

United States Army
Fort Monmouth, New Jersey

COPY

Underground Storage Tank Closure and Site Investigation Report

***Building 2502
Charles Wood Area***

**NJDEP UST Registration No. 0081515-13
Dicar No. 96-4-24-1214-45**

April 1998

**UNDERGROUND STORAGE TANK
CLOSURE AND SITE INVESTIGATION REPORT**

BUILDING 2502

**CHARLES WOOD AREA
NJDEP UST REGISTRATION NO. 0081515-13
DICAR NO. 96-4-24-1214-45**

APRIL 1998

PREPARED FOR:

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

PREPARED BY:

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PROJECT NO. 2429-3080

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EXECUTIVE SUMMARY

UST Closure

On April 23, 1996, a fiberglass underground storage tank (UST) was closed by removal in accordance with the New Jersey Department of Environmental Protection (NJDEP) Closure Approval Letter dated April 22, 1996 at the Charles Wood area of the U.S. Army Fort Monmouth Base, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 0081515-13 (Fort Monmouth ID No. 2502), was located south of Building 2502 in the Charles Wood area.

UST No. 0081515-13 was an 1,000-gallon No. 2 fuel oil UST. The fill port was located directly above the tank.

Site Assessment

The site assessment was performed by U.S. Army personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual*. The sampling and laboratory analysis conducted during the site assessment were performed in accordance with Section 7:26E-2.1 of the *Technical Requirements for Site Remediation*. Soils surrounding the tank were screened visually and with air monitoring equipment for evidence of contamination. Following removal, the UST was inspected for corrosion holes. No holes were noted in the UST and no evidence of potentially contaminated soils was observed surrounding the tank. Excavation of the piping run revealed a possible discharge at a union joint of the vent line near the railroad tracks. The NJDEP hotline was notified (Dicar No. 96-4-24-1214-45).

Approximately five cubic yards of potentially contaminated soil was excavated and transported to Building 2624. Post-excavation samples were collected on April 23, 24, and 25, 1996 and contained levels of total petroleum hydrocarbons (TPHC) ranging in concentration from non-detected to 362 mg/kg.

Site Restoration

Following receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with native topsoil and restored to its original condition.

Conclusions and Recommendations

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.

No further action is proposed in regard to the closure and site assessment of UST No. 0081515-13 at Building 2502.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 0081515-13, was closed at Building 2502 at the Charles Wood area of the U.S. Army Fort Monmouth Base, Fort Monmouth, New Jersey on April 23, 1996. Refer to site location map on Figure 1. This report presents the results of the Department of Public Works' (DPW) implementation of the UST Decommissioning/Closure Plan approved by the NJDEP on April 22, 1996. The UST was a fiberglass 1,000-gallon tank containing No. 2 fuel oil.

Decommissioning activities for UST No. 0081515-13 complied with all applicable Federal, State, and Local laws and ordinances in effect at the date of decommissioning. These laws included but were not limited to N.J.A.C. 7:14B-1 et seq., N.J.A.C. 5:23-1 et seq., and Occupational Safety and Health Administration (OSHA) 1910.146 & 1910.120. All permits including but not limited to the NJDEP-approved Decommissioning/Closure Plan were posted onsite for inspection. The decommissioning activities was conducted by DPW personnel who are registered and certified by the NJDEP for performing UST closure activities. Closure of UST No. 0081515-13 proceeded under the approval of the NJDEP Bureau of Underground Storage Tanks (NJDEP-BUST). The NJDEP-BUST Closure Approval Letter and signed Site Assessment Summary form for UST No. 0081515-13 are included in Appendices A and B, respectively.

Based on inspecting the UST, field screening of subsurface soils and groundwater, and reviewing analytical results of collected soil samples, the DPW has concluded that no significant historical discharges are associated with the UST or associated piping.

This UST Closure and Site Investigation Report has been prepared by SMC Environmental Services Group, 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. October 1990 and revisions dated November 1, 1991).

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

1.2 SITE DESCRIPTION

Building 2502 is located in the Charles Wood area of the Fort Monmouth Army Base, as shown on Figure 1. UST No. 0081515-13 was located south of Building 2502 and appurtenant piping ran approximately twenty-four (24) feet west from the excavation to Building 2502. The fill port area was located directly above the tank. A site map is provided on Figure 2.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the area surrounding Building 2502. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Charles Wood area.

Regional Geology

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

In general, New Jersey Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, and gravel. These formations typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile and were deposited on Precambrian and lower Paleozoic rocks (Zapczka, 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 Zapczka, 1990).

Local Geology

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

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

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

Hydrogeology

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

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

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

Shallow groundwater is locally influenced within the Charles Wood area by the following factors:

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

Due to the fluvial nature of the overburden deposits (i.e., sand and clay lenses), shallow groundwater flow direction is best determined on a case-by-case basis. Building 2502 is located, approximately 500 feet south of an unnamed stream which runs from east to west through the Charles Wood area. Based on the Charles Wood area topography, the groundwater flow in the area of Building 2502 is anticipated to be to the north.

1.3 HEALTH AND SAFETY

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

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

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

1.4.2 Underground Storage Tank Excavation and Cleaning

Prior to UST decommissioning activities, surficial soil was removed to expose the UST and associated piping. All free product present in the piping was drained into the UST, and the UST was purged to remove vapors prior to cutting and removal of the piping. After removal of the associated piping, a 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 55 gallons of liquid were removed and transported to the Fort Monmouth waste oil holding facility.

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 on the tank during the inspection by the Sub-Surface Evaluator. Soils surrounding the UST were screened visually and with an OVA for evidence of contamination. No evidence of contamination was observed. Groundwater was encountered at 6.5 feet bgs and no sheen was observed. Soil screening was also performed along the piping associated with the UST. Approximately five cubic yards of potentially contaminated soil were removed from the piping excavation. See Figure 3 for a cross-sectional view of the excavated area.

1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The fiberglass tank was transported to the Charles Wood holding yard for disposal in compliance with all applicable regulations and laws.

The UST was labeled 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 OVA air monitoring and TPHC analysis results from the post-excavation soil samples, no soils exhibited signs of contamination. However, approximately five cubic yards of potentially petroleum contaminated were removed from the excavation and transported to Fort Monmouth Building 2624. Therefore, the remaining excavated soils were used as backfill following removal of the UST.

2.0 SITE INVESTIGATION ACTIVITIES

2.1 OVERVIEW

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

- Subsurface Evaluator: Eugene W. Lesinski
Employer: U.S. Army, Fort Monmouth
Phone Number: (908) 532-0989
NJDEP Certification No.: 0014537
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Phone Number: (908) 532-4359
NJDEP Company Certification No.: 13461

2.2 FIELD SCREENING/MONITORING

Field screening was performed by a NJDEP Certified Sub-Surface Evaluator using an OVA and visual observations to identify potentially contaminated material. Soil excavated from around the tank did not exhibit any evidence of potential contamination. Soil excavated from around the appurtenant piping did exhibit a possible discharge. The NJDEP hotline was contacted and the site was assigned Dicar No 96-4-24-1214-45. Approximately five cubic yards of potentially contaminated soil were removed from the excavated area near the railroad tracks. No other potentially contaminated areas were identified.

2.3 SOIL SAMPLING

On April 23 and 24, 1996, following the UST removal, post-excavation soil samples A, B, C, D, E, F, G, and DUP A were collected from a total of seven (7) locations of the UST excavation. Excavation bottom samples A, B, C, and DUP A were collected along the excavation floor at a depth of 6.5 feet bgs. Sidewall samples D and E were collected at a depth of 6.0 feet bgs. Samples F and G were collected along the former piping length of the excavation, which was approximately twenty-three (23) feet in length. The piping samples were collected at a depth of 1.0 feet bgs. All samples were analyzed for total petroleum hydrocarbons (TPHC) and percent solids.

On April 25, 1996, additional post-excavation samples A, B, C, D, and DUP D were collected from a total of four (4) locations of the UST excavation. Sidewall samples A, B, and C were collected at a depth of one (1) foot bgs. Excavation floor samples D and DUP D were collected at a depth of 1.5 feet bgs. All samples were analyzed for TPHC and percent solids.

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

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

To evaluate soil conditions following removal of the UST and associated piping, post-excavation soil samples were collected from a total of seven (7) locations on April 23 and 24, 1996 and four (4) locations on April 25, 1996. 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 locations are shown on Figure 4. The analytical data package is provided in Appendix D.

All post-excavation soil samples collected on April 23, 24, and 25, 1996, from the UST excavation and from below piping associated with the UST contained concentrations of TPHC below the NJDEP soil cleanup criteria. Samples contained levels of TPHC ranging in concentration from non-detected to 362 mg/kg.

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 2502 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.

No further action is proposed in regard to the closure and site assessment of UST No. 0081515-13 at Building 2502.

TABLES

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING 2502, CHARLES WOOD AREA
FORT MONMOUTH, NEW JERSEY

Page 1 of 1

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters (and US EPA Method)*	Sampling Method
A	4/23/96	4/25/96	Soil	Post-Excavation	TPHC	418.1
B	4/23/96	4/25/96	Soil	Post-Excavation	TPHC	418.1
C	4/23/96	4/25/96	Soil	Post-Excavation	TPHC	418.1
D	4/23/96	4/25/96	Soil	Post-Excavation	TPHC	418.1
E	4/23/96	4/25/96	Soil	Post-Excavation	TPHC	418.1
DUP A	4/23/96	4/25/96	Soil	Post-Excavation	TPHC	418.1
F	4/23/96	4/25/96	Soil	Post-Excavation	TPHC	418.1
G	4/23/96	4/25/96	Soil	Post-Excavation	TPHC	418.1
A	4/25/96	5/07/96	Soil	Post-Excavation	TPHC	418.1
B	4/25/96	5/07/96	Soil	Post-Excavation	TPHC	418.1
C	4/25/96	5/07/96	Soil	Post-Excavation	TPHC	418.1
D	4/25/96	5/07/96	Soil	Post-Excavation	TPHC	418.1
DUP D	4/25/96	5/07/96	Soil	Post-Excavation	TPHC	418.1

Note:

* TPHC Total Petroleum Hydrocarbons (Method 418.1 / soil and aqueous)

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
BUILDING 2502, CHARLES WOOD AREA
FORT MONMOUTH, NEW JERSEY

Page 1 of 2

Sample ID/ Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Method Used	Sample Quantitation Limit (mg/kg)	Compound of Concern	Result (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
A/6.5'	2053.1	4/23/96	4/25/96	Total Solid	--	--	92 %	--	--
				418.1	40	yes	ND	10,000	--
B/6.5'	2053.2	4/23/96	4/25/96	Total Solid	--	--	97 %	--	--
				418.1	40	yes	91.9	10,000	--
C/6.5'	2053.3	4/23/96	4/25/96	Total Solid	--	--	87 %	--	--
				418.1	40	yes	102	10,000	--
D/6.0'	2053.4	4/23/96	4/25/96	Total Solid	--	--	92 %	--	--
				418.1	40	yes	362	10,000	--
E/6.0'	2053.5	4/23/96	4/25/96	Total Solid	--	--	94 %	--	--
				418.1	40	yes	60.1	10,000	--
DUP A/6.5'	2053.6	4/23/96	4/25/96	Total Solid	--	--	94 %	--	--
				418.1	40	yes	ND	10,000	--
F/1.0'	2053.7	4/24/96	4/25/96	Total Solid	--	--	92 %	--	--
				418.1	40	yes	ND	10,000	--
G/1.0'	2053.8	4/24/96	4/25/96	Total Solid	--	--	90 %	--	--
				418.1	40	yes	ND	10,000	--

Note:

* Total Solids are expressed as a percentage.

