



DEPARTMENT OF THE ARMY

OFFICE OF ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
U.S. ARMY FORT MONMOUTH
P.O. 148
OCEANPORT, NEW JERSEY 07757

January 31, 2013

Ms. Linda Range
New Jersey Department of Environmental Protection
Case Manager
Bureau of Southern Field Operations
401 East State Street, 5th Floor
PO Box 407
Trenton, NJ 08625

Re: NJDEP's Response to Army Correspondence (Dated March 16, 2012)

Attachments:

- A. NJDEP Closure Approval for UST # 2539-28.
- B. NJDEP Closure Approval for UST # 2539-64.
- C. Letters from NJDEP, regarding UST Closure Approval/NFA, dated August 29, 2000 for USTs #492-59, and #2531-21.
- D. UST Closure Report, Bldg 2525, Parcel 28.
- E. UST Closure and Site Investigation Report Building 293-67.
- F. Letters from NJDEP, regarding UST Closure Approval/NFA, dated February 24, 2000 for USTs #283B-59, and #695-111.
- G. UST 635 Status Summary Report.
- H. UST 637 Status Summary Report.
- I. UST 642 Soil Analysis Report.
- J. UST 643 Soil Analysis Report.
- K. Fort Monmouth Memorandum to File for buildings 642 to 654 regarding UST removals.
- L. Letter from NJDEP, regarding UST Closure Approval/NFA, dated July 10, 1998 for USTs #501-76.
- M. UST 261 Status Summary Report.
- N. UST 261B Status Summary Report and Soil Analysis Report.
- O. NJDEP Site Assessment Compliance Statement and the Army letter regarding UST removal procedure for #401-26.
- P. UST Closure and Site Investigation Report Building 411-28.
- Q. NJDEP Site Assessment Compliance Statement and the Army letter regarding UST removal procedure for #416-32.
- R. UST Closure and Site Investigation Report Building 421-37.
- S. UST Closure and Site Investigation Report Building 423-39.
- T. Correspondence Letter from NJDEP dated July 10, 2012.

Dear Ms. Range:

The U.S. Army Fort Monmouth has reviewed the subject comments as submitted by the NJDEP on July 10, 2012 (see Attachment T), in regards to the request for various UST related reports. While we are continuing to research the requested documents, I am submitting the following requested data, for your review:

Parcel 28 Former Eatontown Laboratory

- A. NJDEP Closure Approval for UST # 2539-28.
- B. NJDEP Closure Approval for UST # 2539-64.
- C. Letters from NJDEP, regarding UST Closure Approval/NFA, dated August 29, 2000 for USTs #492-59, and #2531-21.
- D. UST Closure Report, Bldg 2525, Parcel 28.

Parcel 49 – Former Squier Laboratory Complex

- E. UST Closure and Site Investigation Report Building 293-67.
- F. Letters from NJDEP, regarding UST Closure Approval/NFA, dated February 24, 2000 for USTs #283B-59, and #695-111.

Parcel 51 – 750 Area, 500 Area, 600 Area, 1100 Area – Former Buildings

- G. UST 635 Status Summary Report.
- H. UST 637 Status Summary Report.
- I. UST 642 Soil Analysis Report.
- J. UST 643 Soil Analysis Report.
- K. Fort Monmouth Memorandum to File for buildings 642 to 654 regarding UST removals.
- L. Letter from NJDEP, regarding UST Closure Approval/NFA, dated July 10, 1998 for USTs #501-76.

Parcel 76 – 200 Area, 300 Area – Former Barracks

- M. UST 261 Status Summary Report.
- N. UST 261B Status Summary Report and Soil Analysis Report.
- O. NJDEP Site Assessment Compliance Statement and the Army letter regarding UST removal procedure for #401-26.
- P. UST Closure and Site Investigation Report Building 411-28.
- Q. NJDEP Site Assessment Compliance Statement and the Army letter regarding UST removal procedure for #416-32.
- R. UST Closure and Site Investigation Report Building 421-37.
- S. UST Closure and Site Investigation Report Building 423-39.

Electrical Substations

T. Correspondence Letter from NJDEP dated July 10, 2012.

Should you have any questions or require additional information, please contact me at (732)380-7064 or by email at wanda.s.green2.civ@mail.mil.

Sincerely,

A handwritten signature in black ink that reads "Wanda Green". The signature is written in a cursive, flowing style.

Wanda Green
BRAC Environmental Coordinator

A

UNDERGROUND STORAGE TANK SYSTEM CLOSURE APPROVAL

Bldg. 2539
TANK # 28

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY

DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
BUREAU OF UNDERGROUND STORAGE TANKS
CN-029, TRENTON, NJ 08625-0029

TMS # C-92-3355

UST # 0081515 -28

US Army Ft. Monmouth
DEH Bldg. 167
Ft. Monmouth, NJ

(Monmouth)

THE ABOVE LISTED FACILITY IS HEREBY GRANTED APPROVAL TO PERFORM
THE FOLLOWING ACTIVITY IN ACCORDANCE WITH N.J.A.C. 7:14B-1 et seq.:
REMOVAL: one 1,000 gallon #2 fuel oil UST and appurtenant
piping.

SITE ASSESSMENT: Soil samples will be taken every five (5) feet
along the center line of each tank and one (1) soil sample for
every 15 feet along all associated piping. Two (2) additional
samples will be taken from around the tank and biased to the areas
of highest field screened readings. Samples will be analyzed for
TPHC. If sample results are greater than 1,000ppm than samples
will be analyzed for VO+10.

ON-SITE MANAGER: Dinkerrai Desai

908-532-1475

TELEPHONE:

OWNER:

TELEPHONE:

October 7, 1992

EFFECTIVE DATE:

THIS FORM MUST BE DISPLAYED AT THE SITE DURING THE APPROVED
ACTIVITY AND MUST BE MADE AVAILABLE FOR INSPECTION AT ALL TIMES.

Michael S Kelly (for)

KEVIN F. KRATINA, ACTING BUREAU CHIEF
BUREAU OF UNDERGROUND STORAGE TANKS

(B)

UNDERGROUND STORAGE TANK SYSTEM CLOSURE APPROVAL

Bldg 2534

Tank #64

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY

DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
BUREAU OF UNDERGROUND STORAGE TANKS
CN-029, TRENTON, NJ 08625-0029

TMS # C-92-3356

UST # 0081515 -64

US Army Ft. Monmouth
DEH Bldg. 167
Ft. Monmouth, NJ

(Monmouth)

THE ABOVE LISTED FACILITY IS HEREBY GRANTED APPROVAL TO PERFORM
THE FOLLOWING ACTIVITY IN ACCORDANCE WITH N.J.A.C. 7:14B-1 et. seq.:
REMOVAL: one 1,000 gallon #2 fuel oil UST and appurtenant
piping.

SITE ASSESSMENT: Soil samples will be taken every five (5) feet
along the center line of each tank and one (1) soil sample for
every 15 feet along all associated piping. Two (2) additional
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of highest field screened readings. Samples will be analyzed for
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Michael S Kelly (for)

KEVIN F. KRATINA, ACTING BUREAU CHIEF
BUREAU OF UNDERGROUND STORAGE TANKS



TANKS
492-59
2531-21

State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection

Robert C. Shinn, Jr.
Commissioner

Mr. Dinkerral Desai
DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY COMMUNICATIONS-ELECTRONIC COMMAND
FORT MONMOUTH, NJ 07703-5000

AUG 29 2000

Re: UST Closure Approval/NFA
Fort Monmouth Main Post
Monmouth County

Dear Mr. Desai:

The NJDEP is in receipt of twenty-five (25) UST closure reports dated August 1, 2000. The Army has requested to receive No Further Action approval letters for each of these reports. This letter approves the NFA requests for the following 25 UST located on the Main Post of the Fort Monmouth site:

NJDEP Req. #	Bldg. #	NJDEP Req. #	Bldg. #
0090010-03	64	0081533-80	551
0090010-05	65	0081533-81	552
0090010-05	74	0081533-120	746
0081533-03	205	0081533-122	748
0090010-29	412	0081533-123	749
0090010-30	413	0081533-131	810
0090010-31	414	0081533-132	811
0090010-33	417	0081533-232	906B
0090010-42	428	0081533-159	1006
0090010-47	434	0081533-206	1075
0090010-47	447	0081515-21	2531
0090010-57	485	00192486-02	2018
0090010-59	492		

The NJDEP has determined that the Army has performed the remedial actions in a manner consistent or in excess of the regulatory requirements, specifically the Technical Requirements For Site Remediation (N.J.A.C. 7:26E et seq.). Soils with contamination in excess of the NJDEP residential cleanup criteria have been excavated and the Army has taken great care to provide documentation which assures us that all sources of contamination have been remediated.

The NJDEP has one comment in that we request that future reports provide ground water flow direction indications on the well location maps.

If you should have any questions or comments, please do not hesitate to contact me at (609) 633-7232 or via E-mail.

Sincerely,

Ian R. Curtis, Case Manager
Bureau of Case Management
ICURTIS@DEP.STATE.NJ.US



U.S. Army Garrison
Fort Monmouth, New Jersey

Underground Storage Tank Closure Report

Charles Wood Area – Bldg. 2525 (ECP Parcel 28)

NJDEP UHOT Registration No.:
UHOT No. 2525

June 2011

UNDERGROUND STORAGE TANK CLOSURE REPORT

**CHARLES WOOD AREA – BLDG. 2525 (ECP PARCEL 28)
NJDEP UHOT REGISTRATION NO.:**

JUNE 2011

PREPARED FOR:

**U.S. ARMY GARRISON, FORT MONMOUTH, NJ
DIRECTORATE OF PUBLIC WORKS
BUILDING 167
FORT MONMOUTH, NJ 07703**

PREPARED BY:

**TECOM-VINNELL SERVICES, INC.
P.O. BOX 60
FT. MONMOUTH, NJ 07703**

TABLE OF CONTENTS

EXECUTIVE SUMMARY	IV
1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES	1
1.1 Overview	1
1.2 Site Description	4
1.2.1 Geological/Hydrogeological Setting	4
1.3 Health and Safety	8
1.4 Removal of Underground Storage Tank	8
1.4.1 General Procedures	8
1.4.2 Underground Storage Tank Excavation	8
1.5 Underground Storage Tank Decommissioning and Disposal	8
1.6 Management of Excavated Soils	9
2.0 REMEDIAL INVESTIGATION ACTIVITIES	10
2.1 Overview	10
2.2 Field Screening/Monitoring	10
2.3 Soil Sampling	11
3.0 CONCLUSIONS AND RECOMMENDATIONS	11
3.1 Soil Sampling Results	11
3.2 Conclusions and Recommendations	11

TABLE OF CONTENTS (CONTINUED)

FIGURES

- Figure 1 Site Location Map**
- Figure 2 Geologic Cross-Section**
- Figure 3 Outcrop and Thickness of confining layer**
- Figure 4 Sample location Map**

TABLES

- Table 1 Summary of Laboratory Analysis**
- Table 2 Summary of Laboratory Analytical Results-TPH**

APPENDICES

- Appendix A Certifications**
- Appendix B Waste Manifest**
- Appendix C UHOT Disposal Certificate**
- Appendix D Photodocumentation**
- Appendix E Soil Analytical Package**

EXECUTIVE SUMMARY

On April 28, 2009, a single wall steel unregulated heating oil tank (UHOT) was closed by removal in accordance with the Directorate of Public Works (DPW) UHOT Management Plan for the U.S. Army Garrison, Fort Monmouth, New Jersey. The UHOT was located in an open field to the south east of Building 2525 at the Charles Wood area of Fort Monmouth. It was identified during a geophysical investigation of suspected underground anomalies conducted as part of the Phase II Environmental Condition of Property (ECP). The UHOT was a 550-gallon No. 2 heating oil tank. The fill port, vent pipe and associated supply/return piping were not present in the excavation. The tank closure and removal were performed by TECOM-Vinnell Services, Inc. (TVS).

The site assessment was performed by TVS 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 instruments for evidence of contamination. Following removal, the UHOT was inspected for holes. Holes were not noted in the UHOT and no contaminated soils were observed surrounding the tank.

Post removal samples were all less than NJDEP soil clean up criteria and as such demonstrated that no discharge had occurred.

The post removal samples showed unequivocally that no petroleum release had occurred.

Following receipt of the soil sampling results, the excavation was backfilled to grade with excavated soil and clean fill in compacted lifts. The excavation site was then restored to its original grade with four inches of topsoil and seeded.

Based on the post-remediation soil sampling results, there are no soils with TPH concentrations exceeding the NJDEP health based criterion of 5,100 mg/kg for total organic contaminants in the former location of the UHOT.

No Further Action is proposed in regard to the closure and site assessment of the UHOT at Bldg. 2525.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

ECP Parcel 28 is located in the Charles Wood Area (CWA) and encompasses Bldg 2525 – the former Eatontown Laboratory complex. Bldg 2525 was constructed in 1941-1942. The Eatontown Signal Laboratory was renamed Watson Laboratories in 1945 and subsequently moved to Rome, New York in 1951. It was reported that Bldg 2525 had been a chemical laboratory known as Eatontown Labs around the 1940s. This information was confirmed by Fort Monmouth (FTMM) site plans showing the Eatontown Laboratory complex. Plan No. 6148/1015 dated September 3, 1941, shows the Eatontown Laboratory complex, including Bldg 2525 (numbered 1 through 6 for the six bays) and nine other buildings numbered 7 through 15. This plan also depicts three separate septic tanks and leach fields and one underground transformer vault. The main sanitary sewer line from the building is shown to discharge to a septic tank and leach field east of the building. A review of the Directorate of Public Works (DPW) map and engineering drawings repository indicated a 2-inch “acid proof drain” leading from Bay 1 to a dry well southeast of the building. Floor drains were shown to discharge to the brook northwest of the building. Building revitalization plans show all floor drains were later connected to the sanitary sewer system. Bldg 2525 was included in the Watson Laboratory complex in the mid-1940s. Crystal growing and processing operations were conducted in the Watson Laboratory building located in the southwest portion of the CWA in the early 1950s. Operations included cleaning of crystals, quartz etching, soldering, and gold (and other metal) plating, which was conducted in Bldg 2532. These operations involved chemicals such as carbon tetrachloride, ammonium bifluoride, cadmium sulfate, and sulfuric acid. Crystal etching was also noted in Bldg 2538 using ammonium bifluoride. Other processes associated with the Watson Laboratories included machining of metals and re-melting lead in Bldg 2533; growing of crystals and physical chemistry in Bldg 2534; and machining of crystals in Bldg 2538. In 1951, the laboratories were moved to Rome, New York.

Following the 1951 Watson Laboratories move, the Aviation Research and Development Command Laboratory was moved from the Myer Center to Bldg 2525. This laboratory operation occupied the building until 1978. A 1978 IH Survey reported ozalid reproduction in Room 5101 of Bldg 2525. Building revitalization plans show all floor drains connected to the sanitary sewer system. No sumps or floor drains were noted during the 2006 Visual Site Inspection (VSI). The use of the building has been strictly administrative since the late 1990s, as confirmed during the VSI. Prior to 1997, the building was used to house electronics laboratories. No chemical usage was associated with the electronics laboratories. Geothermal well fields used for the heating of facilities within Parcel 28 are present at multiple locations throughout the area.

In order to determine if any contamination exists resulting from former septic tank discharges that once serviced Bldg 2525, four test pits were excavated in an open field east of Bldg 2525 and Heliport Drive. Test pits P28-TP1; 3 were excavated within the boundaries of the former leaching field, and test pits P28TP-2; 4 were excavated directly downgradient of former leaching pool structures. Top soil was observed to extend from ground surface to a depth of 0.5 ft bgs. The former leaching field was confirmed to still be in place through the observance of a 2-ft layer of sand and gravel underlain by a layer of engineered gravel 4 ft in thickness that extended to a depth of 6.5 ft bgs. Soil sample depths at P28-TP1; 3, for non-VO and VO analysis, were contingent upon visual observations (i.e., depth to water table, thickness of layered engineered gravel) and field screening results. Based upon field observations at P28-TP1;3, three soil samples (including one duplicate sample) were collected at the 6-inch interval below the layer of engineered gravel, approximately 6.5 to 7.0 ft bgs. This depth coincided with the 6-inch interval directly above the water table. Soil sample depths at P28-TP2; 4, for non-VO and VO analysis, were contingent upon visual observations (i.e., depth to water table, depth below leaching pool structure) and field screening results. Based upon field observations at P28-TP2, one soil sample was collected below the leaching pool structure at approximately 4.5 to 5.0 ft bgs, and one soil sample, P28-TP2-B, was collected at the 6-inch interval directly above the water table (5.5 to 6.0 ft bgs). Due to the close proximity of groundwater to the leaching pool

Test Pit 5 (P28-TP5) was excavated within the boundaries of a former leaching field. P28-TP5 was originally planned to be located southeast of Bldg 2525 in order to investigate the location of a former drywell. This test pit was relocated upon preliminary evaluation of geophysical survey results that did not reveal any anomalous features that would represent a dry well. The test pit was relocated northeast of Bldg 2525 in order to investigate the septic system and leach field that was associated with former Bldgs T-7 and T-10. Soil sample depths for non-VO and VO analysis were contingent upon visual observations (i.e., depth to water table, thickness of layered engineered gravel) and field screening results. Based upon field observations at P28-TP5, two soil samples (including one duplicate sample) were collected at the 6-inch interval below the layer of engineered gravel, approximately 6.0 to 6.5 ft bgs. This depth coincided with the 6-inch interval directly above the water table. No visual or olfactory evidence of impacted soil was noted.

The results of this sampling event found no contamination above the NJDEP soil and groundwater criteria.

The geophysical surveys identified a total of 23 target EM anomalies. In summary, GPR scanning of the 23 targets revealed:

- Seven targets that could not be relocated with the TW-6 because the targets were too small to be re-occupied, and therefore are most likely not a drywell, UHOT, or septic tank.
- Three targets with the characteristics of a utility.
- Two targets with moderate-amplitude near-surface point target/anomaly indicative of small pieces of buried debris; not indicative of a UHOT, drywell, or septic tank.
- One target with the high-amplitude parabolic reflections indicating a possible UHOT (P28-8).

These areas are thought to contain possible remnant septic system features. Several anomalies were delineated. In Area A, a roughly 4-ft x 6-ft non-metallic anomaly was delineated and may represent a former septic holding tank reported to have been in place in that area. In Area B, a high-amplitude non-metallic linear anomaly was partially delineated and is suspected to be the former supply pipe to a septic distribution box which was delineated in the EM survey. Follow-up GPR scanning showed a 10-ft x 10-ft high-amplitude flat anomaly characteristic of a boxshaped septic tank. No other features of the suspected septic systems in Areas A and B were observed. In summary, no drywell was identified within Parcel 28; however, one possible UHOT (P28-8), one suspected septic holding tank, and one suspected septic distribution box and associated piping were identified.

Based upon the findings of the geophysical survey, TVS investigated the subsurface anomaly. Based on the GPS locations of the metallic object, an investigation was conducted. Upon removing the overburden, the UHOT was identified.

Decommissioning activities for UHOT No.: 2525a 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. The closure and subsurface evaluation of the UHOT was conducted by a NJDEP licensed TVS employee.

This UHOT Closure and Remedial Investigation Report has been prepared by TVS to assist the U.S. Army Garrison-DPW in complying with the NJDEP - Underground Storage Tanks regulations. The applicable NJDEP regulations at the date of closure were the *Closure of Underground Storage Tank Systems* (N.J.A.C. 7:14B-9 et seq. December, 1987 and revisions dated April 20, 2003).

This report was prepared using information required by the *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) (*Technical Requirements*). Section 1 of this report provides a summary of the UHOT decommissioning activities. Section 2 describes the remedial investigation activities. Conclusions and recommendations, including the results of the soil sampling investigation, are presented in Section 3.

1.2 SITE DESCRIPTION

Building 2525 is located in the eastern portion of the Charles Wood Area of Fort Monmouth, as shown on Figure 1. UHOT No. 2525a was located 50 feet southwest of Building 2525. The fill port, vent pipe and appurtenant piping was not encountered in the excavation. A site map is provided on Figure 2. The previously unknown tank was discovered during a geophysical investigation of the general area. Review of historical maps concluded that the tank was used to supply heating oil to former building 2525.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of Bldg. 2525. 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.

Fort Monmouth lies within the Outer Coastal Plain subprovince of the New Jersey section of the Atlantic Coastal Plain physiographic province, which generally consists of a seaward-dipping wedge of unconsolidated sediments including interbedded clay, silt, sand, and gravel. To the northwest is the boundary between the Outer and Inner Coastal Plains, marked by a line of hills extending southwest, from the Atlantic Highlands overlooking Sandy Hook Bay, to a point southeast of Freehold, New Jersey, and then across the state to the Delaware Bay. These formations of clay, silt, sand, and gravel formations were deposited on Precambrian and lower Paleozoic rocks and typically strike northeast-southwest, with a dip that ranges from 10 – 60 feet per mile. Coastal Plain sediments date from the Cretaceous through the Quaternary Periods and are predominantly derived from deltaic, shallow marine, and continental shelf environments.

The property is located within the outer fringe of the Atlantic Coastal Plain Physiographic Province, of New Jersey, approximately 20 miles south of Raritan Bay. This province is characterized by a wedge-shaped mass of unconsolidated to semi-consolidated marine, marginal marine and non-marine deposits of clay, silt, sand, and gravel. These sediments range in age from Cretaceous to Holocene and lie unconformably on pre-Cretaceous bedrock consisting of metamorphic schists and gneiss, with local occurrences of basalts, sandstone, and shale (Zapeczka, 1984). These sediments trend northeast-southwest and dip southeast toward the Atlantic Ocean. These sediments thicken southeastward from the Piedmont-Coastal Plain Province boundary to approximately 4,500 feet near Atlantic City, New Jersey. During the Cretaceous and Tertiary time period, sediments were deposited alternately in flood plains and in marine environments during sea transgression and sea regression periods. The formations record several major transgressive/regressive cycles and contain units that 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).

Regressive upward coarsening deposits, such as Englishtown and Kirkwood Formations and the Cohansey Sand are usually aquifers, while transgressive deposits, such as the Merchantville, Marshalltown, and Navesink Formations, act as confining units. The thicknesses of these units vary greatly, ranging from several feet to several hundred feet, and thicken to the southeast.

The eastern half of the Main Post is underlain by the Red Bank Formation, ranging in thickness from 20-30 feet, while the western half is underlain by the Hornerstown Formation, ranging in thickness from 20-30 feet. The predominant formation underlying the Charles Wood Area is also the Hornerstown, with small areas of Vincentown Formation intruding in the southwest corner. Sand and gravel deposited in recent geologic times lie above these formations. Interbedded sequences of clay serve as semi-confining units for groundwater. The mineralogy ranges from quartz to glauconite.

Udorthents-Urban land is the primary classification of soils on Fort Monmouth, which have been modified by excavating or filling. Soils at the Main Post include Freehold sandy loam, Downer sandy loam, and Kresson loam. Freehold and Downer are somewhat well drained, while Kresson is a poorly drained soil. The Charles Wood Area has sandy loams of the Freehold, Shrewsbury, and Holmdel types. Shrewsbury is a hydric soil; Kresson and Holmdel are hydric due to inclusions of Shrewsbury. Downer is not generally hydric, but can be.

Local Geology

Fort Monmouth lies in the Atlantic and Eastern Gulf Coastal Plain groundwater region and is underlain by underformed, unconsolidated to semi-consolidated sedimentary deposits. The chemistry of the water near the surface is variable with generally low dissolved solids and high iron concentrations. In areas underlain by glauconitic sediments, the water chemistry is dominated by calcium, magnesium, and iron (e.g. Red Bank and Tinton sands). The sediments in the vicinity of Fort Monmouth were deposited in fluvial-deltaic to nearshore environments. The water table is generally shallow at the installation; water is typically encountered at depths ranging from 2 to 9 feet below ground surface (bgs) and in certain areas fluctuates with the tidal action in Parkers and Oceanport creeks at the Main Post.

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 (Minard).

"Arsenic and lead are naturally occurring in soil and can vary widely. All soils contain naturally-occurring arsenic and lead in some amount (Kabata-Pendias and Pendias, 1984). In general, the concentrations of arsenic in any particular soil are dependent upon the parent material and the soil forming processes. Because the soil forming processes are relatively consistent in New Jersey, differences in arsenic concentrations depend primarily on the soil parent material and past and present land use (Motto, Personal comm., 1997).

Because the underlying geologic materials vary widely throughout New Jersey, naturally occurring concentrations of metals in New Jersey soils also vary widely. Even though soils within a specific soil series can be similar in texture and color, the mineral and organic matter composition of soil tend to be heterogeneous. As a result, concentrations of metals in adjacent soil samples can vary substantially over distances of a few feet.

Based on a Department (NJDEP) survey of background concentrations of metals in soil in rural and suburban areas of the state, non-agricultural soils contained 0.02 – 22.7 ppm of arsenic with an average 3.25 ppm and less than 1.2- 150 ppm of lead with an average of 19.2 ppm (Fields, et al., 1993). A statistical test was conducted to determine the correlation between sand, silt and clay content of the samples and metal concentrations. Samples containing higher clay content tended to have higher concentrations of most metals, including arsenic and lead (Fields, et al., 1993).

While naturally-occurring lead concentrations have not been detected above the Department's residential soil cleanup criteria in New Jersey, elevated arsenic concentrations have been found. Higher concentrations of naturally-occurring arsenic have been specifically associated with soils containing glauconite. The US Geological Survey found arsenic concentrations generally lower than 10 ppm in sandy soils from undeveloped areas, but concentrations were as large as 40 ppm in samples containing higher clay content (Barringer, et al., 1998).

Soil sampling conducted as part of site remediation activities have shown glauconite soils to commonly contain arsenic concentrations of 20-40 ppm and range as high as 260 ppm (Schick, Personal comm., 1998).

The Department is currently involved in a research project with the New Jersey Geological Survey investigating metal levels in glauconite soils." Findings and Recommendations for Remediation of Historic Pesticide Contamination, Historic Pesticide Contamination Task Force, Final Report March 1999

Currently, the US Army at Fort Monmouth is conducting a correlation study to determine the relative impact of the ubiquitous glauconitic silty sands and clays and the concentrations of dissolved arsenic observed in a number of monitoring wells on the post. Upon the completion of the study, the results will be provided to NJDEP for review and comment. It is the intent of the US Army to demonstrate that the preponderance of the dissolved arsenic is a function of soil type and chemistry and is not anthropogenic in nature.

Hydrogeology

The water table aquifer in the Main Post and Charles Wood areas are 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. The Hornerstown Formation acts as an upper boundary of the Red Bank aquifer, but it might yield enough water within its outcrop to supply individual household needs. The Red Bank outcrops along the northern edges of the Installation, and contains two members, an upper sand member and a lower clayey sand member. The upper sand member functions as the aquifer and is probably present on some of the surface of the Main Post and at a shallow depth below the Charles Wood Area. The Hornerstown and Red Bank formations overlay the larger Wenonah-Mount Laurel aquifer.

Based on records of wells drilled in the Main Post area, water is typically encountered at depths ranging from 2 to 9 feet below ground surface (bgs). According to Jablonski, wells drilled in the Red Bank and Tinton Sands may yield 2 to 25 gallons per minute (gpm). Some local well owners have reported acidic water that requires treatment to remove iron. Acid sulfate soils are naturally occurring soils, sediments or organic substrates (e.g. peat) that are formed under waterlogged conditions. Soil and sediment materials rich in iron sulfide tend to be very dark and soft. Iron sulfides can react rapidly when they are disturbed (i.e. exposed to oxygen). Pyrite will tend to occur as more discrete crystals in soil and organic matter matrices and will react more slowly when disturbed.

The oxidation of iron sulfide in the potential acid sulfate soil materials (sulfidic material) may result in the formation of actual acid sulfate soil material or sulfuric material.

