

U.S. Army Garrison
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Remedial Investigation Report

Main Post – Building 287

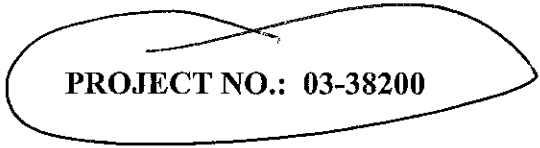
NJDEP UST Registration No. 081533-61
NJDEP Case No. 93-11-29-1745-01
TMS No. C-93-3181
UST No. 287

January 2007

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

**MAIN POST – BUILDING 287
NJDEP UST REGISTRATION NO. 081533-61
NJDEP CASE NO. 93-11-29-1745-01
TMS NO. C-93-3181**

JANUARY 2007



PROJECT NO.: 03-38200

PREPARED FOR:

**U.S. ARMY GARRISON, FORT MONMOUTH, NJ
DIRECTORATE OF PUBLIC WORKS
BUILDING 173
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	2
1.2.1 Geological/Hydrogeological Setting	2
1.3 Health and Safety	4
1.4 Removal of Underground Storage Tank	4
1.4.1 General Procedures	4
1.4.2 Underground Storage Tank Excavation	4
1.5 Underground Storage Tank Decommissioning and Disposal	5
1.6 Management of Excavated Soils	5
2.0 REMEDIAL INVESTIGATION ACTIVITIES	6
2.1 Overview	6
2.2 Field Screening/Monitoring	6
2.3 Soil Sampling	7
2.4 Groundwater Investigation	7
3.0 CONCLUSIONS AND RECOMMENDATIONS	8
3.1 Soil Sampling Results	8
3.2 Groundwater Sampling Results	8
3.3 Conclusions and Recommendations	8

TABLE OF CONTENTS (CONTINUED)

FIGURES

- Figure 1 Site Location Map**
- Figure 2 Soil Sampling Location Site Map-UST Closure**
- Figure 3 Soil Sampling Location Site Map-Remedial Post Excavation**

TABLES

- Table 1 Summary of Laboratory Analysis**
- Table 2 Summary of Laboratory Analytical Results - TPH**
- Table 3 Summary of Laboratory Analytical Results - VOA-Soils**
- Table 4 Summary of Laboratory Analytical Results – VOA,SVOA,TPH-Groundwater**

APPENDICES

- Appendix A Certifications**
- Appendix B Non-Hazardous Waste Manifest**
- Appendix C UST Disposal Certificate**
- Appendix D Photo Documentation**
- Appendix E Soil and Groundwater Analytical Data Packages**

EXECUTIVE SUMMARY

UST Closure and Project History

On October 28, 1993, a single wall fiberglass underground storage tank (UST) was closed by removal in accordance with the Directorate of Public Works (DPW) UST Management Plan for the U.S. Army Garrison, Fort Monmouth, New Jersey. The UST was located on the southwest corner of Building 287 on the Main Post of Fort Monmouth. UST No. 81533-61 (UST No. 61) was a 2,000-gallon single-wall fiberglass No. 2 heating oil tank for residential use. The fill port, vent pipe and associated supply/return piping were also removed during the excavation. The tank closure was performed by CUTE, Inc. Based on the review of Fort Monmouth UST records, it appears that the tank closure report was not submitted to NJDEP following the tank removal.

In 2003, the DPW Environmental Branch personnel conducted a review of the Fort Monmouth UST records. At that time, it was noted that the UST closure report for UST No. 61 was not on file at Fort Monmouth. It was assumed that the closure report was not submitted to NJDEP and a new subsurface investigation was conducted in the vicinity of the former UST to confirm the results of the 1993 closure. Subsurface investigation was performed by TECOM-Vinnell Services, Inc. (TVS) via a series of sampling events conducted between January and September 2004.

Site Assessment

The 1993 closure and site assessment was performed by CUTE, Inc. The follow-up site assessment conducted in 2004, was performed by TVS through the U.S. Army Garrison (USAG) - Department of Public Works (DPW) personnel in accordance with N.J.A.C. 7:14B and the NJDEP *Field Sampling Procedures Manual*. During the original tank closure, soils surrounding the tank were screened visually for evidence of contamination. Following removal, the UST was inspected for holes. No holes were found in the UST and potentially contaminated soils that were observed in the tank excavation were believed have originated from the original steel tank.

On November 2, 1993, approximately 8 cubic yards of potentially contaminated soils were removed from the sides of the excavation, due to presence of petroleum odors and staining in the soil. Groundwater was encountered at approximately 4.5 feet below surface grade in the bottom of the excavation.

