United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

Building 117
Main Post

NJDEP UST Registration No. 0090010-72
Emergency UST Removal
Spill Case No. 94-4-28-1944-21

Text, Tables, and Appendices A Through E

July 1998

UNDERGROUND STORAGE TANK
CLOSURE AND SITE INVESTIGATION REPORT

BUILDING 117

MAIN POST
NJDEP UST REGISTRATION NO. 0090010-72
EMERGENCY UST REMOVAL
SPILL CASE NO. 94-4-28-1944-21

JULY 1998

PROJECT NO. 09-5004-08
CONTRACT NO. DACA51-94-D-0014

PREPARED FOR:

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

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EXECUTIVE SUMMARY

On April 28, 1994, a previously unknown steel underground storage tank (UST) was closed by removal at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 0090010-72, was discovered during a renovation process, and was directed as an emergency removal. The tank was located immediately adjacent to Building 117 in the Main Post area of U.S. Army, Fort Monmouth. UST No. 0090010-72 was a 1,000-gallon petroleum oil UST. The UST fill port was located directly above the tank. The tank closure was performed by U.S.Army Base Operation Contractor, Serv-Air Inc., under the direct supervision of the DPW.

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.* Soils surrounding the tank were screened visually and with air monitoring equipment for evidence of contamination. Following removal, the UST was inspected for corrosion holes. No holes were noted in the UST, however, a small amount of free product was observed along the southern wall of the excavation. Absorbent pads were placed in the excavation to absorb the free product.

On April 28, 1994, following removal of the UST, approximately 5 cubic yards of potentially contaminated soil was removed from the UST excavation due to the presence of free product along the southern wall. Eight post-excavation soil samples were collected along the sidewalls of the excavation, immediately above groundwater. One more sample was collected from the piping portion of the excavation. All samples were analyzed for total petroleum hydrocarbons (TPHC).

Based on field screening of subsurface soils, the DPW has concluded that an historical discharge was associated with the UST. On Aril 28, 1994, a spill was reported to the NJDEP "Hotline" for UST No. 0090010-72 and was assigned Spill Case No. 94-4-28-1944-21.

On April 29, 1994, approximately 10 cubic yards of potentially contaminated soil was removed from areas surrounding soil samples with elevated TPHC levels. Following the removal of the soil, four soil samples were collected and were analyzed for TPHC.

All post-excavation soil samples collected from the UST excavation and from below piping associated with the former UST at Building 117 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 shallow water table, one shallow overburden monitoring well (MW-1) was installed at the Building 117 area on September 14, 1994. On May 25, 1995 and June 16, 1995, MW-1 was sampled for volatile organic compounds calibrated for xylene plus 15 tentatively identified compounds (VOCs), semivolatile organic compounds plus 15 tentatively identified compounds (SVOCs), PCB/Pesticides, and Metals. Sampling and analysis were performed in accordance with the NJDEP *Field Sampling Procedures Manual* and the *Technical Requirements For Site Remediation.*

The sample collected from MW-1 on May 25, 1995, and June 16, 1995 contained either non-detectable concentrations of volatile organic compounds or concentrations below the Groundwater Quality Criteria (GWQC). However, the groundwater samples contained aluminum, iron, and manganese at concentrations exceeding the Ground Water Quality Criteria for aluminum of 200 ug/l, for iron of 300 ug/l, and for manganese of 50 ug/l. All other groundwater analytical results from MW-1 were either below the detection limit or in compliance with the New Jersey GWQC.

The depth to the water table was 7.17 feet below grade on May 25, 1995, and the depth to the water table on June 16, 1995 was 7.27 feet below grade.

Based on the post-excavation soil sampling results, soils 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.

The elevated aluminum, iron, and manganese concentrations detected in groundwater samples may be indicative of natural groundwater quality, interference from sampling induced turbidity, or a byproduct of biodegradation of hydrocarbons in the subsurface. Because the metal may be naturally occurring, the UST and potentially contaminated soils have been removed, and the shallow groundwater is not extracted for use, the metals do not warrant further concern or action.

No further action is proposed in regard to the closure and site assessment of UST No. 0090010-72 at Building 117.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 0090010-72, was closed at Building 117 at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on April 28, 1994. Refer to site location map on Figure 1. The UST was a steel 1,000-gallon tank containing petroleum oil.

Decommissioning activities for UST No. 0090010-72 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. Closure of UST No. 0090010-72 proceeded under the approval of the NJDEP Bureau of Underground Storage Tanks (NJDEP-BUST). The signed certifications for UST No. 0090010-72 are included in Appendix A.

Based on field screening of subsurface soils, the DPW has concluded that an historical discharge was associated with the UST. On Aril 28, 1994, a spill was reported to the NJDEP "Hotline" for UST No. 0090010-72 and was assigned Spill Case No. 94-4-28-1944-21.

This UST Closure and Site Investigation Report has been prepared by Smith Technology Corporation, to assist the United States Army Directorate of Public Works (DPW) in complying with the NJDEP Bureau of Underground Storage Tanks (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. September 1990 and revisions dated November 1, 1991).

This report was prepared using information required 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 investigation, are presented in the final section of this report.

1.2 SITE DESCRIPTION

Building 117 is located in the northeastern portion of the Main Post area of Fort Monmouth, as shown on Figure 1. UST No. 0090010-72 was located east of Building 117 and appurtenant piping ran approximately 4 feet west from the excavation to Building 117. The fill port area was located directly above the tank. A site map is provided on Figure 2.

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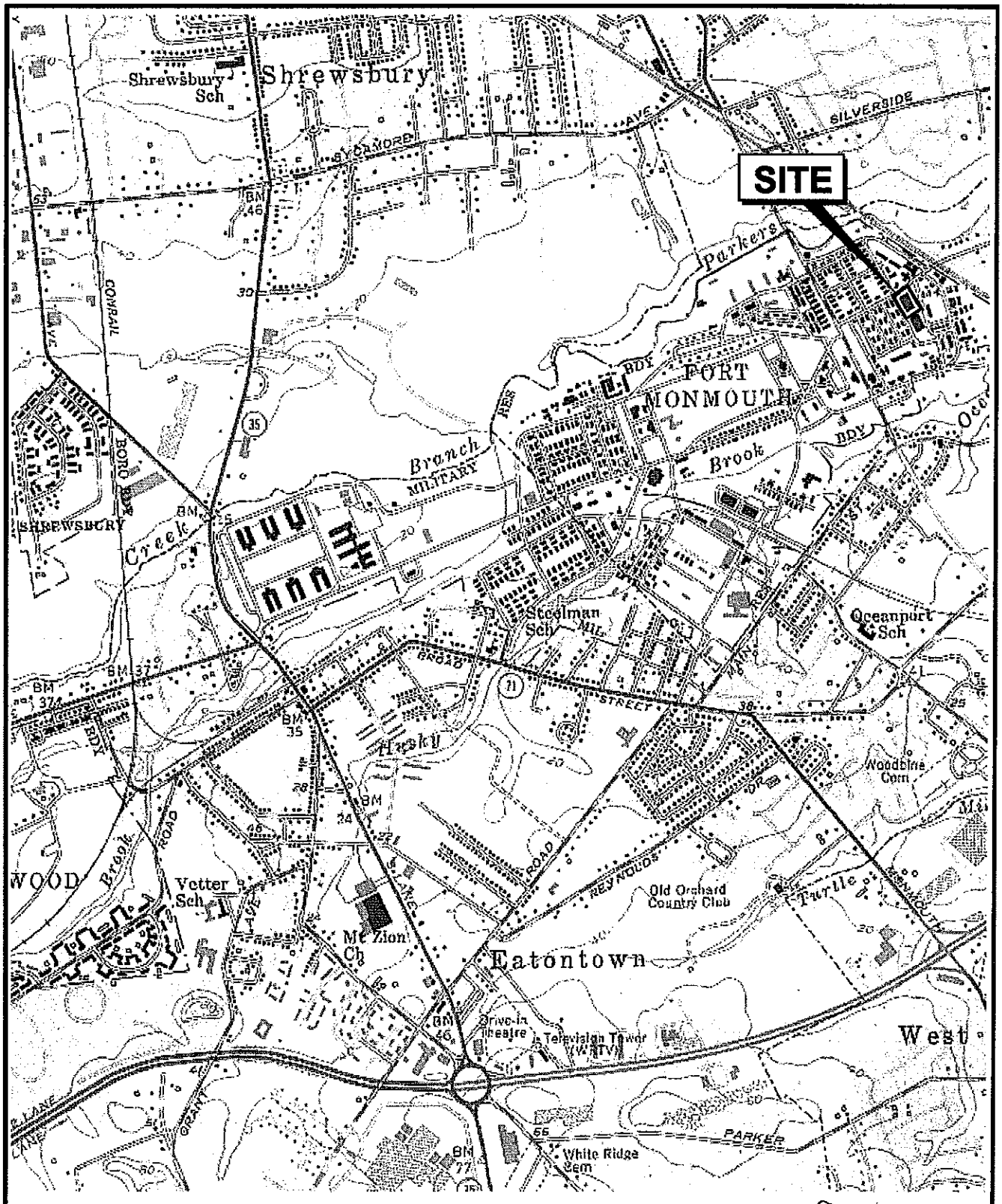
U.S. Army
Department of Public Works
Fort Monmouth, New Jersey



Source: Long Branch, New Jersey Quadrangle

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Figure 1
Site Location Map
Building 117

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the area surrounding Building 117. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area.

Regional Geology

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

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

The formations record several major transgressive/regressive cycles and contain units which are generally thicker to the southeast and reflect a deeper water environment. Over 20 regional geologic units are present within the sediments of the Coastal Plain. Regressive, upward coarsening deposits are usually aquifers (e.g., Englishtown and Kirkwood Formations, and the Cohansey Sand) while the transgressive deposits act as confining units (e.g., the Merchantville, Marshalltown, and Navesink Formations). The individual 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

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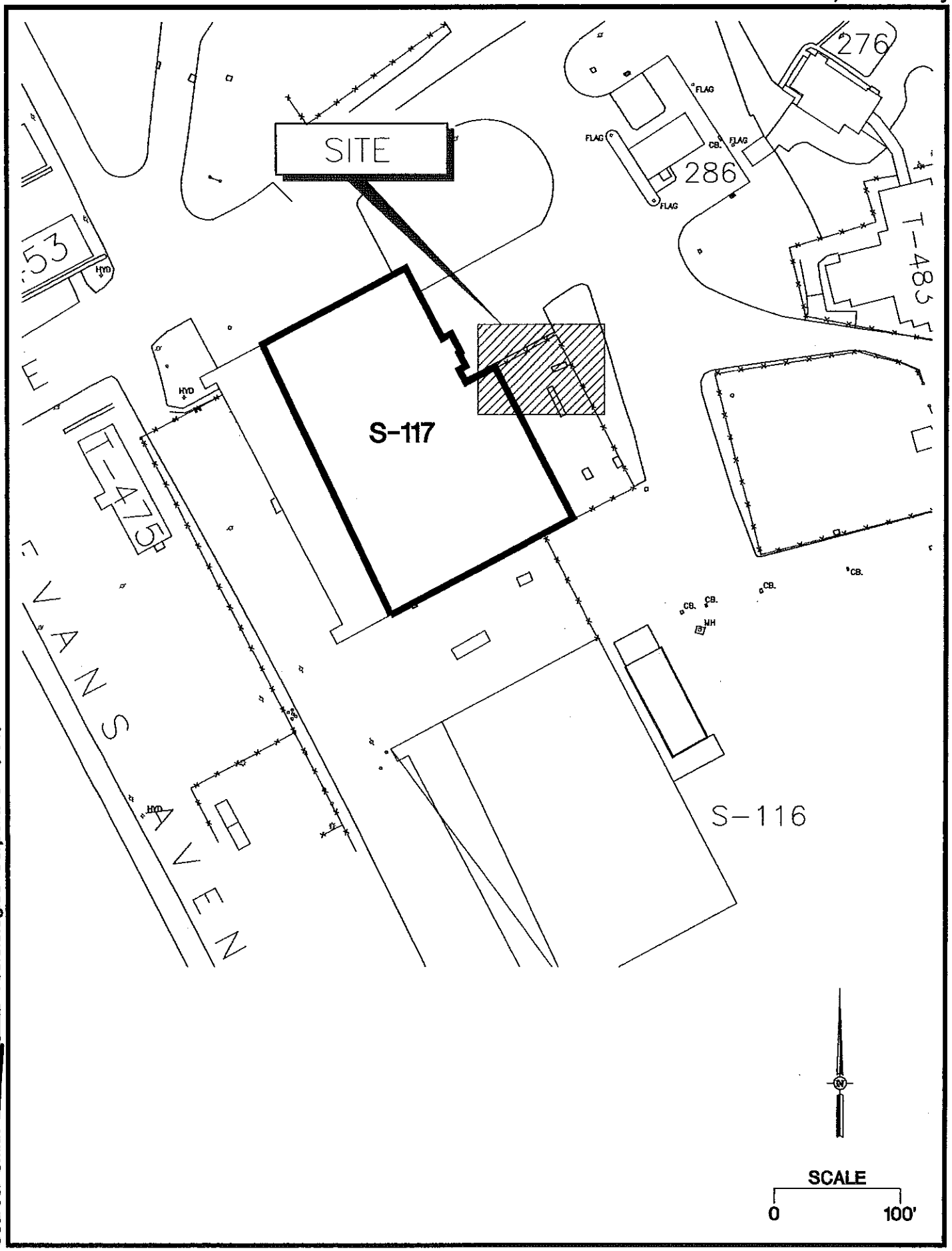


Source: Smith [redacted] Technologies Corporation (136)

Project No. 09-5004-07

Figure 2
Building 117
Site Map

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.

1.3 HEALTH AND SAFETY

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

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

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

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

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

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

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

1.4.2 Underground Storage Tank Excavation and Cleaning

Prior to UST decommissioning activities, surficial soil was removed to expose the UST and associated piping. All free product present in the piping was drained into the UST, and the UST was purged to remove vapors prior to cutting and removal of the piping. After removal of the associated piping, a manway was made in the UST to allow for proper cleaning. The UST was completely emptied of all liquids prior to removal from the ground. Approximately 260 gallons of liquid were transported by L & L Oil Services to Lionetti Oil Recovery Co., a NJDEP-approved petroleum recycling and disposal company located in Old Bridge, New Jersey. Refer to Appendix B for the waste manifest (NJA-1889390).

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. No holes or punctures were observed during the inspection by the Sub-Surface Evaluator. Soils surrounding the UST were screened visually and with an OVA for evidence of contamination. Free product was observed along the southern wall of the UST excavation.

Soil screening was also performed along the piping associated with the UST. No contamination was noted anywhere along the piping length.

1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The tank was transported by Serv-Air Inc. to Mazza and Sons Inc. for disposal in compliance with all applicable regulations and laws. The UST Disposal Ticket was not available.

The removal contractor labeled the UST prior to transport with the following information:

- site of origin
- contact person
- NJDEP UST Facility ID number

- name of transporter/contact person
- destination site/contact person

1.6 MANAGEMENT OF EXCAVATED SOILS

Based on visual observations and elevated TPHC results, approximately 15 cubic yards of potentially contaminated soils were removed from the excavation. 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 T-80 on Main Post for storage prior to ultimate disposal at Soil Remediation of Philadelphia. Soils that did not exhibit signs of contamination were used as backfill following removal of the UST.

2.0 SITE INVESTIGATION ACTIVITIES

2.1 OVERVIEW

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

The following Parties participated in Closure and Site Investigation Activities.

- Closure Contractor: U.S. Army Base Operation Contractor
  Closure Supervisor: Joseph M. Fallon
  Phone Number: (732) 532-1475
  NJDEP Company Certification No.: 000244

- Subsurface Evaluator: Joseph M. Fallon
  Employer: U.S. Army, Fort Monmouth
  Phone Number: (908) 532-1475
  NJDEP Certification No.: 000244

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

- Hazardous Waste Hauler: L&L Oil Services
  Contact Person: Not Available
  Phone Number: Not Available
  NJDEP Company Certification No.: Not Available

2.2 FIELD SCREENING/MONITORING

Field screening was performed by a NJDEP Certified Sub-Surface Evaluator using an OVA and visual observations to identify potentially contaminated material. Additional soils were removed from the excavation surrounding UST No. 0090010-72 until no evidence of contamination remained.

2.3 SOIL SAMPLING

On April 28, 1994, following removal of the UST, approximately 5 cubic yards of potentially contaminated soil was removed from the UST excavation due to the presence of free product along the southern wall. Post-excavation soil samples A, B, C, D, E, F, G, and H, were collected from a total of eight (8) locations along the sidewalls of the excavation, immediately above groundwater. The samples were collected at a depth of 6.5 feet below ground surface (bgs). Groundwater was present at approximately 7.0 feet bgs. Sample I was collected from the piping portion of the excavation which ran approximately four (4) feet west from the UST to Building 117. The piping sample was collected at a depth of 1.0 foot bgs.

On April 29, 1994, approximately 10 cubic yards of soil from areas surrounding samples A, G, H, and I were excavated due to elevated TPHC levels. Following the removal of the soil, samples
A-2, G-2, H-2, and I-2, were collected in the vicinity of samples A, G, H, and I. Samples A-2, G-2, and H-2 were collected at a depth of 6.5 feet bgs. Sample I-2 was collected at a depth of 1.0 feet bgs. All samples were analyzed for TPHC.

The site assessment was performed by U.S. Army personnel in accordance with the NJDEP *Technical Requirements* and the NJDEP *Field Sampling Procedures Manual.* A summary of sampling activities including parameters analyzed is provided in Table 1. The post-excavation soil samples were collected using polystyrene scoops. Actual soil TPHC values may be higher than reported, due to sample utensil absorbency. If absorbency resulted in reducing the actual soil TPHC concentration by 50 percent, the highest soil contaminant would have been 1,824.0 mg/kg, still below the applicable NJDEP soil cleanup standard for total organic contaminants of 10,000 mg/kg. 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

2.4.1 Monitoring Well Installation

In response to the observation of potentially contaminated soil near the shallow water table, one shallow monitoring well (MW-1) was installed at the Building 117 area on September 14, 1994. It was installed approximately 5 feet southeast of the UST excavation in the assumed downgradient direction. It was screened in the 2.5-to 12.5 foot interval, across the water table, which is approximately 7.0 feet below grade surface.

The well was constructed in accordance with the NJDEP's well construction protocols outlined in its May 1992 *Field Sampling Procedures Manual.* The NJDEP well drilling permit and a well construction log is presented in Appendix C.

TABLE 1

SUMMARY OF SAMPLING ACTIVITIES
BUILDING 117, MAIN POST
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Matrix	Sample Type	Analytical Parameters (and USEPA Methods) *	Sampling Method
A	4/28/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
B	4/28/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
C	4/28/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
D	4/28/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
E	4/28/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
F	4/28/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
G	4/28/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
H	4/28/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
I	4/28/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
A-2	4/29/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
G-2	4/29/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
H-2	4/29/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
I-2	4/29/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
MW-1	5/25/95	Aqueous	Groundwater	VOCs, SVOCs, Metals, Pesticides/PCBs	Teflon Bottom Bailer
MW-1	6/16/95	Aqueous	Groundwater	VOCs, SVOCs, Metals, Pesticides/PCBs	Teflon Bottom Bailer

* Note:

TPHC	Total Petroleum Hydrocarbons (Method 418.1 / soil and aqueous)
VOCs	Volatile Organic Cpompounds calibrated for xylene plus 15 tentatively identified compounds (Method 524.2 / aqueous)
SVOCs	Semivolalile Organic Cpompounds plus 15 tentatively identified compounds (Method 625 / aqueous)
Metals	(Method SW-846 / aqueous)
Pesticides/PCBs	(Method 608 / aqueous)

The well was constructed with 4-inch (ID) PVC riser and 0.020 slotted PVC well screen. A silica sand pack was installed in the annulus between the borehole wall and the screen. The sand pack was extended approximately 2 feet above the top of the screen. The sand pack above the well screen was graded down to a fine sand to minimize grout intrusion.

The borehole was tremie-grouted with bentonite-cement grout from the top of the sand pack to 6 inches bgs. The well was secured with a steel protective casing with a stickup that is approximately 2.5 feet above ground surface. The steel protective casing was set in place with concrete, which was placed in the remaining open borehole. The elevation of the well riser was surveyed to the nearest 0.01 feet by a New Jersey-licensed surveyor. The well permit number was marked on the well casing as required.

The monitoring well was developed using a submersible pump. The well was pumped for 1 hour or until silt free. All residual soils and liquids generated during monitoring well installation and development program were collected in New Jersey Department of Transportation-approved 55-gallon drums. The drums were placed in a designated secure location for waste characterization and offsite disposal.

2.4.2 Monitoring Well Sampling

On May 25, 1995 and June 16, 1995, MW-1 was sampled for volatile organic compounds calibrated for xylene plus 15 tentatively identified compounds (VOCs), semivolatile organic compounds plus 15 tentatively identified compounds (SVOCs), PCB/Pesticides, and Metals. Sampling and analysis were performed in accordance with the NJDEP *Field Sampling Procedures Manual* and the *Technical Requirements For Site Remediation.*

Prior to sampling, the water level was measured to the nearest 0.01 feet, and the distance to the bottom of the well was to be measured to the nearest 0.1 feet. The well was checked for floating product (light non-aqueous phase liquids). The well was purged of three to five well volumes of standing water. Sample volume was then collected using dedicated decontaminated Teflon bottom-filled bailer attached to PTFE (Teflon)-coated stainless steel.

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 A, B, C, D, E, F, G, H, and I were collected from a total of nine (9) locations on April 28, 1994. Post-excavation soil samples A-2, G-2, H-2, and I-2 were collected from four (4) locations on April 29, 1994. All samples were analyzed for TPHC. 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 results are shown on Figure 3. The analytical data package is provided in Appendix D.

All post-excavation soil samples collected on April 28, 1994 and April 29, 1994 from the UST excavation and from below piping associated with the UST contained concentrations of TPHC below the NJDEP soil cleanup criteria. The TPHC concentrations for samples B, C, D, E, and F, collected on April 28, 1994 ranged from 28.0 mg/kg to 912.0 mg/kg. Samples A, G, H, and I, collected on April 28, 1994, contained elevated TPHC concentrations ranging from 1,130.0 mg/kg to 4,440.0 mg/kg. Samples A-2, G-2, H-2, and I-2, collected on April 29, 1994, contained TPHC concentrations ranging from 12.9 mg/kg to 40.5 mg/kg.

3.2 GROUNDWATER SAMPLING RESULTS

The sample collected from MW-1 on May 25, 1995, contained methylene chloride at 0.80 micrograms per liter (ug/l), tert-butylbenzene at 1.2 ug/l, and sec-butylbenzene at 6.4 ug/l. These results were below the Groundwater Quality Criteria (GWQC). The trip blank contained methylene chloride at 1.5 ug/l, 1,2-dichloroethane at 8.4 ug/l, 2-chlorotoluene at 7.7 ug/l, and 4-chlorotoluene at 2.5 ug/l. The 1,2-dichloroethane concentration exceeded the GWQC of 2.0 ug/l. The field blank contained methylene chloride at 1.6 ug/l, 1,2-dichloroethane at 7.3 u/l, toluene at 1.6 ug/l, 2- chlorotoluene at 7.7 ug/l, 4-chlorotoluene at 6.4 ug/l, and 1,4-dichlorobenzene at 0.60 ug/l. The 1,2-dichloroethane concentration exceeded the GWQC of 2.0 ug/l.

The sample also contained aluminum at 650 ug/l, barium at 23 ug/l, calcium at 21,000 ug/l, iron at 1,700 ug/l, magnesium at 12,000 ug/l, manganese at 170 ug/l, and sodium at 48,000 ug/ll. These results exceeded the Ground Water Quality Criteria for aluminum of 200 ug/l, for iron of 300 ug/l, and for manganese of 50 ug/l. The field blank contained iron at 100 ug/l. All other groundwater analytical results from MW-1 on May 25, 1995 were either below the detection limit or in compliance with the New Jersey GWQC.

