

United States Army

Fort Monmouth, New Jersey

**Underground Storage Tank
Closure and Site Investigation
Report**

***Building 625
Main Post***

**NJDEP UST Registration No. 081533-96
NJDEP Closure Approval Letter Dated
July 5, 1994**

February 1996

SMITH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

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

BUILDING 625

**MAIN POST
NJDEP UST REGISTRATION NO. 081533-96
NJDEP CLOSURE APPROVAL LETTER DATED
JULY 5, 1994**

FEBRUARY 1996

**PROJECT NO.: 09-5004-06
CONTRACT NO.: DACA51-94-D-0014**

PREPARED FOR:

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

PREPARED BY:

**SMITH ENVIRONMENTAL TECHNOLOGIES CORPORATION
BROMLEY CORPORATE CENTER
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SMITH
ENVIRONMENTAL TECHNOLOGIES CORPORATION



TABLE OF CONTENTS

EXECUTIVE SUMMARY	iv
1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES	1
1.1 OVERVIEW	1
1.2 SITE DESCRIPTION	2
1.2.1 Geological/Hydrogeological Setting	2
1.3 HEALTH AND SAFETY	3
1.4 REMOVAL OF UNDERGROUND STORAGE TANK	4
1.4.1 General Procedures	4
1.4.2 Underground Storage Tank Excavation and Cleaning	4
1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL	5
1.6 MANAGEMENT OF EXCAVATED SOILS	5
2.0 SITE INVESTIGATION ACTIVITIES	6
2.1 OVERVIEW	6
2.2 FIELD SCREENING/MONITORING	6
2.3 SOIL SAMPLING	7
3.0 CONCLUSIONS AND RECOMMENDATIONS	8
3.1 SOIL SAMPLING RESULTS	8
3.2 CONCLUSIONS AND RECOMMENDATIONS	8

Following Page No.

TABLES

Table 1 Summary of Post-Excavation Sampling Activities	7
Table 2 Post-Excavation Soil Sampling Results	8



TABLE OF CONTENTS (CONTINUED)

Following Page No.

FIGURES

Figure 1	Site Location Map	1
Figure 2	Site Map	2
Figure 3	Soil Sampling Results	8

APPENDICES

Appendix A	NJDEP-BUST Closure Approval
Appendix B	Certifications
Appendix C	Waste Manifest
Appendix D	UST Disposal Certificate
Appendix E	Soil Analytical Data Package



EXECUTIVE SUMMARY

UST Closure

On August 25, 1994, a steel underground storage tank (UST) with fiberglass coating was closed by removal in accordance with the New Jersey Department of Environmental Protection (NJDEP) Closure Approval Letter dated July 5, 1994 at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 081533-96 (Fort Monmouth ID No. 625), was located immediately adjacent to Building 625 in the Main Post area of U.S. Army, Fort Monmouth. UST No. 081533-96 was a 550-gallon No. 2 diesel oil UST. The UST fill port was located directly above the tank. The tank closure was performed by Cleaning Up The Environment Inc. (CUTE).

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*. 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 observed in the UST, and no evidence of potentially contaminated soils was observed surrounding the tank or piping area.

On August 29, 1994, post-excavation soil samples A, B, C, D, E, and DUP D were collected from five (5) locations along the sidewalls of the excavation immediately above groundwater. The samples were collected at a depth of 3.5 feet below grade surface (bgs). Groundwater was present in the base of the excavation at approximately 4.0 feet bgs. Sample G was collected from the piping portion of the excavation, which was less than 15 feet in length. The piping sample was collected at a depth of 3.0 feet bgs. All samples were analyzed for total petroleum hydrocarbons (TPHC).

Findings

All post-excavation soil samples collected from the UST excavation and from below piping associated with the former UST at Building 625 contained TPHC concentrations below the NJDEP residential direct contact total organic contaminants soil cleanup criteria of 10,000 milligrams per kilogram (mg/kg) (N.J.A.C. 7:26D and revisions dated February 3, 1994). All samples contained levels of TPHC ranging in concentration from 35.7 mg/kg to 469.0 mg/kg.



Site Restoration

Following receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with a combination of uncontaminated excavated soil and certified clean fill. The excavation site was then restored to its original condition.

Site Assessment Quality Assurance

The sampling and laboratory analysis conducted during the site assessment was performed in accordance with Section 7:26E-2.1 of the *Technical Requirements*.

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. 081533-96 at Building 625.



