United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

Building 901
Main Post-West Area

NJDEP UST Registration No. 0081533-143

April 1998

UNDERGROUND STORAGE TANK
CLOSURE AND SITE INVESTIGATION REPORT

BUILDING 901

MAIN POST-WEST AREA
NJDEP UST REGISTRATION NO. 0081533-143

APRIL 1998

PREPARED FOR:

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

PREPARED BY:

SMC ENVIRONMENTAL SERVICES GROUP
501 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406

PROJECT NO. 2429-3080

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

TABLES

FIGURES

APPENDICES

EXECUTIVE SUMMARY

UST Closure

On April 17, 1996, a fiberglass underground storage tank (UST) was closed by removal in accordance with the New Jersey Department of Environmental Protection (NJDEP) closure procedures at the Main Post-West area of the U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 0081533-143 (Fort Monmouth ID No. 901), was located southwest of Building 901. UST No. 0081533-143 was a 2,000 gallon No. 2 fuel oil UST. The fill port was located directly above the tank.

Site Assessment

The site assessment was performed by U.S. Army personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual*. The sampling and laboratory analysis conducted during the site assessment were performed in accordance with N.J.A.C. 7:26E. Soils surrounding the tank were screened visually and with air monitoring equipment for evidence of contamination. Groundwater was encountered at 3.0 feet below ground surface and no sheen was observed. No evidence of potentially contaminated soil or groundwater was observed surrounding the tank. Soil samples contained total petroleum hydrocarbons (TPHC) concentrations ranging from non-detect to 96.9 mg/kg. Post-excavation groundwater sampling results, obtained from standing water in the excavation, contained non-detectable levels of Benzene # 2, Toluene # 2, Ethyl benzene #2, p+m-Xylene #2, and o-Xylene #2.

Site Restoration

Following receipt of all post-excavation soil sampling results, the excavation was backfilled to six inches above groundwater with crushed stone and native backfill to grade 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.

Based on the post-excavation groundwater sampling results, groundwater with Benzene # 2, Toluene # 2, Ethyl benzene #2, p+m-Xylene #2, and o-Xylene #2 concentrations exceeding their respective NJDEP ground water quality standards, do not exist in the former location of the UST.

No further action is proposed in regard to the closure and site assessment of UST No. 0081533-143 at Building 901.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 0081533-143, was closed at Building 901 at the Main Post-West area of U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on April 17, 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. The UST was a fiberglass 2,000-gallon tank containing No. 2 fuel oil.

Decommissioning activities for UST No. 0081533-143 complied with all applicable Federal, State and Local laws and ordinances in effect at the date of decommissioning. These laws included but were not limited to N.J.A.C. 7:14B-1 et seq., N.J.A.C. 5:23-1 et seq., and Occupational Safety and Health Administration (OSHA) 1910.146 & 1910.120. All permits including but not limited to the NJDEP approved Decommissioning/Closure Plan were posted onsite for inspection. The decommissioning activities were conducted by DPW personnel who are registered and certified by the NJDEP for performing UST closure activities. Closure of UST No. 0081533-143 proceeded under the approval of the NJDEP Bureau of Underground Storage Tanks (NJDEP-BUST). The NJDEP-BUST Standard Reporting Form and signed Site Assessment Summary form for UST No. 0081533-143 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 and a groundwater sample, 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 U. S. Army DPW in complying with the NJDEP-BUST regulations. The applicable NJDEP-BUST regulations at the date of closure were the *Interim Closure Requirements for Underground Storage Tank Systems* (N.J.A.C. 7:14B-1 et seq. October 1990 and revisions dated November 1, 1991).

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

1.2 SITE DESCRIPTION

Building 901 is located in the Main Post-West area of the Fort Monmouth Army Base. UST No. 0081533-143 was located northeast of Building 901 and appurtenant piping ran approximately seven (7) feet east from the excavation to the utility room of Building 901. 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 901. 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. More than 20 regional geologic units are present within the sediments of the Coastal Plain. Regressive, upward coarsening deposits are usually aquifers (e.g., Englishtown and Kirkwood Formations, and the Cohansey Sand) while the transgressive deposits act as confining units (e.g., the Merchantville, Marshalltown, and Navesink Formations). The individual thicknesses for these units vary greatly (i.e., from several feet to several hundred feet). The Coastal Plain deposits thicken to the southeast from the Fall Line to greater than 6,500 feet in Cape May County (Brown and Zapecza, 1990).

Local Geology

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

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

Hydrogeology

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

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

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

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

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

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

Building 901 located approximately 150 feet southwest of Oceanport Creek, the nearest water body. Based on the Main Post topography, the groundwater flow in the area of Building 901 is anticipated to be to the northeast.

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 and a concrete hold-down pad were removed to expose the UST and associated piping. During excavation, the tie-down straps broke, the UST floated, and the backhoe bucket was used to secure the UST. The UST was then removed from the hole and staged on polyethylene sheeting. The UST was purged to remove any vapors prior to cutting a hole for proper cleaning. The UST was completely emptied of all liquids prior to removal from the polyethylene sheeting. Approximately 50 gallons of liquid from the UST and its associated piping were transported to the Fort Monmouth waste oil holding facility. Refer to Appendix C for a copy of the waste manifest.

After the UST was removed from the excavation, it was properly cleaned and examined for holes. No holes or punctures were observed during the inspection by the Sub-Surface Evaluator. Soils and groundwater surrounding the UST were screened visually and with an OVA for evidence of contamination. No evidence of contamination was observed. Soil screening was also performed along the piping run associated with the UST closure. No contamination was noted anywhere along the piping length. Groundwater was encountered at 3.0 feet bgs and no sheen was observed on the groundwater. 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 Fort Monmouth UST holding facility for proper disposal. See Appendix D for the UST disposal certificate and Appendix G for photographs of the UST. The transportation of the UST was 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. Therefore, the excavated soils were used as backfill following removal of the UST.

2.0 SITE INVESTIGATION ACTIVITIES

2.1 OVERVIEW

The Site Investigation was managed and carried out by U.S. Army DPW personnel. All analyses were performed and reported by U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory. All sampling was performed under the direct supervision of a NJDEP Certified Sub-Surface Evaluator according to the methods described in the NJDEP *Field Sampling Procedures Manual* (1992). Sampling frequency and parameters analyzed complied with the NJDEP-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: Brian K. McKee (currently, 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 and appurtenant piping, as well as, the UST excavation sidewalls and bottom, did not exhibit any evidence of potential contamination. Groundwater encountered in the excavation did not exhibit a sheen.

2.3 SAMPLING

On April 17, 1996, following the removal of the UST, post-excavation soil samples A, B, C, D, E, and DUP D were collected from a total of five (5) locations of the UST excavation. Samples A, B, C, D, and DUP D were collected along the sidewalls of the excavation floor at a depth of 2.5 feet bgs. Sample E was collected along the former piping length of the excavation, which was approximately seven (7) feet in length. The piping sample was collected at a depth of 1.0 feet bgs. All samples were analyzed for total petroleum hydrocarbons (TPHC) and total solids.

In addition, one groundwater sample, designated G was collected from standing water in the excavated area. The sample was analyzed for Total BTEX (Benzene # 2, Toluene # 2, Ethyl benzene #2, p+m-Xylene #2, and o-Xylene #2).

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 samples were collected using NJDEP *Field Sampling Procedures Manual* (1992) standard sampling procedures. Following 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 SAMPLING RESULTS

To evaluate soil conditions following removal of the UST and associated piping, post-excavation soil samples were collected on April 17, 1996 from a total of five (5) locations. All samples were analyzed for TPHC and total solids. The post-excavation sampling results were compared to the NJDEP residential direct contact total organic contaminants soil cleanup criteria of 10,000 mg/kg (N.J.A.C. 7:26D and revisions dated February 3, 1994). A summary of the analytical results and comparison to the NJDEP criteria is provided in Table 2 and the soil sampling locations are shown on Figure 4. The analytical data package is provided in Appendix E.

To evaluate the groundwater conditions, one groundwater sample was obtained from standing water in the excavation. The sample was analyzed for total BTEX. The post-excavation sampling result was compared to the respective NJDEP groundwater standards for Class II-A Groundwater (N.J.A.C. 7:9-6). A summary of the analytical results and comparison to the NJDEP criteria is provided in Table 3. The analytical data package is provided in Appendix F.

All post-excavation soil samples collected on April 17, 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-detect to 96.9 mg/kg.

The post-excavation groundwater sample collected on April 17, 1996, from the UST excavation contained concentrations below Benzene # 2, Toluene # 2, Ethyl benzene #2, p+m-Xylene #2, and o-Xylene #2's respective criteria level. All results were non-detect.

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 901 were below the NJDEP soil cleanup criteria for total organic contaminants. The analytical results for the groundwater sample collected from the UST excavation at Building 901 were below NJDEP groundwater quality standards.

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. 0081533-143 at Building 901.

