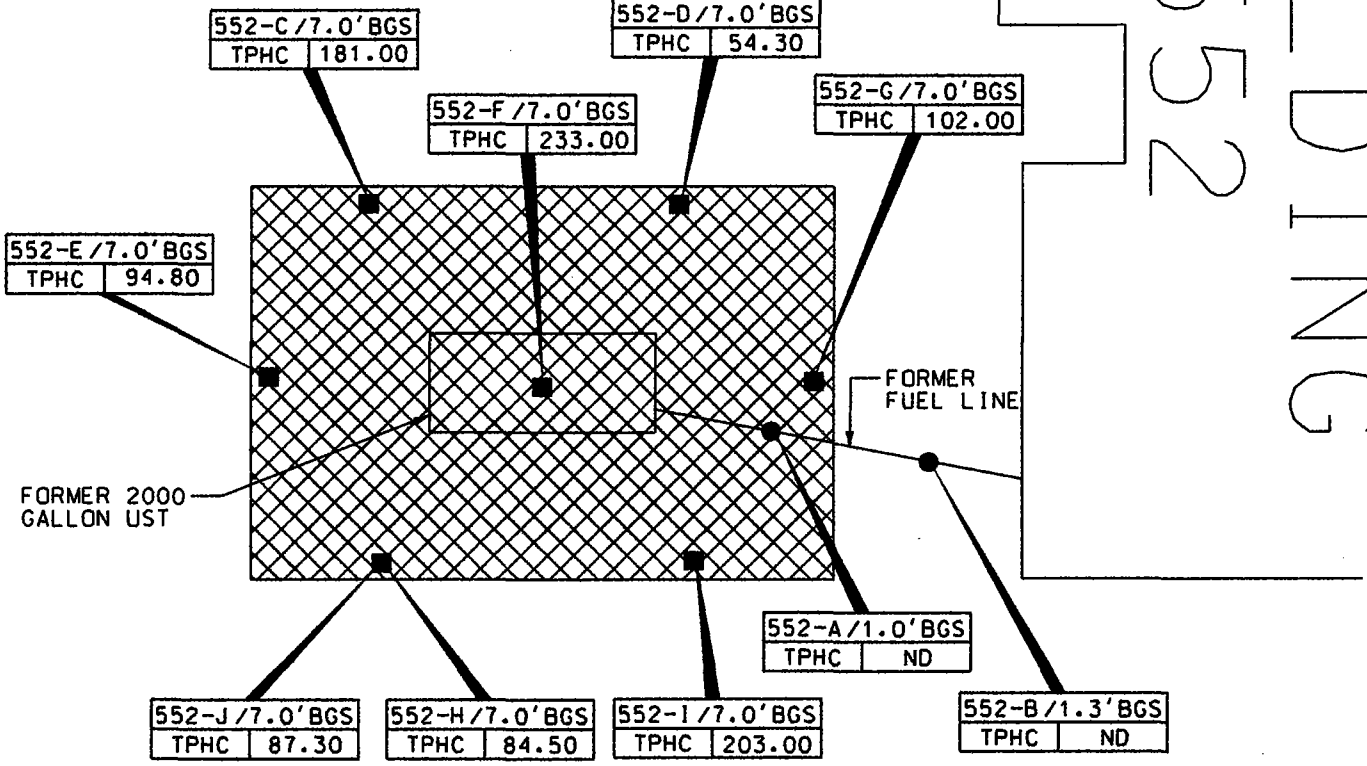


FIGURE 3
CROSS SECTIONAL VIEW
BUILDING 552
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
Engineers, Managers, Scientists & Planners
Bristol, Pennsylvania

SCALE: NTS | DATE: OCT 1995



LEGEND

- SOIL SAMPLE LOCATION (OCTOBER 26, 1995)
- SOIL SAMPLE LOCATION (NOVEMBER 1, 1995)
- LIMIT OF EXCAVATION (NOVEMBER 1, 1995)

NOTES:

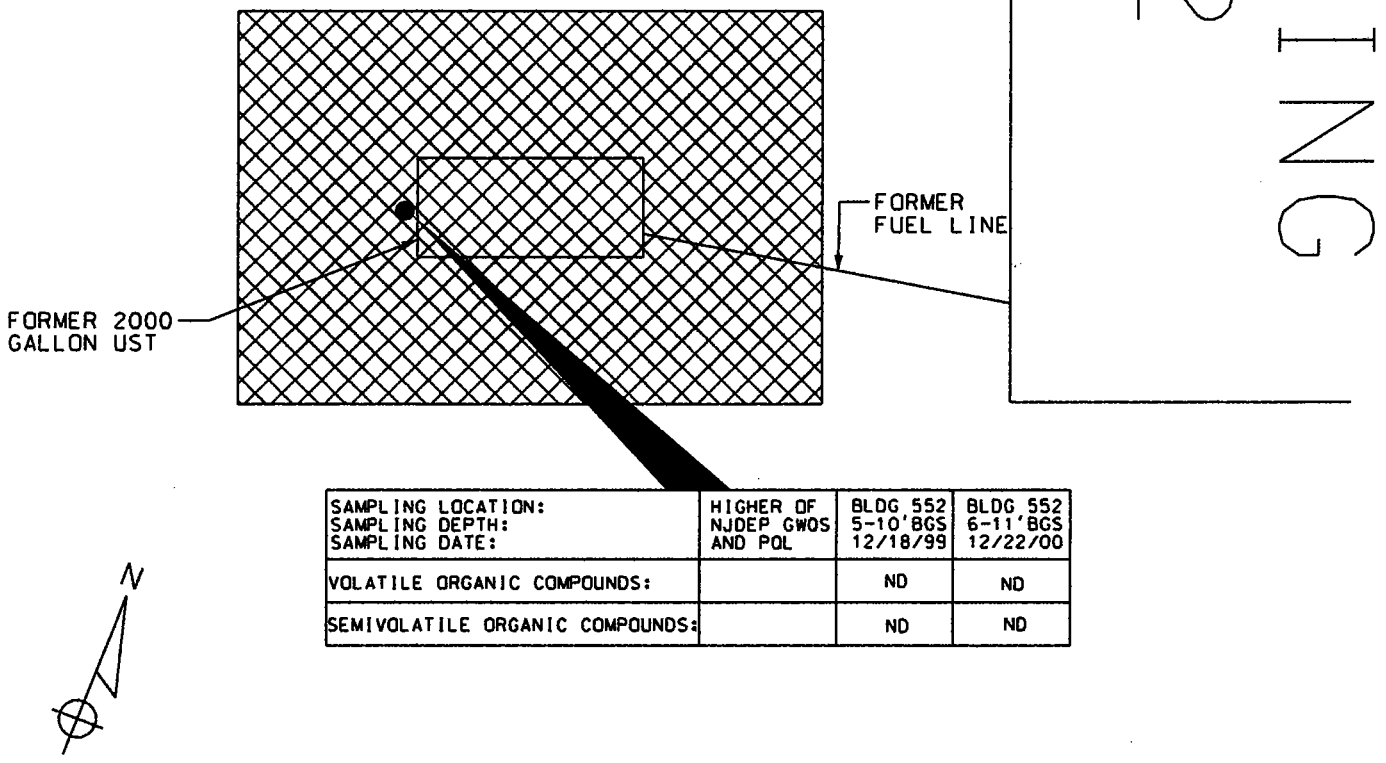
1. ALL RESULTS IN MG/KG.
2. SEE TABLE 2 FOR NJDEP SOIL CLEANUP CRITERIA
3. BGS = BELOW GROUND SURFACE