Post-remediation soil samples were collected from the sidewalls and bottom of the expanded portion of the excavation after the removal of the UST. Samples Site A, Site B, Site C, Site D, Site E and Site F were collected from a total of six (6) locations along the sidewalls/bottom of the UST and piping excavation. All samples were analyzed for total petroleum hydrocarbons (TPH). Sample Site A was also analyzed for volatile organic compounds with a forward library search for 15 tentatively identified compounds (VO + 15) because the TPH result was above

1,000 milligrams per kilogram (mg/kg). This sample was also analyzed for semi-volatile organic compounds (BN+15) and lead. See Table 1 for a summary of laboratory analysis.

Findings

The initial post-remediation soil samples collected from the UST excavation associated with former UST No. 61 contained TPH concentrations below the NJDEP health based criterion of 10,000 milligrams per kilogram (mg/kg) for total organic contaminants (N.J.A.C. 7:26E and revisions dated February 3, 1994). Sample Site A was further analyzed for VO+15 and BN+15. There were no volatile organic compounds detected above the method detection limits. The semi-volatile organic analysis contained benzo(a)pyrene at a concentration of 1.2 mg/kg, which is above the NJDEP Residential Direct Contact Soil Cleanup Criteria (RDCSCC) of 0.66 mg/kg. In July, 2004 an adjacent contaminated area was excavated and five post excavation samples were collected. All of these sample results were below the NJDEP health based criterion of 10,000 mg/kg for total organic contaminants.

Site Restoration

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

Conclusions and Recommendations

Based on the post-remediation soil sampling results, the UST excavation was remediated below the NJDEP health based criterion of 10,000 mg/kg for total organic contaminants. In the sample analyzed for volatile organics, there are no detected compounds that exceed the NJDEP Residential Direct Contact Soil Cleanup Criteria.

No Further Action is proposed in regard to the closure and site assessment of UST No. 81533-61 at Building 287 of the Main Post.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 81533-61, was closed at Building 287 of Main Post at U.S. Army Garrison, Fort Monmouth, New Jersey on October 28, 1993. Refer to site location map in Figure 1. This report presents the results of the implementation of the DPW's UST Management Plan, March, 1996. The UST was a 2,000-gallon, single-wall fiberglass tank containing No. 2 heating oil for residential consumption.

Decommissioning activities for UST No. 61 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 UST was conducted by a NJDEP licensed DPW employee.

This UST 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). Appendix A contains the Site Remediation Program UST Site Remedial Investigation Report form.

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 UST Closure and Remedial Investigation Report provides a summary of the UST decommissioning activities. Section 2 of this report describes the remedial investigation activities. Conclusions and recommendations, including the results of the soil sampling investigation, are presented in Section 3 of this report.

1.2 SITE DESCRIPTION

The Barker Circle area is located in the eastern portion of the Main Post area of Fort Monmouth, as shown on Figure 1. UST No. 61 was located approximately 30 feet southwest of Building 287. The fill port, vent pipe and appurtenant piping were attached to the tank and removed. 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 Barker Circle Area. 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 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, sand 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 coarse-grained sand that contains abundant rock fragments, minor mica and glauconite (Jablonski). The lower member (Sandy Hook) is a dark gray to black, medium-to-fine grained sand with abundant clay, mica and glauconite.

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

Hydrogeology

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

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

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

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

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

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

The nearest body of water to UST No. 287 is Oceanport Creek. This creek is located approximately 1,000 feet south of UST No. 287 and flows into the Shrewsbury River. Based on the Main Post topography, the groundwater flow in the area of Building 287 is anticipated to be to the south.

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-ionizer detector : Thermo Instruments (OVM) – Model #580-B. The results of the air monitoring indicated that the air in the breathing zone was below OSHA permissible exposure limits (PEL's) during all phases of the UST removal and decommissioning procedures.

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 great 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.
- 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 UST. The tank was emptied of all liquids prior to removal from the ground. Approximately 230 gallons of liquid was pumped out of the UST by Freehold Cartage, Inc. into a tank truck and transported to Lionetti Oil Recovery Co., Inc. a NJDEP-approved petroleum recycling and disposal facility located in Old Bridge, New Jersey. Refer to Appendix B for non-hazardous waste manifest (No. NJA-1706535).