TABLES

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING 901, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Sampling Method
A	4/17/96	4/18/96	Soil	Post-Excavation	TPHC	418.1
B	4/17/96	4/18/96	Soil	Post-Excavation	TPHC	418.1
C	4/17/96	4/18/96	Soil	Post-Excavation	TPHC	418.1
D	4/17/96	4/18/96	Soil	Post-Excavation	TPHC	418.1
E	4/17/96	4/18/96	Soil	Post-Excavation	TPHC	418.1
DUP D	4/17/96	4/18/96	Soil	Post-Excavation	TPHC	418.1
G	4/17/96	4/17/96	Water	Post-Excavation	BTEX	BTEX

Note:
* TPHC Total Petroleum Hydrocarbons
BTEX Benzene # 2, Toluene # 2, Ethyl benzene #2, p+m-Xylene #2, o-Xylene #2

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
BUILDING 901, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID/ Depth	Sample Laboratory ID	Sample Date	Analysis Date	Parameters	Method Detection Limit (mg/kg)	Compound of Concern	Result (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
A/2.5'	2045.1	4/17/96	4/18/96	Total Solid	--	--	86 %	--	--
				TPHC	20	yes	ND	10,000	No
B/2.5'	2045.2	4/17/96	4/18/96	Total Solid	--	--	90 %	--	--
				TPHC	20	yes	ND	10,000	No
C/2.5'	2045.3	4/17/96	4/18/96	Total Solid	--	--	85 %	--	--
				TPHC	20	yes	96.9	10,000	No
D/2.5'	2045.4	4/17/96	4/18/96	Total Solid	--	--	87 %	--	--
				TPHC	20	yes	67.9	10,000	No
E/1.0'	2045.5	4/17/96	4/18/96	Total Solid	--	--	87 %	--	--
				TPHC	20	yes	82.9	10,000	No
DUP D/2.5'	2045.6	4/17/96	4/18/96	Total Solid	--	--	87 %	--	--
				TPHC	20	yes	ND	10,000	No

Note:

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

TABLE 3

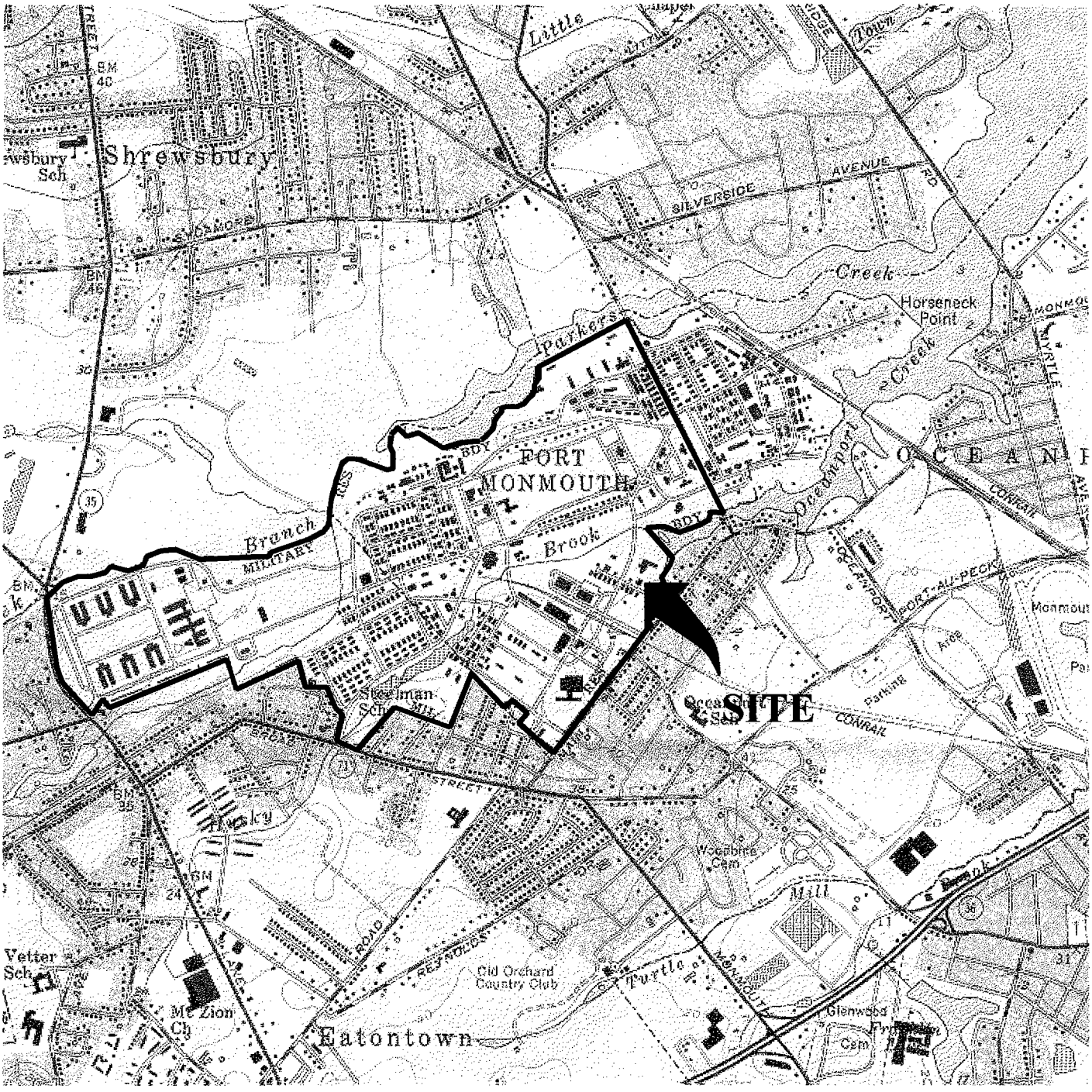
POST-EXCAVATION GROUNDWATER SAMPLING RESULTS
BUILDING 901, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID/ Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Method Used	Method Detection Limit (ug/L)	Compound of Concern	Results (ug/L)	NJDEP Groundwater Standards* (ug/L)	Exceeds Cleanup Criteria
G	13461	4/17/96	4/17/96	Benzene #2	0.02	yes	ND	0.2	--
				Toluene #2	0.04	yes	ND	1,000	--
				Ethyl benzene #2	0.04	yes	ND	700	--
				p + m-Xylene #2	0.05	yes	ND	40(1)	--
				o-Xylene #2	0.04	yes	ND	40(1)	--

Note:

* NJDEP Groundwater Standards for Class II-A Groundwater
ND Not detected above stated method detection limit
(1) Total Xylenes Standard used for p + m-Xylene #2 and o-Xylene #2.

