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

24 January 2019

Mr. Ashish Joshi
New Jersey Department of Environmental Protection
Division of Remediation Management & Response
Northern Bureau of Field Operations
7 Ridgedale Avenue (2nd Floor)
Cedar Knolls, NJ 07927-1112

SUBJECT: UST 1122B Site Investigation Report
Request for Unrestricted Use, No Further Action Approval
Fort Monmouth, Oceanport, Monmouth County, New Jersey
PI G000000032

Dear Mr. Joshi:

The U.S. Army Fort Monmouth (FTMM) Team has prepared this Site Investigation (SI) Report to review and summarize previous investigations conducted at the site of former Underground Storage Tank (UST) 1122B (Registration No. 81533-199) within Parcel 41. This former UST was located within Installation Restoration Program (IRP) Site FTMM-59, which will be addressed under separate cover.

UST 1122B, located near Building 1122, was a 550-gallon steel waste oil UST that was removed in January 1992. Building 1122, demolished in 2014, housed an auto repair shop for Fort Monmouth personnel. UST 1122B was located near the northern corner of Building 1122 (**Figure 1)**. During removal of the waste oil UST, no holes or pitting were observed. Soil surrounding the UST showed no evidence of staining (Weston, 1993; provided in **Attachment A**). Five post-excavation soil samples (FTMM59-C92-678/679, 680/681, 682/683, 684/685, and 686/687) were collected (**Figure 2**). Samples were analyzed for Total Petroleum Hydrocarbons (TPH) and priority pollutants plus 40 tentatively identified compounds (Weston 1993). TPH was detected in each of the five samples at concentrations ranging from 190 milligrams per kilogram (mg/kg) to 1,220 mg/kg. These concentrations did not exceed the site-specific criteria of 1,700 TPH/kg ecological screening level for non-fuel oil TPH. As shown on **Table** 1, no analytes exceeded the 2017 Residential Direct Contact Soil Remediation Standards (RDCSRSs). Following receipt of post-excavation soil sampling results, the UST excavation was backfilled to grade.

Groundwater monitoring was performed at FTMM-59 near UST 1122B from 1997 to 2014 (Parsons 2014 and 2015). Groundwater monitoring well MW01 is located approximately 5 feet from UST 1122B (Figure 1). In 2004, NJDEP agreed to reduce the full analytical suite and to monitor only for volatile organic compounds (VOCs) at MW01 and other FTMM-59 site wells. The Army concluded that there were no Ground Water Quality Standard (GWQS) exceedances for VOCs in the 2013 and 2014 monitoring results from MW01. NJDEP concurred in this conclusion (letters dated 3 July 2014 and 26 January 2016) and accepted the Army's recommendation to evaluate the groundwater results as part of the RI/FS that will be prepared for

part of the RI/FS that will be prepared for FTMM-59 (NJDEP letter dated 26 January 2016). The Army has determined that there are no impacts to groundwater associated with UST 1122B.

Based on the results of the previous investigations at the site of UST 1122B (within FTMM-59), the Army has determined that further remedial efforts are not warranted and an Unrestricted Use, No Further Action determination is requested for UST 1122B.

Thank you for reviewing this request; we look forward to your approval and/or comments. Our technical Point of Contact is Kent Friesen at (732) 383-7201; kent.friesen@parsons.com. I can be reached at (732) 383-5104; william.r.colvin18.civ@mail.mil.

Sincerely,

William R. Colvin
BRAC Environmental Coordinator

cc: Ashish Joshi (e-mail and 2 hard copies)
William Colvin, BEC (e-mail and 1 hard copy)
Joseph Pearson, Calibre (e-mail)
James Moore, USACE (e-mail)
Jim Kelly, USACE (e-mail)
Joseph Fallon, FMERA (e-mail)
Cris Grill, Parsons (e-mail

Attachments:
Figure 1 – UST 1122B Site Location
Figure 2 – Post-excavation Soil Sample Locations at UST 1122B at FTMM-59

Table 1 – Soil Sampling Results – Comparison to NJDEP Soil Remediation Standards

Attachment A - Weston. 1993. Underground Storage Tank Closure and Site Investigation Report, Building 1122, NJDEPE UST Registration No. 81533-199. October.

References Cited:

New Jersey Department of Environmental Protection (NJDEP). 2014. Letter to Wanda Green, re: *Final Baseline Groundwater Sampling Report (August 2013), Remedial Investigation/Feasibility Study/Decision Documents, Fort Monmouth, Oceanport, Monmouth County.* July 3.

New Jersey Department of Environmental Protection (NJDEP). 2016. Letter to William R. Colvin, re: *Annual (4th Quarter) 2014 Groundwater Sampling Report dated December 2015, Fort Monmouth, Oceanport, Monmouth County.* January 26.

Parsons. 2014. *Final August 2013 Baseline Groundwater Sampling Report, Fort Monmouth, Oceanport, Monmouth County, New Jersey*. Submitted to the U.S. Army Engineering and Support Center, Huntsville, AL. Revision 0, March.

Parsons. 2015. *Final Annual 2014 Groundwater Sampling Report, Fort Monmouth, Oceanport, Monmouth County, New Jersey*. Submitted to the U.S. Army Engineering and Support Center, Huntsville, AL. December.

New Jersey Department of Environmental Protection
Site Remediation Program

Report Certifications for RCRA GPRA 2020, CERCLA, and Federal Facility Sites

These certifications are to be used for reports submitted for RCRA GPRA 2020, CERCLA, and Federal Facility Sites. The Department has developed guidance for report certifications for RCRA GPRA 2020, CERCLA, and Federal Facility Sites under traditional oversight. The "Person Responsible for Conducting the Remediation Information and Certification" is required to be submitted with each report. For those sites that are required or opt to use a Licensed Site Remediation Professional (LSRP) the report must also be certified by the LSRP using the "Licensed Site Remediation Professional Information and Statement". For additional guidance regarding the requirement for LSRPs at RCRA GPRA 2020, CERCLA and Federal Facility Sites see http://www.nj.gov/dep/srp/srra/training/matrix/quick_ref/rcra_cercla_fed_facility_sites.pdf.

Document:

UST 1122B Site Investigation Report, Request for Unrestricted Use, No Further Action Approval, Fort Monmouth, Oceanport, Monmouth County, New Jersey (24 January 2019)

PERSON RESPONSIBLE FOR CONDUCTING THE REMEDIATION INFORMATION AND CERTIFICATION

Full Legal Name of the Person Responsible for Conducting the Remediation: William R. Colvin
Representative First Name: William Representative Last Name: Colvin
Title: Fort Monmouth BRAC Environmental Coordinator (BEC)
Phone Number: (732) 383-5104 Ext: Fax:
Mailing Address: P.O. Box 148
City/Town: Oceanport State: NJ Zip Code: 07757
Email Address: william.r.colvin18.civ@mail.mil

This certification shall be signed by the person responsible for conducting the remediation who is submitting this notification in accordance with Administrative Requirements for the Remediation of Contaminated Sites rule at N.J.A.C. 7:26C-1.5(a).