1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

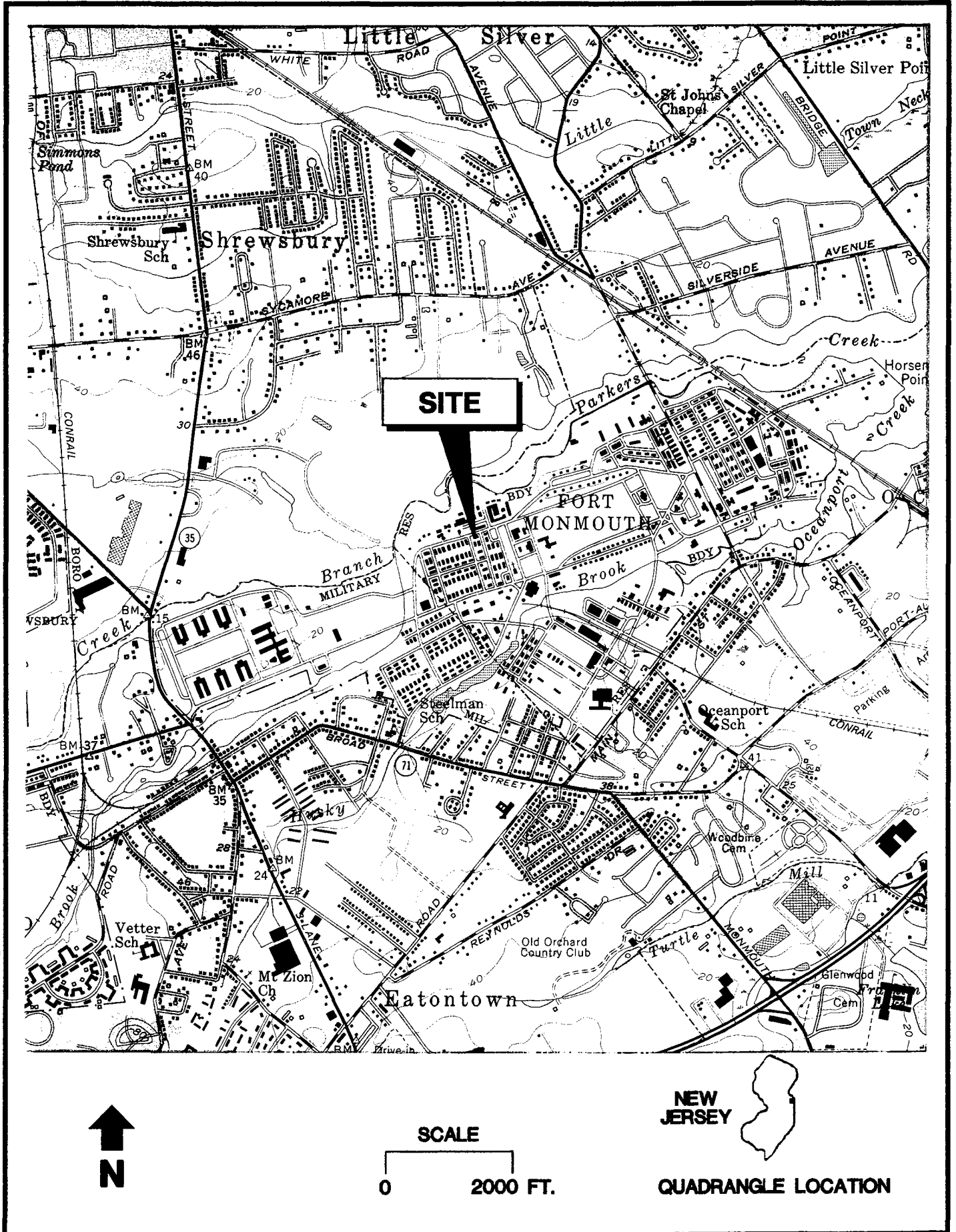
One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 081533-96, was closed at Building 625 at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on August 25, 1994. Refer to site location map on Figure 1. This report presents the results of the DPW's implementation of the UST Decommissioning/Closure Plan submitted to the NJDEP on June 10, 1994. The plan was approved on July 5, 1994. The UST was a steel 550-gallon tank with fiberglass coating, containing No. 2 diesel oil.

Decommissioning activities for UST No. 081533-96 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. CUTE, the contractor that conducted the decommissioning activities, is registered and certified by the NJDEP for performing UST closure activities. Closure of UST No. 081533-96 proceeded under the approval of the NJDEP Bureau of Underground Storage Tanks (NJDEP-BUST). The NJDEP-BUST closure approval and signed certifications for UST No. 081533-96 are included in Appendices A and B, respectively.

Based on an inspection of the UST, field screening of subsurface soils and 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 Smith Environmental Technologies Corporation, to assist the United States Army Directorate of Public Works (DPW) in complying with the NJDEP Bureau of Underground Storage Tanks (NJDEP-BUST) regulations. The applicable NJDEP-BUST regulations at the date of closure were the *Interim Closure Requirements for Underground Storage Tank Systems* (N.J.A.C. 7:14B-1 et seq. September 1990 and revisions dated November 1, 1991).