FIGURES



LONG BRANCH, NJ

40073-C8-TF-024

1954

PHOTOREVISED 1981

DMA 6164 I SE -SERIES V822

New Jersey

Quadrangle Location

Mapped, edited and published by the Geological Survey

FIGURE 1

SITE LOCATION MAP

Building 901

Main Post-West

Fort Monmouth Army Base

Monmouth County, NJ

SMC Environmental Services Group

Engineers, Managers, Scientists, & Planners

Valley Forge, Pennsylvania

Scale:	1"=2,000'	Date:	DEC 1997

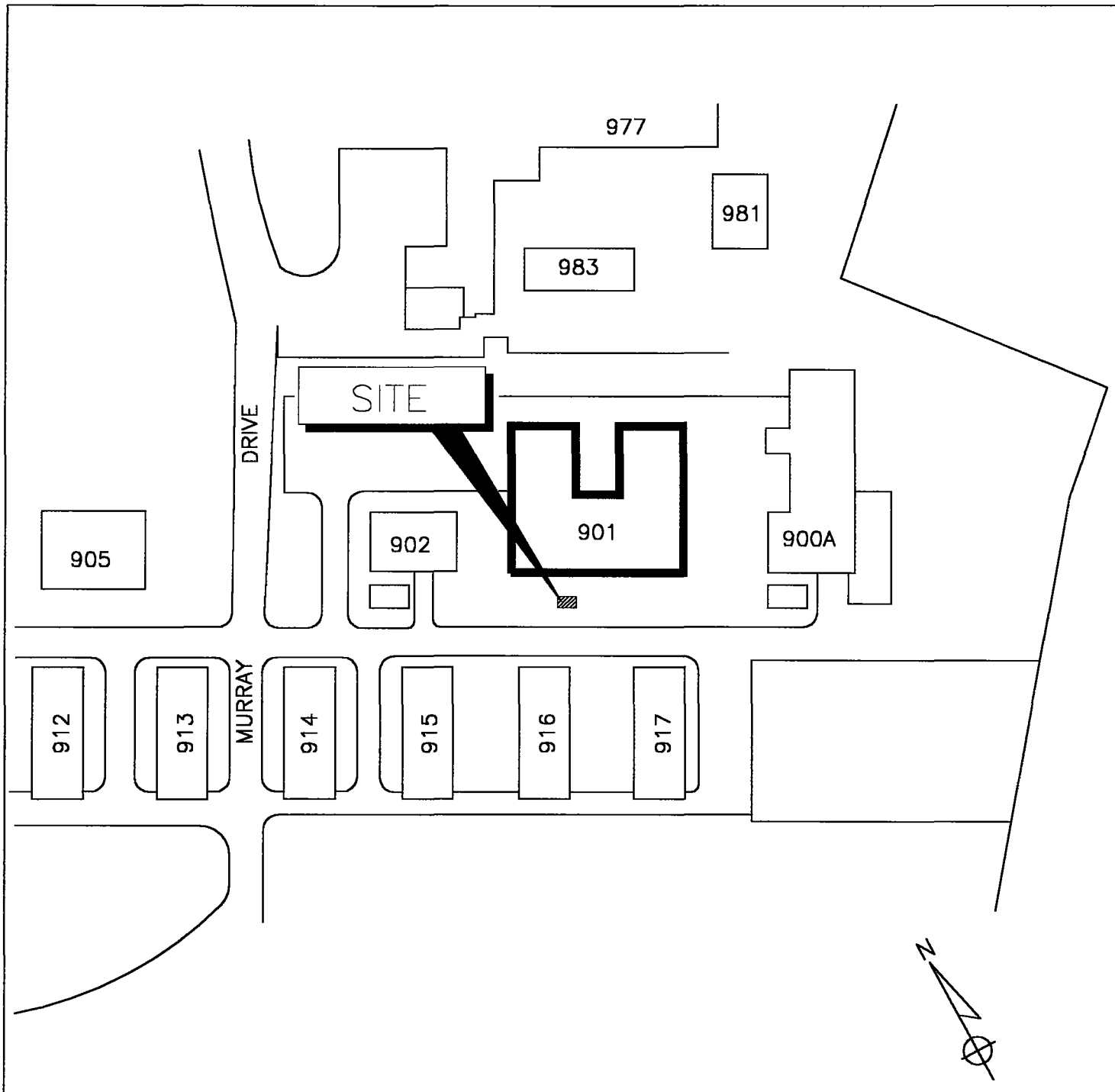


FIGURE 2
SITE MAP
BUILDING 901
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

SMC ENVIRONMENTAL SERVICES GROUP
Engineers, Managers, Scientists & Planners
VALLEY FORGE, PA.

SCALE: 1"=100' | DATE: DEC. 1997

901 2429 FIG2

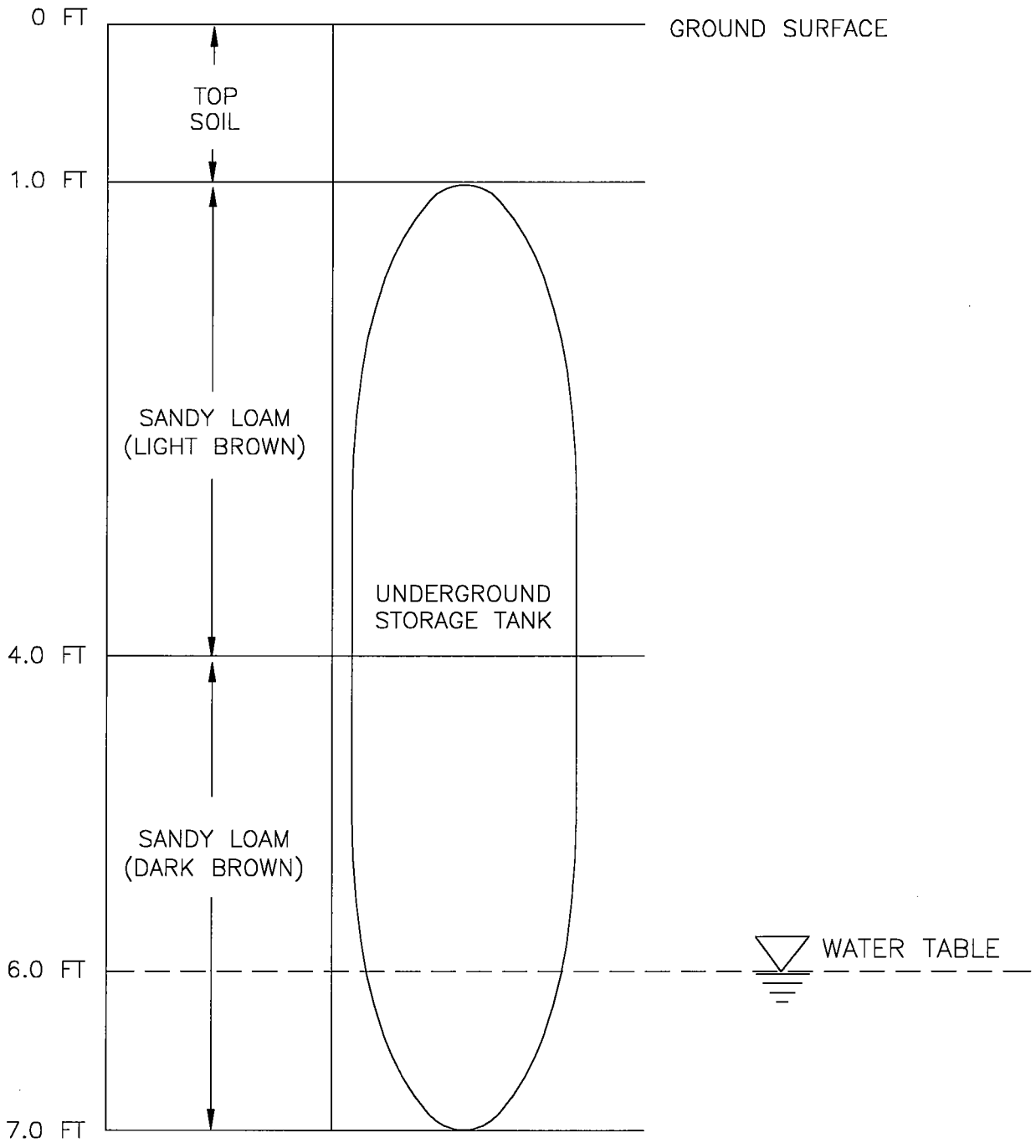
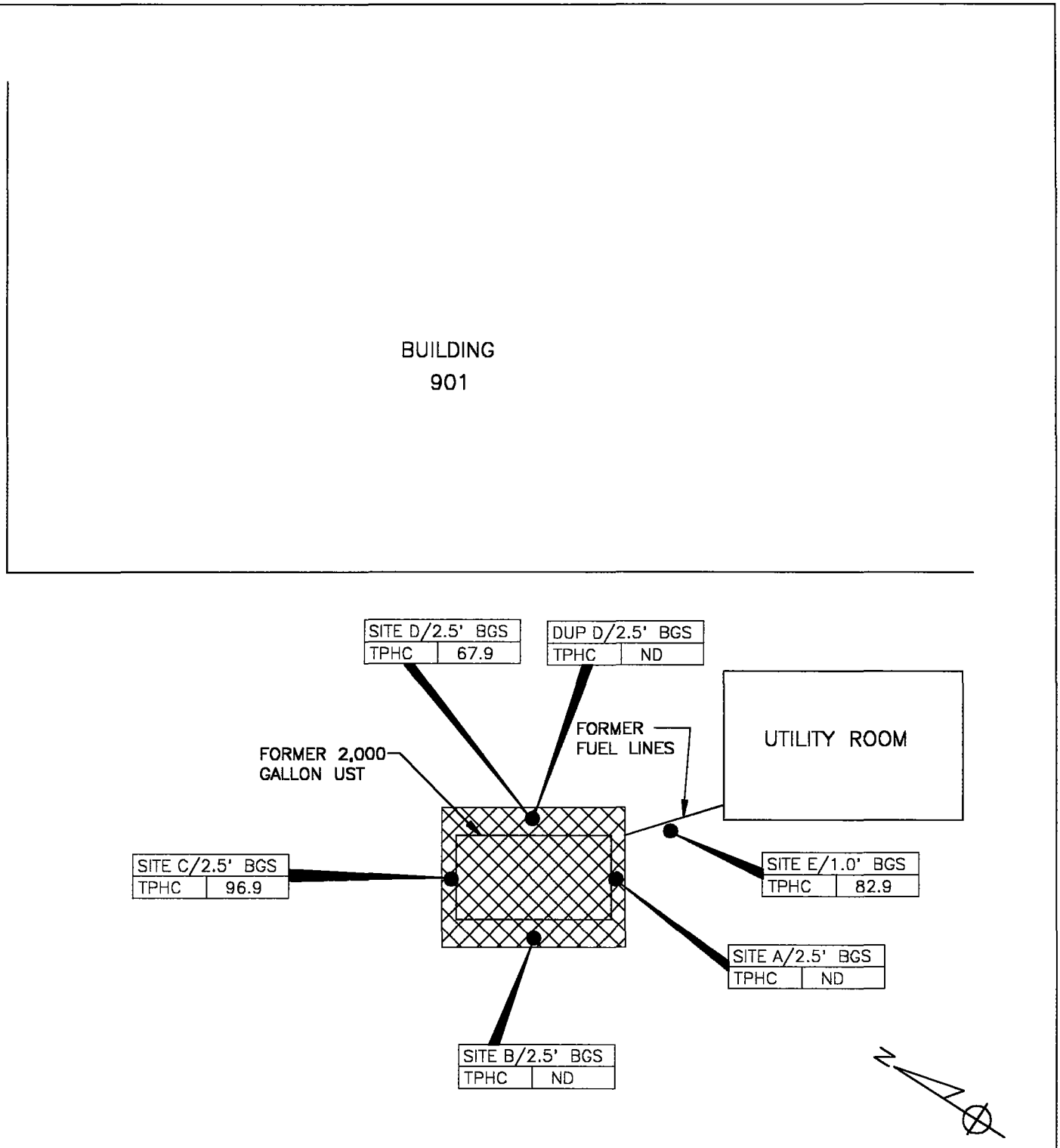


FIGURE 3
CROSS SECTIONAL VIEW
BUILDING 901
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

SMC ENVIRONMENTAL
SERVICES GROUP
Engineers, Managers, Scientists & Planners
VALLEY FORGE, PA.

