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

28 February 2018

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: Request for Unrestricted Use, No Further Action Approval
Site Investigation Report for UST 3035
Fort Monmouth, Monmouth County, Oceanport, New Jersey
PI G000000032

Dear Mr. Joshi:

The U.S. Army Fort Monmouth (FTMM) Team has prepared this Site Investigation (SI) Report to summarize existing file information and present the results of additional field sampling at former Underground Storage Tank (UST) 3035. Based on the information presented in this SI, an Unrestricted Use, No Further Action (NFA) determination is requested for UST 3035.

UST 3035 Background

Former UST 3035 (Registration ID No. 192486-29) was a steel 5,000-gallon No. 2 fuel oil tank. The location of former UST 3035 is not well documented and has been estimated based on the location of the former boiler room at Building 3035. UST 3035 was located within the Howard Commons area, which includes the southeastern portion of the Charles Wood Area (**Figure 1**). This area is also referred to as Environmental Condition of Property (ECP) Parcel 1. The tank was removed in November 1989. Because no soil contamination was encountered and the tank showed no sign of leaks or corrosion during tank removal, a closure report was not required. In April 2016, an SI report was submitted to the New Jersey Department of Environmental Protection (NJDEP) along with a request for an NFA determination (**Attachment A**). NJDEP commented that an NFA determination could not be granted because sampling in accordance with applicable regulations and guidance documents had not been completed (2016 letter in **Attachment A**).

Recent Investigation Results

Soil samples were collected in 2017 from the 3 Geoprobe soil borings (SB-01, SB-02, and SB-03) shown on **Figure 2**. Groundwater was encountered at approximately 3 feet below ground surface (bgs). Soil samples were collected from 2.5 to 3.0 feet bgs (the 6- inch interval above the water table); and from 8.0 to 8.5 feet bgs to represent the soil at the bottom of the removed tank. Field notes and soil boring logs are provided in **Attachments B and C**. The samples were analyzed for unfractionated extractible petroleum hydrocarbons (EPH) by ALS Environmental (ALS). EPH was not detected in

any of the soil samples at concentrations exceeding the current NJDEP EPH standard of 5,100 mg/kg for fuel oil (**Table 1**).

Conclusions

An Unrestricted Use, NFA approval is requested for UST 3035. 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) 380-7064; william.r.colvin18.civ@mail.mil.

Sincerely,

William R Colvin

William R. Colvin, PMP, CHMM, PG
Former Fort Monmouth
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:
Figures:
Figure 1 UST 3035 Site Location
Figure 2 UST 3035 Site Layout, Sampling Locations, and Results

Tables:
Table 1 –2017 UST 3035 Soil Sampling Results – Comparison to NJDEP Soil Remediation Standards

Attachments:
A. UST 3035 Correspondence
B. Field Notes
C. Soil Boring Logs

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:

- "Request for Unrestricted Use, No Further Action Approval, Site Investigation Report for UST 3035, Fort Monmouth, Monmouth County, Oceanport, New Jersey" (28 February 2018)

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) 380-7064 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: 28 February 2018