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

ND Not Detected above stated method detection limit.

N/A Not applicable

TPHC Total Petroleum Hydrocarbons

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
 BUILDING 2502, CHARLES WOOD AREA
 FORT MONMOUTH, NEW JERSEY

Page 2 of 2

Sample ID/ Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Method Used	Sample Quantitation Limit (mg/kg)	Compound of Concern	Result (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
A/1.0'	2055.1	4/25/96	5/07/96	Total Solid	--	--	92.03 %	--	--
				418.1	166	yes	ND	10,000	--
B/1.0'	2055.2	4/25/96	5/07/96	Total Solid	--	--	90.26 %	--	--
				418.1	166	yes	235.87	10,000	--
C/1.0'	2055.3	4/25/96	5/07/96	Total Solid	--	--	86.69 %	--	--
				418.1	180	yes	ND	10,000	--
D/1.5'	2055.4	4/25/96	5/07/96	Total Solid	--	--	90.97 %	--	--
				418.1	166	yes	186.22	10,000	--
E/1.0'	2055.5	4/25/96	5/07/96	Total Solid	--	--	91.57 %	--	--
				418.1	167	yes	219.26	10,000	--

Note:

* Total Solids are expressed as a percentage.

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

ND Not Detected above stated method detection limit.

N/A Not applicable

TPHC Total Petroleum Hydrocarbons

Coated

100

5700

1993

CITATION

0-7 1032

1.000

hostile

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6.000

7.40

100

500

10000

6.100

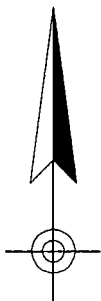
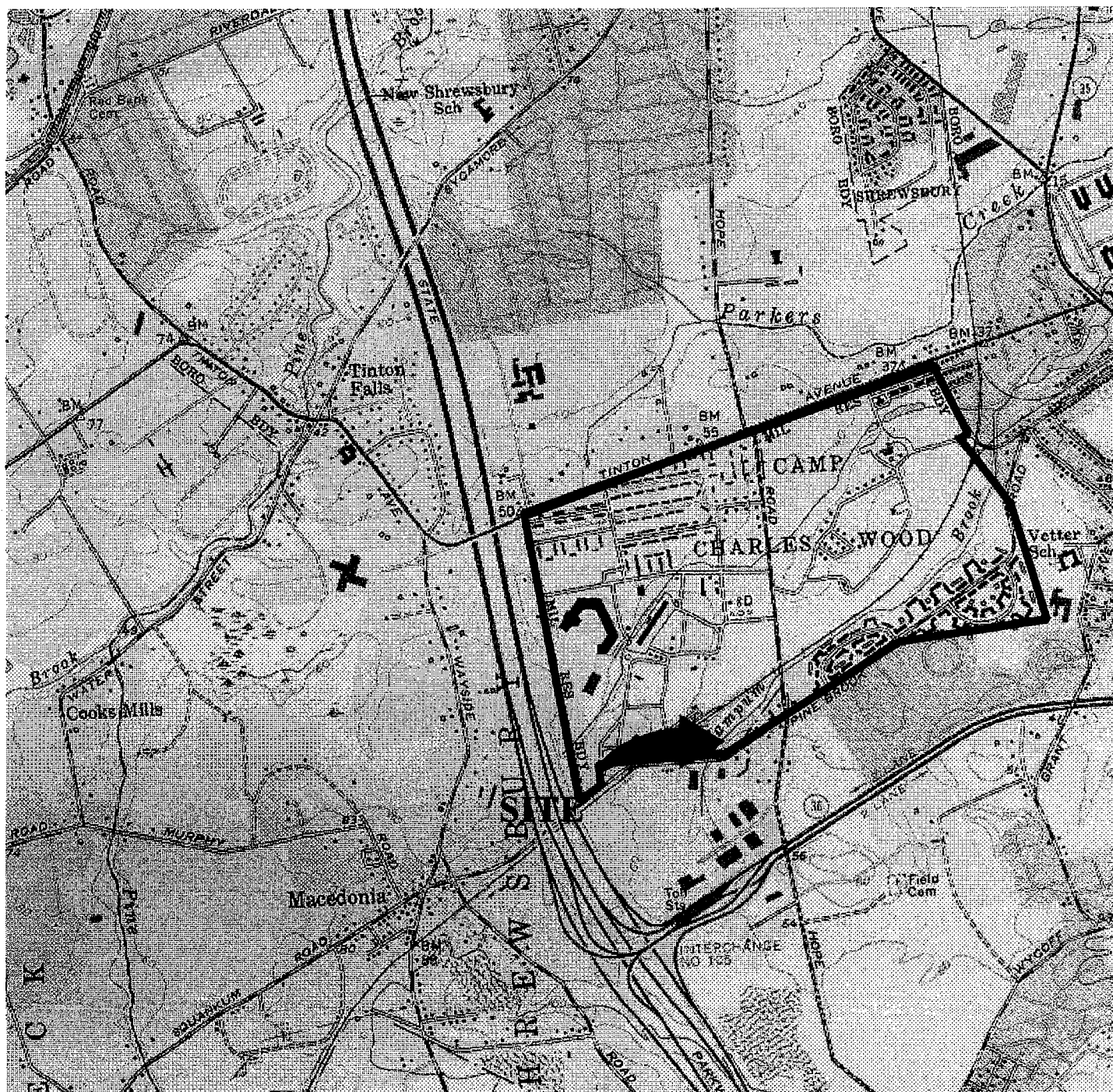
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Unstated

100

700

5710

FIGURES



LONG BRANCH, NJ

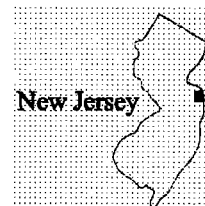
40073-C8-TF-024

1954

PHOTOREVISED 1981

DMA 6164 I SE -SERIES V822

New Jersey



Quadrangle Location

FIGURE 1

SITE LOCATION MAP

Building 2502

Charles Wood Area

Fort Monmouth Army Base

Monmouth County, NJ



SMC Environmental Services Group
Engineers, Managers, Scientists, & Planners
Valley Forge, Pennsylvania

Mapped, edited and published by the Geological Survey

Scale:

1"=2,000'

Date:

DEC 1997

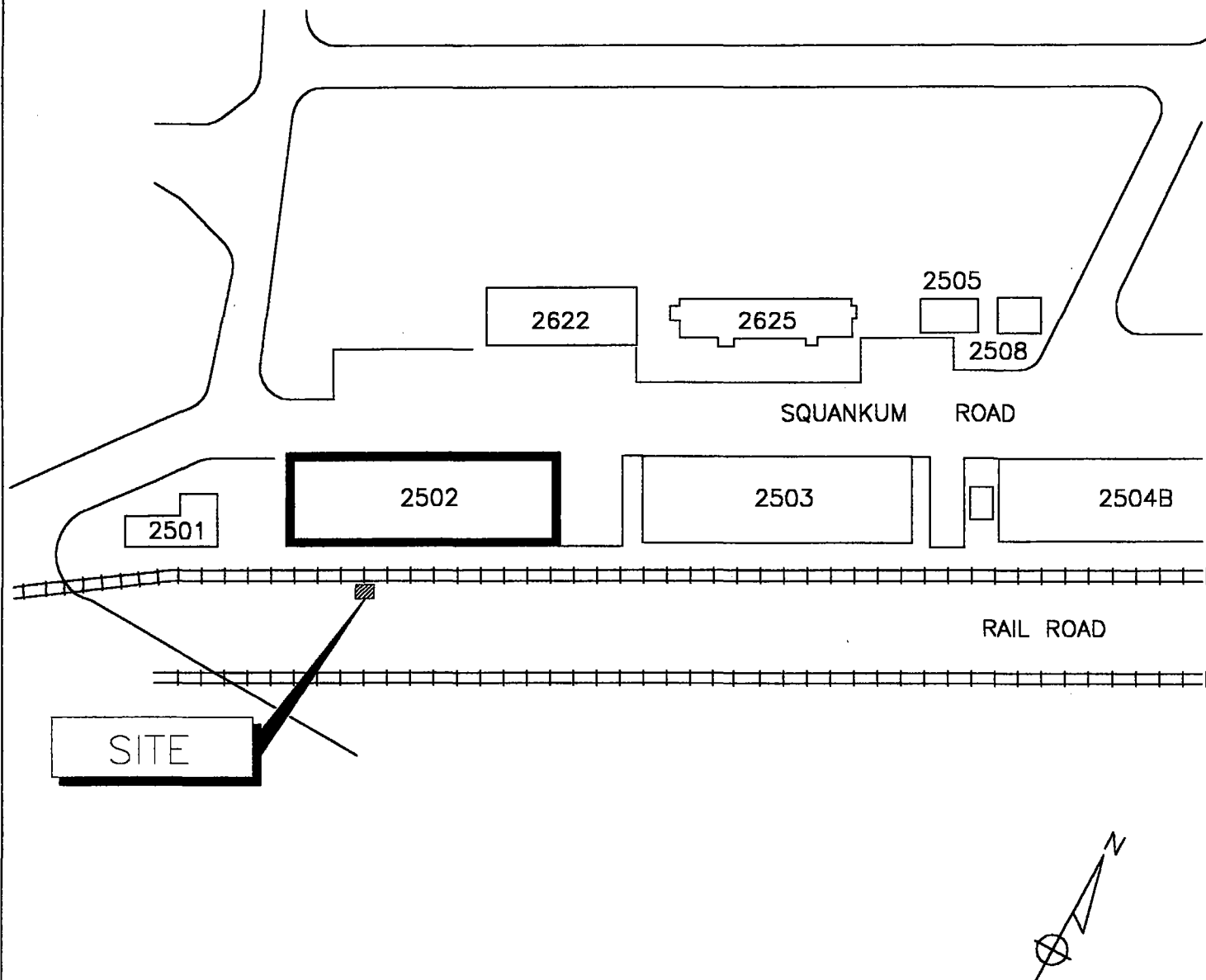


FIGURE 2
 SITE MAP
 BUILDING 2502
 FORT MONMOUTH ARMY BASE
 MONMOUTH COUNTY, NJ



**SMC ENVIRONMENTAL
 SERVICES GROUP**

Engineers, Managers, Scientists & Planners
 VALLEY FORGE, PA.