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



Source: U.S.G.S. Quadrangle Long Branch, N.J. (Photorevised 1961)

1.2 SITE DESCRIPTION

Building 625 is located in the northwestern portion of the Main Post area of Fort Monmouth, as shown on Figure 1. UST No. 081533-96 was located south of Building 625 and appurtenant piping ran less than 15 feet north from the fill port area to Building 625. 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 625. 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.

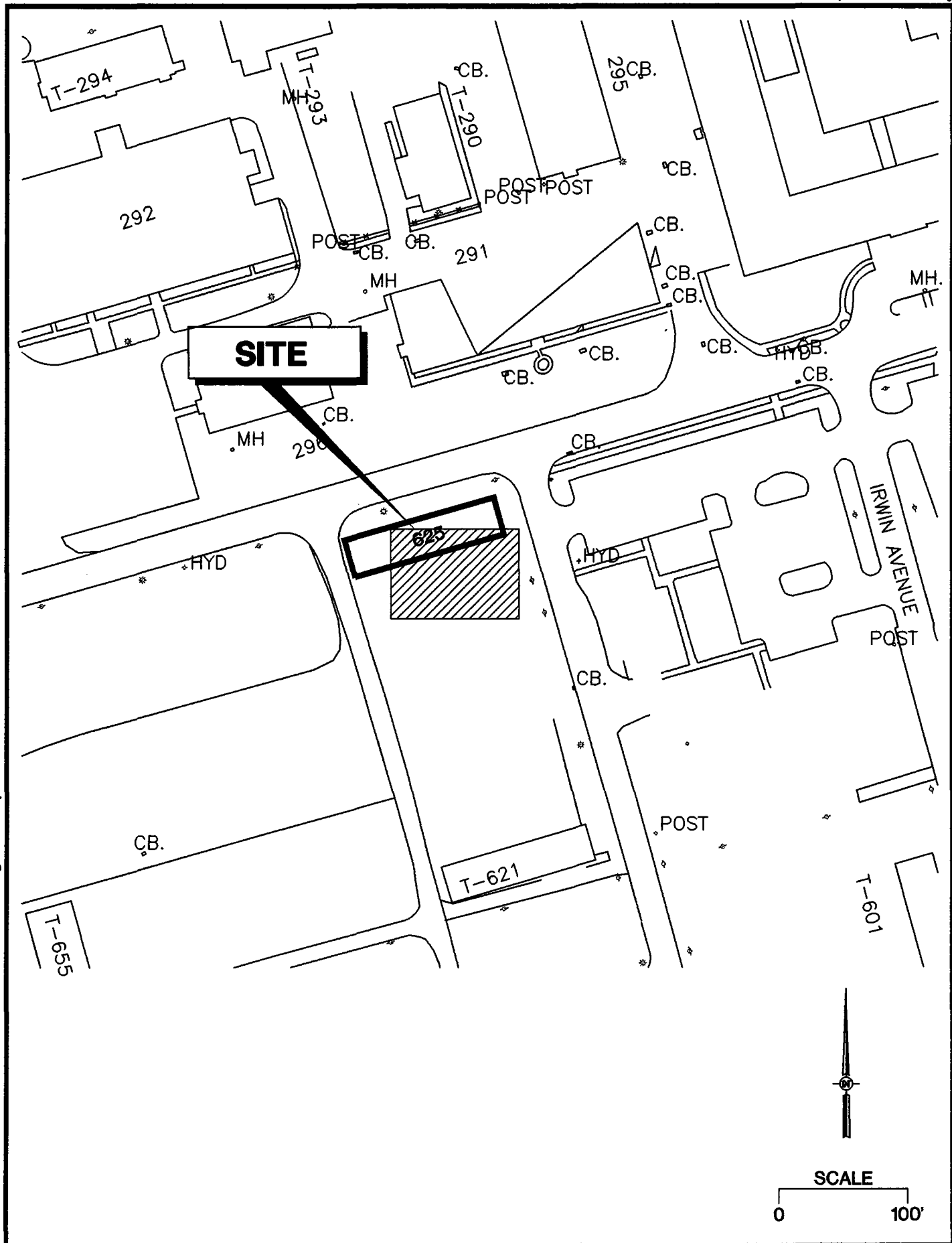
In general, New Jersey Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, and gravel. These formations typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile and were deposited on Precambrian and lower Paleozoic rocks (Zapeczka,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

Source: BCM/Smith Environmental Technologies Corporation (064)





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.