After the UST was removed from the excavation, it was staged on an impervious surface, labeled and examined for holes. No holes were found in the tank during the inspection by the Subsurface Evaluator. Soils surrounding the UST were screened visually and with an OVM for evidence of contamination. Soil staining and odors of petroleum hydrocarbons were observed, believed to be from the previous steel UST. Groundwater was encountered at approximately 4.5 feet below

surface grade. It was determined that remedial soil excavation would be conducted prior to sampling. DPW personnel were made aware of the field conditions. The DPW called the NJDEP Spill Hotline and Case No. 93-11-29-1745-01 was assigned to the site.

1.5 UNDERGROUND STORAGE TANK DECOMMISSIONING AND DISPOSAL

The UST was purged with air to remove vapors prior to cutting. A 4 feet by 3 feet access hole was made in the UST using a demolition saw. The UST was cleaned first with rubber squeegees and adsorbent material broomed on the sidewalls and bottom. The adsorbent material was then drummed and temporarily stored 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 CUTE to the Monmouth County Reclamation Center, Inc., Asbury Ave., Tinton Falls, NJ for disposal in compliance with all applicable regulations and laws. Refer to Appendix C for the UST disposal certificate.

The UST was labeled with the following information:

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

Photographic documentation of the UST is included in Appendix D.

1.6 MANAGEMENT OF EXCAVATED SOILS

Based on OVA air monitoring and visual observations, approximately 8 cubic yards of potentially contaminated soil were excavated from the area surrounding the UST on October 28, 1993. On July 22, 2004, an additional 70 cubic yards of soil was excavated along the west side of the former UST excavation. All potentially contaminated soil was loaded into a truck and transported to the Main Post ID 27 Soil Staging Area (located near Bldg.166) prior to final recycling at Soil Remediation of Philadelphia. Soils that did not exhibit signs of contamination were separated during the excavation and used as backfill following removal of the UST.

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 and Nytest Environmental, Inc. Both are NJDEP-certified testing laboratories. All sampling was performed by a NJDEP Certified Subsurface Evaluator according to the methods described in the NJDEP Field Sampling Procedures Manual (1992). The soil sampling frequency and analysis complied with the NJDEP document *Technical Requirements for Site Remediation*, 7:26E-3.9 (June 7, 1993 and revisions dated February 3, 2003) 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-Environmental Division
Contact Person: Joseph Fallon
Phone Number: (732) 532-6223
- Subsurface Evaluator: 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
Contact Person: Dan Wright
Phone Number: (732) 532-4359
NJDEP Laboratory Certification No.: 13461
- Hazardous Waste Hauler: Freehold Cartage, Inc., Freehold, NJ
Contact Person: Alfonso Trocchio
Phone Number: (908) 462-1001
US EPA ID No.: NJD054126164

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 UST No. 61 until no evidence of contamination remained.

2.3 SOIL SAMPLING

On November 2, 1993, post-excavation soil samples Site A, Site B, Site C, Site D, Site E and Site F were collected from a total of six (6) locations along the sidewalls/bottom of the UST excavation. Groundwater was encountered in the excavation at approximately 4.5 feet. The results of the closure sampling are presented in Table 2.

On July 22, 2004, additional soil remediation occurred along the west side of the former UST excavation, extending west into the parking lot (approximately 30 feet by 30 feet and 8 feet deep). Approximately 70 cubic yards of soil were excavated. Five (5) post-remediation soil samples 287-PX1 through 287-PX5 were collected along the sidewalls and bottom of the excavation. Groundwater was not encountered in this excavation. Refer to soil sampling location map in Figure 3. All samples were analyzed for TPH.

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 the sampling parameters is provided in Table 1. The post-remediation soil samples were collected using stainless steel trowels. After collection, the samples were immediately placed on ice in a cooler and delivered to Fort Monmouth Environmental Testing Laboratory and Nytest Environmental, Inc. for analysis.

2.4 GROUNDWATER INVESTIGATION

To determine if groundwater has been impacted, one monitoring well was installed in the location of the former UST on July 6, 1994. Two rounds of samples were collected in 1994, but were not collected again until 2004, in which quarterly sampling have occurred since then. Table 3 summarizes the analytical results of all groundwater sampling conducted at MW 287.