SCALE: 1"=100'

DATE: DEC. 1997

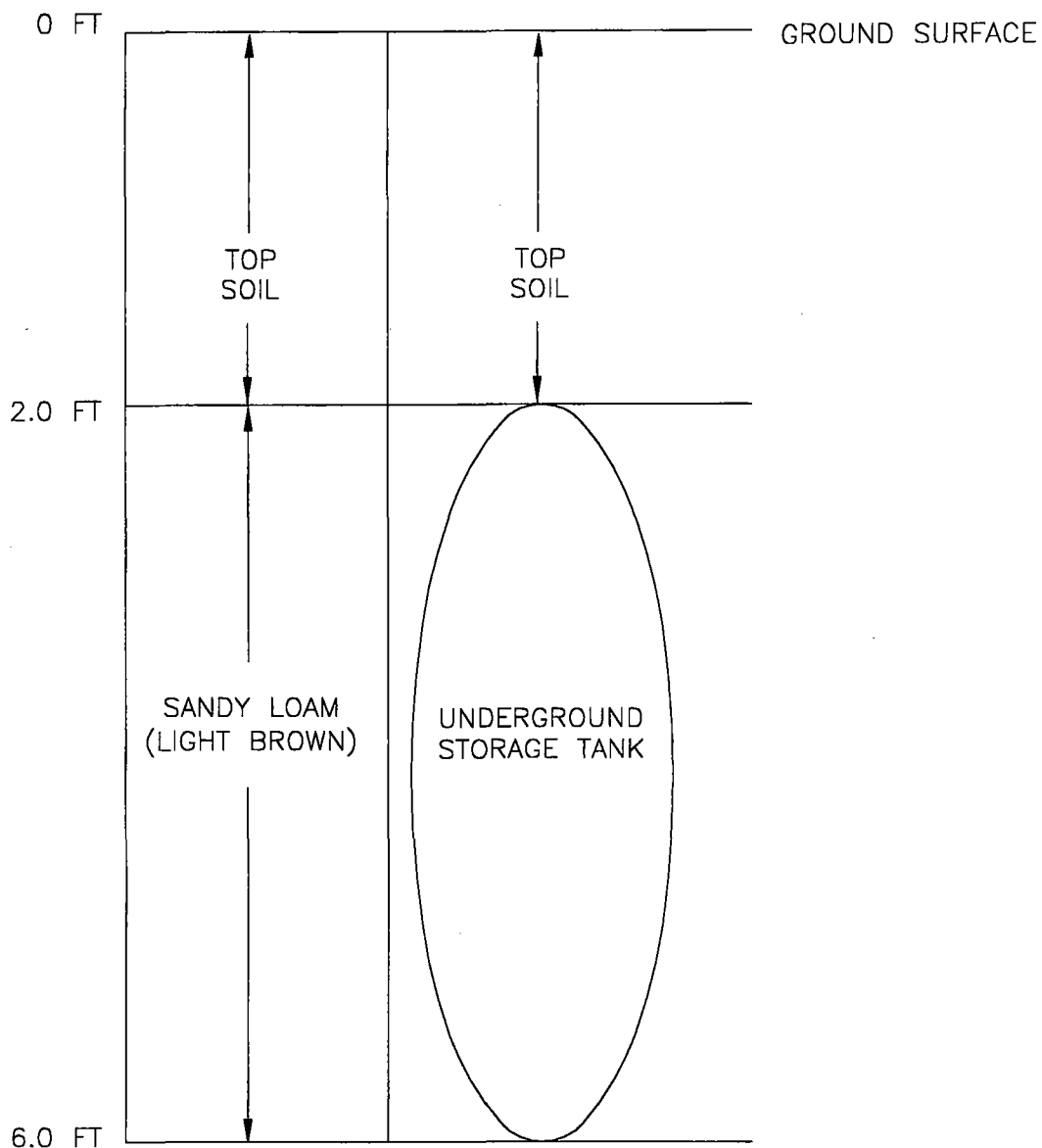


FIGURE 3
CROSS SECTIONAL VIEW
BUILDING 2502
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

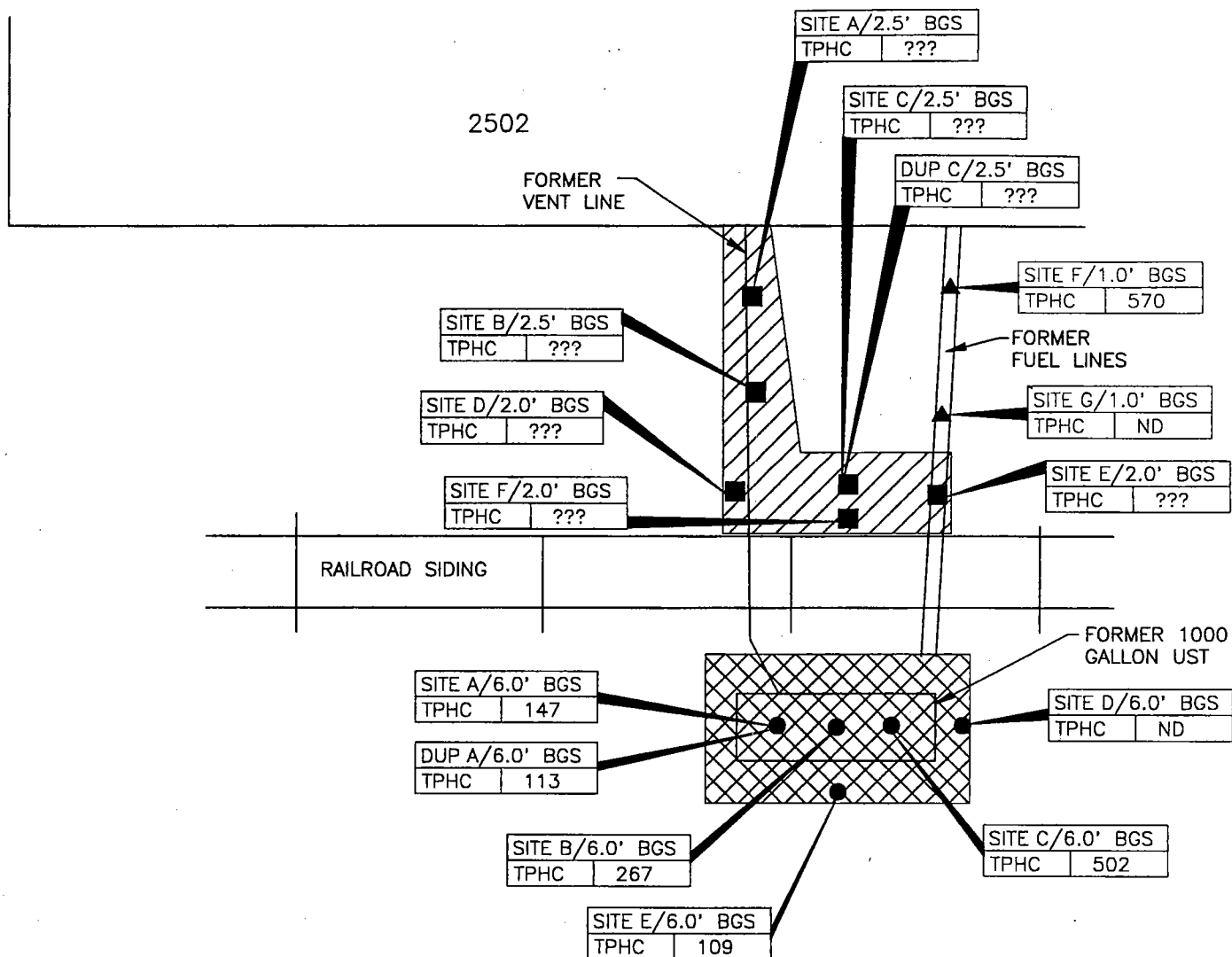


SMC ENVIRONMENTAL
SERVICES GROUP

Engineers, Managers, Scientists & Planners
VALLEY FORGE, PA

SCALE: NTS

DATE: OCT. 1997



LEGEND

- SOIL SAMPLE LOCATION (APRIL 23, 1996)
- ▣ LIMIT OF EXCAVATION (APRIL 23, 1996)
- ▲ SOIL SAMPLE LOCATION (APRIL 24, 1996)
- SOIL SAMPLE LOCATION (APRIL 29, 1996)
- ▨ LIMIT OF EXCAVATION (APRIL 29, 1996)

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

FIGURE 4
 SOIL SAMPLING LOCATION MAP
 BUILDING 2502
 FORT MONMOUTH ARMY BASE
 MONMOUTH COUNTY, NJ



**SMC ENVIRONMENTAL
 SERVICES GROUP**

Engineers, Managers, Scientists & Planners
 VALLEY FORGE, PA.

SCALE: 1"=10'

DATE: MARCH 1998

APPENDIX A

NJDEP-BUST CLOSURE APPROVAL



State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection

Robert C. Shinn, Jr.
Commissioner

Mr. James Ott
SELF-M-EH-EV
Department of the Army
Headquarters CECOM Fort Monmouth
Fort Monmouth, NJ 07703-5000

APR 22 1996

Dear Mr. Ott:

Re: UST Closure Plan Applications
Fort Monmouth Army Base
Tinton Falls, Monmouth County

As discussed with Eugene Lesinski during the week of April 1, 1996, the NJDEP has received and reviewed the UST Closure Plan Applications for the UST noted below. The NJDEP approves these applications as submitted.

AREA	REGISTRATION NO.	BLDG NO.	UST NO.	TANK SAMP	LINE SAMP	REMOVAL DATE	REPORT DATE
CW - West	0081515 (1000)	2502	13	4/1	0	4/1/96	8/1/96
CW - West	0081515 (1000)	2503	14	4/1	0	4/2/96	8/5/96
CW - West	0081515 (550)	2508	19	4/1	0	4/3/96	8/5/96
MP - West	0081533 (550)	748	122	4/1	0	4/4/96	8/4/96

As stated in the applications, site investigation reports consistent with the Technical Requirements for Site Remediation (N.J.A.C. 7:26E et seq.) will be expected on the dates noted in the table.

If you should have any questions or require additional information, please do not hesitate to contact me at (609) 633-1455.

Sincerely,

Ian R. Curtis, Case Manager
Bureau of Federal Case Management

RPCE\BFCM\FTMTH39.IRC



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

ATTN: UST Program
(609) 984-3156

For State Use Only

Date Rec'd. _____

Auth. _____

Routing _____

UST NO. _____

STANDARD REPORTING FORM
for reporting activities at an UST facility:

- ☒ General Facility Information Changes
☒ Closure (Abandonment or Removal)
☐ Temporary Closure
☐ Change in Service

- ☐ Sale or Transfer
☐ Substantial Modification
☐ Financial Responsibility
☐ Address Change Only

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

(More than one tank can be listed per activity)

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

Answer questions 1 through 5 and others as applicable.

1. Company name and address (as it appears on registration questionnaire):

U.S. ARMY - FORT MONMOUTH
DPW - BUILDING 173
FORT MONMOUTH NJ 07703
ATTN: EUGENE W. LESINSKI

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

3. Contact person for this activity:

GENE LESINSKI
Telephone Number: (908) 532-0989

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

BLDG 2502

13

5. Registration Number (if known):

UST -

0081515

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

a. Facility name: _____

b. Facility location: _____

c. Owner's mailing address: _____

NJ

d. Block: _____ Lot: _____

e. Contact person (facility operator): _____

f. Contact telephone number: (_____) _____

g. Other (Specify): _____

(OVER)

7. For CLOSURE (abandonment or removal - check one):
- a. ☐ Abandonment Date: / / Case No:
Attach the necessary implementation schedule (3 copies) and all documents needed for abandonment per N.J.A.C. 7:14B-9.1 (d).
- b. ☒ Removal Date: 4/23/96 Case No. 96-4-24-1214-45
Attach the necessary implementation schedule (3 copies).

8. For CHANGES IN HAZARDOUS SUBSTANCES STORED (check all that apply):
- a. ☐ Temporary Closure (12 month maximum time - see N.J.A.C. 7:14B-9.1(b)). Remove all hazardous substances; leave tank in place.
- b. ☐ Change in service from a regulated substance to a non-regulated substance. Tank must be cleaned and site assessment performed per N.J.A.C. 7:14B-9.1(e).
- c. ☐ Changes in service from one regulated hazardous substance to another regulated hazardous substance.