1.3 HEALTH AND SAFETY

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

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

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

1.4.2 Underground Storage Tank Excavation and Cleaning

Prior to UST decommissioning activities, surficial soil was removed to expose the UST and associated piping. All free product present in the piping was drained into the UST, and the UST was purged to remove vapors prior to cutting and removal of the piping. After removal of the associated piping, a manway was made in the UST to allow for proper cleaning. The UST was completely emptied of all liquids prior to removal from the ground. Approximately 10 gallons of liquid were transported by Freehold Cartage Inc. to Lionetti Oil Recovery Co. Inc., a NJDEP-approved petroleum recycling and disposal company located in Old Bridge, New Jersey. Refer to Appendix C for the waste manifest(s).

The UST was cleaned prior to removal from the excavation in accordance with the NJDEP-BUST regulations. After the UST was removed from the excavation, it was staged on polyethylene sheeting and examined for holes. No holes or punctures were observed during the inspection by the Sub-Surface Evaluator. Soils surrounding the UST were screened visually and with an OVA for evidence of contamination. No evidence of contamination was observed.

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



1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The tank was transported by CUTE Inc., to Mazza and Sons Inc. for disposal in compliance with all applicable regulations and laws. See Appendix D for UST Disposal Certificate.

The Subsurface Evaluator labeled the UST prior to transport with the following information:

- site of origin
- contact person
- NJDEP UST Facility ID number
- name of transporter/contact person
- destination site/contact person

1.6 MANAGEMENT OF EXCAVATED SOILS

Based on OVA air monitoring and TPHC analysis results from the post-excitation 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* (September 1990 and revisions dated November 1, 1991) which was the applicable regulation at the date of the closure. All records of the Site Investigation activities are maintained by the Fort Monmouth DPW Environmental Office.

The following Parties participated in Closure and Site Investigation Activities.

- Closure Contractor: Cleaning Up The Environment Inc. (CUTE)
Contact Person: Nancy Williams
Phone Number: (201)427-2881
NJDEP Company Certification No.: 0200128
- Subsurface Evaluator: Dinkerrai M. Desai
Employer: U.S. Army, Fort Monmouth
Phone Number: 908-532-1475
NJDEP Certification No.: E0002266
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Brian K. McKee
Phone Number: (908)532-4359
NJDEP Company Certification No.: 13461
- Hazardous Waste Hauler: Freehold Cartage Inc.
Contact Person: Barry Olsen
Phone Number: (908)721-0900
NJDEP Hazardous Waste Hauler No.: 2265

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.

2.3 SOIL SAMPLING

On August 29, 1994, post-excavation soil samples A, B, C, D, E, and DUP D were collected from a total of five (5) locations along the sidewalls of the excavation, immediately above groundwater at a depth of 3.5 feet below grade surface (bgs). Groundwater was present at a depth of 4.0 feet bgs. Sample G was collected from the piping portion of the excavation, which was less than 15 feet in length. The piping sample was collected at a depth of 3.0 feet bgs. All samples were analyzed for total petroleum hydrocarbons (TPHC). All samples were analyzed for TPHC.

The site assessment was performed by U.S. Army personnel in accordance with the NJDEP *Technical Requirements* and the NJDEP *Field Sampling Procedures Manual*. A summary of sampling activities including parameters analyzed is provided in Table 1. The post-excavation soil samples were collected using polystyrene scoops. Actual soil TPHC values may be higher than reported, due to sample utensil absorbency. If absorbency resulted in reducing the actual soil TPHC concentration by 50%, the highest soil contaminant would have been 938.0 mg/kg, still below the applicable NJDEP soil cleanup standard for total organic contaminants of 10,000 mg/kg. Following soil sampling activities, the samples were chilled and delivered to U.S. Army Fort Monmouth Environmental Laboratory located in Fort Monmouth, New Jersey, for analysis.

TABLE 1
 SUMMARY OF SAMPLING ACTIVITIES
 BUILDING 625, MAIN POST
 FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Matrix	Sample Type	Analytical Parameters (and USEPA Methods) *	Sampling Method
A	08-29-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
B	08-29-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
C	08-29-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
D	08-29-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
E	08-29-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
DUP D	08-29-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
G	08-29-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop

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



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 six (6) locations on August 29, 1994. All samples were analyzed for TPHC. The post-excavation sampling results were compared to the NJDEP residential direct contact total organic contaminants soil cleanup criteria of 10,000 mg/kg (N.J.A.C. 7:26D and revisions dated February 3, 1994). A summary of the analytical results and comparison to the NJDEP soil cleanup criteria is provided in Table 2 and the soil sampling results are shown on Figure 3. The analytical data package is provided in Appendix E.