FIGURE 4
SOIL SAMPLING LOCATION MAP
BUILDING 552
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1"=10' | DATE: OCT 1995

552 FIG4



SAMPLING LOCATION: SAMPLING DEPTH: SAMPLING DATE:	HIGHER OF NJDEP GWQS AND PQL	BLDG 552 5-10'BGS 12/18/99	BLDG 552 6-11'BGS 12/22/00
VOLATILE ORGANIC COMPOUNDS:		ND	ND
SEMIVOLATILE ORGANIC COMPOUNDS:		ND	ND

LEGEND

- GROUNDWATER SAMPLE LOCATION (DECEMBER 18, 1999 AND JANUARY 22, 2000)
- LIMIT OF EXCAVATION (NOVEMBER 1, 1995)

NOTES:

1. ND=INDICATES COMPOUND NOT DETECTED
2. NLE= NO LIMIT ESTABLISHED
3. ALL RESULTS IN UG/L
4. BGS = BELOW GROUND SURFACE

FIGURE 5
GROUNDWATER SAMPLING MAP
BUILDING 552
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1"=10' | DATE: OCT 1995

552 FIG5

APPENDIX A

NJDEP-STANDARD REPORTING FORM

State of New Jersey
Department of Environmental Protection and En
Division of Responsible Party Site Remediation
CN 028
Trenton, NJ 08625-0029

ATTN: UST Program
(609) 984-3156

For State Use Only	
Date Rec'd.	
Auth.	
Routing	
UST NO.	

STANDARD REPORTING FORM
for reporting activities at an UST facility:

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

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

(More than one tank can be listed per activity)

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

Answer questions 1 through 5 and others as applicable:

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

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

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

4. The identification number of the affected tank as it appears in Question Number 12 on the Registration Questionnair
BLDG 552 81

5. Registration Number (if known): UST - 0081533

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

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

(OVER)

7. For CLOSURE (abandonment or removal – check all that apply):

a. ☐ Abandonment Date: __/__/__ Case No: _____

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

b. ☒ Removal Date: 10/26/95 Case No. 95-10-26-1144-06 OPRA

Attach the necessary implementation schedule (3 copies).

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

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

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

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

Tank No. _____ Old _____ New _____

Tank No. _____ Old _____ New _____

Tank No. _____ Old _____ New _____

(Attach additional sheets if more space is needed)

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

a. New Owner (operator) _____

b. New Facility Name _____

_____

_____ NJ _____

_____

County

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

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

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

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

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

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

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

c. Other: ☐

_____

_____

_____

(Specify)

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

CERTIFICATION

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

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

Signature: James Ott

Name (print or type): JAMES OTT

Title: DIRECTOR - DEPT OF PUBLIC WORKS Date: 11/20/95

SRF-UST

(IND/MOD-2/92)

APPENDIX B

SITE ASSESSMENT SUMMARY

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

Site Remediation Program

UST Site/Remedial Investigation Report Certification Form

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

Facility Street Address : Directorate of Public Works Building 173

Municipality: Oceanport County : Monmouth

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

B. Owner (RP)'s Name:

Street Address: City :

State: Zip: Telephone Number :

C. (Check as appropriate)

___ Site Investigation Report (SIR) $500 Fee

___ Remedial Investigation Report (RIR) $1000 Fee

_X_ NA – Federal Agreement

D. (Complete all that apply)

- Assigned Case Manager : Ian Curtis, Federal Case Manager
- UST Registration Number : 81533-81 (7 digits)
- Incident Report Number 95 – 10 – 26 – 1144 – 06 (10 or 12 digits)
  ___ – ___ – ___ – _____ – ___
- Tank Closure Number : Federal Case Manager

E. Certification by the Subsurface Evaluator:

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

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

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

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

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

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

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

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

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

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

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

Signature: James Ott

Company Name: U.S. Army Fort Monmouth Date: 7/31/00

U ARMY, SELFM-PW-EV

DAILY UST SUBSURFACE REMOVAL LOG

BLDG.#: 552 REG.#: 0081533 - 81 CLOSURE#: C-93-3912
DATE: 10-26-95 TOA: 0930 TOD: 1200
GOV. SSE: LESINSKI NJDEP CERT.#: 0014537
REMOVAL CONTRACTOR: SAI Inc.
CLOSURE SUPERVISOR: KERRY GREEN NJDEP CERT.#: _____
WEATHER: CLOUDY - 65°F