SCALE: NTS | DATE: OCT. 1997

901 2429 FIG3



LEGEND

- SOIL SAMPLE LOCATION (APRIL 17, 1996)
- LIMIT OF EXCAVATION (APRIL 17, 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 901
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

SMC ENVIRONMENTAL SERVICES GROUP
Engineers, Managers, Scientists & Planners
VALLEY FORGE, PA.

SCALE: 1"=10' | DATE: MARCH 1998

901 2429 FIG4

APPENDIX A

NJDEP STANDARD REPORTING FORM

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

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

(More than one tank can be listed per activity)

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

Answer questions 1 through 5 and others as applicable.

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

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

3. Contact person for this activity: GENE LESINSKI
BLDG 901
Telephone Number: (908) 532-0989

4. The identification number of the affected tank as it appears in Question Number 12 on the Registration Questionnaire: 143

5. Registration Number (if known): UST - 081533

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 (

a. ☐ Abandonment Date: __/__/__ Case No. _____
Attach the necessary implementation schedule (3 copies) and all documentation needed for abandonment per N.J.A.C. 7:14B-9.1(d).

b. ☒ Removal Date: 9/17/96 Case No. _____
Attach the necessary implementation schedule (3 copies).

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

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

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

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

Tank No._____ Old _____ New _____
Tank No._____ Old _____ New _____
Tank No._____ Old _____ New _____
(Attach additional sheets if more space is needed)

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

a. New Owner (operator) _____

b. New Facility Name _____
_____
_____ NJ _____
_____
County

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

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

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

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

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

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

_____
_____
_____
(Specify)

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

CERTIFICATION

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

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

Signature: James Ott

Name (print or type): JAMES OTT

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

SRF-UST
(IND/MD-2/92)

APPENDIX B

SITE ASSESSMENT SUMMARY

UST-014
2/91

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

Scott A. Weiner
Commissioner

Tel. # 609-984-3156
Fax.# 609-292-5604

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: _____

Building No. 901 UST No. 81533-143

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. _____

UST-014
2/91

II. DISCHARGE REPORTING REQUIREMENTS

A. Was contamination found? _____Yes __X__ No If Yes, Case No._____
(Note: All discharges must be reported to the Environmental Action Hotline (609) 292-7172)

B. The substance(s) discharged was (were) ____N/A_____

C. Have any vapor hazards been mitigated?_____Yes _____ No ___X___ N/A

III. DECOMMISSIONING OF TANK SYSTEMS Closure approval No. U.S. Army "Blanket Closure"

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:

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 subsurface 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 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? _____Yes __X__ 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. 96.9 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. _____ Yes _____ No
2. Free product contaminated soils are suspected to exist below the water table. _____ Yes _____ No
3. Free product contaminated soils are suspected to exist off the property boundaries. ____Yes ____No

D. Was the vertical and horizontal extent of contamination determined? _____Yes _____ No _____ N/A

E. Does soil contamination intersect ground water? _____Yes _____ 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. <0.19 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 properly 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 Lesinski

SIGNATURE SEE ATTACHED SUB-SURFACE EVALUATOR LOG

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

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)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 _____

'S ARMY, SELFM-PW- 1

DAILY UST SUBSURFACE REMOVAL LOG

BLDG.#: 901 REG.#: 0081533 - 143 CLOSURE#: VERBAL 4/12/96

DATE: 4-17-96 TOA: 1000 TOD: 1600

GOV. SSE: LESINSKI NJDEP CERT.#: 0014537

REMOVAL CONTRACTOR: SAI Inc.

CLOSURE SUPERVISOR: DeMartinis NJDEP CERT.#: _____

WEATHER: Cloudy - 45°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/A
PHOTOS HAVE UST#, BLDG. #, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK	Y
GROUNDWATER WAS ENCOUNTERED AT 4 FEET BG, A SHEEN (WAS / WAS NOT) OBSERVED ON GW	Y
IF OVA/Hnu WAS USED: WAS IT CAL. AND FOUND TO BE OPERATIONAL (cal. data on COC)	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	N/A
THE SSE AUTHORIZED BACKFILLING THE EXCAVATION (STONE TO 1" ABOVE GROUNDWATER)	Y
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	N
THE FOLLOWING DOCUMENTS WERE ADDED TO THE PROJECT FOLDER TODAY: (CIRCLE EACH) SCRAP TICKET, CSE PERMIT, ACCIDENT REPORT, HAZ. WASTE MANIFEST, DAILY UST CLOSURE LOG, SCALED SITE MAP (SAMPLING), SRF-CLOSURE, CHAIN OF CUSTODY, SOIL ANALYTICAL RESULTS, CLEAN FILL TICKETS (IN YDS^3), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS)	N

CHECK ALL BOXES, LEAVE NO BLANKS

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

SIGNATURE: _____ DATE: 4-17-96

ca\ms\ust\removal\sitessls.doc

APPENDIX C

WASTE MANIFEST

APPENDIX D

UST DISPOSAL CERTIFICATE

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 #: 2045.1-.6
Sample Rec'd: 04/17/96
Analysis Start: 04/18/96
Analysis Comp: 04/19/96

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

NJDEP UST Reg.#:
Closure #:
DICAR #:
Location #: Bldg. 901

Lab ID.	Description	OVA	%Solid	Result (mg/Kg)	MDL mg/Kg)
2045.1	901-A, Sidewall @ 2.5'	ND	86	ND	20
2045.2	901-B, Sidewall @ 2.5'	ND	90	ND	20
2045.3	901-C, Sidewall @ 2.5'	ND	85	96.9	20
2045.4	901-D, Sidewall @ 2.5'	ND	87	67.9	20
2045.5	901-E, Piping Run @ 1'	ND	87	82.9	20
2045.6	901-Dup	NA	87	ND	20
M. Bl.	Method Blank		100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit
* = Silica Gel Added, NA = Not Applicable
2045.2S= 84%, 2045.2SD= 81%, RPD= 3.7%, 2045.2dup,100% @ ND
QC Limits: Recovery = 60% to 140%, RPD = 14.9% AT 2 Std. Dev.

Brian K. McKee
Laboratory Director

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

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

Lab. ID #: 2045.1-.6
Sample Rec'd: 04/17/96
Analysis Start: 04/18/96
Analysis Comp: 04/19/96

Analysis: Munsel

Lab ID#	Soil Color
2045.1	2.5Y 5/6 Light Olive Brown
2045.2	2.5Y 5/4 Light Olive Brown
2045.3	2.5Y 5/6 Light Olive Brown
2045.4	2.5Y 5/4 Light Olive Brown
2045.5	2.5Y 5/3 Light Olive Brown
2045.6	2.5Y 5/6 Light Olive Brown

Brian K. McKee
Laboratory Director

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

CHAIN-OF-CUSTODY

P.O. #: PWS-07

Project #:	Sampler: Gary DiMartinis - TVS	Date / Time 4-17-96 / 1300	Analysis Parameters	Start:
Customer: GENE LESINSKI SELFM-PW-EV	Site Name: BUILDING #901			Finish:
Phone: (908) 532-0989				Preservation Method

Lab Sample ID Number	Date/Time	Customer Sample Location/ID Number	Sample Matrix	# of Bottles	TPHC	% Solids	Munsel	OVA	Remarks
2045.1	4-17-96 / 1352	901A (SIDEWALL @ 2.5')	Soil	2	X	X	X	ND	*
.2	1413	901-B (SIDEWALL @ 2.5')	↓	↓	↓	↓	↓	↓	* = SAMPLES
.3	1405	901-C (SIDEWALL @ 2.5')							KEPT BELOW
.4	1357	901-D (SIDEWALL @ 2.5')							4°C.
.5	1424	901-E (PIPING RUN @ 1')							*
.6	—	901-DUP (DUPLICATE)						—	*

NOTE: OVA CALIBRATED TO 95 PPM METER READING W/ 95 PPM CH4 & ZERO (0) AIR BY G. DiMartinis @ 1315

Relinquished By (signature)	Date / Time	Received By (signature)	Shipped By:	
Gary DiMartinis	4-17-96 / 16:05		HAND	ON 4-17-96 (SERIAL #AS2114)
Relinquished By (signature)	**Date / Time**	**Received for Lab by (signature):**	**Date / Time**	
	4-17-96 / 1605	D. Hubbard	4-17-96 / 16:05	

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

Environmental Laboratory

Sample Receipt Form

Date Received: 4-17-96 Lab Project ID #: 2045.1.6

Site/Project Name: BLDG 901 Cooler Temp: <4°C

Received by: S. 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
ALL SAMPLES	<4°C	N/A			