These soils contain iron sulfide minerals (predominantly as the mineral pyrite) or their oxidation products. Soil horizons that contain sulfides are called 'sulfidic materials' (Isbell 1996; Soil Survey Staff 2003) and can be environmentally damaging if exposed to air by disturbance. Exposure results in the oxidation of pyrite.

1.3 HEALTH AND SAFETY

Work site health and safety hazards were minimized during all decommissioning activities. All areas which posed a vapor hazard were monitored by a qualified individual utilizing a calibrated photo-ionization detector: Thermo Instruments Organic Vapor Monitor (OVM) – Model #580-B. The individual ascertained if the area was properly vented to render the area safe, as defined by OSHA. All work areas were properly vented to insure that there were no contaminants present in the breathing zone above permissible exposure limits (PEL's).

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

- All underground utilities were marked out by the respective trade shops or utility contractor prior to excavation activities.
- All activities were carried out with high regard to safety and health and safeguarding of the environment.
- All excavated soils were visually examined and screened with an OVM for evidence of contamination. Potentially contaminated soils were identified and logged during closure activities.
- An NJDEP certified Subsurface Evaluator was present during all closure and remediation activities.

1.4.2 Underground Storage Tank Excavation

During decommissioning activities, surficial soil was carefully removed to expose the UHOT. No liquids were encountered in the tank upon being exposed.

After the UHOT was removed from the excavation, it was staged on an impervious surface, labeled and examined for holes. Holes in the tank were observed during the inspection by the Subsurface Evaluator. Soils surrounding the UHOT were screened visually and with an OVM for evidence of contamination. No soil staining or an odor of petroleum hydrocarbons were observed upon the removal of the UHOT.

1.5 UNDERGROUND STORAGE TANK DECOMMISSIONING AND DISPOSAL

Subsequent to disposal, the UHOT was purged with air to remove vapors prior to cutting. A 4 foot by 3 foot access hole was made in the UHOT using a pneumatic ripper gun with a non-sparking bit. The UHOT was cleaned first with rubber squeegees and then with adsorbent material broomed on the sidewalls and bottom.

The adsorbent material was then drummed and subsequently placed into Ft. Monmouth's 'Oil Spill Debris' roll-off container for proper disposal. The atmosphere in and around the tank was monitored using an OVM and an Oxygen/Lower Explosive Level (LEL) meter to ensure safe working conditions during cutting and cleaning activities.

The tank was then transported by TVS to Red Bank Recycling Auto Wreckers, Inc. 64 Central Ave. Red Bank, NJ for disposal in compliance with all applicable regulations and laws. Refer to Appendix C for UHOT disposal certificate.

The Subsurface Evaluator labeled the UHOT with the following information:

- site of origin
- NJDEP UHOT Facility ID number
- date of removal
- size of tank
- previous contents of tank

1.6 MANAGEMENT OF EXCAVATED SOILS

Based on OVM air monitoring and visual observations, no petroleum impacted soils were found. Overburden soils and non-impacted materials were segregated and used as fill materials.

2.0 REMEDIAL INVESTIGATION ACTIVITIES

2.1 OVERVIEW

The Remedial Investigation was managed by U.S. Army DPW personnel. All analyses were performed and reported by Fort Monmouth Environmental Testing Laboratory (FTMEL), a NJDEP-certified testing laboratory. All sampling was performed by a NJDEP Certified Subsurface Evaluator according to the methods described in the NJDEP Field Sampling Procedures Manual (2005). Sampling frequency and parameters analyzed complied with the NJDEP document *Technical Requirements for Site Remediation*, 7:26E-3.9 (June 7, 1993 and revisions dated June 2, 2008) which was the applicable regulation at the date of the closure. All records of the Remedial Investigation activities are maintained by the Fort Monmouth DPW Environmental Office.

The following Parties participated in Closure and Remedial Investigation Activities.

- Ft. Monmouth Directorate of Public Works (DPW) - Environmental Branch
Contact Person: Joseph Fallon
Phone Number: (732) 532-6223
- Subsurface Evaluator, Tank Closure: Frank Accorsi
Employer: TECOM-Vinnell Services, Inc. (TVS)
Phone Number: (732) 532-5241
NJDEP License No.: 0010042
(TVS)NJDEP License No.: US252302
- Analytical Laboratory: Fort Monmouth Environmental Testing Laboratory (FTETL)
Contact Person: Dean Tardiff
Phone Number: (732) 532-4359
NJDEP Laboratory Certification No.: 13461

2.2 FIELD SCREENING/MONITORING

Field screening was performed by a NJDEP certified Subsurface Evaluator using an OVM and visual observations to identify potentially contaminated material. Soils were removed from the excavation surrounding UHOT, and when the UHOT was removed from the ground, no evidence of holes, breeches or other defects were found. No evidence of a release was observed in the soils surrounding the UHOT.

2.3 SOIL SAMPLING

On April 28, 2009 post-excavation samples were collected to confirm that no discharge had occurred.

The site assessment was performed by TVS personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* and the NJDEP *Field Sampling Procedures Manual*. A summary of sampling activities including parameters analyzed is provided on Table 1. The post-removal soil samples were collected using stainless steel trowels. After collection, the samples were immediately placed on ice in a cooler and delivered to FTMETL for analysis.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

The post removal samples were collect from three locations on April 28, 2009, to evaluate soil conditions following removal of the UHOT. All samples were analyzed for TPH. The post-remediation soil sample results were compared to the NJDEP health based criterion of 5,100 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated June 2, 2008). A summary of the analytical results and comparison to the NJDEP soil cleanup criteria is provided on Table 2. The analytical data package, including associated quality control data, is provided in Appendix D.

The post tank removal samples demonstrated that none was in excess of 5,100 mg/kg or even the contingency analytical threshold of 1,000 mg/kg. As such no release was evidenced.

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all of post-remediation soil samples collected from the UHOT closure excavation at UHOT No. 2525 were below the NJDEP soil cleanup criteria for total organic contaminants and semi-volatile organic compounds.

No Further Action is proposed in regard to the closure and remedial investigation of UHOT No. 2525 at Bldg. 2525 at the Charles Wood Area, Fort Monmouth, NJ.

APPENDIX A

CERTIFICATIONS

APPENDIX B

WASTE MANIFEST

APPENDIX C

UHOT DISPOSAL CERTIFICATE

APPENDIX D

PHOTO DOCUMENTATION

APPENDIX E

SOIL ANALYTICAL DATA PACKAGE

TABLE 1

SUMMARY OF LABORATORY ANALYSIS
FT. MONMOUTH, BUILDING 2525 (ECP Parcel 28)
April 28, 2009

SAMPLE ID	LAB SAMPLE ID	SAMPLE DATE	SAMPLE MATRIX	ANALYTICAL PARAMETER	ANALYTICAL METHOD
P28-8 A N. End	9017001	28-Apr.-09	Soil	TPH	NJDEP Method OQA-QAM-025
P28-8-B S. End	9017002	28-Apr.-09	Soil	TPH	NJDEP Method OQA-QAM-025
P28-8 Piping	9017003	28-Apr.-09	Soil	TPH	NJDEP Method OQA-QAM-025

ABBREVIATIONS:

TPH = Total Petroleum Hydrocarbons, NJDEP Method OQA-QAM-025 (10/97)

TABLE 2

SUMMARY OF LABORATORY ANALYTICAL RESULTS SUMMARY OF LABORATORY ANALYSIS

FT. MONMOUTH, BUILDING 2525 (ECP Parcel 28)
April 28, 2009

TOTAL PETROLEUM HYDROCARBONS

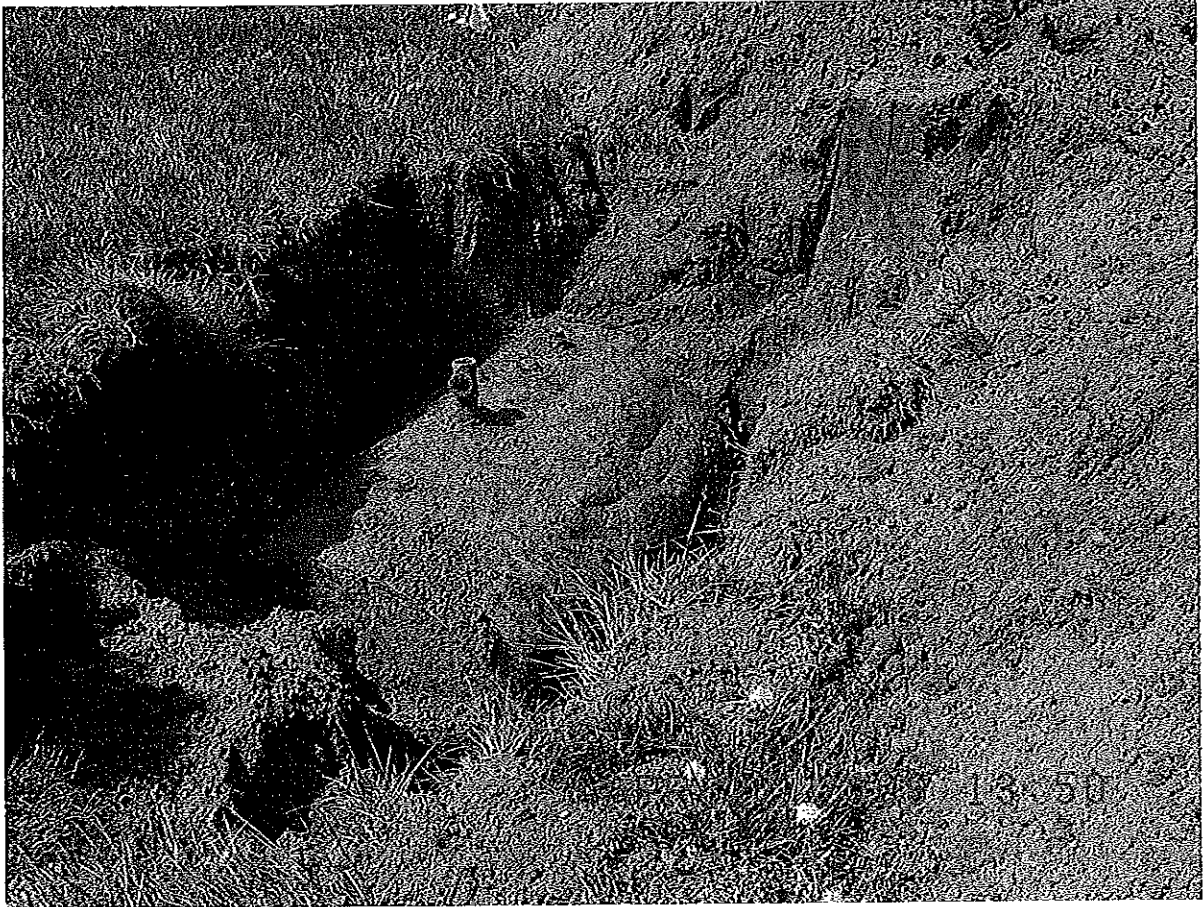
SAMPLE ID	LAB SAMPLE ID	SAMPLE LOCATION	SAMPLE DEPTH (in feet)	MATRIX	TPH RESULTS mg/kg
P28-8 A	9017001	North End	6.0 – 6.5'	Soil	ND
P28-8 B	9017002	South End	6.0 – 6.5'	Soil	ND
P28-8 C	9017003	Piping	6.0 – 6.5'	Soil	ND

ABBREVIATIONS:

mg/kg = milligrams per kilogram = parts per million (ppm)

ND = Compound Not Detected

Gray shading indicates exceedance of NJDEP health based criterion of 5,100 ppm total organic contaminants



Top tank exposed, note no piping found at tank



Tank removed from excavation, no visible holes present



Clean excavation after removal of UHOT

TABLES

FIGURES

No liquid was generated as a result of the field activities associated with the UHOT removal.

E

United States Army

Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

***Building 293
Main Post Area***

**NJDEP UST Registration No. 081533-67
NJDEP Closure Approval No. C-93-3919**

February 1996

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ENVIRONMENTAL TECHNOLOGIES CORPORATION

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

BUILDING 293

**MAIN POST AREA
NJDEP UST REGISTRATION NO. 081533-67
NJDEP CLOSURE APPROVAL NO. C-93-3919**

FEBRUARY 1996

**PROJECT NO.: 09-5004-07
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
THREE TERRI LANE
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293.DOC



Engineering • Consulting • Remediation • Construction



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 TANKS	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	7

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 September 2, 1994, a steel underground storage tank (UST) was closed by removal in accordance with the New Jersey Department of Environmental Protection (NJDEP) Closure Approval No. C-93-3919 at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 081533-67, was located immediately adjacent to the western side of Building 293 in the Main Post area of U.S. Army, Fort Monmouth. UST No. 081533-67 was a 1,000-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). Soils surrounding the tank were screened visually and with air monitoring instruments for evidence of contamination. Following removal, the UST was inspected for holes. No holes were noted in the UST and no evidence of potentially contaminated soils were observed surrounding the tank.

On September 2, 1994, following 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 along the sidewalls of the excavation at a depth of 5.5 feet below ground surface (bgs). All samples were analyzed for total petroleum hydrocarbons (TPHC). The tank was excavated immediately adjacent to the western wall of Building 293, where the fuel lines entered the Building. Therefore, the excavation included the former piping area which had previously been approximately 5 feet in length. Sample E was collected on the side of the excavation nearest to the former piping location.

Findings

All post-excavation soil samples collected from the UST excavation, which included the former piping at Building 293, 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). Sample A, B, C, D, E, and DUP D contained levels of TPHC ranging in concentration from 68.6 mg/kg to 626.0 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 were performed in accordance with Section 7:26E-2.1 of the *Technical Requirements*.

Conclusions and Recommendations

Based on OVA readings and 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. 081533-67 at Building 293.



1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 081533-67, was closed at Building 293 at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on September 2, 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 July 28, 1993. The plan was approved on September 7, 1993 and assigned TMS No. G-93-3919. The UST was a steel, 1,000-gallon tank containing No. 2 diesel oil.

Decommissioning activities for UST No. 081533-67 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 Inc., the contractor that conducted the decommissioning activities, is registered and certified by the NJDEP for performing UST closure activities. Closure of UST No. 081533-67 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. 081533-67 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.

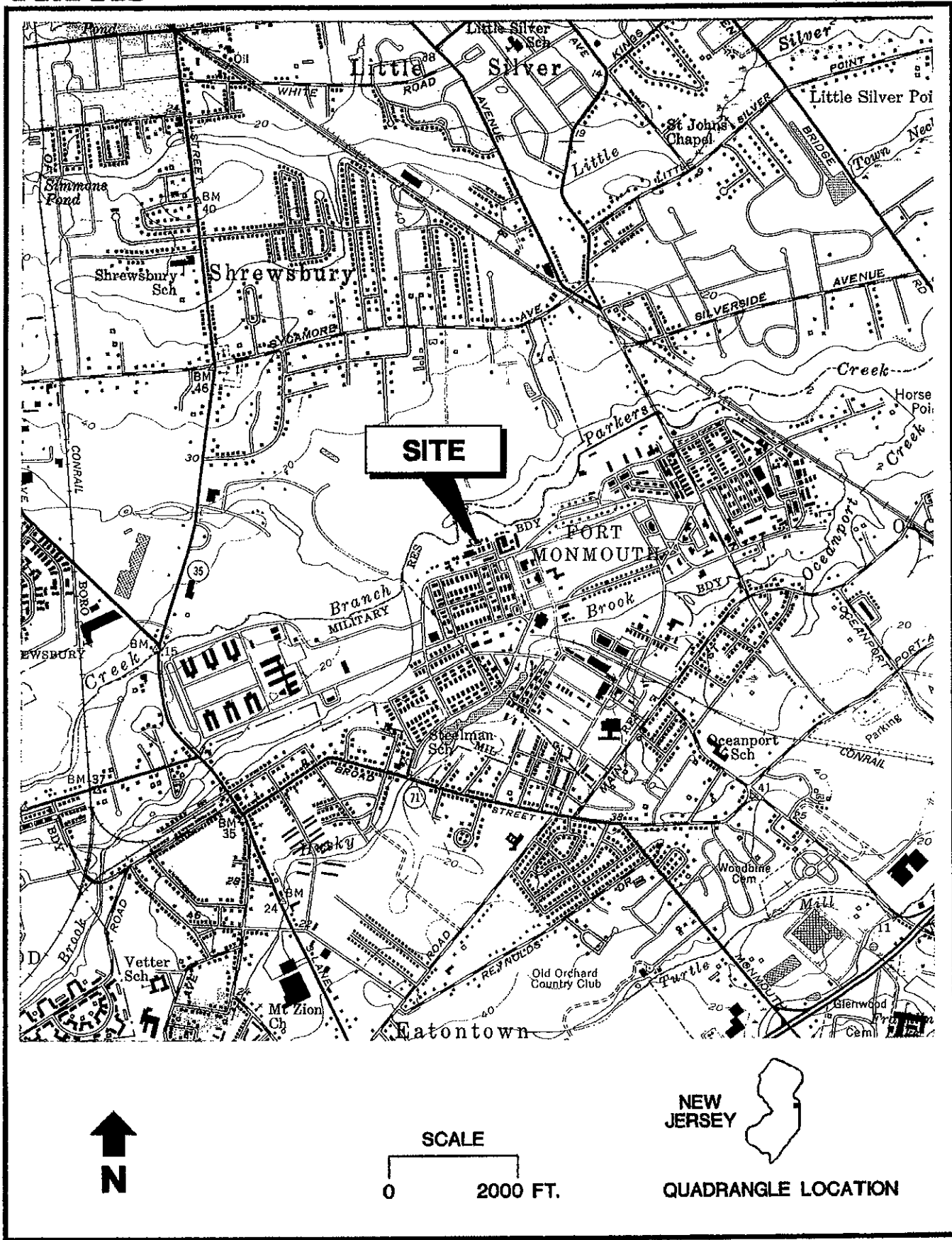
This UST Closure and Site Investigation Report has been prepared by Smith Environmental Technologies Corporation, to assist the United States Army Directorate of Public Works (DPW) in complying with the NJDEP Bureau of Underground Storage Tanks (NJDEP-BUST) regulations. The applicable NJDEP-BUST regulations 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.

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

Source: BCM/Smith Environmental Technologies Corporation (028)



1.2 SITE DESCRIPTION

Building 293 is located in the northwestern portion of the Main Post area of Fort Monmouth as shown on Figure 1. UST No. 081533-67 was located immediately west of Building 293 and appurtenant piping ran approximately 5 feet east from the fill port area to Building 293. The fill port area was located directly above the UST. 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 293. 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-

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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.

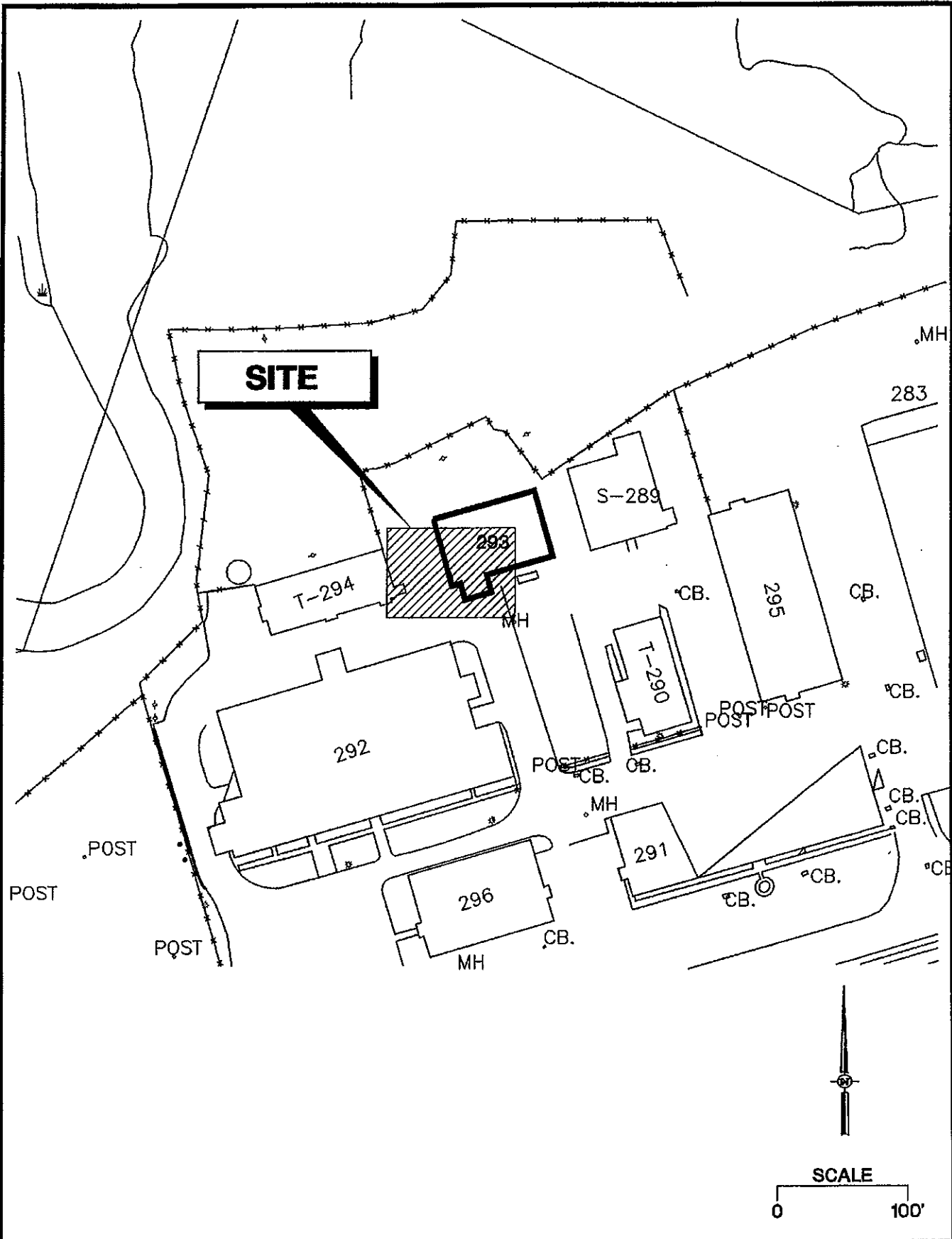
1.3 HEALTH AND SAFETY

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.

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

Source: BCM/Smith Environmental Technologies Corporation (062)



Project No. 09-5004-07

Figure 2
**Building 293
Site Map**

1.4 REMOVAL OF UNDERGROUND STORAGE TANKS

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 52 gallons of liquid were transported by Freehold Cartage Inc. to Lionetti Oil Recovery Co. Inc., a NJDEP-approved petroleum recycling and disposal facility located in Old Bridge, New Jersey. Refer to Appendix C for waste manifest (No. NJA-1907275).

The UST was cleaned prior to removal from the excavation in accordance with 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 noted.

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



1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The tank was transported by 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-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* (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) 462-1001
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 September 2, 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 UST excavation at a depth of 5.5 feet below ground surface (bgs). The tank was excavated immediately adjacent to the west wall of Building 293. Therefore the piping length, which had previously been approximately 5 feet in length, was included in the excavation. Sample E was collected on the side of the excavation nearest to the former piping location. Refer to soil sampling location map on Figure 3. All samples were analyzed for total petroleum hydrocarbons (TPHC). Because none of the post-excavation soil samples exhibited a TPHC concentration exceeding 1,000 milligrams per kilogram (mg/kg), none were analyzed for volatile organic compounds with a forward library search for 10 tentatively identified compounds (VOCs).

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 1,252.0 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.

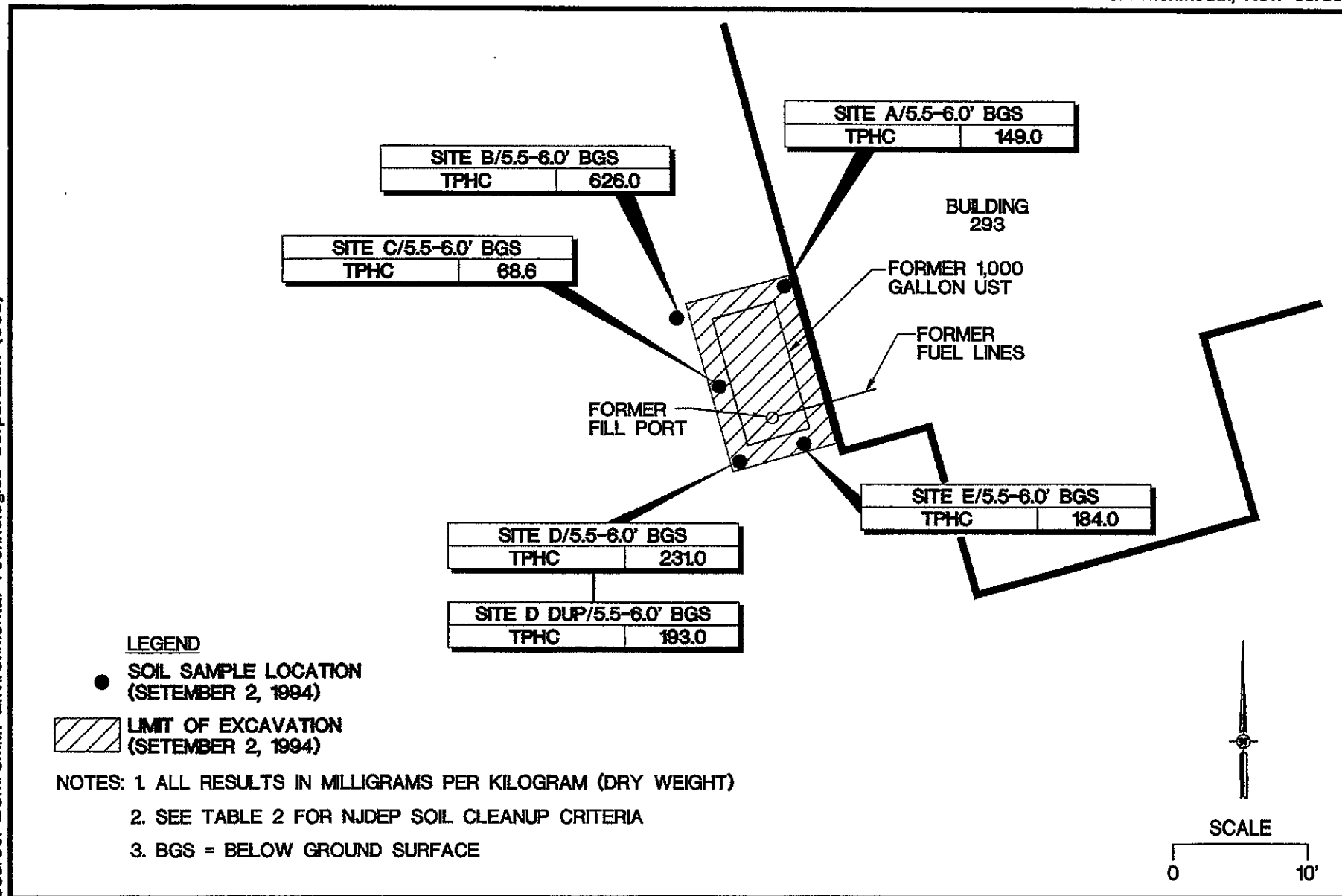


TABLE 1

SUMMARY OF SAMPLING ACTIVITIES
BUILDING 293, MAIN POST
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Matrix	Sample Type	Analytical Parameters (and USEPA Methods) *	Sampling Method
A	09-02-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
B	09-02-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
C	09-02-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
D	09-02-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
E	09-02-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
DUP D	09-02-94	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 five (5) locations on September 2, 1994. All samples were analyzed for TPHC. The post-excavation soil sample 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 soil analytical data package is provided in Appendix E.

All post-excavation soil samples collected on September 2, 1994, from the UST excavation and from below piping associated with the UST contained either non-detectable concentrations of TPHC or concentrations below the NJDEP soil cleanup criteria. Samples A, B, C, D, E, and DUP D contained levels of TPHC ranging in concentration from 68.6 mg/kg to 626.0 mg/kg.