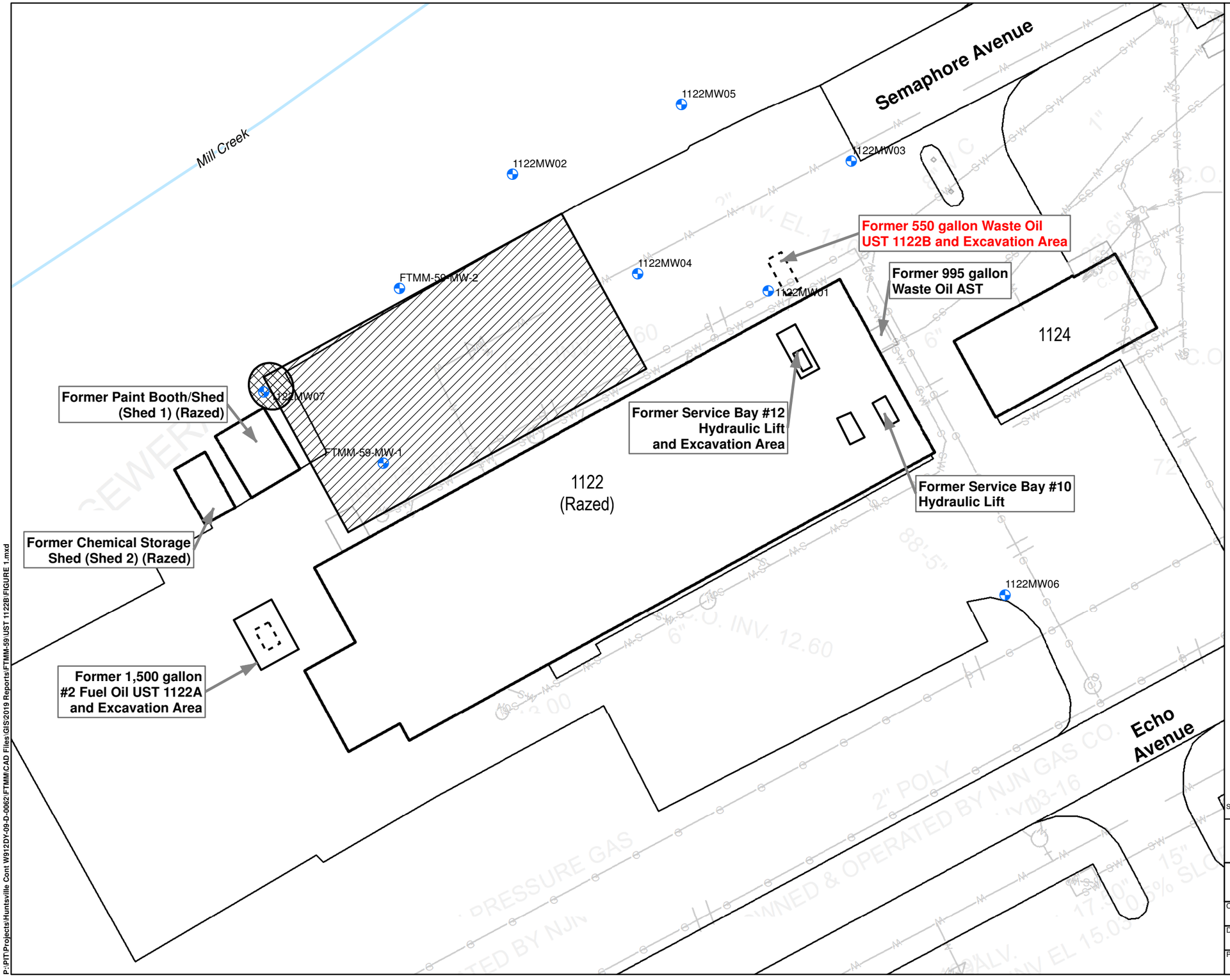
I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, including all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that 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.

Signature: William R Colvin Date: 24 January 2019

Name/Title: William R. Colvin
BRAC Environmental Coordinator

Completed form should be sent to:

Mr. Ashish Joshi
New Jersey Department of Environmental Protection
Division of Remediation Management & Response
Bureau of Northern Field Operations
7 Ridgedale Avenue (2nd Floor)
Cedar Knolls, New Jersey 07927-1112



LEGEND:

- Monitoring Well
- January 2005 Excavation
- April-May 1995 Excavation
- Underground Storage Tank
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Surface Water Feature

N

1 inch = 30 feet

0 15 30 60 Feet

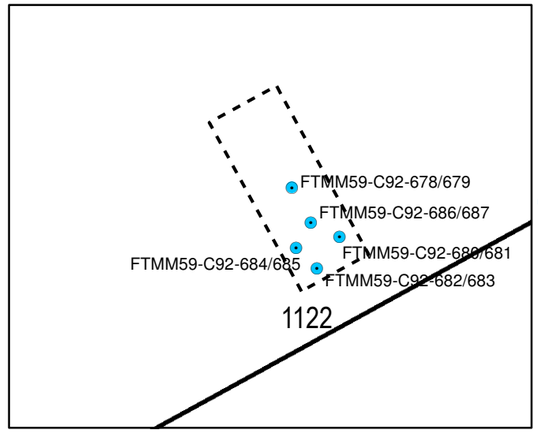
Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**

FTMM-59 SITE LAYOUT

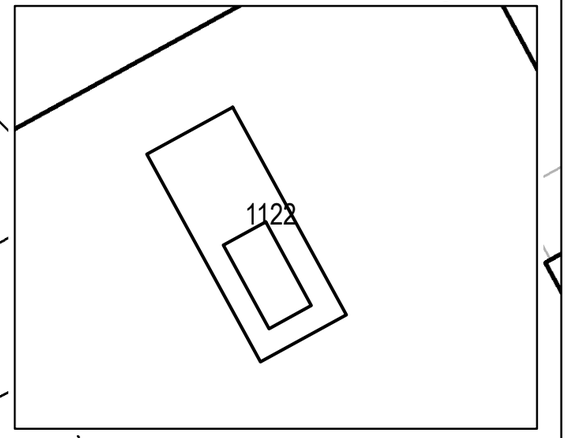
CREATED BY: RR	REVIEWED BY: RF
DATE: JAN. 2019	FIGURE NUMBER: FIGURE 1
PROJECT NUMBER: 748810-02150	FILE: FIGURE 1.mxd

P:\PIT\Projects\Huntsville Cont W912DY-09-D-0062\FTMM\CAD Files\GIS\2019 Reports\FTMM-59\UST 1122B\FIGURE 1.mxd