The sample collected from MW-1 on June 16, 1995, contained methylene chloride at 1.6 ug/l, 1,2-dichloroethane at 9.6 ug/l, tert-butylbenzene at 1.2 ug/l, sec-butylbenzene at 6.4 ug/l, and

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
BUILDING 117
FT. MONMOUTH, NEW JERSEY

Sample ID/Depth	Sample Laboratory ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (mg/kg)	Compound of Concern	Result (mg/kg)	NJDEP Soil Cleanup Criteria * (mg/kg)	Exceeds Cleanup Criteria
A/6.5-7.0'	1465.1	4/28/94	4/29/94	Total Solid	--	--	84 %	--	--
				TPHC	50.0	yes	2,850.0	10,000	--
B/6.5-7.0'	1465.2	4/28/94	4/29/94	Total Solid	--	--	90 %	--	--
				TPHC	6.6	yes	564.0	10,000	--
C/6.5-7.0'	1465.3	4/28/94	4/29/94	Total Solid	--	--	90 %	--	--
				TPHC	6.6	yes	28.0	10,000	--
D/6.5-7.0'	1465.4	4/28/94	4/29/94	Total Solid	--	--	88 %	--	--
				TPHC	9.9	yes	197.0	10,000	--
E/6.5-7.0'	1465.5	4/28/94	4/29/94	Total Solid	--	--	91 %	--	--
				TPHC	20.0	yes	689.0	10,000	--
F/6.5-7.0'	1465.6	4/28/94	4/29/94	Total Solid	--	--	89 %	--	--
				TPHC	20.0	yes	912.0	10,000	--
G/6.5-7.0'	1465.7	4/28/94	4/29/94	Total Solid	--	--	90 %	--	--
				TPHC	20.0	yes	1,480.0	10,000	--
H/6.5-7.0'	1465.8	4/28/94	4/29/94	Total Solid	--	--	91 %	--	--
				TPHC	9.9	yes	1,130.0	10,000	--
I/1.0-1.5'	1465.9	4/28/94	4/29/94	Total Solid	--	--	88 %	--	--
				TPHC	50.0	yes	4,440.0	10,000	--

Notes:
* Cleanup criteria for total organics
-- Not applicable / does not exceed criteria
TPHC Total Petroleum Hydrocarbons

Smith Technology Corporation (Project No. 09-5004-08)

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
BUILDING 117
FT. MONMOUTH, NEW JERSEY

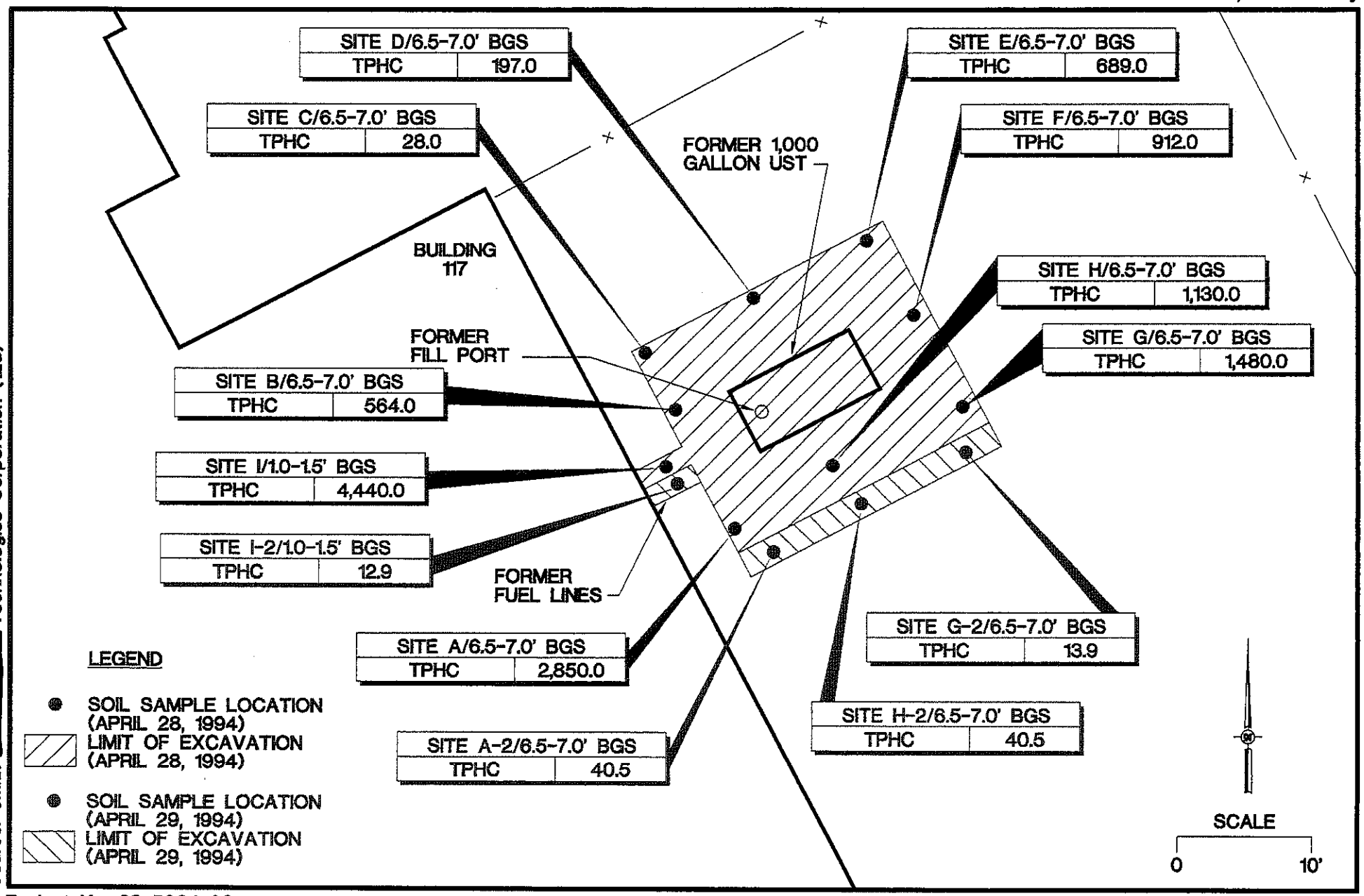
Sample ID/Depth	Sample Laboratory ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (mg/kg)	Compound of Concern	Result (mg/kg)	NJDEP Soil Cleanup Criteria * (mg/kg)	Exceeds Cleanup Criteria
A-2/6.5-7.0'	1469.1	4/29/94	4/29/94	Total Solid	--	--	90 %	--	--
				TPHC	3.3	yes	40.5	10,000	--
G-2/6.5-7.0'	1469.2	4/29/94	4/29/94	Total Solid	--	--	86 %	--	--
				TPHC	3.3	yes	13.9	10,000	--
H-2/6.5-7.0'	1469.3	4/29/94	4/29/94	Total Solid	--	--	90 %	--	--
				TPHC	3.3	yes	40.5	10,000	--
I-2/1.0-1.5'	1469.4	4/29/94	4/29/94	Total Solid	--	--	93 %	--	--
				TPHC	3.3	yes	12.9	10,000	--

Notes:
* Cleanup criteria for total organics
-- Not applicable / does not exceed criteria
TPHC Total Petroleum Hydrocarbons

Smith Technology Corporation (Project No. 09-5004-08)

SMITH

U.S. Army
Department of Public Works
Fort Monmouth, New Jersey



Source: Smith Technologies Corporation (128)

Project No. 09-5004-08

Figure 3
Building 117
Soil Sampling Results

phenol at 3.0 ug/l. The 1,2-dichloroethane concentration exceeded the GWQC of 2.0 ug/l. The trip blank contained methylene chloride at 0.80 ug/l, and 1,2-dichloroethane at 8.4 ug/l. The field blank contained chloromethane at 0.90 ug/l, methylene chloride at 0.80 ug/l, and 1,2-dichloroethane at 7.3 ug/l.

The sample also contained aluminum at 1,900 ug/l, calcium at 13,000 ug/l, iron at 5,900 ug/l, and magnesium at 6,300 ug/l, manganese at 80 ug/l, sodium at 27,000 ug/l, lead at 2.6 ug/l, and zinc at 76 ug/l. These results exceeded the GWQC for aluminum of 200 ug/l, for iron of 300 ug/l, and for manganese of 50 ug/l. The field blank contained iron at 100 ug/l. All other groundwater analytical results from MW-1 on June 16, 1995 were either below the detection limit, or in compliance with the New Jersey GWQC.

No product or sheen was observed in MW-1 on either of the sampling dates. The depth to the water table was 7.17 feet below grade surface on May 25, 1995 and 7.27 feet below grade surface on June 16, 1995.

All groundwater analytical results are presented in Table 3 and shown on Figure 4. The groundwater analytical data package is provided in Appendix F. The full data package, including quality control, is on file at U.S. Army Fort Monmouth, DPW.

3.3 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 117 were below the NJDEP soil cleanup criteria for total organic contaminants.

Based on the post-excavation sampling results, soils 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 detection of 1,2-dichloroethane in field blanks and trip blanks, the 1,2-dichloroethane detected in the June 16, 1995 sample from MW-1 is attributed to sampling and/or laboratory interference; it is not considered representative of groundwater quality. The elevated aluminum, iron, and manganese concentrations may be indicative of natural groundwater quality, interference from sampling induced turbidity, or a byproduct of biodegradation of hydrocarbons in the subsurface. Because the metal may be naturally occurring, the UST and potentially contaminated soils have been removed, and the shallow groundwater is not extracted for use, the metals do not warrant further concern or action.

No further action is proposed in regard to the closure and site assessment of UST No. 0090010-72 at Building 117.

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FT. MONMOUTH, NEW JERSEY
VOLATILE ORGANICS

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	5/25/95	6/08/95	Dichlorodifluoromethane	0.50	--	ND	--	--
			Chloromethane	0.50	--	ND	--	--
			Vinyl Chloride	0.50	--	ND	--	--
			Bromomethane	0.50	--	ND	5	--
			Chloroethane	0.50	--	ND	--	--
			Trichlorofluoromethane	0.50	--	ND	--	--
			1,1-Dichloroethene	0.50	--	ND	2	--
			Methylene Chloride	0.80	--	0.80 B	100*	--
			1,2-Dichloroethene (trans)	0.50	--	ND	2*	--
			1,1 Dichloroethane	0.50	--	ND	70	--
			2,2-Dichloropropane	0.50	--	ND	--	--
			cis-1,2-Dichloroethene	0.50	--	ND	--	--
			Bromochloromethane	0.50	--	ND	10*	--
			Chloroform	0.50	--	ND	6	--
			1,1,1-Trichloroethane	0.50	--	ND	--	--
			Carbon Tetrachloride	0.50	--	ND	2	--
			1,1-Dichloropropene	0.50	--	ND	30	--
			Benzene	0.50	--	ND	--	--
			1,2-Dichloroethane	0.50	--	ND	2	--
			Trichloroethene	0.50	--	ND	1	--
			1,2-Dichloropropane	0.50	--	ND	1	--
			Dibromomethane	0.50	--	ND	NA	--
			Bromodichloromethane	0.50	--	ND	--	--
			cis-1,3-Dichloropropene	0.50	--	ND	1	--
			Toluene	0.50	--	ND	10	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
VOLATILE ORGANICS (Continued)

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	5/25/95	6/8/95	trans-1,3-Dichloropropene	0.50	--	ND	3	--
			1,1,2-Trichloroethane	0.50	--	ND	1	--
			Tetrachloroethene	0.50	--	ND	NA	--
			1,3-Dichloropropane	0.50	--	ND	4	--
			Dibromochloromethane	0.50	--	ND	10	--
			1,2-Dibromomethane	0.50	--	ND	1*	--
			Chlorobenzene	0.50	--	ND	2	--
			1,1,2,2-Tetrachloroethane	0.50	--	ND	1,000	--
			Ethylbenzene	0.50	--	ND	--	--
			Xylenes (Total)	0.50	--	ND	4	--
			Styrene	0.50	--	ND	700	--
			Bromoform	0.50	--	ND	40	--
			Isopropylbenzene	0.50	--	ND	100	--
			Bromobenzene	0.50	--	ND	--	--
			1,1,2,2-Tetrachloroethane	0.50	--	ND	--	--
			1,2,3-Trichloropropane	0.50	--	ND	--	--
			n-Propylbenzene	0.50	--	ND	--	--
			2-Chlorotoluene	0.50	--	ND	--	--
			4-Chlorotoluene	0.50	--	ND	--	--
			1,3,5-Trimethylbenzene	0.50	--	ND	--	--
			tert-Butylbenzene	1.2	--	1.2	--	--
			1,2,4-Trimethylbenzene	0.50	--	ND	--	--
			sec-Butylbenzene	6.4	--	6.4	--	--
			1,3-Dichlorobenzene	0.50	--	ND	600	--
			4-Isopropyltoluene	0.50	--	ND	75	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
VOLATILE ORGANICS (Continued)

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	5/25/95	6/8/95	1,4-Dichlorobenzene	0.50	--	ND	--	--
			1,2-Dichlorobenzene	0.50	--	ND	600	--
			N-Butylbenzene	0.50	--	ND	--	--
			1,2-Dibromo-3-chloropropane	0.50	--	ND	NA	--
			1,2,4-Trichlorobenzene	0.50	--	ND	9	--
			Hexachlorobutadiene	0.50	--	ND	1	--
			Naphthalene	0.50	--	ND	--	--
			1,2,3-Trichlorobenzene	0.50	--	ND	--	--
			Methyl-tertiary butyl ether	0.50	--	ND	--	--
			Tertiary-butyl alcohol	2.0	--	ND	--	--

Notes:

* The tetrachloroethene, 1,2-Dichloroethene(trans), 1,1-Dichloroethene, and cis-1,2-Dichloroethene results were compared to the GWQC for their respective synonym (tetrachlororethylene, 1,2-Dichloroethylene(trans), 1,1-Dichloroethylene, and cis-1,2-Dichloroethylene).

-- Not applicable / does not exceed criteria

(ND) Indicates compound not detected

(NA) Not available for this constituent

GWQC Ground Water Quality Criteria

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
VOLATILE TICS

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)
MW-1	5/25/95	6/8/95	NONE FOUND	--	--	--

Notes:
-- Not applicable / does not exceed criteria
(J) Indicates detected below sample quantitation limit
TICS Tenatively Identified Compounds

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
SEMIVOLATILES

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	5/25/95	6/7/95	Phenol	10	--	ND	4000	--
			bis(2 chloroethyl)Ether	10	--	ND	20	--
			2-Chlorophenol	10	--	ND	40	--
			1,3-Dichlorobenzene	10	--	ND	600	--
			1,4-Dichlorobenzene	10	--	ND	75	--
			1,2-Dichlorobenzene	10	--	ND	600	--
			2-Methylphenol	10	--	ND	--	--
			bis(2-chloroisopropyl)Ether	10	--	ND	300	--
			4-Methylphenol	10	-	ND	--	--
			N-Nitroso-Di-n-propylamine	10	--	ND	20	--
			Hexachloroethane	10	--	ND	10	--
			Nitrobenzene	10	--	ND	10	--
			Isophorone	10	--	ND	100	--
			2-Nitrophenol	10	--	ND	--	--
			2,4-Dimethylphenol	10	--	ND	100	--
			bis(2-Chloroethoxy)Methane	10	--	ND	--	--
			2,4-Dichlorophenol	10	--	ND	20	--
			1,2,4-Trichlorobenzene	10	--	ND	9	--
			Naphthalene	10	--	ND	--	--
			4-Chloroaniline	10	--	ND	--	--
			Hexachlorobutadiene	10	--	ND	1	--
			4-Chloro-3-methylphenol	10	--	ND	--	--
			2-methylnaphthanene	10	--	ND	--	--
			Hexachlorocyclopentadiene	10	--	ND	50	--
			2,4,6-Trichlorophenol	10	--	ND	20	--
			2,4,5-Trichlorophenol	25	--	ND	700	--
			2-Chloronaphthalene	10	--	ND	--	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
SEMIVOLATILES (Continued)

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	5/25/95	6/7/95	2-Nitroanline	25	--	ND	--	--
			Dimethyl Phthalate	10	--	ND	--	--
			Acenaphthylene	10	--	ND	NA	--
			2,6-Dinitrotoluene	10	--	ND	NA	--
			3-Nitroaniline	25	--	ND	--	--
			Acenaphthene	10	--	ND	400	--
			2,4-Dinitrophenol	25	--	ND	40	--
			4-Nitrophenol	25	--	ND	--	--
			Dibenzofuran	10	--	ND	--	--
			2,4-Dinitrotoluene	10	--	ND	10	--
			Diethylphthalate	10	--	ND	5,000	--
			Fluorene	10	--	ND	300	--
			4-Chlorophenyl-phenlyether	10	--	ND	--	--
			4-Nitroaniline	25	--	ND	--	--
			4,6-Dinitro-2-methylphenol	25	--	ND	--	--
			N-Nitrosodiphenylamine	10	--	ND	20	--
			4-Bromophenyl-phenylether	10	--	ND	--	--
			Hexachlorobenzene	10	--	ND	10	--
			Pentachlorophenol	25	--	ND	1	--
			Phenanthrene	10	--	ND	NA	--
			Anthracene	10	--	ND	2,000	--
			Carbazole	10	--	ND	--	--
			Di-n-butylphthalate	10	--	ND	900	--
			Fluoranthene	10	--	ND	300	--
			Pyrene	10	--	ND	200	--
			Butylbenzylphthalate	10	--	ND	100	--
			Benzo(a)Anthracene	10	--	ND	NA	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
SEMIVOLATILES (Continued)

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	5/25/95	6/7/95	3,3-Dichlorobenzidine	20	--	ND	60	--
			Chrysene	10	--	ND	NA	--
			bis(2-Ethylhexyl)Phthalate	10	--	ND	30	--
			Di-n-Octyl Phthalate	10	--	ND	100	--
			Benzo(b)Fluoranthene	10	--	ND	NA	--
			Benzo(k)Fluoranthene	10	--	ND	NA	--
			Benzo(a)Pyrene	10	--	ND	NA	--
			Indeno(1,2,3-cd)pyrene	10	--	ND	NA	--
			Dibenzo(a,h)anthracene	10	--	ND	NA	--
			Benzo(g,h,i)perylene	10	--	ND	NA	--

Notes:
-- Not applicable / does not exceed criteria
(ND) Indicates compound not detected
(NA) Not available for this constituent
GWQC Ground Water Quality Criteria

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
SEMIVOLATILE TICS

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)
MW-1	5/25/95	6/7/95	NONE FOUND	--	--	--

Notes:
-- Not applicable / does not exceed criteria
(J) Indicates detected below sample quantitation limit
TICS Tentatively Identified Compounds

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
METALS

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	5/25/95	6/08/95	Silver	50	--	ND	20	--
			Aluminum	650	--	650	200	YES
			Arsenic	5	--	ND	8	--
			Barium	23	--	23	2000	--
			Beryllium	5	--	ND	20	--
			Calcium	21000	--	21000	--	--
			Cadmium	10	--	ND	4	--
			Cobalt	50	--	ND	--	--
			Chromium	50	--	ND	100	--
			Copper	50	--	ND	1000	--
			Iron	1700	--	1700	300	YES
			Mercury	1	--	ND	2	--
			Potassium	3000	--	ND	--	--
			Magnesium	12000	--	12000	--	--
			Manganese	170	--	170	50	YES
			Sodium	48000	--	48000	50000	--
			Nickel	50	--	ND	100	--
			Lead	2.5	--	ND	10	--
			Antimony	5	--	ND	20	--
			Selenium	5	--	ND	50	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
METALS (Continued)

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	5/25/95	6/08/95	Thallium	5	--	ND	10	--
			Vanadium	50	--	ND	--	--
			Zinc	20	--	ND	5000	--
			Cyanide (total)	10	--	ND	200	--

Notes:
-- Not applicable / does not exceed criteria
(ND) Indicates compound not detected
GWQC Ground Water Quality Criteria

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
PESTICIDES/PCB'S

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	5/25/95	6/08/95	alpha-BHC	0.02	--	ND	0.02	--
			beta-BHC	0.04	--	ND	0.2	--
			delta-BHC	0.02	--	ND	--	--
			gamma-BHC (Lindane)	0.03	--	ND	--	--
			Heptachlor	0.02	--	ND	0.4	--
			Aldrin	0.04	--	ND	0.04	--
			Heptachlor epoxide	0.04	--	ND	0.2	--
			Endosulfan I	0.02	--	ND	0.4	--
			Dieldrin	0.03	--	ND	0.03	--
			4,4'-DDE	0.04	--	ND	0.1	--
			Endrin	0.04	--	ND	2	--
			Endosulfan II	0.04	--	ND	0.4	--
			4,4'-DDD	0.04	--	ND	0.1	--
			Endosulfan sulfate	0.04	--	ND	0.4	--
			4,4'-DDT	0.04	--	ND	0.1	--
			Endrin aldehyde	0.1	--	ND	--	--
			Chlordane	0.1	--	ND	0.5	--
			Toxaphene	1	--	ND	3	--
			Aroclor-1016	1	--	ND	--	--
			Aroclor-1221	1	--	ND	--	--
			Aroclor-1232	1	--	ND	--	--
			Aroclor-1242	1	--	ND	--	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
PESTICIDES/PCB'S (Continued)

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	5/25/95	6/08/95	Aroclor-1248	1	--	ND	--	--
			Aroclor-1254	1	--	ND	--	--
			Aroclor-1260	1	--	ND	--	--

Notes:
-- Not applicable / does not exceed criteria
(ND) Indicates compound not detected
GWQC Ground Water Quality Criteria

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, TRIP BLANK
FT. MONMOUTH, NEW JERSEY
VOLATILE ORGANICS

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Trip Blank	5/25/95	6/7/95	Dichlorodifluoromethane	0.50	--	ND	--	--
			Chloromethane	0.50	--	ND	--	--
			Vinyl Chloride	0.50	--	ND	--	--
			Bromomethane	0.50	--	ND	5	--
			Chloroethane	0.50	--	ND	--	--
			Trichlorofluoromethane	0.50	--	ND	--	--
			1,1-Dichloroethene	0.50	--	ND	2	--
			Methylene Chloride	1.5	--	1.5 B	100*	--
			1,2-Dichloroethene (trans)	0.50	--	ND	2*	--
			1,1 Dichloroethane	0.50	--	ND	70	--
			2,2-Dichloropropane	0.50	--	ND	--	--
			cis-1,2-Dichloroethene	0.50	--	ND	--	--
			Bromochloromethane	0.50	--	ND	10*	--
			Chloroform	0.50	--	ND	6	--
			1,1,1-Trichloroethane	0.50	--	ND	--	--
			Carbon Tetrachloride	0.50	--	ND	2	--
			1,1-Dichloropropene	0.50	--	ND	30	--
			Benzene	0.50	--	ND	--	--
			1,2-Dichloroethane	8.4	--	8.4	2	YES
			Trichloroethene	0.50	--	ND	1	--
			1,2-Dichloropropane	0.50	--	ND	1	--
			Dibromomethane	0.50	--	ND	NA	--
			Bromodichloromethane	0.50	--	ND	--	--
			cis-1,3-Dichloropropene	0.50	--	ND	1	--
			Toluene	1.0	--	1.0	10	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, TRIP BLANK
FORT MONMOUTH, NEW JERSEY
VOLATILE ORGANICS (Continued)

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Trip Blank	5/25/95	6/7/95	trans-1,3-Dichloropropene	0.50	--	ND	3	--
			1,1,2-Trichloroethane	0.50	--	ND	1	--
			Tetrachloroethene	0.50	--	ND	NA	--
			1,3-Dichloropropane	0.50	--	ND	4	--
			Dibromochloromethane	0.50	--	ND	10	--
			1,2-Dibromomethane	0.50	--	ND	1*	--
			Chlorobenzene	0.50	--	ND	2	--
			1,1,2,2-Tetrachloroethane	0.50	--	ND	1,000	--
			Ethylbenzene	0.50	--	ND	--	--
			Xylenes (Total)	0.50	--	ND	4	--
			Styrene	0.50	--	ND	700	--
			Bromoform	0.50	--	ND	40	--
			Isopropylbenzene	0.50	--	ND	100	--
			Bromobenzene	0.50	--	ND	--	--
			1,1,2,2-Tetrachloroethane	0.50	--	ND	--	--
			1,2,3-Trichloropropane	0.50	--	ND	--	--
			n-Propylbenzene	0.50	--	ND	--	--
			2-Chlorotoluene	7.7	--	7.7	--	--
			4-Chlorotoluene	2.5	--	2.5	--	--
			1,3,5-Trimethylbenzene	0.50	--	ND	--	--
			tert-Butylbenzene	0.50	--	ND	--	--
			1,2,4-Trimethylbenzene	0.50	--	ND	--	--
			sec-Butylbenzene	0.50	--	ND	--	--
			1,3-Dichlorobenzene	0.50	--	ND	600	--
			4-Isopropyltoluene	0.50	--	ND	75	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, TRIP BLANK
FORT MONMOUTH, NEW JERSEY
VOLATILE ORGANICS (Continued)

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Trip Blank	5/25/95	6/7/95	1,4-Dichlorobenzene	0.50	--	ND	--	--
			1,2-Dichlorobenzene	0.50	--	ND	600	--
			N-Butylbenzene	0.50	--	ND	--	--
			1,2-Dibromo-3-chloropropane	0.50	--	ND	NA	--
			1,2,4-Trichlorobenzene	0.50	--	ND	9	--
			Hexachlorobutadiene	0.50	--	ND	1	--
			Naphthalene	0.50	--	ND	--	--
			1,2,3-Trichlorobenzene	0.50	--	ND	--	--
			Methyl-tertiary butyl ether	0.50	--	ND	--	--
			Tertiary-butyl alcohol	2.0	--	ND	--	--

Notes:

* The tetrachloroethene, 1,2-Dichloroethene(trans), 1,1-Dichloroethene, and cis-1,2-Dichloroethene results were compared to the GWQC for their respective synonym (tetrachlororethylene, 1,2-Dichloroethylene(trans), 1,1-Dichloroethylene, and cis-1,2-Dichloroethylene).