ACTIVITY	YES / NO
THE SUPERVISOR (CLOSURE CERT.) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	Y
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	Y
ALL ON-SITE PERSONNEL HAD TRAINING IAW ALL SAFETY REQUIREMENTS (E.G. 29CFR)	Y
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	N/A
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	Y
A DISCHARGE WAS REPORTED TO THE NJDEP (609-292-7172), CASE# 95-10-26-1144-06	Y
PHOTOS HAVE UST#, BLDG. #, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK	Y
GROUNDWATER WAS ENCOUNTERED AT 6 FEET BG, A SHEEN (WAS/WAS NOT) OBSERVED ON GW	Y
IF OVA/Hnu WAS USED: WAS IT CAL. AND FOUND TO BE OPERATIONAL (cal. data on COC)	N/A
IF SAMPLES WERE TAKEN: COC, SCALED SITE MAP (VERT. SOIL HORIZONS AND PLOT PLAN)	N/A
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM, 1992	N/A
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7:26E-3.6 et seq.	N/A
ALL PETROL. CONT. SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	Y
THE SSE AUTHORIZED BACKFILLING THE EXCAVATION (STONE TO 1" ABOVE GROUNDWATER)	N/A
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	N
THE FOLLOWING DOCUMENTS WERE ADDED TO THE PROJECT FOLDER TODAY: (CIRCLE EACH) SCRAP TICKET, CSE PERMIT, ACCIDENT REPORT, HAZ. WASTE MANIFEST, DAILY UST CLOSURE LOG, SCALED SITE MAP (SAMPLING), SRF-CLOSURE, CHAIN OF CUSTODY, SOIL ANALYTICAL RESULTS, CLEAN FILL TICKETS(IN YDS^3), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS)	N

CHECK ALL BOXES, LEAVE NO BLANKS

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

SIGNATURE: _____ DATE: 10-26-95

a\ms\ust\removal\sitessls.doc

APPENDIX C

WASTE MANIFEST

State of New Jersey
Department of Environmental Protection
Hazardous Waste Regulation Program
Manifest Section
CN 421, Trenton, NJ 08625-0421

* 2 1 8 6 8 9 7 *

Please type or print in block letters. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039. Expires 9-30-96

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. NJT321160205 | Manifest Document No. 868897

2. Page 1 of 1 — Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
U.S. Army Communications Electronics Command
main post c/o James Shirghio, Bldg. 173
ATTN: SELFM-PW-EV Fort Monmouth, N.J. 07703

4. Generator's Phone (908) 532-6223

A. State Manifest Document Number: NJA 2186897

B. State Generator's ID-(Gen. Site Address): SAME

5. Transporter 1 Company Name: LIONETTI OIL RECOVERY CO., INC.

6. US EPA ID Number: NJD084044064

C. State Trans. ID-NJDEPE: S6247

Decal No.:

7. Transporter 2 Company Name

8. US EPA ID Number

D. Transporter's Phone: 908) 721-0900

E. State Trans. ID-NJDEPE:

Decal No.:

9. Designated Facility Name and Site Address
LIONETTI OIL RECOVERY CO., INC./DBA LORCO PETROLEUM SVCS.
RUNYON & CHEESEQUAKE ROADS
OLD BRIDGE NJ 08857

10. US EPA ID Number: NJD084044064

F. Transporter's Phone ( )

G. State Facility's ID

H. Facility's Phone (908) 721-0900

	11. US DOT Description (Including Proper Shipping Name, Hazard Class or Division, ID Number and Packing Group)	HM	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a.	PETROLUEM OIL (PETROLEUM OIL) COMBUSTIBLE LIQUID UN 1270 PG III	X	001	TT	XX120	G	X7212
b.	Petroleum oil (Petroleum oil) Combustible Liquid UN 1270 PG FFI	X	001	TT	XX120	G	X7222
c.							
d.							

J. Additional Descriptions for Materials Listed Above

a. T,L PETROLEUM OIL 90
WATER 10 %

b. T,L Petroleum oil 95%
water 5%

c.

d.

K. Handling Codes for Wastes Listed Above

c. T04-FILTRATION

d. Filtration
b. T O Y

15. Special Handling Instructions and Additional Information
NOT EPA REGULATED, REGULATED AS HAZARDOUS WASTE IN NEW JERSEY 112) 008533-81 / 55
24 HOUR EMERGENCY RESPONSE #(908)721-0900
DECAL# 73632 ERG# 27 DEXSIL TEST KIT RESULTS < 1,000 ppm 116) 009010-4 / 64

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
EUGENE W LESINSKI	Eugene W Lesinski	11	02	95

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Richard Dirienzo	Richard Dirienzo	11	02	95

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

EPA Form 8700-22 (Rev. 3/88) Previous editions are obsolete.

SIGNATURE AND INFORMATION *MUST* BE LEGIBLE ON ALL COPIES

APPENDIX D

UST DISPOSAL CERTIFICATE

MAZZA & SONS, INC.
Metal Recyclers
Auto and Truck
3230 Shafto Rd.
Tinton Falls, NJ
(908) 922-9292

NO. 285

DATE 14 Nov 95

Customer's Name E Systems

Address

Make of Autos	
Tires	
Tank	
Price:	

15320 LB
12280
3080

BIG 552

	Weight	Price
Cast Iron		
Steel	106	40
Lt. Iron		
Copper #1		
Copper #2		
Lt. Copper		
Brass		
Alum Clean		
Lead		
Stainless		
Radiators		
Battery		
TOTAL AMOUNT:		

Weigher _____ Customer _____

APPENDIX E

SOIL ANALYTICAL DATA PACKAGE

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

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

Lab. ID #: 1961.1-.2
Sample Rec'd: 10/26/95
Analysis Start: 11/02/95
Analysis Comp: 11/03/95

Analysis: 418.1 (TPH)
Matrix: Soil
Analyst: S. Hubbard
Ext. Meth: 3540A

NJDEPE UST Reg.#:
Closure #:
DICAR #:
Location #: Bldg. 552

Lab ID.	Description	%Solid	Result (mg/Kg)	MDL
1961.1	552-A Pipe run @ 1' OVA=ND	86	ND	100
1961.2	552-B Pipe run @ 16" OVA=ND	93	ND	100
M. Bl.	Method Blank	100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit
* = Silica Gel Added, NA = Not Applicable
1963.7S=100%,1961.7SD=106%,RPD= 6.0%,1963.7Dup= 98% Check=103%
QC Limits: Recovery = 60% to 140% and RPD = 14.9% at 2 Std. Dev.