Name/Title: William R. Colvin, PMP, CHMM, PG
BRAC Environmental Coordinator

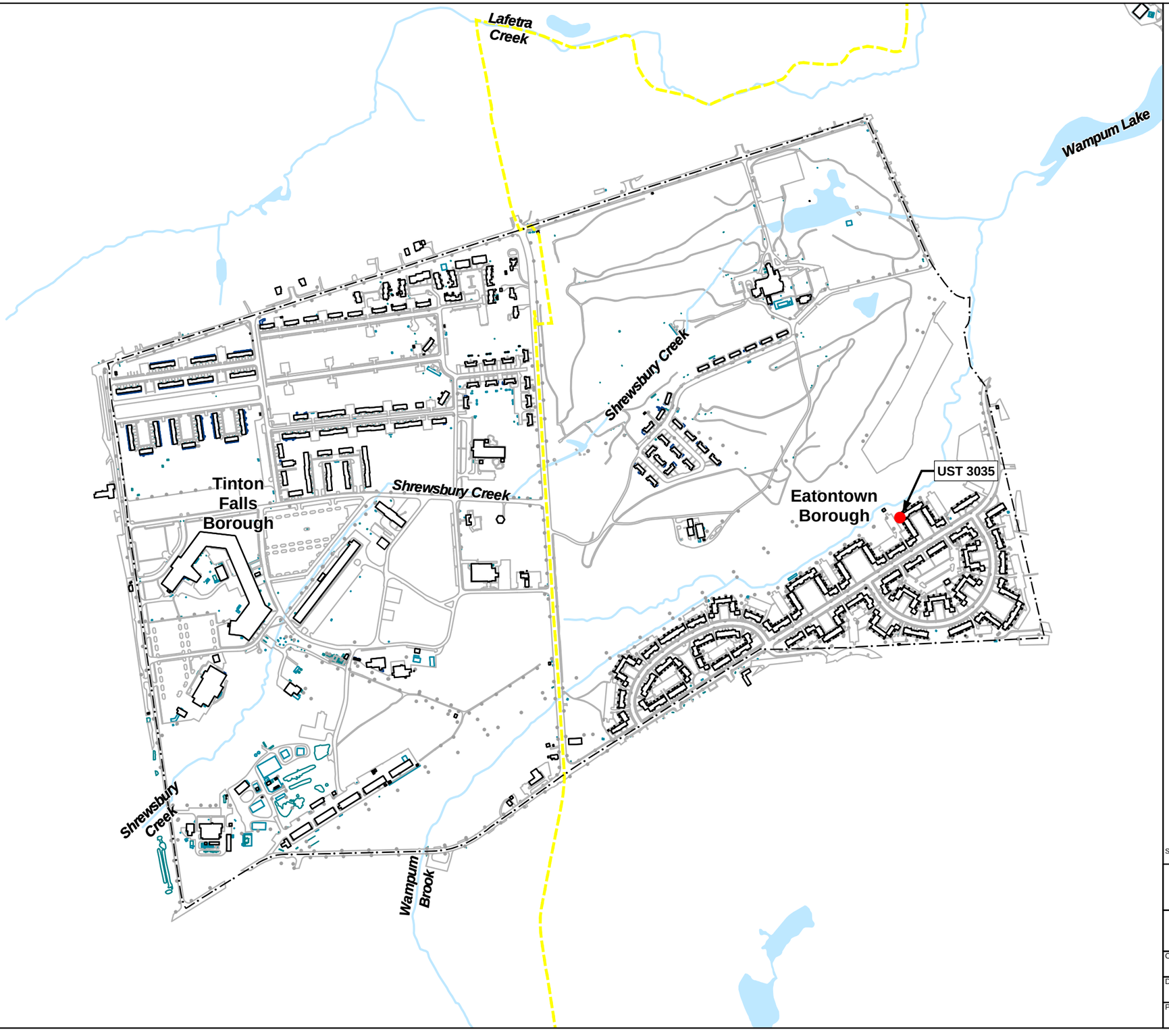
Completed form should be sent to:

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

FIGURES

Figure 1 – UST 3035 Site Location

Figure 2 – UST 3035 Site Layout, Sampling Locations, and Results



LEGEND:

- Former UST 3035 Approximate Location
- Installation Boundary
- Municipal Boundary
- Surface Water Feature