Comments: NONE

Samples Accepted By: S. Hubbard

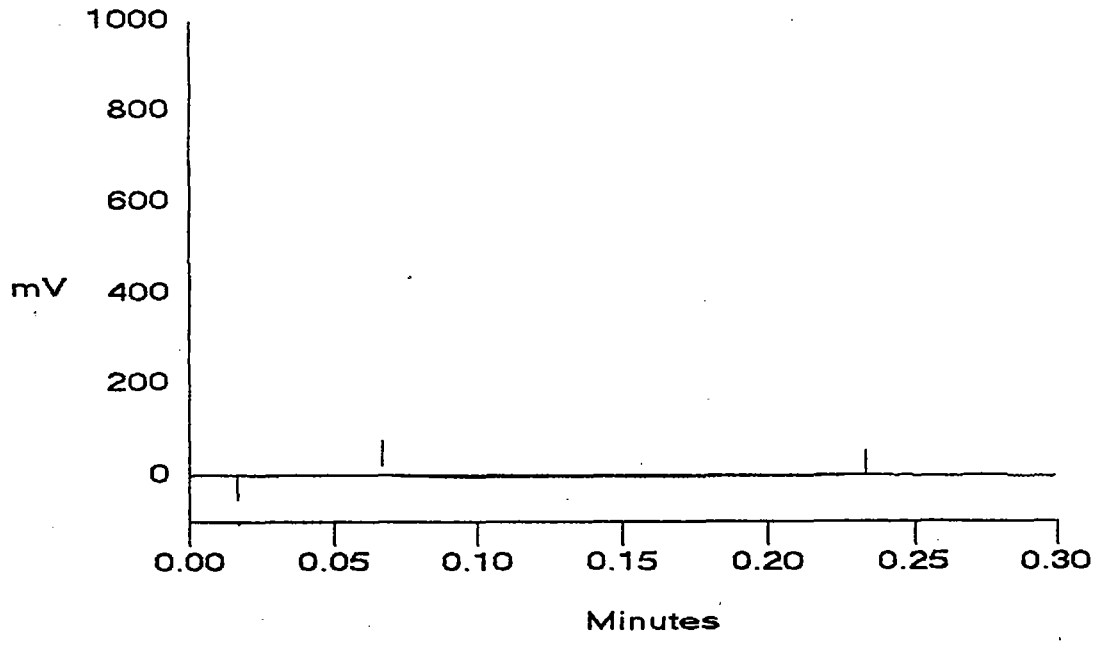
Sample Name: FREON EXT. BLK. Date: 04/19/1996 09:15:42
Data File : C:\DX\DATA\04199651.D01
Method : c:\dx\method\tph.met
ACI Address: 1 System: 1 Inject#: 1 Detector:OTHER
Analyst : BKM Column: IR

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	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
Totals			0.000	0	0		

File: 04199651.D01 Sample: FREON EXT. BLK.



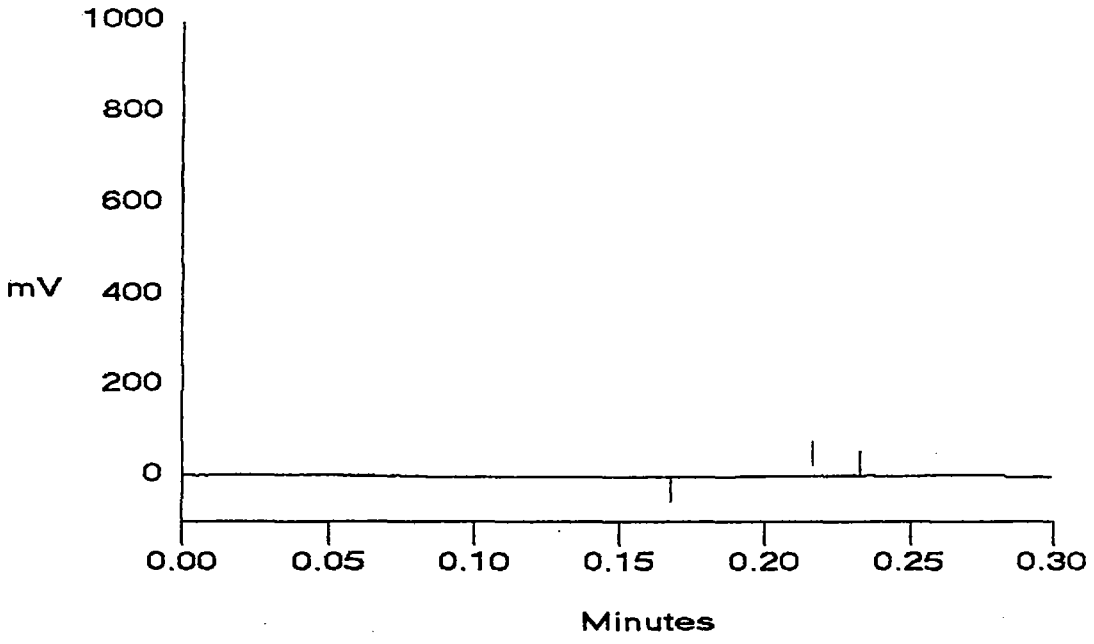
Sample Name: 2045.1 901-A Date: 04/19/1996 09:20:56
Data File : C:\DX\DATA\04199651.D03
Method : c:\dx\method\tph.met
ACI Address: 1 System: 1 Inject#: 3 Detector:OTHER
Analyst : BKM Column: IR

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	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
		Totals	0.000	0	0		

File: 04199651.D03 Sample: 2045.1 901-A



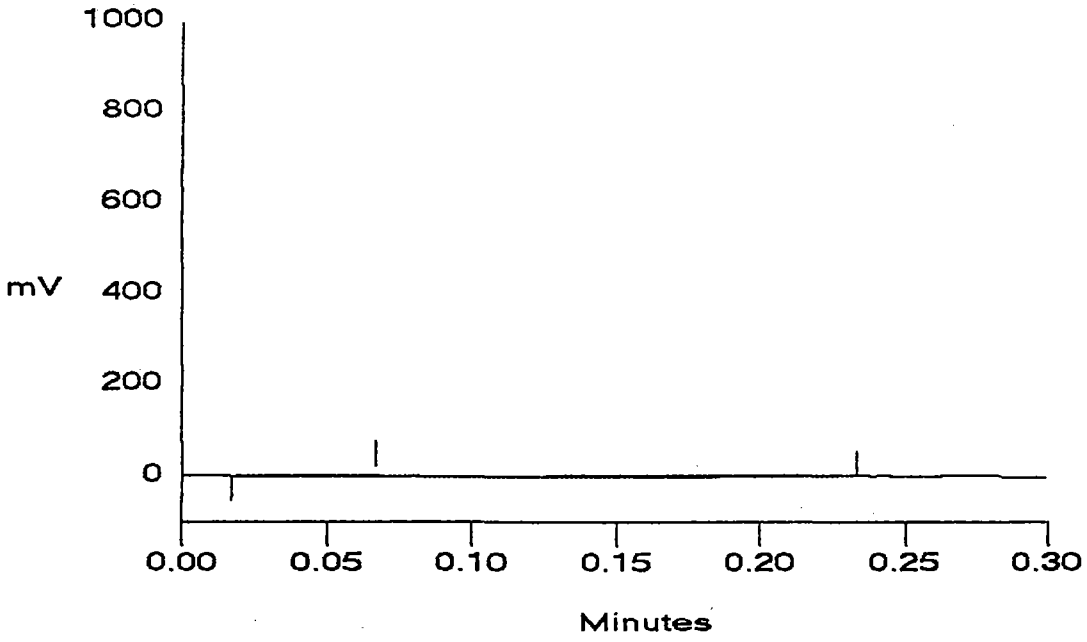
Sample Name: 2045.2 901-B Date: 04/19/1996 09:22:59
Data File : C:\DX\DATA\04199651.D04
Method : c:\dx\method\tph.met
ACI Address: 1 System: 1 Inject#: 4 Detector:OTHER
Analyst : BKM Column: IR

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	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
		Totals	0.000	0	0		