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 293 were below the NJDEP soil cleanup criteria for total organic contaminants.

Based on the post-excavation soil sampling results, soils with TPHC concentrations exceeding the NJDEP soil cleanup criteria 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. 081533-67 at Building 293.

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
 BUILDING 293
 FT. MONMOUTH, NEW JERSEY

PAGE 2 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/5.5-6.0'	1631.1	09-02-94	09-08-94	Total Solid	--	--	87 %	--	--
				TPHC	6.6	yes	149.0	10,000	--
B/5.5-6.0'	1631.2	09-02-94	09-08-94	Total Solid	--	--	90 %	--	--
				TPHC	6.6	yes	626.0	10,000	--
C/5.5-6.0'	1631.3	09-02-94	09-08-94	Total Solid	--	--	93 %	--	--
				TPHC	6.6	yes	68.6	10,000	--
D/5.5-6.0'	1631.4	09-02-94	09-08-94	Total Solid	--	--	91 %	--	--
				TPHC	6.6	yes	231.0	10,000	--
E/5.5-6.0'	1631.5	09-02-94	09-08-94	Total Solid	--	--	91 %	--	--
				TPHC	6.6	yes	184.0	10,000	--
DUP D/5.5-6.0'	1631.6	09-02-94	09-08-94	Total Solid	--	--	89 %	--	--
				TPHC	6.6	yes	193.0	10,000	--

Notes:

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

Smith Environmental Technologies Corporation (Project No. 09-5004-07)

soil293.doc

SMITH

APPENDIX A

NJDEP BUST CLOSURE APPROVAL

UNDERGROUND STORAGE TANK SYSTEM CLOSURE APPROVAL

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL
PROTECTION AND ENERGY

DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
BUREAU OF UNDERGROUND STORAGE TANKS
CN-029, TRENTON, NJ 08625-0029

TMS #

UST #

C-93-3919

0081533

US Army
BLDG. 293
Ft. Monmouth, NJ

Monmouth

THE ABOVE LISTED FACILITY IS HEREBY GRANTED APPROVAL TO PERFORM
THE FOLLOWING ACTIVITY IN ACCORDANCE WITH N.J.A.C. 7:14B-1 et seq.:

Removal of: one 1,000 gallon #2 diesel UST(s) and appurtenant
piping.

SITE ASSESSMENT: Soil samples will be taken every five (5) feet
along the center line of each tank and one (1) soil sample for
every 15 feet along all associated piping. Two (2) additional
samples will be taken from around the tank and biased to the areas
of highest field screened readings. Samples will be analyzed for
TPHC. If sample results are greater than 1,000ppm than 25% of the
samples will be analyzed for VO+10.

ON-SITE MANAGER: C. Appleby

TELEPHONE: 908-532-1475

OWNER:

TELEPHONE:

EFFECTIVE DATE: **SEP 07 1993**

THIS FORM MUST BE DISPLAYED AT THE SITE DURING THE APPROVED
ACTIVITY AND MUST BE MADE AVAILABLE FOR INSPECTION AT ALL TIMES.


KEVIN F. KRATINA, BUREAU CHIEF
BUREAU OF UNDERGROUND STORAGE TANKS

SMITH

APPENDIX B
CERTIFICATIONS

UST-014
2/91



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. Welner
Commissioner

FOR STATE USE ONLY
UST# _____
Date Rec'd _____
TMS # _____
Staff _____

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 USTs, 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. 293

081533-67
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. C-93-3919

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:

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

C. Soil samples and borings (check appropriate answer)

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

D. Ground Water Monitoring

1. Number of ground water monitoring wells installed 0
2. Attach the analytical results of the ground water samples in tabular form. Include the following information for each sample from each well:
 - a. Site diagram number for each well installed
 - b. Depth of ground water surface
 - c. Depth of screened interval
 - d. Method detection limit of the method used
 - e. Well logs
 - f. Well permit numbers
 - g. QA/QC Information as required

V. SOIL CONTAMINATION

- A. Was soil contamination found? 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. 626.00 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

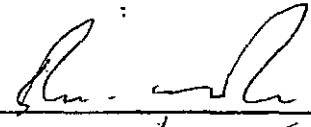
1. The ground water contaminants have been delineated to MCLs or lower values at the property boundaries. ☐ Yes ☐ No
2. The plume is suspected to continue off the property at concentrations greater than MCLs. ☐ Yes ☐ No
3. Off property access (circle one): ☐ is being sought ☐ has been approved ☐ has 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
(Preparer of Site Assessment Plan)

DATE 11/21/95

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 2/17/96

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 _____

SMITH

APPENDIX C
WASTE MANIFEST



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

Form Approved, OMB No. 2030-0039. Expires 9-30-94

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

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address US Army Communications Electronics Command Main Post, c/o James Shirghio, Bldg 2504 ATTN: SELPM-DL-EM-MS, Fort Monmouth, NJ 07703		4. Generator's Phone (908) 532-6224		A. State Manifest Document Number NJA 1907275		
5. Transporter 1 Company Name Freehold Cartage, Inc.		6. US EPA ID Number NJ100154112611614		B. State Generator's ID (Gen. Site Address) Main Post, Ft Monmouth		
7. Transporter 2 Company Name		8. US EPA ID Number		C. State Trans. ID-NJDEPE 52205		
9. Designated Facility Name and Site Address Lionetti Oil Recovery Co., Inc. Runyon & Cheesequake Rds. Old Bridge, NJ 08857		10. US EPA ID Number		D. Transporter's Phone (908) 462-1001		
11. US DOT Description (Including Proper Shipping Name, Hazard Class or Division, ID Number and Packing Group) a. X Petroleum Oil N.O.S. Class 3 (Petroleum Oil) Combustible Liquid UN 1270 PG III		12. Containers No. Type		13. Total Quantity Unit Wt/Vol		
b. X Petroleum Oil N.O.S. Class 3 (Petroleum Oil) Combustible Liquid UN 1270 PG III		c. 991 T T		d. 000512 G X 7 2 2		
c. X Petroleum Oil N.O.S. Class 3 (Petroleum Oil) Combustible Liquid UN 1270 PG III		e. 0101 T T		f. 00020 G X 7 2 2		
d. X Petroleum Oil N.O.S. Class 3 (Petroleum Oil) Combustible Liquid UN 1270 PG III		g. 0101 T T		h. 00885 G X 7 2 2		
e. X Petroleum Oil N.O.S. Class 3 (Petroleum Oil) Combustible Liquid UN 1270 PG III		i. 0101 T T		j. 01265 G X 7 2 2		
14. Additional Descriptions for Materials Listed Above		15. Handling Codes for Wastes Listed Above		16. Facility's Phone (908) 721-0900		
f. Petroleum Oil 30 %		g. Petroleum Oil 30 %		h. T04-Filtration		
i. Water 30 %		j. Water 30 %		k. T04-Filtration		
l. Petroleum Oil 30 %		m. Petroleum Oil 30 %		n. T04-Filtration		
o. Water 30 %		p. Water 30 %		q. T04-Filtration		
17. Special Handling Instructions and Additional Information NOT REGULATED BY EPA. REGULATED AS HAZARDOUS WASTE IN NJ 24 HOUR EMERGENCY RESPONSE PHONE: 201-427-2881 NJ DECAL# 55464		18. Generator's Certification: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.		19. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.		
Printed/Typed Name DINK DESAI		Signature [Signature]		Month Day Year 09/01/94		
Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Bill Burr		Signature [Signature]		Month Day Year 09/01/94		
Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year		
Discrepancy Indication Space						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name UTPAL JAGAN		Signature [Signature]		Month Day Year 09/02/94		

NJA 1907275

SMITH

APPENDIX D

UST DISPOSAL CERTIFICATE

3pt Monmouth
Tinton Falls, NJ
Cust # 0081533-63
93 0081533-66

MAZZA & SONS, INC.

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

NO. _____

DATE 19 Sept 94

Customer's Name

Cute Inc 103 Godwin Ave Midland Park NJ

Address

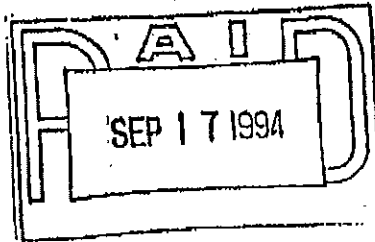
Make of
Box

B12y 289-0081533-63
B12y 293-0081533-66

37560 LB 6

35180 LB 6

2380



Weight

Price

Cast Iron

Steel

Lt. Iron

Copper #1

Copper #2

Lt. Copper

Brass

Alum Clean

Lead

Stainless

Radiators

Battery

TOTAL AMOUNT:

Weighter

Customer

Don Ellis

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

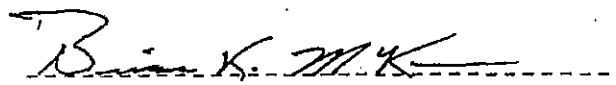
Lab. ID #: 1631.1-.6
Sample Rec'd: 09/02/94
Analysis Start: 09/08/94
Analysis Comp: 09/08/94

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

NJDEPE UST Reg.#: # 81533-67
Closure #:
DICAR #:
Location #: Bldg. 293

Lab ID.	Description	%Solid	Result (mg/Kg)	MDL
1631.1 *	Site A, Sidewall SE OVA=	87	149.	6.6
1631.2 *	Site B, Sidewall SW OVA=	90	626.	6.6
1631.3 *	Site C, Sidewall S OVA=	93	68.6	6.6
1631.4 *	Site D, Sidewall W OVA=	91	231.	6.6
1631.5 *	Site E, Sidewall N OVA=	91	184.	6.6
1631.6 *	Site F, dup of D OVA=	89	193.	6.6
M. Bl.	Method Blank	100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit
* = Silica Gel Added, NA = Not Applicable
1631.6dup= 105% 1631.6s= 112% 1631.6sd= 105% RPD= 6.3%


Brian K. McKee
Laboratory Director

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

Lab. ID #: 1631.1-.6
Sample Rec'd: 09/02/94
Analysis Start: 09/08/94
Analysis Comp: 09/08/94

[illegible]

Brian K. McK

Brian K. McKee
Laboratory Director

U.S. ARMY FORT MONMOUTH

P.O. #: *PW-7 TPIH*

Chain of Custody

Project #: <i>81533-G7</i>		Sampler: <i>General White</i>		Date / Time <i>9/2 13-25</i>		Analysis Parameters		Start:	
Customer: <i>Duncan Dem.</i>		Site Name: <i>BLQA 293</i> <i>81533-G7</i>						Finish:	
Phone: <i>21475</i>								Preservation Method	
Lab Sample ID Number	Date/Time	Customer Sample Location/ID Number	Sample Matrix	# of Bottles	TPH	% Solids	Residue	OVA	Remarks
<i>1633-1</i>	<i>9/2 2-09</i>	<i>Site A sidewalk SE</i>	<i>Soil</i>	<i>1</i>	<i>x</i>	<i>x</i>	<i>x</i>		<i>Sample kept 24°E</i>
<i>2</i>	<i>" 2-12</i>	<i>Site B " SW</i>	<i>"</i>	<i>1</i>	<i>x</i>	<i>x</i>	<i>x</i>		
<i>3</i>	<i>" 2-17</i>	<i>Site C " E</i>	<i>"</i>	<i>1</i>	<i>x</i>	<i>x</i>	<i>x</i>		
<i>4</i>	<i>" 2-21</i>	<i>Site D " W</i>	<i>"</i>	<i>1</i>	<i>x</i>	<i>x</i>	<i>x</i>		<i>OVA was collected w/ 200cc bucket - 8/14</i>
<i>5</i>	<i>" 2-24</i>	<i>Site E " E</i>	<i>"</i>	<i>1</i>	<i>x</i>	<i>x</i>	<i>x</i>		<i>Purity - 74 at 13-50140</i>
<i>6</i>	<i>" 2-27</i>	<i>Site F (dup'd) W</i>	<i>"</i>	<i>1</i>	<i>x</i>	<i>x</i>	<i>x</i>		<i># 51903</i>
Relinquished By (signature)		Date / Time		Received By (signature)		Shipped By:			
<i>[Signature]</i>		<i>9/2/94 1523</i>		<i>Sarah J. Hubbard</i>		<i>9/2/94 1523</i>			
Relinquished By (signature)		Date / Time		Received for Lab by (signature):		Date / Time			
<i>[Signature]</i>		<i>9/2/94 1523</i>		<i>Sarah J. Hubbard</i>		<i>9/2/94 1523</i>			
Note: A drawing depicting sample location should be attached or drawn on the reverse side of this chain of custody. <i>map attached w/ c-o-c.</i>									

PRINTED IN U.S.A.

105-0070-00

PER 4615

September 8, 1994	
Sarah J. Hubbard	
begin 1738	
40.75	55 MV
81.5	110 MV
163	231 MV
Method Blank 0 MV	
1633.1	0 MV Building 611
1633.2	67 MV (dip)
1633.3	199 MV
1633.4	58 MV
1633.5	95 MV
1633.6	130 MV
1633.7	22 MV
1633.8	174 MV
1633.9	6 MV
40.75	Calibration Ch 54 MV
Method Blank 0 MV	
1631.1	25 Building 293
1631.2	117 MV
1631.3	11 MV
1631.4	42 MV
1631.5	33 MV
1631.6	76 MV VOID 9/8/94
1631.6	34 MV VOID 9/8/94
1631.6	81 MV VOID duplicate
1631.6	31 MV
1631.6	149 MV Spike
1631.6	142 MV Spike Dup
Method Blank 0 MV	

195-6970-00

PREPARED IN U.S.A.

1633.4	58 mV	
1633.5	95 mV	
1633.6	130 mV	
1633.7	22 mV	
1633.8	174 mV	
1633.9	6 mV	
40.75	Calibration CK	54 mV
Method	Blank	0 mV
1631.1	25 Building	293
1631.2	117 mV	
1631.3	11 mV	
1631.4	42 mV	
1631.5	33 mV	
1631.6	76 mV	VOID 9/8/94
1631.6	34 mV	
1631.6	87 mV	VOID 9/8/94
1631.6	31 mV	Duplicate
1631.6	149 mV	Spike
1631.6	142 mV	Spike Dup
Method	Blank	0 mV
1632.1	Building	482
	360 mV	di (7)
1637.1	103 mV	
1637.2	115 mV	(di 7)
Calibration Check	40.75	52 mV

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 #1631

Brian K. McKee
Brian K. McKee
Laboratory Manager



Tanks
283B-59
695-111

State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection

Robert C. Shinn, Jr.
Commissioner

Mr. James Ott
C/O: Dinker Desai
Director - Public Works
U.S. Army, Fort Monmouth
Fort Monmouth, NJ 07703

FEB 24 2000

Re: UST Closure Reports - Closure Approvals
Fort Monmouth Army Base
Fort Monmouth, Monmouth County

Dear Mr. Ott:

The NJDEP has reviewed the UST Closure and Site Investigation Reports for the Fort Monmouth underground storage tank sites noted below. Based on the NJDEP review of these documents, your request that the NJDEP approve the closure reports for those tanks listed below.

The following tanks were removed, sampled and analyzed in accordance with State and Federal requirements. Additionally, the reports consistently state the Fort Monmouth Public Works Department policy of removing all soils which are determined to have total petroleum hydrocarbon contamination (TPHC) greater than 1000 ppm. NJDEP criteria requires similar removal for TPHC contamination greater than 10,000 ppm. These activities are conservative and therefore further assure the NJDEP that no further action is necessary at these sites.

NJDEP Reg. #	Bldg. #	NJDEP Reg. #	Bldg. #
0081533-59	283B	*0081533-135	828
0090010-46	430C	0081533-136	864A
0081533-111	695	0081533-137	866
0081533-117	739	*0081533-231	907
0081533-118	744	0081533-154	916
0081533-121	747	0081533-156	918
0081533-124	787	0081533-170	1110
0081533-125	788	0081533-172	1123
0081533-128	801A	0081533-207	1150
0081533-133	812		

* No product lines were found during the excavation of the UST due to the fact the buildings were removed prior to the USTs. Based on a review of available maps and drawings, the product lines were less than 15 feet in length at each of the locations. Thus, no additional sampling was required.

If you should have any questions or comments, please do not hesitate to contact me at (609) 633-7232 or via E-mail.

Sincerely,

Ian R. Curtis, Case Manager
Bureau of Case Management
ICURTIS@DEP.STATE.NJ.US

FTMMTH062IRC.DOC



Fort Monmouth UST Status Summary Report

UST REGISTRATION INFORMATION SUMMARY

LOCATION: 635 **NJDEP REG ID:** 81533 -
RESIDENTIAL? YES

UST CONSTRUCTION INFORMATION SUMMARY

SIZE (GALLONS): **CONSTRUCTION:**
PRODUCT: #2 FUEL OIL **YEAR INSTALLED:**

UST REMOVAL/INVESTIGATION SUMMARY

REMOVAL DATE: 10/7/1994 **REMOVAL CONTRACTOR:** CUTE INC
SRF SEND DATE: **TMS:**
DICAR NO. **LEAK DETECT:**
REMEDIAL COMMENTS: Dirt was removed from around the tanks. Sample taken 1662.1, 12.4 mg/kg TPHC, Pit Bottom= 8'. No contamination observed. Residential UST with no DICAR and no contamination; no Closure Report required.
REGISTRATION COMMENTS: Reviewed 09-05-95.
SAS DONE: **CONSULTANT:** SMC
MW's NEEDED: **MONITORING WELLS:**
SUB-SURFACE EVALUATOR:

CURRENT UST STATUS

UST STATUS: Removed; Report Submitted/Not Nec. **CASE STATUS:** Case Closed
SUBMITTAL DATE: **APPROVAL DATE:**
FINALIZED: No



Fort Monmouth UST Status Summary Report

UST REGISTRATION INFORMATION SUMMARY

LOCATION: 637 **NJDEP REG ID:** 81533 -
RESIDENTIAL? YES

UST CONSTRUCTION INFORMATION SUMMARY

SIZE (GALLONS): **CONSTRUCTION:**
PRODUCT: #2 FUEL OIL **YEAR INSTALLED:**

UST REMOVAL/INVESTIGATION SUMMARY

REMOVAL DATE: 10/7/1994 **REMOVAL CONTRACTOR:** CUTE INC
SRF SEND DATE: **TMS:**
DICAR NO. **LEAK DETECT:**

REMEDIATION COMMENTS: 10/7/94 , Dirt was removed from around tank. Found UST excavation based on confirmed sites and relation to Building. Photos taken; excavated to 11', found dark organic confining layer. No contamination observed. Residential UST with no DICAR and no contamination; no Closure Report required.

REGISTRATION COMMENTS: Reviewed 09-05-95.

SAS DONE: **CONSULTANT:** SMC

MWs NEEDED: **MONITORING WELLS:**

SUB-SURFACE EVALUATOR:

CURRENT UST STATUS

UST STATUS: Removed; Report Submitted/Not Nec. **CASE STATUS:** Case Closed
SUBMITTAL DATE: **APPROVAL DATE:**
FINALIZED: No



Bldg 642 Soil Anal 8/2/95

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 #: 1901.1-.2
Sample Rec'd: 08/02/95
Analysis Start: 08/02/95
Analysis Comp: 08/03/95

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

NJDEPE UST Reg. #:
Closure #:
DICAR #:
Location #: Bldg. 642

Lab ID.	Description	%Solid	Result (mg/Kg)	MDL
1901.1	A Center, LEFT 8'-9' OVA=100	83	119.	16.
1901.2	B Center, Right 8'-9' OVA=150	81	227.	16.
M. Bl.	Method Blank	100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit
* = Silica Gel Added, NA = Not Applicable
1900.2S=116%, 1900.2SD=114%, RPD= 1.2%, 1900.2Dup=133% Check=108%
QC Limits: Recovery = 60% to 140% and RPD = 14.9% at 2 Std. Dev.

Brian K. McKee
Laboratory Director

Bldg 643

Soil Anal

7/26/95

5

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 #: 1895.1-.5
Sample Rec'd: 07/26/95
Analysis Start: 07/27/95
Analysis Comp: 07/28/95

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

NJDEPE UST Reg. #:
Closure #:
DICAR #:
Location #: Bldg. 643

Lab ID.	Description	%Solid	Result (mg/Kg)	MDL
1895.1	Sample A, Center 7'	86	ND	16.
1895.2	Sample B, W. Wall 6'	87	138.	16.
1895.3	Sample C, E. Wall 6'	86	ND	16.
1895.4	Sample D, So. Wall 6'	86	182.	16.
1895.5	Sample E, No. Wall 6'	84	ND	16.
M. Bl.	Method Blank	100	ND	3.3

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

* = Silica Gel Added, NA = Not Applicable

1895.4S= 75%, 1895.4SD= 88%, RPD=12.7%, 1895.4Dup=104% Check=111%

QC Limits: Recovery = 60% to 140% and RPD = 14.9% at 2 Std. Dev.

Brian K. McKee

Brian K. McKee
Laboratory Director

K

MEMORANDUM TO FILE

FROM: EUGENE W. LESINSKI

DATE: 30 SEPTEMBER 1994

TO: FILE

SUBJ: UST REMOVAL IN THE 600 AREA

1. I directed the UST tank hunt in the 600 Area for Buildings 642 through 654 (13 tanks total) with CUTE, Inc. on 29-30 September 1994. Of 13 possible existing UST's, only 1 UST was found (Bldg 654). The following information germane:

- A) Buildings 642 thru 651: These tanks were determined to be a capacity of 1080 gallons (2 tank markers with this information were found in tank excavations). From old aerial photographs and site maps approximate tank locations were determined. Excavation revealed that these 10 tanks were removed and excavations were filled with old construction material. It was surmised that these tanks were removed during building demolition and filled with demolition debris. Excavations for BLDG's 642 thru 646 were visually observed to be with heavy organic material while BLDG's 647 thru 651 were visually clean. Readings from HNU showed no hits for petroluem hydrocarbons. Excavations for Buildings 642 thru 651 were back-filled late afternoon on the 29th of September 1994.
- B) Buildings 652 thru 654 were excavated on 30 September 1994 and only 1 UST was found (BLDG 654 - 1080 gallons). Excavations for 652 and 653 appeared visually to have heavy organic material. Building 654 appeared clean.

V/R

Eugene W. Lesinski
Eugene W. Lesinski

L



501-76

State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection

Robert C. Shinn, Jr.
Commissioner

Mr. James Ott
Director - Public Works
U.S. Army, Fort Monmouth
Fort Monmouth, NJ 07703

JUL 10 1998

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

Dear Mr. Ott:

The NJDEP is in receipt of UST closure reports noted below. These documents have been reviewed by the NJDEP throughout the closure process and the documents submitted were discussed throughout their drafting and in great detail upon submittal. Based on these steps and the final review conducted by me, the NJDEP accepts the closure reports and all of the NFA requests commensurate with these submittals.

NJDEP REG NO.	BUILDING	CONTENTS	CAPACITY	PROPOSAL	DEP APPROVAL
90010-10	116C-MP/E	No. 2 Fuel Oil	2000	NFA	YES
81533-134	826-MP/W	No. 2 Fuel Oil	550	NFA	YES
81533-144	902-MP/W	No. 2 Fuel Oil	1000	NFA	YES
81515-20	2529-CW	No. 2 Fuel	1000	NFA	YES
81515-22	2532-CW	No. 2 Fuel Oil	550	NFA	YES
81515-23	2533-CW	No. 2 Fuel Oil	1000	NFA	YES
81515-31	2561-CW	No. 2 Fuel Oil	550	NFA	YES
90010-27	410-MP/E	No. 2 Fuel Oil	1080	NFA	YES
81533-206	1075	NOT	SUBMITTED	WITH	PACKAGE
81515-16	2504B-CW	No. 2 Fuel Oil	1000	NFA	YES
81515-18	2507-CW	No. 2 Fuel Oil	1080	NFA	YES
81515-26	2536-CW	No. 2 Fuel Oil	1000	NFA	YES
81515-14	2503-CW	No. 2 Fuel Oil	1000	NFA	YES
90010-12	117B-MP/E	No. 2 Fuel Oil	2000	NFA	YES
90010-34	418-MP/E	No. 2 Fuel Oil	1080	NFA	YES
90010-36	420-MP/E	No. 2 Fuel Oil	1080	NFA	YES
90010-38	422-MP/E	No. 2 Fuel Oil	1080	NFA	YES
90010-41	427-MP/E	No. 2 Fuel Oil	1080	NFA	YES
90010-44	430A-MP/E	No. 2 Fuel Oil	550	NFA	YES
90010-50	453-MP/E	No. 2 Fuel Oil	1080	NFA	YES
90010-51	454-MP/E	No. 2 Fuel Oil	1080	NFA	YES
81533-76	501-MP/W	No. 2 Fuel Oil	1000	NFA	YES
81533-141	900A-MP/W	No. 2 Fuel Oil	1000	NFA	YES
81515-17	2506-CW	No. 2 Fuel Oil	1000	NFA	YES
90010-9	116A-MP/E	No. 2 Fuel Oil	1000	NFA	YES
90010-11	117A-MP/E	No. 2 Fuel Oil	2000	NFA	YES
90010-53	480-MP/E	No. 2 Fuel Oil	1000	NFA	YES

81515-19	2508-CW	No. 2 Fuel Oil	550	NFA	YES
81539-228	804B-MP/W	No. 2 Fuel Oil	1000	NFA	YES
81539-142	900B-MP/W	No. 2 Fuel Oil	1000	NFA	YES

The efforts made to assure protection of human health and the environment as well as the efforts made to make the entire closure process efficient and consistent with the NJDEP's Technical Requirements for Site Remediation (N.J.A.C. 7:9-6 et seq.) has been exceptional.

If I can be of any assistance, please do not hesitate to contact me should you have any questions or comments.

Sincerely,



Ian R. Curtis, Case Manager
Bureau of Federal Case Management
ICURTIS@DEP.STATE.NJ.US

cc. Kevin Kratina, BUST

FTMMTH51.DOC



Fort Monmouth UST Status Summary Report

UST REGISTRATION INFORMATION SUMMARY

LOCATION: 261 *NJDEP REG ID:* 81533 - 45
RESIDENTIAL? YES

UST CONSTRUCTION INFORMATION SUMMARY

SIZE (GALLONS): 2000 *CONSTRUCTION:* FRP
PRODUCT: #2 FUEL OIL *YEAR INSTALLED:* 1982

UST REMOVAL/INVESTIGATION SUMMARY

REMOVAL DATE: 5/5/1999 *REMOVAL CONTRACTOR:*
SRF SEND DATE: *TMS:* NA
DICAR NO. *LEAK DETECT:*
REMEDIAL 12/01/94 SAI removed 444 gallons of oil; left 15 gallons of waste in tank. No
COMMENTS: contamination observed. Residential UST with no DICAR and no contamination
above NJDEP standards; no Closure Report required.