N

1 inch = 750 feet

0 375 750 1,500 Feet

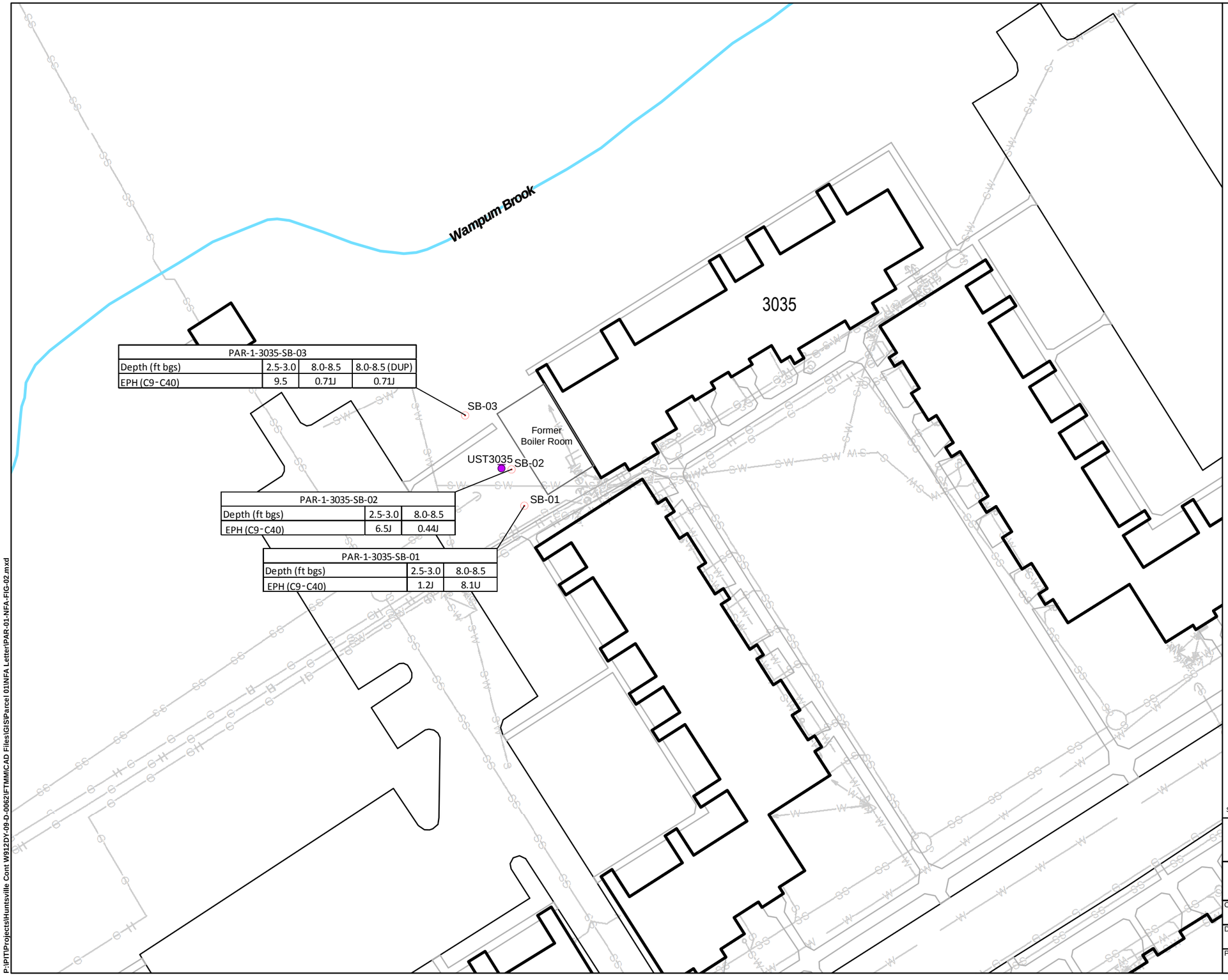
Source: FTMM Supplied CAD, 2013; ESRI Data and Maps, 2011; USGS NHD, 2012.

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

UST 3035 (PARCEL 1) SITE LOCATION

CREATED BY: RR	REVIEWED BY: AM
DATE: JAN. 2018	FIGURE NUMBER: FIGURE 1
PROJECT NUMBER: 748810-06031	FILE: PAR-01-NFA-FIG-01.mxd

P:\PIT\Projects\Huntsville Cont W912DY-09-D-0062\FTMM\CAD Files\GIS\Parcel 01\NFA Letter\PAR-01-NFA-FIG-01.mxd 1/15/2018 10:47:02 AM



LEGEND:

- Soil Boring Location
- Former UST Location (Estimated Location)
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line

NOTES:

All results in milligrams per kilogram (mg/kg)

J = Estimated value

Current Extractable Petroleum Hydrocarbons

(EPH) Standard = 5,100 mg/kg

N

1 inch = 40 feet

0 20 40 80 Feet

Source: FTMM Supplied CAD, 2013.

PARSONS
401 Diamond Drive NW,
Huntsville AL

Fort Monmouth
New Jersey

UST 3035 SITE LAYOUT, SAMPLING LOCATIONS, AND RESULTS

CREATED BY:	REVIEWED BY:
RR	AM
DATE:	FIGURE NUMBER:
JAN. 2018	FIGURE 2
PROJECT NUMBER:	FILE:
748810-06035	PAR-01-NFA-FIG-02.mxd

P:\PIT\Projects\Huntsville Cont W912DY-09-D-0062\FTMM\CAD Files\GIS\Parcel 01\NFA Letter\PAR-01-NFA-FIG-02.mxd

TABLES

Table 1 – 2017 Soil Sampling Results – Comparison to NJDEP Soil Remediation Standards

TABLE 1
SOIL SAMPLING RESULTS - COMPARISON TO NJDEP SOIL REMEDIATION STANDARDS
SITE PARCEL 1 3035 UST
FORT MONMOUTH, NEW JERSEY