-- Not applicable / does not exceed criteria

(B) Indicates also present in blank

(ND) Indicates compound not detected

(NA) Not available for this constituent

GWQC Ground Water Quality Criteria

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, TRIP BLANK
FORT MONMOUTH, NEW JERSEY
VOLATILE TICS

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)
Trip Blank	5/25/95	6/7/95	NONE FOUND	--	--	--

Notes:
-- Not applicable / does not exceed criteria
(J) Indicates detected below sample quantitation limit
TICS Tentatively Identified Compounds

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FT. MONMOUTH, NEW JERSEY
VOLATILE ORGANICS

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Field Blank	5/25/95	6/7/95	Dichlorodifluoromethane	0.50	--	ND	--	--
			Chloromethane	0.50	--	ND	--	--
			Vinyl Chloride	0.50	--	ND	--	--
			Bromomethane	0.50	--	ND	5	--
			Chloroethane	0.50	--	ND	--	--
			Trichlorofluoromethane	0.50	--	ND	--	--
			1,1-Dichloroethene	0.50	--	ND	2	--
			Methylene Chloride	1.6	--	1.6 B	100*	--
			1,2-Dichloroethene (trans)	0.50	--	ND	2*	--
			1,1 Dichloroethane	0.50	--	ND	70	--
			2,2-Dichloropropane	0.50	--	ND	--	--
			cis-1,2-Dichloroethene	0.50	--	ND	--	--
			Bromochloromethane	0.50	--	ND	10*	--
			Chloroform	0.50	--	ND	6	--
			1,1,1-Trichloroethane	0.50	--	ND	--	--
			Carbon Tetrachloride	0.50	--	ND	2	--
			1,1-Dichloropropene	0.50	--	ND	30	--
			Benzene	0.50	--	ND	--	--
			1,2-Dichloroethane	7.3	--	7.3	2	YES
			Trichloroethene	0.50	--	ND	1	--
			1,2-Dichloropropane	0.50	--	ND	1	--
			Dibromomethane	0.50	--	ND	NA	--
			Bromodichloromethane	0.50	--	ND	--	--
			cis-1,3-Dichloropropene	0.50	--	ND	1	--
			Toluene	1.6	--	1.6	10	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
VOLATILE ORGANICS (Continued)

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Field Blank	5/25/95	6/7/95	trans-1,3-Dichloropropene	0.50	--	ND	3	--
			1,1,2-Trichloroethane	0.50	--	ND	1	--
			Tetrachloroethene	0.50	--	ND	NA	--
			1,3-Dichloropropane	0.50	--	ND	4	--
			Dibromochloromethane	0.50	--	ND	10	--
			1,2-Dibromomethane	0.50	--	ND	1*	--
			Chlorobenzene	0.50	--	ND	2	--
			1,1,2,2-Tetrachloroethane	0.50	--	ND	1,000	--
			Ethylbenzene	0.50	--	ND	--	--
			Xylenes (Total)	0.50	--	ND	4	--
			Styrene	0.50	--	ND	700	--
			Bromoform	0.50	--	ND	40	--
			Isopropylbenzene	0.50	--	ND	100	--
			Bromobenzene	0.50	--	ND	--	--
			1,1,2,2-Tetrachloroethane	0.50	--	ND	--	--
			1,2,3-Trichloropropane	0.50	--	ND	--	--
			n-Propylbenzene	0.50	--	ND	--	--
			2-Chlorotoluene	7.7	--	7.7	--	--
			4-Chlorotoluene	6.4	--	6.4	--	--
			1,3,5-Trimethylbenzene	0.50	--	ND	--	--
			tert-Butylbenzene	0.50	--	ND	--	--
			1,2,4-Trimethylbenzene	0.50	--	ND	--	--
			sec-Butylbenzene	0.50	--	ND	--	--
			1,3-Dichlorobenzene	0.50	--	ND	600	--
			4-Isopropyltoluene	0.50	--	ND	75	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
VOLATILE ORGANICS (Continued)

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Field Blank	5/25/95	6/7/95	1,4-Dichlorobenzene	0.60	--	0.60	--	--
			1,2-Dichlorobenzene	0.50	--	ND	600	--
			N-Butylbenzene	0.50	--	ND	--	--
			1,2-Dibromo-3-chloropropane	0.50	--	ND	NA	--
			1,2,4-Trichlorobenzene	0.50	--	ND	9	--
			Hexachlorobutadiene	0.50	--	ND	1	--
			Naphthalene	0.50	--	ND	--	--
			1,2,3-Trichlorobenzene	0.50	--	ND	--	--
			Methyl-tertiary butyl ether	0.50	--	ND	--	--
			Tertiary-butyl alcohol	2.0	--	ND	--	--

Notes:

* The tetrachloroethene, 1,2-Dichloroethene(trans), 1,1-Dichloroethene, and cis-1,2-Dichloroethene results were compared to the GWQC for their respective synonym (tetrachlororethylene, 1,2-Dichloroethylene(trans), 1,1-Dichloroethylene, and cis-1,2-Dichloroethylene).

-- Not applicable / does not exceed criteria

(B) Indicates also present in blank

(ND) Indicates compound not detected

(NA) Not available for this constituent

GWQC Ground Water Quality Criteria

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
VOLATILE TICS

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)
Field Blank	5/25/95	6/7/95	NONE FOUND	--	--	--

Notes:
-- Not applicable / does not exceed criteria
(J) Indicates detected below sample quantitation limit
TICS Tentatively Identified Compounds

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
SEMIVOLATILES

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Field Blank	5/25/95	6/7/95	Phenol	10	--	ND	4000	--
			bis(2 chloroethyl)Ether	10	--	ND	20	--
			2-Chlorophenol	10	--	ND	40	--
			1,3-Dichlorobenzene	10	--	ND	600	--
			1,4-Dichlorobenzene	10	--	ND	75	--
			1,2-Dichlorobenzene	10	--	ND	600	--
			2-Methylphenol	10	--	ND	--	--
			bis(2-chloroisopropyl)Ether	10	--	ND	300	--
			4-Methylphenol	10	-	ND	--	--
			N-Nitroso-Di-n-propylamine	10	--	ND	20	--
			Hexachloroethane	10	--	ND	10	--
			Nitrobenzene	10	--	ND	10	--
			Isophorone	10	--	ND	100	--
			2-Nitrophenol	10	--	ND	--	--
			2,4-Dimethylphenol	10	--	ND	100	--
			bis(2-Chloroethoxy)Methane	10	--	ND	--	--
			2,4-Dichlorophenol	10	--	ND	20	--
			1,2,4-Trichlorobenzene	10	--	ND	9	--
			Naphthalene	10	--	ND	--	--
			4-Chloroaniline	10	--	ND	--	--
			Hexachlorobutadiene	10	--	ND	1	--
			4-Chloro-3-methylphenol	10	--	ND	--	--
			2-methylnaphthanene	10	--	ND	--	--
			Hexachlorocyclopentadiene	10	--	ND	50	--
			2,4,6-Trichlorophenol	10	--	ND	20	--
			2,4,5-Trichlorophenol	25	--	ND	700	--
			2-Chloronaphthalene	10	--	ND	--	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
SEMIVOLATILES (Continued)

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Field Blank	5/25/95	6/7/95	2-Nitroanline	25	--	ND	--	--
			Dimethyl Phthalate	10	--	ND	--	--
			Acenaphthylene	10	--	ND	NA	--
			2,6-Dinitrotoluene	10	--	ND	NA	--
			3-Nitroaniline	25	--	ND	--	--
			Acenaphthene	10	--	ND	400	--
			2,4-Dinitrophenol	25	--	ND	40	--
			4-Nitrophenol	25	--	ND	--	--
			Dibenzofuran	10	--	ND	--	--
			2,4-Dinitrotoluene	10	--	ND	10	--
			Diethylphthalate	10	--	ND	5,000	--
			Fluorene	10	--	ND	300	--
			4-Chlorophenyl-phenlyether	10	--	ND	--	--
			4-Nitroaniline	25	--	ND	--	--
			4,6-Dinitro-2-methylphenol	25	--	ND	--	--
			N-Nitrosodiphenylamine	10	--	ND	20	--
			4-Bromophenyl-phenylether	10	--	ND	--	--
			Hexachlorobenzene	10	--	ND	10	--
			Pentachlorophenol	25	--	ND	1	--
			Phenanthrene	10	--	ND	NA	--
			Anthracene	10	--	ND	2,000	--
			Carbazole	10	--	ND	--	--
			Di-n-butylphthalate	10	--	ND	900	--
			Fluoranthene	10	--	ND	300	--
			Pyrene	10	--	ND	200	--
			Butylbenzylphthalate	10	--	ND	100	--
			Benzo(a)Anthracene	10	--	ND	NA	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
SEMIVOLATILES (Continued)

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Field Blank	5/25/95	6/7/95	3,3-Dichlorobenzidine	20	--	ND	60	--
			Chrysene	10	--	ND	NA	--
			bis(2-Ethylhexyl)Phthalate	10	--	ND	30	--
			Di-n-Octyl Phthalate	10	--	ND	100	--
			Benzo(b)Fluoranthene	10	--	ND	NA	--
			Benzo(k)Fluoranthene	10	--	ND	NA	--
			Benzo(a)Pyrene	10	--	ND	NA	--
			Indeno(1,2,3-cd)pyrene	10	--	ND	NA	--
			Dibenzo(a,h)anthracene	10	--	ND	NA	--
			Benzo(g,h,i)perylene	10	--	ND	NA	--

Notes:
-- Not applicable / does not exceed criteria
(ND) Indicates compound not detected
(NA) Not available for this constituent
GWQC Ground Water Quality Criteria

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
SEMIVOLATILE TICS

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)
Field Blank	5/25/95	6/7/95	Unknown	--	--	5 J
			Unknown	--	--	5 J

Notes:
-- Not applicable / does not exceed criteria
(J) Indicates detected below sample quantitation limit
TICS Tentatively Identified Compounds

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
METALS

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Field Blank	5/25/95	6/08/95	Silver	50	--	ND	20	--
			Aluminum	200	--	ND	200	--
			Arsenic	5	--	ND	8	--
			Barium	20	--	ND	2000	--
			Beryllium	5	--	ND	20	--
			Calcium	400	--	ND	--	--
			Cadmium	10	--	ND	4	--
			Cobalt	50	--	ND	--	--
			Chromium	50	--	ND	100	--
			Copper	50	--	ND	1000	--
			Iron	100	--	100	300	--
			Mercury	1	--	ND	2	--
			Potassium	3000	--	ND	--	--
			Magnesium	100	--	ND	--	--
			Manganese	20	--	ND	50	--
			Sodium	400	--	ND	50000	--
			Nickel	50	--	ND	100	--
			Lead	2.5	--	ND	10	--
			Antimony	5	--	ND	20	--
			Selenium	5	--	ND	50	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
METALS (Continued)

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Field Blank	5/25/95	6/08/95	Thallium	5	--	ND	10	--
			Vanadium	50	--	ND	--	--
			Zinc	20	--	ND	5000	--
			Cyanide (total)	10	--	ND	200	--

Notes:
-- Not applicable / does not exceed criteria
(ND) Indicates compound not detected
GWQC Ground Water Quality Criteria

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
PESTICIDES/PCB'S

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Field Blank	5/25/95	6/08/95	alpha-BHC	0.02	--	ND	0.02	--
			beta-BHC	0.04	--	ND	0.2	--
			delta-BHC	0.02	--	ND	--	--
			gamma-BHC (Lindane)	0.03	--	ND	--	--
			Heptachlor	0.02	--	ND	0.4	--
			Aldrin	0.04	--	ND	0.04	--
			Heptachlor epoxide	0.04	--	ND	0.2	--
			Endosulfan I	0.02	--	ND	0.4	--
			Dieldrin	0.03	--	ND	0.03	--
			4,4'-DDE	0.04	--	ND	0.1	--
			Endrin	0.04	--	ND	2	--
			Endosulfan II	0.04	--	ND	0.4	--
			4,4'-DDD	0.04	--	ND	0.1	--
			Endosulfan sulfate	0.04	--	ND	0.4	--
			4,4'-DDT	0.04	--	ND	0.1	--
			Endrin aldehyde	0.1	--	ND	--	--
			Chlordane	0.1	--	ND	0.5	--
			Toxaphene	1	--	ND	3	--
			Aroclor-1016	1	--	ND	--	--
			Aroclor-1221	1	--	ND	--	--
			Aroclor-1232	1	--	ND	--	--
			Aroclor-1242	1	--	ND	--	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
PESTICIDES/PCB'S (Continued)

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Field Blank	5/25/95	6/08/95	Aroclor-1248	1	--	ND	--	--
			Aroclor-1254	1	--	ND	--	--
			Aroclor-1260	1	--	ND	--	--

Notes:
-- Not applicable / does not exceed criteria
(ND) Indicates compound not detected
GWQC Ground Water Quality Criteria

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FT. MONMOUTH, NEW JERSEY
VOLATILE ORGANICS

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	6/16/95	6/27/95	Dichlorodifluoromethane	0.50	--	ND	--	--
			Chloromethane	1.1	--	1.1	--	--
			Vinyl Chloride	0.50	--	ND	--	--
			Bromomethane	0.50	--	ND	5	--
			Chloroethane	0.50	--	ND	--	--
			Trichlorofluoromethane	0.50	--	ND	--	--
			1,1-Dichloroethene	0.50	--	ND	2	--
			Methylene Chloride	1.6	--	1.6 B	100*	--
			1,2-Dichloroethene (trans)	0.50	--	ND	2*	--
			1,1 Dichloroethane	0.50	--	ND	70	--
			2,2-Dichloropropane	0.50	--	ND	--	--
			cis-1,2-Dichloroethene	0.50	--	ND	--	--
			Bromochloromethane	0.50	--	ND	10*	--
			Chloroform	0.50	--	ND	6	--
			1,1,1-Trichloroethane	0.50	--	ND	--	--
			Carbon Tetrachloride	0.50	--	ND	2	--
			1,1-Dichloropropene	0.50	--	ND	30	--
			Benzene	0.50	--	ND	--	--
			1,2-Dichloroethane	9.6	--	9.6	2	YES
			Trichloroethene	0.50	--	ND	1	--
			1,2-Dichloropropane	0.50	--	ND	1	--
			Dibromomethane	0.50	--	ND	NA	--
			Bromodichloromethane	0.50	--	ND	--	--
			cis-1,3-Dichloropropene	0.50	--	ND	1	--
			Toluene	0.50	--	ND	10	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
VOLATILE ORGANICS (Continued)

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	6/16/95	6/27/95	trans-1,3-Dichloropropene	0.50	--	ND	3	--
			1,1,2-Trichloroethane	0.50	--	ND	1	--
			Tetrachloroethene	0.50	--	ND	NA	--
			1,3-Dichloropropane	0.50	--	ND	4	--
			Dibromochloromethane	0.50	--	ND	10	--
			1,2-Dibromomethane	0.50	--	ND	1*	--
			Chlorobenzene	0.50	--	ND	2	--
			1,1,2,2-Tetrachloroethane	0.50	--	ND	1,000	--
			Ethylbenzene	0.50	--	ND	--	--
			Xylenes (Total)	0.50	--	ND	4	--
			Styrene	0.50	--	ND	700	--
			Bromoform	0.50	--	ND	40	--
			Isopropylbenzene	0.50	--	ND	100	--
			Bromobenzene	0.50	--	ND	--	--
			1,1,2,2-Tetrachloroethane	0.50	--	ND	--	--
			1,2,3-Trichloropropane	0.50	--	ND	--	--
			n-Propylbenzene	0.50	--	ND	--	--
			2-Chlorotoluene	0.50	--	ND	--	--
			4-Chlorotoluene	0.50	--	ND	--	--
			1,3,5-Trimethylbenzene	0.50	--	ND	--	--
			tert-Butylbenzene	1.2	--	1.2	--	--
			1,2,4-Trimethylbenzene	0.50	--	ND	--	--
			sec-Butylbenzene	6.4	--	6.4	--	--
			1,3-Dichlorobenzene	0.50	--	ND	600	--
			4-Isopropyltoluene	0.50	--	ND	75	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
VOLATILE ORGANICS (Continued)

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	6/16/95	6/27/95	1,4-Dichlorobenzene	0.50	--	ND	--	--
			1,2-Dichlorobenzene	0.50	--	ND	600	--
			N-Butylbenzene	0.50	--	ND	--	--
			1,2-Dibromo-3-chloropropane	0.50	--	ND	NA	--
			1,2,4-Trichlorobenzene	0.50	--	ND	9	--
			Hexachlorobutadiene	0.50	--	ND	1	--
			Naphthalene	0.50	--	ND	--	--
			1,2,3-Trichlorobenzene	0.50	--	ND	--	--

Notes:

* The tetrachloroethene, 1,2-Dichloroethene(trans), 1,1-Dichloroethene, and cis-1,2-Dichloroethene results were compared to the GWQC for their respective synonym (tetrachlororethylene, 1,2-Dichloroethylene(trans), 1,1-Dichloroethylene, and cis-1,2-Dichloroethylene).

-- Not applicable / does not exceed criteria

(B) Indicates also present in blank

(ND) Indicates compound not detected

(NA) Not available for this constituent

GWQC Ground Water Quality Criteria

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
VOLATILE TICS

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)
MW-1	6/16/95	6/27/95	Ethane, 1-bromo-2-chloro-	--	--	4J

Notes:
-- Not applicable / does not exceed criteria
(J) Indicates detected below sample quantitation limit
TICS Tentatively Identified Compounds

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
SEMIVOLATILES

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	6/16/95	7/1/95	Phenol	3	--	3 J B	4000	--
			bis(2 chloroethyl)Ether	10	--	ND	20	--
			2-Chlorophenol	10	--	ND	40	--
			1,3-Dichlorobenzene	10	--	ND	600	--
			1,4-Dichlorobenzene	10	--	ND	75	--
			1,2-Dichlorobenzene	10	--	ND	600	--
			2-Methylphenol	10	--	ND	--	--
			bis(2-chloroisopropyl)Ether	10	--	ND	300	--
			4-Methylphenol	10	-	ND	--	--
			N-Nitroso-Di-n-propylamine	10	--	ND	20	--
			Hexachloroethane	10	--	ND	10	--
			Nitrobenzene	10	--	ND	10	--
			Isophorone	10	--	ND	100	--
			2-Nitrophenol	10	--	ND	--	--
			2,4-Dimethylphenol	10	--	ND	100	--
			bis(2-Chloroethoxy)Methane	10	--	ND	--	--
			2,4-Dichlorophenol	10	--	ND	20	--
			1,2,4-Trichlorobenzene	10	--	ND	9	--
			Naphthalene	10	--	ND	--	--
			4-Chloroaniline	10	--	ND	--	--
			Hexachlorobutadiene	10	--	ND	1	--
			4-Chloro-3-methylphenol	10	--	ND	--	--
			2-methylnaphthanene	10	--	ND	--	--
			Hexachlorocyclopentadiene	10	--	ND	50	--
			2,4,6-Trichlorophenol	10	--	ND	20	--
			2,4,5-Trichlorophenol	25	--	ND	700	--
			2-Chloronaphthalene	10	--	ND	--	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
SEMIVOLATILES (Continued)

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	6/16/95	7/1/95	2-Nitroanline	25	--	ND	--	--
			Dimethyl Phthalate	10	--	ND	--	--
			Acenaphthylene	10	--	ND	NA	--
			2,6-Dinitrotoluene	10	--	ND	NA	--
			3-Nitroaniline	25	--	ND	--	--
			Acenaphthene	10	--	ND	400	--
			2,4-Dinitrophenol	25	--	ND	40	--
			4-Nitrophenol	25	--	ND	--	--
			Dibenzofuran	10	--	ND	--	--
			2,4-Dinitrotoluene	10	--	ND	10	--
			Diethylphthalate	10	--	ND	5,000	--
			Fluorene	10	--	ND	300	--
			4-Chlorophenyl-phenlyether	10	--	ND	--	--
			4-Nitroaniline	25	--	ND	--	--
			4,6-Dinitro-2-methylphenol	25	--	ND	--	--
			N-Nitrosodiphenylamine	10	--	ND	20	--
			4-Bromophenyl-phenylether	10	--	ND	--	--
			Hexachlorobenzene	10	--	ND	10	--
			Pentachlorophenol	25	--	ND	1	--
			Phenanthrene	10	--	ND	NA	--
			Anthracene	10	--	ND	2,000	--
			Carbazole	10	--	ND	--	--
			Di-n-butylphthalate	10	--	ND	900	--
			Fluoranthene	10	--	ND	300	--
			Pyrene	10	--	ND	200	--
			Butylbenzylphthalate	10	--	ND	100	--
			Benzo(a)Anthracene	10	--	ND	NA	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
SEMIVOLATILES (Continued)

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	6/16/95	7/1/95	3,3-Dichlorobenzidine	20	--	ND	60	--
			Chrysene	10	--	ND	NA	--
			bis(2-Ethylhexyl)Phthalate	10	--	ND	30	--
			Di-n-Octyl Phthalate	10	--	ND	100	--
			Benzo(b)Fluoranthene	10	--	ND	NA	--
			Benzo(k)Fluoranthene	10	--	ND	NA	--
			Benzo(a)Pyrene	10	--	ND	NA	--
			Indeno(1,2,3-cd)pyrene	10	--	ND	NA	--
			Dibenzo(a,h)anthracene	10	--	ND	NA	--
			Benzo(g,h,i)perylene	10	--	ND	NA	--

Notes:
-- Not applicable / does not exceed criteria
(J) Indicates detected below sample quantitation limit
(B) Indicates also present in blank
(ND) Indicates compound not detected
(NA) Not available for this constituent
GWQC Ground Water Quality Criteria

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
SEMIVOLATILE TICS

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)
MW-1	6/16/95	7/1/95	Dodecanoic acid	--	--	5 J

Notes:
-- Not applicable / does not exceed criteria
(J) Indicates detected below sample quantitation limit
TICS Tentatively Identified Compounds

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
METALS

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	6/16/95	6/27/95	Silver	50	--	ND	20	--
			Aluminum	1900	--	1900	200	YES
			Arsenic	5	--	ND	8	--
			Barium	20	--	ND	2000	--
			Beryllium	5	--	ND	20	--
			Calcium	13000	--	13000	--	--
			Cadmium	10	--	ND	4	--
			Cobalt	50	--	ND	--	--
			Chromium	50	--	ND	100	--
			Copper	50	--	ND	1000	--
			Iron	5900	--	5900	300	YES
			Mercury	1	--	ND	2	--
			Potassium	3000	--	ND	--	--
			Magnesium	6300	--	6300	--	--
			Manganese	80	--	80	50	YES
			Sodium	27000	--	27000	50000	--
			Nickel	50	--	ND	100	--
			Lead	2.6	--	2.6	10	--
			Antimony	5	--	ND	20	--
			Selenium	5	--	ND	50	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
METALS (Continued)

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	6/16/95	6/27/95	Thallium	5	--	ND	10	--
			Vanadium	50	--	ND	--	--
			Zinc	76	--	76	5000	--
			Cyanide (total)	10	--	ND	200	--

Notes:
-- Not applicable / does not exceed criteria
(ND) Indicates compound not detected
(NA) Not available for this constituent
GWQC Ground Water Quality Criteria

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
PESTICIDES/PCB'S

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	6/16/95	6/27/95	alpha-BHC	0.02	--	ND	0.02	--
			beta-BHC	0.04	--	ND	0.2	--
			delta-BHC	0.02	--	ND	--	--
			gamma-BHC (Lindane)	0.03	--	ND	--	--
			Heptachlor	0.02	--	ND	0.4	--
			Aldrin	0.04	--	ND	0.04	--
			Heptachlor epoxide	0.04	--	ND	0.2	--
			Endosulfan I	0.02	--	ND	0.4	--
			Dieldrin	0.03	--	ND	0.03	--
			4,4'-DDE	0.04	--	ND	0.1	--
			Endrin	0.04	--	ND	2	--
			Endosulfan II	0.04	--	ND	0.4	--
			4,4'-DDD	0.04	--	ND	0.1	--
			Endosulfan sulfate	0.04	--	ND	0.4	--
			4,4'-DDT	0.04	--	ND	0.1	--
			Endrin aldehyde	0.1	--	ND	--	--
			Chlordane	0.1	--	ND	0.5	--
			Toxaphene	1	--	ND	3	--
			Aroclor-1016	1	--	ND	--	--
			Aroclor-1221	1	--	ND	--	--
			Aroclor-1232	1	--	ND	--	--
			Aroclor-1242	1	--	ND	--	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
PESTICIDES/PCB'S (Continued)

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	6/16/95	6/27/95	Aroclor-1248	1	--	ND	--	--
			Aroclor-1254	1	--	ND	--	--
			Aroclor-1260	1	--	ND	--	--

Notes:
-- Not applicable / does not exceed criteria
(ND) Indicates compound not detected
GWQC Ground Water Quality Criteria

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, TRIP BLANK
FT. MONMOUTH, NEW JERSEY
VOLATILE ORGANICS

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Trip Blank	6/16/95	6/27/95	Dichlorodifluoromethane	0.50	--	ND	--	--
			Chloromethane	1.0	--	1.0	--	--
			Vinyl Chloride	0.50	--	ND	--	--
			Bromomethane	0.50	--	ND	5	--
			Chloroethane	0.50	--	ND	--	--
			Trichlorofluoromethane	0.50	--	ND	--	--
			1,1-Dichloroethene	0.50	--	ND	2	--
			Methylene Chloride	0.80	--	0.80	100*	--
			1,2-Dichloroethene (trans)	0.50	--	ND	2*	--
			1,1 Dichloroethane	0.50	--	ND	70	--
			2,2-Dichloropropane	0.50	--	ND	--	--
			cis-1,2-Dichloroethene	0.50	--	ND	--	--
			Bromochloromethane	0.50	--	ND	10*	--
			Chloroform	0.50	--	ND	6	--
			1,1,1-Trichloroethane	0.50	--	ND	--	--
			Carbon Tetrachloride	0.50	--	ND	2	--
			1,1-Dichloropropene	0.50	--	ND	30	--
			Benzene	0.50	--	ND	--	--
			1,2-Dichloroethane	8.4	--	8.4	2	YES
			Trichloroethene	0.50	--	ND	1	--
			1,2-Dichloropropane	0.50	--	ND	1	--
			Dibromomethane	0.50	--	ND	NA	--
			Bromodichloromethane	0.50	--	ND	--	--
			cis-1,3-Dichloropropene	0.50	--	ND	1	--
			Toluene	0.50	--	ND	10	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, TRIP BLANK
FORT MONMOUTH, NEW JERSEY
VOLATILE ORGANICS (Continued)

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Trip Blank	6/16/95	6/27/95	trans-1,3-Dichloropropene	0.50	--	ND	3	--
			1,1,2-Trichloroethane	0.50	--	ND	1	--
			Tetrachloroethene	0.50	--	ND	NA	--
			1,3-Dichloropropane	0.50	--	ND	4	--
			Dibromochloromethane	0.50	--	ND	10	--
			1,2-Dibromomethane	0.50	--	ND	1*	--
			Chlorobenzene	0.50	--	ND	2	--
			1,1,2,2-Tetrachloroethane	0.50	--	ND	1,000	--
			Ethylbenzene	0.50	--	ND	--	--
			Xylenes (Total)	0.50	--	ND	4	--
			Styrene	0.50	--	ND	700	--
			Bromoform	0.50	--	ND	40	--
			Isopropylbenzene	0.50	--	ND	100	--
			Bromobenzene	0.50	--	ND	--	--
			1,1,2,2-Tetrachloroethane	0.50	--	ND	--	--
			1,2,3-Trichloropropane	0.50	--	ND	--	--
			n-Propylbenzene	0.50	--	ND	--	--
			2-Chlorotoluene	0.50	--	ND	--	--
			4-Chlorotoluene	0.50	--	ND	--	--
			1,3,5-Trimethylbenzene	0.50	--	ND	--	--
			tert-Butylbenzene	0.50	--	ND	--	--
			1,2,4-Trimethylbenzene	0.50	--	ND	--	--
			sec-Butylbenzene	0.50	--	ND	--	--
			1,3-Dichlorobenzene	0.50	--	ND	600	--
			4-Isopropyltoluene	0.50	--	ND	75	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, TRIP BLANK
FORT MONMOUTH, NEW JERSEY
VOLATILE ORGANICS (Continued)

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Trip Blank	6/16/95	6/27/95	1,4-Dichlorobenzene	0.50	--	ND	--	--
			1,2-Dichlorobenzene	0.50	--	ND	600	--
			N-Butylbenzene	0.50	--	ND	--	--
			1,2-Dibromo-3-chloropropane	0.50	--	ND	NA	--
			1,2,4-Trichlorobenzene	0.50	--	ND	9	--
			Hexachlorobutadiene	0.50	--	ND	1	--
			Naphthalene	0.50	--	ND	--	--
			1,2,3-Trichlorobenzene	0.50	--	ND	--	--

Notes:

* The tetrachloroethene, 1,2-Dichloroethene(trans), 1,1-Dichloroethene, and cis-1,2-Dichloroethene results were compared to the GWQC for their respective synonym (tetrachlororethylene, 1,2-Dichloroethylene(trans), 1,1-Dichloroethylene, and cis-1,2-Dichloroethylene).