Tank No. <u> </u>	Old <u> </u>	New <u> </u>
Tank No. <u> </u>	Old <u> </u>	New <u> </u>
Tank No. <u> </u>	Old <u> </u>	New <u> </u>

(Attach additional sheets if more space is needed)

9. For TRANSFER OF OWNERSHIP: Effective Date: / /
- a. New Owner (operator)
- b. New Facility Name

 NJ

County

c. Closing Attorney Tele: () -

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

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

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

- | | |
|--|--|
| a. Policy Type: ☐ | d. Company/Carrier: ☐ |
| b. Policy Number: ☐ | e. Expiration Date: ☐ |
| c. Other: ☐ | |

(Specify)

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

CERTIFICATION

This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that facility (N.J.A.C. 7:14B-23 (a) 1).

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

Signature: James Ott

Name (print or type): JAMES OTT

Title: DIRECTOR - DEPT OF PUBLIC WORKS Date: 9-27-96

APPENDIX B

SITE ASSESSMENT SUMMARY

FOR STATE USE ONLY

UST#

Date Rec'd

TMS #

Staff

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Responsible Party Site Remediation
CN 029

TRENTON, N.J. 08625-0028

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: 7/27/98

Building No. 2502 UST No. 81515-13

0192477-1

Facility Registration #

1. FACILITY NAME AND ADDRESS:

U.S. Army Fort Monmouth New Jersey

Directorate of Engineering and Housing Building 167

Fort Monmouth, New Jersey 07703 County Monmouth

Telephone No. 732-532-6224

OWNER'S NAME AND ADDRESS, if different from above.

Telephone No.

II. DISCHARGE REPORTING REQUIREMENTS

A. Was contamination found? ☒ Yes ☐ No If Yes, Case No. 96-4-24-1214-45
(Note: All discharges must be reported to the Environmental Action Hotline (609) 292-7172)

B. The substance(s) discharged was (were) No. 2 Fuel Oil

C. Have any vapor hazards been mitigated? ☐ Yes ☐ No ☒ N/A

III. DECOMMISSIONING OF TANK SYSTEMS Closure approval No. April 23, 1996 letter

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 the 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:

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

C. Soil samples and borings (check appropriate answer)

- Were soil samples taken from the excavation as prescribed? ☒ Yes ☐ No ☐ N/A
- Were soil borings taken at the tank system closure site as prescribed? ☐ Yes ☐ No ☒ N/A
- Attach the analytical results in tabular form and include the following information about each sample
 - Customer sample number (keyed to the site map)
 - The depth of the soil sample
 - Soil boring logs
 - Method detection limit of the method used
 - QA/QC Information as required

D. Ground Water Monitoring

1. Number of ground water monitoring wells installed 0
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? X Yes No
If "Yes," please answer Question B-E
If "No," please answer Question B
- B. The highest soil contamination still remaining in the ground has been determined to be:
 1. N/A ppb total BTEX, N/A ppb total non-targeted VOC
 2. N/A ppb total B/N, N/A ppb total non-targeted B/N
 3. 362 ppm TPHC
 4. N/A ppb N/A (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? X Yes No N/A
- E. Does soil contamination intersect ground water? Yes X No N/A

VI. GROUND WATER CONTAMINATION

- A. Was ground water contamination found? Yes X No
If "Yes," please answer Questions B-G.
If "No," please answer only Question B.
- B. The highest ground water contamination at any 1 sampling location and at any 1 sampling event to date has been determined to be: N/A
 1. N/A ppb total BTEX, N/A ppb total non-targeted VOC
 2. N/A ppb total B/N, N/A ppb total non-targeted B/N
 3. N/A ppb total MTBE, N/A ppb total TBA
 4. N/A 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

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) Eugene Lesinsky

SIGNATURE SEE ATTACHED SUB-SURFACE EVALUATOR LOG

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

DATE NA

CERTIFYING ORGANIZATION NJDEP

CERTIFYING NUMBER 2056

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."

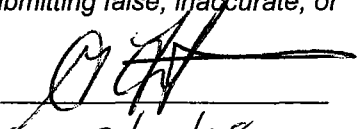
NAME (Print or Type) SAME AS SITE ASSESSMENT SIGNATURE _____

COMPANY NAME _____ DATE _____
(Performer of Tank Decommissioning)

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

- 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)1].

"I certify under penalty of law that the information provided in this document is true, accurate, and complete. I am aware that there are significant 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 7/27/98

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

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 _____

U.S. ARMY, SELFM-PW-7
DAILY UST SUBSURFACE REMOVAL LOG

BLDG.#: 2502 REG.#: 008155 - 13 CLOSURE#: DEPLOR 4-23-96
 DATE: 4-23-96 TOA: 1300 TOD: 1600
 GOV. SSE: LESINSKI NJDEP CERT.#: 0014537
 REMOVAL CONTRACTOR: SAI Inc.
 CLOSURE SUPERVISOR: DeMartini NJDEP CERT.#: _____
 WEATHER: SUNNY - 72°F

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

CHECK ALL BOXES, LEAVE NO BLANKS

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

SIGNATURE: _____ DATE: 4-23-96

ca\ms\ust\removal\sitessls.doc

ON SITE 4-24-96 # 4-29-96 FROM 0900
 THRU 1600
 WEATHER - SUNNY ~ 60°F

APPENDIX C

WASTE MANIFEST



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

2502

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

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

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NJ00000000000000000000	Manifest Document No. of	2. Page 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address ARMY COMMUNICATIONS ELECTRONICS COMMAND CHARLES WOOD AREA C/O JAMES SHIRGHIO BLDG. 173 ATTN: SLEPM-PW-FM FORT MONMOUTH, NJ 07733			A. State Manifest Document Number NJ02584462		
4. Generator's Phone 608 1333-5222			B. State Generator's ID (Gen. Site Address) SLE		
5. Transporter 1 Company Name LIONETTI OIL RECOVERY CO. INC			6. US EPA ID Number NJ00000000000000000000		
7. Transporter 2 Company Name			8. US EPA ID Number		
9. Designated Facility Name and Site Address LIONETTI OIL RECOVERY CO. INCORPORATED PETROLEUM SVCS. BUNKER & CHEESEBROOK ROAD OLD BRIDGE, NJ 08857			10. US EPA ID Number NJ00000000000000000000		
11. US DOT Description (Including Proper Shipping Name, Hazard Class or Division, ID Number and Packing Group) HM			12. Containers No. Type		
a. PETROLEUM OIL (PETROLEUM OIL) COMBUSTIBLE LIQUID UN 1270 PG III			b. h h t t x 3000 c. X 723		
J. Additional Descriptions for Materials Listed Above T.L. PETROLEUM OIL / X WATER 22 X			K. Handling Codes for Wastes Listed Above 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 DECA # 53636 ERCA 27 DEXSIL TEST KIT RESULTS N/A PPM					
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 EUGENE W LESINSKI			Signature Eugene W Lesinski		
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name CHUCK CLINTON			Signature Chuck Clinton		
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name			Signature		
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name [Signature]			Signature [Signature]		

APPENDIX D

UST DISPOSAL CERTIFICATE


**MONMOUTH COUNTY
RECLAMATION CENTER**

TINTON FALLS, NJ

 MAILING 6000 ASBURY AVE.
 ADDRESS: NEPTUNE, NJ 07753

HAULER

 MARP508937
 MARPAL COMPANY
 PO BOX 188

LINCROFT

NJ 07738

VEHICLE

FACILITY ID NO. 1336F1SP01

RECEIPT DOCUMENT NUMBER

01543878

TARE WEIGHT

17.4600 (34920)

GROSS WEIGHT

19.6400 (39280)

66214

DATE	OPER	ENTRY TIME	DEP. NO.	PLATE NO.	ESTIMATED WEIGHT	REMARKS	
05/28/96	FFR	08:13	2065AM	XV19FN	08:38	Normal	
QUANTITY	CLASS	DESCRIPTION/ORIGIN			UNITS	UNIT PRICE	AMOUNT
2.1800	13	Bulky Waste MONMOUTH COUNTY EATONTOWN BOROUGH			Tons	91.80	200.12
2502							
*** Prepayment Balance Remaining *** 4288.72 *** TRANSPORTER'S SIGNATURE						DOCUMENT TOTAL 200.12	

CUSTOMER COPY

APPENDIX E

SOIL ANALYTICAL DATA PACKAGE

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

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

Lab. ID #: 2052.1-.8
Sample Rec'd: 04/24/96
Analysis Start: 04/25/96
Analysis Comp: 04/26/96

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

NJDEP UST Reg. #:
Closure #:
DICAR #:
Location #: Bldg. 2502

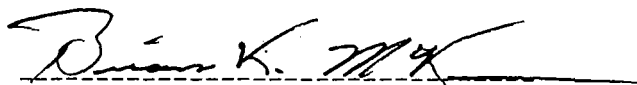
Lab ID.	Description	OVA	%Solid	Result (mg/Kg)	MDL mg/Kg)
2052.1	2502-A, Exc. Floor @ 6'	ND	86	147	40
2052.2	2502-B, Exc. Floor @ 6'	ND	87	267	40
2052.3	2502-C, Exc. Floor @ 6'	ND	80	502	40
2052.4	2502-D, Sidewall @ 5.5'	ND	87	ND	40
2052.5	2502-E, Sidewall @ 5.5'	ND	89	109	40
2052.6	2502-Dup.	NA	85	113	40
2052.7	2502-F Pipe Run @ 1'	ND	93	570	40
2052.8	2502-G Pipe Run @ 1'	ND	89	ND	40
M. Bl.	Method Blank		100	ND	3.3

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

* = Silica Gel Added, NA = Not Applicable

2053.1S= 92%, 2053.1SD= 85%, RPD= 7.5%, 2053.1dup, 100% @ ND

QC Limits: Recovery = 60% to 140%, RPD = 14.9% AT 2 Std. Dev.



Brian K. McKee
Laboratory Director

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

Lab. ID #: 2052.1-.8
Sample Rec'd: 04/24/96
Analysis Start: 04/25/96
Analysis Comp: 04/26/96

[illegible]

Brian K. McKee
Laboratory Director

CHAIN-OF-CUSTODY

P.O. #: PWS-07

Project #:		Sampler:		Date / Time		Analysis Parameters		Start:	
Customer:		Site Name:						Finish:	
GENE LESINSKI SELF-PM-PW-EV		BUILDING #2502							
Phone: (908) 532-0989								Preservation Method	
Lab Sample ID Number	Date/Time	Customer Sample Location/ID Number	Sample Matrix	# of Bottles	TPHC	6% SOLIDS	MUNSEL	OVA	Remarks
2052.1	4-23-96 1507	2502-A/EXC. FLOOR @ 6'	SOIL	2	X	X	X	ND	*
2	1505	2502-B						ND	* = SAMPLES
3	1502	2502-C						ND	KEPT BELOW
4	1510	2502-D/SIDEWALL @ 5.5'						ND	4°C.
5	1512	2502-E						ND	
6	↓	2502-DUP (DUPLICATE)						—	
7	4-24-96 1536	2502-F (Piping Run @ 1')						ND	
✓ 8	↓ 1541	2502-G						ND	
NOTE: OVA CALIBRATED TO 95 PPM METER READING W/ 95 PPM CH + 1 ZERO (0) AIR BY G. DiMartino @ 1300 HRS.									
Relinquished By (signature)		Date / Time		Received By (signature)		Shipped By:		ON 4-23-96	
<i>[Signature]</i>		4-24-96 1600		<i>[Signature]</i>		HAND		(SERIAL # A52114)	
Relinquished By (signature)		Date / Time		Received for Lab by (signature):		Date / Time			
<i>[Signature]</i>				<i>[Signature]</i>		4-24-96 1600			
Note: A drawing depicting sample location should be attached or drawn on the reverse side of this chain of custody. DEDICATED SAMPLING TOOLS USED. SEE PROJECT FILE FOR SAMPLING LOCATIONS									

Sample Receipt Form

Date Received: 4-24-96

Lab Project ID #: _____

Site/Project Name: B. 2502

Cooler Temp: 4°C

Received by: Sarah J. Hubbard

Circle the appropriate answer

1. Did the samples come in a cooler? yes no
2. Were chain of custody papers filled out correctly and legibly? yes no
3. Did you sign the chain of custody in the appropriate place? yes no
4. Was the project identifiable from the chain of custody? yes no
5. Did all bottles arrive unbroken and were labels in good condition? yes no
6. Did all labels agree with the chain of custody? yes no
7. Were correct containers and/or preservatives used for the tests indicated? yes no
8. Were bubbles absent from aqueous VOC sample containers? yes no

N/A

Fill out the following for each sample bottle.