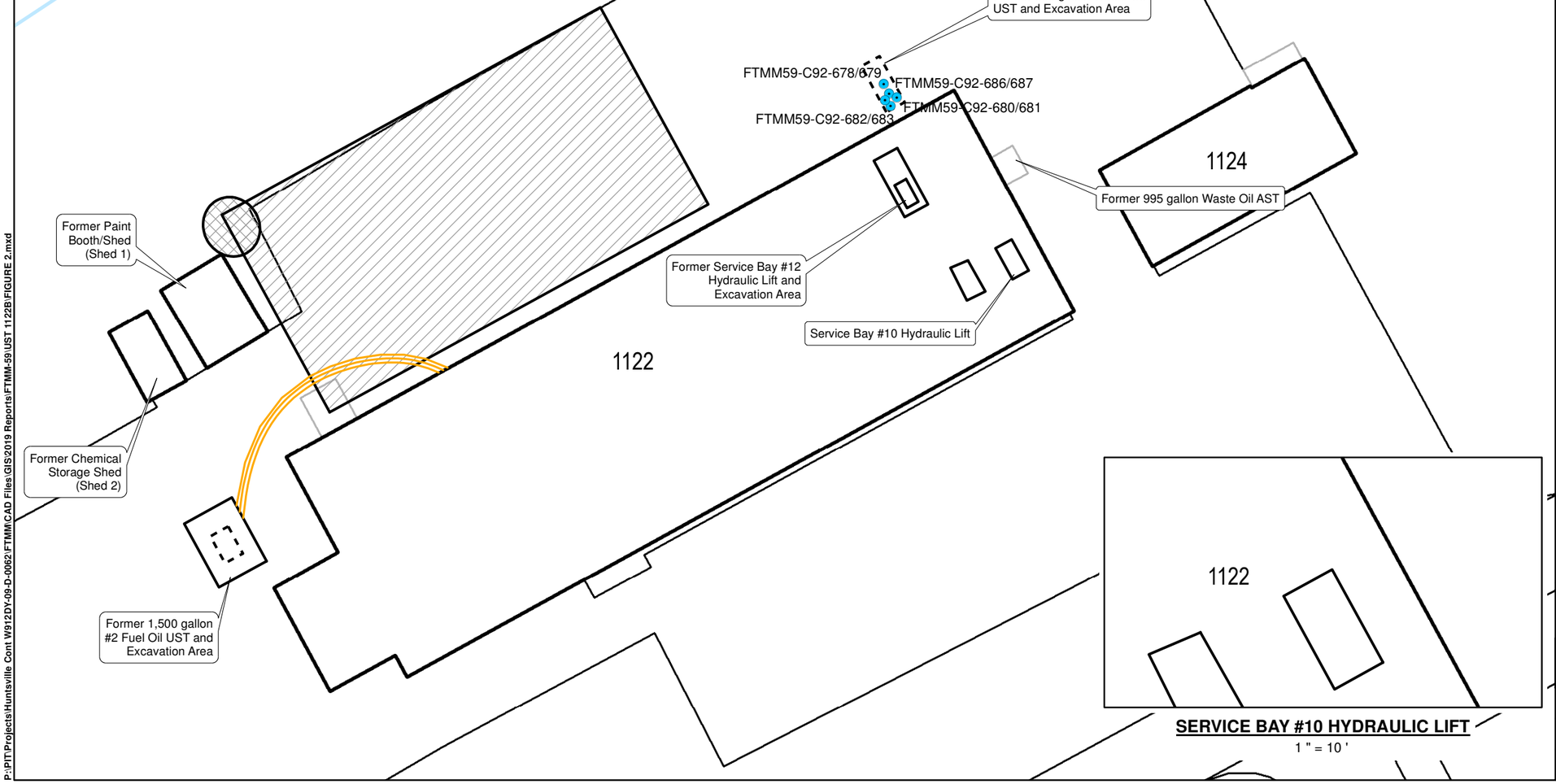
FORMER 550 gallon WASTE OIL UST

1 " = 10 '



FORMER SERVICE BAY#12 HYDRAULIC LIFT AND EXCAVATION AREA

1 " = 10 '



SERVICE BAY #10 HYDRAULIC LIFT

1 " = 10 '

LEGEND:

- 1992 Soil Sample (Weston, 1993)
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Surface Water Feature
- January 2005 Excavation
- April-May 1995 Excavation
- Underground Storage Tank

NOTE:

Additional historical soil sampling locations are shown on maps provided in Appendix A.

N

1 inch = 30 feet

0 15 30 60 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**

POST-EXCAVATION SAMPLE LOCATIONS AT UST 1122B AT FTMM-59

CREATED BY: RR	REVIEWED BY: RF
DATE: JAN. 2019	FIGURE NUMBER: FIGURE 2
PROJECT NUMBER: 748810-02150	FILE: FIGURE 2.mxd

P:\PIT\Projects\Huntsville Cont W912DY-09-D-0062\FTMM\CAD Files\GIS\2019 Reports\FTMM-59\UST 1122B\FIGURE 2.mxd

TABLE 1
SOIL SAMPLING RESULTS - NJDEP SOIL REMEDIATION STANDARDS
UST 1122B
FORT MONMOUTH, NEW JERSEY

Source Area	NJ Residential Direct Contact SRS	NJ Non-Residential Direct Contact SRS	NJ Impact to GW Soil Screening Level	550-gallon Steel Waste Oil UST 1122B				
Loc ID				FTMM59-C92-678/679	FTMM59-C92-680/681	FTMM59-C92-682/683	FTMM59-C92-684/685	FTMM59-C92-686/687
Sample ID				FTMM59-SS-C92-678/679-0-0.1	FTMM59-SS-C92-680/681-0-0.1	FTMM59-SS-C92-682/683-0-0.1	FTMM59-SS-C92-684/685-0-0.1	FTMM59-SS-C92-686/687-0-0.1
Sample Date				1/6/1992	1/6/1992	1/6/1992	1/6/1992	1/6/1992
Volatile Organic Compounds (mg/kg								
1,1,1-Trichloroethane	160,000	NLE	0.3	**0.1**	**0.1**	**0.16**	**0.25**	**0.13**
Acetone	70,000	NLE	19	< 0.03	< 0.029	ND	ND	ND
Benzene	2	5	0.005	< 0.03	< 0.029	ND	ND	ND
Ethyl benzene	7,800	110,000	13	< 0.03	< 0.029	ND	ND	**0.19** J
Meta/Para Xylene	NLE	NLE	NLE	< 0.03	< 0.029	ND	ND	**0.091**
Methyl butyl ketone	NLE	NLE	NLE	< 0.03	< 0.029	NA	NA	NA
Methyl ethyl ketone	3,100	44,000	0.9	**0.28**	< 0.029	ND	**0.19**	ND
Methyl isobutyl ketone	NLE	NLE	NLE	**0.038**	< 0.029	ND	ND	ND
Methyl Tertbutyl Ethe	110	320	0.2	< 0.03	< 0.029	NA	NA	NA
Methylene chloride	46	230	0.01	**0.062**	**0.06**	**0.093**	**0.014**	**0.072**
Ortho Xylene	NLE	NLE	NLE	< 0.03	< 0.029	**0.025** J	**0.048**	**0.038**
Toluene	6,300	91,000	7	< 0.03	< 0.029	ND	ND	**0.038**
Semivolatile Organic Compounds (mg/kg								
2-Chlorophenol	310	2,200	0.8	ND	ND	ND	**0.047** J	ND
2-Methylnaphthalene	230	2,400	8	ND	ND	ND	**1**	**0.27** J
Acenaphthene	3,400	37,000	110	**0.12** J	ND	ND	**0.79** J	ND
Acenaphthylene	NLE	300,000	NLE	ND	ND	ND	**0.026** J	ND
Bis(2-Ethylhexyl)phthalate	35	140	1,200	**0.74** B	**0.23** JB	ND	ND	**0.28** JB
Di-n-butylphthalate	6,100	68,000	760	ND	**0.054** JB	**0.06** JB	ND	ND
Fluorene	2,300	24,000	170	ND	ND	ND	**0.13** J	**0.028** J
Naphthalene	6	17	25	ND	ND	ND	**0.44**	**0.11** J
Nitrobenzene	5	14	0.2	NA	NA	NA	NA	NA
Phenanthrene	NLE	300,000	NLE	ND	ND	ND	**0.44**	**0.068** J
Pyrene	1,700	18,000	840	**0.12** J	ND	ND	**0.43**	**0.091** J
Total Petroleum Hydrocarbons (mg/kg								
Total Petroleum Hydrocarbons	NLE	NLE	NLE	**1,220**	**960**	**190**	**610**	**445**
Inorganics (mg/kg								
Arsenic	19	19	19	**1.8**	ND	**1.6**	**1.9**	**1.6**
Beryllium	16	140	0.7	**0.476**	**0.65**	**0.513**	**0.706**	**0.409**
Cadmium	78	78	2	**0.09**	**0.02**	**0.05**	**0.04**	**0.07**
Chromium	NLE	NLE	NLE	**53.6**	**33.1**	**50.6**	**53.5**	**39**
Cobalt	1,600	590	90	NA	NA	NA	NA	NA
Copper	3,100	45,000	11,000	**6.6**	**9.3**	**7.6**	**8.8**	**9.1**
Lead	400	800	90	**13.3**	**31.4**	**15.2**	**29.4**	**29.9**
Mercury	23	65	0.1	ND	ND	ND	**0.047**	ND
Nickel	1,600	23,000	48	ND	ND	ND	**3.5**	ND
Zinc	23,000	110,000	930	**40.4**	**40.1**	**51.3**	**60**	**68.3**

1) Summary Statistics were obtained from Result Sheet(s) and reflect values for the whole dataset.

Footnote:

1) All historical data collected prior to 2013 are reported as provided by others.

2) Number of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.

3) NLE = no limit established.

4) ND = not detected in any background sample, no background concentration available.

5) Bold chemical dectection

6) SS = Site Specific action level, see "Specific Chemical Class (or Parameter)" footnote for details.

7) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) during the data validation.

[blank] = detect, i.e. detected chemical result value.

B =Compound detected in the sample at a concentration less than or equal to 5 times (10 times for common lab contaminants) the blank concentration.

R = Rejected, data validation rejected the results.

U = non-detect, i.e. not detected at or above this value.

U-DL = Elevated sample detection limit due to difficult sample matrix.

U-ND = Analyte not detected in sample, but no detection or reporting limit provided.

J = estimated detected value due to a concetration below the reporting limit or due to discrepancies in meeting certain analyte-specific quality control.

E (or ER) = Estimated result.

D = Results from dilution of sample.

J-DL = Elevated sample detection limit due to difficult sample matrix.

JN = Tentatively identified compound, estimated concentration.

UJ=The compound was not detected: however, the results is estimated because of discrepancies in meeting certain analyte-specific QC criteria.