-- Not applicable / does not exceed criteria

(ND) Indicates compound not detected

(NA) Not available for this constituent

GWQC Ground Water Quality Criteria

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, TRIP BLANK
FORT MONMOUTH, NEW JERSEY
VOLATILE TICS

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)
Trip Blank	6/16/95	6/27/95	Ethane, 1-bromo-2-chloro	--	--	3 J

Notes:
-- Not applicable / does not exceed criteria
(J) Indicates detected below sample quantitation limit
TICS Tentatively Identified Compounds

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FT. MONMOUTH, NEW JERSEY
VOLATILE ORGANICS

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Field Blank	6/16/95	6/27/95	Dichlorodifluoromethane	0.50	--	ND	--	--
			Chloromethane	0.90	--	0.90	--	--
			Vinyl Chloride	0.50	--	ND	--	--
			Bromomethane	0.50	--	ND	5	--
			Chloroethane	0.50	--	ND	--	--
			Trichlorofluoromethane	0.50	--	ND	--	--
			1,1-Dichloroethene	0.50	--	ND	2	--
			Methylene Chloride	0.80	--	0.80 B	100*	--
			1,2-Dichloroethene (trans)	0.50	--	ND	2*	--
			1,1 Dichloroethane	0.50	--	ND	70	--
			2,2-Dichloropropane	0.50	--	ND	--	--
			cis-1,2-Dichloroethene	0.50	--	ND	--	--
			Bromochloromethane	0.50	--	ND	10*	--
			Chloroform	0.50	--	ND	6	--
			1,1,1-Trichloroethane	0.50	--	ND	--	--
			Carbon Tetrachloride	0.50	--	ND	2	--
			1,1-Dichloropropene	0.50	--	ND	30	--
			Benzene	0.50	--	ND	--	--
			1,2-Dichloroethane	7.3	--	7.3	2	YES
			Trichloroethene	0.50	--	ND	1	--
			1,2-Dichloropropane	0.50	--	ND	1	--
			Dibromomethane	0.50	--	ND	NA	--
			Bromodichloromethane	0.50	--	ND	--	--
			cis-1,3-Dichloropropene	0.50	--	ND	1	--
			Toluene	0.50	--	ND	10	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
VOLATILE ORGANICS (Continued)

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Field Blank	6/16/95	6/27/95	trans-1,3-Dichloropropene	0.50	--	ND	3	--
			1,1,2-Trichloroethane	0.50	--	ND	1	--
			Tetrachloroethene	0.50	--	ND	NA	--
			1,3-Dichloropropane	0.50	--	ND	4	--
			Dibromochloromethane	0.50	--	ND	10	--
			1,2-Dibromomethane	0.50	--	ND	1*	--
			Chlorobenzene	0.50	--	ND	2	--
			1,1,2,2-Tetrachloroethane	0.50	--	ND	1,000	--
			Ethylbenzene	0.50	--	ND	--	--
			Xylenes (Total)	0.50	--	ND	4	--
			Styrene	0.50	--	ND	700	--
			Bromoform	0.50	--	ND	40	--
			Isopropylbenzene	0.50	--	ND	100	--
			Bromobenzene	0.50	--	ND	--	--
			1,1,2,2-Tetrachloroethane	0.50	--	ND	--	--
			1,2,3-Trichloropropane	0.50	--	ND	--	--
			n-Propylbenzene	0.50	--	ND	--	--
			2-Chlorotoluene	0.50	--	ND	--	--
			4-Chlorotoluene	0.50	--	ND	--	--
			1,3,5-Trimethylbenzene	0.50	--	ND	--	--
			tert-Butylbenzene	0.50	--	ND	--	--
			1,2,4-Trimethylbenzene	0.50	--	ND	--	--
			sec-Butylbenzene	0.50	--	ND	--	--
			1,3-Dichlorobenzene	0.50	--	ND	600	--
			4-Isopropyltoluene	0.50	--	ND	75	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
VOLATILE ORGANICS (Continued)

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Field Blank	6/16/95	6/27/95	1,4-Dichlorobenzene	0.50	--	ND	--	--
			1,2-Dichlorobenzene	0.50	--	ND	600	--
			N-Butylbenzene	0.50	--	ND	--	--
			1,2-Dibromo-3-chloropropane	0.50	--	ND	NA	--
			1,2,4-Trichlorobenzene	0.50	--	ND	9	--
			Hexachlorobutadiene	0.50	--	ND	1	--
			Naphthalene	0.50	--	ND	--	--
			1,2,3-Trichlorobenzene	0.50	--	ND	--	--

Notes:

* The tetrachloroethene, 1,2-Dichloroethene(trans), 1,1-Dichloroethene, and cis-1,2-Dichloroethene results were compared to the GWQC for their respective synonym (tetrachlororethylene, 1,2-Dichloroethylene(trans), 1,1-Dichloroethylene, and cis-1,2-Dichloroethylene).

-- Not applicable / does not exceed criteria

(B) Indicates also present in blank

(ND) Indicates compound not detected

(NA) Not available for this constituent

GWQC Ground Water Quality Criteria

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
VOLATILE TICS

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)
Field Blank	6/16/95	6/27/95	Ethane, 1-bromo-2-chloro	--	--	3 J

Notes:
-- Not applicable / does not exceed criteria
(J) Indicates detected below sample quantitation limit
TICS Tentatively Identified Compounds

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, MW-1
FORT MONMOUTH, NEW JERSEY
SEMIVOLATILES

Sample ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
MW-1	6/16/95	7/1/95	Phenol	3	--	3 J B	4000	--
			bis(2 chloroethyl)Ether	10	--	ND	20	--
			2-Chlorophenol	10	--	ND	40	--
			1,3-Dichlorobenzene	10	--	ND	600	--
			1,4-Dichlorobenzene	10	--	ND	75	--
			1,2-Dichlorobenzene	10	--	ND	600	--
			2-Methylphenol	10	--	ND	--	--
			bis(2-chloroisopropyl)Ether	10	--	ND	300	--
			4-Methylphenol	10	-	ND	--	--
			N-Nitroso-Di-n-propylamine	10	--	ND	20	--
			Hexachloroethane	10	--	ND	10	--
			Nitrobenzene	10	--	ND	10	--
			Isophorone	10	--	ND	100	--
			2-Nitrophenol	10	--	ND	--	--
			2,4-Dimethylphenol	10	--	ND	100	--
			bis(2-Chloroethoxy)Methane	10	--	ND	--	--
			2,4-Dichlorophenol	10	--	ND	20	--
			1,2,4-Trichlorobenzene	10	--	ND	9	--
			Naphthalene	10	--	ND	--	--
			4-Chloroaniline	10	--	ND	--	--
			Hexachlorobutadiene	10	--	ND	1	--
			4-Chloro-3-methylphenol	10	--	ND	--	--
			2-methylnaphthanene	10	--	ND	--	--
			Hexachlorocyclopentadiene	10	--	ND	50	--
			2,4,6-Trichlorophenol	10	--	ND	20	--
			2,4,5-Trichlorophenol	25	--	ND	700	--
			2-Chloronaphthalene	10	--	ND	--	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
SEMIVOLATILES (Continued)

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Field Blank	6/16/95	7/1/95	2-Nitroanline	25	--	ND	--	--
			Dimethyl Phthalate	10	--	ND	--	--
			Acenaphthylene	10	--	ND	NA	--
			2,6-Dinitrotoluene	10	--	ND	NA	--
			3-Nitroaniline	25	--	ND	--	--
			Acenaphthene	10	--	ND	400	--
			2,4-Dinitrophenol	25	--	ND	40	--
			4-Nitrophenol	25	--	ND	--	--
			Dibenzofuran	10	--	ND	--	--
			2,4-Dinitrotoluene	10	--	ND	10	--
			Diethylphthalate	10	--	ND	5,000	--
			Fluorene	10	--	ND	300	--
			4-Chlorophenyl-phenlyether	10	--	ND	--	--
			4-Nitroaniline	25	--	ND	--	--
			4,6-Dinitro-2-methylphenol	25	--	ND	--	--
			N-Nitrosodiphenylamine	10	--	ND	20	--
			4-Bromophenyl-phenylether	10	--	ND	--	--
			Hexachlorobenzene	10	--	ND	10	--
			Pentachlorophenol	25	--	ND	1	--
			Phenanthrene	10	--	ND	NA	--
			Anthracene	10	--	ND	2,000	--
			Carbazole	10	--	ND	--	--
			Di-n-butylphthalate	10	--	ND	900	--
			Fluoranthene	10	--	ND	300	--
			Pyrene	10	--	ND	200	--
			Butylbenzylphthalate	10	--	ND	100	--
			Benzo(a)Anthracene	10	--	ND	NA	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
SEMIVOLATILES (Continued)

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Field Blank	6/16/95	7/1/95	3,3-Dichlorobenzidine	20	--	ND	60	--
			Chrysene	10	--	ND	NA	--
			bis(2-Ethylhexyl)Phthalate	10	--	ND	30	--
			Di-n-Octyl Phthalate	10	--	ND	100	--
			Benzo(b)Fluoranthene	10	--	ND	NA	--
			Benzo(k)Fluoranthene	10	--	ND	NA	--
			Benzo(a)Pyrene	10	--	ND	NA	--
			Indeno(1,2,3-cd)pyrene	10	--	ND	NA	--
			Dibenzo(a,h)anthracene	10	--	ND	NA	--
			Benzo(g,h,i)perylene	10	--	ND	NA	--

Notes:

-- Not applicable / does not exceed criteria
(J) Indicates detected below sample quantitation limit
(B) Indicates also present in blank
(ND) Indicates compound not detected
(NA) Not available for this constituent
GWQC Ground Water Quality Criteria

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
SEMIVOLATILE TICS

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)
Field Blank	6/16/95	7/1/95	NONE FOUND	--	--	--

Notes:
-- Not applicable / does not exceed criteria
(J) Indicates detected below sample quantitation limit
TICS Tentatively Identified Compounds

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
METALS

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Field Blank	6/16/95	6/27/95	Silver	50	--	ND	20	--
			Aluminum	200	--	ND	200	--
			Arsenic	5	--	ND	8	--
			Barium	20	--	ND	2000	--
			Beryllium	5	--	ND	20	--
			Calcium	400	--	ND	--	--
			Cadmium	10	--	ND	4	--
			Cobalt	50	--	ND	--	--
			Chromium	50	--	ND	100	--
			Copper	50	--	ND	1000	--
			Iron	100	--	100	300	--
			Mercury	1	--	ND	2	--
			Potassium	3000	--	ND	--	--
			Magnesium	100	--	ND	--	--
			Manganese	20	--	ND	50	--
			Sodium	400	--	ND	50000	--
			Nickel	50	--	ND	100	--
			Lead	2.5	--	ND	10	--
			Antimony	5	--	ND	20	--
			Selenium	5	--	ND	50	--

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
METALS (Continued)

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Field Blank	6/16/95	6/27/95	Thallium	5	--	ND	10	--
			Vanadium	50	--	ND	--	--
			Zinc	20	--	ND	5000	--
			Cyanide (total)	10	--	ND	200	--

Notes:
-- Not applicable / does not exceed criteria
(ND) Indicates compound not detected
GWQC Ground Water Quality Criteria

TABLE 3

GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
PESTICIDES/PCB'S

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Field Blank	6/16/95	6/27/95	alpha-BHC	0.02	--	ND	0.02	--
			beta-BHC	0.04	--	ND	0.2	--
			delta-BHC	0.02	--	ND	--	--
			gamma-BHC (Lindane)	0.03	--	ND	--	--
			Heptachlor	0.02	--	ND	0.4	--
			Aldrin	0.04	--	ND	0.04	--
			Heptachlor epoxide	0.04	--	ND	0.2	--
			Endosulfan I	0.02	--	ND	0.4	--
			Dieldrin	0.03	--	ND	0.03	--
			4,4'-DDE	0.04	--	ND	0.1	--
			Endrin	0.04	--	ND	2	--
			Endosulfan II	0.04	--	ND	0.4	--
			4,4'-DDD	0.04	--	ND	0.1	--
			Endosulfan sulfate	0.04	--	ND	0.4	--
			4,4'-DDT	0.04	--	ND	0.1	--
			Endrin aldehyde	0.1	--	ND	--	--
			Chlordane	0.1	--	ND	0.5	--
			Toxaphene	1	--	ND	3	--
			Aroclor-1016	1	--	ND	--	--
			Aroclor-1221	1	--	ND	--	--
			Aroclor-1232	1	--	ND	--	--
			Aroclor-1242	1	--	ND	--	--

TABLE 3

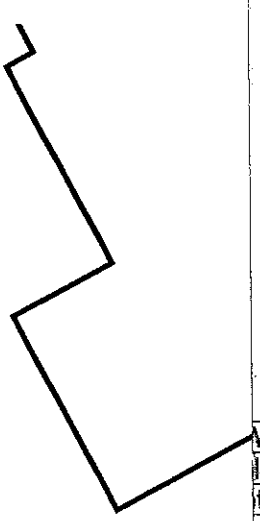
GROUNDWATER SAMPLING RESULTS
BUILDING 117, MAIN POST, FIELD BLANK
FORT MONMOUTH, NEW JERSEY
PESTICIDES/PCB'S (Continued)

Sample ID	Sample Date	Analysis Date	Compound Nane	Sample Quantitation Limit (ug/l)	Compound of Concern	Result (ug/l)	GWQC (ug/l)	Exceeds Criteria
Field Blank	6/16/95	6/27/95	Aroclor-1248	1	--	ND	--	--
			Aroclor-1254	1	--	ND	--	--
			Aroclor-1260	1	--	ND	--	--

Notes:
-- Not applicable / does not exceed criteria
(ND) Indicates compound not detected
GWQC Ground Water Quality Criteria

SMITH

U.S. Army
Department of Public Works
Fort Monmouth, New Jersey



V-1	
latile Organic Compounds:	
thylene Chloride	0.8
rt-butylbenzene	1.2
c-butylbenzene	6.4
tals:	
minum	650.0
rium	23.0
lcium	21,000.0
n	1,700.0
gnesium	12,000.0
nganese	170.0
dium	48,000.0

LEGEND

- SOIL SAMPLE LOCATION
- MONITORING WELL LOCATION
  (MAY 25, 1995)
  (JUNE 16, 1995)

NOTES:
1. ALL RESULTS IN MICROGRAMS PER
2. SEE TABLE 3 FOR GROUNDWATER CRITERIA

SCALE
0 10'

Source: Smith [redacted] Technologies Corporation (131)

Project No. 09-5004-08

Figure 4
Building 117
Monitoring Well Location

APPENDIX A

CERTIFICATIONS

UST-014
2/91

FOR STATE USE ONLY

UST # _____

Date Rec'd _____

TMS # _____

Staff _____

State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
CN 029
Trenton, NJ 08625-0029
Tel. # 609-984-3156
Fax. # 609-292-5604

Scott A. Weiner
Commissioner

Karl J. Delaney
Director

UNDERGROUND STORAGE TANK SITE ASSESSMENT SUMMARY

Under the provisions of the Underground Storage of Hazardous Substances Act in accordance with N.J.A.C. 7:14B

This Summary form shall be used by all owners and operators of Underground Storage Tank Systems (USTS) who have either reported a release and are subject to the site assessment requirements of N.J.A.C. 7:14B-8.2 or who have closed USTS pursuant to N.J.A.C. 7:14B-9.1 et seq. and are subject to the site assessment requirements of N.J.A.C. 7:14B-9.2 and 9.3.

INSTRUCTIONS:

- *Please print legibly or type.*
- *Fill in all applicable blanks. This form will require various attachments in order to complete the Summary. The technical guidance document, Interim Closure Requirements for UST's, explains the regulatory (and technical) requirements for closure and the Scope of Work, Investigation and Corrective Action Requirements for Discharges from Underground Storage Tanks and Piping Systems explains the regulatory (and technical) requirements for corrective action.*
- *Return one original of the form and all required attachments to the above address.*
- *Attach a scaled site diagram of the subject facility which shows the information specified in Item IV B of this form.*
- *Explain any "No" or "N/A" response on a separate sheet.*

Date of Submission _____

Bldg. 117 — 0090010-72
FACILITY REGISTRATION #

I. FACILITY NAME AND ADDRESS

U.S. Army Fort Monmouth, New Jersey
Directorate of Engineering and Housing, Building 167
Fort Monmouth, NJ 07703 County Monmouth
Telephone No. (908) 532-1475

OWNER'S NAME AND ADDRESS, if different from above

_____
_____
_____

Telephone No. _____

II. DISCHARGE REPORTING REQUIREMENTS

A. Was contamination found? X Yes ___ No If Yes, Case No. 94-4-28-1944-21
(Note: All discharges must be reported to the Environmental Action Hotline (609) 292-7172)

B. The substance(s) discharged was(were) oil

C. Have any vapor hazards been mitigated? ___ Yes ___ No X N/A

III. DECOMMISSIONING OF TANK SYSTEMS Closure Approval No._____

The site assessment requirements associated with tank decommissioning are explained in the Technical Guidance Document, Interim Closure Requirements for UST's, Section V. A-D. Attach complete documentation of the methods used and the results obtained for each of the steps of tank decommissioning used. Please include a site map which shows the locations of all samples and borings, the location of all tanks and piping runs at the facility at the beginning of the tank closure operation and annotated to differentiate the status of all tanks and piping (e.g., removed, abandoned, temporarily closed, etc.). The same site map can be used to document other parts of the site assessment requirements, if it is properly and legibly annotated.

IV. SITE ASSESSMENT REQUIREMENTS

A. Excavated Soil

Any evidence of contamination in excavated soil will require that the soil be classified as either Hazardous Waste or Non-Hazardous Waste. Please include all required documentation of compliance with the requirements for handling contaminated excavated soil (if any was present) as explained in the technical guidance documents for closure and corrective action. Describe amount of soil removed, its classification, and disposal location.

B. Scaled Site Diagrams

1. Scaled site diagrams must be attached which include the following information:

   a. North arrow and scale
   b. The locations of the ground water monitoring wells
   c. Location and depth of each soil sample and boring
   d. All major surface and sub-surface structures and utilities
   e. Approximate property boundaries
   f. All existing or closed underground storage tank systems, including appurtenant piping
   g. A cross-sectional view indicating depth of tank, stratigraphy and location of water table
   h. Locations of surface water bodies

C. Soil samples and borings (check appropriate answer)

1. Were soil samples taken from the excavation as prescribed? X Yes ___ No ___ N/A

2. Were soil borings taken at the tank system closure site as prescribed? ___ Yes ___ No X N A

3. Attach the analytical results in tabular form and include the following information about each sample:
   a. Customer sample number (keyed to the site map)
   b. The depth of the soil sample
   c. Soil boring logs
   d. Method detection limit of the method used
   e. QA/QC Information as required

D. Ground Water Monitoring

1. Number of ground water monitoring wells installed 1

2. Attach the analytical results of the ground water samples in tabular form. Include the following information for each sample from each well:

   a. Site diagram number for each well installed
   b. Depth of ground water surface
   c. Depth of screened interval
   d. Method detection limit of the method used
   e. Well logs
   f. Well permit numbers
   g. QA/QC Information as required

V. SOIL CONTAMINATION

A. Was soil contamination found? ___ Yes X No
If "Yes", please answer Question B-E
If "No", please answer Question B
(Refer to Table 2 for other parameters)

B. The highest soil contamination still remaining in the ground has been determined to be:
1. ND ppb total BTEX, ND ppb total non-targeted VOC
2. ND ppb total B/N, ND ppb total non-targeted B/N
3. 912.0 ppm TPHC
4. _____ ppb _____ (for non-petroleum substance)

C. Remediation of free product contaminated soils

1. All free product contaminated soil on the property boundaries and above the water table are believed to have been removed from the subsurface X Yes ___ No
2. Free product contaminated soils are suspected to exist below the water table ___ Yes X No
3. Free product contaminated soils are suspected to exist off the property boundaries. ___ Yes X No

D. Was the vertical and horizontal extent of contamination determined? ___ Yes ___ No X N/A

E. Does soil contamination intersect ground water? ___ Yes ___ No X N/A

VI. GROUND WATER CONTAMINATION

A. Was ground water contamination found? X Yes ___ No
If "Yes", please answer Questions B-G.
If "No", please answer only Question B.
(Refer to Table 3 for other parameters)

B. The highest ground water contamination at any 1 sampling location and at any 1 sampling event to date has been determined to be:

1. ND ppb total BTEX, 7.3 ppb total non-targeted VOC
2. ND ppb total B/N, ND ppb total non-targeted B/N
3. ND ppb total MTBE, _____ ppb total TBA
4. _____ ppb _____ (for non-petroleum substance)
5. greatest thickness of separate phase product found N/A
6. separate phase product has been delineated ___ Yes ___ No X N/A

C. Result(s) of well search N/A

1. A well search (including a review of manual well records) indicates that private, municipal or commercial wells do exist within the distances specified in the Scope of Work. ___ Yes ___ No ___ N/A

2. The number of these wells identified is _____.

D. Proximity of wells and contaminant plume

1. The shallowest depth of any well noted in the well search which may be in the horizontal or vertical potential path(s) of the contaminant plume(s) is _____ feet below grade (consideration has been given for the effects of pumping, subsurface structures, etc. on the direction(s) of contaminant migration). This well is _____ feet from the source and its screening begins at a depth of _____ feet.

2. The shallowest depth to the top of the well screen for any well in the potential path of the plume(s) (as described in D1 above) is _____ feet below grade. This well is located _____ feet from the source.

3. The closest horizontal distance of a private, commercial or municipal well in the potential path of the plume (as determined in D1) is _____ feet from the source. This well is _____ feet deep and screening begins at a depth of _____ feet.

E. A plan for separate phase product recovery has been included. ___Yes ___No ___N/A

F. A ground water contour map has been submitted which includes the ground water elevations for each well. ___Yes ___No ___N/A

G. Delineation of contamination

1. The ground water contaminants have been delineated to MCLs or lower values at the property boundaries. ___Yes ___No

2. The plume is suspected to continue off the property at concentrations greater than MCLs. ___Yes ___No

3. Off property access (circle one): is being sought has been approved has been denied

VII. SITE ASSESSMENT CERTIFICATION [preparer of site assessment plan - N.J.A.C. 7:14B-8.3(b) &9.5(a)3]

The person signing this certification as the "Qualified Ground Water Consultant" (as defined in N.J.A.C.7:14B-1.6) responsible for the design and implementation of the site assessment plan as specified in N.J.A.C. 7:14B-8.3(a) & 9.2(b)2, must supply the name of the certifying organization and certification number.

"I certify under penalty of law that the information provided in this document is true, accurate, and complete and was obtained by procedures in compliance with N.J.A.C. 7:14B-8 and 9. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."

NAME (Print or Type) Joe Fallon SIGNATURE _____

COMPANY NAME U.S. Army Fort Monmouth DATE _____
(Preparer of Site Assessment Plan)

CERTIFYING ORGANIZATION NJDEP CERTIFICATION NUMBER 000244

VIII. TANK DECOMMISSIONING CERTIFICATION [person performing tank decommissioning portion of closure plan - N.J.A.C. 7:14B-9.5(a)4]

"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. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."

NAME (Print or Type) _____ SIGNATURE _____

COMPANY NAME _____ DATE _____
(Performer of Tank Decommissioning)

IX. CERTIFICATIONS BY THE RESPONSIBLE PARTY(IES) OF THE FACILITY

A. The following certification shall be signed by the highest ranking individual with overall responsibility for that facility [N.J.A.C. 7:14B-2.3(c)1i].

"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 penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."

NAME (Print or Type) James Ott SIGNATURE _____

COMPANY NAME U.S. Army Fort Monmouth DATE _____

B. The following certification shall be signed as follows [according to the requirements of N.J.A.C. 7:14B-2.3(C)2i]:

1. For a corporation, by a principal executive officer of at least the level of vice president.
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 the principal executive officer or ranking elected official.
4. In cases where the highest ranking corporate partnership, governmental officer or official at the facility as required in A above is the same person as the official required to certify in B, only the certification in A need to be made. In all other cases, the certifications of A and B shall be made.

"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 immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."