REGISTRATION
COMMENTS:

SAS DONE: *CONSULTANT:*
MW's NEEDED: *MONITORING WELLS:* 0
SUB-SURFACE
EVALUATOR:

CURRENT UST STATUS

UST STATUS: Removed; Report Submitted/Not Nec. *CASE STATUS:* Case Closed
SUBMITTAL DATE: *APPROVAL DATE:*
FINALIZED: No



Fort Monmouth UST Status Summary Report

UST REGISTRATION INFORMATION SUMMARY

LOCATION: 261 B **NJDEP REG ID:** 81533-
RESIDENTIAL? YES

UST CONSTRUCTION INFORMATION SUMMARY

SIZE (GALLONS): 1000 **CONSTRUCTION:** STEEL
PRODUCT: #2 FUEL OIL **YEAR INSTALLED:**

UST REMOVAL/INVESTIGATION SUMMARY

REMOVAL DATE: 5/5/1999 **REMOVAL CONTRACTOR:** TVS
SRF SEND DATE: **TMS:** Fed. Case Mgr.
DICAR NO. 99-05-05-1536-15 **LEAK DETECT:**
REMEDIALATION COMMENTS: Highest TPHC 5-5-99 >3000 ppm. Additional samples required. Residential UST with DICAR; all analytical results in compliance with NJDEP standards. No Closure Report required; Letter Report to close out DICAR submitted to NJDEP on 03/05/02.
REGISTRATION COMMENTS: Found on 5-5-99 while removing known UST at Bldg.
SAS DONE: NO **CONSULTANT:**
MWs NEEDED: **MONITORING WELLS:**
SUB-SURFACE EVALUATOR: C. Appleby

CURRENT UST STATUS

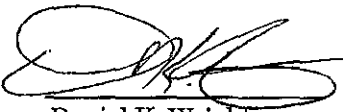
UST STATUS: Removed; Report Submitted/Not Nec. **CASE STATUS:** Case Closed
SUBMITTAL DATE: 3/5/2002 **APPROVAL DATE:** 1/10/2003
FINALIZED: No

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 # :	4421
		Date Rec'd:	15-Apr-99
		Analysis Start:	16-Apr-99
		Analysis Complete:	20-Apr-99
Analysis:	OQA-QAM-025	UST Reg. #:	81533-45
Matrix:	Soil	Closure #:	
Analyst:	D.DEINHARDT	DICAR #:	
Inst. ID.	GC TPHC INST. #1	Injection Volume	1 ul
Column Type	RTX 5	Column ID	0.32 um
Ext. Meth:	Shake	Location #:	261 Russel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4421.01	261 A	1.00	15.13	84.80	183	ND
4421.02	261 B	1.00	15.19	77.79	199	3659.68
4421.03	261 C	1.00	15.66	82.42	182	ND
4421.04	261 D	1.00	15.49	79.62	191	250.10
4421.05	Duplicate	1.00	15.03	84.86	184	ND
METHOD BLANK	TBLK 232	1.00	15.00	100.00	157	ND

ND = Not Detected
MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

000004

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 # : 4477
Date Rec'd: 13-May-99
Analysis Start: 13-May-99
Analysis Complete: 14-May-99

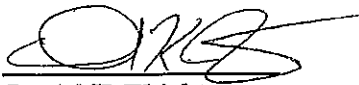
Analysis: OQA-QAM-025
Matrix: Soil
Analyst: D.DEINHARDT
Inst. ID. GC TPHC INST. #1
Column Type RTX 5
Ext. Meth: Shake

UST Reg. #: 81533-45B
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: Bldg-261 Tank B

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4477.01	261B-A (South)	1.00	15.52	79.77	190	ND
4477.02	261B-BASE1	1.00	15.87	80.73	183	322.72
4477.03	261B-B (West)	1.00	15.34	79.94	192	243.45
4477.04	261B-C (Southeast)	1.00	15.25	77.79	198	199.22
4477.05	261B-D (East)	1.00	15.30	78.69	195	591.28
4477.06	261B-D (East)Dup.	1.00	15.14	78.43	198	465.72
4477.08	261B-P-1	1.00	15.91	80.69	183	ND
4477.09	261B-P-2	1.00	15.58	84.27	179	ND
4477.10	261B-P-3	1.00	15.50	85.74	177	ND
METHOD BLANK	TBLK 235	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

000004

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 # : 4478
Date Rec'd: 13-May-99
Analysis Start: 13-May-99
Analysis Complete: 14-May-99

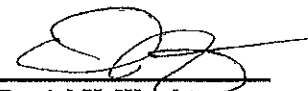
Analysis: OQA-QAM-025
Matrix: Soil
Analyst: D.DEINHARDT
Inst. ID. GC TPHC INST. #1
Column Type RTX 5
Ext. Meth: Shake

UST Reg. #: 81533-45
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: Bldg-261

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4478.01	261-P-1	1.00	15.10	85.46	182	ND
4478.02	261-P-2	1.00	16.12	86.00	170	ND
4478.03	261-P-3	1.00	15.32	80.47	191	ND
4478.04	261-P-3 Dup	1.00	15.07	83.21	187	ND
METHOD BLANK	TBLK 235	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

000004



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Underground Storage Tanks
CN-029, Trenton, NJ 08625

SITE ASSESSMENT COMPLIANCE STATEMENT

For State Use Only
Date Rec'd _____
Auth _____
Routing _____
UST NO. 401-26

Supplement to the New Jersey Standard Reporting Form
(Complete for ALL regulated UST abandonments or removals)

Within ninety (90) days of completing the UST closure of any State or Federally-regulated tank, the owner or operator must submit this completed form to the NJDEP Bureau of Underground Storage Tanks. If the facility is located in one of the counties listed on the back, a copy of this form must also be sent to the Health Agency indicated.

The owner or operator of any Federally-regulated tank must also comply with the following:

40 CFR Part 280.72 Assessing the site at closure or change-in-service

"(a) Before permanent closure or a change-in-service is completed, owners and operators must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, owners and operators must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to ground water, and other factors appropriate for identifying the presence of a release."

FACILITY U.S. Army Fort Monmouth UST # 0090010

Check off the following items as appropriate for the site. Tank No. 1, 26,

☒ The UST facility is only regulated by State law, therefore a site assessment is not mandatory. 32 + 58

☐ The UST facility is regulated by Federal law and a site assessment was conducted.

The results of the site assessment indicate:

☒ There was NO release from the UST system.

☐ There was a release from the UST system and it was reported to the DEP Environmental Hotline (609-292-7172).

NOTE: The results of the site assessment are not to be submitted to the DEP or Health Agency unless requested to do so. The results are to be available for inspection at the UST facility.

Questions can be directed to the Bureau at (609) 984-3156.

*** This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that facility (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.

SACS-2,1/89

JAMES OTT 22 NOV 1991
Date
JAMES OTT
Acting Director
Dir, Engineering and Housing
(Title)



DEPARTMENT OF THE ARMY
Headquarters, U.S. Army Garrison Fort Monmouth
Fort Monmouth, New Jersey 07703-5000



REPLY TO
ATTENTION OF

22 NOV 1991

Directorate of Engineering
and Housing

SUBJECT: Removal Procedure:

U.S. Army Fort Monmouth
Main Post East
Site Registration #0090010
Tank #1, 26, 32, 58
POC: Joseph M. Fallon (908) 532-6223

The remaining product inside each tank was removed for disposal by Lionetti Oil Recovery Co., Inc. Lionetti is a licensed hazardous waste transporter and treatment, storage, and disposal facility (USEPA ID #NJD084044064).

The top of each tank was excavated and cut open across the entire length of the tank. In addition, the inside of each tank was hand cleaned and thoroughly wiped down. The soil from the top of each excavation was visually inspected and analyzed using a HNU Model PI-101 photoionizer. No contamination was detected.

After each tank was cleaned, a visual inspection was made inside the tanks for signs of leakage. No corrosion was found inside the tanks.

Each tank was then removed from the ground and disposed of through a metal recycler. No contamination was discovered at the sites upon removing the tanks.

Each site was then backfilled with the excavated soil to close out the project.

P

411-28

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

***Building 411
Main Post Area***

**NJDEP UST Registration No. 090010-28
NJDEP Closure Approval No. C-93-3903**

February 1996

SMITH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

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

BUILDING 411

**MAIN POST AREA
NJDEP UST REGISTRATION NO. 090010-28
NJDEP CLOSURE APPROVAL NO. C-93-3903**

FEBRUARY 1996

**PROJECT NO.: 09-5004-07
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
THREE TERRI LANE
BURLINGTON, NEW JERSEY 08016**

411.DOC



Engineering • Consulting • Remediation • Construction



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 TANKS	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 July 21, 1994, a steel underground storage tank (UST) was closed by removal in accordance with the New Jersey Department of Environmental Protection (NJDEP) Closure Approval No. C-93-3903 at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 090010-28, was located immediately adjacent to Building 411 in the Main Post area of U.S. Army, Fort Monmouth. UST No. 090010-28 was a 1,080-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). Soils surrounding the tank were screened visually and with air monitoring instruments for evidence of contamination. Following removal, the UST was inspected for holes. No holes were noted in the UST and no potentially contaminated soils were observed surrounding the tank.

On July 21, 1994, following removal of the UST, post-excavation soil samples A, B, C, D, E, F, and DUP D were collected from a total of six (6) locations along the sidewalls of the excavation. All samples were analyzed for total petroleum hydrocarbons (TPHC). The piping length was approximately 12 feet, therefore no piping samples were collected.

Findings

All post-excavation soil samples collected from the UST excavation at Building 411 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 non-detectable levels of TPHC.

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 were 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 remain 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. 090010-28 at Building 411.



1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 090010-28, was closed at Building 411 at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on July 21, 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 July 27, 1993. The plan was approved on September 7, 1993 and assigned TMS No. C-93-3903. The UST was a steel, 1,080-gallon tank containing No. 2 diesel oil.

Decommissioning activities for UST No. 090010-28 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 Inc., the contractor that conducted the decommissioning activities, is registered and certified by the NJDEP for performing UST closure activities. Closure of UST No. 090010-28 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. 090010-28 are included in Appendices A and B, respectively.

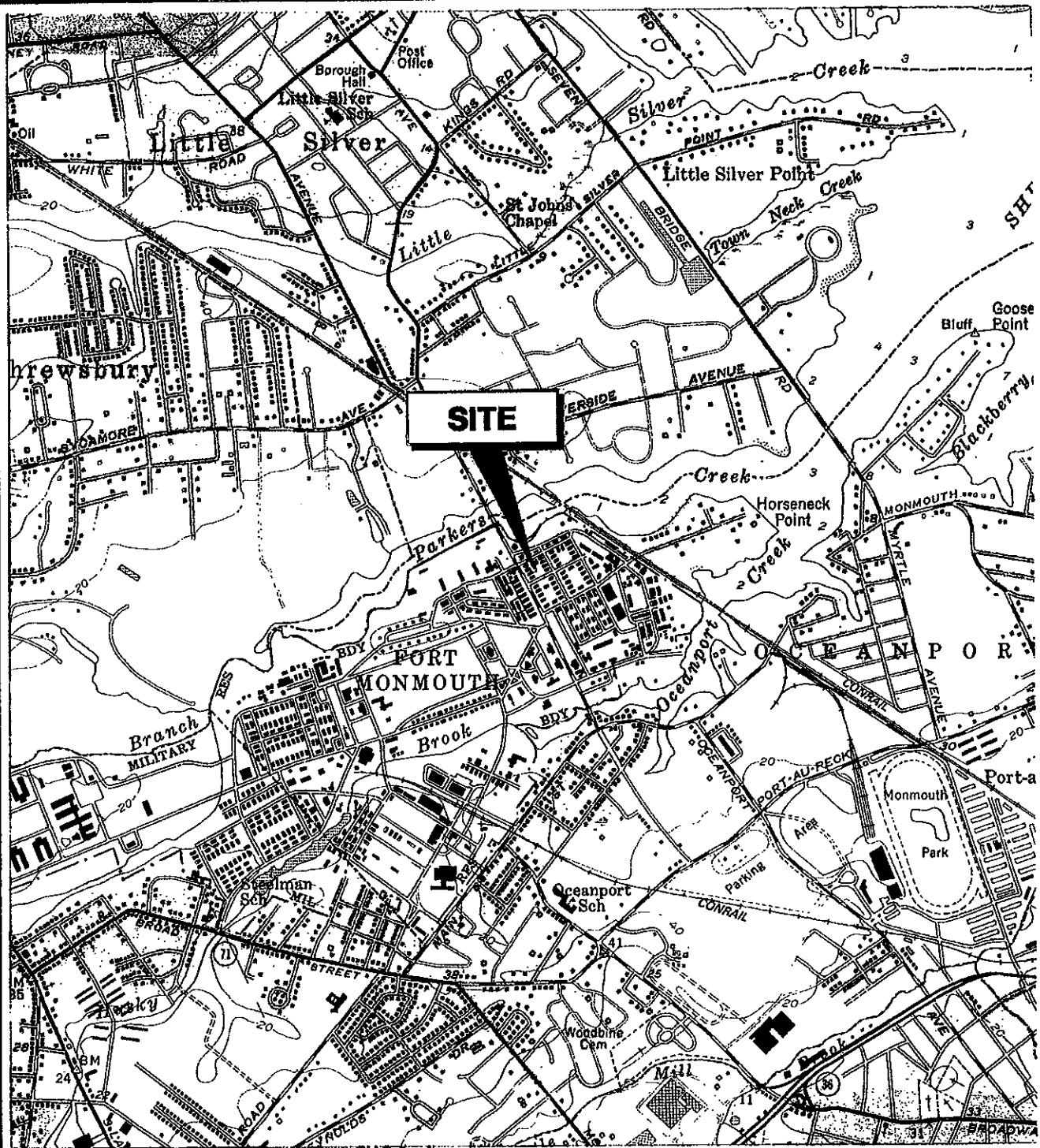
Based on an inspection of the UST, field screening of subsurface soils and analytical results of collected soil samples, the DPW has concluded that no significant historical discharges are associated with the UST or associated piping.

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.

SMTH

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



SCALE
0 2000 FT.



QUADRANGLE LOCATION

Source: BCM/Smith Environmental Technologies Corporation (028)

Project No. 09-5004-07

**Figure 1
Site Location Map**

1.2 SITE DESCRIPTION

Building 411 is located in the northeastern portion of the Main Post area of Fort Monmouth as shown on Figure 1. UST No. 090010-28 was located northeast of Building 411 and appurtenant piping ran approximately 12 feet east from Building 411 to the fill port area. A site map is provided on Figure 2. The fill port area was located directly above the UST.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the area surrounding Building 411. 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).

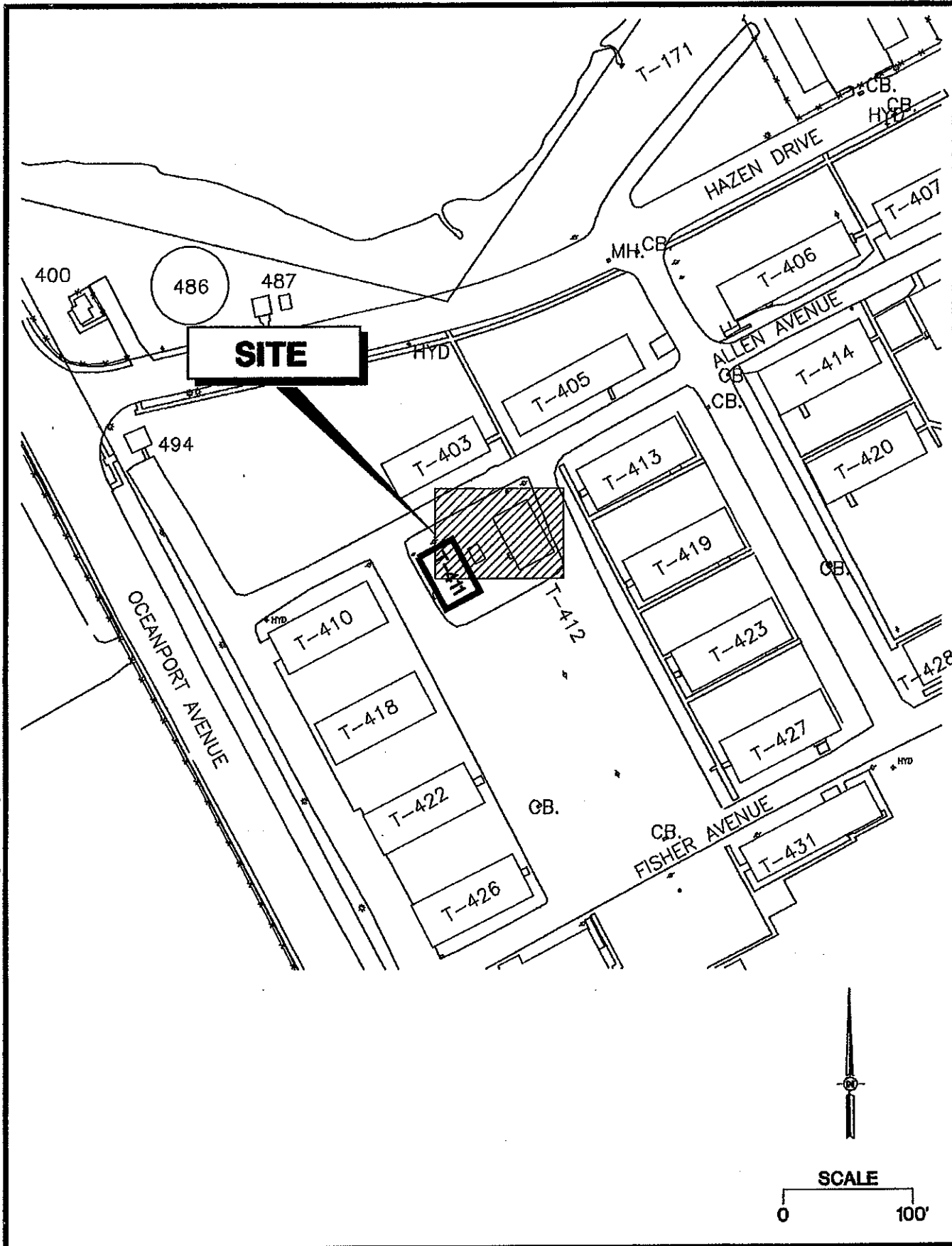
Local Geology

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,

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Fort Monmouth, New Jersey

Source: BCM/Smith Environmental Technologies Corporation (050)



Project No. 09-5004-07

Figure 2
**Building 411
Site Map**

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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.

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 TANKS

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. A total of 52 gallons of liquid were transported by Freehold Cartage Inc. to Lionetti Oil Recovery Co. Inc., a NJDEP-approved petroleum recycling and disposal facility located in Old Bridge, New Jersey. Refer to Appendix C for waste manifest (No. NJA-1603192).

The UST was cleaned prior to removal from the excavation in accordance with 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 noted.

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



1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The tank was transported by 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-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* (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) 462-1001
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, were found to be free of potential contamination.

2.3 SOIL SAMPLING

On July 21, 1994, post-excavation soil samples A, B, C, D, E, F, and DUP D were collected from six (6) locations along the sidewalls of the UST excavation. No samples were collected along the piping trench because its length was less than 15 feet. All samples were analyzed for total petroleum hydrocarbons (TPHC). Because none of the post-excavation soil samples exhibited a TPHC concentration exceeding 1,000 milligrams per kilogram (mg/kg), none were analyzed for volatile organic compounds with a forward library search for 10 tentatively identified compounds (VOCs).

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. All of the post-excavation soil samples, however, had a non-detectable TPHC concentration. If absorbency resulted in reducing the actual soil TPHC concentration by 50 %, the highest TPHC concentration would still be 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 411, MAIN POST
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Matrix	Sample Type	Analytical Parameters (and USEPA Methods) *	Sampling Method
A	07-21-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
B	07-21-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
C	07-21-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
D	07-21-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
E	07-21-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
F	07-21-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
DUP D	07-21-94	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, post-excavation soil samples were collected from six (6) locations on July 21, 1994. All samples were analyzed for TPHC. The post-excavation soil sample 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 July 21, 1994, from the UST excavation contained non-detectable concentrations of TPHC.

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 411 were below the NJDEP soil cleanup criteria for total organic contaminants.

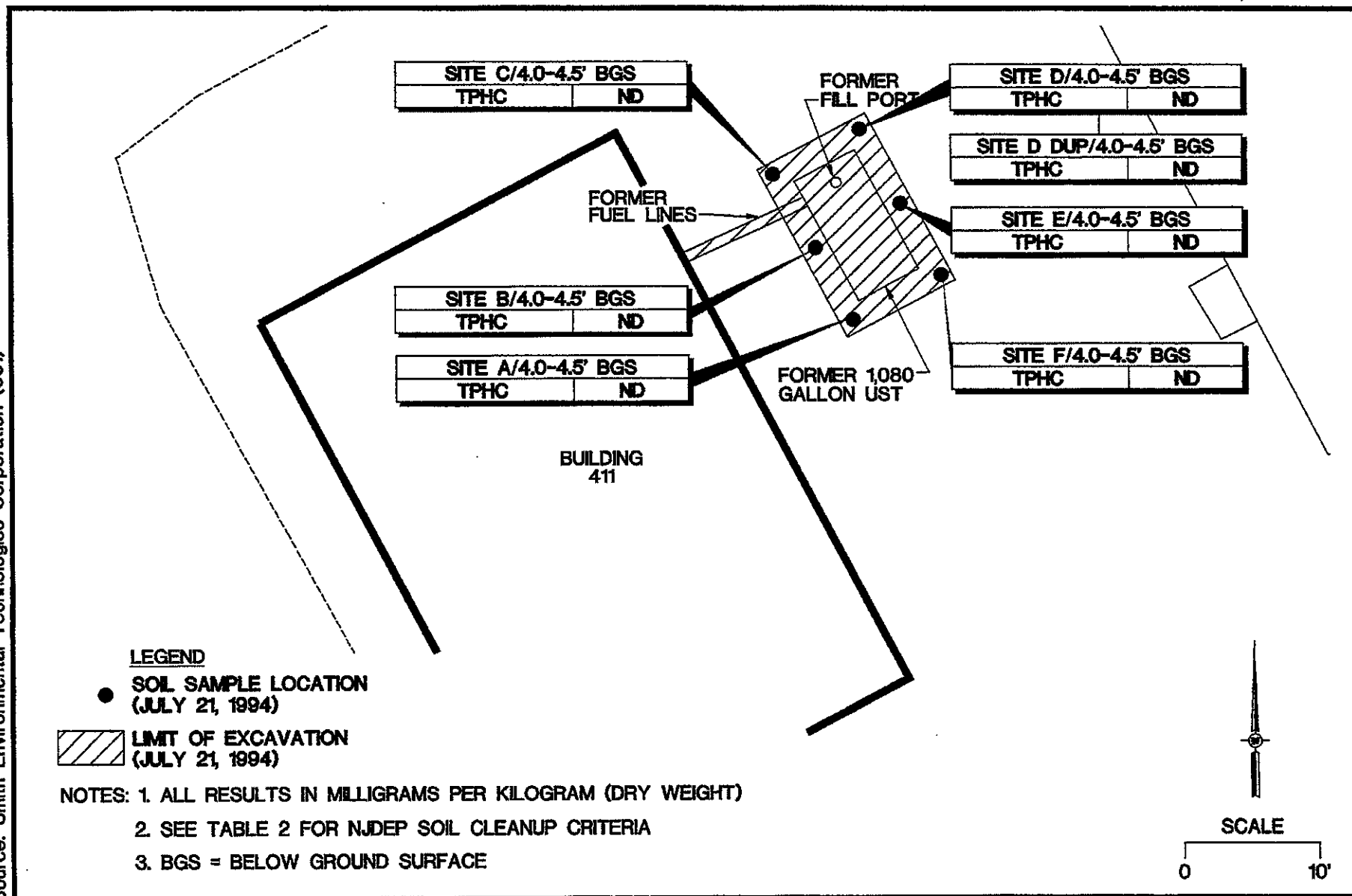
Based on the post-excavation soil sampling results, soils with TPHC concentrations exceeding the NJDEP soil cleanup criteria of 10,000 mg/kg do not remain in the former location of the UST or associated piping.

No further action is proposed in regard to the closure and site assessment of UST No. 090010-28 at Building 411.

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Department of Public Works
Fort Monmouth, New Jersey

Source: Smith Environmental Technologies Corporation (051)



Project No. 09-5004-07

Figure 3
Building 411
Soil Sampling Results

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
BUILDING 411
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/4.0-4.5'	1579.1	07-21-94	07-22-94	Total Solid	--	--	88 %	--	--
				TPHC	6.6	yes	ND	10,000	--
B/4.0-4.5'	1579.2	07-21-94	07-22-94	Total Solid	--	--	92 %	--	--
				TPHC	6.6	yes	ND	10,000	--
C/4.0-4.5'	1579.3	07-21-94	07-22-94	Total Solid	--	--	91 %	--	--
				TPHC	6.6	yes	ND	10,000	--
D/4.0-4.5'	1579.4	07-21-94	07-22-94	Total Solid	--	--	90 %	--	--
				TPHC	6.6	yes	ND	10,000	--
E/4.0-4.5'	1579.5	07-21-94	07-22-94	Total Solid	--	--	90 %	--	--
				TPHC	6.6	yes	ND	10,000	--
F/4.0-4.5'	1579.6	07-21-94	07-22-94	Total Solid	--	--	86 %	--	--
				TPHC	6.6	yes	ND	10,000	--
DUP D/4.0-4.5'	1579.7	07-21-94	07-22-94	Total Solid	--	--	90 %	--	--
				TPHC	6.6	yes	ND	10,000	--

Notes:

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

Smith Environmental Technologies Corporation (Project No. 09-5004-07)

soil411.doc

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APPENDIX A

NJDEP BUST CLOSURE APPROVAL

UNDERGROUND STORAGE TANK SYSTEM CLOSURE APPROVAL

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL
PROTECTION AND ENERGY

DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
BUREAU OF UNDERGROUND STORAGE TANKS
CN-029, TRENTON, NJ 08625-0029

TMS #

UST #

C-93-3903

0090010

US Army
BLDG. 411
Ft. Monmouth, NJ

Monmouth

THE ABOVE LISTED FACILITY IS HEREBY GRANTED APPROVAL TO PERFORM
THE FOLLOWING ACTIVITY IN ACCORDANCE WITH N.J.A.C. 7:14B-1 et seq.:

Removal of: one 1,080 gallon #2 diesel UST(s) and appurtenant piping.

SITE ASSESSMENT: Soil samples will be taken every five (5) feet along the center line of each tank and one (1) soil sample for every 15 feet along all associated piping. Two (2) additional samples will be taken from around the tank and biased to the areas of highest field screened readings. Samples will be analyzed for TPHC. If sample results are greater than 1,000ppm than 25% of the samples will be analyzed for VO+10.

ON-SITE MANAGER: C. Appleby

TELEPHONE: 908-532-1475

OWNER:

TELEPHONE:

EFFECTIVE DATE: **SEP 07 1993**

THIS FORM MUST BE DISPLAYED AT THE SITE DURING THE APPROVED
ACTIVITY AND MUST BE MADE AVAILABLE FOR INSPECTION AT ALL TIMES.


KEVIN F. KRATINA, BUREAU CHIEF
BUREAU OF UNDERGROUND STORAGE TANKS

SMITH

APPENDIX B
CERTIFICATIONS

FEB-15-95 WED 14:11

CUTE INC.

FAX NO. 1908 874 7816

P.04/28

**UNDERGROUND STORAGE TANK (UST)
CLOSURE CERTIFICATION**

BUILDING NO. 411

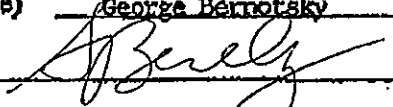
NJDEP UST REGISTRATION NO. 90010-28

DATE TANK REMOVED 7/21/94

UO / CONTRACT NUMBER 91-0148

I CERTIFY UNDER PENALTY OF LAW THAT TANK DECOMMISSIONING ACTIVITIES WERE PERFORMED IN COMPLIANCE WITH NJAC 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) George Bernotsky

SIGNATURE 

NJDEP UST CLOSURE CERTIFICATE NO. 0003249

COMPANY PERFORMING TANK DECOMMISSIONING CUTE Inc

NJDEP UST CLOSURE CORPORATE CERTIFICATE NO. 0200128

DATE OF SUBMITTAL 8/16/94

UST-014
2/91



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

FOR STATE USE ONLY

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

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. 411

090010-28
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 County Monmouth
Telephone No. (908) 532-

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 (809) 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. C-93-3903

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:

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

C. Soil samples and borings (check appropriate answer)

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

D. Ground Water Monitoring

1. Number of ground water monitoring wells installed 0
2. Attach the analytical results of the ground water samples in tabular form. Include the following information for each sample from each well:
 - a. Site diagram number for each well installed
 - b. Depth of ground water surface
 - c. Depth of screened interval
 - d. Method detection limit of the method used
 - e. Well logs
 - f. Well permit numbers
 - g. QA/QC information as required

V. SOIL CONTAMINATION

- A. Was soil contamination found? 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. <u>N/A</u> | ppb total BTEX, <u>N/A</u> | ppb total non-targeted VOC |
| 2. <u>N/A</u> | ppb total B/N, <u>N/A</u> | ppb total non-targeted B/N |
| 3. <u>N/D</u> | ppm TPHC | |
| 4. <u>N/A</u> | 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 X No
 2. Free product contaminated soils are suspected to exist below the water table Yes X No
 3. Free product contaminated soils are suspected to exist off the property boundaries. Yes X No
- D. Was the vertical and horizontal extent of contamination determined? Yes No X N/A
- E. Does soil contamination intersect ground water? Yes No X N/A

VI. GROUND WATER CONTAMINATION 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 <u>Yes</u> <u>No</u> <u>N/A</u> | | |
- 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/AF. A ground water contour map has been submitted which includes the ground water elevations for each well.
☐ Yes ☐ No ☐ N/A

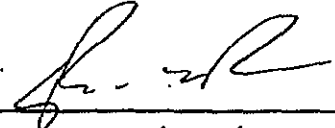
G. Delineation of contamination

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-6.3(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-6.3(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 M. DesaiSIGNATURE COMPANY NAME U.S. Army, Fort Monmouth
(Preparer of Site Assessment Plan)DATE 2/14/99CERTIFYING ORGANIZATION NJDEPCERTIFICATION NUMBER E 0002266

UST-014
2/91

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 _____

SMITH

APPENDIX C
WASTE MANIFEST

AUG-10-94 WED 9:30

C.U.I.