Sample ID	Preservative	pH	Sample ID	Preservative	pH
<u>ALL SAMPLES</u>	<u>4°C</u>	<u>N/A</u>			

Comments: NONE

Samples Accepted By: SJ Hubbard

Freon Std

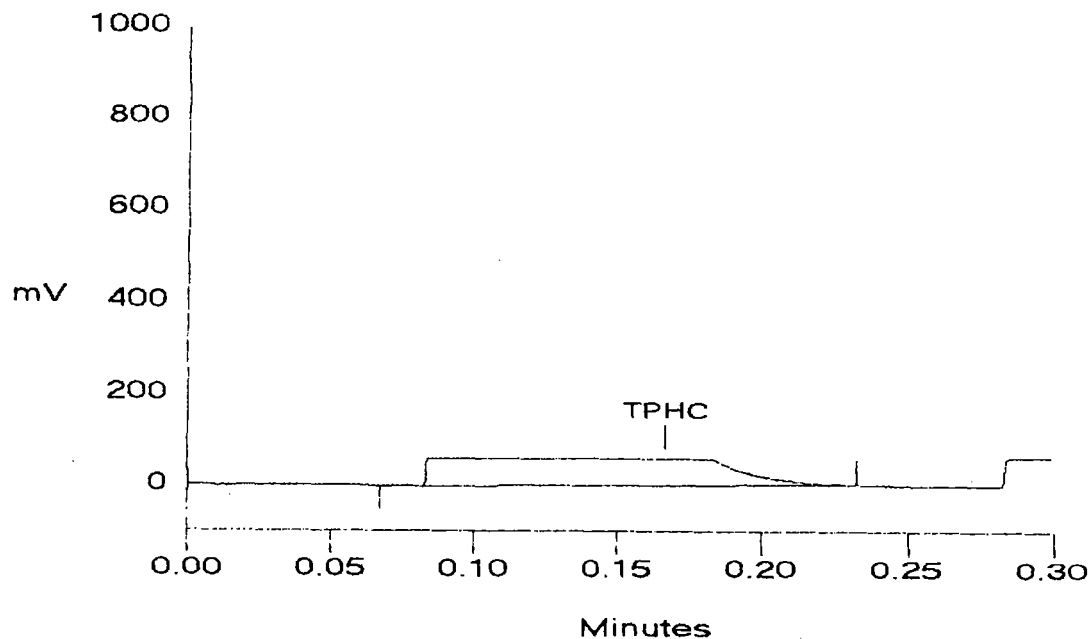
Sample Name: AUTOCAL1 Date: 04/26/1996 11:43:15
Data File : C:\DX\DATA\00463321.D02
Method : c:\dx\method\tpm.met
ACI Address: 1 System: 1 Inject#: 2 Detector: OTHER
Analyst : BKM Column: IR

Libration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
Internal	1	1	900	50Hz	0.00	0.30	30000	

***** Component Report: Components Found *****

Peak	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.17	TPHC	23.580	58369	402183	1	0.00
Totals			23.580	58369	402183		

File: 00463321.D02 Sample: AUTOCAL1



```

=====
Sample Name: AUTOCAL2                      Date: 04/26/1996 11:52:30
Data File  : C:\DX\DATA\00463321.D03
Method     : c:\dx\method\tph.met
CI Address: 1 System: 1 Inject#: 3         Detector: OTHER
Analyst    : BKM                          Column: IR
=====

```

```

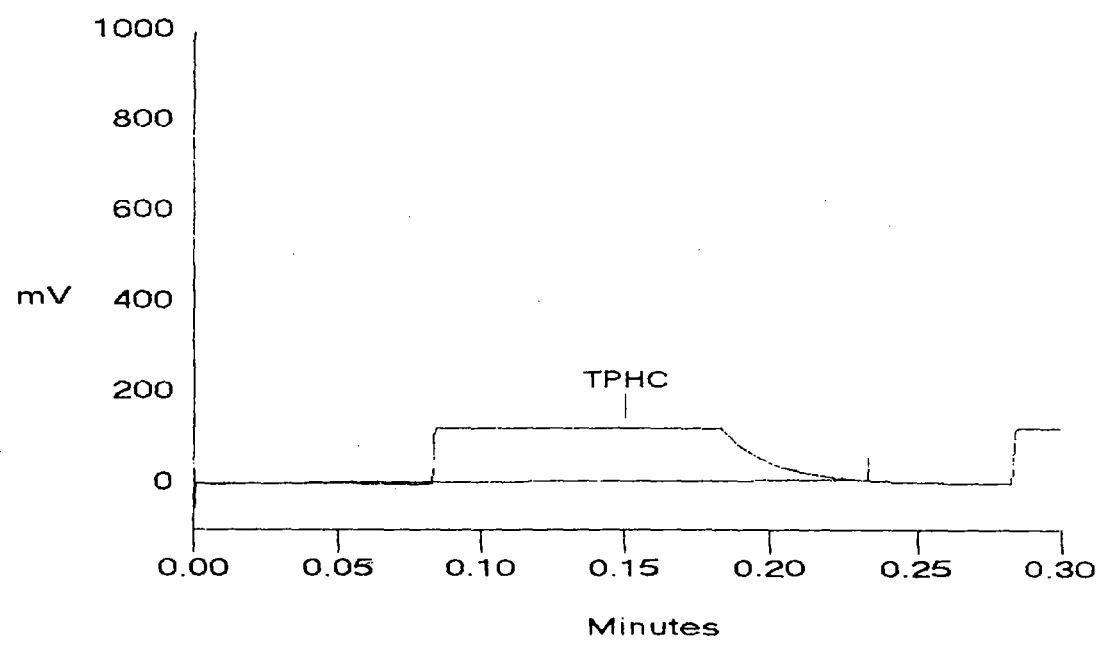
-----
Libration Volume Dilution Points Rate Start Stop Area Reject
-----
Internal          1           1    900 50Hz   0.00  0.30   30000

```

***** Component Report: Components Found *****

Ret Time	Component Name	Concentration ppM	Height	Area	Bl. Code	%Delta
1	0.15 TPHC	47.165	118355	806665	1	0.00
Totals		47.165	118355	806665		

File: 00463321.D03 Sample: AUTOCAL2



```

=====
Sample Name: AUTOCAL3                      Date: 04/26/1996 12:01:21
Data File  : C:\DX\DATA\00463321.D04
Method     : c:\dx\method\tph.met
Injection  : 1 System: 1 Inject#: 4        Detector: OTHER
Analyst    : BKM                          Column: IR
=====

```

```

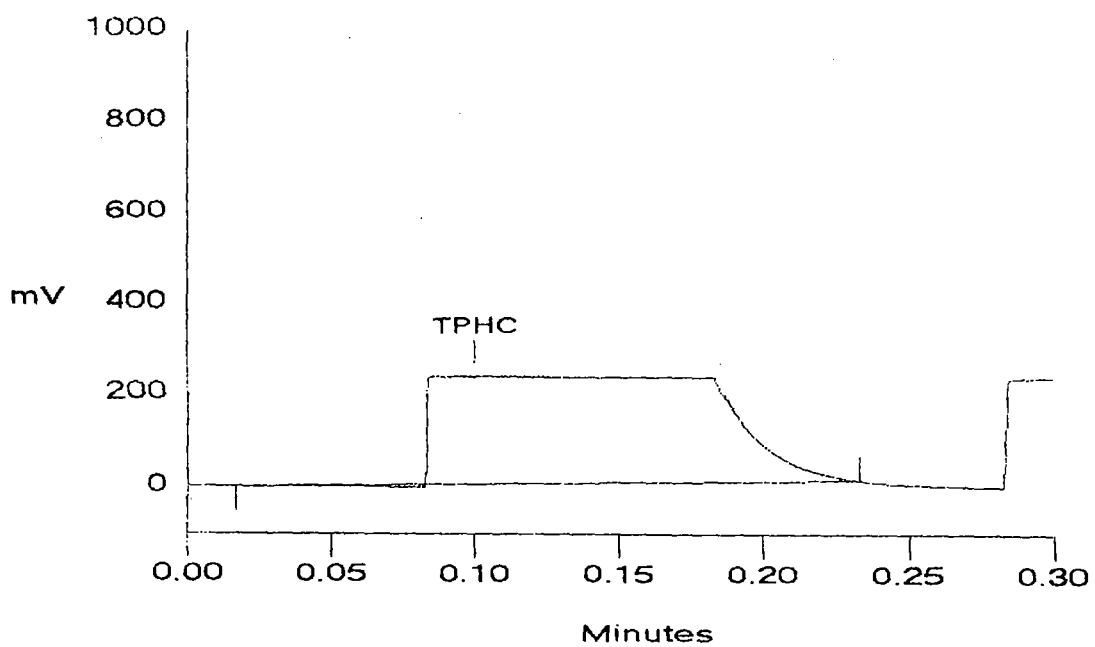
=====
Injection Volume  Dilution Points Rate  Start  Stop Area Reject
-----
Internal         1           1    900 50Hz   0.00   0.30   30000
=====

```

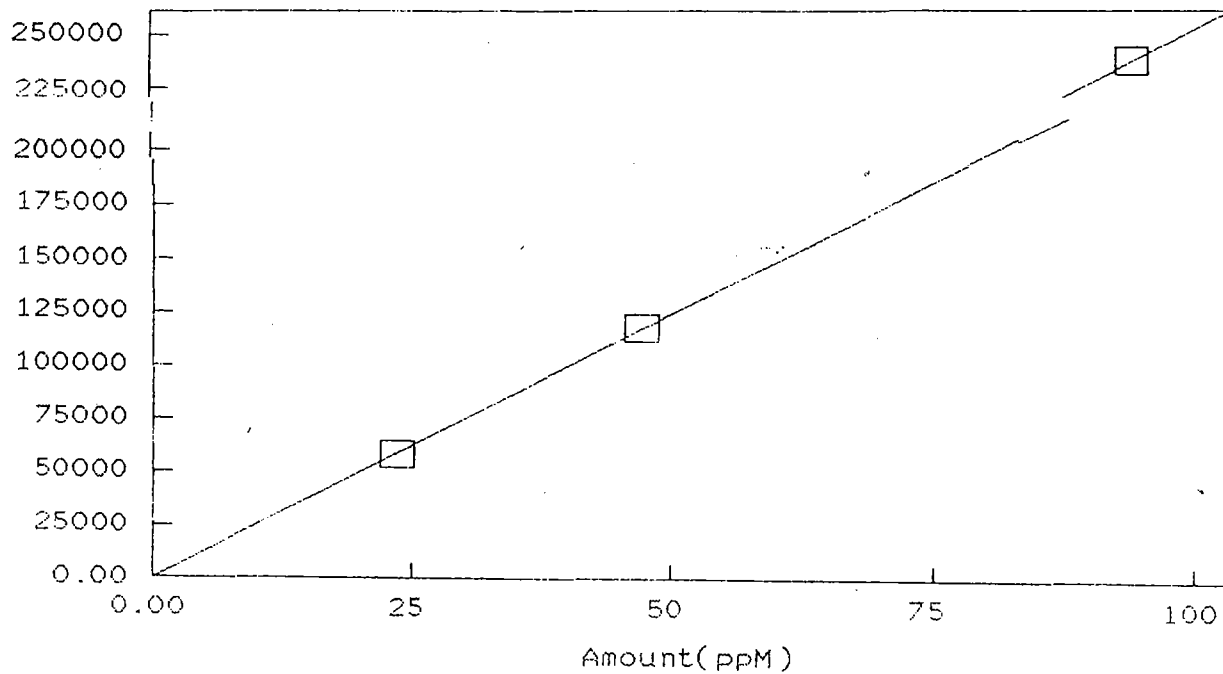
***** Component Report: Components Found *****

Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
0.10	TPHC	94.330	237016	1594379	1	0.00
Totals		94.330	237016	1594379		

File: 00463321.D04 Sample: AUTOCAL3



Component: TPH_i
Fit Type: Linear
 $r^2 = 0.999955$
Amt = Resp * 0.0003984 + 0
Resp = Amt * 2510 + 0
Standardization: External
Calibration: Height



```

=====
Sample Name: EXTRATION BLANK                      Date: 04/26/1996 12:14:06
Data File  : C:\DX\DATA\04269621.D01
Method     : c:\dx\method\tph.met
CI Address: 1 System: 1 Inject#: 1                Detector: OTHER
Analyst    : BKM                               Column: IR
=====

```

```

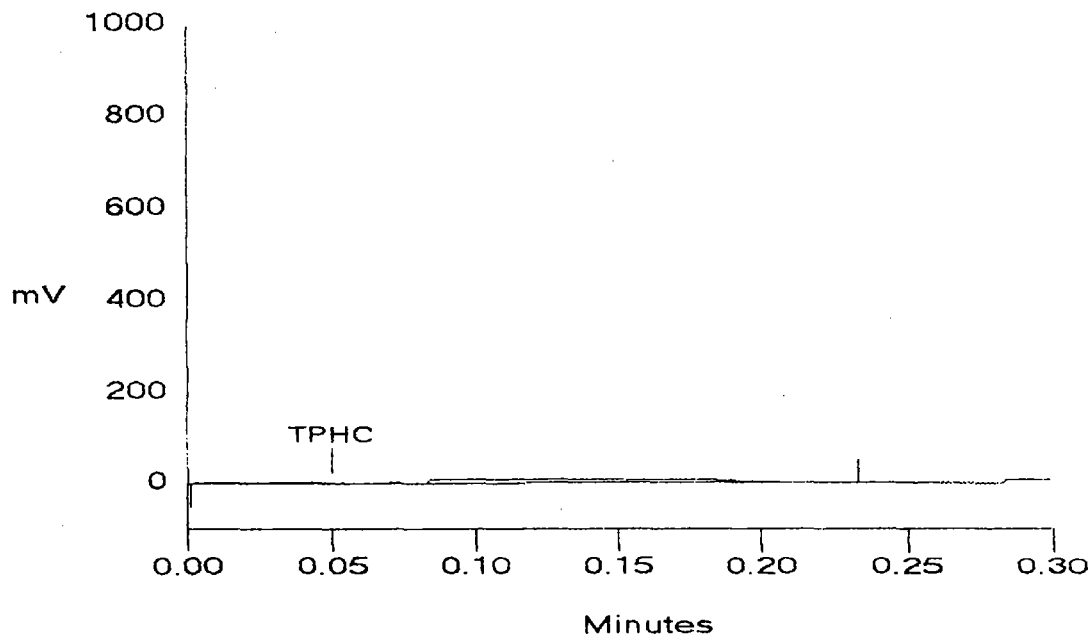
=====
Libration Volume  Dilution Points Rate  Start  Stop Area Reject
-----
Internal          1          1    900 50Hz   0.00   0.30    30000
=====

```

***** Component Report: Components Found *****

Ret Time	Component Name	Concentration PPM	Height	Area	Bl. Code	%Delta
0.05	TPHC	0.300	753	52874	1	0.00
Totals		0.300	753	52874		

File: 04269621.D01 Sample: EXTRATION BLANK



```

=====
Sample Name: 2052.1 2502-A                      Date: 04/26/1996 12:18:56
Data File  : C:\DX\DATA\04269621.D02
Method     : c:\dx\method\tph.met
CI Address: 1 System: 1 Inject#: 2              Detector: OTHER
Analyst    : BKM                               Column: IR
=====

```

```

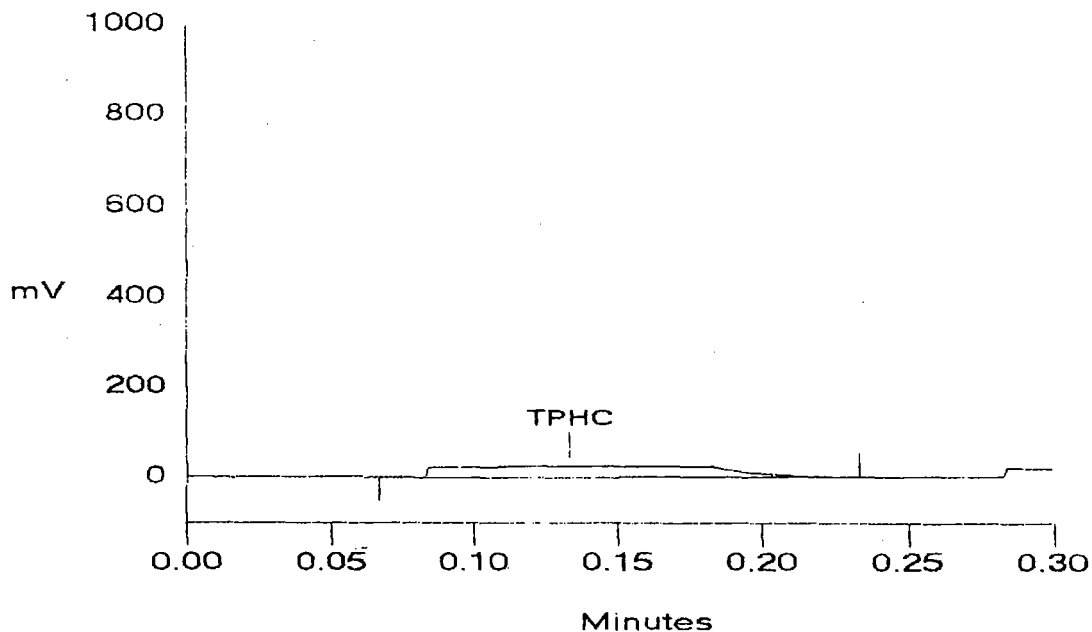
=====
Libration Volume Dilution Points Rate Start Stop Area Reject
-----
Internal         1           1    900 50Hz   0.00  0.30    30000
=====

```

***** Component Report: Components Found *****

Run	Ret Time	Component Name	Concentration PPM	Height	Area	Bl. Code	%Delta
1	0.13	TPHC	9.505	23860	160633	1	0.00
Totals			9.505	23860	160633		

File: 04269621.D02 Sample: 2052.1 2502-A



```

=====
Sample Name: 2052.2 2502-B                      Date: 04/26/1996 12:30:18
Data File  : C:\DX\DATA\04269621.D03
Method     : c:\dx\method\tph.met
CI Address: 1 System: 1 Inject#: 3              Detector: OTHER
Analyst    : BKM                               Column: IR
=====

```

```

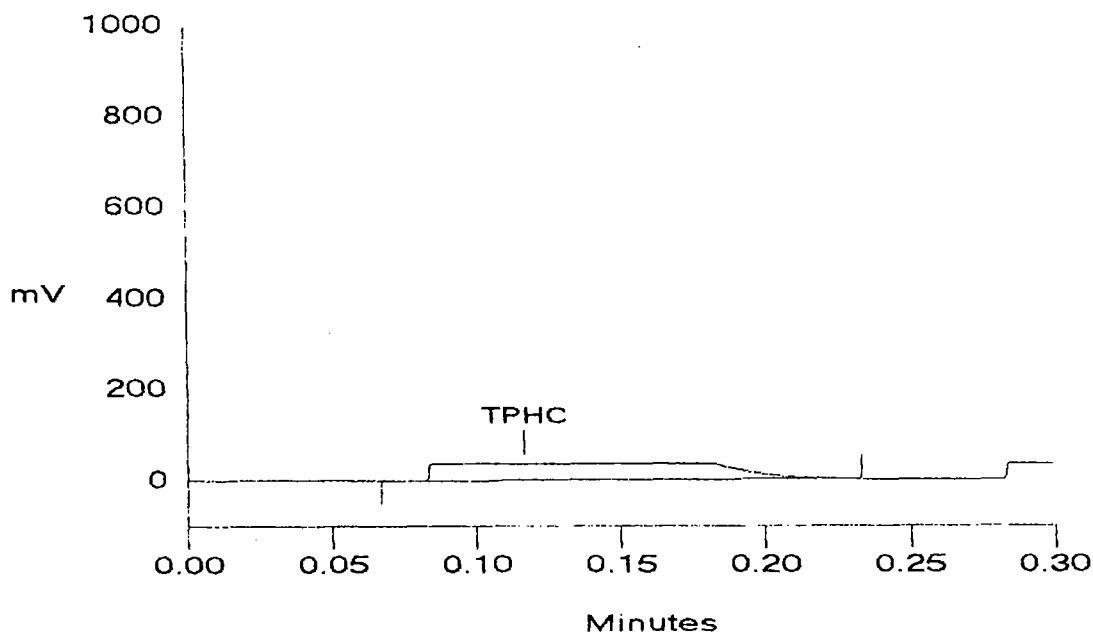
=====
Libration Volume Dilution Points Rate Start Stop Area Reject
-----
Internal         1           1    900 50Hz  0.00  0.30    30000

```

***** Component Report: Components Found *****

Run	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.12	TPHC	14.226	35711	240429	1	0.00
Totals			14.226	35711	240429		

File: 04269621.D03 Sample: 2052.2 2502-B



```

=====
Sample Name: 2052.3 2502-C                      Date: 04/26/1996 12:33:22
Data File  : C:\DX\DATA\04269621.D04
Method     : c:\dx\method\tph.met
CI Address: 1 System: 1 Inject#: 4              Detector: OTHER
Analyst    : BKM                               Column: IR
=====