2.5 SUBSURFACE INVESTIGATION

A Geoprobe was utilized to delineate the vertical and horizontal extent of potential soil contamination that may have migrated from the source area. From February 19, 2004 to April 7, 2004, a series of nineteen (19) soil borings were taken in the area surrounding the former UST. This delineation was conducted in a manner that started near the source area and then stepped out in approximately 15 feet intervals, or as underground utilities would allow and field screened until no evidence of potentially contaminated soils existed. Two of the borings were used to set temporary piezometers in which groundwater samples were collected.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

Closure soil samples were collected from a total of five locations on November 2, 1993 to evaluate soil conditions following removal of the UST. Post-remediation soil samples were collected from five locations on July 22, 2004, to evaluate soil conditions following removal of potentially contaminated soil from the parking lot area. All samples were analyzed for TPH and the samples with the highest concentration was further analyzed for VOCs from each event. The soil sample results were compared to the NJDEP health based criterion of 10,000 mg/kg for total organic contaminants (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 on Table 2. The analytical data package, including associated quality control data, is provided in Appendix E.

Closure soil samples collected on November 2, 1993 from the UST closure/remedial excavation contained concentrations of TPH below the NJDEP soil cleanup criteria of 10,000 mg/kg total organic contaminants. Soil sample Site A was further analyzed for volatile organic compounds with a forward library search for 15 tentatively identified compounds (VO+ 15) and semi-volatile organic compounds. The results of these analyses indicated that no VOA compounds were found above the detection limits. The semi-volatile organic analysis contained benzo(a)pyrene at a concentration of 1.2 mg/kg, which is above the NJDEP Residential Direct Contact Soil Cleanup Criteria (RDCSCC) of 0.66 mg/kg.

All post-remediation soil samples collected on July 22, 2004 contained concentrations of contaminants below the NJDEP soil cleanup criteria. Post-remediation sample 287-PX3 had the highest TPH concentration of 2,458 mg/kg and was further analyzed for VOA. The VOA analysis concluded that there were no compounds present above the method detection limits.

3.2 GROUNDWATER SAMPLING RESULTS

Groundwater sampling analytical results from the samples collected from the monitoring well exhibited no contaminants above the NJDEP Class II Groundwater Quality Criteria.

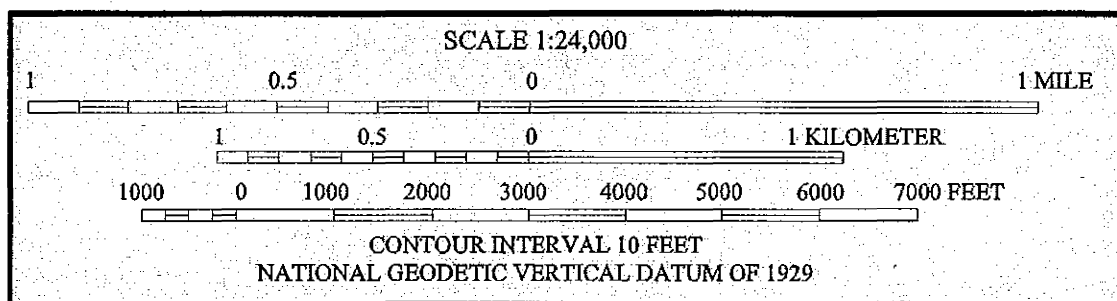
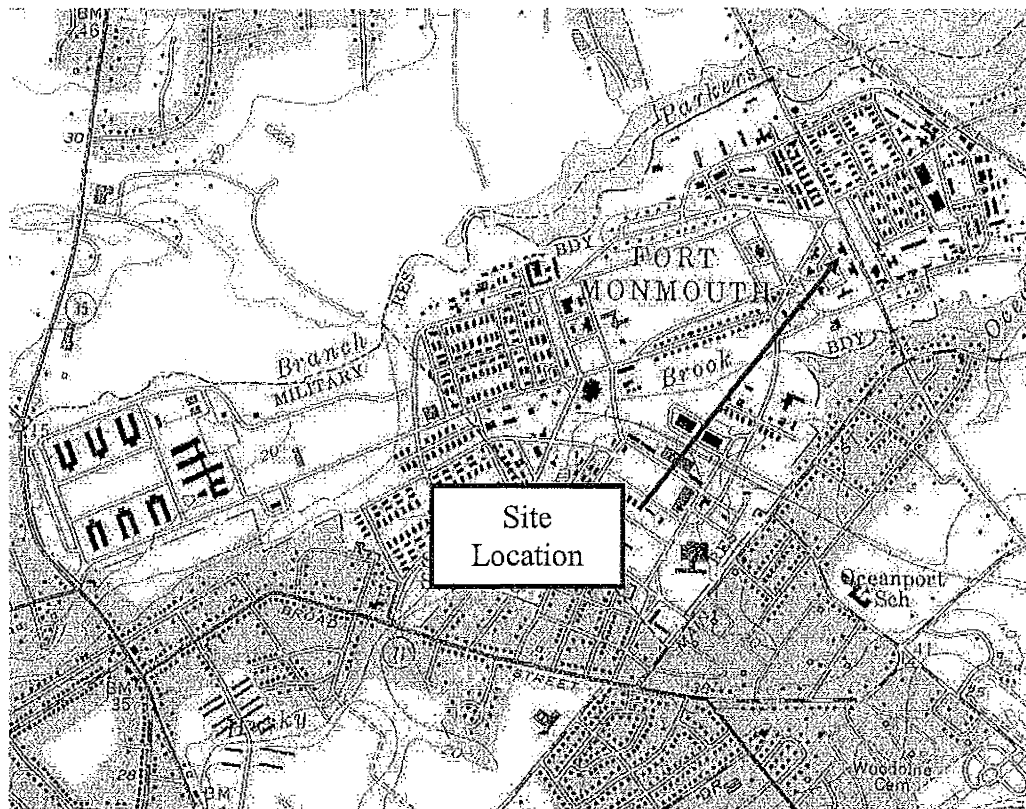
3.3 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all closure and post-remediation soil samples collected from the UST excavation at UST No. 81533-61 were below the NJDEP soil cleanup criteria for total organic contaminants and volatile organic compounds.