FAX NO. 201 423 350

P.08



State of New Jersey
Department of Environmental Protection and Energy
Hazardous Waste Regulation Program
Manifest Section
CN 028, Trenton, NJ 08625-0028

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

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

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NJ 11 31 21 11 01 21 01 51 91 7513192		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address US Army Communications Electronics Command Main Post, c/o James Shirghio, Bldg 2504 ATTN: SELEM-DL-EM-MS, Fort Monmouth, NJ 07703				4. State Manifest Document Number NJA 1603192			
4. Generator's Phone (908) 532-6223				5. State Generator's ID			
5. Transporter 1 Company Name Freehold Cartage, Inc.				6. US EPA ID Number NJ JD 0154112611614			
7. Transporter 2 Company Name				8. US EPA ID Number			
9. Designated Facility Name and Site Address Lionetti Oil Recovery Co., Inc. Runyon & Chaeesequake Rds. Old Bridge, NJ 08857				10. US EPA ID Number NJ JD 01840414101614			
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number) HM				12. Containers No. Type		13. Total Quantity Unit (Wt/Vol)	
a. ☒ Petroleum Oil, N.O.S. Class 3 (Petroleum Oil) Combustible Liquid UN 1270 PG III				6011 TIT		60052 6 X 17 12 12	
b. ☒ Petroleum oil, N.O.S. class 3 (Petroleum oil) combustible liquid UN 1270 PG III				6011 TIT		60844 6 X 17 12 12	
c. ☒ Petroleum oil, N.O.S. class 3 (Petroleum oil) combustible liquid UN 1270 PG III				6011 TIT		60124 6 X 17 12 12	
d. ☒ Petroleum oil, N.O.S. class 3 (Petroleum oil) combustible liquid UN 1270 PG III				6011 TIT		60252 6 X 17 12 12	
J. Additional Descriptions for Materials Listed Above Petroleum Oil 60% Water 40% L.T.				K. Handling Codes for Wastes Listed Above 204 Filtration		T04 Filtration	
15. Special Handling Instructions and Additional Information NOT EPA REGULATED. REGULATED AS HAZARDOUS WASTE BY NJ. 24 HOUR EMERGENCY PHONE: 201-427-2881 NJ DECAL # 55404				11a. ERG P27 a) NJDEP 60060-28 b) NJDEP 60060-49 c) NJDEP 60060-39			
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.							
Printed/Typed Name Joseph M. Fallon				Signature Joseph M. Fallon			
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name PAULO R MEDEIROS				Signature PAULO R MEDEIROS			
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name				Signature			
19. Discrepancy Indication Space							
20. Facility Owner or Operator, Certification of receipt of hazardous materials covered by this manifest except as noted in item 13. Printed/Typed Name							
Signature							
Month Day Year							

NJA 1603192

AUG-10-94 WED 9:29

C.U.T)

FAX NO. 201 425 50

P.05



Joseph Scarano Sand & Gravel Co.

 1453 W. Park Ave., Wayside
 Asbury Park, N.J. 07712
 908-493-3333

(290)

18812

Order Date July 13, 94Name Big A TruckingDeliver Date 1/1/94Address CLAN FILLDelivered ☐ C.O.D. ☐F.O.B./P.U. ☐ Charge ☒

Item(s)	Quantity / Measure (tons, lbs, yds, ea.)	Unit Price	Total
	G 70.000		
	T 255.0	22.25 tons	
	N 44500		
Driver <u>[Signature]</u>		Sub Total	
Received <u>[Signature]</u>		Delivery	
* Company not responsible for damage done off public roads. Color not guaranteed.		N.J. Tax	
Have gravel well traveled! since 1923		Total	

 Bldg 411 7.5 TONS
 Bldg 421 14.75 TONS

CALCULATION SHEET

Building No. 411

NJDEPE Reg. No. 0090010 - 28

Tank Size 1080 gal

Tank Void 7.5 tons

CLEAN FILL

ITEM NO.	DESCRIPTION	QUANTITY	TICKET #
	<u>Fill</u>	<u>7.5</u>	<u>18812</u>

TOTAL 7.5

STONE

ITEM NO.	DESCRIPTION	QUANTITY	TICKET #

TOTAL 0

ID#27 soil to stockpile (0 + 7.5) - 7.5 = 0 tons

Chargeable clean fill 0

Chargeable stone 0

SMITH

APPENDIX D
UST DISPOSAL CERTIFICATE

AUG-10-94 WED 9:33

C.U.T.

FAX NO. 201 423 50

P. 14

MAZZA & SONS, INC.

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

NO. _____

DATE 1 Aug 94

411- VST-009001028

491- 009001071

430- 009001045

1426- No 457 0090010136

Eatonsmouth

Eaton Forks, NJ

Customer's Name

Cute, Inc

Address _____

Make of
Auto

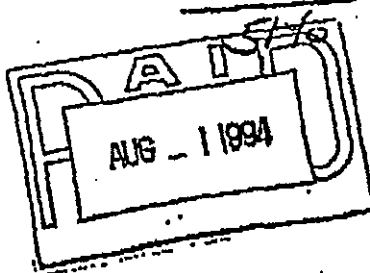
43520 LB 6

38390 LB 6

Tires

Tank

Price



Weight Price

Cast Iron

Steel

L. Iron

Copper #1

Copper #2

U. Copper

Brass

Alum Clean

Lead

Stainless

Radiators

Battery

TOTAL AMOUNT

Weigher _____

Customer

Don Ellis

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 #: 1579.1-.7
Sample Rec'd: 07/21/94
Analysis Start: 07/22/94
Analysis Comp: 07/22/94

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

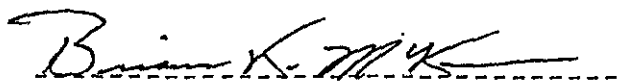
NJDEPE UST Reg. #:
Closure #: C-93-3903
DICAR #:
Location #: Bldg. 411

Lab ID.	Description	%Solid	Result (mg/Kg)	MDL
1579.1	Site A OVA= ND	88	ND	6.6
1579.2	Site B OVA= ND	92	ND	6.6
1579.3	Site C OVA= ND	91	ND	6.6
1579.4	Site D OVA= ND	90	ND	6.6
1579.5	Site E OVA= ND	90	ND	6.6
1579.6	Site F OVA= ND	86	ND	6.6
1579.7	Site G OVA= ND	90	ND	6.6
1579.8	Not Rec'd. by Lab			
M. Bl.	Method Blank	100	ND	3.3

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

* = Silica Gel Added, NA = Not Applicable

1578.7 dup= 100% 1578.7 s= 114% 1578.7 sd= 107% RPD= 6.3%


Brian K. McKee
Laboratory Director

U.S. ARMY FORT MONMOUTH

P.O. #:

Chain of Custody

Project #:		Sampler:		Date / Time	Analysis Parameters		Start:		
Customer: Dinkar Desai		Site Name: BLOS 411 UST Class # C-93 -3902		7/21/15			Finish:		
Phone:								Preservation Method	
Lab Sample ID Number	Date/Time	Customer Sample Location/ID Number	Sample Matrix	# of Bottles	TPHc	Oil S	Munsel	DVA/MW	Remarks
1579.1	7/21 2-29	Sika	soil	1	✓	✓	✓	N/A	
.2	2-32	Sika	"	1	✓	✓	✓	"	
.3	2-38	Sika	"	1	✓	✓	✓	"	
.4	2-40	Sika	"	1	✓	✓	✓	"	Calculated.
.5	2-44	Sika	"	1	✓	✓	✓	"	DNA -
.6	2-48	Sika	"	1	✓	✓	✓	"	Water & Oil
.7	2-52	Sika (Dup)	"	1	✓	✓	✓	"	
.8	2-55	Sika H (dup)	"	1	✓	✓	✓	"	No F Keep By Lab
Relinquished By (signature)		Date / Time	Received By (signature)		Shipped By:				
[Signature]		7/21/15	Sarah J. Hubbard		7/21/15				
Note: A drawing depicting sample location should be attached or drawn on the reverse side of this chain of custody.									

SAI-ENV COC Form 01

Page / of / Pages

Rev. A Date: 02 Apr 93

Environmental Laboratory

Certification Number 13461

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

Lab. ID #: 1579.1-7
Sample Rec'd: 07/21/94
Analysis Start: 07/22/94
Analysis Comp: 07/22/94

[illegible]


Brian K. McKee
Laboratory Director

July 22, 1994 0848

Barry Hubbard

Blank

40.75 105 MV

81.5 204 MV

165 408 MV

1578.1 1 MV

1578.2 0 MV

1578.3 0 MV

1578.4 0 MV

1578.5 0 MV

1578.6 0 MV

1578.7 1 MV

1578.9 1 MV Duplicate

1578.7 36 MV Spike

1578.7 34 MV Duplicate Spike

1579.1 1 MV

1579.2 0 MV

1579.3 2 MV

1579.4 0 MV

1579.5 0 MV

1579.6 4 MV

1579.7 0 MV

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 #1579

Brian K. McKee
Laboratory Manager



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Underground Storage Tanks
CN-029, Trenton, NJ 08625

Date Rec'd. _____
Auth _____
Routing _____
UST NO. 416-32

SITE ASSESSMENT COMPLIANCE STATEMENT

Supplement to the New Jersey Standard Reporting Form
(Complete for ALL regulated UST abandonments or removals)

Within ninety (90) days of completing the UST closure of any State or Federally-regulated tank, the owner or operator must submit this completed form to the NJDEP Bureau of Underground Storage Tanks. If the facility is located in one of the counties listed on the back, a copy of this form must also be sent to the Health Agency indicated.

The owner or operator of any Federally-regulated tank must also comply with the following:

40 CFR Part 280.72 Assessing the site at closure or change-in-service

"(a) Before permanent closure or a change-in-service is completed, owners and operators must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, owners and operators must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to ground water, and other factors appropriate for identifying the presence of a release."

FACILITY U.S. Army Fort Monmouth UST # 0090010

Check off the following items as appropriate for the site. Tank No. 1, 26,

☒ The UST facility is only regulated by State law, therefore a site assessment is not mandatory. 32 + 58

☐ The UST facility is regulated by Federal law and a site assessment was conducted.

The results of the site assessment indicate:

☒ There was NO release from the UST system.

☐ There was a release from the UST system and it was reported to the DEP Environmental Hotline (609-292-7172).

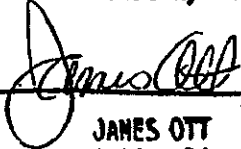
NOTE: The results of the site assessment are not to be submitted to the DEP or Health Agency unless requested to do so. The results are to be available for inspection at the UST facility.

Questions can be directed to the Bureau at (609) 984-3156.

*** This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that facility (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.

SACS-2,1/89

22 NOV 1991
Date 1 / 1

JAMES OTT
Acting Director
Dir, Engineering and Housing
(Title)



DEPARTMENT OF THE ARMY
Headquarters, U.S. Army Garrison Fort Monmouth
Fort Monmouth, New Jersey 07703-5000



REPLY TO
ATTENTION OF

22 NOV 1991

Directorate of Engineering
and Housing

SUBJECT: Removal Procedure:

U.S. Army Fort Monmouth
Main Post East
Site Registration #0090010
Tank #1, 26, 32, 58
POC: Joseph M. Fallon (908) 532-6223

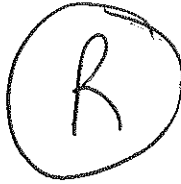
The remaining product inside each tank was removed for disposal by Lionetti Oil Recovery Co., Inc. Lionetti is a licensed hazardous waste transporter and treatment, storage, and disposal facility (USEPA ID #NJD084044064).

The top of each tank was excavated and cut open across the entire length of the tank. In addition, the inside of each tank was hand cleaned and thoroughly wiped down. The soil from the top of each excavation was visually inspected and analyzed using a HNU Model PI-101 photoionizer. No contamination was detected.

After each tank was cleaned, a visual inspection was made inside the tanks for signs of leakage. No corrosion was found inside the tanks.

Each tank was then removed from the ground and disposed of through a metal recycler. No contamination was discovered at the sites upon removing the tanks.

Each site was then backfilled with the excavated soil to close out the project.



421-37

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

***Building 421
Main Post***

**NJDEP UST Registration No. 0090010-37
NJDEP Closure Approval No. C-93-3905
Spill Case No. 94-7-22-1039-26**

February 1997

SMITH
TECHNOLOGY CORPORATION



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

BUILDING 421

MAIN POST

NJDEP UST REGISTRATION NO. 0090010-37

NJDEP CLOSURE APPROVAL NO. C-93-3905

SPILL CASE NO. 94-7-22-1039-26

FEBRUARY 1997

PROJECT NO.: 09-5004-08

CONTRACT NO.: DACA51-94-D-0014

PREPARED FOR:

UNITED STATES ARMY, FORT MONMOUTH, NEW JERSEY

DIRECTORATE OF PUBLIC WORKS

BUILDING 167.

FORT MONMOUTH, NJ 07703

PREPARED BY:

SMITH TECHNOLOGY CORPORATION

BROMLEY CORPORATE CENTER

THREE TERRI LANE

BURLINGTON, NEW JERSEY 08016



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 July 27, 1994, a steel underground storage tank (UST) was closed by removal in accordance with the New Jersey Department of Environmental Protection (NJDEP) Closure Approval No. C-93-3905 at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 0090010-37, was located immediately adjacent to Building 421 in the Main Post area of U.S. Army, Fort Monmouth. UST No. 0090010-37 was a 1,080-gallon No. 2 fuel 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 noted in the UST, however, evidence of potentially contaminated soils was observed surrounding the tank.

On July 22, 1994, following the removal of the UST, and approximately 30 cubic yards of potentially contaminated soil, post-excavation soil samples A, B, C, D, E, F, and DUP A were collected from a total of six (6) locations along the sidewalls of the excavation, immediately above groundwater. The samples were collected at a depth of 5.5 feet below ground surface (bgs). Groundwater was present at approximately 6.0 feet bgs. Sample H was collected along the former piping length of the excavation, which was approximately 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).

On July 27, 1994, approximately 10 cubic yards of potentially contaminated soils were removed from the northwestern portion of the excavation in the vicinity of sample location A. A post-excavation soil sample designated as "Site A" was then collected from the expanded portion of the excavation at a depth of 6.0 feet bgs, and was analyzed for TPHC.

Findings

All post-excavation soil samples collected from the UST excavation and from below piping associated with the former UST at Building 421 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). Samples B, D, E, and H, collected on July 22, 1994, contained levels of TPHC ranging in



concentration from 18.7 mg/kg to 210.0 mg/kg. Soil samples A and DUP A contained TPHC levels of 1,900 mg/kg and 2,025.0 mg/kg, respectively. All other samples contained non-detectable concentrations of TPHC. Sample "Site A", collected on July 27, 1994, contained a TPHC concentration of 53.0 mg/kg.

Based on the elevated TPHC concentration of 2,025.0 mg/kg detected in sample DUP A, a discharge was reported to the NJDEP by the DPW on July 22, 1994. Spill Case No. 94-7-22-1039-26 was assigned.

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 were performed in accordance with Section 7:26E-2.1 of the *Technical Requirements for Site Remediation*.

Discrepancies

The removal contractor collected soil samples using polystyrene scoops instead of NJDEP approved stainless steel scoops. The results of the soil samples were therefore evaluated at 50% of the actual value to compensate for any potential loss due to absorbency of the polystyrene scoop.

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. 0090010-37 at Building 421.



1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 0090010-37, was closed at Building 421 at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on July 27, 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 July 26, 1993. The plan was approved on September 7, 1993 and assigned TMS No. C-93-3905. The UST was a steel 1,080-gallon tank containing No. 2 fuel oil.

Decommissioning activities for UST No. 0090010-37 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 Inc., the contractor that conducted the decommissioning activities, is registered and certified by the NJDEP for performing UST closure activities. Closure of UST No. 0090010-37 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. 0090010-37 are included in Appendices A and B, respectively.

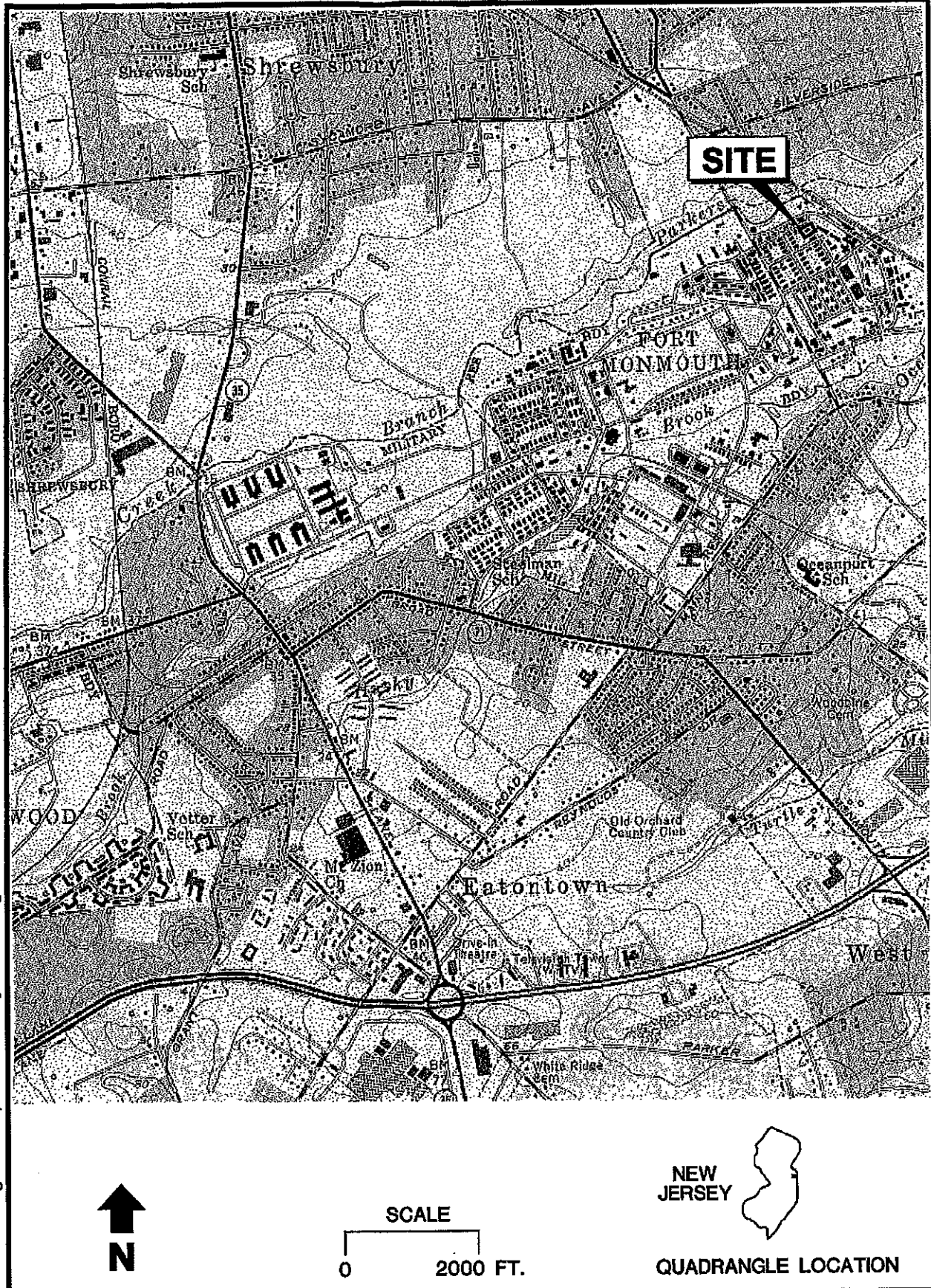
Based on the elevated TPHC concentration of 2,025.0 mg/kg detected in sample DUP A, a discharge was reported to the NJDEP by the DPW on July 22, 1994. Spill Case No. 94-7-22-1039-26 was assigned.

This UST Closure and Site Investigation Report has been prepared by Smith Technology Corporation, to assist the United States Army Directorate of Public Works (DPW) in complying with the NJDEP Bureau of Underground Storage Tanks (NJDEP-BUST) regulations. The applicable NJDEP-BUST regulations at the date of closure were the *Interim Closure Requirements for Underground Storage Tank Systems* (N.J.A.C. 7:14B-1 et seq. September 1990 and revisions dated November 1, 1991).

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

SMITH

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



Source: Long Branch, New Jersey Quadrangle

Project No. 09-5004-08

NEW
JERSEY

QUADRANGLE LOCATION

Figure 1
Site Location Map
Building 421



1.2 SITE DESCRIPTION

Building 421 is located in the northeastern portion of the Main Post area of Fort Monmouth, as shown on Figure 1. UST No. 0090010-37 was located north of Building 421 and appurtenant piping ran approximately 7 feet southeast from the excavation to Building 421. 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 421. 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).

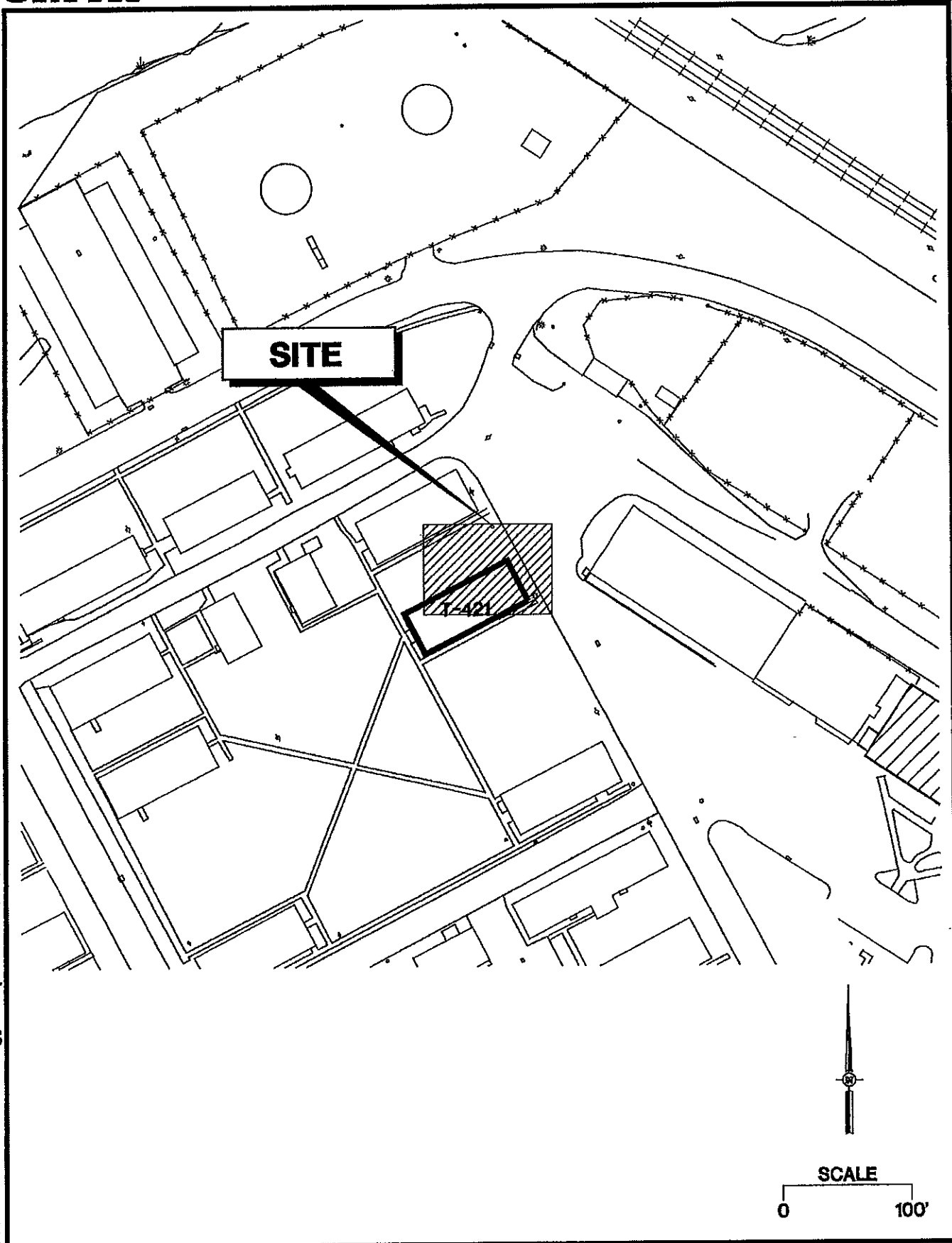
Local Geology

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

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

Source: Smith Technology Corporation (116)



Project No. 09-5004-08

Figure 2
Building 421
Site Map



(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.

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 site assessment activities.

1.4.2 Underground Storage Tank Excavation and Cleaning

Prior to UST decommissioning activities, surficial soil was removed to expose the UST and associated piping. All free product present in the piping was drained into the UST, and the UST was purged to remove vapors prior to cutting and removal of the piping. After removal of the associated piping, a manway was made in the UST to allow for proper cleaning. The UST was completely emptied of all liquids prior to removal from the ground. Approximately 124 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 (NJA-1603192).

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. Contamination was noted in the northwestern portion of the excavation in the vicinity of sample location A.

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



1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The tank was transported by 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 removal contractor labeled the UST prior to transport with the following information:

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

1.6 MANAGEMENT OF EXCAVATED SOILS

Based on visual observations, approximately 30 cubic yards of potentially contaminated soils were excavated from the northwestern portion of the excavation on July 22, 1994. On July 27, 1994, an additional 10 cubic yards of potentially contaminated soils were removed from the excavation due to elevated TPHC results. All potentially contaminated soils were stockpiled separately from other excavated material and were transported to the hazardous storage area on Main Post prior to ultimate disposal at Soil Remediation of Philadelphia. Soils that did not exhibit signs of contamination were used as backfill following removal of the UST.



2.0 SITE INVESTIGATION ACTIVITIES

2.1 OVERVIEW

The Site Investigation was managed and carried out by U.S. Army DPW personnel. All analyses were performed and reported by U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory. All sampling was performed under the direct supervision of a NJDEP Certified Sub-Surface Evaluator according to the methods described in the NJDEP *Field Sampling Procedures Manual* (1992). Sampling frequency and parameters analyzed complied with 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)
Closure Supervisor: George Bernotsky
Phone Number: (201) 427-2881
NJDEP Certification No.: 3249
- 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. Potentially contaminated soils were found in the northwestern portion of the excavation. Soils were removed from the northwestern portion of the excavation until no evidence of contamination remained. On



July 22, 1994 and July 27, 1994, a total of 40 cubic yards of potentially contaminated soils were removed from the excavation and were stockpiled for disposal.