All post-excavation soil samples collected on August 29, 1994 from the UST excavation and from below piping associated with the UST contained concentrations of TPHC below the NJDEP soil cleanup criteria. All post-excavation samples contained TPHC concentrations ranging from 35.7 mg/kg to 469.0 mg/kg.

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 625 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. 081533-96 at Building 625.

Source: BCM/Smith Environmental Technologies Corporation (065)

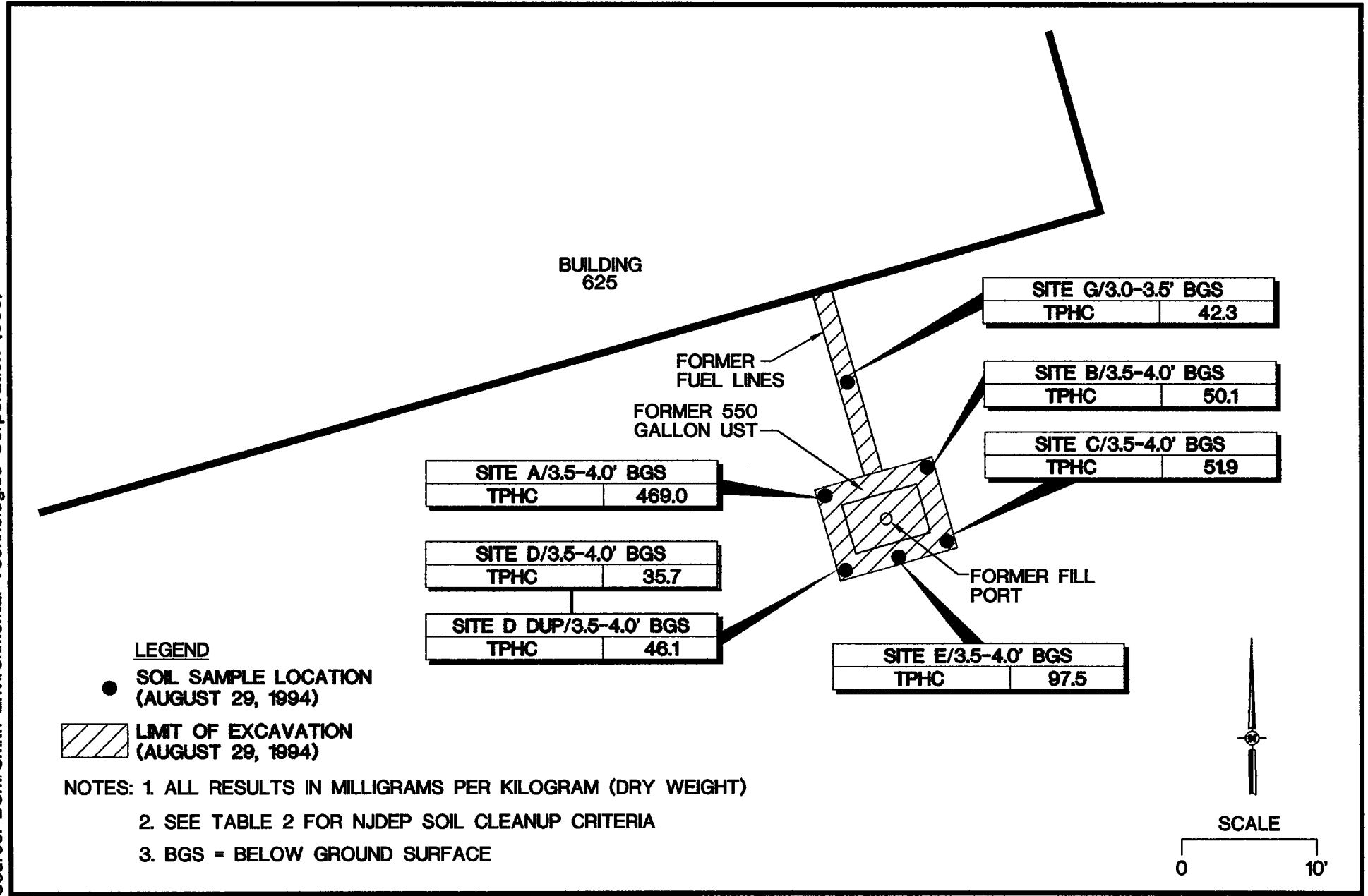


Figure 3
Building 625
Soil Sampling Results

TABLE 2
 POST-EXCAVATION SOIL SAMPLING RESULTS
 BUILDING 625
 FT. MONMOUTH, NEW JERSEY

PAGE 1 OF 1

Sample ID/Depth	Sample Laboratory ID	Sample Date	Analysis Date	Compound Name	Sample Quantitation Limit (mg/kg)	Compound of Concern	Result (mg/kg)	NJDEP Soil Cleanup Criteria * (mg/kg)	Exceeds Cleanup Criteria
A/3.5-4.0'	1628.1	08-29-94	08-31-94	Total Solid	--	--	82 %	--	--
				TPHC	6.6	yes	469.0	10,000	--
B/3.5-4.0'	1628.2	08-29-94	08-31-94	Total Solid	--	--	89 %	--	--
				TPHC	6.6	yes	50.1	10,000	--
C/3.5-4.0'	1628.3	08-29-94	08-31-94	Total Solid	--	--	86 %	--	--
				TPHC	6.6	yes	51.9	10,000	--
D/3.5-4.0'	1628.4	08-29-94	08-31-94	Total Solid	--	--	87 %	--	--
				TPHC	6.6	yes	35.7	10,000	--
E/3.5-4.0'	1628.5	08-29-94	08-31-94	Total Solid	--	--	83 %	--	--
				TPHC	6.6	yes	97.5	10,000	--
DUP D/3.5-4.0'	1628.6	08-29-94	08-31-94	Total Solid	--	--	87 %	--	--
				TPHC	6.6	yes	46.1	10,000	--
G/3.0-3.5'	1628.7	08-29-94	08-31-94	Total Solid	--	--	84 %	--	--
				TPHC	6.6	yes	42.3	10,000	--

Notes:

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

Smith Environmental Technologies Corporation (Project No. 09-5004-06)

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APPENDIX A

NJDEP BUST CLOSURE APPROVAL



State of New Jersey
DEPARTMENT OF ENVIRONMENTAL
PROTECTION AND ENERGY

CHRISTINE TODD WHITMAN
Governor

ROBERT C. SHINN, JR.
Commissioner

Mr. Joseph Fallon
SELFM-EH-EV
Headquarters CECOM Fort Monmouth
Fort Monmouth, NJ 077703-5000

JUL 5 1994

Dear Mr. Fallon:

Re: UST Closure Approval Applications (#2)
Fort Monmouth, Monmouth County

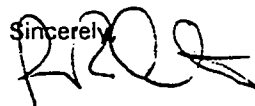
I have reviewed the Underground Storage Tank (UST) Closure Approval Applications submitted on June 10, 1994 for the five registered tanks numbers 0090010-20; and 0081533-96, 101, 105, and 84. The applications are technically accurate and the NJDEPE approves the applications with the following required changes.

Since the reports are all drafted from the same shell document, the required changes noted here apply to all of these documents and future UST Closure Approval Applications.

1. "UNDERGROUND STORAGE TANK (UST) DECOMMISSIONING/CLOSURE PLAN" Section A. General Requirements: The laws listed should include the *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E et seq.).