J+ = The result is an estimated quantity, but the result may be biased high.

J- = The result is an estimated quantity, but the result may be biased low.

8) Specific Chemical Classes (or Parameters) comments or notes regarding how data is displayed, compared to Action Levels, or represented in this table.

a) DELETE THIS NOTE BEFORE GOING FINAL: Refer to the NJDEP Protocol for Addressing Extractable Petroleum Hydrocarbons (Version 5.0, August 9, 2010) and the NJDEP Health Based end Ecological Screening Criteria for Petroleum Hydrocarbons (Version 4.0, August 9, 2010) to determine the category of tank being investigated and the appropriate cleanup standards or screening levels for that category of tank.

9) Chemical results greater than or equal to the action level (depending on criteria) are highlighted based on the Criteria that are present.

- Cell Shade values represent a result that is above the NJ Residential Direct Contact Soil Remediation Standard. ####

There are no NJDEP soil standards for individual PCB Aroclors, therefore the total PCB NJDEP standards were used for individual Aroclors.

- Cell Shade values represent a result that is above the NJ Non-Residential Direct Contact Soil Remediation Standard. ###

- Cell Shade values represent a result that is above the NJ Impact to GW Soil Screening Level ###

- Cell Shade values represent a result that is above both the NJ Residential, Non-Residential, AND NJ Impact to GW Soil Screening Level Direct Contact Soil Remediation Standard. ###

- Cell Shade values represent a result that is above both the NJ Residential and Non-Residential Direct Contact Soil Remediation Standard. ###

10) Criteria action level source document and web address.

- The NJ Residential Direct Contact Soil Remediation Standard refers to the NJDEP's Sept 18, 2017 Remediation Standards

http://www.nj.gov/dep/rules/rules/njac7_26d.pdf

- The NJ Non-Residential Direct Contact Soil Remediation Standard refers to the NJDEP's Sept 18, 2017 Remediation Standards

http://www.nj.gov/dep/rules/rules/njac7_26d.pdf

- The NJ Impact to GW Soil Screening Level criteria refers to the Development of Site Specific Impact to Ground Water Soil Remediation Standards - Nov 2013 revised

http://www.nj.gov/dep/srp/guidance/rs/partition_equation.pdf

UNDERGROUND STORAGE TANK
CLOSURE AND SITE INVESTIGATION REPORT
BUILDING 1122
NJDEPE UST REGISTRATION NO. 81533-199

October 28, 1993

W.O. No.: 03886-088-001

Prepared For:

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

Prepared by:

ROY F. WESTON, INC.
Raritan Plaza I, 4th Floor
Edison, New Jersey 08837

WESTON
MANAGERS DESIGNERS/CONSULTANTS

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EXECUTIVE SUMMARY

On 6 January 1992, a single wall steel, underground storage tank (UST) was closed at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, New Jersey Department of Environmental Protection and Energy (NJDEPE) Registration No. 81533-199, was located immediately adjacent to Building 1122 in the Main Post area of Fort Monmouth. UST No. 81533-199 was a 550-gallon waste oil UST. Mr. Douglas Greenfield of the NJDEPE Division of Hazardous Waste Management (NJDEPE-DHWM) was onsite for the duration of closure activities. The tank closure was performed by Fabiano and Son, Inc..

Soils surrounding the tank were screened visually and with air monitoring instruments for evidence of contamination. The UST was inspected following removal for corrosion holes. No corrosion holes were noted in the UST and no potentially contaminated soils were identified surrounding the tank.

Following the removal of the UST, five post-excavation soil samples were collected from the base of the excavation. These samples were analyzed for total petroleum hydrocarbons (TPHC) and priority pollutants plus 40 tentatively identified compounds (PP+40). All samples contained either non-detectable concentrations of contaminants or concentrations below proposed NJDEPE subsurface cleanup criteria.

No further action is proposed at this site in reference to UST No. 81533-199 since no soils were identified during closure with concentrations of contaminants exceeding proposed NJDEPE subsurface cleanup criteria.

WESTON
MANAGERS DESIGNERS/CONSULTANTS

SECTION 1.0

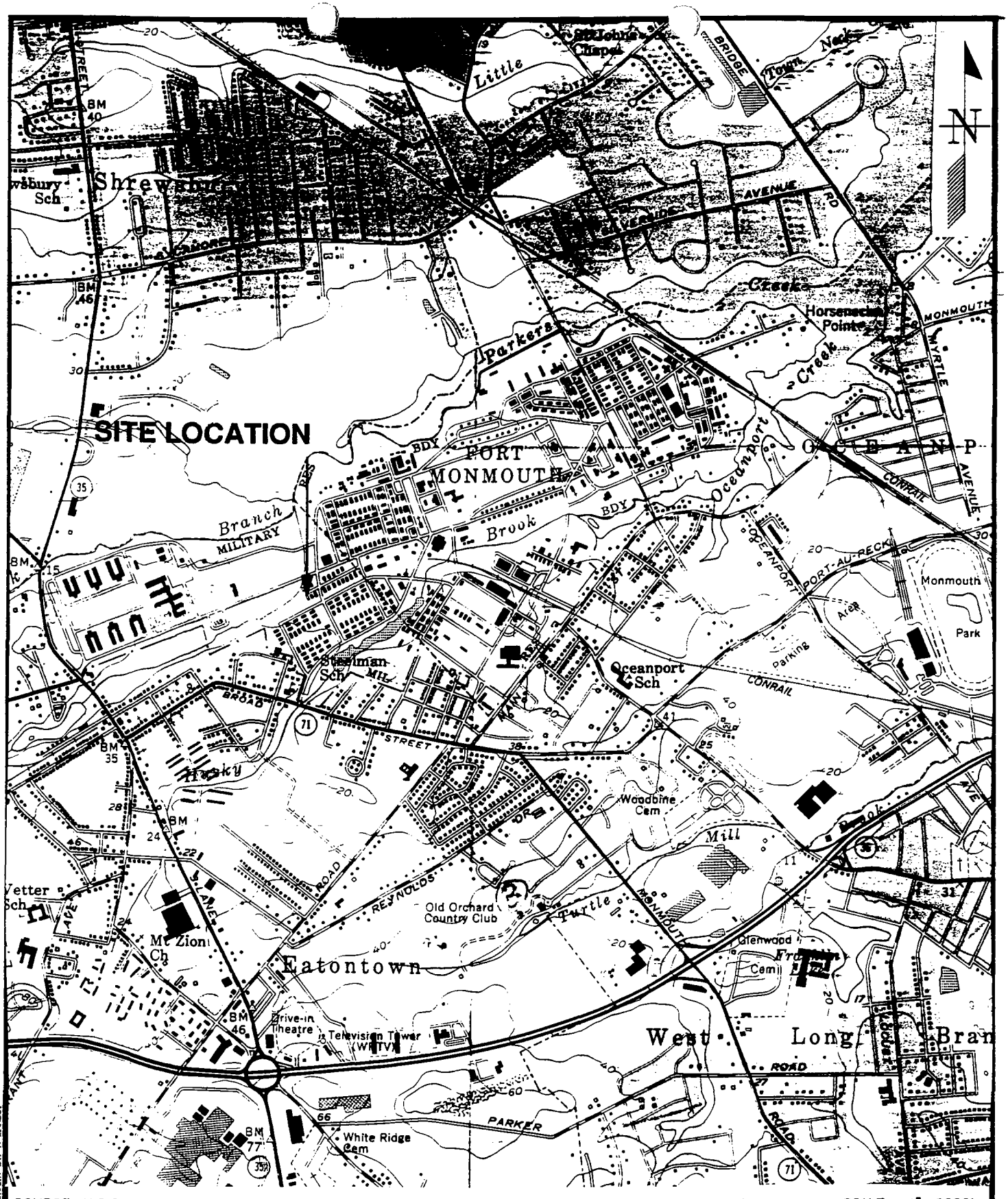
UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 Overview:

One underground storage tank (UST), New Jersey Department of Environmental Protection and Energy (NJDEPE) Registration No. 81533-199, was closed at Building 1122 at U.S. Army Fort Monmouth, New Jersey on 6 January 1992. This UST Closure and Site Investigation Report was prepared by Roy F. Weston Inc. (WESTON®), to assist the United States Army Directorate of Public Works (DPW) in complying with NJDEPE Bureau of Underground Storage Tanks (NJDEPE-BUST) regulations. The applicable NJDEPE-BUST regulations at the date of closure were the "Interim Closure Requirements for Underground Storage Tank Systems" (NJAC 7:14B-1 et seq. September 1990 and revisions dated 1 November 1991). This report presents the results of the DPW's implementation of the UST Decommissioning/Closure Plan submitted to the NJDEPE on 12 July 1991. UST No. 81533-199 was a single wall steel, 550-gallon waste oil tank.