Brian K. McKee
Laboratory Director

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

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

Lab. ID #: 1961.1-.2
Sample Rec'd: 10/26/95
Analysis Start: 11/02/95
Analysis Comp: 11/02/95

Analysis: Munsel

Lab ID#	Soil Color
1961.1	10YR 5/6 Yellowish Brown
1961.2	10YR 4/4 Dark Yellowish Brown

Brian K. McKee
Laboratory Director

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

P.O. #: PWS-07

Chain of Custody

Project #:	Sampler: GARY DiMartinis	Date / Time 10/26/95 13:00	Analysis Parameters	Start:
Customer: G. LESINSKI SELFM-PW-EU	Site Name: BLDG. 552			Finish:
Phone: 908 532-0989				

Lab Sample ID Number	Date/Time	Customer Sample Location/ID Number	Sample Matrix	# of Bottles	TPHC	% Solids	Munsell	OVA	Remarks	Preservation Method
1961.1	10/26/95 13:05	552-A (Piping Run @ 12" BELOW GRADE	Soil	1	X	X	X	ND		*
↓ .2	↓ 13:15	552-B (Piping Run @ 16" BELOW GRADE	↓	↓	X	X	X	ND		*
									*SAMPLES KEPT BELOW 4° C	
		NOTE: OVA CALIBRATED TO 95 PPM METER READING								
		W/95 PPM CH4 and O GAS at 13.00 HRS. ON								
		10/26/95 by GARY DiMARTINIS. (UNIT SERIAL #A52114)								

Relinquished By (signature)	Date / Time	Received By (signature)	Shipped By:
Gary DiMartinis	10/26/95 16:00	Sarah J. Hubbard	HAND DELIVERY
Relinquished By (signature)	Date / Time	Received for Lab by (signature):	Date / Time

Note: A drawing depicting sample location should be attached or drawn on the reverse side of this chain of custody. New map attached - SEPARATE SAMPLING TOOLS USED FOR EACH SAMPLE LOCATION.

Environmental Laboratory

PHC Conformance/Non-conformance Summary Report

	No	Yes
1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank.	✓	
2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).		✓
3. IR Spectra submitted for standards, blanks, & samples		✓
4. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.		N/A
5. Extraction holding time met. (If not met, list number of days exceeded for each sample)		✓
6. Analysis holding time met. (If not met,list number of days exceeded for each sample)		✓

Comments: None

Laboratory Authentication Statement

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

Project #1961

Brian K. McKee

Brian K. McKee
Laboratory Manager

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

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

Lab. ID #: 1963.1-.8
Sample Rec'd: 11/01/95
Analysis Start: 11/02/95
Analysis Comp: 11/03/95

Analysis: 418.1 (TPH)
Matrix: Soil
Analyst: S. Hubbard
Ext. Meth: 3540A

NJDEPE UST Reg.#:
Closure #:
DICAR #:
Location #: Bldg. 552

Lab ID.	Description	%Solid	Result (mg/Kg)	MDL
1963.1	552-C SIDEWALL @ 7' OVA=ND	82	181.	100
1963.2	552-D SIDEWALL @ 7' OVA=ND	34	54.3j	100
1963.3	552-E SIDEWALL @ 7' OVA=ND	84	94.8J	100
1963.4	552-F FLOOR @ 10' OVA=ND	80	233.	100
1963.5	552-G SIDEWALL @ 7' OVA=ND	83	102.	100
1963.6	552-H SIDEWALL @ 7' OVA=ND	82	84.5j	100
1963.7	552-I SIDEWALL @ 7' OVA=ND	85	203.	100
1963.8	552-J DUPLICATE OVA=ND	83	87.3j	100
M. Bl.	Method Blank	100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit
* = Silica Gel Added, NA = Not Applicable
1963.7S=100%,1961.7SD=106%,RPD= 6.0%,1963.7Dup= 98% Check=103%
QC Limits: Recovery - 60% to 140% and RPD - 14.9% at 2 Std. Dev.
j=found below the detection limit

Brian K. McKee
Laboratory Director

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

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

Lab. ID #: 1961.1-.2
Sample Rec'd: 10/26/95
Analysis Start: 11/02/95
Analysis Comp: 11/02/95

Analysis: Munsel

Lab ID#	Soil Color
1963.1	10YR 3/1 Very Dark Gray
1963.2	5Y 3/2 Dark Olive Gray
1963.3	5Y 4/3 Olive
1963.4	5Y 3/2 Dark Olive Gray
1963.5	5Y 3/2 Dark Olive Gray
1963.6	5Y 4/2 Olive Gray
1963.7	5Y 4/3 Olive
1963.8	5Y 4/3 Olive

Brian K. McKee
Laboratory Director

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

P.O. #: PWS-07

Chain of Custody

Project #:	Sampler: GARY DiMartinis	Date / Time 11/1/95 1000	Analysis Parameters	Start:
Customer: G. LESINSKI SELFM-PW-EU	Site Name: BLDG. 552			Finish:
Phone: 908 532-0989				Preservation Method

Lab Sample ID Number	Date/Time	Customer Sample Location/ID Number	Sample Matrix	# of Bottles	TPHC	% Solids	Munsel	QUA	Remarks
1963.1	11/1/95 1035	552-C (SIDE WALL @ 7' DEPTH)	Soil	1	X	X	X	ND	*
.2	1044	552-D (SIDE WALL @ 7')	↓	↓	X	X	X	ND	↓
.3	1029	552-E (SIDE WALL @ 7')			X	X	X	ND	
.4	1056	552-F (EXCAVATION FLOOR @ 10' BELOW GRADE)			X	X	X	ND	
.5	1049	552-G (Side Wall @ 7')			X	X	X	ND	
.6	1040	552-H (SIDE WALL @ 7')			X	X	X	ND	
.7	1052	552-I (SIDE WALL @ 7')			X	X	X	ND	
.8	N/A	552-J (DUPLICATE)			X	X	X	ND	

NOTE: QUA CALIBRATED TO 95 PPM METER READING W/ 95 PPM CH_4 AND ZERO (0) GAS AT 1000 HRS. ON 11/1/95 BY G. DiMartinis. (UNIT SERIAL #AS2114)

* SAMPLES KEPT BELOW 4° C.