Loc ID	NJ Residential Direct Contact SRS	PAR-1-3035-SB-01			PAR-1-3035-SB-02		PAR-1-3035-SB-03	
Sample ID		PAR-1-3035-SB-01-2.5-3.0	PAR-1-3035-SB-01-8.0-8.5	PAR-1-3035-SB-101-8.0-8.5	PAR-1-3035-SB-02-2.5-3.0	PAR-1-3035-SB-02-8.0-8.5	PAR-1-3035-SB-03-2.5-3.0	PAR-1-3035-SB-03-8.0-8.5
Sample Date		11/9/2017	11/9/2017	11/9/2017	11/9/2017	11/9/2017	11/9/2017	11/9/2017
Extractable/Volatile Petroleum Hydrocarbons (mg/kg)								
EPH (C9-C40)	5,100	**1.2 J**	< 8.1	**0.31 J**	**6.5 J**	**0.44 J**	**9.5**	**0.71 J**

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

Attachment A
UST 3035 Correspondence

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

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

BOB MARTIN
Commissioner

December 20, 2016

William Colvin
BRAC Environmental Coordinator
OACSIM – U.S. Army Fort Monmouth
PO Box 148
Oceanport, NJ 07757

Re: *Clarification of Underground Storage Tanks at Howard Commons* dated December 6, 2016
Fort Monmouth
Oceanport, Monmouth County
PI G000000032

Dear Mr. Colvin,

The New Jersey Department of Environmental Protection (Department) has completed review of the referenced submittal, received December 12, 2016, prepared by the Department of the Army's Office of Assistant Chief of Staff for Installation Management in response to DEP correspondence dated November 28, 2016.

UST 3216-31
Clarification was requested for UST 3216. Based upon the information contained in the referenced submittal, it is agreed no additional action is necessary.

UST 3035-29
Sampling as proposed is acceptable.

Please contact this office if you have any questions.

Sincerely,

Linda S. Range

Linda S. Range

C: James Moore, USACE
Rich Harrison, FMERA
Joe Fallon, FMERA
Joe Pearson, Calibre

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.

Documents:

- 6 December 2016 Letter, Subject: "Clarification of Underground Storage Tanks at Howard Commons, Fort Monmouth, New Jersey"

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) 380-7064 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: 6 December 2016

Name/Title: William R. Colvin, PMP, CHMM, PG
BRAC Environmental Coordinator

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

6 December 2016

Ms. Linda Range
New Jersey Department of Environmental Protection
Bureau of Case Management
401 East State Street
PO Box 420/Mail Code 401-05F
Trenton, NJ 08625-0028

SUBJECT: Clarification of Underground Storage Tanks at Howard Commons Fort Monmouth, New Jersey

Attachments:

- Errata sheets for Attachment I of previous 26 April 2016 Howard Commons submittal

Dear Ms. Range:

The U.S. Army Fort Monmouth (FTMM) team is providing this clarification of the registration identification (ID) for the underground storage tank (UST) associated with Building 3216 (UST 3216). This clarification was requested in the New Jersey Department of Environmental Protection (NJDEP) letter dated 28 November 2016, as follows:

> Clarification is requested for the following UST.
>
> - UST 3216 – Although historic figures appear to indicate there was only one UST in the area, and it is agreed the information within the submittal demonstrates no discharge is associated with the UST evaluated within same, the UST is alternately referred to in various parts of the submittal as UST Registration No 192486-11 or 192486-25, as well as 192486-26 (Table 2) or 192486-31 (GPS Points). As this would typically refer to different USTs, please clarify.

The correct Registration ID for UST 3216 is 192486-31, which is consistent with the FTMM UST database, the Phase 1 Finding of Suitability to Transfer (FOST), and Attachment A and Attachment B of the Army's previous 26 April 2016 submittal for the Howard Commons USTs.

There were typographical errors in the report that was previously submitted as Attachment I of the Army's 26 April 2016 submittal. Attached is a corrected version of the text of this report, which is provided as errata sheets for replacement of the comparable sheets in Attachment I of the Army's previous 26 April 2016 submittal for the Howard Commons USTs.

The NJDEP is correct in understanding that the other Registration IDs represent other USTs. Registration IDs 192486-25 (UST 3010) and 192486-26 (UST 3015) were approved for NFA in the 28 November 2016 NJDEP letter. Registration ID 192486-11 (UST 2030) refers to a residential fuel oil tank removed from a house along Magill Drive on the Charles Wood Area, where there were no

indications of a release based on the closure soil sample results. We do not anticipate requesting an NFA determination for the UST 2030 tank location.

I apologize for any inconvenience or additional work these reporting errors have caused. With the above clarification we request NJDEP's approval of an NFA determination for UST 3216 (Registration ID 192486-31).