All activities associated with the decommissioning of UST No. 81533-199 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: NJAC 7:14B-1 et seq., NJAC 5:23-1 et seq., and Occupational Safety and Health Administration (OSHA) 1910.146 &1910.120. All permits including but not limited to the NJDEPE-approved Decommissioning/Closure Plan were posted onsite for inspection. Fabiano and Son Inc., the contractor that conducted the decommissioning activities, are registered and certified by the NJDEPE for performing UST closure activities. Closure of UST No. 81533-199 proceeded under oversight of the NJDEPE Division of Hazardous Waste Management (NJDEPE-DHWM). The NJDEPE-DHWM UST conditional closure approval letter and the UST Site Assessment Summary Form for UST No. 81533-199 have been included in Appendices A and B, respectively.

Based on an inspection of the UST, field screening of subsurface soils and analytical results of soil samples collected, DPW concluded that no discharges historically occurred from the UST. Section 1 of this UST Closure and Site Investigation Report provides a summary of the UST decommissioning activities. Section 2 of this report describes the site investigation activities. Conclusions and recommendations, including the results of the soil sampling investigation, are presented in the final section of this report.



SOURCE: U.S.G.S. LONG BRANCH NJ, QUADRANGLE, MONMOUTH COUNTY, 1954 (PHOTOREVISED 1981) SCALE: 1"=2000'

REVISION #: 0000 DATE: 10-19-93 PLOT NAME:
FILE NAME: 00-1122.DWG DRAWN BY: A MANSUIT

WESTON MANAGERS DESIGNERS/CONSULTANTS

PROJECT NAME:
UNDERGROUND STORAGE TANK CLOSURE
AND SITE INVESTIGATION REPORT
BUILDING 1122 – TANK NO. 199
FORT MONMOUTH, NEW JERSEY

CLIENT NAME: U.S. ARMY–DEH
FORT MONMOUTH

SITE LOCATION MAP

DATE: 10–22–93

FIGURE #: 1–1

1.2 Site Description

Building 1122 is located in the northeastern portion of the Main Post area of Fort Monmouth. A site location map is provided in Figure 1-1. Building 1122 is an active military vehicle repair and maintenance facility.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the area surrounding Building 1122. Included is 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, 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 (Zapecza, 1989). These sediments, predominantly derived from deltaic, shallow marine, and continental shelf environments, date from Cretaceous through the Quaternary Periods. The mineralogy ranges from quartz to glauconite.

The formations record several major transgressive/regressive cycles and contain units which are generally thicker to the southeast and reflect a deeper water environment. 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 Zapecza, 1990).

Local Geology

Based on the regional geologic map (Jablonski, 1968), the Cretaceous age Red Bank and Tinton Sands outcrop at the Main Post area. The Red Bank sand conformably overlies the Navesink Formation and dips to the southeast at 35 feet per mile. The upper member (Shrewsbury) of the Red Bank sand is a yellowish-gray to reddish brown clayey, medium-to-coarse-grained sand

that contains abundant rock fragments, minor mica and glauconite (Jablonski). The lower member (Sandy Hook) is a dark grey 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).

Over the last 80 years, the natural topography of Fort Monmouth has been altered by excavation and filling activities by the military. Topographic elevations for the Main Post area range from five feet above mean sea level (MSL) to 31 feet above MSL.

Hydrogeology

The water table aquifer at 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 from wells drilled at the Main Post area, around water is typically encountered at depths of two to nine feet below ground surface (BGS). According to Jablonski, wells drilled in the Red Bank and Tinton Sands may produce from 2 to 25 gallons per minute (gpm). Some well owners have reported acidic water that requires treatment to remove iron.

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

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

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

1.3 Health and Safety

Before, during, and after all activities, hazards at the work site which may have posed a threat to the health and safety of all personnel who were involved with, or were affected by, the decommissioning of the UST system were minimized. All areas which posed, or may have been suspected to pose a vapor hazard were monitored by a qualified individual utilizing approved equipment. 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 screened visually and with air monitoring instruments for evidence of contamination. No potentially contaminated soils were identified during closure activities.
- Surface materials (i.e, asphalt, concrete, etc...) were excavated and staged separate 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

Soil was excavated to expose the UST and associated piping. The piping was not removed/disturbed until all free product was drained into the UST. The UST was rendered vapor free by purging prior to any cutting or access. After the 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. Liquids were transported and disposed of by L&L Oil Service, Inc., a NJDEPE-approved petroleum recycling and disposal company. All of the openings in the tanks were plugged except for one hole (manway).

The UST was cleaned prior to removal from the excavation in accordance with NJDEPE-BUST regulations. After the UST was removed from the excavation, it was staged on polyethylene

sheeting and examined for corrosion holes. The presence or absence of corrosion holes was documented by the Sub-Surface Evaluator. No cracks or puncture holes were observed upon the inspection of the UST. Soils surrounding the UST were screened visually and with an Organic Vapor Analyzer (OVA) for evidence of contamination. No evidence of contamination was noted.

1.5 Underground Storage Tank Transportation and Disposal:

The tank was transported by Fabiano and Sons, Inc. to Redbank Recycling Inc., for recycling in compliance with all applicable regulations and laws.

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

- site of origin,
- contact person,
- NJDEPE UST Facility ID number,
- name of transporter/contact person, and
- destination site/contact person.

1.6 Management of Excavated Soils:

No potentially contaminated soils were excavated as part of the removal of UST No. 81533-199. All soils were free of evidence of contamination and were backfilled into the excavation following removal of UST.

WESTON MANAGERS DESIGNERS/CONSULTANTS

SECTION 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 Environmental Profile Laboratories, a NJDEPE-certified testing laboratory. All sampling was performed under the direct supervision of a NJDEPE Certified Sub-Surface Evaluator according to the methods described in the NJDEPE Field Sampling Procedures Manual (1988). Sampling frequency and parameters analyzed complied with the NJDEPE-BUST document "Interim Closure Requirements for Underground Storage Tank Systems" (September 1990 and revisions dated 1 November 1991) which was the applicable regulation at the date of the closure. All records of the Site Investigation activities are maintained by Fort Monmouth DPW: Environmental Office.

The following Parties participated in Closure and Site Investigation activities.

- Closure Contractor: Fabiano and Son, Inc.
  Contact Person: Anthony Fabiano
  Phone Number: (908) 571-1004
  NJDEPE Company Certification No.: PLE 01349

- Subsurface Evaluator: Dinkerrai Desai
  Employer: U.S. Army, Fort Monmouth
  Phone Number: (908) 532-1475
  NJDEPE Certification No.: 2266

- Analytical Laboratory: Environmental Profile Laboratories
  Contact Person: Daniel Wright
  Phone Number: (908) 244-6278
  NJDEPE Company Certification No.: 15526

- NJDEPE On-site Representative: DOUG GREENFIELD
  DIVISION OF HAZARDOUS WASTE MANAGEMENT
  Phone Number: (609) 584-4200
  NJDEPE Certification No.: NJD01427895

- Hazardous Waste Hauler: L&L Oil Service, Inc.
  Contact Person: Frank Labella
  Phone Number: (908) 566-2785
  NJDEPE Company Certification No.: NJD01427895

2.2 Field Screening/Monitoring

All soils that were excavated as part of the removal of the UST were screened using an OVA, for evidence of contamination. Soils were also visually screened for evidence of contamination (staining, free product, etc..). No evidence of contamination was noted during excavation of soils.