NAME (Print or Type) _____ SIGNATURE _____

COMPANY NAME _____ DATE _____

APPENDIX B

WASTE MANIFEST

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

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

Form Approved. OMB No. 2050-0039. Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: NJ3210020597 | Manifest Document No.: [illegible]
2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

A. State Manifest Document Number: NJA 1889390

3. Generator's Name and Mailing Address: U.S. ARMY COMMUNICATIONS ELECTRONICS COMMAND, MAIN POST - C/O TANKS SHIL... Bldg 9301 ...
4. Generator's Phone ([illegible])

B. State Generator's ID

5. Transporter 1 Company Name: L&L OIL SERVICES T/A LORCO
6. US EPA ID Number: NJD986614299

C. State Trans. ID-NJDEP
D. Transporter's Phone

7. Transporter 2 Company Name:
8. US EPA ID Number:

E. State Trans. ID-NJDEP / Decal No.: 908 721-0900
F. Transporter's Phone

9. Designated Facility Name and Site Address:
LIONETTI OIL RECOVERY CO., INC. T/A LORCO
RUNYON & CHEESEQUAKE RDS.
OLD BRIDGE NJ 08857

10. US EPA ID Number: NJD002454544

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. PETROLEUM OIL NOS CLASS 3 (PETROLEUM OIL) COMBUSTIBLE LIQUID UN 1270 PG III	X	001	TT	2606	G	X722
b.						
c.						
d.						

J. Additional Descriptions for Materials Listed Above
a. T.L PETROLEUM OIL ?% WATER ?%

K. Handling Codes for Wastes Listed Above
a. T04-FILTRATION

15. Special Handling Instructions and Additional Information
NOT EPA REGULATED, REGULATED AS HAZARDOUS WASTE IN NEW JERSEY
24 HOUR EMERGENCY RESPONSE#: (908)721-0900
DECAL# 5754 ERG# 27 DEXSIL TEST RESULTS <1000 PPM
Bldg # 117

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: Joseph M. Fillon | Signature: Joseph M. Fillon | Month Day Year: [illegible]

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: [illegible] | Signature: [illegible] | Month Day Year: [illegible]

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

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.

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

Please type or print in block letters. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039. Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: NJ3210020597
Manifest Document No.: 50927
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. 2504 ATTN: SELFM-DL-EM-MS
Fort Monmouth, NJ 07703
4. Generator's Phone (908) 532-4359

A. State Manifest Document Number: NJA 1908880
B. State Generator's ID (Gen. Site Address): Same

5. Transporter 1 Company Name: Casie Ecology Oil Salvage, Inc. TA Casie/Protank
6. US EPA ID Number: NJD045995693
C. State Trans. ID-NJDEPE: S67417
Decal No.: 53438
D. Transporter's Phone (609) 696-4401

7. Transporter 2 Company Name:
8. US EPA ID Number:
E. State Trans. ID-NJDEPE:
Decal No.:
F. Transporter's Phone ( )

9. Designated Facility Name and Site Address
Casie Ecology Oil Salvage, Inc. TA Casie/Protank
3209 N. Mill Road
Vineland, NJ 09360
10. US EPA ID Number: NJD045995693
G. State Facility's ID: 0614D1HP02
H. Facility's Phone (609) 696-4401

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. Oil contaminatedd solids Non D.O.T. regulated		X30	DM	15000 ~~X15~~ X	XDV P	X728
b.						
c.						
d.						

J. Additional Descriptions for Materials Listed Above
a. XXXX S,T
b.
c.
d.

K. Handling Codes for Wastes Listed Above
a. S01
b.
c.
d.

15. Special Handling Instructions and Additional Information
CEI # ~~0440A4 M~~
XX This is a NJ regulated waste not a RCRA hazardous waste.
24 hr emergency response #609-696-4401 Greg Clifford

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: X Joseph M. Fallon
Signature: X Joseph M. Fallon
Month Day Year: 06 28 94

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: JIM VERSRY
Signature: [signature]
Month Day Year: 06 28 94

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

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: [illegible]
Signature: [signature]
Month Day Year: [illegible]

NJA 1908880

APPENDIX C

NJDEP WELL PERMIT AND WELL CONSTRUCTION LOG

U.S. ARMY
FORT MONMOUTH
SELFM PW EV

LOG OF BORING 117-MW1

Produced for Charles Appleby

Project Name	: BLDG 117	Completion Date	: 9/14/94
NJDEP Case #	: 94-4-28-1994-21	Northing	: N 541246.363
Logged By	: TYREE INC.	Easting	: E 2177798.795
Start Date	: 9/14/94	Driller	: E. Plye

29-31772
ELEV: 11.02

Depth in Feet	DESCRIPTION	GRAPHIC	USCS	Samples	Blows/Ft	% Recovery
0	Asphalt/Sub-base		14			
.6	Dark medium stiff clay w/medium brown, medium sand		CL			
1.5	Brown silts with stiff dark gray clay		CL			
2	Light brown, medium sand w/fines		CL	1	9	100
2.5						
4						
	Brown silts and clays, moist at 6'		SP	2	32	82
6	Light brown medium sand w/fines		CL			
8	Light brown medium sand w/fines wet		SP			
10						
12						
12.5						
14						

10/94

Well Construction Information

WELL CONSTRUCTION

Date Compl.	: 10/05/95
Hole Diameter	: 8 in
Drill. Method	: HSA
Company Rep.	: E. Plye

WELL CASING

Material	: PVC
Diameter	: 4 in.
Joints	: threaded

WELL SCREEN

Material	: PVC
Diameter	: 4 in.
Joints	: threaded
Opening	: 20 slot
SAND PACK	: #2 MORIE SAND
ANNULUS SEAL	: Bentonite/Portland : TREMMIE
Cap	:

NOTES

Well #1 is 117 MW1
Stick up 2.5'
Water level 7'

3-6-1996 C:\117-1\GEO\117mw1.ge3

APPENDIX D

SOIL ANALYTICAL DATA PACKAGE

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

Client: U.S. Army
DPW, SELFM-DP-EV
Bldg. 167
Ft. Monmouth, NJ 07703

Lab. ID #: 1465.1-.9
Sample Rec'd: 04/28/94
Analysis Start: 04/29/94
Analysis Comp: 04/29/94

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

NJDEPE UST Reg.#:
Closure #:
DICAR #:
Location #: **Bldg. 117**

Lab ID.	Description	%Solid	Result (mg/Kg)	MDL
1465.1	117- A hNu= 40.	84	2850.	50.
1465.2	117- B hNu= 3.0	90	564.	6.6
1465.3	117- C hNu= 2.0	90	28.0	6.6
1465.4	117- D hNu= 5.0	88	197.	9.9
1465.5	117- E hNu= 2.0	91	689.	20.
1465.6	117- F hNu= 10.	89	912.	20.
1465.7	117- G hNu= 25.	90	1480.	20.
1465.8	117- H hNu= 6.0	91	1130.	9.9
1465.9	117- I hNu= 15.	88	4440.	50.
M. Bl.	Method Blank	100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit
* = Silica Gel Added, NA = Not Applicable
1465.3dup= 100% 1465.3spike= 90% 1465.3spike dup= 97% RPD= 3.7%

Brian K. McKee
Laboratory Director

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

Client: U.S. Army
DPW, SELFM-DP-EV
Bldg. 167
Ft. Monmouth, NJ 07703

Lab. ID #: 1465.1-.9
Sample Rec'd: 04/28/94
Analysis Start: 04/29/94
Analysis Comp: 04/29/94

Analysis: Munsel

Lab ID#	Soil Color
1465.1	2.5Y 4/1 Dark Gray
1465.2	2.5Y 4/3 Olive Brown
1465.3	2.5Y 4/4 Olive Brown
1465.4	2.5Y 4/4 Olive Brown
1465.5	2.5Y 4/3 Olive Brown
1465.6	2.5Y 4/2 Dark Grayish Brown
1465.7	2.5Y 4/2 Dark Grayish Brown
1465.8	2.5Y 4/4 Olive Brown
1465.9	2.5Y 4/1 Dark Gray

Brian K. McKee
Laboratory Director

SERV-AIR, INC.

P.O. #:

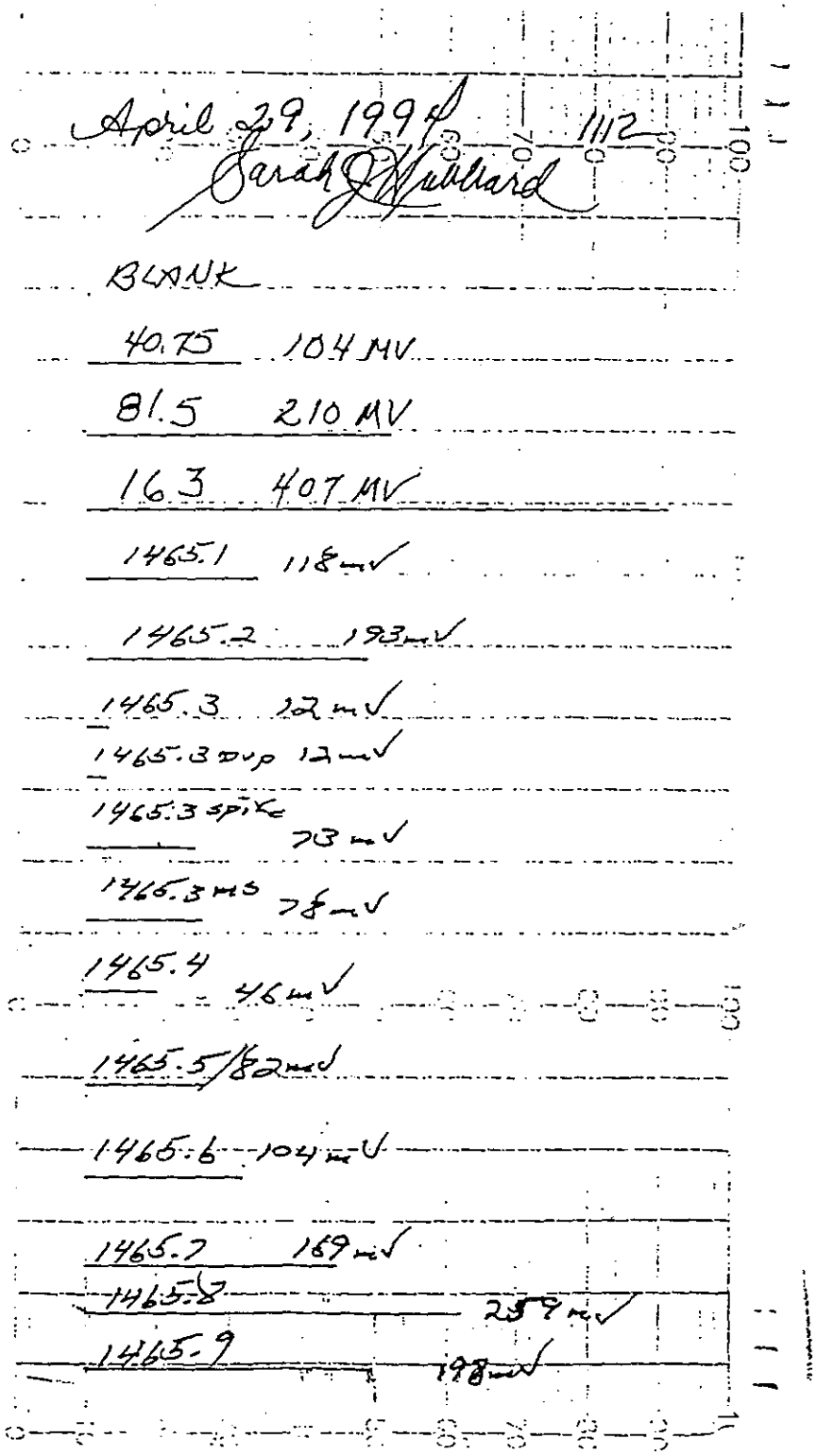
Chain of Custody

Project #:	Sampler: Joe Fallon	Date / Time 4/28/94	Analysis Parameters	Start:
Customer: Serv-Air Inc	Site Name: B117			Finish:
Phone (908) 532-4359				Preservation Method

Lab Sample ID Number	Date/Time		Customer Sample Location/ID Number	Sample Matrix	# of Bottles	TPH	8015	Mansfield	Remarks
1465.1	4/28/94	0850	B117 - A	Soil				X	HNU 40 ppm
.2		0840	B			X	X	X	3
.3		0806	C			X	X	X	2
.4		0811	D			X	X	X	5
.5		0815	E			X	X	X	2
.6		0819	F			X	X	X	10
.7		0825	G			X	X	X	25
.8		0856	H			X	X	X	6
.9		0832	I			X	X	X	15

Relinquished By (signature)	Date / Time	Received By (signature)	Shipped By:
Joe Fallon	04/29/94 1015AM		
Relinquished By (signature)	Date / Time	Received for Lab by (signature):	Date / Time
		Sarah J. Hubbard	4/29/94 1005

Note: A drawing depicting sample location should be attached or drawn on the reverse side of this chain of custody.


April 29, 1994
Sarah J. Hubbard
1112
BLANK
40.75 104 MV
81.5 210 MV
163 407 MV
1465.1 118 mV
1465.2 193 mV
1465.3 22 mV
1465.3 dup 12 mV
1465.3 spike 73 mV
1465.3 MS 78 mV
1465.4 46 mV
1465.5 82 mV
1465.6 104 mV
1465.7 169 mV
1465.8 259 mV
1465.9 198 mV

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

Client: U.S. Army
DPW, SELFM-DP-EV
Bldg. 167
Ft. Monmouth, NJ 07703

Lab. ID #: 1469.1-.4
Sample Rec'd: 04/29/94
Analysis Start: 04/29/94
Analysis Comp: 04/29/94

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

NJDEPE UST Reg.#:
Closure #:
DICAR #:
Location #: BLDG. 117

Lab ID.	Description	%Solid	Result (mg/Kg)	MDL
1469.1	117-A-2 hNu= 1.0	90	40.5	3.3
1469.2	117-G-2 hNu= 1.0	86	13.9	3.3
1469.3	117-H-2 hNu= 1.0	90	40.5	3.3
1469.4	117-I-2 hNu= 1.0	93	12.9	3.3
M. Bl.	Method Blank	100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit
* = Silica Gel Added, NA = Not Applicable
1469.1dup= 104% 1469.1spike= 90% 1469.1spike dup= 100% RPD= 5.0%

Brian K. McKee
Laboratory Director

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

Client: U.S. Army
DPW, SELFM-DP-EV
Bldg. 167
Ft. Monmouth, NJ 07703

Lab. ID #: 1469.1-.4
Sample Rec'd: 04/29/94
Analysis Start: 04/29/94
Analysis Comp: 04/29/94

Analysis: Munsel

Lab ID#	Soil Color
1469.1	10YR 5/6 Yellowish Brown
1469.2	10YR 4/4 Dark Yellowish Brown
1469.3	10YR 4/4 Dark Yellowish Brown
1469.4	10YR 4/4 Dark Yellowish Brown

Brian K. McKee
Laboratory Director

SERV-AIR, INC.

P.O. #:

Chain of Custody

Project #:	Sampler: Joe Fallon	Date / Time 4/29/94 5:15	Analysis Parameters TPH
Customer:	Site Name: Fort Monmouth Main Post Bldg 117		Start:
Phone:			Finish:

Preservation Method

Lab Sample ID Number	Date/Time		Customer Sample Location/ID Number	Sample Matrix	# of Bottles	TPH	% Solid	Moisture	Remarks
1469.1	4/29	4:10	117-A-2	Soil	1	X	X	X	HNO_3 - 1 ppm
.2	4/29	4:25	117-G-2	Soil	1	X	X	X	1 ppm
.3	4/29	4:17	117-H-2	Soil	1	X	X	X	1 ppm
.4	4/29	4:00	117-I-2	Soil	1	X	X	X	1 ppm

Relinquished By (signature)	Date / Time	Received By (signature)	Shipped By:
Joe Fallon	4/29/94 5:15		
Relinquished By (signature)	Date / Time	Received for Lab by (signature):	Date / Time
		B. M K	4/29/94 1715

Note: A drawing depicting sample location should be attached or drawn on the reverse side of this chain of custody.

4/29 B. [illegible]

Blank R11 9995

40.76 105 mV

81.5 214 mV

163 421 mV

Blank Wash

1466.1 206 mV

1466.2 187 (3x Dil)

1466.3 490 mV

1466.3 175 (3x)

1466.4 164 (3x)

1466.5 374 mV

Rinse Check

1466.6 167 (3)

1466.7 396 mV

1466.8 263 (3x)

1466.9 178 (3x)

1466.10 277 (3x)

1466.11 378 (3x)

1466.12 193 (3x)

Rinse Check

1466.13 301 (3x)

1466.14 418 (3x)

1467.1 369 (6x)

1467.2 300 (3x)

1464.1 205

1464.2 171 mV

1464.3 420 mV

1464.3 Dup 440 mV

1464.4 375 (4x)

1464.5 371 (3x)

1464.3 sp 169 (3x)

1464.3 sp Dup 153 (3x)

1468.1 170 (6x)

Rinse Check

1469.1 29 mV

1469.2 10 mV

1469.3 29 mV

1469.4 10 mV

1469.1 Dup 31 mV

1469.1 spK -92 mV

1469.1 spK D 99 mV

APPENDIX E

GROUNDWATER ANALYTICAL DATA PACKAGE

EMSL

environmental
materials
asbestos

New Jersey
Corporate Office &
Main Laboratory
108 Haddon Avenue
Westmont, NJ 08108
(609) 858-4800

3 Cooper Street
Westmont, NJ 08108
(609) 858-9573

2056 Stelton Road
Piscataway, NJ 08854
(908) 981-0550

New York
208 Stonehenge Lane
Carle Place, NY 11514
(516) 997-7251

Georgia
1600 Roswell Street, SE
Suite One
Smyrna, GA 30080
(404) 333-6066

Florida
1878 Adams Avenue
Melbourne, FL 32935
(407) 253-4224

Michigan
2212 S. Wagner Road
Ann Arbor, MI 48103
(313) 668-6810

1720 S. Amphlett Boulevard
Suite 130
San Mateo, CA 94402
(415) 570-5401

ANALYTICAL SERVICES

001

ANALYTICAL DATA REPORT
FOR
U.S. ARMY, FORT MONMOUTH
SELFM-PW-EV
Building 173
Fort Monmouth, NJ 07703

PROJECT : **94428194421**

EMSL Project: # 9508473

Field Sample No. & Location	Laboratory Sample ID	Matrix	Date & Time of Collection	Date Received
1851.1 Bldg. 117 MW1-2931772	**95-24205**	**Aqueous**	**5/25/95 @ 1435**	**5/26/95**
1850.2 Trip Blank	**95-24197**	**Aqueous**	**5/25/95 @ 0610**	**5/26/95**
1850.3 Field Blank	**95-24198**	**Aqueous**	**5/25/95 @ 1350**	**5/26/95**

Laboratory Name: EMSL ANALYTICAL, INC.

Certification No.: NJDEP No. 04653
PADER No. 68-367
NY-ELAP No. 10896

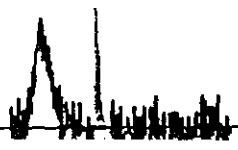
Supervisor/Manager Signature: Paul Laraia

Printed Name: Paul V. Laraia

Date: 06-27-95

EMSL

TABLE OF CONTENTS



EMSL

TABLE OF CONTENTS, cont.

SAMPLE DATA SUMMARY PACKAGE

EMSL

Date of Report: 06/25/95
Project Number: 09508473
Lab ID: 95-0024205
Date Collected: 05/25/95 14:35
Collected By: Client
Date Received: 05/26/95 07:00

Attention: Charles Appleby
U.S. Army - Fort Monmouth
SELFM-PW-EV
Building 173
Fort Monmouth NJ 07703

Client Project: 94428194421

Client Designation: Bldg.117 MW1-2931772 FMETL #1851.1

	Conc.	Unit
LIMITED		
Total Cyanide	<0.010	mg/l
METALS		
Ag-CLP	<0.050	mg/l
Aluminum-CLP	0.65	mg/l
Arsenic-CLP	<0.0050	mg/l
Barium-CLP	0.023	mg/l
Beryllium-CLP	<0.0050	mg/l
Calcium-CLP	21	mg/l
Cadmium-CLP	<0.010	mg/l
Cobalt-CLP	<0.050	mg/l
Chromium-CLP	<0.050	mg/l
Copper-CLP	<0.050	mg/l
Iron-CLP	1.7	mg/l
Mercury, CLP	<0.001	mg/l
Potassium-CLP	<3.0	mg/l
Magnesium-CLP	12	mg/l
Manganese-CLP	0.17	mg/l
Sodium-CLP	48	mg/l
Nickel-CLP	<0.050	mg/l
Lead-CLP	<0.0025	mg/l
Antimony-CLP	<0.0050	mg/l
Selenium-CLP	<0.0050	mg/l
Thallium-CLP	<0.0050	mg/l
Vanadium-CLP	<0.050	mg/l
Zinc-CLP	<0.020	mg/l
ORGANIC		
Pesticides		
Pesticides and PCBs by 608	see attached	ug/l
Semi-Volatiles		
TCL BNA's with Library Search	see attached	ug/l
Volatiles		
Methyl tertiary-butyl ether	see attached	ug/l
tert-Butyl alcohol	see attached	ug/l
Volatiles by 524.2 w/ Library Search	see attached	ug/l

US ARMY Ft. Monmouth NJ.

006

1D

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

FmETC #18511
Bldg 117 MW1-293177

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 95-24205

Sample wt/vol: 890 (g/mL) mL Lab File ID: E:JU06E58

% Moisture N/A decanted: (Y/N) N Date Received: 05/24/95

Extraction: (SepF/Cont/Sonc) Cont Date Extracted: 06/01/95

Concentrated Extract Volume: 10 (ml) Date Analyzed: 06/08/95

Injection Volume: 1 (uL) Dilution Factor 1

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.04	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.04	U
50-29-3	4,4'-DDT	0.04	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.1	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	1	U
11104-28-2	Aroclor-1221	1	U
11141-16-5	Aroclor-1232	1	U
53469-21-9	Aroclor-1242	1	U
12672-29-6	Aroclor-1248	1	U
11097-69-1	Aroclor-1254	1	U
11096-82-5	Aroclor-1260	1	U

US Army Ft. Monmouth N.J.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. 007

FMETCH#1851.1
9524205B
Bldg 117 Multi-293177-2

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9524205B

Sample wt/vol: 1000.0 (g/mL ML Lab File ID: B7861.D

Level: (low/med) _____ Date Received: 5/26/95

% Moisture: _____ decanted: (Y/N): N Date Extracted: 6/1/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 6/7/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

US ARMY Ft. Monmouth N.J.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. FMETL #1851, 1 9524205B Bldg 117 MW1-293177 008

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9524205B

Sample wt/vol: 1000.0 (g/mL ML Lab File ID: B7861.D

Level: (low/med) _____ Date Received: 5/26/95

% Moisture: _____ decanted: (Y/N): N Date Extracted: 6/1/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 6/7/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	n-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-08	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
56-55-3	Benzo[a]anthracene	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[a,h]anthracene	10	U
191-24-2	Benzo[g,h,i]perylene	10	U

US Army Ft. Monmouth N.J.

010

FMETLH 1851,1

NJDEPA

Bldg 117 MW1-2931772

1A

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA 524.2

Lab Name: EMSL ANALYTICAL
Matrix (soil/water): WATER
Sample wt/vol: 25 mL
Level (low/med): LOW
% Moisture: not dec.: NA
GC Column: DB-624 x 75m ID: 0.53mm
Soil Extract Volume: NA

Lab Sample ID: 9524205
Lab File ID: C8414.D
Date Received: 05/26/95
Date Analyzed: 06/08/95
Dilution Factor: 1
Soil Aliquot Volume: NA

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	COMMENT
75-71-8	Dichlorodifluoromethane	.50	U
74-87-3	Chloromethane	.50	U
74-83-9	Bromomethane	.50	U
75-01-4	Vinyl Chloride	.50	U
75-00-3	Chloroethane	.50	U
75-69-4	Trichlorofluoromethane	.50	U
75-09-2	Methylene Chloride	.80	B
156-60-65	trans-1,2-Dichloroethene	.50	U
75-35-4	1,1-Dichloroethene	.50	U
75-34-3	1,1-Dichloroethane	.50	U
594-20-7	2,2-Dichloropropane	.50	U
74-97-1	Bromochloromethane	.50	U
156-59-2	cis-1,2-Dichloroethene	.50	U
67-66-3	Chloroform	.50	U
563-58-6	1,1-Dichloropropene	.50	U
107-06-2	1,2-Dichloroethane	.50	U
71-55-6	1,1,1-Trichloroethane	.50	U
74-95-3	Dibromomethane	.50	U
56-23-1	Carbon Tetrachloride	.50	U
75-27-4	Bromodichloromethane	.50	U
78-87-1	1,2-Dichloropropane	.50	U
10061-01-1	cis-1,3-Dichloropropene	.50	U
142-28-9	1,3-Dichloropropane	.50	U
79-01-6	Trichloroethene	.50	U
124-48-1	Dibromochloromethane	.50	U
79-00-1	1,1,2-Trichloroethane	.50	U
71-43-2	Benzene	.50	U
10061-02-6	trans-1,3-Dichloropropene	.50	U
75-25-2	Bromoform	.50	U
630-20-6	1,1,1,2-Tetrachloroethane	.50	U
127-18-4	Tetrachloroethene	.50	U
79-34-1	1,1,2,2-Tetrachloroethane	.50	U
108-88-3	Toluene	.50	U
106-93-4	1,2-Dibromoethane	.50	U
108-90-7	Chlorobenzene	.50	U
100-41-4	Ethylbenzene	.50	U
1330-29-7	Xylene(total)	.50	U

U= Not Detected

US ARMY Ft. Monmouth N.J. 011

1A
VOLATILE ORGANIC ANALYSIS DATA SHEET FMETL #1851,1
EPA 524.2
Bldg 117 MW1-2931772

Lab Name: EMSL ANALYTICAL
Matrix (soil/water): WATER
Sample wt/vol: 25 mL
Level (low/med): LOW
% Moisture: not dec.: NA
GC Column: DB-624 x 75m ID: 0.53mm
Soil Extract Volume: NA

Lab Sample ID: 9524205
Lab File ID: C8414.D
Date Received: 05/26/95
Date Analyzed: 06/08/95
Dilution Factor: 1
Soil Aliquot Volume: NA

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	COMMENT
100-42-1	Styrene	.50	U
98-82-8	Isopropylbenzene	.50	U
108-86-1	Bromobenzene	.50	U
96-18-4	1,2,3-Trichloropropane	.50	U
103-65-1	n-Propylbenzene	.50	U
95-49-8	2-Chlorotoluene	.50	U
106-43-4	4-Chlorotoluene	.50	U
108-67-8	1,3,5-Trimethylbenzene	.50	U
98-06-6	tert-Butylbenzene	.50	U
95-63-6	1,2,4-Trimethylbenzene	.50	U
135-98-8	sec-Butylbenzene	.50	U
541-73-1	1,3-Dichlorobenzene	.50	U
106-46-7	1,4-Dichlorobenzene	.50	U
99-87-6	4-Isopropyltoluene	.50	U
95-50-1	1,2-Dichlorobenzene	.50	U
104-51-8	n-Butylbenzene	.50	U
96-12-8	1,2-Dibromo-3-chloropropane	.50	U
120-82-1	1,2,4-Trichlorobenzene	.50	U
87-68-3	Hexachlorobutadiene	.50	U
91-20-3	Naphthalene	.50	U
87-61-6	1,2,3-Trichlorobenzene	.50	U
1634-04-4	Methyl-tertiary butyl ether	.50	U
75-65-0	tertiary-Butyl alcohol	2.0	U

COMMENT
U= Not Detected

US ARMY Ft. Monmouth N.J

FMETC # 1851.1

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
Bldg 117
9524205V
MW01-25317-72

012

Lab Name: EMSL ANALYTICAL Contract: _____

Project No. _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9524205V

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: C8414.D

Level: (low/med) LOW Date Received: 5/26/95

% Moisture: not dec. NA Date Analyzed: 6/8/95

GC Column: DB-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
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BLDG.#: 117 MW#: 1 NJDEPE WELL ID # 2931772

U.S. ARMY FORT MONMOUTH

MONITORING WELL SAMPLING DATASHEET

DATE: 5-25-95

IJO#95-0091

SAMPLING CONTRACTOR: EMSL Analytical Services Inc.