Based on the post-remediation soil sampling results, soils with TPH concentrations exceeding the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg have been excavated from the location of former UST No. 61.

No Further Action is proposed in regard to the closure and remedial investigation of UST No. 81533-61 at Building 287 of the Main Post.

FIGURES



SOURCE: USGS 7½-MINUTE SERIES (TOPOGRAPHIC)
LONG BRANCH QUADRANGLE, NEW JERSEY, 1981.

FIGURE 1
SITE LOCATION MAP
BUILDING 287
UST NO. 81533-61
FT. MONMOUTH, NJ

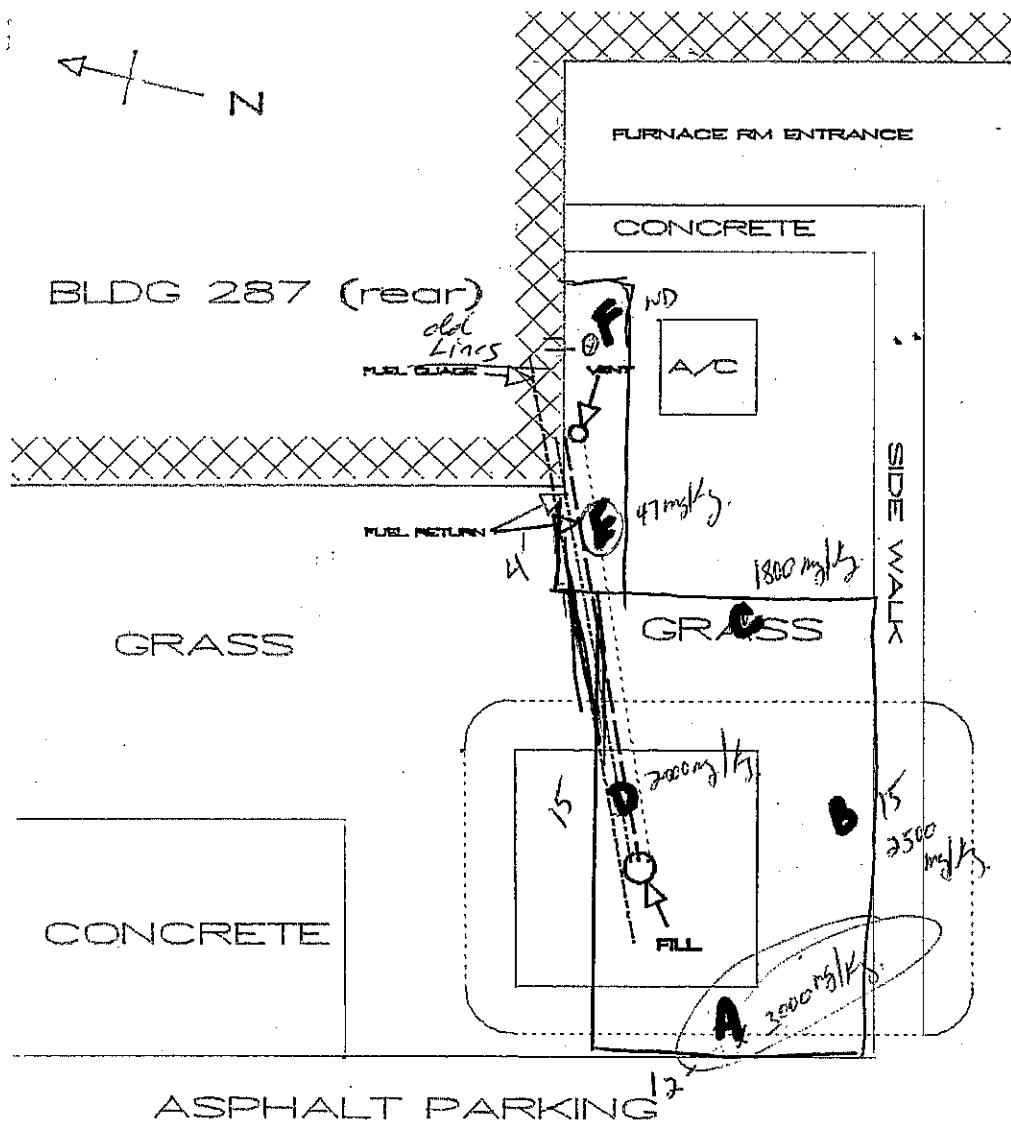


FIGURE 2

287

287PX1 → ○
287PX5 → ○
287PX4 → ○
287PX3 → ○
287PX2 → ○

FIGURE 3
Soil Sample Location Map
Building 287

U.S. Army Garrison
Fort Monmouth, New Jersey

SCALE:
1" = 20' approx.

DATE:
January, 2007

TABLES

TABLE 1

SUMMARY OF LABORATORY ANALYSIS

FT. MONMOUTH, Building 287, UST No. 287

2-Nov-93, 22-Jul-04

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE DATE	SAMPLE MATRIX	ANALYTICAL PARAMETER	ANALYTICAL METHOD
Site A	1307.1	2-Nov-93	SOIL	TPH, VOA	OQA-QAM-25; SW-846, 8260
Site B	1307.2	2-Nov-93	SOIL	TPH	OQA-QAM-25
Site C	1307.3	2-Nov-93	SOIL	TPH	OQA-QAM-25
Site D	1307.4	2-Nov-93	SOIL	TPH	OQA-QAM-25
Site E	1307.5	2-Nov-93	SOIL	TPH	OQA-QAM-25