2. Same Section: THE NJDEPE, will be changing its name to NJDEP on 7/1/94. Documents which are named NJDEPE should remain so named, however references to the Department should be abbreviated NJDEP.
3. Section E. Excavated Soils Management: The NJDEPE has updated the document titled "Management of Excavated Soils". This updated version is dated May 14, 1993.
4. Section F. Changes/Authorizations: Prior authorization must be obtained from the Bureau of Federal Case Management (BFCM), not BUST.
5. "UNDERGROUND ... ASSESSMENT PLAN" General: See comment 1 and 4. Sentence should be modified to read "... and submitted to the NJDEPE-BFCM in accordance with N.J.A.C. 7:14B-9.2 and 9.3 and N.J.A.C. 7:26E et seq.
6. CERTIFICATION section, this paragraph should include a reference to compliance with the minimum requirements of the *Technical Regulations for Site Remediation*, N.J.A.C. 7:26E et seq.

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

cc. Kevin Kratina, BUST
RPCE\BFCM\FTMMTH14.JRC

SMITH

**APPENDIX B
CERTIFICATIONS**



UST# _____
Date Rec'd _____
TMS # _____
Staff _____

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

Scott A. Weiner :
Commissioner

Karl J. Delaney
Director

UNDERGROUND STORAGE TANK
SITE ASSESSMENT SUMMARY

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

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

INSTRUCTIONS:

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

Date of Submission _____

Bldg. 625

081533-96
FACILITY REGISTRATION #

I. 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. (908) 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. _____
(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 N/A

III. DECOMMISSIONING OF TANK SYSTEMS

Closure Approval No. Letter dated July 5, 1994

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

IV. SITE ASSESSMENT REQUIREMENTS

A. Excavated Soil

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

B. Scaled Site Diagrams

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

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

C. Soil samples and borings (check appropriate answer)

1. Were soil samples taken from the excavation as prescribed? Yes No N/A
2. Were soil borings taken at the tank system closure site as prescribed? Yes No 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 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. 469.0 ppm TPHC
 4. N/A ppb _____ (for non-petroleum substance)
- C. Remediation of free product contaminated soils
1. All free product contaminated soil on the property boundaries and above the water table are believed to have been removed from the subsurface 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 N/A