LABORATORY: EMSL Analytical Services, NJDEP CERT #: 04653

SAMPLERS NAMES: Tom Baxter Susan Palilonis

WEATHER CONDITIONS: overcast, cool breeze

ELEVATION OF CASING SURVEY MARK: ____.____

TOTAL DEPTH OF WELL FROM TOP OF SURVEYORS MARK: 12.88 FT

DEPTH FROM SURVEYORS MARK TO SCREEN: ____.____ FT

LENGTH OF SCREENED SECTION: ______ FT.

DEPTH TO WATER PRIOR TO PURGING AND SAMPLING: 7.17 FT

ELEVATION OF GW PRIOR TO PURGING: ____.___ FT

THICKNESS OF LNAPL PRIOR TO PURGING : ____.___ FT

PID/Hnu READING IMMEDIATELY AFTER THE WELL CAP IS REMOVED: <1 PPM none detected D.O. 1.8 ppm

1402

(1) pH: 5.28 TEMP: 19.2 C, SPECIFIC CONDUCTIVITY: 604 us/cm

DEPTH OF WELL: ____.___ FT

HEIGHT OF WATER: ____.____ FT

EVACUATED GAL. H2O: 12 GAL (5.71 X .65 X 3 = 11.1345

PURGING START TIME: 1408 END TIME: 1415

PURGE METHOD: (FLOW RATE OF <0.5 GPM TO >5.0 GPM) Pump

PURGE RATE (<0.5 GPM): 2 GPM

TOTAL VOLUME PURGED: 12 GAL.

DEPTH TO WATER AFTER PURGING AND BEFORE SAMPLING: 7.20 FT

(2) DISSOLVED OXYGEN: 1.6 ppm pH: 5.22 TEMP: 12.7 °C

SPECIFIC CONDUCTIVITY: 592 us/cm

SAMPLING METHOD: DEDICATED, DECONTAMINATED (IAW NJDEP FSPM 1992) TEFLON® BAILER

START TIME OF SAMPLING: 1425 END TIME: 1435

(3) DISSOLVED OXYGEN: 1.5 ppm pH: 5.41 TEMP: 12.3 °C

SPECIFIC CONDUCTIVITY: 566 us/cm

COMMENTS: on site 1400 flush surface well

Excessive mineral deposits growing over inside well cap.

purge water contained on site - pumped directly into drum.

613a

EMSL

Date of Report: 06/23/95
Project Number: 09508471
Lab ID: 95-0024197
Date Collected: 05/25/95 06:10
Collected By: Client
Date Received: 05/26/95 07:00

Attention: Charles Appleby
U.S. Army - Fort Monmouth
SELFM-PW-EV
Building 173
Fort Monmouth NJ 07703

Client Project: None

Client Designation: Trip Blank

	Conc.	Unit
ORGANIC		
Volatiles		
Methyl tertiary-butyl ether	see attached	ug/l
tert-Butyl alcohol	see attached	ug/l
Volatiles by 524.2 w/ Library Search	see attached	ug/l

US Army Ft. Monmouth N.J.

1A
VOLATILE ORGANIC ANALYSIS DATA SHEET
EPA 524.2

FMETL # 1850.2
Bldg 117
TRIP BLANK

Lab Name: EMSL ANALYTICAL
Matrix (soil/water): WATER
Sample wt/vol: 25 mL
Level (low/med): LOW
% Moisture: not dec.: NA
GC Column: DB-624 x 75m ID: 0.53mm
Soil Extract Volume: NA

Lab Sample ID: 9524197
Lab File ID: C8401.D
Date Received: 05/26/95
Date Analyzed: 06/07/95
Dilution Factor: 1
Soil Aliquot Volume: NA

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	COMMENT
75-71-8	Dichlorodifluoromethane	.50	U
74-87-3	Chloromethane	.50	U
74-83-9	Bromomethane	.50	U
75-01-4	Vinyl Chloride	.50	U
75-00-3	Chloroethane	.50	U
75-69-4	Trichlorofluoromethane	.50	U
75-09-2	Methylene Chloride	1.5	B
156-60-65	trans-1,2-Dichloroethene	.50	U
75-35-4	1,1-Dichloroethene	.50	U
75-34-3	1,1-Dichloroethane	.50	U
594-20-7	2,2-Dichloropropane	.50	U
74-97-1	Bromochloromethane	.50	U
156-59-2	cis-1,2-Dichloroethene	.50	U
67-66-3	Chloroform	.50	U
563-58-6	1,1-Dichloropropene	.50	U
107-06-2	1,2-Dichloroethane	.50	U
71-55-6	1,1,1-Trichloroethane	.50	U
74-95-3	Dibromomethane	.50	U
56-23-1	Carbon Tetrachloride	.50	U
75-27-4	Bromodichloromethane	.50	U
78-87-1	1,2-Dichloropropane	.50	U
10061-01-1	cis-1,3-Dichloropropene	.50	U
142-28-9	1,3-Dichloropropane	.50	U
79-01-6	Trichloroethene	.50	U
124-48-1	Dibromochloromethane	.50	U
79-00-1	1,1,2-Trichloroethane	.50	U
71-43-2	Benzene	.50	U
10061-02-6	trans-1,3-Dichloropropene	.50	U
75-25-2	Bromoform	.50	U
630-20-6	1,1,1,2-Tetrachloroethane	.50	U
127-18-4	Tetrachloroethene	.50	U
79-34-1	1,1,2,2-Tetrachloroethane	.50	U
108-88-3	Toluene	1.0	
106-93-4	1,2-Dibromoethane	.50	U
108-90-7	Chlorobenzene	.50	U
100-41-4	Ethylbenzene	.50	U
1330-29-7	Xylene(total)	.50	U

U= Not Detected

US ARMY Ft. Monmouth N.J.

1A
VOLATILE ORGANIC ANALYSIS DATA SHEET
EPA 524.2

FMETC # 1850.2
Bldg 117
TRIP Blank

Lab Name: EMSL ANALYTICAL
Matrix (soil/water): WATER
Sample wt/vol: 25 mL
Level (low/med): LOW
% Moisture: not dec.: NA
GC Column: DB-624 x 75m ID: 0.53mm
Soil Extract Volume: NA

Lab Sample ID: 9524197
Lab File ID: C8401.D
Date Received: 05/26/95
Date Analyzed: 06/07/95
Dilution Factor: 1
Soil Aliquot Volume: NA

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	COMMENT
100-42-1	Styrene	.50	U
98-82-8	Isopropylbenzene	.50	U
108-86-1	Bromobenzene	.50	U
96-18-4	1,2,3-Trichloropropane	.50	U
103-65-1	n-Propylbenzene	.50	U
95-49-8	2-Chlorotoluene	7.7	
106-43-4	4-Chlorotoluene	2.5	
108-67-8	1,3,5-Trimethylbenzene	.50	U
98-06-6	tert-Butylbenzene	.50	U
95-63-6	1,2,4-Trimethylbenzene	.50	U
135-98-8	sec-Butylbenzene	.50	U
541-73-1	1,3-Dichlorobenzene	.50	U
106-46-7	1,4-Dichlorobenzene	.60	
99-87-6	4-Isopropyltoluene	.50	U
95-50-1	1,2-Dichlorobenzene	.50	U
104-51-8	n-Butylbenzene	.50	U
96-12-8	1,2-Dibromo-3-chloropropane	.50	U
120-82-1	1,2,4-Trichlorobenzene	.50	U
87-68-3	Hexachlorobutadiene	.50	U
91-20-3	Naphthalene	.50	U
87-61-6	1,2,3-Trichlorobenzene	.50	U
1634-04-4	Methyl-tertiary butyl ether	.50	U
75-65-0	tertiary-Butyl alcohol	2.0	U

COMMENT
U= Not Detected

US ARMY Ft. Monmouth N.J.

FMETL # 1850.2

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
Bldg 117
9524197V
TB

011

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9524197V

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: C8401.D

Level: (low/med) LOW Date Received: 5/26/95

% Moisture: not dec. NA Date Analyzed: 6/7/95

GC Column: DB-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
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EMSL

Date of Report: 06/25/95
Project Number: 09508471
Lab ID: 95-0024198
Date Collected: 05/25/95 13:50
Collected By: Client
Date Received: 05/26/95 07:00

Attention: Charles Appleby
U.S. Army - Fort Monmouth
SELFM-PW-EV
Building 173
Fort Monmouth NJ 07703

Client Project: None

Client Designation: Field Blank FMETL #1850.3 Bldg 117

	Conc.	Unit
LIMITED		
Total Cyanide	<0.010	mg/l
METALS		
Ag-CLP	<0.050	mg/l
Aluminum-CLP	<0.20	mg/l
Arsenic-CLP	<0.0050	mg/l
Barium-CLP	<0.020	mg/l
Beryllium-CLP	<0.0050	mg/l
Calcium-CLP	<0.40	mg/l
Cadmium-CLP	<0.010	mg/l
Cobalt-CLP	<0.050	mg/l
Chromium-CLP	<0.050	mg/l
Copper-CLP	<0.050	mg/l
Iron-CLP	0.10	mg/l
Mercury, CLP	<0.001	mg/l
Potassium-CLP	<3.0	mg/l
Magnesium-CLP	<0.10	mg/l
Manganese-CLP	<0.020	mg/l
Sodium-CLP	<0.40	mg/l
Nickel-CLP	<0.050	mg/l
Lead-CLP	<0.0025	mg/l
Antimony-CLP	<0.0050	mg/l
Selenium-CLP	<0.0050	mg/l
Thallium-CLP	<0.0050	mg/l
Vanadium-CLP	<0.050	mg/l
Zinc-CLP	<0.020	mg/l
ORGANIC		
Pesticides		
Pesticides and PCBs by 608	see attached	ug/l
Semi-Volatiles		
TCL BNA's with Library Search	see attached	ug/l
Volatiles		
Methyl tertiary-butyl ether	see attached	ug/l
tert-Butyl alcohol	see attached	ug/l
Volatiles by 524.2 w/ Library Search	see attached	ug/l

US ARMY Ft. Mmmouth N.J.

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FMETL # 1850,3
Bldg 117
Field Blank

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 95-24198

Sample wt/vol: 1000 (g/mL) mL Lab File ID: E:JU06E63

% Moisture N/A decanted: (Y/N) N Date Received: 05/16/95

Extraction: (SepF/Cont/Sonc) Cont Date Extracted: 06/01/95

Concentrated Extract Volume: 10 (ml) Date Analyzed: 06/08/95

Injection Volume: 1 (uL) Dilution Factor 1

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.04	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.04	U
50-29-3	4,4'-DDT	0.04	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.1	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	1	U
11104-28-2	Aroclor-1221	1	U
11141-16-5	Aroclor-1232	1	U
53469-21-9	Aroclor-1242	1	U
12672-29-6	Aroclor-1248	1	U
11097-69-1	Aroclor-1254	1	U
11096-82-5	Aroclor-1260	1	U

US Army Ft. Monmouth N.J.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

FMETC # 1850.3
9524198B
Field Blank

019

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9524198B

Sample wt/vol: 1000.0 (g/mL ML Lab File ID: B7860.D

Level: (low/med) _____ Date Received: 5/26/95

% Moisture: _____ decanted: (Y/N): N Date Extracted: 6/1/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 6/7/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

U S ARMY Ft. Monmouth N.J.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

FMEtL # 1850, 3
9524198B
Field Blank

020

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9524198B

Sample wt/vol: 1000.0 (g/mL ML Lab File ID: B7860.D

Level: (low/med) Date Received: 5/26/95

% Moisture: decanted: (Y/N): N Date Extracted: 6/1/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 6/7/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	n-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-08	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
56-55-3	Benzo[a]anthracene	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[a,h]anthracene	10	U
191-24-2	Benzo[g,h,i]perylene	10	U

FORM I SV 3/90

US ARMY Ft, Monmouth N.J.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
FMETC4
9524198B
Field Blank

021

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9524198B

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: B7860.D

Level: (low/med) Date Received: 5/26/95

% Moisture: decanted: (Y/N) N Date Extracted: 6/1/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 6/7/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 2 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1.	Unknown	6.21	5	J
2.	Unknown	29.89	5	J
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30.				

US ARMY Ft. Monmouth NJ.

1A
VOLATILE ORGANIC ANALYSIS DATA SHEET
EPA 524.2

FMEPL # 1850.3
Bldg 117
Field Blank

Lab Name: EMSL ANALYTICAL
Matrix (soil/water): WATER
Sample wt/vol: 25 mL
Level (low/med): LOW
% Moisture: not dec.: NA
GC Column: DB-624 x 75m ID: 0.53mm
Soil Extract Volume: NA

Lab Sample ID: 9524198
Lab File ID: C8402.D
Date Received: 05/26/95
Date Analyzed: 06/07/95
Dilution Factor: 1
Soil Aliquot Volume: NA

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	COMMENT
75-71-8	Dichlorodifluoromethane	.50	U
74-87-3	Chloromethane	.50	U
74-83-9	Bromomethane	.50	U
75-01-4	Vinyl Chloride	.50	U
75-00-3	Chloroethane	.50	U
75-69-4	Trichlorofluoromethane	.50	U
75-09-2	Methylene Chloride	1.6	B
156-60-65	trans-1,2-Dichloroethene	.50	U
75-35-4	1,1-Dichloroethene	.50	U
75-34-3	1,1-Dichloroethane	.50	U
594-20-7	2,2-Dichloropropane	.50	U
74-97-1	Bromochloromethane	.50	U
156-59-2	cis-1,2-Dichloroethene	.50	U
67-66-3	Chloroform	.50	U
563-58-6	1,1-Dichloropropene	.50	U
107-06-2	1,2-Dichloroethane	.50	U
71-55-6	1,1,1-Trichloroethane	.50	U
74-95-3	Dibromomethane	.50	U
56-23-1	Carbon Tetrachloride	.50	U
75-27-4	Bromodichloromethane	.50	U
78-87-1	1,2-Dichloropropane	.50	U
10061-01-1	cis-1,3-Dichloropropene	.50	U
142-28-9	1,3-Dichloropropane	.50	U
79-01-6	Trichloroethene	.50	U
124-48-1	Dibromochloromethane	.50	U
79-00-1	1,1,2-Trichloroethane	.50	U
71-43-2	Benzene	.50	U
10061-02-6	trans-1,3-Dichloropropene	.50	U
75-25-2	Bromoform	.50	U
630-20-6	1,1,1,2-Tetrachloroethane	.50	U
127-18-4	Tetrachloroethene	.50	U
79-34-1	1,1,2,2-Tetrachloroethane	.50	U
108-88-3	Toluene	1.6	
106-93-4	1,2-Dibromoethane	.50	U
108-90-7	Chlorobenzene	.50	U
100-41-4	Ethylbenzene	.50	U
1330-29-7	Xylene(total)	.50	U

U= Not Detected

US Army Ft. Monmouth N.J.

1A
VOLATILE ORGANIC ANALYSIS DATA SHEET
EPA 524.2

FMETC # 1850.3
Dash 17
Field Blank

Lab Name: EMSL ANALYTICAL
Matrix (soil/water): WATER
Sample wt/vol: 25 mL
Level (low/med): LOW
% Moisture: not dec.: NA
GC Column: DB-624 x 75m ID: 0.53mm
Soil Extract Volume: NA

Lab Sample ID: 9524198
Lab File ID: C8402.D
Date Received: 05/26/95
Date Analyzed: 06/07/95
Dilution Factor: 1
Soil Aliquot Volume: NA

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	COMMENT
100-42-1	Styrene	.50	U
98-82-8	Isopropylbenzene	.50	U
108-86-1	Bromobenzene	.50	U
96-18-4	1,2,3-Trichloropropane	.50	U
103-65-1	n-Propylbenzene	.50	U
95-49-8	2-Chlorotoluene	7.7	
106-43-4	4-Chlorotoluene	6.4	
108-67-8	1,3,5-Trimethylbenzene	.50	U
98-06-6	tert-Butylbenzene	.50	U
95-63-6	1,2,4-Trimethylbenzene	.50	U
135-98-8	sec-Butylbenzene	.50	U
541-73-1	1,3-Dichlorobenzene	.50	U
106-46-7	1,4-Dichlorobenzene	.60	
99-87-6	4-Isopropyltoluene	.50	U
95-50-1	1,2-Dichlorobenzene	.50	U
104-51-8	n-Butylbenzene	.50	U
96-12-8	1,2-Dibromo-3-chloropropane	.50	U
120-82-1	1,2,4-Trichlorobenzene	.50	U
87-68-3	Hexachlorobutadiene	.50	U
91-20-3	Naphthalene	.50	U
87-61-6	1,2,3-Trichlorobenzene	.50	U
1634-04-4	Methyl-tertiary butyl ether	.50	U
75-65-0	tertiary-Butyl alcohol	2.0	U

COMMENT
U= Not Detected

US ARMY Ft. Monmouth NJ. FMETC # 7850.3

1E

SAMPLE NO.

Bldg 117
9524198V
FB

024

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: EMSL ANALYTICAL Contract:

Project No. Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9524198V

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: C8402.D

Level: (low/med) LOW Date Received: 5/26/95

% Moisture: not dec. NA Date Analyzed: 6/7/95

GC Column: DB-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
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0.25

EMSL

LABORATORY DELIVERABLES

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

The following laboratory deliverables shall be included in the data submission. All deviations from the accepted methodology and procedures, or performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The proposed "Technical Requirements for Site Remediation" rules, which appeared in the May 4, 1992 New Jersey Register, 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 be included in one section of the data package and in the main body of the report.

		Check If Complete
1.	Cover Page, Title Page listing Lab Certification #, facility name, address & date of report.	X
2.	Table of Contents	X
3.	Summary Sheets listing analytical results for all targeted and non-targeted compounds.	X
4.	Summary Table cross-referencing field ID #'s vs. Lab ID #'s.	X
5.	Document bound, paginated and legible.	X
6.	Chain of Custody	X
7.	Methodology Summary	X
8.	Laboratory Chronicle and Holding Time Check.	X
9.	Results submitted on a dry weight basis (if applicable).	X
10	Method Detection Limits.	X
11	Lab certified by NJDEP for parameters or appropriate category of parameters or a member of the USEP CLP.	X
12	Non-Conformance Summary	X

Paul Fiala

Laboratory Manager or Environmental Consultant's Signature

11-25-95

Date

EMSL

QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

A. Checklist which must be attached to the Summary

The following information must be reported in the Closure Plan Implementation Summary for all laboratory analyses performed in the compliance with the site assessment requirements:

Page #		
1	1.	Name and address of the facility.
1	2.	Name of the laboratory performing the sample analysis.
1	3.	NJDEP certification number assigned to the laboratory pursuant to N.J.A.C. 7:18.
1	4.	Laboratory sample identification number.
1	5.	Customer sample identification number corresponding to the laboratory sample identification.
1	6.	Sample Location (also on the site diagram).
1	7.	Matrix of the sample analyzed (i.e., water or sediments; including soil, sediment, and sludges). All sediment results must be reported on a dry weight basis.
33-34	8.	The reference for the method used (e.g., EPA Method 625, 40 CFR Part 136).
1	9.	The signature of the person completing the report form.
1	10.	The dates the laboratory report form was prepared, as well as the dates the sample were collected, submitted and analyzed.
35	11.	A list of all parameters (constituents and conditions) for which the analyses were performed.
4-24	12.	Sample results and corresponding units for each parameter.

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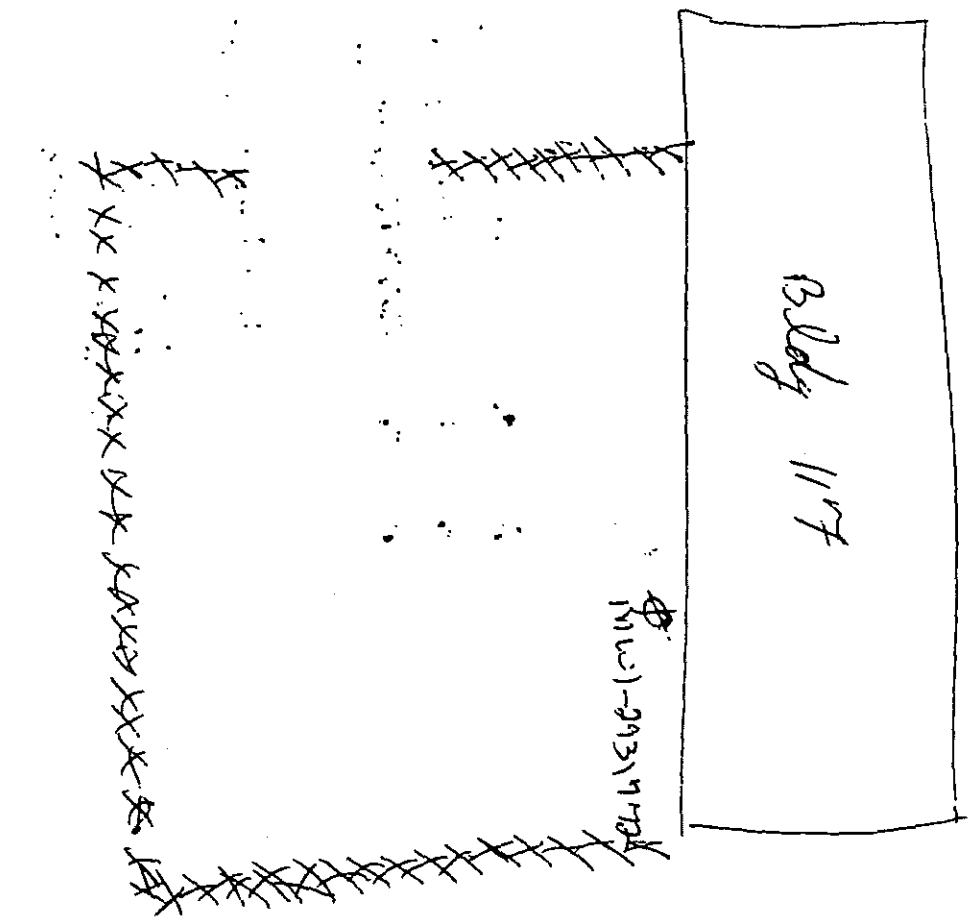
CHAIN OF CUSTODY AND PRESERVATION CHECKLIST



5-25-95

MP-7	MW13-2932566	DTW → 9.9'
MP-7	MW11-2032575	DTW → 7.5'

To be completed upon sample receipt

[redacted]

[redacted] an X in box if okay.
[redacted] actual pH if outside
[redacted] range
[redacted] temperature of cool blank
[redacted] WBF if samples are cooled.
[redacted] corrective action in remarks.

			pH≤2									>9	≥12	deg.C	SAMPLES	
[redacted]	[redacted]	TOX	VOA*	PHENOL	TOC	PHC	O&G	METALS	HARD	TPO4	NO2&3	SO2	TCN	TEMP	EMSL #	REMARK
[redacted]	[redacted]	H2SO4	HCL	H2SO4	H2SO4	H2SO4	H2SO4	HNO3	HNO3	H2SO4	H2SO4	NaOH ZNAC	NaOH			
			X					X					✓	4	24105	

020

U.S. ARMY FORT MONMOUTH

G508473

P.O. #: IJO # 95-0091 / SAI

Chain of Custody

ject #: 944281944 21 | Sampler: EMSL (Baxter) | Date / Time: 5/25/95 | Analysis Parameters | Start: —

omer: Rivs Appleby SELFM-PLS-EV | Site Name: Bldg 117 mw sampling | Finish: —

e: 908-532-4602 | Preservation Method

Sample Number	Date/Time	Customer Sample Location/ID Number	Sample Matrix	# of Bottles	TCL +30 TAL (524.2+ 6010 & 624)	624 (524.2+ Ethers, MTBE, TBA, Xylenes)	Remarks
5/.1	5/25 1435	Bldg 117 mw1-293772	Aq	9	X	24205	
TB.2	0610	TRIP Blank		3	X	24197	
FB:3	1350	Field Blank		9	X	24198	

Relinquished By (signature)	Date / Time	Received By (signature)	Shipped By:
	5-25-95 1520		EMSL

Relinquished By (signature)	Date / Time	Received for Lab by (signature):	Date / Time
			5/26 07:00

: A drawing depicting sample location should be attached or drawn on the reverse side of this chain of custody. (ORIGINAL on BACK)

ENV COC Form 01 Page 1 of 1 Pages Rev. A Date: 02 Apr 93

Enviornmental Laboratory

030

EMSL ANALYTICAL, INC.