Site F	1307.6	2-Nov-93	SOIL	TPH	OQA-QAM-25
287-PX1	4054801	22-Jul-04	SOIL	TPH	OQA-QAM-25
287-PX2	4054802	22-Jul-04	SOIL	TPH	OQA-QAM-25
287-PX3	4054803	22-Jul-04	SOIL	TPH, VOA	OQA-QAM-25; SW-846, 8260
287-PX4	4054804	22-Jul-04	SOIL	TPH	OQA-QAM-25
287-PX5	4054805	22-Jul-04	SOIL	TPH	OQA-QAM-25
287-PX6(dup)	4054806	22-Jul-04	SOIL	TPH	OQA-QAM-25

ABBREVIATIONS:

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

VOA = Volatile Organic Analysis, EPA SW-846 Method 8260

TABLE 2

SUMMARY OF LABORATORY ANALYTICAL RESULTS
FT. MONMOUTH, BUILDING 1006, UST No.800-21
02-Nov-93, 30-Oct-03

TOTAL PETROLEUM HYDROCARBONS

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE LOCATION	SAMPLE DEPTH (in feet)	MATRIX	TPH RESULTS mg/kg
Site A	1307.1	West End	4.5 – 5.0	Soil	3130*
Site B	1307.2	South End	4.5 – 5.0	Soil	2490
Site C	1307.3	East End	4.5 – 5.0	Soil	1840
Site D	1307.4	North End	4.5 – 5.0	Soil	1950
Site E	1307.5	Piping	0.5 – 1.0	Soil	47
Site F	1307.6	Piping	0.5 – 1.0	Soil	ND
287-PX1	4054801	North Wall	7.0 – 7.5	Soil	216
287-PX2	4054802	South Wall	6.5 – 7.0	Soil	581
287-PX3	4054803	East Wall	7.0 – 7.5	Soil	2458*
287-PX4	4054804	West Wall	7.0 – 7.5	Soil	ND
287-PX5	4054805	Bottom	8.0 – 8.5	Soil	ND
287-PX6(dup)	4054806	Duplicate (PX3-east wall)	7.0 – 7.5	Soil	ND