2.3 SOIL SAMPLING

On July 22, 1994, following the removal of the UST, and approximately 30 cubic yards of potentially contaminated soil, post-excavation soil samples A, B, C, D, E, F, and DUP A were collected from a total of six (6) locations along the sidewalls of the excavation, immediately above groundwater. The samples were collected at a depth of 5.5 feet below ground surface (bgs). Groundwater was present at approximately 6.0 feet bgs. Sample H was collected along the former piping length of the excavation, which was approximately 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).

On July 27, 1994, approximately 10 cubic yards of potentially contaminated soils were removed from the northwestern portion of the excavation in the vicinity of sample location A. A post-excavation soil sample designated as "Site A" was then collected from the expanded portion of the excavation at a depth of 6.0 feet bgs, and was analyzed for TPHC.

The site assessment was performed by U.S. Army personnel in accordance with the NJDEP *Technical Requirements* and the NJDEP *Field Sampling Procedures Manual*. A summary of sampling activities including parameters analyzed is provided in Table 1. The post-excavation soil samples were collected using polystyrene scoops. Actual soil TPHC values may be higher than reported, due to sample utensil absorbency. If absorbency resulted in reducing the actual soil TPHC concentration by 50 percent, the highest soil contaminant would have been 420.0 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.



3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

To evaluate soil conditions following removal of the UST and associated piping, post-excavation soil samples were collected from a total of seven (7) locations on July 22, 1994, and from one (1) location on July 27, 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 July 22, 1994, and on July 27, 1994, from the UST excavation and from below piping associated with the UST contained concentrations of TPHC below the NJDEP soil cleanup criteria. Post-excavation soil samples B, D, E, and H collected on July 22, 1994 contained TPHC concentrations of 18.7 mg/kg to 210.0 mg/kg. Soil samples A and DUP A contained TPHC levels of 1,900 mg/kg and 2,025.0 mg/kg, respectively. All other samples contained non-detectable concentrations of TPHC. Post-excavation soil sample "Site A", collected on July 27, 1994, contained a TPHC concentration of 53.0 mg/kg.

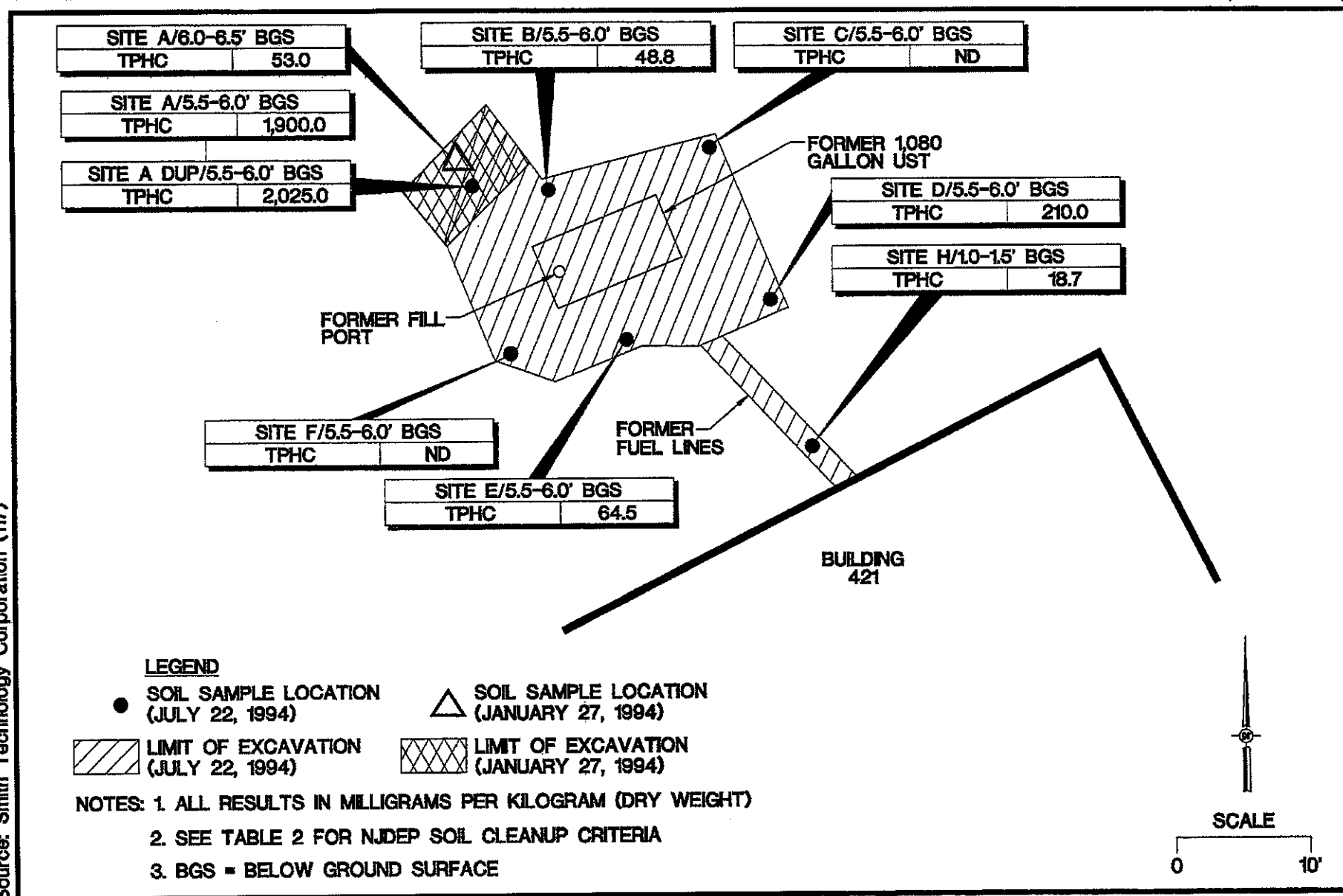
3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 421 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.

The existing discrepancy as listed in the Executive Summary is believed to be acceptable as explained and does not warrant further investigation or explanation. Procedures have been corrected to eliminate recurrences in the future.

No further action is proposed in regard to the closure and site assessment of UST No. 0090010-37 at Building 421.



SMITH

APPENDIX A

NJDEP BUST CLOSURE APPROVAL

UNDERGROUND STORAGE TANK SYSTEM CLOSURE APPROVAL

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL
PROTECTION AND ENERGY

DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
BUREAU OF UNDERGROUND STORAGE TANKS
CN-029, TRENTON, NJ 08625-0029

TMS #

UST #

C-93-3905

0090010

US Army
BLDG. 421
Ft. Monmouth, NJ

Monmouth

THE ABOVE LISTED FACILITY IS HEREBY GRANTED APPROVAL TO PERFORM
THE FOLLOWING ACTIVITY IN ACCORDANCE WITH N.J.A.C. 7:14B-1 et seq.:

Removal of: one 1,080 gallon #2 diesel UST(s) and appurtenant piping.

SITE ASSESSMENT: Soil samples will be taken every five (5) feet along the center line of each tank and one (1) soil sample for every 15 feet along all associated piping. Two (2) additional samples will be taken from around the tank and biased to the areas of highest field screened readings. Samples will be analyzed for TPHC. If sample results are greater than 1,000ppm than 25% of the samples will be analyzed for VO+10.

ON-SITE MANAGER: C. Appleby

TELEPHONE: 908-532-1475

OWNER:

TELEPHONE:

EFFECTIVE DATE **SEP 07 1993**

THIS FORM MUST BE DISPLAYED AT THE SITE DURING THE APPROVED
ACTIVITY AND MUST BE MADE AVAILABLE FOR INSPECTION AT ALL TIMES.



KEVIN F. KRATINA, BUREAU CHIEF
BUREAU OF UNDERGROUND STORAGE TANKS

SMITH

APPENDIX B
CERTIFICATIONS

FEB-15-95 WED 14:11

CUTE INC.

FAX NO. 1908 823 7816

P. 05/28

UNDERGROUND STORAGE TANK (UST)
CLOSURE CERTIFICATION

BUILDING NO. 421

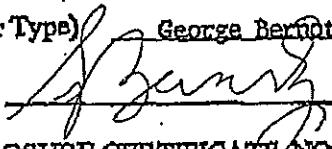
NJDEP UST REGISTRATION NO. 90010-37

DATE TANK REMOVED 7/22/94

IJO / CONTRACT NUMBER 91-0148

I CERTIFY UNDER PENALTY OF LAW THAT TANK DECOMMISSIONING ACTIVITIES WERE PERFORMED IN COMPLIANCE WITH NJAC 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) George Bernatsky

SIGNATURE 

NJDEP UST CLOSURE CERTIFICATE NO. 0003249

COMPANY PERFORMING TANK DECOMMISSIONING CUTE Inc

NJDEP UST CLOSURE CORPORATE CERTIFICATE NO. 0200128

DATE OF SUBMITTAL 8/16/94

UST-014
2/91



State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
CN 028
Trenton, NJ 08625-0028
Tel. # 609-984-3156
Fax. # 609-292-5604

Scott A. Weiner
Commissioner

Karl J. Delaney
Director

FOR STATE USE ONLY

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

**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 421

009001037
FACILITY REGISTRATION #

I. FACILITY NAME AND ADDRESS

US Army Fort Monmouth, New Jersey
Directorate of Public Works
Fort Monmouth, New Jersey County Monmouth
Telephone No. 908-532-1475

OWNER'S NAME AND ADDRESS, if different from above

Telephone No. _____

II. DISCHARGE REPORTING REQUIREMENTS

- A. Was contamination found? ☒ Yes ☐ No If Yes, Case No. 94-7-22-1039-26
(Note: All discharges must be reported to the Environmental Action Hotline (609) 292-7172)
- B. The substance(s) discharged was(were) fuel oil
- C. Have any vapor hazards been mitigated? ☐ Yes ☐ No ☒ N/A

III. DECOMMISSIONING OF TANK SYSTEMS

Closure Approval No. 093-3905

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 annotate 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 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:

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

C. Soil samples and borings (check appropriate answer)

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

D. Ground Water Monitoring

1. Number of ground water monitoring wells installed 0

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

- Site diagram number for each well installed
- Depth of ground water surface
- Depth of screened interval
- Method detection limit of the method used
- Well logs
- Well permit numbers
- 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:

- N/A ppb total BTEX, N/A ppb total non-targeted VOC
- N/A ppb total B/N, N/A ppb total non-targeted B/N
- 210.0 ppm TPHC
- N/A ppb (for non-petroleum substance)

C. Remediation of free product contaminated soils

- 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 As pertains to this site
- Free product contaminated soils are suspected to exist below the water table ☐ Yes ☒ No
- 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:

- ppb total BTEX, ppb total non-targeted VOC
- ppb total B/N, ppb total non-targeted B/N
- ppb total MTBE, ppb total TBA
- ppb (for non-petroleum substance)
- greatest thickness of separate phase product found
- separate phase product has been delineated ☐ Yes ☐ No ☐ N/A

C. Result(s) of well search

- 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
- 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 M. Deasi SIGNATURE _____

COMPANY NAME US Army Fort Monmouth DATE _____
(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) See Appendix B 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 _____

COMPANY NAME US 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)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 _____

SMITH

APPENDIX C
WASTE MANIFEST

AUG-10-94 WED 9:30

C. U. T. E. =

FAX NO. 201 423 6220

P. 08



State of New Jersey
Department of Environmental Protection and Energy
Hazardous Waste Regulation Program
Manifest Section

CN 02B, Trenton, NJ 08625-0028

Please type or print in block letters. (Form designed for use on all 11-1/2" (11-1/2") typewriter.)

Form Approved. OMB No. 2050-0039. Expires 7-10-95.

HAZARDOUS WASTE MANIFEST 1. Generator's US EPA ID No. NJ 31 31 21 10 01 21 03 970131A72		Manifest Document No. 70131A72		2. Page of 1		3. Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address US Army Communications Electronics Command Main Post, c/o James Shirghio, Bldg 2504 ATTN: SELFM-DL-EM-MS, Fort Monmouth, NJ 07703				4. State Manifest Document Number NJA 1603192			
4. Generator's Phone (908) 532-6223				5. State Generator's ID			
5. Transporter 1 Company Name Freehold Cartage, Inc.				6. US EPA ID Number NJD0514112611614			
7. Transporter 2 Company Name				8. US EPA ID Number			
9. Designated Facility Name and Site Address Lionetti Oil Recovery Co., Inc. Runyon & Cheesequake Rds. Old Bridge, NJ 08857				10. US EPA ID Number NJD08140414101614			
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number) HM				12. Containers No. Type		13. Total Quantity 14. Unit Wt/Vol 15. Waste No.	
a. ☒ X Petroleum Oil, N.O.S. Class 3 (Petroleum Oil) Combustible Liquid UN 1270 PG III				1011 TIT		000512 6 X 17 12 12	
b. ☒ X Petroleum oil, Nos class 3 (Petroleum oil) combustible liquid UN 1270 PG III				10011 TIT		000844 6 X 17 12 12	
c. ☒ X Petroleum oil, Nos class 3 (Petroleum oil) combustible liquid UN 1270 PG III				00011 TIT		000124 6 X 17 12 12	
d. ☒ X Petroleum oil, Nos class 3 (Petroleum oil) combustible liquid, UN 1270 PG III				00011 TIT		000332 6 X 17 12 12	
1. Additional Descriptions for Materials Listed Above Petroleum Oil 60% Water 40% L, T				K. Handling Codes for Wastes Listed Above 704 Filtration		704 Filtration	
Petroleum Oil 60% Water 40% L, T				704 Filtration		704 Filtration	
15. Special Handling Instructions and Additional Information NOT EPA REGULATED. REGULATED AS HAZARDOUS WASTE BY NJ. 24 HOUR EMERGENCY PHONE: 201-427-2881 NJ DECAL# 55404				11a. ERG #27 11b. NJ DECAL# 55404			
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.							
Printed/Typed Name Joseph M. Fallon				Signature Joseph M. Fallon		Month Day Year 07/13/94	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name PAULO R MEDEIROS				Signature Paulo R Medeiros		Month Day Year 07/13/94	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name				Signature		Month Day Year	
19. Discrepancy Indication Space							
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 13. Printed/Typed Name							
Signature				Month Day Year			

EPA Form 4700-23 (Rev. 3/78) Previous editions are obsolete

1 - TSD MAIL TO - TSD'S STATE

SIGNATURE AND INFORMATION MUST BE LEGIBLE ON ALL COPIES

160319Z
NJA

CALCULATION SHEET

Building No. 421

NJDEPE Reg. No. 0090010 - 37

Tank Size 1000 gal

Tank Void 7.5 tons

CLEAN FILL

ITEM NO.	DESCRIPTION	QUANTITY	TICKET #
	<u>Fill</u>	22.25 <u>14.75</u>	<u>18812</u>

TOTAL 14.75

STONE

ITEM NO.	DESCRIPTION	QUANTITY	TICKET #

TOTAL 0

ID#27 soil to stockpile (0 + 14.75) - 7.5 = 7.25 tons

Chargeable clean fill 7.25

Chargeable stone 0

AUG-10-94 WED 9:29

C. U. T. E.

FAX NO. 201 423 8050

P. 05



1453 W. Park Ave., Wayside
Asbury Park, N.J. 07712
908-483-3333

(294)

18812

Order Date July 13, 94Name Big A TruckingDeliver Date 1/1Address CLARK FILLDelivered ☐ C.O.D. ☐F.O.B./P.U. ☐ Charge ☒

Item(s)	Quantity / Measure (tons, lbs., yds, ea.)	Unit Price	Total
	G 70000		
	T 25500	22.25 tons	
	N 44500		
Driver <u>[Signature]</u>		Sub Total	
Received <u>[Signature]</u>		Delivery	
* Company not responsible for damage done on public roads. Color not guaranteed.			
Have gravel with gravel since 1925			
		N.J. Tax	
		Total	

Bldg 411 7.5 Tons
Bldg 421 14.75 TONS

SMITH

APPENDIX D
UST DISPOSAL CERTIFICATE

AUG-10-94 WED 9:29

C.U.

FAX NO. 201 425-150

P. 07

Bldg 423-0090010-39

~~Bldg 423-0090010-39~~

MAZZA & SONS, INC.

NO. _____

Bldg 142A-ust-0090010-13

Metal Recyclers

DATE 28 JUL 94

Bldg 165-ust-90010-16

Auto and Truck

Bldg 421-ust-0090010-37

3230 Shallo Rd.

Fort Monmouth

Tinton Falls, NJ

Eatontown, NJ

(908) 922-8292

Customer's Name

Cute inc

Address

152 Garden Ave P.O. #37 Midland Pk, NJ

Make of
Aulos

Tires

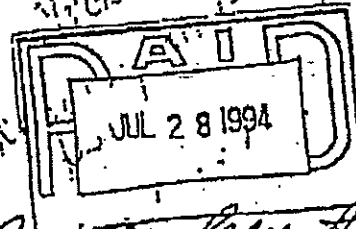
Tank

Pne:

47840 LB 6

36940 LB 6

10900



Paid in Recy. Acct.
Bal. \$28.84

Weight

Price

Cast Iron

Steel

Lt. Iron

Copper #1

Copper #2

Lt. Copper

Brass

Alum Clean

Lead

Stainless

Radiators

Battery

TOTAL AMOUNT:

Weigher

Customer

Don Ellis

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 #: 1580.1--.8
Sample Rec'd: 07/22/94
Analysis Start: 07/24/94
Analysis Comp: 07/24/94

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

NJDEPE UST Reg. #:	
Closure #:	C-93-3905
DICAR #:	
Location #:	Bldg. 421

Lab ID.	Description	%Solid	Result (mg/Kg)	MDL
1580.1	Site A, OVA= 11.	82	1900.	26.
1580.2	Site B, OVA= ND	90	48.8	6.6
1580.3	Site C, OVA= ND	86	ND	6.6
1580.4	Site D, OVA= ND	83	210.	6.6
1580.5	Site E, OVA= ND	88	64.5	6.6
1580.6	Site F, OVA= ND	86	ND	6.6
1580.7	Site G, (Dup) OVA= 10	81	2025.	26.
1580.8	Site H, pipe OVA= ND	90	18.7	6.6
M. Bl.	Method Blank	100	ND	3.3

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

* = Silica Gel Added, NA = Not Applicable

1580.3 dup= 100% 1580.3 s= 97% 1580.3 sd= 100% RPD= 3.0%



Brian K. McKee
Laboratory Director

U.S. ARMY FORT MONMOUTH

P.O. #:

Chain of Custody

Project #: 0105011		Sampler:		Date / Time		Analysis Parameters		Start:					
Customer: 94-7-22-1039 ORCA-26 Duke Desa		Site Name: BUDA 421		7/22 14-45				Finish:					
Phone:		Toll C-93-3905						Preservation Method					
Lab Sample ID Number	Date/Time	Customer Sample Location/ID Number	Sample Matrix	# of Bottles	Remarks								
1580.1	7/22 2-00	Site A NW Site	Soil	1	X	X	X						
2	" 2-05	Site B North	Soil	1	X	X	X						
3	" 2-10	Site C Northwest	Soil	1	X	X	X						
4	" 2-16	Site D South East	Soil	1	X	X	X						
5	" 2-21	Site E South	Soil	1	X	X	X						
6	" 2-26	Site F Southwest	Soil	1	X	X	X						QVA calibration
7	" 2-30	Site G (DUP) NW Site	Soil	1	X	X	X						to 95% PPL
	"	Site H (DUP)											Methane and zero air
✓ 8	" 2-36	Site H (Drive)	Soil	1	X	X	X						
Relinquished By (signature)		Date / Time		Received By (signature)		Shipped By:							
Relinquished By (signature)		Date / Time		Received for Lab by (signature):		Date / Time							
[Signature]		7/22/14-45		[Signature]		7/22/94							
Note: A drawing depicting sample location should be attached or drawn on the reverse side of this chain of custody.													

SRI-ENV COC form 01

Page 2 of 2 Pages

Rev. A. Date: 02 Apr. 93

Environmental Laboratory

Certification Number 13461

41

Lab. ID #: 1580.1-.8
Sample Rec'd: 07/22/94
Analysis Start: 07/24/94
Analysis Comp: 07/24/94

Y

[illegible]

Brian K. McKee
Laboratory Director

July 24, 1994 Sarah J. Hubbard

1503

BLANK

10.75 110 MV

81.5 206 MV

163 411 MV

1580.1 150 MV dil 4

1580.2 20 MV

1580.3 0 MV

1580.3 0 MV duplicate

1580.3 35 MV Spike

1580.3 36 MV dup Spike

1580.4 69 MV

1580.5 25 MV

1580.6 34 MV

~~1580.7~~ 10 MV 11/24/94

1580.7 158 dil 4

1580.8 10 MV

1580.1574.1 0 MV

PRINTED IN U.S.A.

PHC Conformance/Non-conformance Summary Report

- | | No | Yes |
|---|-------------------------------------|-------------------------------------|
| 1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank | ☒ | ☐ |
| <hr/> | | |
| 2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range) | ☐ | ☒ |
| <hr/> | | |
| 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) | ☐ | ☒ |
| <hr/> | | |
| 6. Analysis holding time met. (If not met, list number of days exceeded for each sample) | ☐ | ☒ |
| <hr/> | | |

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 #1580


Brian K. McKee
Laboratory Manager

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 #: 1593.1
Sample Rec'd: 07/27/94
Analysis Start: 08/08/94
Analysis Comp: 08/08/94

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

NJDEPE UST Reg. #: _____
Closure #: C-93-3905
DICAR #: _____
Location #: Bldg. 421

Lab ID.	Description	%Solid	Result (mg/Kg)	MDL
1593.1	Site A, NW Site	87	53.0	6.6
M. Bl.	Method Blank	100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit
* = Silica Gel Added, NA = Not Applicable
Batch dup= 101% Batch sp= 100% Batch spd= 104% RPD= 3.7%



Brian K. McKee
Laboratory Director

411

Lab. ID #: 1593.1
Sample Rec'd: 07/27/94
Analysis Start: 08/08/94
Analysis Comp: 08/08/94

Y

[illegible]

Brian K. MK

U.S. ARMY FORT MONMOUTH

P.O. #:

Chain of Custody

Project #: 422 Closure		Sampler:		Date / Time		Analysis Parameters		Start:	
Customer: 94-7-22-1039 Dinkar Desai -26		Site Name: Bun 421 C-93-3905		7/27 11-30		TPM No. 500 unlabeled		Finish:	
Phone:								Preservation Method	
Lab Sample ID Number	Date/Time	Customer Sample Location/ID Number	Sample Matrix	# of Bottles	Remarks				
1593.1	7/27 10-48	Stk A1 NW Stk.	SOIL		VIA Calibrated to 95 ppm Kefbar Beau-60				
Relinquished By (signature)		Date / Time		Received By (signature)		Shipped By:			
Relinquished By (signature)		Date / Time		Received for Lab by (signature):		Date / Time			
[Signature]		7/27/1400		[Signature]		7-27-94 1400			

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

195-6970-00

195-6970-00

PRINTED IN U.S.A.

1592.0	40 MV
Building 430	
1592.1	14 MV
1592.2	7 MV
1592.3	14 MV
1592.4	8 MV
1592.5	173 MV
1592.6	15 MV
1592.7	13 MV
1592.8	6 MV
Building 421	
1593.1	8 MV
Building # 296	
1594.1	66 MV (Lil 7)
Building 287	
1596.1	36 (Lil 7)
Building 491	
1595.1	115 MV
1595.1	Dep 116 MV
1595.1	[Spk] 221
1595.1	Spk Dep 225
1595.2	65 MV
1595.3	9 MV
1595.4	13 MV
1595.5	21 MV
1595.6	23 MV

Blank	0 MV
40.75	56 MV
81.5	120 MV
163	242 MV
1591.1 (RM) Building 423	
1591.2	8 MV
1591.3	5 MV
1591.4	4 MV
1591.5	5 MV
1591.6	4 MV
1591.7	5 MV
1591.8	10 MV
Building 430	
1592.1	14 MV
1592.2	7 MV
1592.3	14 MV
1592.4	8 MV
1592.5	173 MV
1592.6	15 MV
1592.7	13 MV
1592.8	6 MV
Building 421	
1593.1	8 MV
Building # 296	
1594.1	66 MV (L17)

PRINTED IN U.S.A.

195-6970-00

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 #1593

Brian K. McKee

Laboratory Manager



423-39

United States Army

Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

***Building 423
Main Post Area***

**NJDEP UST Registration No. 090010-39
NJDEP Closure Approval No. C-93-3904**

February 1996

SMITH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

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

BUILDING 423

**MAIN POST AREA
NJDEP UST REGISTRATION NO. 090010-39
NJDEP CLOSURE APPROVAL NO. C-93-3904**

FEBRUARY 1996

**PROJECT NO.: 09-5004-07
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
THREE TERRI LANE
BURLINGTON, NEW JERSEY 08016**

423.DOC



Engineering • Consulting • Remediation • Construction



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 TANKS	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 July 25, 1994, a steel underground storage tank (UST) was closed by removal in accordance with the New Jersey Department of Environmental Protection (NJDEP) Closure Approval No. C-93-3904 at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 090010-39, was located immediately adjacent to Building 423 in the Main Post area of U.S. Army, Fort Monmouth. UST No. 090010-39 was a 1,080-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). Soils surrounding the tank were screened visually and with air monitoring instruments for evidence of contamination. Following removal, the UST was inspected for corrosion holes. No holes were noted in the UST and no potentially contaminated soils were observed surrounding the tank.

On July 25, 1994, following removal of the UST, post-excavation soil samples A, B, C, D, E, F, Dup A, and H were collected from a total of seven (7) locations along the sidewalls of the excavation. All samples were analyzed for total petroleum hydrocarbons (TPHC). The piping length was 12 feet, therefore no piping samples were collected.

Findings

All post-excavation soil samples collected from the UST excavation and from below piping associated with the former UST at Building 423 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). Samples A, B, C, D, E, F, DUP A, and H contained levels of TPHC ranging in concentration from 32.1 mg/kg to 65.6 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 were 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 remain 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. 090010-39 at Building 423.



1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 090010-39, was closed at Building 423 at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on July 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 July 27, 1993. The plan was approved on September 7, 1993 and assigned TMS No. C-93-3904. The UST was a steel, 1,080-gallon tank containing No. 2 diesel oil.

Decommissioning activities for UST No. 090010-39 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 Inc., the contractor that conducted the decommissioning activities, is registered and certified by the NJDEP for performing UST closure activities. Closure of UST No. 090010-39 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. 090010-39 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.