Relinquished By (signature)	Date / Time	Received By (signature)	Shipped By:
Gary DiMartinis	11/1/95 1450		HAND DELIVERY
Relinquished By (signature)	**Date / Time**	**Received for Lab by (signature):**	**Date / Time**
		Brian Mack	11-1 1500

Note: A drawing depicting sample location should be attached or drawn on the reverse side of this chain of custody. SEE ATTACHED NOTE: SEPARATE SAMPLING TOOLS USED FOR EACH SAMPLE LOCATION.

Environmental Laboratory

PHC Conformance/Non-conformance Summary Report

	No	Yes
1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank.	✓	
2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).		✓
3. IR Spectra submitted for standards, blanks, & samples.		✓
4. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.		N/A
5. Extraction holding time met. (If not met, list number of days exceeded for each sample)		✓
6. Analysis holding time met. (If not met,list number of days exceeded for each sample)		✓

Comments: None

Laboratory Authentication Statement

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

Project #1963

Brian K. McKee

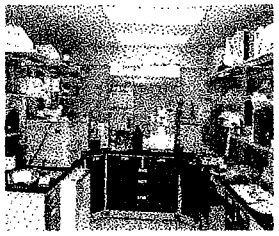
Brian K. McKee
Laboratory Manager

APPENDIX F

GROUNDWATER ANALYTICAL DATA PACKAGE

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

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



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

Bldg. 552

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
552-1 5-10'	5026.01	Aqueous	18-Dec-99 11:40	12/20/99
552-B-1 2'	5026.02	Soil	18-Dec-99 11:25	12/20/99

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
VOA+15, BN+15, TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

5-4-00
Daniel Wright/Date
Laboratory Director

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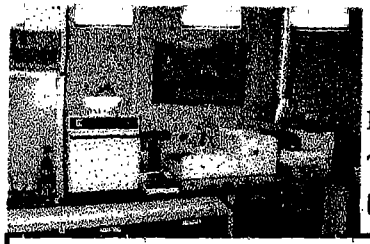
CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: D. DESAI
Phone #: X21475
( )DERA (✓)OMA ( )Other:
Project No:
Location: BLDG. 552

Samplers Name / Company: MARK LUNA - TVS - PWS 07

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	VOA+15	XYLENE	BN+15	TPHC	%SOLID				Remarks / Preservation Method
50260. 1	552-1 5-10'	12-18-99	1140	AQ.	3	X	X	X						HCl/4°C
2	552-B-1 2'	"	1125	soil	1				X	X				4°C

Analysis Parameters

Comments:

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Mark Luna	12-20-99 0700				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, (✓)Reduced, ( )Standard, ( )Screen / non-certified
Turnaround time: (✓)Standard 3 wks, ( )Rush ___ Days, ( )ASAP Verbal ___ Hrs.

Remarks: SHARED T.B. + F.B. W/ BLDG. 292

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METHODOLOGY SUMMARY

Method Summary

EPA Method 624
Gas Chromatographic Determination of Volatiles in Water

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

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

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

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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

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

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

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

CONFORMANCE NON-CONFORMANC SUMMARY

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

Indicate Yes, No, N/A

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

2. Retention times for chromatograms provided — yes

3. GC/MS Tune Specifications

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

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

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

6. GC/MS Calibration requirements

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

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

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

8. Surrogate Recoveries Meet Criteria — no

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

   a. VOA Fraction_____
   b. B/N Fraction Nitrobenzene-d5 Low MS+MD
   c. Acid Fraction NA

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

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

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

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

Indicate
Yes, No, N/A

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

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

11. Extraction Holding Time Met — Yes

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

12. Analysis Holding Time Met — Yes

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

Additional Comments:

Laboratory Manager:_____ Date: 5-4-05

TPHC Conformance/Non-conformance Summary Report

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

Additional comments: _____

Laboratory Manager

5-4-00
Date

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 5026 Site: Bldg. 552

	Date	Hold Time
Date Sampled	12/18/99	NA
Receipt/Refrigeration	12/18/99	NA
Extractions		
1. Base Neutral	12/21/99	14 days
2. TPHC	12/22/99	14 days
Analyses		
1. Volatile Organics	12/28/99	14 days
2. Base Neutral	12/21/99	40 days
3. TPHC	12/22/99	14 days

- Samples collected and refrigerated on 12/18/99, Laboratory received the sample on Monday 12/20/99.

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

Definition of Qualifiers

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

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

Data File	**VC001680.D**	Sample Name	**Vblk45**
Operator	**Skelton**	Field ID	**Vblk45**
Date Acquired	**28 Dec 1999 8:21 pm**	Sample Multiplier	**1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75343	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156594	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-35-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

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

Qualifiers

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

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

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Vblk45**

Lab Name: FMETL NJDEP#: 13461

Project: 100004 Case No.: 5026 Location: Bldg55 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: Vblk45

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC001680.D

Level: (low/med) LOW Date Received: 12/20/99

% Moisture: not dec. Date Analyzed: 12/28/99

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File	**VC001691.D**	Sample Name	**5026.01**
Operator	**Skelton**	Field ID	**552-1**
Date Acquired	**29 Dec 1999 3:49 am**	Sample Multiplier	**1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75343	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156594	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-35-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

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

Qualifiers

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

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

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **552-1**

Lab Name: FMETL NJDEP#: 13461

Project: 100004 Case No.: 5026 Location: Bldg55 SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 5026.01

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC001691.D

Level: (low/med) LOW Date Received: 12/20/99

% Moisture: not dec. _____ Date Analyzed: 12/29/99

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

BASE NEUTRAL

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BNA03480.D**	Sample Name	**Sblk330**
Operator	**Bhaskar**	Misc Info	**Sblk330 A 991221**
Date Acquired	**22-Dec-99**	Sample Multiplier	**1**

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

000031

Semi-Volatile Analysis Report
Page 2

Data File Name	**BNA03480.D**	Sample Name	**Sblk330**
Operator	**Bhaskar**	Misc Info	**Sblk330 A 991221**
Date Acquired	**22-Dec-99**	Sample Multiplier	**1**