```

```

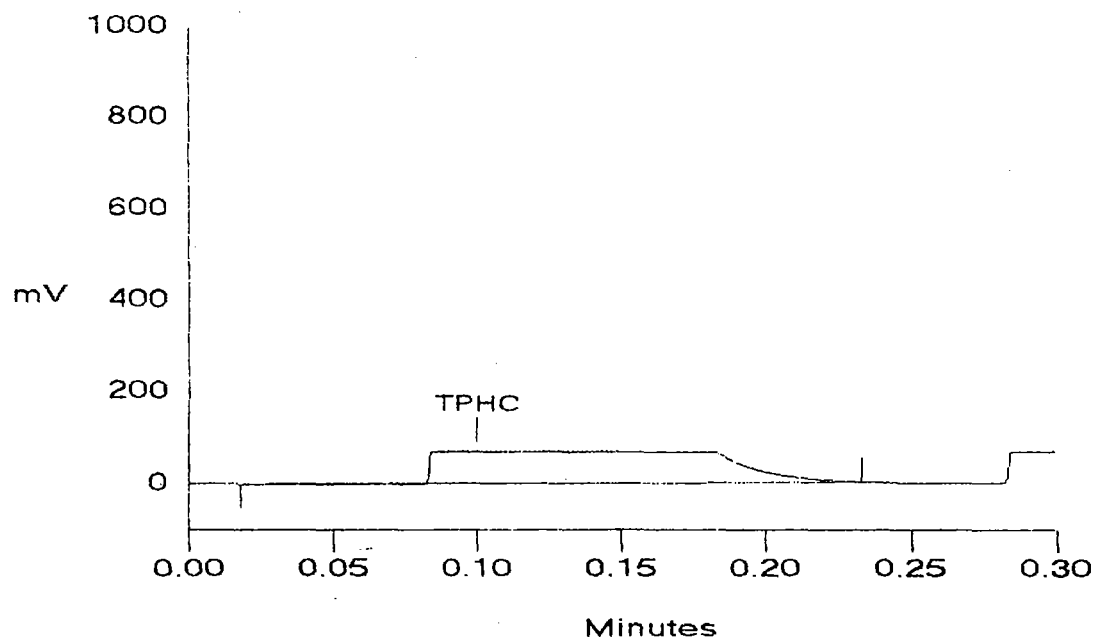
=====
Vibration Volume Dilution Points Rate Start Stop Area Reject
-----
Internal      1          1      900 50Hz   0.00  0.30      30000
=====

```

***** Component Report: Components Found *****

Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.10	TPHC	27.354	68665	461929	1	0.00
Totals			27.354	68665	461929		

File: 04269621.D04 Sample: 2052.3 2502-C



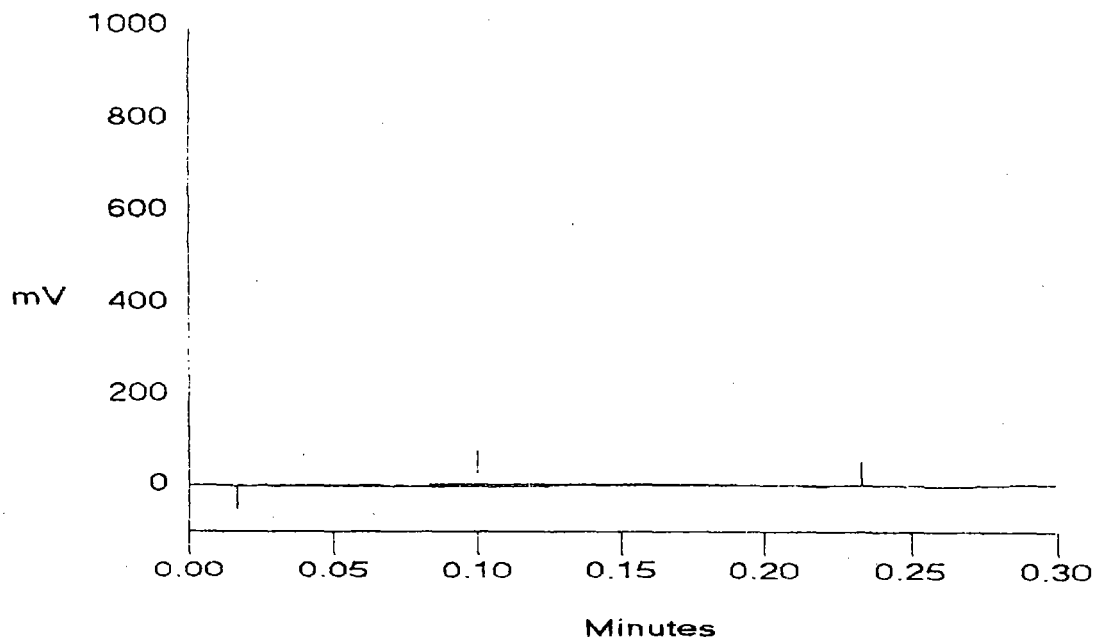
Sample Name: 2052.4 2502-D Date: 04/26/1996 12:34:48
 Data File : C:\DX\DATA\04269611.D05
 Method : c:\dx\method\tpb.met
 I Address: 1 System: 1 Inject#: 5 Detector: OTHER
 Analyst : BKM Column: IR

Vibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
Internal	1	1	900	50Hz	0.00	0.30	30000	

***** Component Report: Components Found *****

Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
Totals						
		0.000	0	0		

File: 04269611.D05 Sample: 2052.4 2502-D



```

=====
Sample Name: 2052.5 2502-E                      Date: 04/26/1996 12:37:28
Data File  : C:\DX\DATA\04269611.D06
Method     : c:\dx\method\tph.met
Injection  : 1 System: 1 Inject#: 6              Detector: OTHER
Analyst    : BKM                               Column: IR
=====

```

```

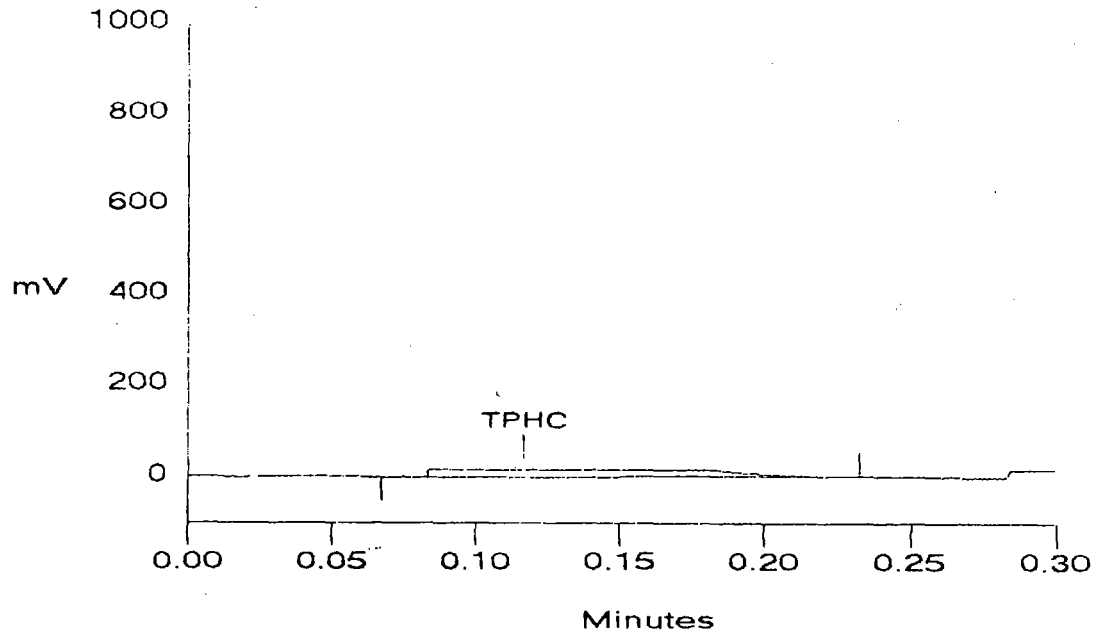
=====
Vibration Volume Dilution Points Rate Start Stop Area Reject
-----
Internal      1      1      900 50Hz   0.00  0.30      30000
=====

```

***** Component Report: Components Found *****

Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.12 TPHC	6.344	15924	107186	1	0.00
Totals		6.344	15924	107186		

File: 04269611.D06 Sample: 2052.5 2502-E



```

=====
Sample Name: 2052.6 FIELD BLANK                      Date: 04/26/1996 12:41:50
Data File  : C:\DX\DATA\04269621.D07
Method     : c:\dx\method\tph.met
ACI Address: 1 System: 1 Inject#: 7                  Detector: OTHER
Analyst    : BKM                                     Column: IR
=====

```

```

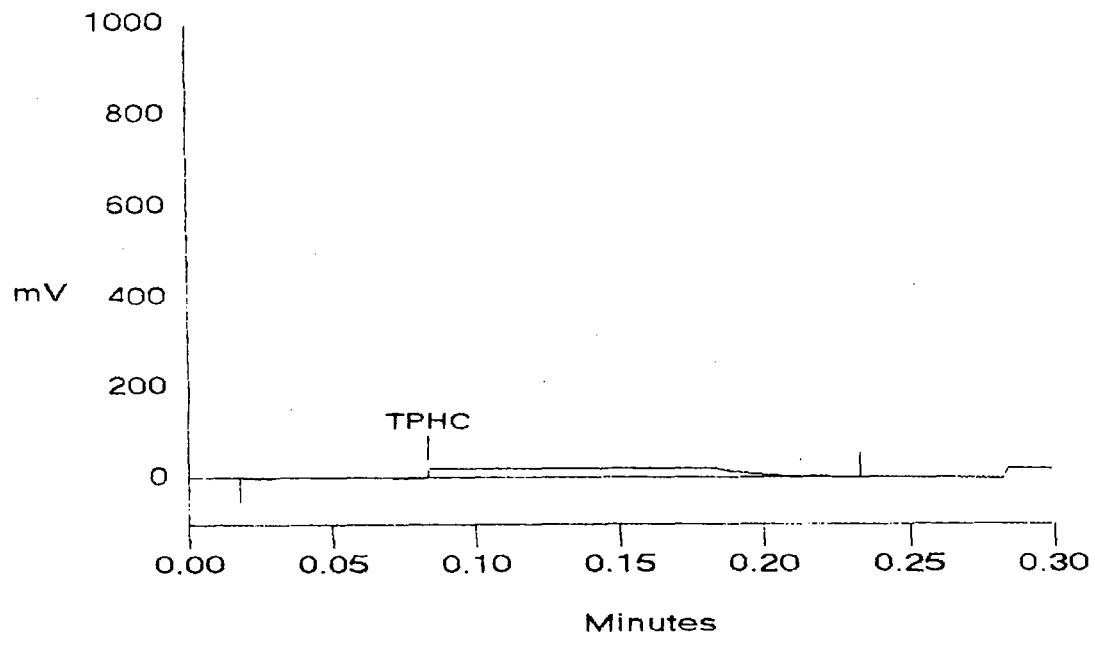
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
Internal          1           1    900 50Hz   0.00  0.30    30000
=====

```

***** Component Report: Components Found *****

pk. Num	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.08	TPHC	6.518	16361	129943	1	0.00
Totals			6.518	16361	129943		