ABBREVIATIONS:

mg/kg = Milligrams Per Kilogram = parts per million

ND = Compound Not Detected

NA = Compound Not Analyzed

*= Further Analyzed for Volatiles

Gray shading indicates exceedance of NJDEP
health based criterion of 10,000 ppm total organic contaminants

TABLE 3

SUMMARY OF LABORATORY ANALYTICAL RESULTS

FT. MONMOUTH, Building 287, UST No. 61
09-Nov-93, 22-July-04

VOLATILE ORGANIC COMPOUNDS - SOIL

SAMPLE ID	SAMPLE DATE	Benzene	Toluene	Ethyl- benzene	Xylenes (total)
UNITS		mg/kg	mg/kg	mg/kg	mg/kg
Site A	09-Nov-93	ND	ND	ND	ND
287-PX3	22-July-04	ND	ND	ND	ND
NJDEP Criteria	Residential	3	1,000	1,000	410

ABBREVIATIONS:

mg/kg = Milligrams Per Kilogram = parts per million

ND = Compound Not Detected

NA = Compound Not Analyzed

Notes:

Gray shading indicates exceedance of NJDEP

Residential Direct Contact Soil Cleanup Criteria

APPENDIX A

CERTIFICATIONS

Site Remediation Program
UST Site Remedial Investigation Report

A. Facility Name: Building 287
Facility Street Address: 287 Barker Circle
Municipality: Oceanport County: Monmouth
Block: NA Lot(s): NA Telephone Number: 732-532-6223

B. Owner (RP)'s Name: U.S. Army - Directorate of Public Works
Street Address: 173 Riverside Ave. City: Ft. Monmouth
State: NJ Zip: 07703 Telephone Number: 732-532-6223

C. (Check as appropriate) ☐ Site Investigation Report (SIR) \$500 Fee ☐ Remedial Investigation Report (RIR) \$1000 Fee	D. (Complete all that apply) Assigned Case Manager: <u>Greg Zalaskus</u> UST Registration Number: <u>81533-61</u> (7 digits) • Incident Report Number: <u>93-11-29-1745-01</u> (10 or 12 digits) • Tank Closure Number C(N)<u>9</u> - <u> </u> C <u>9</u> - <u> </u> C<u>9</u> <u>3</u> - <u>3181</u> (7 characters)
--	--

E. Certification by the Subsurface Evaluator:
The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E Yes No

Name: Frank Accorsi Signature: *Frank Accorsi* UST Cert. No.: 0010042

Firm: Tecom-Vinnell Services, Inc. Firm's UST Cert. Number: US252302

Firm Address: P.O. Box 60 City: Ft. Monmouth

State: NJ Zip: 07703 Telephone Number: 732-532-5241

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 5 8: 10A-2 1 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:
The following certification shall be signed [according to the requirements of N.J.A.C. 7: 14B-1.7(b)] as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
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 a principal executive officer or ranking elected Official.

"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 responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): _____ Title: _____

Signature: _____

Company Name: _____ Date: _____

APPENDIX B

**NON-HAZARDOUS
WASTE MANIFEST**



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. NJ13121101012015191710101017	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 c/o James Shirghio, Bldg 2504 ATTN: SELF-M-DL-EM-MS			A. State Manifest Document Number NJA 1706535			
4. Generator's Phone (908) 532-6224			B. State Generator's ID Bldg. 287 - VST # 815-33-61 C-93-3181			
5. Transporter 1 Company Name Freehold Cartage Inc.			Main Post NJ DEPE-2265			
6. US EPA ID Number NJ1D0541126164			C. State Facility's ID			
7. Transporter 2 Company Name			D. Transporter's Phone (908) 462-1001			
8. US EPA ID Number			E. State Trans. ID			
9. Designated Facility Name and Site Address Lionetti Oil Recovery Co., Inc. Runyon & Cheesequake Rds. Old Bridge, NJ 08857			F. Transporter's Phone ()			
10. US EPA ID Number NJ1D08141041410614			G. State Facility's ID			
H. Facility's Phone (908) 721-0900						
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	15. Waste No.
X: Petroleum Oil N.O.S. Class 3 (Petroleum Oil) Combustible Liquid UN 1270 PG III		001	TT	XX230	G.	X171212
J. Additional Descriptions for Materials Listed Above T, L Petroleum Oil % 90 Water % 10		K. Handling Codes for Wastes Listed Above T04-Filtration				
15. Special Handling Instructions and Additional Information NOT EPA REGULATED, REGULATED AS HAZARDOUS WASTE IN NJ 24 HOUR EMERGENCY# 201-427-2881 NJ DECAL# 48594		ERG# 27				
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 Charles M. Appleby SELF-M-PW-EV		Signature [Signature]		Month Day Year 11 10 1993		
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name ANTONIO TROCCINO		Signature [Signature]		Month Day Year 11 10 1993		
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year		
19. Discrepancy Indication Space						
20. Other Information (Continuation of manifest or receipt of hazardous materials covered by this manifest except as noted in item 11).						
Printed Name		Signature		Month Day Year		