Regarding UST 3035 (Registration ID 192486-29) at Howard Commons, the Army anticipates collecting soil samples from three borings (one boring for each 5 ft of former tank length) to support a future NFA request. Two soil samples will be collected from each boring. At each boring, a sample will be collected from approximately 8.0-8.5 feet below ground surface (ft bgs) or another interval representative of the vadose zone below the removed tank and from a deeper 6-inch interval just above the water table. One of these two soil samples will be collected from the most contaminated interval encountered based on field evidence (visual, olfactory, or photoionization detector [PID] screening). If there is no field evidence of petroleum contamination, then the two soil samples will be collected from 8.0-8.5 ft bgs and from just above the water table. Each soil sample will be analyzed for total extractible petroleum hydrocarbons (EPH) with additional contingency semivolatile organic compounds (SVOCs) analysis (25 percent) for naphthalene and 2-methylnaphthalene in the event that EPH concentrations exceed 1,000 mg/kg. These soil analyses are consistent with the requirements for No. 2 fuel oil in Table 2-1 of the NJAC 7:26E Technical Requirements for Site Remediation. I would appreciate any comments you have regarding the work planned for the former UST 3035 area.

The technical Point of Contact (POC) is Kent Friesen at (732) 383-7201 or by email at kent.friesen@parsons.com. Should you have any questions or require additional information, please contact me by phone at (732) 380-7064 or by email at william.r.colvin18.civ@mail.mil.

Sincerely,

William R. Colvin, PMP, PG, CHMM
BRAC Environmental Coordinator

cc: Linda Range, NJDEP (e-mail and 3 hard copies)
Delight Balducci, HQDA ACSIM (e-mail)
Joseph Pearson, Calibre (e-mail)
James Moore, USACE (e-mail)
Jim Kelly, USACE (e-mail)
Cris Grill, Parsons (e-mail)

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

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

BOB MARTIN
Commissioner

November 28, 2016

William Colvin
BRAC Environmental Coordinator
OACSIM – U.S. Army Fort Monmouth
PO Box 148
Oceanport, NJ 07757

Re: *No Further Action Request Site Investigation Report Addendum for the Howard Commons Underground Storage Tanks* dated April 2016
Fort Monmouth
Oceanport, Monmouth County
PI G000000032

Dear Mr. Colvin,

The New Jersey Department of Environmental Protection (Department) has completed review of the referenced report, received April 29, 2016, prepared by the Department of the Army's Office of Assistant Chief of Staff for Installation Management to document the status of the various USTs within Howard Commons, also known as Parcel 1.

Eight underground storage tanks (USTs) were identified as previously present within the area.

As indicated in the submittal, three of the USTs have previously received a designation of No Further Action (NFA) required (UST 2603, 3021 and 3050). Based upon a review of the referenced submittal, it is also agreed NFA is necessary for the following USTs:

- UST 3010-25; 09-01-30-1415-32; 10,000 g steel #2 fuel (Attachment D & E)
- UST 3015-26; 10,000 g steel #2 fuel (Attachment E & F)
- UST 3027-28; 7500 g steel #2 fuel (Attachment G)

Clarification is requested for the following UST.

- UST 3216 – Although historic figures appear to indicate there was only one UST in the area, and it is agreed the information within the submittal demonstrates no discharge is associated with the UST evaluated within same, the UST is alternately referred to in various parts of the submittal as UST Registration No 192486-11 or 192486-25, as well as 192486-26 (Table 2) or 192486-31 (GPS Points). As this would typically refer to different USTs, please clarify.

UST 3035-29
Although no evidence of a discharge was reportedly noted during the 1990 removal of the UST, as no sampling was performed, the NJDEP is unable to comment as to the absence or presence of a petroleum discharge. Sampling in accordance with applicable regulations and guidance documents is necessary to determine compliance with same; the request for designation of no further action cannot be granted.

Please contact this office if you have any questions.

Sincerely,

Linda S. Range

Linda S. Range

C: James Moore, USACE
Rich Harrison, FMERA
Joe Fallon, FMERA
Joe Pearson, Calibre

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

April 26, 2016

Ms. Linda Range
New Jersey Department of Environmental Protection
Bureau of Case Management
401 East State Street
PO Box 420/Mail Code 401-05F
Trenton, NJ 08625-0028

Subject: **No Further Action Request**
Site Investigation Report Addendum for Howard Commons Underground Storage Tanks, Fort Monmouth, New Jersey

Attachments:

A. Location and Site Layout Drawings of Howard Commons
B. Summary Table of Howard Commons Underground Storage Tanks
C. NJDEP Correspondence
D. UST 3010 Report
E. Additional UST 3010 and UST 3015 Analytical Results
F. UST 3015 Report
G. UST 3027 Report
H. UST 3035 Documentation
I. UST 3216 Report
J. Additional UST 3216 Analytical Results

Dear Ms. Range:

The U.S. Army Fort Monmouth (FTMM) has reviewed existing file information for underground storage tank (UST) sites at Fort Monmouth within Howard Commons at the Charles Wood Area. The purpose of this submittal is to provide comprehensive documentation of the closure status of all USTs identified within this parcel; this information may be useful for future property transfers. In addition, the Army is requesting No Further Action (NFA) determinations for USTs 3010, 3015, 3027, 3035, and 3216.