- A. Was ground water contamination found? Yes 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:
1. _____ ppb total BTEX, _____ ppb total non-targeted VOC
 2. _____ ppb total B/N, _____ ppb total non-targeted B/N
 3. _____ ppb total MTBE, _____ ppb total TBA
 4. _____ ppb _____ (for non-petroleum substance)
 5. greatest thickness of separate phase product found _____
 6. separate phase product has been delineated Yes No 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) Dinkerrai Desai SIGNATURE 

COMPANY NAME U.S. Army Fort Monmouth DATE 11/2/95
(Preparer of Site Assessment Plan)

CERTIFYING ORGANIZATION NJDEP CERTIFICATION NUMBER E0002266

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

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

NAME (Print or Type) _____ SIGNATURE _____

COMPANY NAME _____ DATE _____
(Performer of Tank Decommissioning)

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

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

COMPANY NAME U.S. Army, Fort Monmouth DATE *2/14/96*

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 _____



APPENDIX C
WASTE MANIFEST

L. & L. OIL SERVICE, INC.

D.E.P. & E.P.A. Approved

RD1 Box 5A

Old Bridge, N.J. 08857

Tel: 908-721-0900 • Fax(908) 721-0231

8194

SOLD TO:

St Monmouth

BILL TO:

Cate

CONTACT:

John

River 2012

ATTN:

ACCT. #	ORDER DATE	DRIVER	JOB SCHEDULED FOR
			<i>8-24-94</i>

PHONE #	EPA ID #	CUSTOMER PO #	TERMS
<i>501-907-1026</i>			

#	TYPE OF WORK	TYPE OF MATERIALS
<i>1</i>	<i>Pump out</i>	<i>Soil staging</i>
<i>2</i>		

SPECIAL INSTRUCTIONS:

*Trans 2 1672 gallons into boiler house tank.
Pumped from uSTII 0081533-94, 96, 105*

PRICE QUOTED: _____

ESTIMATED GALLONAGE: *1672 gallons*

DISPOSAL PER GALLON: _____

HOURLY RATE: _____

ENTER & CLEAN TANK: _____

THIS WORK HAS BEEN INSPECTED AND PERFORMED TO THE CUSTOMER'S SATISFACTION.

SIGNATURE: *[Signature]* CATE INC.

This order has been signed and confirmed by the customer that L.&L. Oil Service has left the grounds in good condition and is not responsible for any spills or soil contamination.

WHITE/OFFICE YELLOW/DRIVER PINK/CUSTOMER



APPENDIX D

UST DISPOSAL CERTIFICATE

Monmouth
Monmouth, NJ
U #'s LIST #'s
621-0081533-94
625-0081533-96
678-0081533-105

MAZZA & SONS, INC.

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

NO. _____

DATE 30 Aug 94

Customer's Name Cute Trc. 103 Godwin Ave Midland PK NJ

Address _____

11 of
U. S.
B12
621 - 0081533 - 94
625 - 0081533 - 96
678 - 0081533 - 105

38440 LB 6

35260 LB 6

3130

30

	Weight	Price
Cast Iron		
Steel	65.69	
Lt. Iron		
Copper #1		
Copper #2		
Lt. Copper		
Brass		
Alum Clean		
Lead		
Stainless		
Radiators		
Battery		
TOTAL AMOUNT:		

Wrighter _____

Customer Donelli

SMITH

APPENDIX E

SOIL ANALYTICAL DATA PACKAGE

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

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

Lab. ID #: 1628.1-.7
 Sample Rec'd: 08/29/94
 Analysis Start: 08/31/94
 Analysis Comp: 08/31/94

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

NJDEPE UST Reg.#: 0081533-96
 Closure #:
 DICAR.#:
 Location #: Bldg. 625

Lab ID.	Description	%Solid	Result	MDL
			(mg/Kg)	
1628.1	Site A, Sidewall NW OVA= ND	82	469.	6.6
1628.2	Site B, Sidewall NE OVA= ND	89	50.1	6.6
1628.3	Site C, Sidewall SE OVA= ND	86	51.9	6.6
1628.4	Site D, Sidewall SW OVA= ND	87	35.7	6.6
1628.5	Site E, Sidewall S OVA= ND	83	97.5	6.6
1628.6	Site F, DUPE OF D OVA= ND	87	46.1	6.6
1628.7	Site G, PIPERUN OVA= ND	84	42.3	6.6
M. Bl.	Method Blank	100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit
 * = Silica Gel Added, NA = Not Applicable
 1628.4dup= 115% 1628.4s= 116% 1628.4sd= 115% RPD= 0.8%