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

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

Qualifiers

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

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

000032

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Sblk330**

Lab Name: FMETL Lab Code 13461

Project 100004 Case No.: 5026 Location Bld.552 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: Sblk330

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA03480.D

Level: (low/med) LOW Date Received: 12/20/99

% Moisture: decanted: (Y/N) N Date Extracted: 12/21/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BNA03483.D**	Sample Name	**5026.01**
Operator	**Bhaskar**	Misc Info	**552-1**
Date Acquired	**22-Dec-99**	Sample Multiplier	**1**

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

Semi-Volatile Analysis Report
Page 2

Data File Name	**BNA03483.D**	Sample Name	**5026.01**
Operator	**Bhaskar**	Misc Info	**552-1**
Date Acquired	**22-Dec-99**	Sample Multiplier	**1**

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

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

Qualifiers

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

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: 552-1

Lab Name: FMETL Lab Code 13461

Project 100004 Case No.: 5026 Location Bld.552 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 5026.01

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA03483.D

Level: (low/med) LOW Date Received: 12/20/99

% Moisture: decanted: (Y/N) N Date Extracted: 12/21/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/22/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

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

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 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 _____

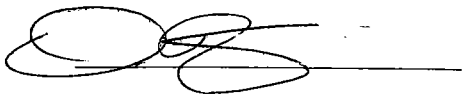
Date 5/4/00

Laboratory Certification #13461

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

Laboratory Authentication Statement

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



Daniel K. Wright
Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

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

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

Bldg. 552

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
552-1 6-11'	401	Aqueous	22-Jan-00 10:00	01/24/00

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

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

5-8-00
Daniel Wright/Date
Laboratory Director

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CHAIN OF CUSTODY

Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: D. DESAI
Phone #: X21475
( )DERA (✓)OMA ( )Other:______

Project No:
Location: BLDG. 552

Comments:

Samplers Name / Company: Mark Lauro - TVS-AUS07

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	VO+15	BN+15	XYLENE						Remarks / Preservation Method
5114. 1	552-1 — 6-11'	1-22-00	1020	AQ.	3	X	X	X						HCL - <4°C

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	1-24-00 0730	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, (✓)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: (X)Standard 3 wks, ( )Rush ____ Days, ( )ASAP Verbal ____ Hrs.

Remarks:

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print legibly

Coc1/6/00

METHODOLOGY SUMMARY

Method Summary

EPA Method 624
Gas Chromatographic Determination of Volatiles in Water

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

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

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

CONFORMANCE NON-CONFORMANC SUMMARY

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

Indicate
Yes, No, N/A

1. Chromatograms Labeled/Compounds Identified (Field Samples and Method Blanks) — yes

2. Retention times for chromatograms provided — yes

3. GC/MS Tune Specifications

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

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

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

6. GC/MS Calibration Requirements

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

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

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

8. Surrogate Recoveries Meet Criteria — yes

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

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

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

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

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

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

Indicate
Yes,
No,
N/A

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

11. Extraction Holding Time Met — Yes

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

12. Analysis Holding Time Met — yes

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

Additional Comments:
_____
_____
_____

Laboratory Manager _____ Date: 5-8-00

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 5114 Site: Bldg. 552

	Date	Hold Time
Date Sampled	01/22/00	NA
Receipt/Refrigeration	01/22/00	NA
Extractions		
1. Base Neutral	01/27/00	14 days
Analyses		
1. Volatile Organics	01/27/00	14 days
2. Base Neutral	01/28/00	40 days

- Samples collected and refrigerated on 01/22/00, Laboratory received the sample on Monday 01/24/00.

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

Definition of Qualifiers

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

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

Data File	VB005687.D	Sample Name	Vblk172
Operator	Skelton	Field ID	Vblk172
Date Acquired	27 Jan 2000 11:49 am	Sample Multiplier	1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	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	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

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

Qualifiers

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

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

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab ID. **Vblk172**

Lab Name: FMETL Project: 100004

NJDEP#: 13461 Case No.: 5114 Location: Bldg55 SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: Vblk172

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB005687.D

Level: (low/med) LOW Date Received: 1/24/00

% Moisture: not dec. _____ Date Analyzed: 1/27/00

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File	**VB005704.D**	Sample Name	**5114.01**
Operator	**Skelton**	Field ID	**552-1**
Date Acquired	**27 Jan 2000 11:17 pm**	Sample Multiplier	**1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	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	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

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

Qualifiers

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

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

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab ID. **552-1**

Lab Name: FMETL Project: 100004

NJDEP#: 13461 Case No.: 5114 Location: Bldg55 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 5114.01

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB005704.D

Level: (low/med) LOW Date Received: 1/24/00

% Moisture: not dec. Date Analyzed: 1/27/00

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: FMETL Project: 100004

NJDEP#: 13461 Case No.: 5114 Location: Bldg55 SDG No.:

Lab File ID: VB005473.D BFB Injection Date: 1/14/00

Instrument ID: GCMS#2 BFB Injection Time: 15:36

GC Column: RTX502.2 ID: 0.25 (mm) Heated Purge: (Y/N) N

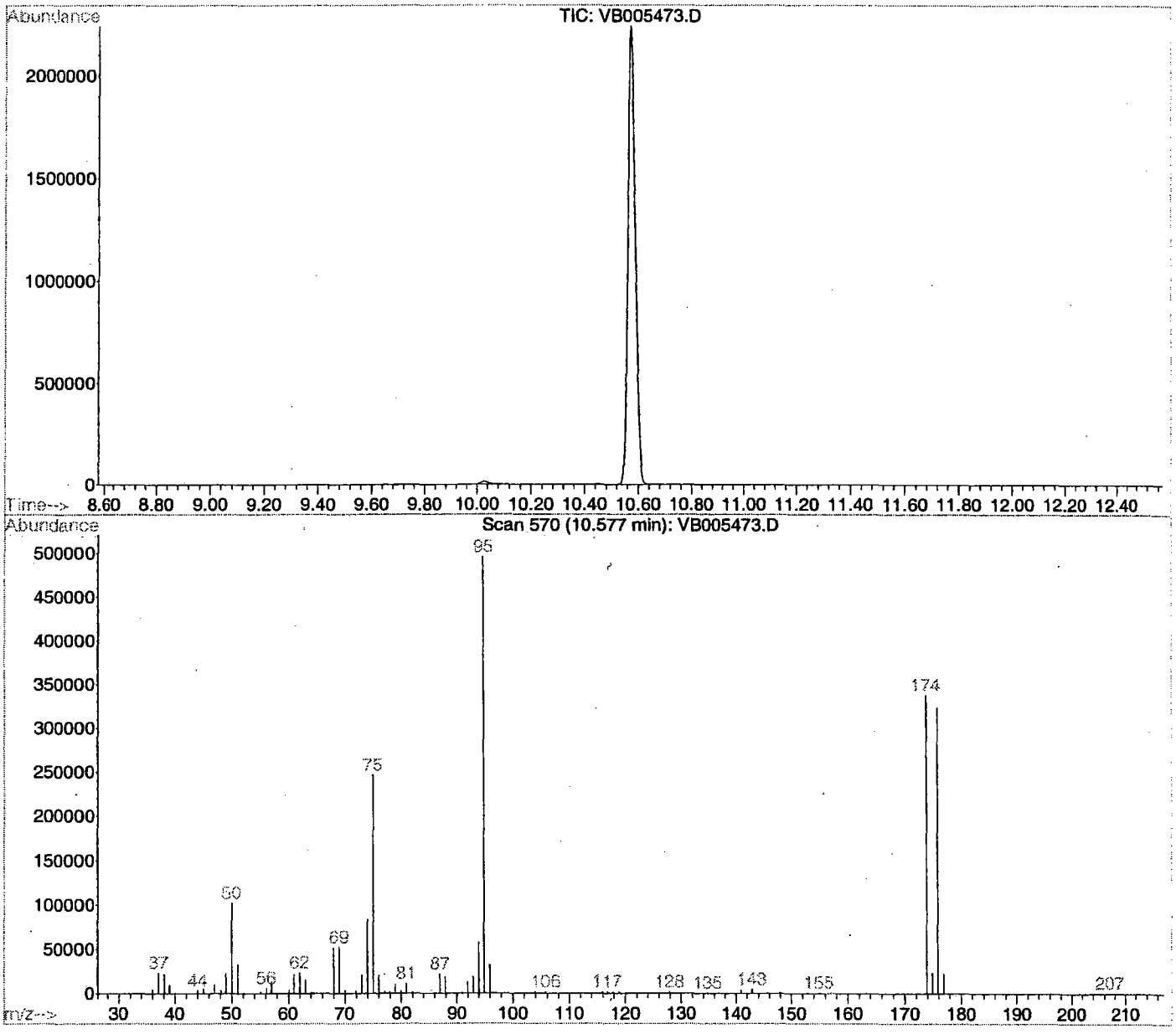
m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	20.6
75	30.0 - 66.0% of mass 95	49.8
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	68.3
175	4.0 - 9.0% of mass 174	4.7 (6.9)1
176	93.0 - 101.0% of mass 174	65.3 (95.7)1
177	5.0 - 9.0% of mass 176	4.5 (6.9)2

1-Value is % mass 174 2-Value is % mass 176

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

	Lab ID.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD100	VSTD100	VB005474.D	1/14/00	16:22
02	VSTD050	VSTD050	VB005475.D	1/14/00	17:01
03	VSTD020	VSTD020	VB005476.D	1/14/00	17:40
04	VSTD010	VSTD010	VB005477.D	1/14/00	18:19
05	VSTD005	VSTD005	VB005478.D	1/14/00	18:58

Data File : C:\HPCHEM\1\DATA\000114\VB005473.D Vial: 1
Acq On : 14 Jan 2000 3:36 pm Operator: Skelton
Sample : BFB Tune Inst : GC VOA 2
Misc : BFB Tune Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\M262445.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 570

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.6	102128	PASS
75	95	30	60	49.8	246656	PASS
95	95	100	100	100.0	495680	PASS
96	95	5	9	6.5	32288	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	68.3	338432	PASS
175	174	5	9	6.9	23424	PASS
176	174	95	101	95.7	323712	PASS
177	176	5	9	6.9	22496	PASS

BASE NEUTRAL

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BNA03580.D**	Sample Name	**Sblk339**
Operator	**Bhaskar**	Misc Info	**Sblk339 A 000127**
Date Acquired	**28-Jan-00**	Sample Multiplier	**1**

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

Semi-Volatile Analysis Report
Page 2

Data File Name	**BNA03580.D**	Sample Name	**Sblk339**
Operator	**Bhaskar**	Misc Info	**Sblk339 A 000127**
Date Acquired	**28-Jan-00**	Sample Multiplier	**1**

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

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

Qualifiers

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

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Sblk339**

Lab Name: FMETL Lab Code 13461

Project 100004 Case No.: 5114 Location Bld.552 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: Sblk339

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA03580.D

Level: (low/med) LOW Date Received: 1/24/00

% Moisture: decanted: (Y/N) N Date Extracted: 1/27/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/28/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BNA03587.D**	Sample Name	**5114.01**
Operator	**Bhaskar**	Misc Info	**552-1**
Date Acquired	**28-Jan-00**	Sample Multiplier	**1**

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

Data File Name	**BNA03587.D**	Sample Name	**5114.01**
Operator	**Bhaskar**	Misc Info	**552-1**
Date Acquired	**28-Jan-00**	Sample Multiplier	**1**

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

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

Qualifiers

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B= Compound in Related Blank
PQL= Practical Quantitation Limit

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: 552-1

Lab Name: FMETL Lab Code 13461

Project 100004 Case No.: 5114 Location Bld.552 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 5114.01

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA03587.D

Level: (low/med) LOW Date Received: 1/24/00

% Moisture: decanted: (Y/N) N Date Extracted: 1/27/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/28/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

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

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 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 NA
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 5/8/00