Howard Commons includes the southeastern portion of the Charles Wood Area, and is bounded: on the north approximately by Wampum Brook; along the east and south by the facility boundary and Pinebrook Road; and on the west by Hope Road. This area is also referred to as Environmental Condition of Property (ECP) Parcel 1 (Pinebrook Housing). The locations of the USTs within Howard Commons are presented in Attachment A.

A summary table of the eight USTs within Howard Commons is provided in Attachment B. All of the USTs identified within Howard Commons have been removed.

Three of the eight former USTs (2603, 3021 and 3050) identified within Howard Commons were previously approved for NFA by NJDEP; documentation of this approval is provided in Attachment C. In these cases, there are supporting investigation reports that were previously submitted to NJDEP that describes the basis for closure. For the sake of brevity, we have not included reports for USTs where NFA has been approved. However, these reports are available within the FTMM environmental records.

The remaining five USTs without NFA determinations are discussed further below. We are submitting additional documentation for these USTs and request, with consideration of this information, NFA determinations for:

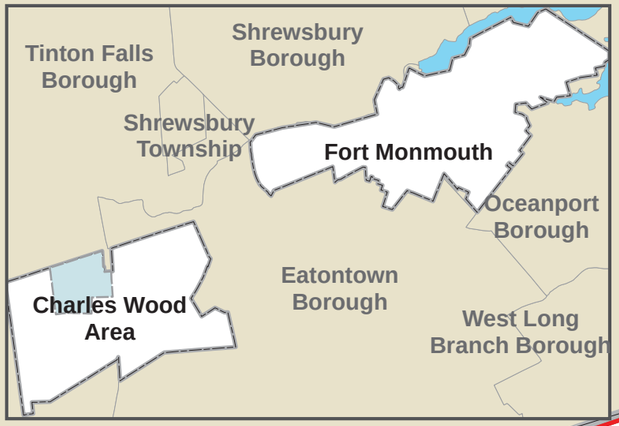
- UST 3010: a closure report is provided in Attachment D, summarizing the results of sampling following removal of the tank in 2009, which was previously abandoned in place. Groundwater sampling was also performed at UST 3010 in 2005, as well as soil sampling alongside the abandoned-in-place tank; the results of these analyses are presented in Attachment E.
- UST 3015: a closure report is provided in Attachment F, summarizing the results of sampling following removal of the tank in 2009, which was previously abandoned in place. Additional soil sampling was also performed at UST 3015 in 2005 (Attachment E). There were no indications of a release that would warrant evaluation of groundwater.
- UST 3027: a closure report for the 1994 removal is provided in Attachment G. Elevated soil TPH at this location was limited to the fill port area, and was removed by excavation; therefore evaluation of groundwater was not warranted.
- UST 3035: documentation concerning the removal in 1990 is provided in Attachment H. As documented in the NJDEP Standard Reporting Form, soil contamination was not encountered, and therefore soil sampling was not performed in accordance with then-current requirements. An Army memorandum also provided in Attachment H documents that the tanks were cleaned, there were no signs of leakage or corrosion in the tank, and no contamination was discovered after the tank was removed.
- UST 3216: a closure report is provided in Attachment I, summarizing the results of sampling following removal of the tank in 2009, which was previously abandoned in place. Groundwater sampling was also performed at UST 3216 in 2006, as well as soil sampling alongside the abandoned-in-place tank; the results of these analyses are presented in Attachment J.

This information supports the conclusion that the USTs identified within Howard Commons have been adequately addressed by previous environmental activities under the FTMM tank removal and assessment program, and we request No Further Action determinations for UST 3010, UST 3015, UST 3027, UST 3035, and UST 3216. The technical Point of Contact (POC) for this matter is Kent Friesen at (732) 383-7201 or by email at kent.friesen@parsons.com. Should you have any questions or require additional information, please contact me by phone at (732) 380-7064 or by email at william.r.colvin18.civ@mail.mil.