INTERNAL CHAIN OF CUSTODY

EMSL LAB ID NO. 95-24198, 95-24215

PROJECT NO. 9518473

SAMPLE/CONTAINERS

PARAMETERS

DATE	TIME	ANALYSIS	NAME (PRINT)	SIGNATURE
6/1/95		BN Extraction Prep	Charles Bartolone	Charlie Bartolone
6/5,8/95		Cyanide Prep	Pavitaar Singh	[signature]
6/5/95		Metals Prep	Domenic Terenzi	[signature]
6/1/95		Pesticides Prep	James J. Kelley	[signature]
5/31/95		Mercury Prep	John Lewis	[signature]

A

INTERNAL CUSTODY

Project #: 9508473

Lab ID #'s: 95-24197, 95-24198, 95-24205

Analyst

Analyst	Name (please print)	Signature	Date
1. Base/Neutrals	Scott Van Etten		6/7/95
2. Acids			
3. Pesticides			
4. Herbicides			
5. PCB's	David Roberts	David Roberts	6/8/95
6. Metals:			
Flame			
Furnace	Mike Boyle		6/7/95
ICP	David Klinga		6/6/95
7. Volatiles:			
GC			
GC/MS	Scott Kessler		6/7,8/1995
8. TOC			
9. TOX			
10. Phenols (Total)			
11. Cyanide (Total)	Pavitaar Singh	PPSingh	6/5,8/95
12. TPH -IR			
13. Mercury	John Lewis		5/31/95
14. Other			
15. Other			

EMSL

METHODOLOGY SUMMARY

METHODOLOGY SUMMARY

EPA Method 524.2 - Aqueous

This is a purge and trap gas chromatograph/mass spectrometer (GC/MS) method. The organic compounds are separated by the gas chromatograph and detected using the mass spectrometer.

An HP5890/5970 GC/MS was used with a capiullary column (DB-624 0.53 mn ID).

Method detection limits are as stated.

Semivolatiles by GC/MS - Aqueous

EPA Method 625 - This is a gas chromatograph/mass spectrometer (GC/MS) method applicable to the determination of a number of organic compounds that are partitioned in an organic solvent and amenable to gas chromatography. Reference is Federal Register, Vol. 40, No. 136, July, 1988.

An HP5890/5970B GC/MS is used with a DB-5 fused silica capillary column.

If tentatively identified compounds are requested, a computer program analyzes the non-priority pollutant/HSL/TCL compounds with standard mass spectra found in the latest version of the NIH/NBS/EPA mass spectral library.

Method detection limits are as stated.

Pesticides/PCB's - Aqueous

EPA Method 608 - This method covers the determination of pesticides and polychlorinated biphenyls (PCB's) in samples by extraction/concentration with organic solvents and subsequent qualification/quantification by Gas Chromatography. The gas chromatograph utilizes an electron capture detector (ECD) which is applicable for the determination of the compounds listed for this method in the U.S.E.P.A. Manual entitled "Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater".

Cyanide

An aliquot of sample is acidified under analysis conditions liberating cyanide as HCN. A distillation follows leaving behind interferences and scrubbing the distilled HCN in sodium hydroxide solution. An aliquot of the NaOH solution is analyzed colorimetrically for cyanide ion. Reference method is EPA Method 335.2.

Metals - Aqueous (Total)

This is a procedure used to determine metals concentrations in aqueous matrices. It involves an acidic digestion under oxidizing conditions of approximately 100 milliliters of sample. Nitric and hydrochloric acids as well as hydrogen peroxide are employed in the digestion. The digested sample is filtered and diluted to 100 milliliters. The analysis is performed by ICP, furnace atomic absorption or flame atomic absorption. Reference methods are SW-846 3rd Edition, September 1986, Revised July 1992, EPA Methods for the Chemical Analysis of Water and Wastes, Revised, March 1983 and Methods for the Determination of Metals in Environmental Samples EPA/600/4-91/010 June 1991.

EMSL

LABORATORY CHRONICLE

Lab ID: **95-24205, 95-24197 & 95-24198**

Client: **U.S. Army, Fort Monmouth**

	I DATE	II	Hold Time
Date Sampled	**5/25/95**		
Receipt/Refrigeration	**5/26/95**		
Extractions			
1. Semivolatile Organics	**6/1/95**		**7 days**
2. Metals Prep.	**6/5/95**		**6 months**
3. Pest/PCBs	**6/1/95**		**7 days**
Analyses			
1. Semivolatile Organics	**6/7/95**		**40 days**
2. Metals	**6/6-7/95**		**6 months**
3. Mercury	**5/31/95**		**28 days**
4. Pest/PCBs	**6/8/95**		**40 days**
5. T. Cyanide	**6/5, 8/95**		**28 days**
6. Volatiles	**6/7-8/95**		**14 days**

QC Supervisor
Review & Approval

(Signature) Peter B. Panton

(Printed Name) Peter B. Panton

(Date) 07/19/95

NOTE: If fractions are re-extracted and re-analyzed because the initial endeavors failed to meet the required Quality Control Criteria, the dates of re-extraction and or re-analysis will be entered in Column II Additionally.

EMSL

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

		No	Yes
1.	Chromatograms Labeled/Compounds Identified (Field Samples and Method Blanks)		X
2.	GC/MS Tune Specifications		
	a. BFB Meet Criteria		X
	b. DFTPP Meet Criteria		X
3.	GC/MS Tuning Frequency - Performed every 24 hours for 600 series and 12 hours for 8000 series.		X
4,	GC/MS Calibration - Initial Calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours of. sample analysis for 600 series and 12 hours for 8000 series.		X
5.	GC/MS Calibration - Initial Requirements		
	a. Calibration Check Compounds		X
	b. System Performance Check Compounds		X
6.	Blank Contamination - If yes, list compounds and concentrations in each blank:		X
	a. VOA Fraction **Methylene Chloride 1.4 - 2.2 ppb.**		
	b. B/N Fraction		
	c. Acid Fraction		
7.	Surrogate Recoveries Meet Criteria		X
	If not met, list those compounds and their recoveries which fall outside the acceptable range:		
	a. VOA Fraction		
	b. B/N Fraction		
	c. Acid Fraction		
	If not met, were the calculations checked and the results qualified as "estimated"?		
8.	Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries which fall outside the acceptable range)	X	
	a. VOA Fraction **See MS/MSD form.**		
	b. B/N Fraction		
	c. Acid Fraction		
9.	Internal Standard Area/Retention Time Shift Meet Criteria		X

EMSL

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT, cont.

		No	Yes
10.	Extraction Holding Time Met		X

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

_____

_____

		No	Yes
11.	Analysis Holding Time Met		X

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

_____

_____

12. Definitions:
U=Not Detected. J=Detected, but below report detection limit.
B=Compound found in blank. E=Estimated concentration. NA=Not Applicable

Additional Comments: _____

_____

Laboratory Manager Paul Faraq Date: 06-27-95

EMSL

GC ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

		No	Yes
1.	Chromatograms Labeled/Compounds Identified (Field Samples and Method Blanks)		X
2.	Standards Summary Submitted		X
3.	Calibration-Initial Calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours of sample analysis.	X *	
4.	Blank Contamination - If yes, list compounds and concentrations in each blank:	X	
	a. VOA Fraction		
	b. B/N Fraction		
	c. Acid Fraction		
	d. Pesticides/PCB's		
	e. Other		
5.	Surrogate Recoveries Meet Criteria (If Applicable)		X
	a. VOA Fraction		
	b. B/N Fraction		
	c. Acid Fraction		
	d. Pesticides/PCB's		
	e. Other		
	If not Met, were the calculations checked and the results qualified (if applicable)	NA	
6.	Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (if applicable)		X
	(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		
	d. Pesticides/PCB's		
	e. Other		
7.	Retention Time Shift Meet Criteria (if applicable)		X

EMSL

GC ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT, cont.

		No	Yes
8.	Extraction Holding Time Met If not met, list number of days exceeded for each sample:		X
9.	Analysis Holding Time Met If not met, list number of days exceeded for each sample:		X

10. Definitions:
U=Not Detected. J=Detected, but below report detection limit. B=Compound found in blank. E=Estimated concentration. NA=Not Applicable

Additional Comments: * **Initial Calibration performed greater than 30 days. Continuing Calibration performed within 24 hours of sample analysis**

Laboratory Manager: Paul Soraia Date: 07-18-95

EMSL

METALS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

		No	Yes
1.	Calibration Summary Meet Criteria		X
2.	ICP Interference Check Sample Results Summary Submitted (if applicable) Meet Criteria		X
3.	Serial Dilution Summary Submitted (if applicable) / Meet Criteria	NA	
4.	Laboratory Control Sample Summary Submitted (if applicable) / Meet Criteria		X
5.	Blank Contamination - If yes, list compounds and concentrations in each blank.	X	
6.	Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (if not met, list those compounds and their recoveries which fall outside the acceptable range) **Calcium 1% R, Magnesium 44% R, Sodium 416% R.**	X	
7.	Extraction Holding Time Met		X
	If not met, list number of days exceeded for each sample:		
8.	Analysis Holding Time Met		X
	If not met, list number of days exceeded for each sample:		

9. Definitions: U=Not Detected. J=Detected, but below report detection limit. B=Compound found in blank, E=Estimated concentration. NA=Not Applicable

Additional Comments: _____

Laboratory Manager: Paul Young Date: 07-18-95

EMSL ANALYTICAL, INC. Asbestos - Lead - Environmental - Materials

Bldg #117

001

New Jersey

Corporate Office & Main Laboratory
108 Haddon Avenue
Westmont, NJ 08108
(609) 858-4800

3 Cooper Street
Westmont, NJ 08108
(609) 858-4800

1056 Stelton Road
Piscataway, NJ 08854
(908) 981-0550

New York

350 Fifth Avenue
Empire State Bldg.
Suite 1524
New York, NY 10118
(212) 290-0051

208 Stonehenge Lane
Carle Place, NY 11514
(516) 997-7251

California

1720 S. Amphlett Blvd.
Suite 130
San Mateo, CA 94402
(415) 570-5401

Florida

1878 Adams Avenue
Melbourne, FL 32935
(407) 253-4224

Georgia

1600 Rosewell Street, SE
Suite One
Smyrna, GA 30080
(404) 333-6066

Michigan

212 S. Wagner Road
Ann Arbor, MI 48103
(313) 668-6810

North Carolina

620-G Guilford College Rd.
Greensboro, NC 27409
(910) 297-1487

Texas

2501 Central Parkway
Suite C-13
Houston, TX 77092
(713) 686-3635

ANALYTICAL DATA REPORT
FOR
U.S. ARMY, FORT MONMOUTH
SELFM-PW-EV
Building 173
Fort Monmouth, NJ 07703

PROJECT : **94428194421**

EMSL Project: # 95064014

Field Sample No. & Location	Laboratory Sample ID	Matrix	Date & Time of Collection	Date Received
1876.1, Trip Blank	**95-26797**	**Aqueous**	**6/16/95 @ 0545**	**6/16/95**
1876.2, Field Blank	**95-26798**	**Aqueous**	**6/16/95 @ 1345**	**6/16/95**
1878.1, MW1-2931772, Bldg. #117	**95-26800**	**Aqueous**	**6/16/95 @ 1119**	**6/16/95**

Laboratory Name	EMSL ANALYTICAL, INC.
Certification No.	NJDEP No. 04653 PADER No. 68-367 NY-ELAP No. 10896
Supervisor/Manager Signature	Paul Laraia
Printed Name	Paul V. Laraia
Date	07-18-95

REPORT NARRATIVE

All initial runs for the Ft. Monmouth P.O. #IJO #95-0091/SAI were analyzed within hold. The samples were taken by EMSL between the dates of 5/18/95 thru 5/25/95.

There was a problem with the water used for the field and trip blanks. On certain days the field crew used DI water from the incorrect system resulting in low level contamination of Toluene, 2-Chlorotoluene and sometimes Chlorobenzene. However the resultant concentrations of these compounds were very low and the samples accompanying these field and trip blanks did not show these compounds to be present.

A 1

EMSL

TABLE OF CONTENTS

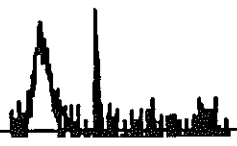


TABLE OF CONTENTS, cont.

EMSL

SAMPLE DATA SUMMARY PACKAGE

EMSL

Date of Report: 07/14/95
Project Number: 95064013
Lab ID: 95-0026797
Date Collected: 06/16/95 05:45
Collected By: Client
Date Received: 06/16/95 18:10

Attention: Charles Appleby
U.S. Army - Fort Monmouth
SELFM-PW-EV
Building 173
Fort Monmouth NJ 07703

Client Project: None

Client Designation: Trip Blank

	Conc.	Unit
ORGANIC		
Volatiles		
Volatiles by 524.2 w/ Library Search	see attached	ug/l

VOLATILE ORGANICS ANALYSIS DATA SHEET

FMETL#

Lab Name: EMSL ANALYTICAL Contract: U.S. ARMY

Project No.: FT. MONMOUTH NJ Bldg#: NJDEP MW#: TRIP BLANK

006

Matrix: (soil, water) WATER Lab Sample ID: 9526797

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: C8686.D

Level: (low med) LOW Date Received: 6/16/95

% Moisture: not dec. NA Date Analyzed: 6/27/95

GC Column: DB-624 x 75m ID: 0.53 (mm) Dilution Factor: 1.0

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
75-71-8	Dichlorodifluoromethane	.50	U
74-87-3	Chloromethane	1.0	
75-01-4	Vinyl chloride	.50	U
74-83-9	Bromomethane	.50	U
75-00-3	Chloroethane	.50	U
75-69-4	Trichlorofluoromethane	.50	U
75-35-4	1,1-Dichloroethene	.50	U
75-09-2	Methylene chloride	.80	
156-60-65	trans-1,2-Dichloroethene	.50	U
75-34-3	1,1-Dichloroethane	.50	U
594-20-7	2,2-Dichloropropane	.50	U
156-59-2	cis-1,2-Dichloroethene	.50	U
74-97-1	Bromochloromethane	.50	U
67-66-3	Chloroform	.50	U
71-55-6	1,1,1-Trichloroethane	.50	U
56-23-1	Carbon tetrachloride	.50	U
563-58-6	1,1-Dichloropropene	.50	U
71-43-2	Benzene	.50	U
107-06-2	1,2-Dichloroethane	8.4	
79-01-6	Trichloroethene	.50	U
78-87-1	1,2-Dichloropropane	.50	U
74-95-3	Dibromomethane	.50	U
75-27-4	Bromodichloromethane	.50	U
10061-01-1	cis-1,3-Dichloropropene	.50	U
108-88-3	Toluene	.50	U
10061-02-6	trans-1,3-Dichloropropene	.50	U
79-00-1	1,1,2-Trichloroethane	.50	U
127-18-4	Tetrachloroethene	.50	U
142-28-9	1,3-Dichloropropane	.50	U
124-48-1	Dibromochloromethane	.50	U
106-93-4	1,2-Dibromomethane	.50	U
108-90-7	Chlorobenzene	.50	U
630-20-6	1,1,1,2-Tetrachloroethane	.50	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EMSL #

Lab Name: EMSL ANALYTICAL Contract: U.S. ARMY

Project No.: FT. MONMOUTH NJ Bldg#: NJDEP MW#: TRIP BLANK

Matrix: (soil/water) WATER Lab Sample ID: 9526797

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: C8686.D

Level: (low/med) LOW Date Received: 6/16/95

% Moisture: not dec. NA Date Analyzed: 6/27/95

GC Column: DB-624 x 75m ID: 0.53 (mm) Dilution Factor: 1.0

007

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg) ug/L	Q
100-41-4	Ethylbenzene	.50	U
1330-29-7	Xylene (total)	.50	U
100-42-1	Styrene	.50	U
75-25-2	Bromoform	.50	U
98-82-8	Isopropylbenzene	.50	U
108-86-1	Bromobenzene	.50	U
79-34-1	1,1,2,2-Tetrachloroethane	.50	U
96-18-4	1,2,3-Trichloropropane	.50	U
103-65-1	n-Propylbenzene	.50	U
95-49-8	2-Chlorotoluene	.50	U
106-43-4	4-Chlorotoluene	.50	U
108-67-8	1,3,5-Trimethylbenzene	.50	U
98-06-6	tert-Butylbenzene	.50	U
95-63-6	1,2,4-Trimethylbenzene	.50	U
135-98-8	sec-Butylbenzene	.50	U
541-73-1	1,3-Dichlorobenzene	.50	U
99-87-6	4-Isopropyltoluene	.50	U
106-46-7	1,4-Dichlorobenzene	.50	U
95-50-1	1,2-Dichlorobenzene	.50	U
104-51-8	n-Butylbenzene	.50	U
96-12-8	1,2-Dibromo-3-chloropropane	.50	U
120-82-1	1,2,4-Trichlorobenzene	.50	U
87-68-3	Hexachlorobutadiene	.50	U
91-20-3	Naphthalene	.50	U
87-61-6	1,2,3-Trichlorobenzene	.50	U

EMSL #

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: EMSL ANALYTICAL Contract: U.S. ARMY

Project No. FT. MONMOUTH NJ Bldg#: NJDEPMW#: TRIP BLANK

008

Matrix: (soil/water) WATER Lab Sample ID: 9526797V

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: C8686.D

Level: (low/med) LOW Date Received: 6.16.95

% Moisture: not dec. NA Date Analyzed: 6/27.95

GC Column: DB-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 107-04-0	Ethane, 1-bromo-2-chloro-	13.88	3	J
2.				
3.				
4.				
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EMSL

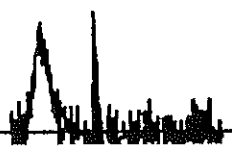
Date of Report: 07/18/95
Project Number: 95064013
Lab ID: 95-0026798
Date Collected: 06/16/95 13:54
Collected By: Client
Date Received: 06/16/95 18:10

Attention: Charles Appleby
U.S. Army - Fort Monmouth
SELFM-PW-EV
Building 173
Fort Monmouth NJ 07703

Client Project: None

Client Designation: Field Blank
FM ETL #1876-2

	Conc.	Unit
LIMITED		
Total Cyanide	<0.010	mg/l
METALS		
Ag-CLP	<0.050	mg/l
Aluminum-CLP	<0.20	mg/l
Arsenic-CLP	<0.0050	mg/l
Barium-CLP	<0.020	mg/l
Beryllium-CLP	<0.0050	mg/l
Calcium-CLP	<0.40	mg/l
Cadmium-CLP	<0.010	mg/l
Cobalt-CLP	<0.050	mg/l
Chromium-CLP	<0.050	mg/l
Copper-CLP	<0.050	mg/l
Iron-CLP	<0.10	mg/l
Mercury, CLP	<0.0010	mg/l
Potassium-CLP	<3.0	mg/l
Magnesium-CLP	<0.10	mg/l
Manganese-CLP	<0.020	mg/l
Sodium-CLP	<0.40	mg/l
Nickel-CLP	<0.050	mg/l
Lead-CLP	<0.0025	mg/l
Antimony-CLP	<0.0050	mg/l
Selenium-CLP	<0.0050	mg/l
Thallium-CLP	<0.0050	mg/l
Vanadium-CLP	<0.050	mg/l
Zinc-CLP	<0.020	mg/l
ORGANIC		
Pesticides		
Pesticides and PCBs by 608	see attached	ug/l
Semi-Volatiles		
TCL BNA's with Library Search	see attached	ug/l
Volatiles		
Volatiles by 524.2 w/ Library Search	see attached	ug/l



US Army Fort Monmouth, NJ
Bldg # 697 FMETL # 1876.2 NJDEP# Field Blank 010

1D

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 95-26798

Sample wt/vol: 960 (g/mL) mL Lab File ID: E:JU20E42

% Moisture N/A decanted: (Y/N) N Date Received: 06/16/95

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 06/21/95

Concentrated Extract Volume: 10 (ml) Date Analyzed: 06/29/95

Injection Volume: 1 (uL) Dilution Factor 1

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.04	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.04	U
50-29-3	4,4'-DDT	0.04	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.1	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	1	U
11104-28-2	Aroclor-1221	1	U
11141-16-5	Aroclor-1232	1	U
53469-21-9	Aroclor-1242	1	U
12672-29-6	Aroclor-1248	1	U
11097-69-1	Aroclor-1254	1	U
11096-82-5	Aroclor-1260	1	U

US Army Fort Monmouth, NJ
Bldg #607
FIRETL = 1876.2

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9526798B
Field Blank

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9526798B

Sample wt/vol: 1000.0 (g/mL ML Lab File ID: B8087.D

Level: (low/med) _____ Date Received: 6/16/95

% Moisture: _____ decanted: (Y/N): N Date Extracted: 6/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/1/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	3	JB
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

US Army Fort Harrison IN
Bldg #697
FMETL #1876.2

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
9526798B
Field Blank

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9526798B

Sample wt/vol: 1000.0 g/mL ML Lab File ID: B8087.D

Level: (low/med) _____ Date Received: 6/16/95

% Moisture: _____ decanted: (Y/N): N Date Extracted: 6/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/1/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	n-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-08	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
56-55-3	Benzo[a]anthracene	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[a,h]anthracene	10	U
191-24-2	Benzo[g,h,i]perylene	10	U

US Army Fort Monmouth, NJ
Bldg # 697
Fuel IL #1876.2

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9526798B
Fld Blank

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9526798B

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: B8087.D

Level: (low/med) _____ Date Received: 6/16/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 6/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/1/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1.	NONE FOUND			
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FMETL# 1876.2

Lab Name: EMSL ANALYTICAL Contract: U.S. ARMY

Project No.: FT. MONMOUTH NJ Bldg#: _____ NJDEP MW#: FIELD BLANK

Matrix: (soil/water) WATER Lab Sample ID: 9526798

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: C8687.D

Level: (low/med) LOW Date Received: 6/16/95

% Moisture: not dec. NA Date Analyzed: 6/27/95

GC Column: DB-624 x 75m ID: 0.53 (mm) Dilution Factor: 1.0

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	.50	U
74-87-3	Chloromethane	.90	
75-01-4	Vinyl chloride	.50	U
74-83-9	Bromomethane	.50	U
75-00-3	Chloroethane	.50	U
75-69-4	Trichlorofluoromethane	.50	U
75-35-4	1,1-Dichloroethene	.50	U
75-09-2	Methylene chloride	.80	B
156-60-65	trans-1,2-Dichloroethene	.50	U
75-34-3	1,1-Dichloroethane	.50	U
594-20-7	2,2-Dichloropropane	.50	U
156-59-2	cis-1,2-Dichloroethene	.50	U
74-97-1	Bromochloromethane	.50	U
67-66-3	Chloroform	.50	U
71-55-6	1,1,1-Trichloroethane	.50	U
56-23-1	Carbon tetrachloride	.50	U
563-58-6	1,1-Dichloropropene	.50	U
71-43-2	Benzene	.50	U
107-06-2	1,2-Dichloroethane	7.3	
79-01-6	Trichloroethene	.50	U
78-87-1	1,2-Dichloropropane	.50	U
74-95-3	Dibromomethane	.50	U
75-27-4	Bromodichloromethane	.50	U
10061-01-1	cis-1,3-Dichloropropene	.50	U
108-88-3	Toluene	.50	U
10061-02-6	trans-1,3-Dichloropropene	.50	U
79-00-1	1,1,2-Trichloroethane	.50	U
127-18-4	Tetrachloroethene	.50	U
142-28-9	1,3-Dichloropropane	.50	U
124-48-1	Dibromochloromethane	.50	U
106-93-4	1,2-Dibromomethane	.50	U
108-90-7	Chlorobenzene	.50	U
630-20-6	1,1,1,2-Tetrachloroethane	.50	U

1876.2

Lab Name: EMSL ANALYTICAL Contract: U.S. ARMY

Project No.: FT. MONMOUTH NJ Bldg#: NJDEP MW#: FIELD BLANK

Matrix: (soil/water) WATER Lab Sample ID: 9526798

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: C8687.D

Level: (low/med) LOW Date Received: 6/16/95

% Moisture: not dec. NA Date Analyzed: 6/27/95

GC Column: DB-624 x 75m ID: 0.53 (mm) Dilution Factor: 1.0

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
100-41-4	Ethylbenzene	.50	U
1330-29-7	Xylene (total)	.50	U
100-42-1	Styrene	.50	U
75-25-2	Bromoform	.50	U
98-82-8	Isopropylbenzene	.50	U
108-86-1	Bromobenzene	.50	U
79-34-1	1,1,2,2-Tetrachloroethane	.50	U
96-18-4	1,2,3-Trichloropropane	.50	U
103-65-1	n-Propylbenzene	.50	U
95-49-8	2-Chlorotoluene	.50	U
106-43-4	4-Chlorotoluene	.50	U
108-67-8	1,3,5-Trimethylbenzene	.50	U
98-06-6	tert-Butylbenzene	.50	U
95-63-6	1,2,4-Trimethylbenzene	.50	U
135-98-8	sec-Butylbenzene	.50	U
541-73-1	1,3-Dichlorobenzene	.50	U
99-87-6	4-Isopropyltoluene	.50	U
106-46-7	1,4-Dichlorobenzene	.50	U
95-50-1	1,2-Dichlorobenzene	.50	U
104-51-8	n-Butylbenzene	.50	U
96-12-8	1,2-Dibromo-3-chloropropane	.50	U
120-82-1	1,2,4-Trichlorobenzene	.50	U
87-68-3	Hexachlorobutadiene	.50	U
91-20-3	Naphthalene	.50	U
87-61-6	1,2,3-Trichlorobenzene	.50	U

1E

FMETL# 1876.2

016

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: EMSL ANALYTICAL Contract: U.S. ARMY