Soils on the sidewalls and base of the excavation were screened with an OVA by an individual under the direct supervision of a NJDEPE Certified Sub-Surface Evaluator. No evidence of contamination was noted within soils on the sidewalls or base of the excavation.

2.3 Soil Sampling

Following removal of UST No. 81533-199, five (5) post-excavation soil samples were collected and were analyzed for total petroleum hydrocarbons (TPHC) and priority pollutants plus forty tentatively identified compounds (PP+40), in accordance with NJDEPE requirements. The NJDEPE approved closure plan (July 1991) for UST No. 81533-199 specified that four post-excavation samples should be collected. However, the number of samples was increased based on a request by the NJDEPE on-site representative present during closure activities. A summary of sampling activities including parameters analyzed is provided in Table 2-1. Figure 2-1 depicts the location of the post-excavation samples. The samples were typically collected along the base and sidewalls of the excavation using decontaminated stainless steel scoops. Following soil sampling activities, the samples were chilled and delivered to Environmental Profile Laboratories located in Toms River, New Jersey.

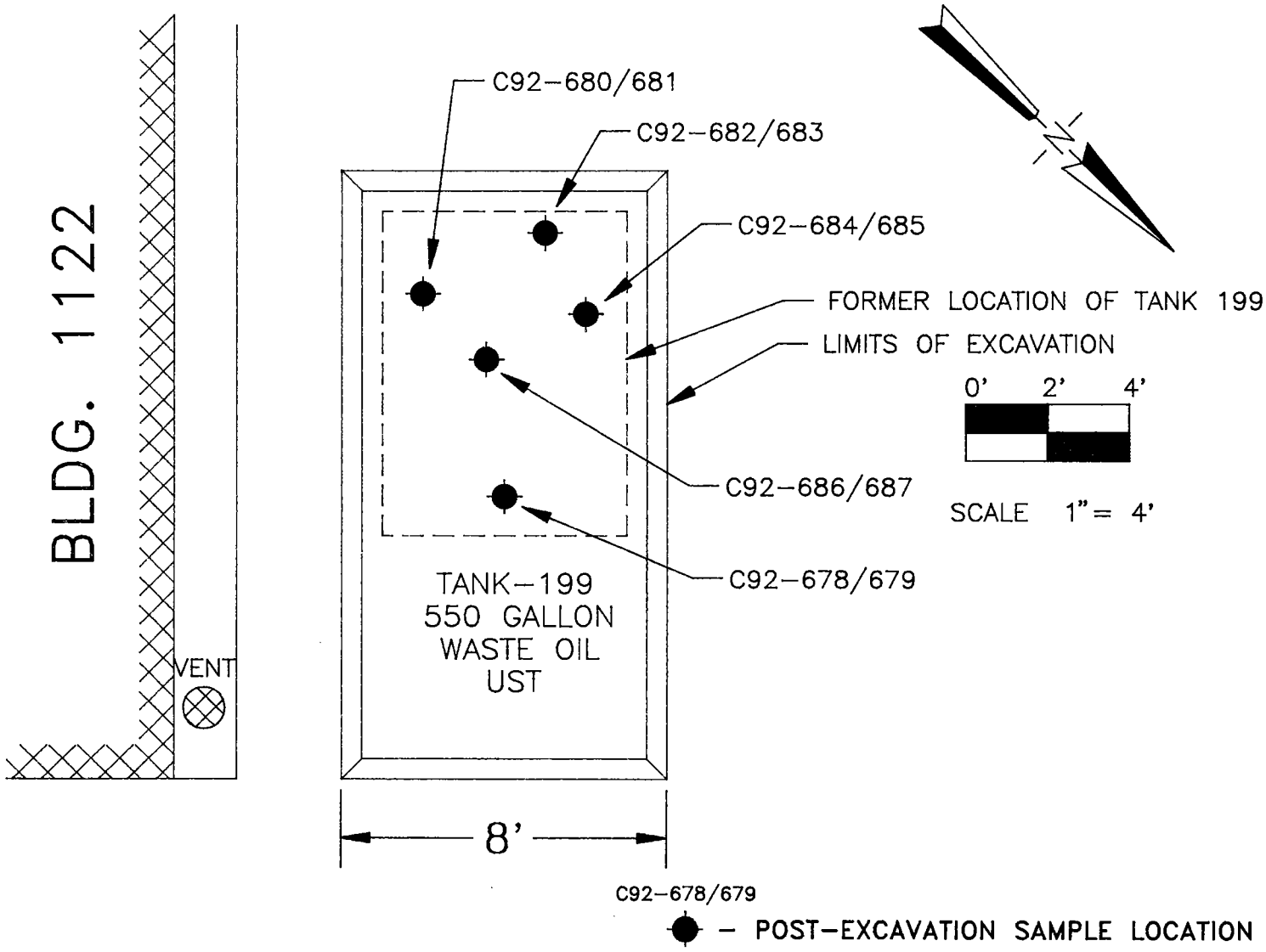
TABLE 2-1

SUMMARY OF POST-EXCAVATION SAMPLING
UST REGISTRATION NO. 881533-199
BUILDING NO. 1122
FORT MONMOUTH, NEW JERSEY

Sample I.D No.	Date of Collection	Matrix	Sample Type	Analytical Parameters	Sampling Method
C92-678/679	1/6/92	Soil	Post-Excavation	TPHC, PP+40	Stainless Steel Scoop
C92-680/681	1/6/92	Soil	Post-Excavation	TPHC, PP+40	Stainless Steel Scoop
C92-682/683	1/6/92	Soil	Post-Excavation	TPHC, PP+40	Stainless Steel Scoop
C92-684/685	1/6/92	Soil	Post-Excavation	TPHC, PP+40	Stainless Steel Scoop
C92-686/687	1/6/92	Soil	Post-Excavation	TPHC, PP+40	Stainless Steel Scoop

TPHC - Total Petroleum Hydrocarbons.

PP+40 - Priority pollutant plus 40 - The priority pollutant list of 126 compounds and elements developed by EPA pursuant to Section 307(a)(1) of the Clean Water Act and 40 non-targeted organic compounds detected by gas chromatography/mass spectroscopy (GC/MS) analysis.



REVISION #: DATE: 10-28-93
FILE NAME: DEH-1122.DWG DRAWN BY: A MANSUT

WESTON MANAGERS DESIGNERS/CONSULTANTS

PROJECT NAME:
UNDERGROUND STORAGE TANK CLOSURE
AND SITE INVESTIGATION REPORT
BUILING 1122 - TANK 199
FORT MONMOUTH, NEW JERSEY

CLIENT NAME: U.S. ARMY-DEH
FORT MONMOUTH

SAMPLE LOCATIONS POST-EXCAVATION

FACILITY REGISTRATION
NO. 0081533-199

DATE: 10-07-93

FIGURE #: 2-1

SECTION 3.0

CONCLUSIONS AND RECOMMENDATIONS

3.1 Soil Sampling Results

To evaluate soil conditions following removal of the UST and associated soils, five post-excavation soil samples were collected and analyzed for TPHC and PP+40. The post-excavation sample results were compared to proposed NJDEPE subsurface cleanup criteria (NJAC 7:26D and revisions dated 8 March 1993). A summary of the analytical results and comparison to the proposed NJDEPE subsurface cleanup criteria is provided in Table 3-1. The analytical data package summary is provided in Appendix C. The full data package, including associated quality control and chromatograph data, is on file at U.S. Army Fort Monmouth, DPW.

TPHC was detected in the post-excavation samples at concentrations ranging from 190 milligrams per kilogram (mg/kg) to 1220 mg/kg. No cleanup criterion has been proposed for TPHC by NJDEPE, however the proposed NJDEPE subsurface cleanup criterion for total organic compounds is 10,000 mg/kg. All samples contained concentrations of total organic compounds below the proposed NJDEPE subsurface cleanup criteria of 10,000 mg/kg. Several volatile organic and base neutral compounds were detected in the samples, however at concentrations well below proposed NJDEPE subsurface cleanup criteria. Several metals were detected in the post-excavation samples, however no cleanup criteria has been proposed by NJDEPE for metals in subsurface soils.