APPENDIX C

UST DISPOSAL CERTIFICATE

UNDERGROUND STORAGE TANK (UST)
CLOSURE CERTIFICATION

BUILDING NO. 287

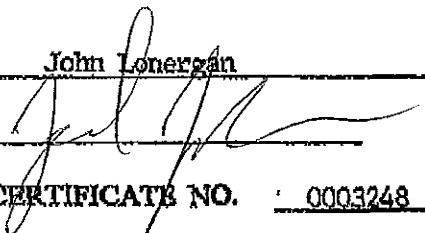
NJDEP UST REGISTRATION NO. 81533-61

DATE TANK REMOVED Oct. 28, 1993

HO / CONTRACT NUMBER 93-1016

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) John Loneragan

SIGNATURE 

NJDEP UST CLOSURE CERTIFICATE NO. 0003248

COMPANY PERFORMING TANK DECOMMISSIONING CUTE Inc.

NJDEP UST CLOSURE CORPORATE CERTIFICATE NO. 0200128

DATE OF SUBMITTAL 2/20/95

94 MON 11:42

C.U.T.E.

FAX NO. 201 423 8050

P.05



**MONMOUTH COUNTY
RECLAMATION CENTER**

TINTON FALLS, NJ
MAILING ADDRESS: 8000 ASBURY AVE
NEPTUNE, NJ 07753

FREE308152
FREEHOLD CARTAGE INC
P.O. BOX 5010
FREEHOLD NJ 07728

632709

FACILITY ID NO. 1358F1SP01

RECEIPT DOCUMENT NUMBER

01337919

TARE WEIGHT

18.6800

37350

GROSS WEIGHT

22.5900

45180

DATE: 11/18/93 OPER: MED ENTRY TIME: 14:06 DEP. NO: 15934X REL. NO: XPS1XA

QUANTITY	CLASS	DESCRIPTION	ORIGIN	UNITS	UNIT PRICE	AMOUNT
3.9100	13	Bulky Waste	MONMOUTH COUNTY	Tons		
		WATONTOWN BOROUGH				

QUANTITY	CLASS	DESCRIPTION	ORIGIN	UNITS	UNIT PRICE	AMOUNT
3.9100	13	Bulky Waste	MONMOUTH COUNTY	Tons		
		WATONTOWN BOROUGH				

*** Prepayment Balance Remaining: \$25328.37 ***

TRANSPORTER'S SIGNATURE

DOCUMENT TOTAL

3.91 tons Bulky Waste
Fiberglass tank disposal Bldg 208A, 282, 205, 207A, 287, 206

APPENDIX D

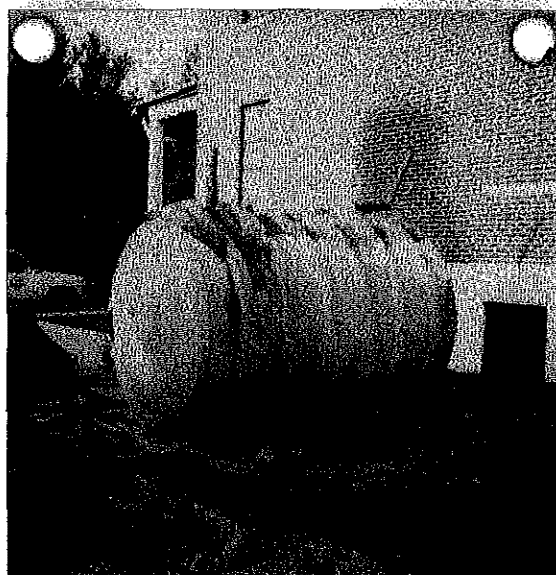
PHOTO DOCUMENTATION



B287 2000 gal #2 fuel oil
 11/17 1123 81533-61
 Rockhouse



Bldg. 287 1000 gal #2 fuel oil
 highest Cont. TPHC - C. Appl-8
 11/8/93



287