Project No. FT. MONMOUTH NJ Bldg#: NJDEPMW#: FIELD BLANK

Matrix: (soil/water) WATER Lab Sample ID: 9526798V

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: C8687.D

Level: (low/med) LOW Date Received: 6/16/95

% Moisture: not dec. NA Date Analyzed: 6/27/95

GC Column: DB-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 1 Concentration Units: (ug/L or ug Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 107-04-0	Ethane, 1-bromo-2-chloro-	13.88	3	J
2.				
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EMSL

Date of Report: 07/18/95
Project Number: 95064014
Lab ID: 95-0026800
Date Collected: 06/16/95 05:45
Collected By: Client
Date Received: 06/16/95 18:10

ttention: Charles Appleby
U.S. Army - Fort Monmouth
SELFM-PW-EV
Building 173
Fort Monmouth NJ 07703

Client Project: 94428194421

Client Designation: Bldg.117,MW1-2931772

	Conc.	Unit
IMITED		
Total Cyanide	<0.010	mg/l
METALS		
Ag-CLP	<0.050	mg/l
Aluminum-CLP	1.9	mg/l
Arsenic-CLP	<0.0050	mg/l
Barium-CLP	<0.020	mg/l
Beryllium-CLP	<0.0050	mg/l
Calcium-CLP	13	mg/l
Cadmium-CLP	<0.010	mg/l
Cobalt-CLP	<0.050	mg/l
Chromium-CLP	<0.050	mg/l
Copper-CLP	<0.050	mg/l
Iron-CLP	5.9	mg/l
Mercury, CLP	<0.0010	mg/l
Potassium-CLP	<3.0	mg/l
Magnesium-CLP	6.3	mg/l
Manganese-CLP	0.080	mg/l
Sodium-CLP	27	mg/l
Nickel-CLP	<0.050	mg/l
Lead-CLP	0.0026	mg/l
Antimony-CLP	<0.0050	mg/l
Selenium-CLP	<0.0050	mg/l
Thallium-CLP	<0.0050	mg/l
Vanadium-CLP	<0.050	mg/l
Zinc-CLP	0.076	mg/l
ORGANIC		
Pesticides		
Pesticides and PCBs by 608	see attached	ug/l
Semi-Volatiles		
TCL BNA's with Library Search	see attached	ug/l
Volatiles		
Volatiles by 524.2 w/ Library Search	see attached	ug/l

U.S. Army Ft. Monmouth NJ
Bldg #117 FMETL # 1878.1 NJDEP # 1-2931772

1D

EPA SAMPLE NO. 1 018

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: EMSL Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix: (soil/water) water Lab Sample ID: 95-26800

Sample wt/vol: 990 (g/mL) mL Lab File ID: E:JU20E45

% Moisture N/A decanted: (Y/N) N Date Received: 06/16/95

Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 06/21/95

Concentrated Extract Volume: 10 (ml) Date Analyzed: 06/29/95

Injection Volume: 1 (uL) Dilution Factor 1

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.02	U
319-85-7	beta-BHC	0.04	U
319-86-8	delta-BHC	0.02	U
58-89-9	gamma-BHC (Lindane)	0.03	U
76-44-8	Heptachlor	0.02	U
309-00-2	Aldrin	0.04	U
1024-57-3	Heptachlor epoxide	0.04	U
959-98-8	Endosulfan I	0.02	U
60-57-1	Dieldrin	0.03	U
72-55-9	4,4'-DDE	0.04	U
72-20-8	Endrin	0.04	U
33213-65-9	Endosulfan II	0.04	U
72-54-8	4,4'-DDD	0.04	U
1031-07-8	Endosulfan sulfate	0.04	U
50-29-3	4,4'-DDT	0.04	U
7421-36-3	Endrin aldehyde	0.1	U
57-74-9	Chlordane	0.1	U
8001-35-2	Toxaphene	1	U
12674-11-2	Aroclor-1016	1	U
11104-28-2	Aroclor-1221	1	U
11141-16-5	Aroclor-1232	1	U
53469-21-9	Aroclor-1242	1	U
12672-29-6	Aroclor-1248	1	U
11097-69-1	Aroclor-1254	1	U
11096-82-5	Aroclor-1260	1	U

US Army Fort Monmouth, NJ
Bldg #117
FMERR # 1878.1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9526800B
MW1-293172

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9526800B

Sample wt/vol: 1000.0 (g/mL ML Lab File ID: B8089.D

Level: (low/med) _____ Date Received: 6/16/95

% Moisture: _____ decanted: (Y/N): N Date Extracted: 6/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/1/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	3	JB
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

US Army Fort Monmouth, NJ
Bldg # 117
FMETC # 1878.1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. 9526800B MW1-293172

020

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9526800B

Sample wt/vol: 1000.0 (g/mL ML Lab File ID: B8089.D

Level: (low/med) Date Received: 6/16/95

% Moisture: decanted: (Y/N): N Date Extracted: 6/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/1/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	n-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-08	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
56-55-3	Benzo[a]anthracene	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[a,h]anthracene	10	U
191-24-2	Benzo[g,h,i]perylene	10	U

US Army Fort Monmouth, NJ
Bldg 117
FMEC # 1878.1

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
9526800B
MW1-2831772

02

Lab Name: EMSL ANALYTICAL Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: 9526800B

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: B8089.D

Level: (low/med) Date Received: 6/16/95

% Moisture: decanted: (Y/N) N Date Extracted: 6/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/1/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1. 143-07-7	Dodecanoic acid	19.39	5	J
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FMETL# 1878.1

022

Lab Name: EMSL ANALYTICAL Contract: U.S. ARMY

Project No.: FT. MONMOUTH NJ Bldg#: 117 NJDEP MW#: 1-2931772

Matrix: (soil/water) WATER Lab Sample ID: 9526800

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: C8691.D

Level: (low/med) LOW Date Received: 6/16/95

% Moisture: not dec. NA Date Analyzed: 6/27/95

GC Column: DB-624 x 75m ID: 0.53 (mm) Dilution Factor: 1.0

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	.50	U
74-87-3	Chloromethane	1.1	
75-01-4	Vinyl chloride	.50	U
74-83-9	Bromomethane	.50	U
75-00-3	Chloroethane	.50	U
75-69-4	Trichlorofluoromethane	.50	U
75-35-4	1,1-Dichloroethene	.50	U
75-09-2	Methylene chloride	1.6	B
156-60-65	trans-1,2-Dichloroethene	.50	U
75-34-3	1,1-Dichloroethane	.50	U
594-20-7	2,2-Dichloropropane	.50	U
156-59-2	cis-1,2-Dichloroethene	.50	U
74-97-1	Bromochloromethane	.50	U
67-66-3	Chloroform	.50	U
71-55-6	1,1,1-Trichloroethane	.50	U
56-23-1	Carbon tetrachloride	.50	U
563-58-6	1,1-Dichloropropene	.50	U
71-43-2	Benzene	.50	U
107-06-2	1,2-Dichloroethane	9.6	
79-01-6	Trichloroethene	.50	U
78-87-1	1,2-Dichloropropane	.50	U
74-95-3	Dibromomethane	.50	U
75-27-4	Bromodichloromethane	.50	U
10061-01-1	cis-1,3-Dichloropropene	.50	U
108-88-3	Toluene	.50	U
10061-02-6	trans-1,3-Dichloropropene	.50	U
79-00-1	1,1,2-Trichloroethane	.50	U
127-18-4	Tetrachloroethene	.50	U
142-28-9	1,3-Dichloropropane	.50	U
124-48-1	Dibromochloromethane	.50	U
106-93-4	1,2-Dibromomethane	.50	U
108-90-7	Chlorobenzene	.50	U
630-20-6	1,1,1,2-Tetrachloroethane	.50	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FMETL# 1878.1

Lab Name: EMSL ANALYTICAL Contract: U.S. ARMY

Project No.: FT. MONMOUTH NJ Bldg#: 117 NJDEP MW#: 1-2931772

Matrix: (soil/water) WATER Lab Sample ID: 9526800

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: C8691.D

Level: (low/med) LOW Date Received: 6/16/95

% Moisture: not dec. NA Date Analyzed: 6/27/95

GC Column: DB-624 x 75m ID: 0.53 (mm) Dilution Factor: 1.0

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
100-41-4	Ethylbenzene	.50	U
1330-29-7	Xylene (total)	.50	U
100-42-1	Styrene	.50	U
75-25-2	Bromoform	.50	U
98-82-8	Isopropylbenzene	.50	U
108-86-1	Bromobenzene	.50	U
79-34-1	1,1,2,2-Tetrachloroethane	.50	U
96-18-4	1,2,3-Trichloropropane	.50	U
103-65-1	n-Propylbenzene	.50	U
95-49-8	2-Chlorotoluene	.50	U
106-43-4	4-Chlorotoluene	.50	U
108-67-8	1,3,5-Trimethylbenzene	.50	U
98-06-6	tert-Butylbenzene	.50	U
95-63-6	1,2,4-Trimethylbenzene	.50	U
135-98-8	sec-Butylbenzene	.50	U
541-73-1	1,3-Dichlorobenzene	.50	U
99-87-6	4-Isopropyltoluene	.50	U
106-46-7	1,4-Dichlorobenzene	.50	U
95-50-1	1,2-Dichlorobenzene	.50	U
104-51-8	n-Butylbenzene	.50	U
96-12-8	1,2-Dibromo-3-chloropropane	.50	U
120-82-1	1,2,4-Trichlorobenzene	.50	U
87-68-3	Hexachlorobutadiene	.50	U
91-20-3	Naphthalene	.50	U
87-61-6	1,2,3-Trichlorobenzene	.50	U

1E

FMETL# 1878.1

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: EMSL ANALYTICAL Contract: U.S. ARMY

Project No. FT. MONMOUTH NJ Bldg#: 117 NJDEPMW#: 1 - 2931772

Matrix: (soil/water) WATER Lab Sample ID: 9526800V

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: C8691.D

Level: (low/med) LOW Date Received: 6/16/95

% Moisture: not dec. NA Date Analyzed: 6/27/95

GC Column: DB-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 107-04-0	Ethane, 1-bromo-2-chloro-	13.88	4	J
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BLDG.#: 117 MW#: 1 NJDEPE WELL ID # 2931772

U.S. ARMY FORT MONMOUTH

MONITORING WELL SAMPLING DATASHEET

DATE: 6-16-95

IJO#95-0091

SAMPLING CONTRACTOR: EMSL Analytical Services Inc.

LABORATORY: EMSL Analytical Services, NJDEP CERT #: 04653

SAMPLERS NAMES: Susan Palilonis, Jim Baxter

WEATHER CONDITIONS: sunny, Hot

ELEVATION OF CASING SURVEY MARK: ____.____

TOTAL DEPTH OF WELL FROM TOP OF SURVEYORS MARK: 12.55 FT

DEPTH FROM SURVEYORS MARK TO SCREEN: ____.____FT 0.10 to screen

LENGTH OF SCREENED SECTION: ____FT.

DEPTH TO WATER PRIOR TO PURGING AND SAMPLING: 7.27FT

ELEVATION OF GW PRIOR TO PURGING: ____.___FT from screen

THICKNESS OF LNAPL PRIOR TO PURGING : ____.00 FT

PID/Hnu READING IMMEDIATELY AFTER THE WELL CAP IS REMOVED: 41 PPM max 1047 detected D.O. 1.6 ppm

① pH: 5.63 TEMP: 21.0 °C, SPECIFIC CONDUCTIVITY: 570 µs/cm

DEPTH OF WELL: ____.___FT

HEIGHT OF WATER: ____.____FT

EVACUATED GAL. H2O: 11 GAL (5.28 X .65 X 3 = 10.296)

PURGING START TIME: 1056 END TIME: 1102

PURGE METHOD: (FLOW RATE OF <0.5 GPM TO >5.0 GPM) Pump

PURGE RATE (<0.5 GPM): 2 GPM

TOTAL VOLUME PURGED: 12 GAL.

DEPTH TO WATER AFTER PURGING AND BEFORE SAMPLING: 7.27 FT

② DISSOLVED OXYGEN: 1.0 ppm pH: 5.39 TEMP: 20.5 °C

SPECIFIC CONDUCTIVITY: 591 µs/cm

SAMPLING METHOD: DEDICATED, DECONTAMINATED (IAW NJDEP FSPM 1992) TEFLON® BAILER

START TIME OF SAMPLING: 1104 END TIME: 1119

③ DISSOLVED OXYGEN: 1.3 ppm pH: 5.60 TEMP: 22.6 °C

SPECIFIC CONDUCTIVITY: 499 µs/cm

Color orange ODOR none

COMMENTS: on site 1041 flush surface well. found plugs with on site.

EMSL

LABORATORY DELIVERABLES

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

The following laboratory deliverables shall be included in the data submission. All deviations from the accepted methodology and procedures, or performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The proposed "Technical Requirements for Site Remediation" rules, which appeared in the May 4, 1992 New Jersey Register, 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 be included in one section of the data package and in the main body of the report.

		Check If Complete
1.	Cover Page, Title Page listing Lab Certification #, facility name, address & date of report.	X
2.	Table of Contents	X
3.	Summary Sheets listing analytical results for all targeted and non-targeted compounds.	X
4.	Summary Table cross-referencing field ID #'s vs. Lab ID #'s.	X
5.	Document bound, paginated and legible.	X
6.	Chain of Custody	X
7.	Methodology Summary	X
8.	Laboratory Chronicle and Holding Time Check.	X
9.	Results submitted on a dry weight basis (if applicable).	X
10	Method Detection Limits.	X
11	Lab certified by NJDEP for parameters or appropriate category of parameters or a member of the USEP CLP.	X
12	Non-Conformance Summary	X

Paul Torain

Laboratory Manager or Environmental Consultant's Signature

07-18-95

Date

EMSL

QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

A. Checklist which must be attached to the Summary

The following information must be reported in the Closure Plan Implementation Summary for all laboratory analyses performed in the compliance with the site assessment requirements:

Page #		
1	1.	Name and address of the facility.
1	2.	Name of the laboratory performing the sample analysis.
1	3.	NJDEP certification number assigned to the laboratory pursuant to N.J.A.C. 7:18.
1	4.	Laboratory sample identification number.
1	5.	Customer sample identification number corresponding to the laboratory sample identification.
1	6.	Sample Location (also on the site diagram).
1	7.	Matrix of the sample analyzed (i.e., water or sediments; including soil, sediment, and sludges). All sediment results must be reported on a dry weight basis.
32-34	8.	The reference for the method used (e.g., EPA Method 625, 40 CFR Part 136).
1	9.	The signature of the person completing the report form.
1	10.	The dates the laboratory report form was prepared, as well as the dates the sample were collected, submitted and analyzed.
35	11.	A list of all parameters (constituents and conditions) for which the analyses were performed.
4-25	12.	Sample results and corresponding units for each parameter.

EMSL

CHAIN OF CUSTODY

FORT MONMOUTH

9806401A

P.O. #: ISO # 95-0091 / SAI

Chain of Custody

Project #: 94428194421	Sampler: EMSL (Baxter)	Date / Time 6/14/95	Analysis Parameters: TCL +30 / TAL
Customer: Charles Appleby SELFM-RA-EV	Site Name: Bldg. #117 MW Sampling		Start: Finish:
Phone: 908-532-6224			

Lab Sample ID Number	Date/Time	Customer Sample Location/ID Number	Sample Matrix	# of Bottles	VOA +10 Library	BN's	Pest/PCB	TAL			Preservation Method	Remarks
1876.1	6/14/95 0545	TRIP Blank	aq.	4	X							Samples Kept at 4 °C
↓ .2	↓ 1354	Field Blank	aq.	10	X	X	X	X				
1878.1	↓ 1119	Bldg. #117 MW1-293177	aq.	10	X	X	X	X	2	6		

Relinquished By (signature)	Date / Time	Received By (signature)	Shipped By: EMSL.
	6/14/95 1617		
Relinquished By (signature)	Date / Time	Received For Lab by (signature):	Date / Time
	6/16/95 1810		

Note: A drawing depicting sample location should be attached or drawn on the reverse side of this chain of custody. (ORIGINAL on Reverse Side)

Enviornmental Laboratory

Certification Number

EMSL ANALYTICAL, INC. (030

INTERNAL CHAIN OF CUSTODY

EMSL LAB ID NO. 95-26798 95-26800

PROJECT NO. 95064014

SAMPLE/CONTAINERS

PARAMETERS

BN Ext, Pest/PCB Ext, TCN, Metals Prep.

DATE	TIME	ANALYSIS	NAME (PRINT)	SIGNATURE
6/23/95		BN Extraction Prep.	Charles Bartolone	CB
6/21/95		Pest/PCB Ext. Prep.	Jim Kelley	
6/27/95		T. Cyanide	PAVITTAR SINGH	
6/26/95		Metals Prep.	Dom Terenzi	
6/26/95		Mercury Prep	John Lewis	

INTERNAL CUSTODY

031

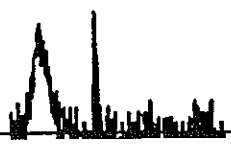
Project #: 95064014

Lab ID #'s: 95-26800

Analyst 95-26798

	Name (please print)	Signature	Date
1. Base/Neutrals	Scott VanEtten		7/1/95
2. Acids			
3. Pesticides	Dave Roberts	David Roberts	6/29/95
4. Herbicides			
5. PCB's	Dave Roberts	David Roberts	6/29/95
6. Metals:			
Flame			
✓Furnace	Michael Boyle		6/29/95
✓ICP	Dom Terenzi		7/1/95
7. Volatiles:			
GC			
GC/MS	Scott Kessler		6/27/95
8. TOC			
9. TOX			
10. Phenols (Total)			
✓11. Cyanide (Total)	PAVITTAR SINGH		6/27/95
12. TPH -IR			
✓13. Mercury	Dom Terenzi		6/26/95
14. Other			
15. Other			
16. Other			

METHODOLOGY SUMMARY



EMSL

METHODOLOGY SUMMARY

EPA Method 524.2 - Aqueous

This is a purge and trap gas chromatograph/mass spectrometer (GC/MS) method. The organic compounds are separated by the gas chromatograph and detected using the mass spectrometer.

An HP5890/5970 GC/MS was used with a capiullary column (DB-624 0.53 mn ID).

Method detection limits are as stated.

Semivolatiles by GC/MS - Aqueous

EPA Method 625 - This is a gas chromatograph/mass spectrometer (GC/MS) method applicable to the determination of a number of organic compounds that are partitioned in an organic solvent and amenable to gas chromatography. Reference is Federal Register, Vol. 40, No. 136, July, 1988.

An HP5890/5970B GC/MS is used with a DB-5 fused silica capillary column.

If tentatively identified compounds are requested, a computer program analyzes the non-priority pollutant/HSL/TCL compounds with standard mass spectra found in the latest version of the NIH/NBS/EPA mass spectral library.

Method detection limits are as stated.

Pesticides/PCB's - Aqueous

EPA Method 608 - This method covers the determination of pesticides and polychlorinated biphenyls (PCB's) in samples by extraction/concentration with organic solvents and subsequent qualification/quantification by Gas Chromatography. The gas chromatograph utilizes an electron capture detector (ECD) which is applicable for the determination of the compounds listed for this method in the U.S.E.P.A. Manual entitled "Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater".

Metals - Aqueous (Total)

This is a procedure used to determine metals concentrations in aqueous matrices. It involves an acidic digestion under oxidizing conditions of approximately 100 milliliters of sample. Nitric and hydrochloric acids as well as hydrogen peroxide are employed in the digestion. The digested sample is filtered and diluted to 100 milliliters. The analysis is performed by ICP, furnace atomic absorption or flame atomic absorption. Reference methods are SW-846 3rd Edition, September 1986, Revised July 1992, EPA Methods for the Chemical Analysis of Water and Wastes, Revised, March 1983 and Methods for the Determination of Metals in Environmental Samples EPA/600/4-91/010 June 1991.

METHODOLOGY SUMMARY, cont.

Mercury, Solid/Aqueous

SW 846 Method 7471, a cold-vapor atomic absorption method, is based on the absorption of radiation at the 253.7-nm wavelength by mercury vapor. The mercury is reduced to the elemental state and aerated from solution in a closed system. The mercury vapor passes through a cell positioned in the light path of an atomic absorption spectrophotometer. Absorbance (peak height) is measured as a function of mercury concentration.

Cyanide

An aliquot of sample is acidified under analysis conditions liberating cyanide as HCN. A distillation follows leaving behind interferences and scrubbing the distilled HCN in sodium hydroxide solution. An aliquot of the NaOH solution is analyzed colorimetrically for cyanide ion. Reference method is EPA Method 335.2.

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LABORATORY CHRONICLE

Lab ID: **95-26797, 95-26798, 95-26800**

Client: **U.S. Army, Fort Monmouth**

	I DATE	II	Hold Time
Date Sampled	**6/16/95**		
Receipt/Refrigeration	**6/16/95**		
Extractions			
1. Semivolatile Organics	**6/23/95**		**7 days**
2. Pesticide/PCB Prep.	**6/21/95**		**7 days**
3. Metals Prep.	**6/26/95**		**6 months**
Analyses			
1. Volatile Organics	**6/27/95**		**14 days**
2. Semivolatile Organics	**7/1/95**		**40 days**
3. Pesticide/PCB	**6/29/95**		**40 days**
4. Metals	**6/29, 7/1/95**		**6 months**
5. Mercury	**6/26/95**		**28 days**
6. Cyanide, Total	**6/27/95**		**14 days**

QC Supervisor
Review & Approval

(Signature) Peter B. Panton

(Printed Name) Peter B. Panton

(Date) 07/18/95

NOTE: If fractions are re-extracted and re-analyzed because the initial endeavors failed to meet the required Quality Control Criteria, the dates of re-extraction and/or re-analysis will be entered in Column II Additionally.

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GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

		No	Yes
1.	Chromatograms Labeled/Compounds Identified (Field Samples and Method Blanks)		X
2.	GC/MS Tune Specifications		
	a. BFB Meet Criteria		X
	b. DFTPP Meet Criteria		X
3.	GC/MS Tuning Frequency - Performed every 24 hours for 600 series and 12 hours for 8000 series.		X
4,	GC/MS Calibration - Initial Calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours of. sample analysis for 600 series and 12 hours for 8000 series.		X
5.	GC/MS Calibration - Initial Requirements		
	a. Calibration Check Compounds		X
	b. System Performance Check Compounds		X
6.	Blank Contamination - If yes, list compounds and concentrations in each blank:		X
	a. VOA Fraction **Methylene Chloride 2.0-2.1 ppb.**		
	b. B/N Fraction **29206 MS/MSD Di-n-butylphthalate 40 ppb.**		
	c. Acid Fraction		
7.	Surrogate Recoveries Meet Criteria		X
	If not met, list those compounds and their recoveries which fall outside the acceptable range:		
	a. VOA Fraction		
	b. B/N Fraction		
	c. Acid Fraction		
	If not met, were the calculations checked and the results qualified as "estimated"?		
8.	Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries which fall outside the acceptable range)	X	
	a. VOA Fraction **Methylene Chloride 76%, chloromethane 122%, 1,2-Dichloroethane 121%.**		
	b. B/N Fraction		
	c. Acid Fraction		
9.	Internal Standard Area/Retention Time Shift Meet Criteria		X

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GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT, cont.

		No	Yes
10.	Extraction Holding Time Met		X
	If not met, list number of days exceeded for each sample:		
11.	Analysis Holding Time Met		X
	If not met, list number of days exceeded for each sample:		

12. Definitions:
U=Not Detected. J=Detected, but below report detection limit.
B=Compound found in blank. E=Estimated concentration. NA=Not Applicable

Additional Comments:

Laboratory Manager Paul Lewis Date: 07-18-95

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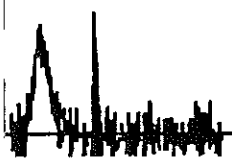
GC ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

		No	Yes
1.	Chromatograms Labeled/Compounds Identified (Field Samples and Method Blanks)		X
2.	Standards Summary Submitted		X
3.	Calibration-Initial Calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours of sample analysis. **Initial Calibration >30 days, Continuing Calibration within 24 hours.**	X	
4.	Blank Contamination - If yes, list compounds and concentrations in each blank:	X	
	a. VOA Fraction		
	b. B/N Fraction		
	c. Acid Fraction		
	d. Pesticides/PCB's		
	e. Other		
5.	Surrogate Recoveries Meet Criteria (If Applicable)		X
	a. VOA Fraction		
	b. B/N Fraction		
	c. Acid Fraction		
	d. Pesticides/PCB's		
	e. Other		
	If not Met, were the calculations checked and the results qualified (if applicable)		
6.	Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (if applicable)		X
	(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		
	d. Pesticides/PCB's		
	e. Other		
7.	Retention Time Shift Meet Criteria (if applicable)		X



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GC ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT, cont.

		No	Yes
8.	Extraction Holding Time Met If not met, list number of days exceeded for each sample:		X
9.	Analysis Holding Time Met If not met, list number of days exceeded for each sample:		X

10. Definitions:
U=Not Detected. J=Detected, but below report detection limit. B=Compound found in blank. E=Estimated concentration. NA=Not Applicable

Additional Comments:

Laboratory Manager: Paul Faraci Date: 07-18-98

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METALS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMA

		No	Yes
1.	Calibration Summary Meet Criteria		X
2.	ICP Interference Check Sample Results Summary Submitted (if applicable) Meet Criteria		X
3.	Serial Dilution Summary Submitted (if applicable) / Meet Criteria	NA	
4.	Laboratory Control Sample Summary Submitted (if applicable) / Meet Criteria		X
5.	Blank Contamination - If yes, list compounds and concentrations in each blank.	X	
6.	Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (if not met, list those compounds and their recoveries which fall outside the acceptable range) **Calcium 1% R, Magnesium 72% R, however, sample concentration was >5x spike level.**	X	
7.	Extraction Holding Time Met		X
	If not met, list number of days exceeded for each sample:		
8.	Analysis Holding Time Met		X
	If not met, list number of days exceeded for each sample:		

9. Definitions: U=Not Detected. J=Detected, but below report detection limit. B=Compound found in blank, E=Estimated concentration. NA=Not Applicable

Additional Comments: _____

Laboratory Manager: Paul Lorraig Date: 07-17-95