3.2 Conclusions and Recommendations:

DPW successfully removed one (1) UST at Building 1122 in the Main Post area of U.S. Army Fort Monmouth. Based on visual inspection of the UST and field screening of the soils adjacent to the UST, it was determined that no discharges had occurred from the UST. Analytical results of the post-excavation samples confirm that no soils are present with concentrations of contaminants exceeding proposed NJDEPE subsurface cleanup criteria.

No further action is proposed at Building 1122 in reference to UST No. 81533-199.

TABLE 3-1

SUMMARY OF ANALYTICAL RESULTS
UST REGISTRATION NO. 881533-199
BUILDING NO. 1122
FORT MONMOUTH, NEW JERSEY

SAMPLE ID NO.		C92-678/679	C92-680/681	C92-682/683	C92-684/685	C92-686/687	PROPOSED NJDEPE SUBSURFACE CLEANUP CRITERIA
LAB ID NO.		7030.1	7030.2	7030.3	7030.4	7030.5	
MATRIX		SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE TYPE		PE	PE	PE	PE	PE	
DATE OF COLLECTION		1/6/92	1/6/92	1/6/92	1/6/92	1/6/92	
ANALYTICAL PARAMETER	UNITS						mg/kg
TPHC	mg/kg	1220	960	190	610	445	NC*
BASE NEUTRAL COMPOUNDS	mg/kg						
ACENAPHTHENE		0.12J	ND	ND	0.79J	ND	100
PYRENE		0.12J	ND	ND	0.43	0.091J	500
BIS(2-ETHYLHEXYL) PHTHALATE		0.74B	0.23JB	ND	ND	0.28JB	100
DI-N-BUTYLPHTHALATE		ND	0.054JB	0.06JB	ND	ND	100
2-CHLOROPHENOL		ND	ND	ND	0.047J	ND	50
ACENAPHTHYLENE		ND	ND	ND	0.026J	ND	NC
FLUORENE		ND	ND	ND	0.13J	0.028J	100
PHENANTHRENE		ND	ND	ND	0.44	0.068J	NC
NAPHTHALENE		ND	ND	ND	0.44	0.11J	100
2-METHYLNAPHTHALENE		ND	ND	ND	1.0	0.27J	NC
VOLATILE ORGANIC COMPOUNDS	mg/kg						
METHYLENE CHLORIDE		0.062	0.060	0.093	0.014	0.072	10

TABLE 3-1

SUMMARY OF ANALYTICAL RESULTS (CONTINUED)
UST REGISTRATION NO. 881533-199
BUILDING NO. 1122
FORT MONMOUTH, NEW JERSEY

SAMPLE ID NO.		C92-678/679	C92-680/681	C92-682/683	C92-684/685	C92-686/687	PROPOSED NJDEPE SUBSURFACE CLEANUP CRITERIA
LAB ID NO.		7030.1	7030.2	7030.3	7030.4	7030.5	
MATRIX		SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE TYPE		PE	PE	PE	PE	PE	
DATE OF COLLECTION		1/6/92	1/6/92	1/6/92	1/6/92	1/6/92	
ANALYTICAL PARAMETER	UNITS						mg/kg
VOLATILE ORGANIC COMPOUNDS	mg/kg						
2-BUTANONE		0.28	ND	ND	0.19	ND	50
1,1,1-TRICHLOROETHANE		0.10	0.10	0.16	0.25	0.13	50
4-METHYL-2-PENTANONE		0.038	ND	ND	ND	ND	50
O-XYLENE		ND	ND	0.025J	0.048	0.048	NC
TOLUENE		ND	ND	ND	NC	0.037	500
ETHYL BENZENE		ND	ND	ND	ND	0.019J	100
M & P - XYLENES		ND	ND	ND	ND	0.091	NC
PHENOLS	mg/kg	4.0	87.5	ND	160.0	24.4	NC
PRIORITY POLLUTANT METALS	mg/kg						
ARSENIC		1.8	ND	1.6	1.9	1.6	NC

TABLE 3-1

SUMMARY OF ANALYTICAL RESULTS (CONTINUED)
UST REGISTRATION NO. 881533-199
BUILDING NO. 1122
FORT MONMOUTH, NEW JERSEY

SAMPLE ID NO.		C92-678/679	C92-680/681	C92-682/683	C92-684/685	C92-686/687	PROPOSED NJDEPE SUBSURFACE CLEANUP CRITERIA
LAB ID NO.		7030.1	7030.2	7030.3	7030.4	7030.5	
MATRIX		SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE TYPE		PE	PE	PE	PE	PE	
DATE OF COLLECTION		1/6/92	1/6/92	1/6/92	1/6/92	1/6/92	
ANALYTICAL PARAMETER	UNITS						mg/kg
PRIORITY POLLUTANT METALS	mg/kg						
BERYLLIUM		0.476	0.65	0.513	0.706	0.409	NC
CADMIUM		0.09	0.02	0.05	0.04	0.07	NC
CHROMIUM		53.6	33.1	50.6	53.5	39.0	NC
COPPER		6.6	9.3	7.6	8.8	9.1	NC
LEAD		13.3	31.4	15.2	29.4	29.9	NC
MERCURY		ND	ND	ND	0.047	ND	NC
NICKEL		ND	ND	ND	3.5	ND	NC
ZINC		40.4	40.1	51.3	60.0	68.3	NC

Notes:
NC*: - No cleanup criterion has been proposed for TPHC by NJDEPE; however, the propose NJDEPE subsurface cleanup criterion for total organic compounds is 10,000 mg/kg.
NC: - No subsurface cleanup criterion has been proposed for this analyte by NJDEPE.
J: - Indicates an estimated value.
ND: - Indicates compound not detected.
TPHC: - Total Petroleum Hydrocarbons.
PE: - Post-Excavation.
B: - Indicates also present in blank.
mg/kg: - Milligrams per Kilogram.

TABLE 3-2

ANALYTICAL METHODS/QUALITY ASSURANCE SUMMARY TABLE
UST REGISTRATION NO. 881533-199
BUILDING NO. 1122,
FORT MONMOUTH, NEW JERSEY

Analytical Parameter	No. of Samples Collected	Matrix	Date Collected	Date Analysis Completed	Preservation Method	USEPA SW-486 Analytical Method
TPHC	5	S	1/6/92	3/12/93	Cool to 4°C	418.1
VOCs	5	S	1/6/92	3/16/93	Cool to 4°C	USEPA-CLP-IFB
BNAs	5	S	1/6/92	3/16/93	Cool to 4°C	8270
PCBs	5	S	1/6/92	3/17/93	Cool to 4°C	608*
PP Metals	5	S	1/6/92	3/16/93	Cool to 4°C	6010, 7060, 7470, 7740, 7841

USEPA-CLP-IFB - Volatile samples were analyzed using the method cited in the USEPA-CLP-IFB version 2/88. The CLP volatile method is based on USEPA Method 624 and SW-846.
608* - PCBs were analyzed using the USEPA Method 608 cited in 40 CFR Part 36.
PCBs: - Polychlorinated Biphenyls.
PP Metals: - Priority Pollutant Metal
VOCs: - Volatile Organic Compounds.
VOCs: - Volatile Organic Compounds.
TPHC: - Total Petroleum Hydrocarbons.
BNA: - Base Neutral Acid Extractable Compounds.

APPENDIX A

NJDEPE CONDITIONAL APPROVAL LETTER

State of New Jersey
Department of Environmental Protection and Energy
Office of Enforcement Policy
CENTRAL BUREAU OF WATER AND HAZARDOUS WASTE ENFORCEMENT
FIELD OPERATIONS

Scott A. Weiner
Commissioner

Edward M. Neafsey
Director

September 20,1991

James Ott, Deputy Director
Directorate of Engineering and Housing
U.S. Army Commmunications-Electronic Command
Building 167 SELHI-FE
Fort Monmouth, NJ 07003

Dear Mr. Ott

The Department of Environmental Protection & Energy has completed its review of your submitted closure plans for six underground waste oil tanks. It has been determined that the plan is acceptable conditioned on the following revision/modifications:

1.In addition to the total petroleum hydrocarbon (TPHC) analysis for each sample taken, the total priority pollutant analysis (PP+40 or TCL) should be utilized for an initial screening. These analyses would be helpful for the remediation of tank number 68 which is known to contain 1000 ppm of hydrogenated chlorides.