Sincerely,

William R. Colvin, PMP, CHMM, PG
BRAC Environmental Coordinator

cc: Linda Range, NJDEP (3 hard copies)
Delight Balducci, HQDA ACSIM (CD)
Joseph Pearson, Calibre (CD)
James Moore, USACE (CD)
Jim Kelly, USACE (CD)
Cris Grill, Parsons (CD)



Golf Course
Tinton Avenue
Parcel E
Parcel C
Wampum Brook
Septic Tank at Pool Area
ECP 28 Septic Tank 1
Parcel C1
Lime Pit CW1
FTMM-58
ECP 28 Septic Tank 2
ECP 28 Septic Tank 3
Howard Commons
Parcel F
Landfill CW3
Hope Road
Pinebrook Avenue

Source: 2013 Finding of Suitability to Transfer (FOST), Fort Monmouth, New Jersey, Charles Wood Area

N

1 inch = 649 feet

0 375 750 1,500 Feet

Figure 1
Fort Monmouth: Charles Wood Area
FOST Parcels C, C1, F, Golf Course, and Howard Commons

Publication Date: ..... 13 MAR 2013
Spheroid: ..... WGS 1984
Projection: ..... UTM Zone 18
Prepared by: Susan Gidley, CALIBRE GIS Team

Non-categorized: Area has not been categorized.

Category 1: Areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas).

Category 2: Areas where only release or disposal of petroleum products has occurred.

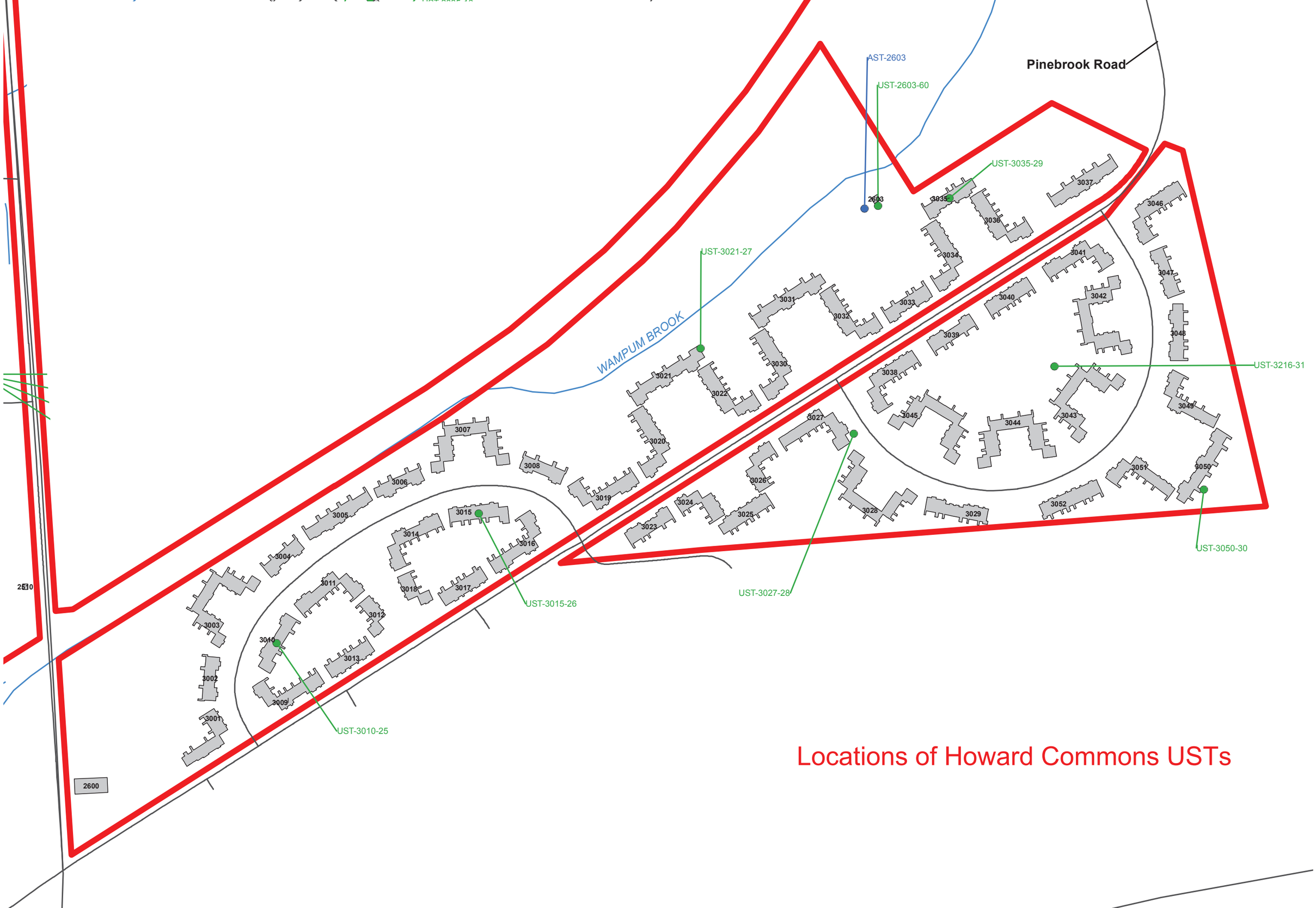
Category 3: Areas where release, disposal, and/or mitigation of hazardous substances has occurred, but at concentrations that do not require a removal or remedial response.