File: 04199651.D04 Sample: 2045.2 901-B



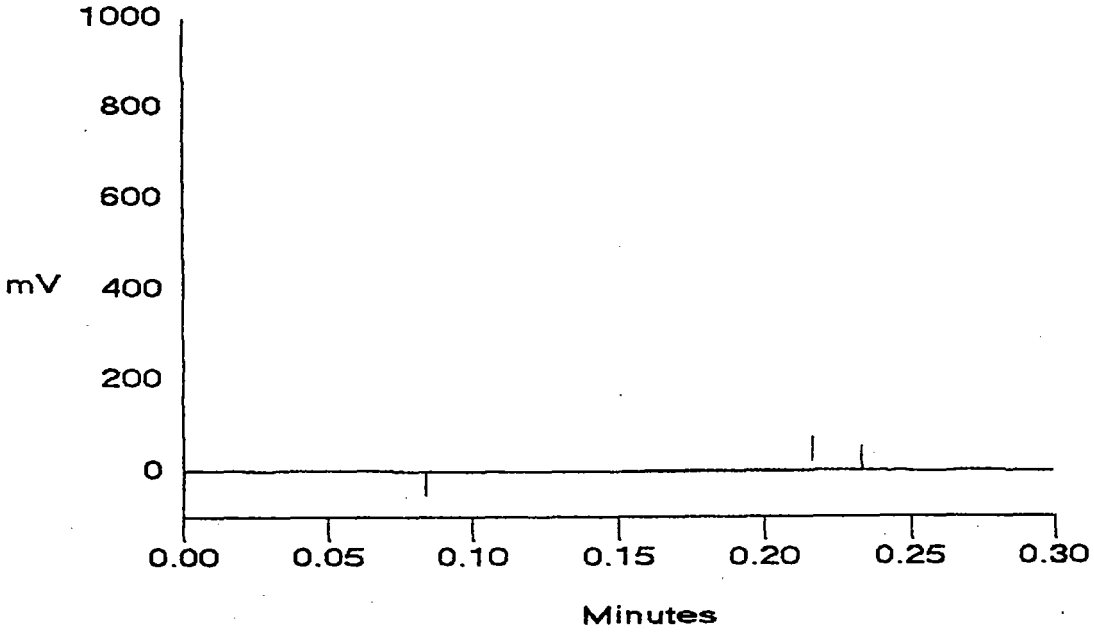
Sample Name: 2045.2 DUP. Date: 04/19/1996 09:33:59
Data File : C:\DX\DATA\04199661.D05
Method : c:\dx\method\tph.met
ACI Address: 1 System: 1 Inject#: 5 Detector:OTHER
Analyst : BKM Column: IR

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	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
		Totals	0.000	0	0		

File: 04199661.D05 Sample: 2045.2 DUP.



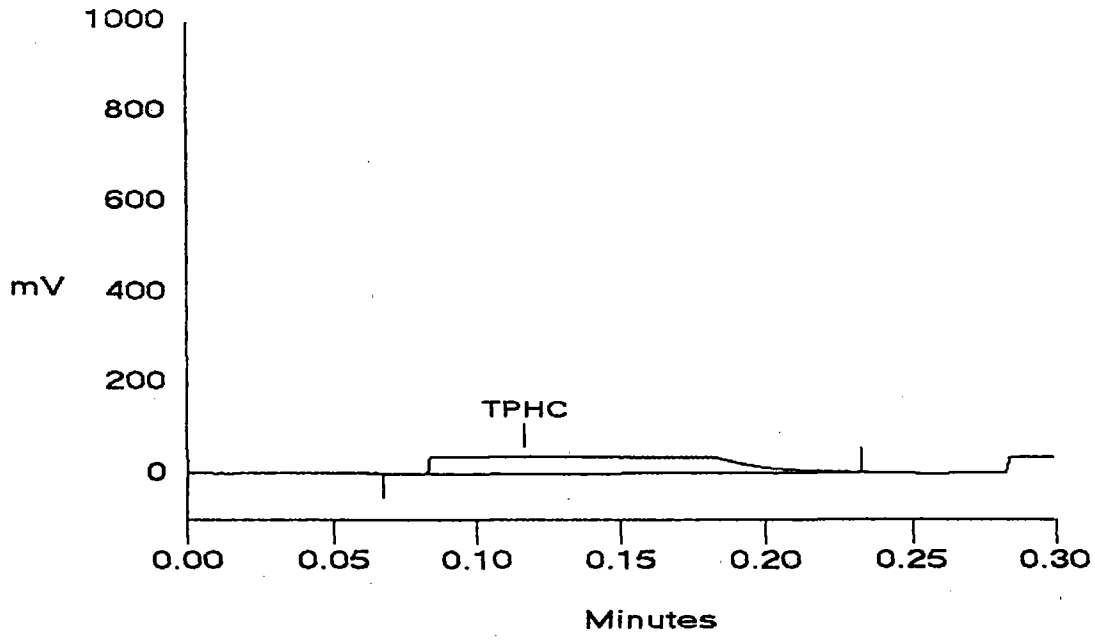
Sample Name: 2045.2 SPIKE Date: 04/19/1996 09:36:18
Data File : C:\DX\DATA\04199661.D06
Method : c:\dx\method\tph.met
ACI Address: 1 System: 1 Inject#: 6 Detector:OTHER
Analyst : BKM Column: IR

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	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	0.12	TPHC	19.433	34653	235207	1	0.00
		Totals	19.433	34653	235207		

File: 04199661.D06 Sample: 2045.2 SPIKE



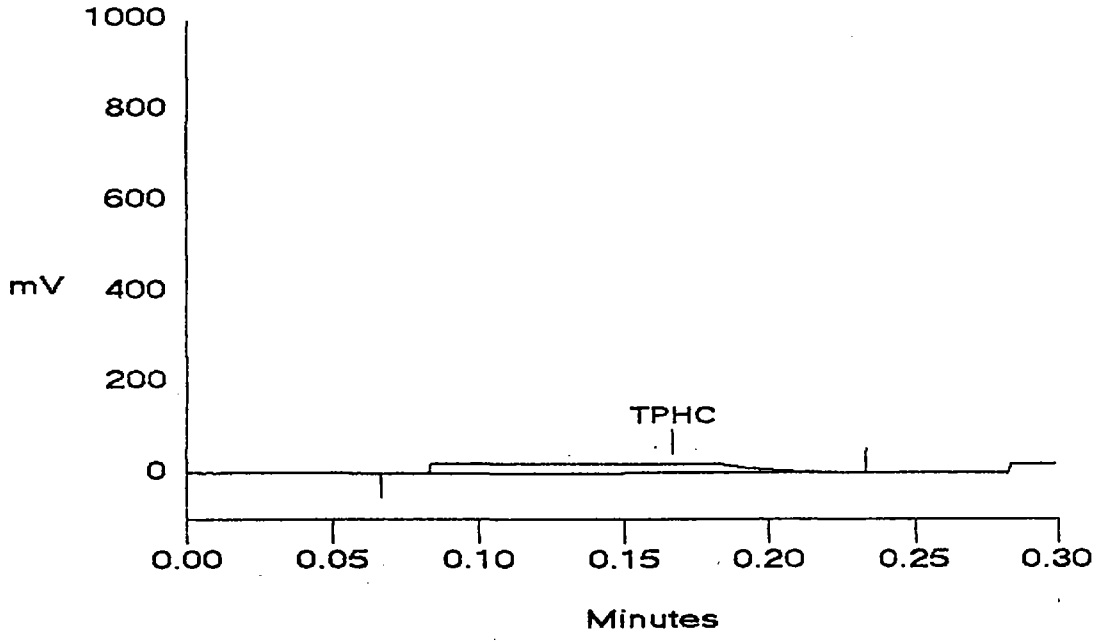
Sample Name: 2045.2 DUP. SPIKE Date: 04/19/1996 09:39:08
Data File : C:\DX\DATA\04199651.D07
Method : c:\dx\method\tph.met
ACI Address: 1 System: 1 Inject#: 7 Detector:OTHER
Analyst : BKM Column: IR

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	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	0.17	TPHC	10.900	19437	135381	1	0.00
		Totals	10.900	19437	135381		

File: 04199651.D07 Sample: 2045.2 DUP. SPIKE



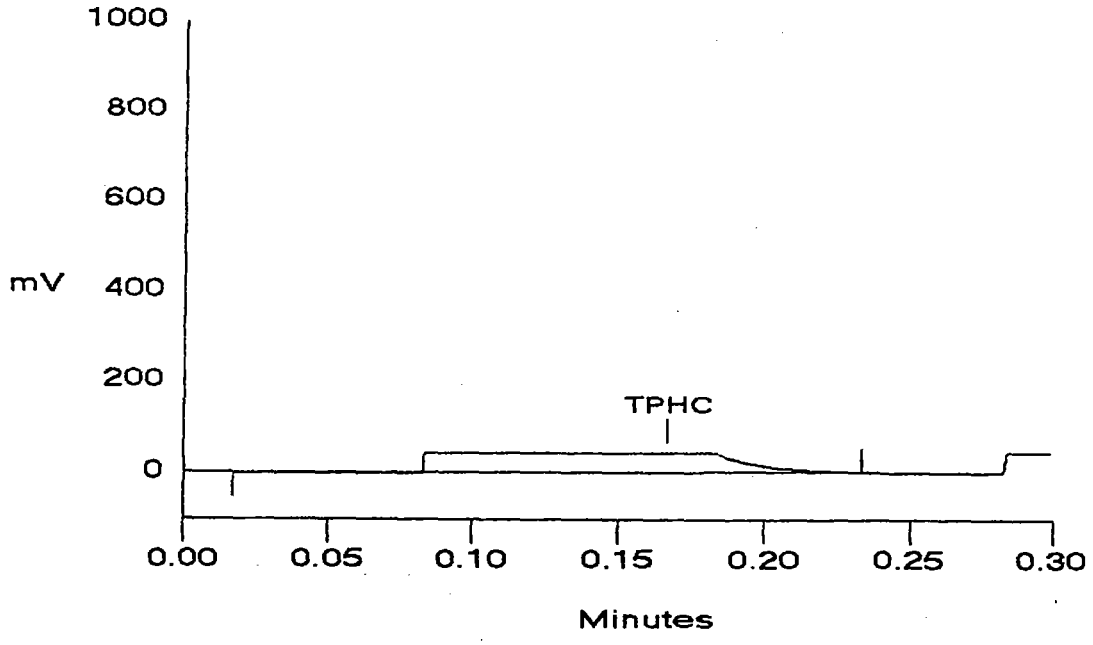
Sample Name: CALCK. Date: 04/19/1996 10:00:31
Data File : C:\DX\DATA\04199651.D12
Method : c:\dx\method\tph.met
ACI Address: 1 System: 1 Inject#: 12 Detector:OTHER
Analyst : BKM Column: IR

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	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	0.17	TPHC	23.853	42534	291488	1	0.00
		Totals	23.853	42534	291488		

File: 04199651.D12 Sample: CALCK.