2.A detailed description of the steps needed to decontaminate the tanks should be included.

3.An indication of whether the tanks will be disposed off-site as hazardous waste. If not the tanks must be decontaminated and a final rinse water sample and a washwater blank sample must be analyzed for total petroleum hydrocarbons (TPHC) concentration to determine the adequacy of decontamination. The decontamination procedure may have to be repeated to achieve a concentration acceptable to the Department or until the TPHC results of two consecutive samples do not show an appreciable change.

Please Respond To:
CN 407
TRENTON, NJ 08625

Tel. # (609) 584-4200

Please submit these changes in an addendum to your submitted closure plans prior to beginning any closure activities. This writer should be notified 2 weeks in advance of initiation of closure activities.

If you have any questions regarding these requirements, please contact me at (609) 584-4200.

Yours truly,

Douglas Greenfield
Sr. Environmental Engineer
Hazardous Waste Enforcement
CBW&HWEFO

APPENDIX B

NJDEPE UST ASSESSMENT SUMMARY FORM

UST-014
2/91

UST #	
Date Rec'd	
TMS #	
Staff	

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF WATER RESOURCES
BUREAU OF UNDERGROUND STORAGE TANKS
TANK MANAGEMENT SECTION

CN 029, 401 EAST STATE STREET
TRENTON, N.J. 08625-0029

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 10/29/93

0081533-199
FACILITY REGISTRATION #

I. FACILITY NAME AND ADDRESS

U.S. Army Fort Monmouth New Jersey
Dictorate of Engineering and Housing Building 167
Fort Monmouth NJ 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 X No If Yes, Case No._____
(Note: All discharges must be reported to the Environmental Action Hotline (609) 292-7172)

B. The substance(s) discharged was(were) N/A

C. Have any vapor hazards been mitigated? ___ Yes ___ No X N/A

III. DECOMMISSIONING OF TANK SYSTEMS Closure Approval No. N/A

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

IV. SITE ASSESSMENT REQUIREMENTS

A. Excavated Soil

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

B. Scaled Site Diagrams

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

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

C. Soil samples and borings (check appropriate answer)

1. Were soil samples taken from the excavation as prescribed? X Yes ___ No ___ N/A

2. Were soil borings taken at the tank system closure site as prescribed? ___ Yes ___ No X N/A

3. Attach the analytical results in tabular form and include the following information about each sample:
   a. Customer sample number (keyed to the site map)
   b. The depth of the soil sample
   c. Soil boring logs
   d. Method detection limit of the method used
   e. QA/QC Information as required

D. Ground Water Monitoring

1. Number of ground water monitoring wells installed 0

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

   a. Site diagram number for each well installed
   b. Depth of ground water surface
   c. Depth of screened interval
   d. Method detection limit of the method used
   e. Well logs
   f. Well permit numbers
   g. QA/QC Information as required

V. SOIL CONTAMINATION

A. Was soil contamination found? ___ Yes X No
If "Yes", please answer Question B-E
If "No", please answer Question B

B. The highest soil contamination still remaining in the ground has been determined to be:
1. 176 ppb total BTEX, N/A ppb total non-targeted VOC
2. 3,303 ppb total B/N, N/A ppb total non-targeted B/N
3. 1,220 ppm TPHC
4. N/A ppb N/A (for non-petroleum substance)

C. Remediation of free product contaminated soils

1. All free product contaminated soil on the property boundaries and above the water table are believed to have been removed from the subsurface ___ Yes 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

A. Was ground water contamination found? ___ Yes X No
If "Yes", please answer Questions B-G.
If "No", please answer only Question B.

B. The highest ground water contamination at any 1 sampling location and at any 1 sampling event to date has been determined to be:

1. N/A ppb total BTEX, N/A ppb total non-targeted VOC
2. N/A ppb total B/N, N/A ppb total non-targeted B/N
3. N/A ppb total MTBE, N/A ppb total TBA
4. N/A ppb N/A (for non-petroleum substance)
5. greatest thickness of separate phase product found N/A
6. separate phase product has been delineated ___ Yes ___ No X N/A

C. Result(s) of well search

1. A well search (including a review of manual well records) indicates that private, municipal or commercial wells do exist within the distances specified in the Scope of Work. ___ Yes ___ No X N/A

2. The number of these wells identified is N/A.

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 N/A 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 N/A feet from the source and its screening begins at a depth of N/A 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 N/A feet below grade. This well is located N/A 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 N/A feet from the source. This well is N/A feet deep and screening begins at a depth of N/A feet.

E. A plan for separate phase product recovery has been included. ___ Yes ___ No x N/A

F. A ground water contour map has been submitted which includes the ground water elevations for each well. ___ Yes ___ No X 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 N/A

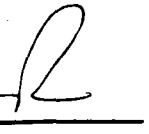
2. The plume is suspected to continue off the property at concentrations greater than MCLs. ___ Yes ___ No N/A

3. Off property access (circle one): is being sought has been approved has been denied N/A

VII. SITE ASSESSMENT CERTIFICATION [preparer of site assessment plan - N.J.A.C. 7:14B-8.3(b) &9.5(a)3]

The person signing this certification as the "Qualified Ground Water Consultant" (as defined in N.J.A.C.7:14B-1.6) responsible for the design and implementation of the site assessment plan as specified in N.J.A.C. 7:14B-8.3(a) & 9.2(b)2, must supply the name of the certifying organization and certification number.

"I certify under penalty of law that the information provided in this document is true, accurate, and complete and was obtained by procedures in compliance with N.J.A.C. 7:14B-8 and 9. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."

NAME (Print or Type) Dinkerrai Desai SIGNATURE 

COMPANY NAME U.S. Army Fort Monmouth DATE 10/25/93
(Preparer of Site Assessment Plan)

CERTIFYING ORGANIZATION NJDEPE CERTIFICATION NUMBER E-2266

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) Dinkerrai Desai SIGNATURE _____

COMPANY NAME U.S. Army Fort Monmouth DATE 10/29/93
(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)1i].

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

NAME (Print or Type) James Ott, P.E. SIGNATURE James Ott

COMPANY NAME U.S. Army Fort Monmouth DATE 10/29/93

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

1. For a corporation, by a principal executive officer of at least the level of vice president.
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, Federal or other public agency by either the principal executive officer or ranking elected official.
4. In cases where the highest ranking corporate partnership, governmental officer or official at the facility as required in A above is the same person as the official required to certify in B, only the certification in A need to be made. In all other cases, the certifications of A and B shall be made.

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."

NAME (Print or Type) _____ SIGNATURE _____

COMPANY NAME _____ DATE _____

ATTACHMENT I

NO/NA RESPONSE EXPLANATION

SAS QUESTION #	RESPONSE	EXPLANATION
IIA.	No	No contaminants were identified in soil samples at concentrations exceeding proposed NJDEPE cleanup criteria.
IIB.	N/A	Same as above.
IIC.	N/A	Same as above.
III.	N/A	Closure of Facility Registration No. 0081533-199 was conducted under approval and onsite supervision of the NJDEPE Division of Hazardous Waste Management.
IV.C.2	N/A	No soil borings were proposed in the closure plan.
V.A	No	No contaminants were identified in soil samples at concentrations exceeding proposed NJDEPE cleanup criteria.
V.B.1-4	N/A	Same as above.
V.C.1-3	N/A	Same as above.
V.D	N/A	Same as above.
V.E	N/A	Same as above.
VI.A	No	No groundwater monitoring wells were installed as part of closure of Facility Registration No. 0081533-199; therefore, no groundwater samples were collected.

ATTACHMENT I

NO/NA RESPONSE EXPLANATION

SAS QUESTION #	RESPONSE	EXPLANATION
VI.B.1-6	N/A	Same as above.
VI.C.1-3	N/A	No release to groundwater has occurred from Facility Registration No. 0081533-199; therefore, no well search was performed as part of the site assessment.
VI.E	N/A	Same as above.
VI.F	N/A	Same as above.
VI.G.1-3	N/A	No groundwater contamination resulting from a release from Facility Registration No. 0081533-199 has been identified.