B. McKee

Brian K. McKee
 Laboratory Director

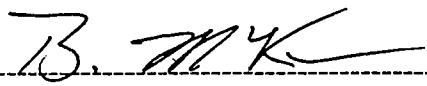
**Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEPE Certification # 13461**

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

Lab. ID #: 1628.1-.7
 Sample Rec'd: 08/29/94
 Analysis Start: 08/31/94
 Analysis Comp: 08/31/94

Analysis: Munsel

Lab ID#	Soil Color
1628.1	10Y 3/4 Dark Yellowish Brown
1628.2	10Y 2/1 Black
1628.3	10Y 3/2 Very Dark Grayish Brown
1628.4	10Y 3/4 Dark Yellowish Brown
1628.5	10Y 3/4 Dark Yellowish Brown
1628.6	10Y 3/4 Dark Yellowish Brown
1628.7	10Y 3/4 Dark Yellowish Brown



 Brian K. McKee
 Laboratory Director

U.S. ARMY FORT MONMOUTH

P.O. #: *AWB 7 7/11*

Chain of Custody

Project #: <i>81533-96</i>		Sampler: <i>George Cole/Desat</i>		Date / Time: <i>8/29/10-12</i>		Analysis Parameters				Start:	
Customer: <i>Dinker Desat</i>		Site Name: <i>Bldg 625 Reg# 81533 96</i>				<div style="display: flex; justify-content: space-around;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">60</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Mn</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Cu</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Pb</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Zn</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Ni</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Cd</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">V</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Cr</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Mg</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Fe</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Mn</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">OXA</div> </div>				Finish:	
Phone: <i>21471</i>											
Lab Sample ID Number	Date/Time		Customer Sample Location/ID Number	Sample Matrix	# of Bottles					Remarks	
<i>1678.1</i>	<i>8/24/10</i>	<i>10-23</i>	<i>Site A - Sidewalk NW</i>	<i>Soil</i>	<i>1</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>ND</i>	<i>Sample 2400</i>	
<i>.2</i>	<i>"</i>	<i>10-27</i>	<i>Site B - " HG</i>	<i>"</i>	<i>1</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>ND</i>	<i>Sample 9-30 AM</i>	
<i>.3</i>	<i>"</i>	<i>10-31</i>	<i>Site C - " - SE</i>	<i>"</i>	<i>1</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>ND</i>	<i>Site - 9-30 AM</i>	
<i>.4</i>	<i>"</i>	<i>10-31</i>	<i>Site D - " - SW</i>	<i>"</i>	<i>1</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>ND</i>	<i>OVAe White</i>	
<i>.5</i>	<i>"</i>	<i>10-41</i>	<i>Site E - " South</i>	<i>"</i>	<i>1</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>ND</i>	<i>Zero for 95</i>	
<i>.6</i>	<i>"</i>	<i>10-46</i>	<i>Site F (Dup of D) - "</i>	<i>"</i>	<i>1</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>ND</i>	<i>Photo 95</i>	
<i>.7</i>	<i>"</i>	<i>10-50</i>	<i>Site G (Pipe) North</i>	<i>"</i>	<i>1</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>ND</i>	<i>Photo 95</i>	
										<i>OVA#</i>	
										<i>AS1903</i>	
Relinquished By (signature)			Date / Time		Received By (signature)			Shipped By:			
Relinquished By (signature)			Date / Time		Received for Lab by (signature):			Date / Time			
<i>[Signature]</i>			<i>8/29 11-30</i>		<i>Sarah J. Hubbard</i>			<i>8/29/10 1130</i>			
Note: A drawing depicting sample location should be attached or drawn on the reverse side of this chain of custody.											

Frank J. Webb 5

Blank

40.75 54 MV

81.5 111 MV

163 240 MV

1628.1 ^{MV} 80 Building 625

1628.2 5 MV

1628.3 5 MV

1628.4 2 MV

1628.4 Dup 3 MV

1628.4 Spk 123 MV

1628.4 Dup Spk 122 MV

1628.5 13 MV

1628.6 4 MV

1628.7 3 MV

1623.1 11 MV Building 601

1624.1 0 MV Building 621

1624.2 0 MV

1624.3 0 MV

1624.4 0 MV

1624.5 3 MV

1624.6 0 MV

1624.7 2 MV

1624.8 29 MV

1625.1 ¹⁹⁸ _(dirt) Building 482

1625.2 66 dirt

1625.3 128 MV

195-6970-00

PRINTED IN U.S.A.

Vertical text on the right edge of the page, possibly a page number or reference code.

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.

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:

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 #1628



Brian K. McKee
Laboratory Manager