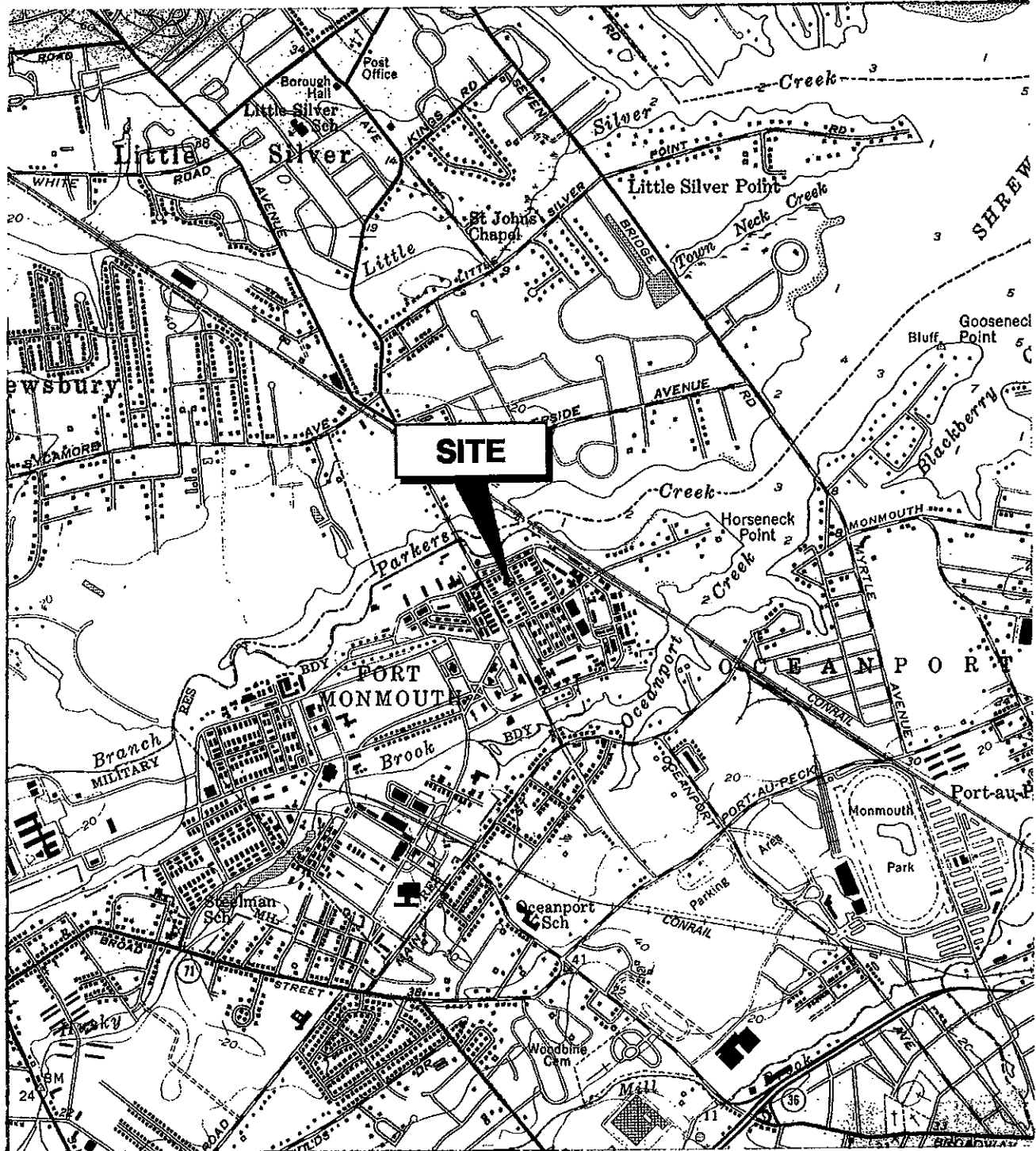
This UST Closure and Site Investigation Report has been prepared by Smith Environmental Technologies Corporation, to assist the United States Army Directorate of Public Works (DPW) in complying with the NJDEP Bureau of Underground Storage Tanks (NJDEP-BUST) regulations. The applicable NJDEP-BUST regulations 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.

SMITH

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

Source: BCM/Smith Environmental Technologies Corporation (026)



SCALE
0 2000 FT.

NEW
JERSEY



QUADRANGLE LOCATION

Project No. 09-5004-07

**Figure 1
Site Location Map**

1.2 SITE DESCRIPTION

Building 423 is located in the northeastern portion of the Main Post area of Fort Monmouth as shown on Figure 1. UST No. 090010-39 was located north of Building 423 and appurtenant piping ran approximately 12 feet west from Building 423 to the fill port area. A site map is provided on Figure 2. The fill port area was located directly above the UST.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the area surrounding Building 423. 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).

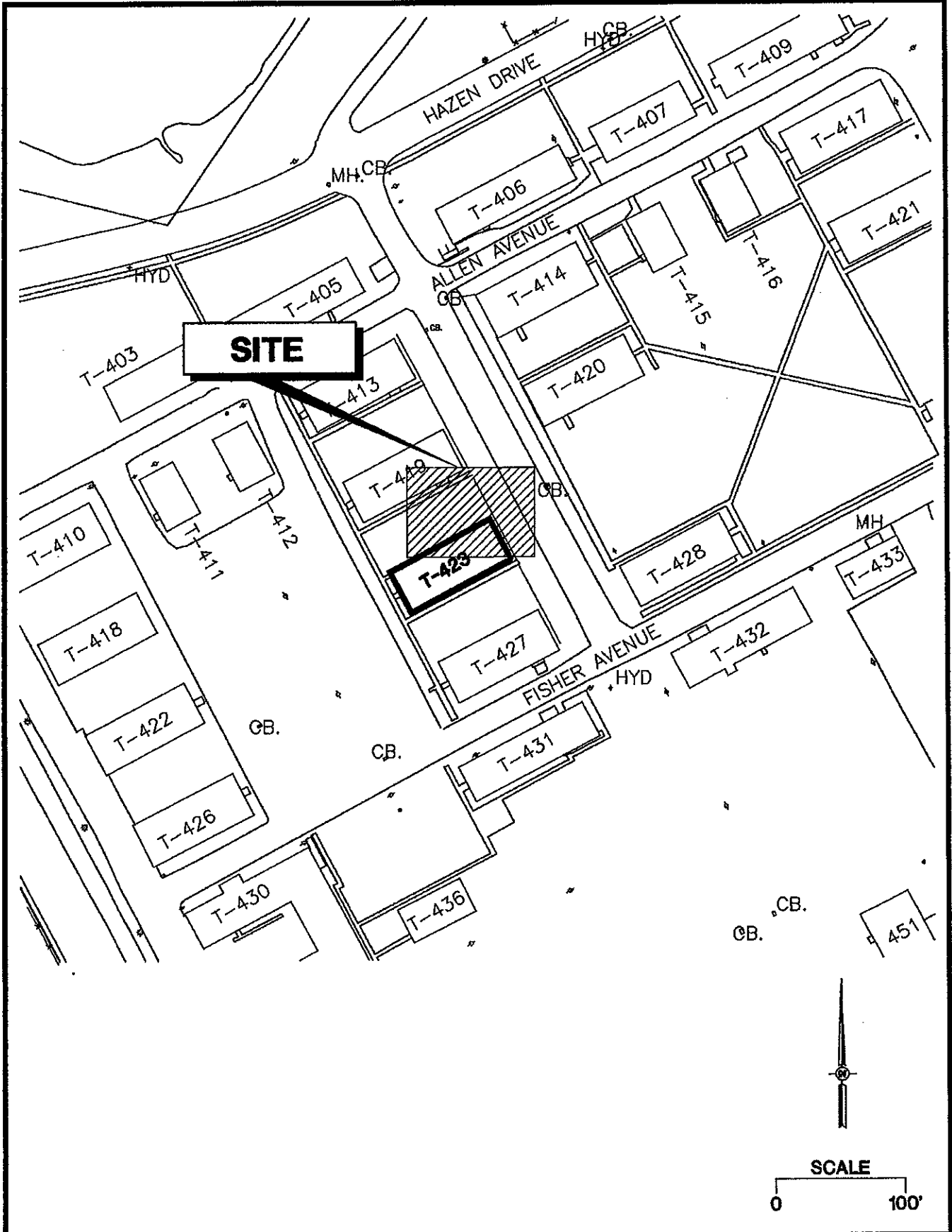
Local Geology

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,

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

Source: BCM/Smith Environmental Technologies Corporation (052)



Project No. 09-5004-07

Figure 2
Building 423
Site Map

SMITH

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.

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 TANKS

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. A total of 232 gallons of liquid were transported by Freehold Cartage Inc. to Lionetti Oil Recovery Co. Inc., a NJDEP-approved petroleum recycling and disposal facility located in Old Bridge, New Jersey. Refer to Appendix C for waste manifest (No. NJA-1603192).

The UST was cleaned prior to removal from the excavation in accordance with NJDEP-BUST regulations. After the UST was removed from the excavation, it was staged on polyethylene sheeting and examined for corrosion 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 noted.

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



1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The tank was transported by 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-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* (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) 462-1001
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, were found to be free of potential contamination.



2.3 SOIL SAMPLING

On July 25, 1994, post-excavation soil samples A, B, C, D, E, F, DUP A, and H, were collected from a total of seven (7) locations along the sidewalls of the UST excavation. All samples were analyzed for total petroleum hydrocarbons (TPHC). Because none of the post-excavation soil samples exhibited a TPHC concentration exceeding 1,000 milligrams per kilogram (mg/kg), none were analyzed for volatile organic compounds with a forward library search for 10 tentatively identified compounds (VOCs).

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 131.2 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 423, MAIN POST
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Matrix	Sample Type	Analytical Parameters (and USEPA Methods) *	Sampling Method
A	07-27-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
B	07-27-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
C	07-27-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
D	07-27-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
E	07-27-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
F	07-27-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
DUP A	07-27-94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
H	07-27-94	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 seven (7) locations on July 25, 1994. All samples were analyzed for TPHC. The post-excavation soil sample 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 July 25, 1994, from the UST excavation and from below piping associated with the UST contained either non-detectable concentrations of TPHC or concentrations below the NJDEP soil cleanup criteria. Samples A, B, C, D, E, F, DUP A, and H contained levels of TPHC ranging in concentration from 32.1 mg/kg to 65.6 mg/kg.

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 423 were below the NJDEP soil cleanup criteria for total organic contaminants.

Based on the post-excavation soil sampling results, soils with TPHC concentrations exceeding the NJDEP soil cleanup criteria of 10,000 mg/kg do not remain 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. 090010-39 at Building 423.

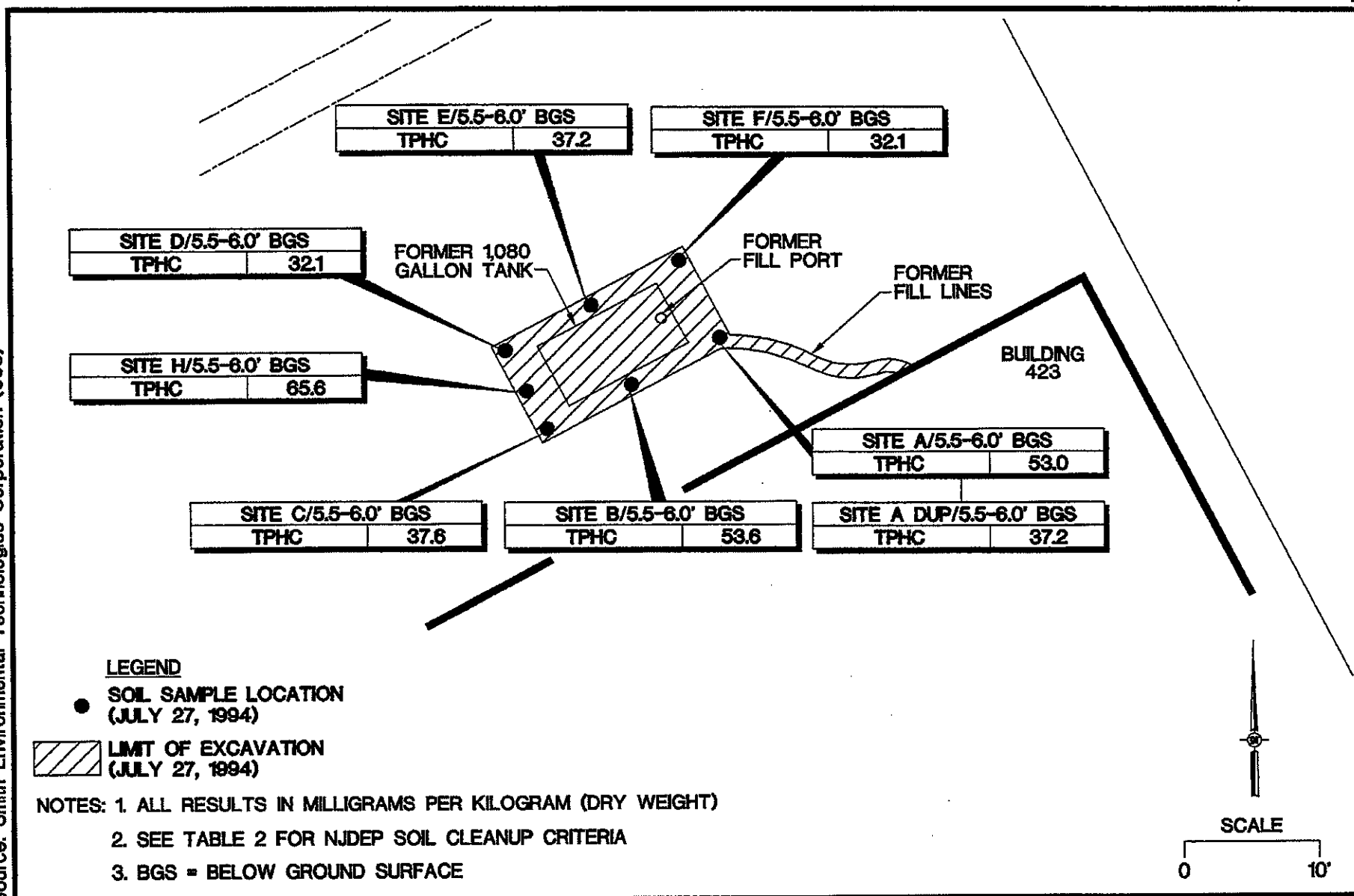


TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
BUILDING 423
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/5.5-6.0'	1591.1	07-27-94	08-08-94	Total Solid	--	--	87 %	--	--
				TPHC	6.6	yes	53.0	10,000	--
B/5.5-6.0'	1591.2	07-27-94	08-08-94	Total Solid	--	--	86 %	--	--
				TPHC	6.6	yes	53.6	10,000	--
C/5.5-6.0'	1591.3	07-27-94	08-08-94	Total Solid	--	--	87 %	--	--
				TPHC	6.6	yes	37.6	10,000	--
D/5.5-6.0'	1591.4	07-27-94	08-08-94	Total Solid	--	--	88 %	--	--
				TPHC	6.6	yes	32.1	10,000	--
E/5.5-6.0'	1591.5	07-27-94	08-08-94	Total Solid	--	--	88 %	--	--
				TPHC	6.6	yes	37.2	10,000	--
F/5.5-6.0'	1591.6	07-27-94	08-08-94	Total Solid	--	--	88 %	--	--
				TPHC	6.6	yes	32.1	10,000	--
DUP A/5.5-6.0'	1591.7	07-27-94	08-08-94	Total Solid	--	--	88 %	--	--
				TPHC	6.6	yes	37.2	10,000	--
H/5.5-6.0'	1591.8	07-27-94	08-08-94	Total Solid	--	--	84 %	--	--
				TPHC	6.6	yes	65.6	10,000	--

Notes:

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

Smith Environmental Technologies Corporation (Project No. 09-5004-07)

soil423.doc

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APPENDIX A

NJDEP BUST CLOSURE APPROVAL

UNDERGROUND STORAGE TANK SYSTEM CLOSURE APPROVAL

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL
PROTECTION AND ENERGY

DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
BUREAU OF UNDERGROUND STORAGE TANKS
CN-029, TRENTON, NJ 08625-0029

TMS #

UST #

C-93-3904

0090010

US Army
BLDG. 423
Ft. Monmouth, NJ

Monmouth

THE ABOVE LISTED FACILITY IS HEREBY GRANTED APPROVAL TO PERFORM
THE FOLLOWING ACTIVITY IN ACCORDANCE WITH N.J.A.C. 7:14B-1 et seq.:

Removal of: one 1,080 gallon #2 diesel UST(s) and appurtenant piping.

SITE ASSESSMENT: Soil samples will be taken every five (5) feet along the center line of each tank and one (1) soil sample for every 15 feet along all associated piping. Two (2) additional samples will be taken from around the tank and biased to the areas of highest field screened readings. Samples will be analyzed for TPHC. If sample results are greater than 1,000ppm than 25% of the samples will be analyzed for VO+10.

ON-SITE MANAGER: C. Appleby

TELEPHONE: 609-532-1475

OWNER:

TELEPHONE:

EFFECTIVE DATE: SEP 07 1993

THIS FORM MUST BE DISPLAYED AT THE SITE DURING THE APPROVED
ACTIVITY AND MUST BE MADE AVAILABLE FOR INSPECTION AT ALL TIMES.


KEVIN F. KRATINA, BUREAU CHIEF
BUREAU OF UNDERGROUND STORAGE TANKS

SMITH

APPENDIX B
CERTIFICATIONS

FEB-15-95 WED 14:12

CUTE INC.

FAX NO. 1908 823 7816

P.06/28

**UNDERGROUND STORAGE TANK (UST)
CLOSURE CERTIFICATION**

BUILDING NO. 423

NJDEP UST REGISTRATION NO. 90010-39

DATE TANK REMOVED 7/25/94

UO / CONTRACT NUMBER 91-0148

I CERTIFY UNDER PENALTY OF LAW THAT TANK DECOMMISSIONING ACTIVITIES WERE PERFORMED IN COMPLIANCE WITH NJAC 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) George Bernotsky

SIGNATURE *George Bernotsky*

NJDEP UST CLOSURE CERTIFICATE NO. 0003249

COMPANY PERFORMING TANK DECOMMISSIONING CUTE Inc

NJDEP UST CLOSURE CORPORATE CERTIFICATE NO. 0200128

DATE OF SUBMITTAL 8/16/94

UST-014
2/91



FOR STATE USE ONLY

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

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

Scott A. Weiner
Commissioner

Karl J. Delaney
Director

**UNDERGROUND STORAGE TANK
SITE ASSESSMENT SUMMARY**

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

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

INSTRUCTIONS:

- Please print legibly or type.
- Fill in all applicable blanks. This form will require various attachments in order to complete the Summary. The technical guidance document, Interim Closure Requirements for USTs, 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 sealed 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. 423

090010-39
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 County Monmouth
Telephone No. (908) 532-1475

OWNER'S NAME AND ADDRESS, if different from above

Telephone No. _____

II. DISCHARGE REPORTING REQUIREMENTS

A. Was contamination found? ☐ 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. C-93-3904

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:

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

C. Soil samples and borings (check appropriate answer)

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:

- Customer sample number (keyed to the site map)
- The depth of the soil sample
- Soil boring logs
- Method detection limit of the method used
- QA/QC Information as required

D. Ground Water Monitoring

1. Number of ground water monitoring wells installed 0
2. Attach the analytical results of the ground water samples in tabular form. Include the following information for each sample from each well:
 - a. Site diagram number for each well installed
 - b. Depth of ground water surface
 - c. Depth of screened interval
 - d. Method detection limit of the method used
 - e. Well logs
 - f. Well permit numbers
 - g. QA/QC information as required

V. SOIL CONTAMINATION

- A. Was soil contamination found? 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. 65.6 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

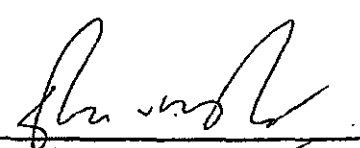
G. Delineation of contamination

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 M. Desai SIGNATURE 

COMPANY NAME U.S. Army, Fort Monmouth DATE 11/1/91
(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 _____

SMITH

APPENDIX C

WASTE MANIFEST

AUG-10-94 WED 9:30

C.U.

FAX NO. 201 42 350

P.08



State of New Jersey
Department of Environmental Protection and Energy
Hazardous Waste Regulation Program
Manifest Section
CN 028, Trenton, NJ 08625-0028

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

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

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NJ 11 31 21 11 01 01 21 01 51 7013192		Manifest Document No. 1	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address US Army Communications Electronics Command Main Post, c/o James Shirghio, Bldg 2504 ATTN: SELFM-DL-EM-MS, Fort Monmouth, NJ 07703				State Manifest Document Number NJA 1603192			
4. Generator's Phone (908) 532-6223				B. State Generator's ID			
5. Transporter 1 Company Name Freehold Cartage, Inc.				C. State Trans. ID NJDEP 22165			
6. US EPA ID Number NJ 3D 0514112611614				D. Transporter's Phone (908) 462-1001			
7. Transporter 2 Company Name				E. State Trans. ID			
8. US EPA ID Number				F. Transporter's Phone ()			
9. Designated Facility Name and Site Address Lionetti Oil Recovery Co., Inc. Runyon & Cheesequake Rds. Old Bridge, NJ 08857				G. State Facility's ID			
10. US EPA ID Number NJ 3D 0818140414101614				H. Facility's Phone (908) 721-0900			
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) NM				12. Containers No. Type	13. Total Quantity	14. Unit Weight	15. Waste No.
a. X Petroleum Oil, N.O.S. Class 3 (Petroleum Oil) Combustible Liquid UN 1270 PG III				6011 TIT	000572	6	X 17 12 12
b. X Petroleum oil, nos class 3 (Petroleum oil) combustible liquid UN 1270 PG III				6011 TIT	000844	6	X 17 12 12
c. X Petroleum oil, nos class 3 (Petroleum oil) combustible liquid UN 1270 PG III				6011 TIT	000128	6	X 17 12 12
d. X Petroleum oil, nos class 3 (Petroleum oil) combustible liquid UN 1270 PG III				6011 TIT	000232	6	X 17 12 12
16. Additional Descriptions for Materials Listed Above Petroleum Oil 60% Water 40% L, T				K. Handling Codes for Wastes Listed Above TO4 Filtration TO4 Filtration			
15. Special Handling Instructions and Additional Information NOT EPA REGULATED. REGULATED AS HAZARDOUS WASTE BY NJ. 24 HOUR EMERGENCY PHONE: 201-427-2881 NJ DECAL# 55404				11a. ERG #27 a) NJDEP 000000-28 b) NJDEP 000000-47 c) NJDEP 000000-37 d) NJDEP 000000-39			
18. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.							
Printed/Typed Name Joseph M. Fallon				Signature Joseph M. Fallon			
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name PAULO R MEDEIROS				Signature PAULO R MEDEIROS			
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name				Signature			
19. Discrepancy Indication Space							
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. Printed/Typed Name							
Signature							
Month Day Year							

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

1 - TSD MAIL TO - TSD'S STATE

SIGNATURE AND INFORMATION MUST BE LEGIBLE ON ALL COPIES

NJA 1603192

CALCULATION SHEET

Building No. 423

NJDEPE Reg. No. 0090010 -39

Tank Size 1000 gal

Tank Void 7.5 tons

CLEAN FILL

ITEM NO.	DESCRIPTION	QUANTITY	TICKET #
	<u>Fill</u>	<u>7.5</u>	<u>18813</u>

TOTAL 7.5

STONE

ITEM NO.	DESCRIPTION	QUANTITY	TICKET #

TOTAL 0

ID#27 soil to stockpile (0 + 7.5) - 7.5 = 0 tons

Chargeable clean fill 0

Chargeable stone 0

AUG-10-94 WED 8:33

C.U.T.E.

FAX NO. 201 423 8050

P. 12



1453 W. Park Ave., Wyckde
Asbury Park, N.J. 07712
808-493-3333

296

18813

Order Date July 13, 94Name Big A TruckingDeliver Date 1/1/1Address CLAN: FILLDelivered ☐ C.O.D. ☐F.O.B./P.U. ☐ Charge ☒

Item(s)	Quantity / Measure (tons, lbs., yds., ea.)	Unit Price	Total
G	68250		
T	25500	21.38 Tons	
X	42750		

Driver No. 23414

Sub Total

Received [Signature]

Delivery

* Company not responsible for damage done on public roads. Color not guaranteed

N.J. Tax

*Have gravel with gravel
since 1925*

Total

Bldg 430 3.8 tons
Bldg 423 7.5 tons
Bldg 491 10.08 tons

SMITH

APPENDIX D

UST DISPOSAL CERTIFICATE

AUG-10-94 WED 9:29

C.U.T.E.

FAX NO. 201 423 0000

P.07

Bldg 423-0090010-39

MAZZA & SONS, INC.

NO. _____

Bldg 142A-ust-0090010-13

Metal Recyclers

DATE 28 JUL 94

Bldg 165-ust-90010-16

Auto and Truck

Bldg 421-ust-0090010-37

3230 Shallo Rd.

Tinton Falls, NJ

(908) 922-9292

Est Monmouth

at Montclair, NJ

Customer's Name

Cute inc

Address

152 Garden Ave P.O. 237 Montclair Plk, NJ

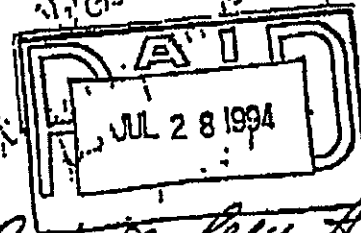
Make of
Aulos

Tires

Tank

Price:

47840 LB 6



Paid in Recy. Acct.

Weight

Price

Cast Iron

Steel

Lt. Iron

Copper #1

Copper #2

Lt. Copper

Brass

Alum Clean

Lead

Stainless

Radiators

Battery

TOTAL AMOUNT:

Weigher

Customer

Don Ellis

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 #: 1591.1-.8
 Sample Rec'd: 07/27/94
 Analysis Start: 08/08/94
 Analysis Comp: 08/08/94

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

NJDEPE UST Reg. #:
 Closure #:
 DICAR #:
 Location #: Bldg. 423

Lab ID.	Description	%Solid	Result (mg/Kg)	MDL
1591.1	Site A, SE OVA< 1	87	53.0	6.6
1591.2	Site B, S	86	53.6	6.6
1591.3	Site C, SW	87	37.6	6.6
1591.4	Site D, NW	88	32.1	6.6
1591.5	Site E, N	88	37.2	6.6
1591.6	Site F, NE	88	32.1	6.6
1591.7	Site G, SE dup	88	37.2	6.6
1591.8	Site H, W	84	65.6	6.6
M. Bl.	Method Blank	100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit
 * = Silica Gel Added, NA = Not Applicable
 Batch dup= 101% Batch sp= 100% Batch spd= 104% RPD= 3.7%

Brian K. McKee

Brian K. McKee
 Laboratory Director

Report of Analysis

DPW, SELFM-PW-EV

Bldg. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1591.1-8

Sample Rec'd: 07/27/94

Analysis Start: 08/08/94

Analysis Comp: 08/08/94

Analysis: Munsel

[illegible]

Brian K. McKee
Laboratory Director

Brian K. McKee
Laboratory Director

U.S. ARMY FORT MONMOUTH

P.O. #:

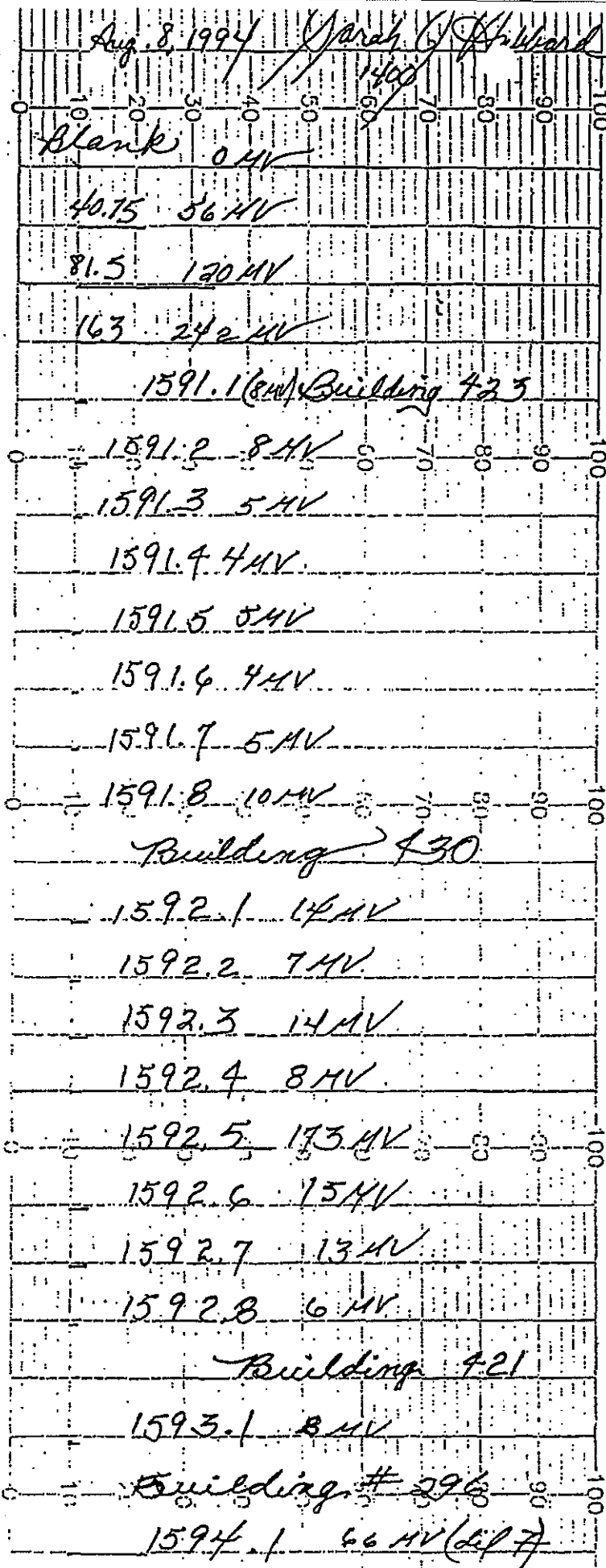
Chain of Custody

Project #: Closure		Sampler:		Date / Time		Analysis Parameters		Start:		
Customer: <i>Drinking Water</i>		Site Name: 423		7/27				Finish:		
Phone:								Preservation Method		
Lab Sample ID Number	Date/Time	Customer Sample Location/ID Number	Sample Matrix	# of Bottles	TAP DO NOT USE DO NOT USE DO NOT USE DO NOT USE				Remarks	
1591-2	7/27 10:41	Site A SE	Soil	1						
2	" 10:42	Site A SE	"	1						
3	" 10:52	Site C SW	"	1						
4	" 10:56	Site D NW	"	1						
5	" 11:01	Site E N	"	1						
6	" 11:05	Site F NE	"	1						
7	" 11:10	Site G SE (DWP)	"	1						
✓ 8	" 11:14	Site H W	"	1						
	"									
	"									
	"									
Relinquished By (signature)		Date / Time		Received By (signature)		Shipped By:				
Relinquished By (signature)		Date / Time		Received for Lab by (signature):		Date / Time				
				<i>B. McK</i>		7-27-99 1406				
Note: A drawing depicting sample location should be attached or drawn on the reverse side of this chain of custody.										