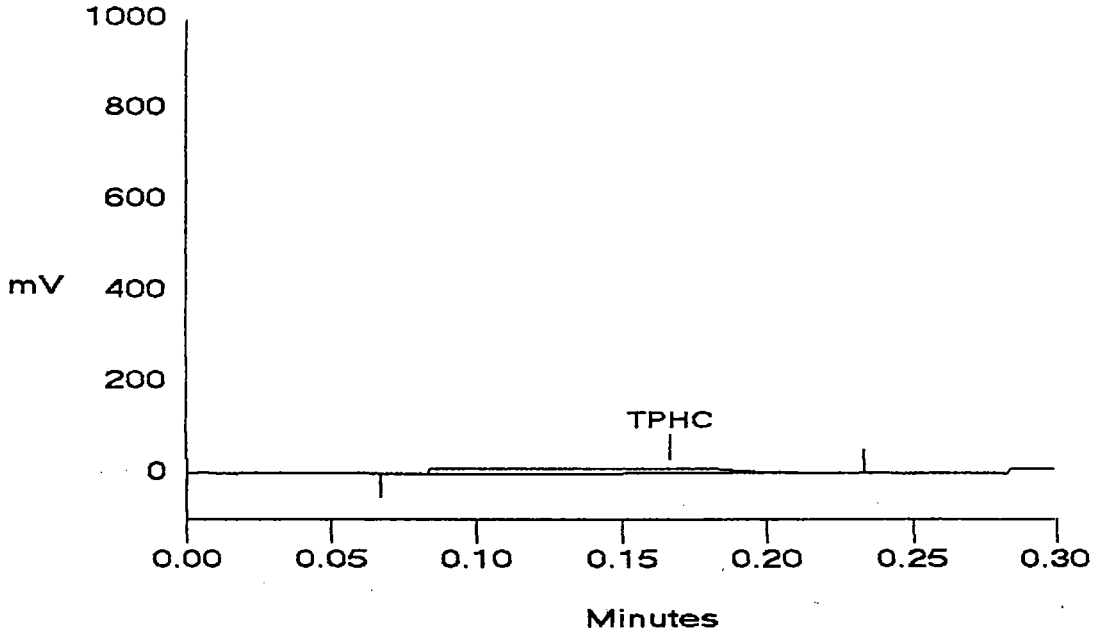
Sample Name: 2045.3 901-C Date: 04/19/1996 09:49:02
Data File : C:\DX\DATA\04199651.D08
Method : c:\dx\method\tph.met
ACI Address: 1 System: 1 Inject#: 8 Detector:OTHER
Analyst : BKM Column: IR

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	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	0.17	TPHC	5.147	9177	64071	1	0.00
		Totals	5.147	9177	64071		

File: 04199651.D08 Sample: 2045.3 901-C



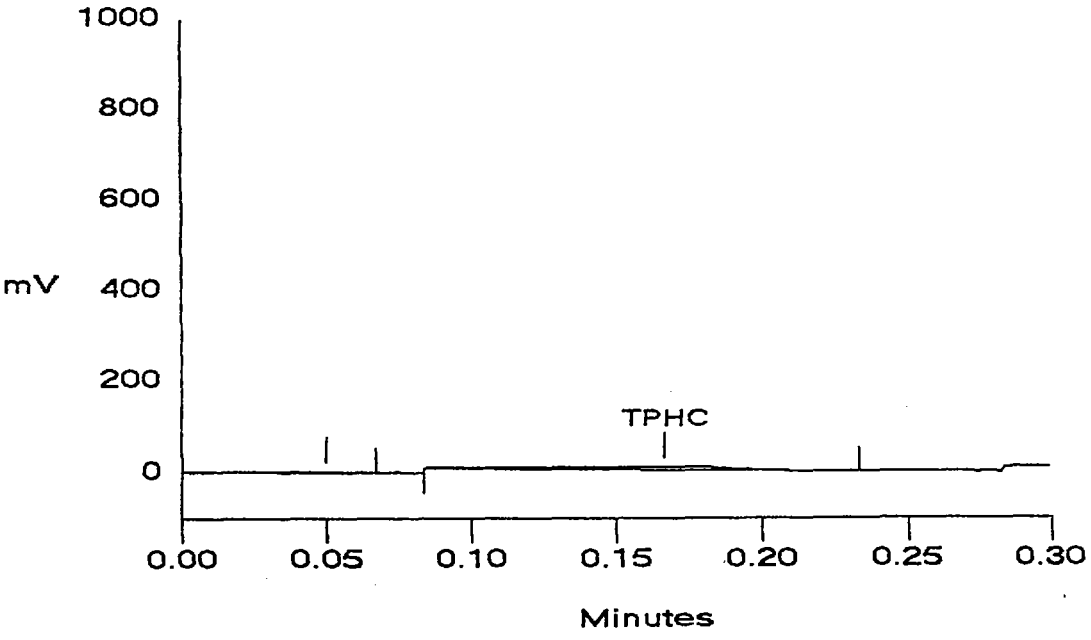
Sample Name: 2045.4 901-D Date: 04/19/1996 09:51:21
Data File : C:\DX\DATA\04199651.D09
Method : c:\dx\method\tph.met
ACI Address: 1 System: 1 Inject#: 9 Detector:OTHER
Analyst : BKM Column: IR

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	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
2	0.17	TPHC	3.414	6088	31362	1	0.00
		Totals	3.414	6088	31362		

File: 04199651.D09 Sample: 2045.4 901-D



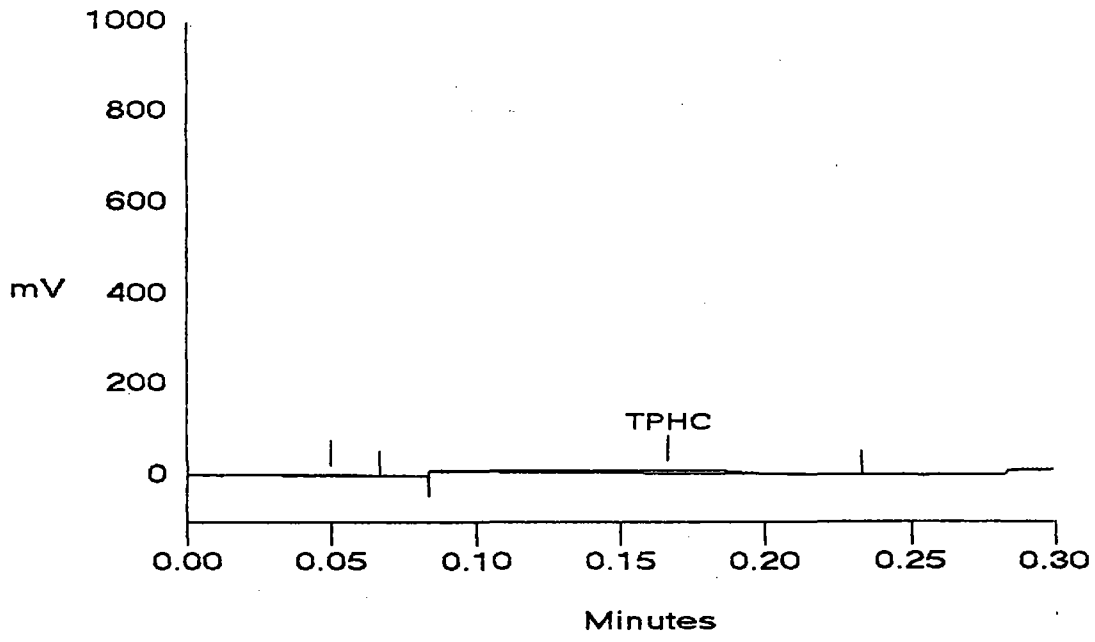
Sample Name: 2045.5 901-E Date: 04/19/1996 09:53:58
Data File : C:\DX\DATA\04199651.D10
Method : c:\dx\method\tph.met
ACI Address: 1 System: 1 Inject#: 10 Detector:OTHER
Analyst : BKM Column: IR

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	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
2	0.17	TPHC	4.158	7415	38321	1	0.00
		Totals	4.158	7415	38321		