File: 04269621.D07 Sample: 2052.6 FIELD BLANK



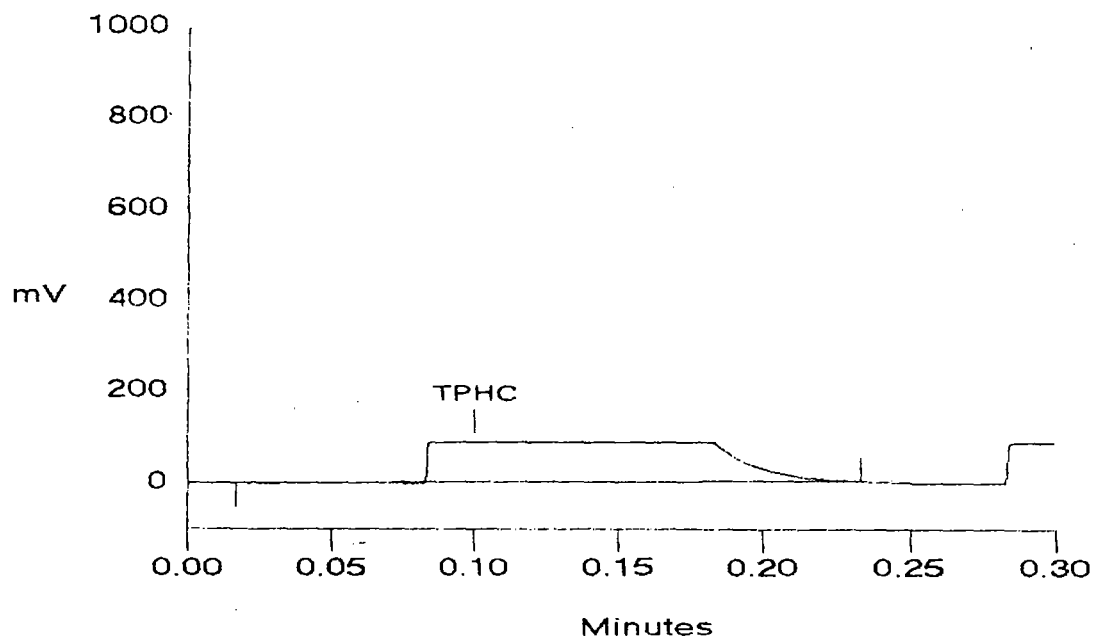
Sample Name: 2052.7 2502-F Date: 04/26/1996 12:44:52
 Data File : C:\DX\DATA\04269611.D08
 Method : c:\dx\method\tph.met
 PCI Address: 1 System: 1 Inject#: 8 Detector: OTHER
 Analyst : BKM Column: IR

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
Internal	1	1	900	50Hz	0.00	0.30	30000	

***** Component Report: Components Found *****

Run	Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
1	0.10	TPHC	34.583	86813	582987	1	0.00
Totals			34.583	86813	582987		

File: 04269611.D08 Sample: 2052.7 2502-F



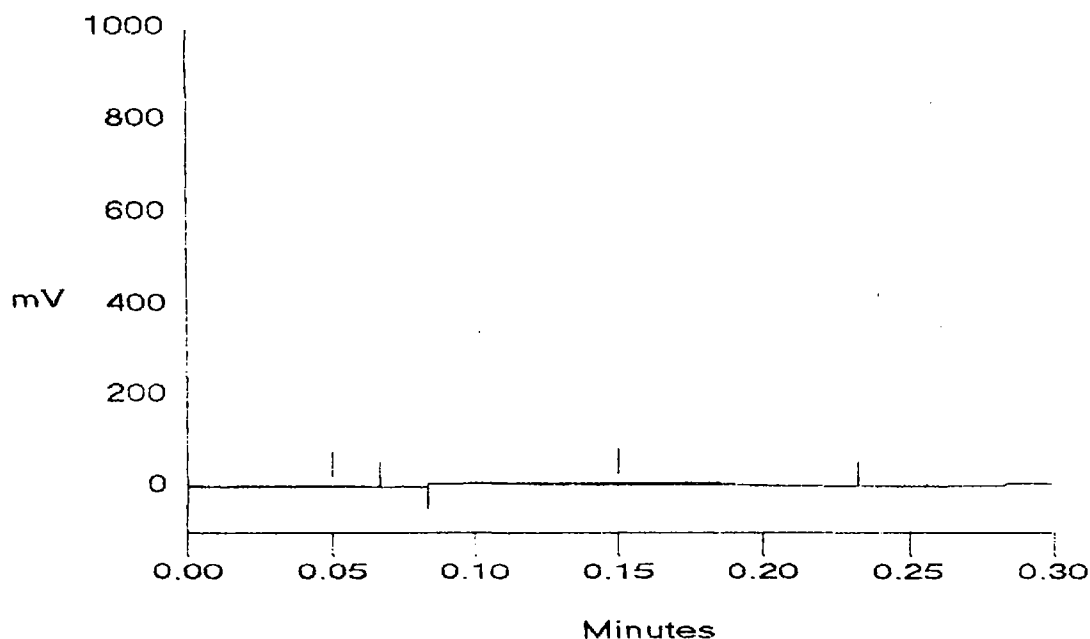
Sample Name: 2052.8 2502-G Date: 04/26/1996 12:48:47
 Data File : C:\DX\DATA\04269611.D09
 Method : c:\dx\method\tph.met
 PI Address: 1 System: 1 Inject#: 9 Detector: OTHER
 Analyst : BKM Column: IR

Libration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
ernal	1	1	900	50Hz	0.00	0.30	30000	

***** Component Report: Components Found *****

Ret Time	Component Name	Concentration ppm	Height	Area	Bl. Code	%Delta
Totals						
		0.000	0	0		

File: 04269611.D09 Sample: 2052.8 2502-G



```

=====
Sample Name: CALCK.                               Date: 04/26/1996 13:03:17
Data File   : C:\DX\DATA\04269621.D10
Method      : c:\dx\method\tph.met
ACI Address: 1 System: 1 Inject#: 10             Detector: OTHER
Analyst     : BKM                               Column: IR
=====

```

```

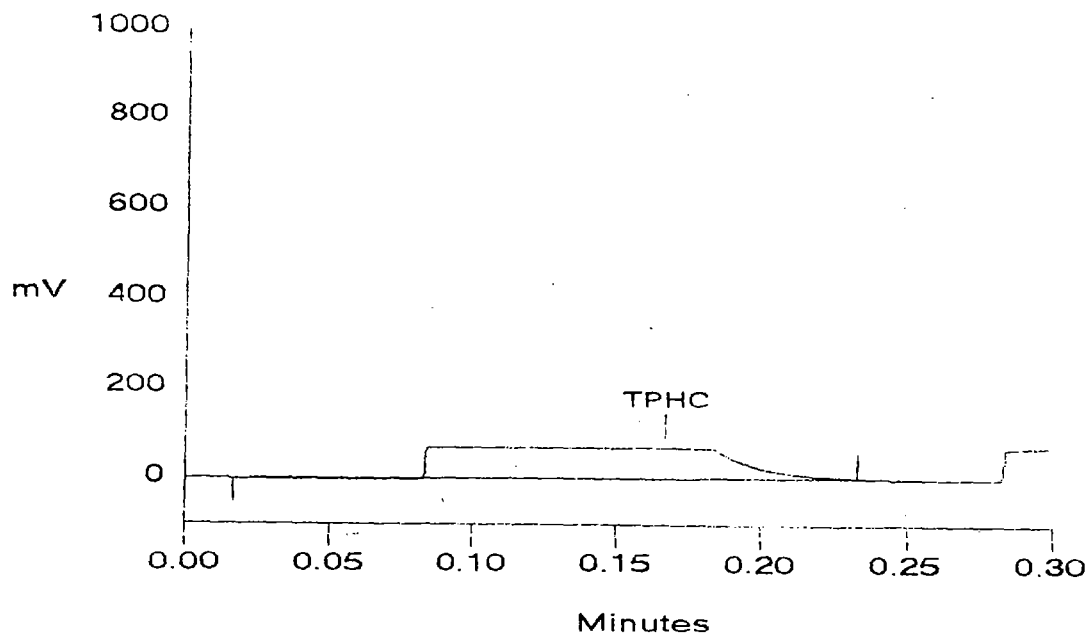
-----
Libration Volume Dilution Points Rate Start Stop Area Reject
-----
Internal         1           1    900 50Hz  0.00  0.30    30000
-----

```

***** Component Report: Components Found *****

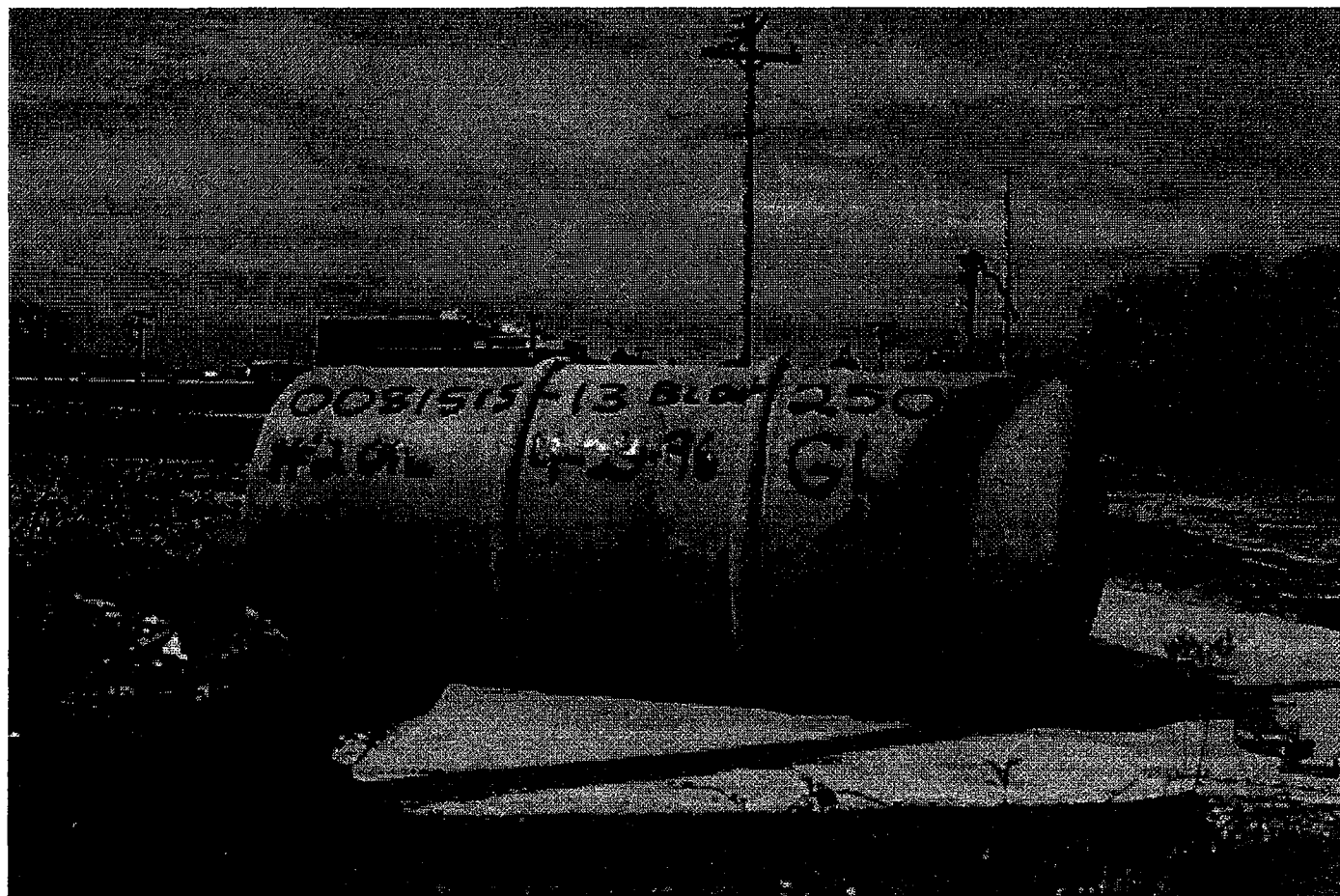
Peak num	Ret Time	Component Name	Concentration ppM	Height	Area	Bl. Code	%Delta
1	0.17	TPHC	26.528	66592	454111	1	0.00
Totals			26.528	66592	454111		

File: 04269621.D10 Sample: CALCK.



APPENDIX F

PHOTOGRAPHS



APRIL 1998

PHOTOGRAPHIC LOG

UST No. 81515-13

Building 2502

Charles Wood Area

Fort Monmouth



SMC Environmental Services Group
Engineers, Managers, Scientists, & Planners
Valley Forge, Pennsylvania