Laboratory Certification #13461

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

Laboratory Authentication Statement

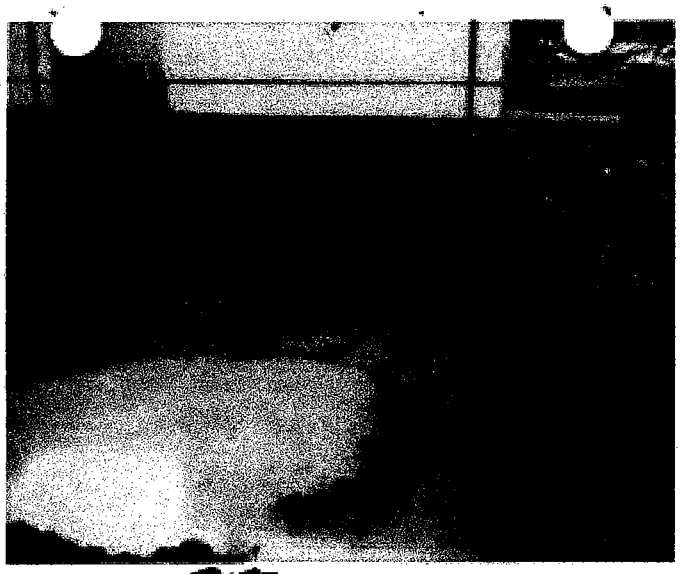
I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information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

Daniel K. Wright
Laboratory Manager

APPENDIX G

PHOTOGRAPHS

BLDG 552
10-26-95



BLDG 552
11-1-95

OCTOBER 26, 1995

PHOTOGRAPHIC LOG

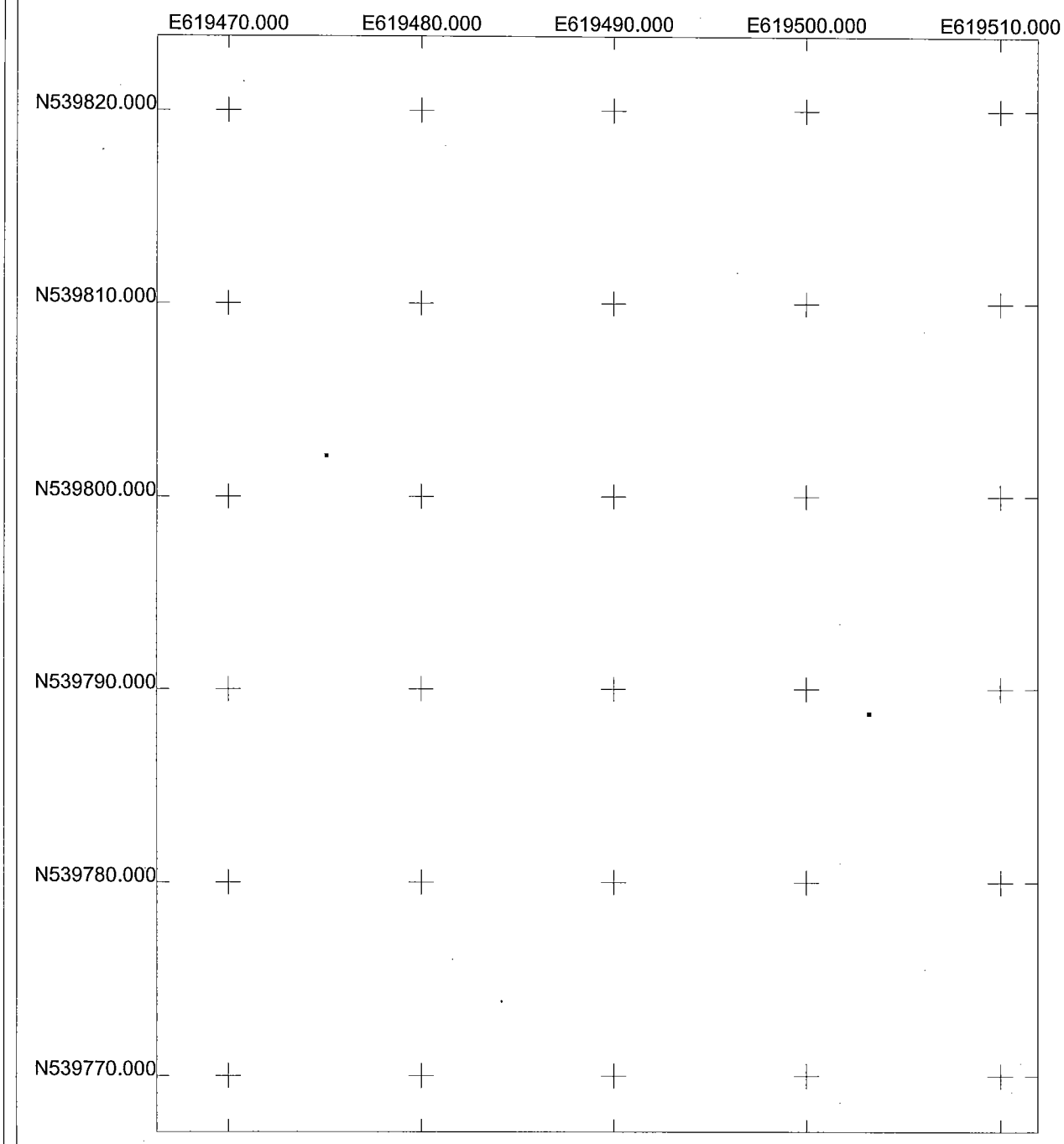
UST NO. 81533-81

Building 552
Main Post-West
Fort Monmouth

VERSAR
Engineers, Managers, Scientists & Planners
Bristol, PA

APPENDIX H

ELECTRONIC DATA DELIVERABLES



Bldg. 552 UST Ground Water and Soil Sample GPS Map

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

N

Scale 1:100
0 12.50
US Survey Feet

r070714d.cor
7/10/2000
Pathfinder Office
Trimble

BLDG. 552 UST GROUND WATER AND SOIL SAMPLE GPS POSITION & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINT

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
552 GW AND SOIL	539788.767	619503.215

(GW denotes Ground Water)

REFERENCE POINTS

POSITION / DESC.	Y COORD. (NORTHING)	X COORD. (EASTING)
TRNSFRMR PAD CRNR	539802.17	619475.033