Chz power:
Projector:

PRINTED IN U.S.A.

195-6970-00



Page 1 of 2

100-6970-00

PRINTED IN U.S.A.

1592.3	10 MV
Building 430	
1592.1	14 MV
1592.2	7 MV
1592.3	14 MV
1592.4	8 MV
1592.5	173 MV
1592.6	15 MV
1592.7	13 MV
1592.8	6 MV
Building 421	
1593.1	8 MV
Building # 296	
1594.1	66 MV (dip 7)
Building 287	
1596.1	36 (dip 7)
Building 491	
1595.1	115 MV
1595.1 Dup	116 MV
1595.1 (Spk)	221
1595.1 Spk Dup	225
1595.2	65 MV
1595.3	9 MV
1595.4	13 MV
1595.5	21 MV
1595.6	23 MV

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)

✓

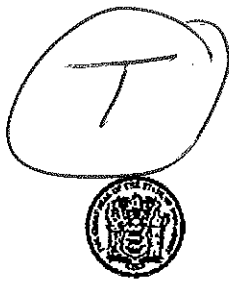
Comments:

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 #1591


Brian K. McKee
Laboratory Manager



State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Case Management
401 East State Street
P.O. Box 420/Mail Code 401-05F
Trenton, NJ 08625-0028
Phone #: 609-633-1455
Fax #: 609-633-1439

BOB MARTIN
Commissioner

July 10, 2012

Wanda Green
BRAC Environmental Coordinator
OACSIM - U.S. Army Fort Monmouth
PO Box 148
Oceanport, NJ 07757

Re: March 2012 Army Response to NJDEP Correspondence Letter Dated October 28, 2008
Fort Monmouth, NJ
PI G000000032

Dear Ms. Green:

A review of the above referenced report, received March 27, 2012 and submitted in response to the Department's comments regarding the Draft Site investigation Report of July 21, 2008 by Shaw Environmental, Inc., has been completed by this office. Many of the parcel comments involved suspected USTs; in addition to that information provided in this submittal and the July 2008 SI, a review and comparison of Appendix G, Appendix O, and Figures 15 and 16 of the January 2007 BCP Report was conducted by this office in an attempt to ascertain the location and status of all tanks located within the parcels. Unless otherwise noted, comments and questions are provided only for each parcel referenced in the submittal and are generally presented by parcel.

Parcel 13 - Former Barracks (Buildings 2004-2016)

Geophysical surveys were performed, and sampling was conducted throughout that area at which USTs were known to or may have been present. No USTs were found; all soils analytical results were below cleanup criteria applicable to the site; no additional action for the parcel is necessary.

Parcel 14 - Former Buildings and Housing Area Northwest Portion of CWA

As indicated in the Department's correspondence of May 30, 2012, the geophysical surveys performed and sampling conducted throughout that area at which USTs were or may have been present were sufficient to adequately characterize the area. No USTs were found; all soils analytical results collected were below cleanup criteria applicable to the site. The parcel was re-categorized from Category 2 to Category 1.

Parcel 15 – Building 2700

Parcel 15 was issued a designation of No Further Action for soils and ground water, *exclusive of CW-1*, on May 9, 2012. Remediation efforts involving CW-1 continue.

Parcel 27 – Southwestern Corner CWA

The single outstanding issue at Parcel 27 was the USTs. As previously indicated, numerous USTs were removed from the parcel, however, additional documentation for same was required.

It is agreed fourteen (14) USTs have been removed and given NJDEP Closure Approval Letters/NFAs. Although it is understood Departmental approval may have been granted for an additional five USTs, as indicated on Page 6 of the referenced submittal and in Appendix G, please be advised this office does not have documentation confirming Closure Approval/NFA for the following USTs.

UST 2506-17	Reported NJDEP UST Closure Approval Date 7/10/98
UST 2624-34	Reported NJDEP UST Closure Approval Date 7/23/93
UST 2624-57	Reported NJDEP UST Closure Approval Date 9/21/95
UST 2624-58	Reported NJDEP UST Closure Approval Date 9/21/95
UST 2624-59	Reported NJDEP UST Closure Approval Date 9/21/95

Additionally, please provide information as to the status of the USTs noted in Appendix O at what appear to be Buildings 2566 and 2505, located just north of Building 2503?

Any sediment issues which may have resulted from parcel operations are to be addressed as part of the ongoing facility wide ecological assessment.

Parcel 28 – Former Eatontown Laboratory

Underground Storage Tanks

Although this office is in agreement with the information submitted in regard to the majority of the USTs as noted on Parcel 28, questions remain on several, which are not considered as given a designation of NFA at this time.

As above, documentation for closure approval or NFA is not available for confirmation on the following USTs.

UST 2539-28	Reported NJDEP UST Closure Approval Date 3/31/93
UST 2539-64	Reported NJDEP UST Closure Approval Date 3/31/93
UST-2531-21	Reported NJDEP UST Closure Approval Date 8/29/00

UST 2542-29 and UST 2564-32 are reported as no release observed. A Standard Reporting Form and/or Site Assessment Compliance Statement were reported sent to us 11/22/91, however, no designation of NFA was granted, nor comments apparently generated.

Appendix O indicates three USTs within that area which underwent a geophysical survey between Building 2525 & Heliport Drive. The center UST appears to correlate to UST P28-8, which, based upon the investigation performed, warrants no further action. Although it is agreed no tanks remain in that area, please provide any record of their removal or indication as to evidence of a discharge upon removal. As previously discussed, a designation of NFA for USTs cannot be granted without sampling.

Septic Tanks & Leachfields

Leachfield East of Heliport Drive, South of Radiac Way – It is agreed the four test pits were adequate for characterization of the leachfield; no additional action is necessary for the leachfield. It does not appear, however, the suspected D-box/entirety of the septic system was investigated. Although they are not designed to hold liquids/sludges (but rather to distribute the liquids after the solids fall out into the holding tank), particularly as the structure apparently remains in place, additional information is required as to whether the structure could have been/functioned as a holding tank (field notes do reference it as a septic tank) which did contain solids or liquids which should have been sampled.

Septic System & Septic Tank A – Located off the northeast corner of Building 2525, a suspected septic tank was located via GPR scanning, as denoted as "A" on Figure 3.5-2 of the ECP Site Investigation. Sampling efforts, however, were performed only at the associated leachfield. What efforts were made to adequately characterize any holding tank contents of the actual septic tank, as required by the Tech Regulations in effect at the time of investigation (NJAC 7:26B-3.9(e)3)? As regarding the associated leachfield, a minimum of 4 samples is required. A single soil and single ground water sample is inadequate.

Septic System at Southeastern Corner of Parcel - For that septic system located in the southeastern corner of the parcel as sampled by P28-SB1, the findings/requirements noted in the above paragraph also apply.

Former Storage Areas/Possible Former Tank Pads – This area received a designation of NFA on March 29, 2012.

Parcel 34 – Building 2567/FTMM 58

Elevated levels of ground water contamination underwent treatment via a Permit-by-Rule approved in October of 2010. The Department most recently responded on March 7, 2012 approving monitoring via two rounds of seasonal high ground water analytical sampling.

As recently discussed, although piping was cleaned at the time of tank removal, it necessary to remove the piping and dispensing equipment/island.

Parcel 38 – Former Outdoor Pistol Range (1940-1955)

Although no exceedences were noted, Departmental comments indicated the surface soil sampling was not adequate due to the possibility the parcel soils had been re-worked; a ground water investigation was therefore required. The Army will be submitting the results of a ground water investigation in a future letter report to this office. If you wish to receive comments on anticipated frequency and locations of the ground water sampling points and methodology (ie low-flow), please submit the sampling plan prior to implementation.

Parcel 39 – Building 1150/Vail Hall

Previous comments indicated the soil exceedences, although permitted to remain in place with institutional controls (Deed Notice), must be compared to and delineated to the RDCSCC. The Army has agreed, in this submittal, to prepare a revised map indicating delineation boundaries to the more stringent criteria, as appropriate. A draft Deed Notice for same is to be submitted to this office for review and comment.

Any sediment issues which may have resulted from operations are to be addressed as part of the ongoing facility wide ecological assessment.

Parcel 43 – Building 1122 (Do-it-Yourself Auto Repair)

No comments based on submittal; Army acknowledges Department's March 18, 2011 comments; remedial efforts are ongoing.

Any sediment issues which may have resulted from parcel operations are to be addressed as part of the ongoing facility wide ecological assessment.

Parcel 49 – Former Squier Laboratory Complex

The Site Investigation indicated five surface soil samples contained base neutrals at concentrations above the NRDCSCC, while one sample contained PCBs above the NRDCSCC. The Department concurred with the recommendation of additional sampling for delineation purposes. The March 2012 submittal, however, specifies no sampling will be performed in regard to the BNs exceedences as they "are commonly detected in soil directly beneath asphalt pavement".

Base Neutrals (BNs)

Although it is agreed elevated levels of BN constituents related to asphalt rather than a discharge may be encountered beneath asphalt paving, it is not agreed sufficient information has been provided at this time to document each location at which BN exceedences are noted is unrelated to site operations. The previously approved proposal for additional sampling remains appropriate for each sample location at which exceedences were noted.

PCBs

Regarding PCBs, a re-sample is currently proposed in the location at which PCBs were noted to exceed the NRDCSCC, sample P49-SS8-A. As no Remedial Action Workplan for this parcel was previously approved, the Soil Remediation Standards (0.2 ppm) apply. As such, PCBs exceed the standard at three locations -- P49-SB3-A and P49-SS7-A (which also exhibits the highest levels of BN contamination), in addition to SS8-A. Delineation to the most stringent standard is required.

Arsenic

A review of the site operations and the analytical data, including the horizontal and vertical distribution of the arsenic, the lead to arsenic ratio, as well as the presence of glauconitic soils indicate the arsenic encountered in this area is representative of naturally occurring levels.

Volatile Organics

It is agreed further discussion regarding volatile organics in ground water at the M-18 Landfill is to be discussed in a forthcoming Remedial Investigation Report for the landfill.

USTs

As with the above parcels, although many tanks have received a designation of NFA, several tanks do not have sufficient documentation to be designated same. These include:

- UST-293-67 -- per Appendix G, report submitted 2/26/96; no Departmental response
- UST-290-193 -- per Appendix G, report submitted October 1993, no Departmental response
- UST 283-59 -- per Appendix G, reported Closure Approval 2/24/00; no confirmation available
- UST 283-58 -- per Appendix G, no sampling was performed
- UST 296-69 -- per Appendix G, report submitted 2/26/96; no Departmental response

For those USTs which Appendix G indicates reports were previously submitted and not responded to, unfortunately, this office has no record of same and re-submittal is required for comment.

Parcel 50 -- IRP Sites FTMM-54, FTMM-55 & FTMM-61

The Army acknowledges the Department's August 14, 2007 letter, the comments of which are to be addressed via Remedial Investigation Report Addendums for FTMM-54 (Site 296), FTMM-55 (Site 290) and FTMM-61 (Site 283). Submittal dates were not indicated. This office will await submittal of same.

Parcel 51 -- 750 Area, 500 Area, 600 Area, 1100 Area -- Former Buildings

The geophysical survey and sampling conducted at portions of the parcel were insufficient to allow for determination of NFA for the USTs previously/currently located in the parcel. Further investigation conducted north of Building 750 revealed the presence of USTs UHOT 1123B and 1123C at the two northernmost previously identified anomalies. The USTs were subsequently removed, as was affected soil. Although it is indicated all soils were removed to below 1000 ppm TPH, Table 2 at Attachment D appears to indicate soils at sample 1123B East Wall at 8.5-9' contains TPH at 9832.44 ppm. Clarification is needed.

Although it is understood the additional investigation undertaken in June of 2009 revealed the presence of the two above referenced USTs located above Semaphore Ave, it is unclear what efforts were made to investigate the nine potential USTs/anomalies noted on Figure 3.12-2 south of Echo Avenue? Are they all to be included in the Building 750 submittal?

Additional questions regarding USTs within the parcel remain. As above, documentation for closure approval or NFA is not available for confirmation on the following USTs.

No geophysical surveys, sampling or at least reports appear to have been performed or submitted for the following USTs - UST 68, 635, 637, 642, 643, 645, 647, 648, 649, 650, 651, 652, 653, 654, 656-97, 656-98, 657-90, 658-100, 660, 662, 663, 665, 667, 689-102.

Appendix O indicates USTs which do not appear to be "closed" per Appendix G which were/are also present in areas outside the geophysical survey, including those at Building 676, several along Sherrill Avenue north of Building 600, east of Brewer Ave by Buildings 545 and 554, Building 555, and several by Building 557.

Although Appendix G indicates closure reports were submitted, it also indicates no Departmental response was received for the following USTs - UST-682-106, UST 656-104, UST 659-101, UST 114-1, UST 645-78, UST 789-126.

USTs 750 - report pending

UST 501-76 - Appendix G indicates NFAed July 10, 1998, however confirmation unavailable

UST 551-80 - Appendix G indicates NFAed August 29, 2000, however, confirmation unavailable

UST 695 - Appendix indicates NFA August 24, 2000, however, confirmation unavailable

Parcel 52 - Building 699 - Army Exchange Services Gas Station

No comments based on submittal; Army acknowledges Department's March 18, 2011 comments; remedial efforts are ongoing.

Parcel 57 - Former Coal Storage & Railroad Unloading - 800 Area

Three surface soil samples contained B/Ns at concentrations above the NRDCSCC. The Department concurred with the general recommendation to conduct additional sampling, and required the submittal of a Remedial Investigation Workplan. The March 2012 submittal, however, states the exceedences were related to the asphalt pavement under which the samples were collected.

As with Parcel 49, it is agreed elevated levels of BN constituents related to asphalt rather than a discharge may be encountered beneath asphalt paving. However, information has not been submitted to document these sample results are not reflective of site operations, particularly given the nature of operations in the area. Delineation is necessary.

PCBs analyses was required due to the proximity of the railroad tracks/unloading area, as indicated in the Department's June 15, 2007 letter, rather than historical operations at Parcel 57.

As PCBs are often associated with rail road tracks and spurs, analysis for same is appropriate and remains a requirement.

Ground Water

Although the previous proposal for delineation of ground water exceedences was approved, the current submittal indicates NEA is warranted due to naturally occurring background conditions. The Department is conducting further review of the information provided.

Parcel 61 - Building 1075 - Patterson Health Clinic

Soil sampling conducted at the parcel indicated elevated levels of three base neutral compounds in a soil sample collected beneath an area of former asphalt paving at the southeastern corner of Building 1075. The Department is in agreement the PAHs are not reflective of a discharge nor of operations performed at the site. No additional action for same is necessary.

As discussed, the analyses for PCBs as indicated in the Department's October 2008 correspondence is not required, based upon a review of areas of concern located within the parcel.

UST 1076-209 - Although Appendix G indicates the closure report was being prepared, recent conversation indicates no submittal of the report is anticipated as the tank was a "clean closure." This would, of course, not allow for comment or designation of NEA for this tank. Additionally, information previously submitted indicates this tank was installed at a location at which a leaking UST was removed and remediated. It does not appear closure information for that UST was submitted.

Parcel 69 - Building 900 - Former Vehicle Repair/Motor Pool

The previous Departmental comments indicated soil sampling was inadequate for designation of NEA as analytical parameters did not include PCBs. Although it is understood your position is that PCBs are not suspected to have been disposed of in the former waste oil AST at Building 900, the Technical Requirements for Site Remediation, both those in effect at the time of sampling, as well as those currently in effect, require the inclusion of PCBs in the analytical parameters for sampling of soil when waste oil is involved.

Regarding analytical parameters for sediment sampling, that will be addressed as part of the ongoing facility wide ecological assessment.

One ground water sample previously indicated an exceedence of PCB. Per this submittal, the Army plans to resample the ground water at the location of temporary well point P69GW-1. Previous Departmental correspondence, however, stated the submittal of a ground water remedial investigation workplan was required for NJDEP review and approval. If resampling of a single location, in anticipation of a "clean" result is performed, rather than several delineation sampling points, please ensure the resultant submittal includes adequate rationale/justification to confirm the area of greatest possible contamination was sufficiently targeted.

Two USTs were previously noted as within the parcel. UST 900-142 was granted Closure Approval Letter/NFA on July 10, 1998, while documentation for closure approval or NFA is not available for confirmation on the following UST:

UST 900-141 Reported NJDEP UST Closure Approval Date 7/10/98

Parcel 70 – Building 551 – Former Photoprocessing

The October 28, 2008 Departmental correspondence concurred with the recommendation for no further action. As a note however, we do not have a copy of the Appendix G referenced 8/29/00 Closure Approval Letter for UST 551-80

Parcel 76 – 200 Area, 300 Area – Former Barracks

A geophysical survey was performed throughout Parcel 76, with suspect USTs noted in the western portion of the parcel. Although sampling conducted within that western portion of the parcel indicated no exceedences of the applicable cleanup criteria, additional investigation was required regarding the possible USTs,

Additional evaluation was documented in the June 2011 Remedial Investigation and Closure Report, which references Incident #s 09-11-04-1553-32, 10-04-28-1333-57, 10-04-13-1710-23, 09-11-19-1710-57 and 10-01-06-1342-44 and the removal of UHOTs 544, 543, 542, 541, 540, 539 and 538. Affected soils were reported removed to below the 1000 ppm contingency analytical threshold; a ground water investigation was performed via the installation of four monitor wells as ground water was encountered in the excavations.

The adequacy of the investigations/remedial actions presented in the report submittal cannot be determined, as insufficient information has been provided. No information was contained in Appendices A through E, nor were any Figures included (this information was missing in many of the Attachment D reports, some of which was obtainable through previous submittals and information, some not). No comparison could be made of UST locations against geophysical anomalies, sample locations, or monitor well locations. A review of Table 2/Summary of Laboratory Analyses as a stand-alone document (without sampling location/result maps, further association between sample ID and tank) is insufficient to allow for documentation of soils removal to below the above stated 1000 ppm contingency analytical threshold, or even the 5100 ppm EPH standard at each tank, or to determine if the ground water investigation (placement of monitor wells) was adequate.

Additionally, although it is agreed no USTs appear to remain in the eastern portion of Parcel 76, no remedial documentation was submitted for those former tank locations as noted on Appendix O and Figure 15 of the January 2007 ECP Report in the eastern portion of Parcel 76, as follows:

UST-261-45	UST-262-46	UST-263-47	UST-264-48	UST-265-49
UST-266-50	UST-267-51	UST-268-52	UST-269-53(contamination per Appendix G)	

As previously discussed, a designation of no further action for these USTs cannot be issued without an investigation in accordance with the Technical Requirements for Site Remediation.

Parcel 79 -- 400 Area Former Barracks

A geophysical survey was previously performed throughout the parcel, identifying potential USTs in only that portion as noted in Figure 3.19-1. Additional evaluation of the area encountered eight USTs, noted as UHOTs 437, 440, 441, 444, 445, 448 and 450 which were subsequently removed, while contamination was noted at Building 449. A ground water investigation is to be performed based upon the presence of ground water in the excavation. Additional comments regarding same will be forthcoming pending submittal.

As with Parcel 76, above, although it is agreed no USTs appear to remain, no remedial documentation was submitted for many of those former tank locations noted on Appendix O and Figure 15 of the January 2007 ECP Report at other areas of the parcel, and/or insufficient information currently exists to allow for designation of NFA.

North of Fisher Avenue

- UST-401-26 -- per Appendix G, no samples were collected, no report submitted
- UST-411-28 -- per Appendix G, report submitted 02/26/96, no Departmental response noted
- UST-416-32 -- per Appendix G, no samples collected, no report submitted
- UST-421-37 -- per Appendix G, report submitted 7/22/98, no Departmental response noted
- UST-423-39 -- per Appendix G, report submitted 2/26/96, no Departmental response noted

South of Fisher Ave, North of Leonard Ave

- UST-430-45 -- per Appendix G, report submitted 10/23/97, no Departmental response noted
- UST-447 -- Not referenced on Appendix G; located east of grid sampling; sampling status unclear

South of Leonard Avenue

- UST-454-51 -- Reported Closure Approval date 7/10/98 -- no record of same
- UST-142-73 -- per Appendix G, report submitted 10/23/97, no Departmental response received
- UST-142-13 -- per Appendix G, report submitted 10/23/97, no Departmental response received
- UST-29-1 -- per Appendix G, report submitted 11/22/91, no Departmental response noted
- UST-490-58 -- per Appendix G, no sampling; "site closed by NJDEP"; no record of same
- UST-492-59 -- Reported Closure Approval date 8/29/00 -- no record of same
- UST-202-a -- "clean closure", no report submitted
- UST-202-b -- per Appendix G, 30 tons of soil removed, report submittal pending
- UST-202-21 -- per Appendix G, TPH ND, no report submitted
- UST-202-22 -- per Appendix G, TPH ND, no report submitted

Please submit documentation in accordance with the Tech Regs for each of the above to allow for comment/designation of NFA. For those which Appendix G indicates reports were previously submitted and not responded to, unfortunately, this office has no record of same and re-submittal is required.

Additionally, with the exception of the above referenced UST-454-51, and UST 475-52 (NFA 10/23/00), no documentation of sampling activities for that area shown on Appendix O extending from Tilly Avenue north to Leonard Avenue, previously shown to include approximately 22 USTs, appears to have been submitted.

Finally, please indicate what investigation, if any, has taken place at the two former and one current ASTs located north of Hazen Drive.

Parcel 80 – Former Buildings 105 & 106 - Photoprocessing

Prior to issuing a determination as to the adequacy of the soil sampling, additional information is required regarding the basis for establishment of the sample locations. Were as-builts or other plans available for the demolished buildings to assist in locating former floor drains, septic systems, discharge points, etc.?

Although the previous proposal for delineation of ground water exceedences was approved, the current submittal indicates NFA is warranted due to naturally occurring background conditions. The Department is conducting further review of the information provided.

Parcel 83 – Former Photoprocessing, Vehicle Maintenance, Coal Storage & Railroad Unloading, Maintenance Shops

The 2008 SI Report, Section 4.1.2, indicates "eight surface soil samples contained B/Ns at concentrations above the NJDEP NRDCSCC. Two surface soil samples contain lead at concentrations above the NJDEP NRDCSCC and MPBC. Further evaluation is recommended."

While the exceedences at P83-SB9C were apparently not included in that statement, nor plotted, several PAH constituents were noted above the residential and non-residential criteria at 4.5-5'. Vertical delineation appears incomplete at this location.

Although this office does not as yet agree the PAH exceedences at this parcel are due to current/former asphalt (particularly at SB9 or B5), re-collection of the samples as proposed to assist in determining same is acceptable. The further evaluation must, of course, include all exceeded contaminant categories if the intent is to prove no discharge.

Trichloroethylene is reported on Table 3.21-4 of the SI Report above criteria at sample location P83-SB9B, at 5.8 ppm, at 1.5-2', with no discussion provided. Please provide same.

Metals exceedences were noted at three locations – SB10A, SB9A and B5A; this office considers location SB-10 to be above criteria for arsenic and lead (residential criteria is 400 ppm).

As regarding arsenic in soils, although it is agreed the site soils are often associated with elevated levels of naturally occurring arsenic, the parcel specific soil analytical results, the lead to arsenic ratio, and the decrease of arsenic with depth at those locations exhibiting an elevated level, do not appear to indicate the exceedences are naturally occurring, and must be included in a remedy.

As with the above parcels, although many tanks have received a designation of NFA, several tanks do not have sufficient documentation to be designated same. These include:

UST-421-37 – Per Appendix G, report submitted 10/23/97; no Departmental response
UST-273-65 – Per Appendix G, 6000 gallon gasoline tank still in use
UST-273-66 – Per Appendix G, 10000 gallon gasoline tank still in use
UST-273-67 – Per Appendix G, 10000 gal gasoline tank still in use
UST-117-72 – Per Appendix G, remedial action report completed July '98; status unknown
UST-108-7 – Per Appendix G, report submitted 2/26/96; no Departmental response
UST-108-60 through 64 – Per Appendix G, remediation efforts ongoing
UST-161-68 – Per Appendix G, waste oil tank RAR submitted 2/26/96, no response
UST-161-14 – Per Appendix G, RAR submitted 2/26/96, no Departmental response

Appendix O also includes several former USTs on the parcel which appear to have had no documentation of closure or investigation submitted, including those at Buildings 479, 66, 276, 485, 280, 281 and 167.

Electrical Substations

The October 28, 2008 correspondence indicated the need for establishment of a Deed Notice and engineering controls due to elevated levels of PCBs above the RDCSCC of 0.49 ppm. The March 2012 proposal is for resampling of the two locations at which results were above the criteria, with a letter report to follow. This is acceptable, however, please be advised a Deed Notice will be required for any soils left in place *within these two areas*, which exhibit a result of greater than 0.2 ppm PCBs. No engineering controls are required if all results are below 1 ppm.

Miscellaneous

Attachment E of the submittal references numerous letters from the NJDEP regarding UST closure approvals/NFAs, however, the letters dated July 23, 1993 and September 21, 1995 were not included in the submittal. Submittal of those two letters would be beneficial and appreciated.

Vapor Intrusion Investigation

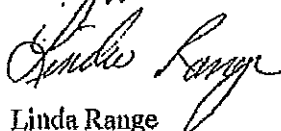
Submittal of the report is anticipated shortly.

Baseline Ecological Evaluation

Submittal of the amended report is anticipated shortly.

If you have any questions regarding this matter contact this office at (609) 984-6606.

Sincerely,



Linda Range
Bureau of Case Management

C: Joe Pearson, Calibre Systems
Rich Harrison, FMERA
Julie Carver, Matrix