File: 04199651.D10 Sample: 2045.5 901-E



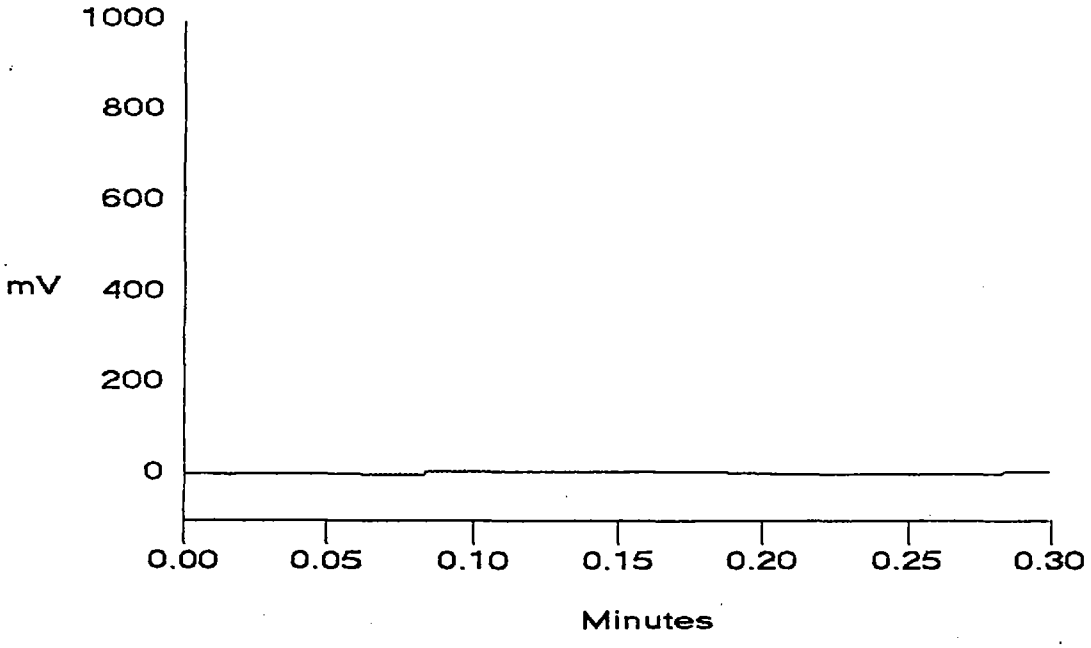
Sample Name: 2045.6 FIELD DUP. Date: 04/19/1996 09:56:44
Data File : C:\DX\DATA\04199651.D11
Method : c:\dx\method\tph.met
ACI Address: 1 System: 1 Inject#: 11 Detector:OTHER
Analyst : BKM Column: IR

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
xternal	1	1	900	50Hz	0.00	0.30	30000

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

?k. Num	Ret Time	Component Name	Concentration ppM	Height	Area	Bl. Code	%Delta
		Totals	0.000	0	0		

File: 04199651.D11 Sample: 2045.6 FIELD DUP.



PHC Conformance/Non-conformance Summary Report

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

Comments: None

Laboratory Authentication Statement

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

Project #2045

Brian K. McKee
Laboratory Manager

APPENDIX F

GROUNDWATER ANALYTICAL DATA PACKAGE

BTEX Analysis Data Sheet

Sample I.D.: Bldg. 901
Misc. ID:
Date Analyzed: 04/17/96

Lab Name: Fort Monmouth Environmental Testiong Lab. Contract: 9600
Lab Code: 13461 Case No.: SAS No.: SDG No.:
Matrix: (soil/water): Water Method: BTEX
Wt/Vol.: 5 mL Dilution Factor: 1

File: C:\HPCHEM\5\DATA\2043.D\

Results:
Concentration Units: ug/L

CAS #	Compound	Expected R.T.	R.T.	Amount	MDL
71-43-2	Benzene #2	13.76	NA	<	0.02
108-88-3	Toluene #2	17.90	NA	<	0.04
100-41-4	Ethylbenzene #2	19.83	NA	<	0.04
106-42-3	p + m-Xylene #2	20.05	NA	<	0.05
95-47-6	o-Xylene #2	20.45	NA	<	0.04

Total BTEX: < 0.19 ug/L

Surrogate Recovery:

98-08-8	a,a,a-TFT#2	16.07	16.02	19.57	ug/L

Surrogate Percent Recovery: 97.8 % Limit: 60-140%

Last Cal. Update: Tue Apr 16 15:35:46 1996

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

CHAIN-OF-CUSTODY

P.O. #: PWS-07

Project #:

Customer: GENE LESINSKI SELFM-PW-EV

Phone: (908) 532-0989

Sampler: KERRY GREEN/TUS

Date / Time: 4-17-96 0730

Site Name: BLDG. 901 EVALUATION OF STANDING WATER

Analysis Parameters: TPHC (GREEN) BTEX

Start:

Finish:

Lab Sample ID Number	Date/Time	Customer Sample Location/ID Number	Sample Matrix	# of Bottles	Preservation Method	Remarks
2043.1	4-17-96 0815	STANDING WATER IN EXCAVATION	AQ	4		*=SAMPLES KEPT BELOW 4°C.

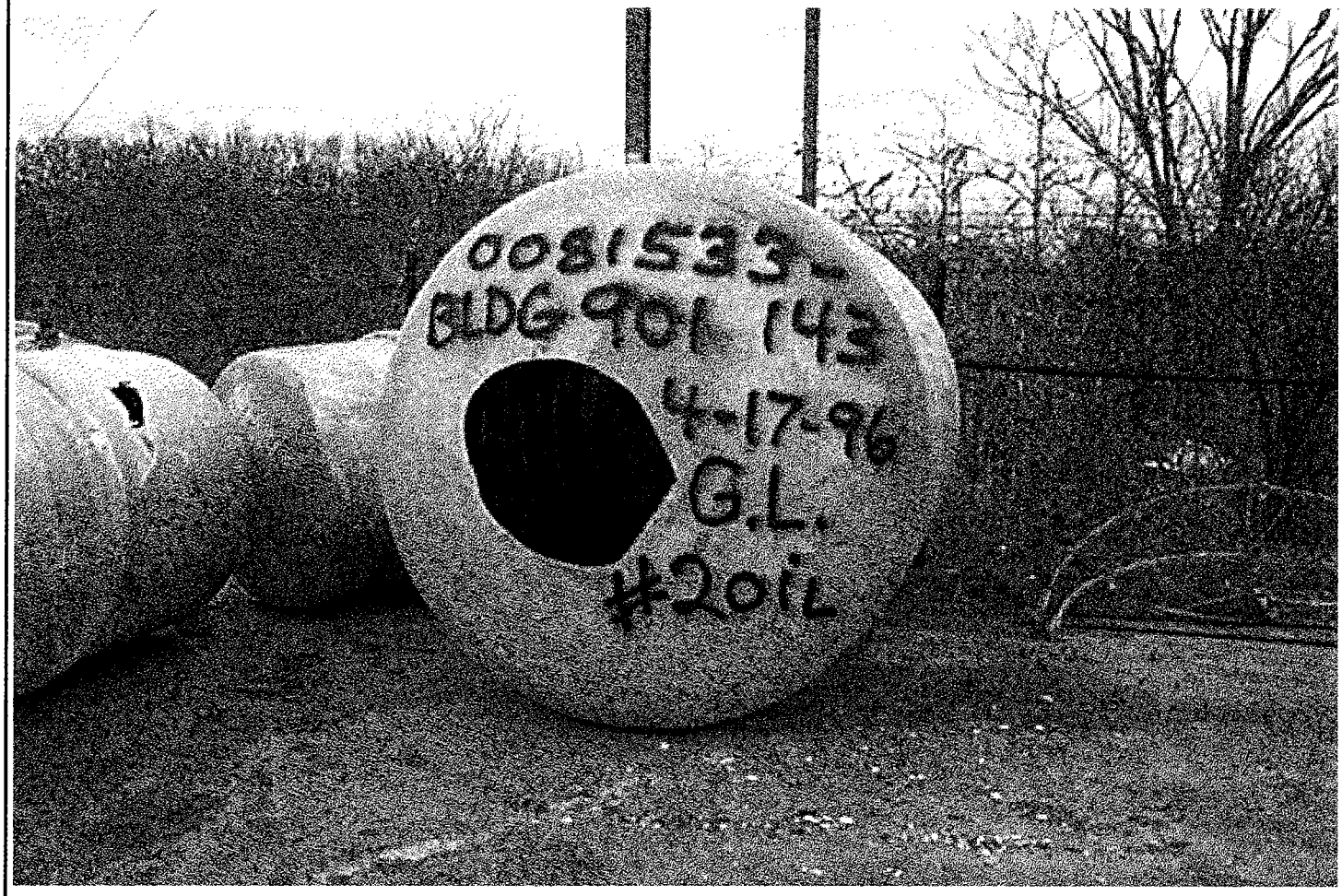
Relinquished By (signature)	Date / Time	Received By (signature)	Shipped By:
Kerry Green	4-17-96 0830	Kerry DiMatteo	HAND
Kerry DiMatteo	4-17-96 0845	Sarah J. Hubbard	Date / Time: 4-17-96 0845

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

Environmental Laboratory

APPENDIX G

PHOTOGRAPHS



December 1997

PHOTOGRAPHIC LOG

UST No. 81533-143

Building 901

Main Post-West

Fort Monmouth

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