Category 4: Areas where release, disposal, and/or mitigation of hazardous substances has occurred, and all removal or remedial actions to protect human health and the environment have been taken.

Category 5: Areas where release, disposal, and/or mitigation of hazardous substances has occurred, and removal or remedial actions are underway, but all required remedial actions have not yet been taken.

Category 7: Areas that are not evaluated or require additional evaluation.

13 ECP Parcel Numbers
Transfered Property
Carve Out Areas
Phase 1 Property Transfer Parcel Boundaries
Existing Buildings
Installation
Roads



Locations of Howard Commons USTs

ATTACHMENT H

UST 3035 Documentation

Fort Monmouth UST Status Summary Report

UST REGISTRATION INFORMATION SUMMARY

LOCATION: 3035 ***NJDEP REG ID:*** 192486 - 29

RESIDENTIAL? YES

UST CONSTRUCTION INFORMATION SUMMARY

SIZE (GALLONS): 5000 ***CONSTRUCTION:*** STEEL

PRODUCT: #2 FUEL OIL ***YEAR INSTALLED:***

UST REMOVAL/INVESTIGATION SUMMARY

REMOVAL DATE: 11/1/1989 ***REMOVAL CONTRACTOR:***

SRF SEND DATE: YES ***TMS:***

DICAR NO. ***LEAK DETECT:***

REMEDIATION COMMENTS: No contamination observed. Residential UST with no contamination; no Closure Report required.

REGISTRATION COMMENTS: SRF/SACS submitted to NJDEP on 6/19/90.

SAS DONE: YES ***CONSULTANT:***

MWs NEEDED: ***MONITORING WELLS:*** 0

SUB-SURFACE EVALUATOR: D. Desai

CURRENT UST STATUS

UST STATUS: Removed; Report Submitted/Not Nec. ***CASE STATUS:*** Case Closed

SUBMITTAL DATE: ***APPROVAL DATE:***

FINALIZED: No

Let's protect our earth

Bldg 3035

For State Use Only	
Date Rec'd.	
Auth	
Routing	
UST NO.	

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029
TRENTON, NEW JERSEY 08625
ATTN: BUST Program
(609) 984-3156

STANDARD REPORTING FORM
for the:
Installation/Abandon/(Remove)/Sale-Transfer/Substantial Modification
Circle Only One — Use One Form Per Activity

(More than one tank can be listed per tank activity)

Answer questions 1 through 5 and others as applicable.

1. Company name and address: (as it appears on registration questionnaire)

U.S. Army
DEH Bldg. # 167
ATTN: SELFM-EH
Fort Monmouth, NJ 07703

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

U.S. Army Fort Monmouth
Charles Wood East

3. Contact person for this activity: Mr. DinKarrai Dasai

Telephone Number: (201) 532-1475

4. The identification number of the affected tank as it appears in Question Number 12 on the Registration Questionnaire: Tank No. 29 Bldg. 3035

5. Registration Number (if known): UST - 0192486

(OVER)

6. For TRANSFER OF OWNERSHIP:

New Company Name _____

New Facility Name _____

Address _____

_____

New owner/operator (print) _____

Signature _____

7. For ABANDONMENT or REMOVAL:

a. Describe the proposed procedure in detail on an attached sheet.

b. Specify the product last stored in the tank: #2 Home Heating Oil

c. Date abandoned or removed November, 1989

d. Is Site Assessment Compliance Statement being completed? (YES) or NO Form MUST be completed and returned within 90 days of tank closure. (per 40 CFR 280.72)

8. For SUBSTANTIAL MODIFICATIONS:

a. Describe the reason for the modification and, in detail, the proposed procedure to be used on an attached sheet.

b. Specify the product presently stored in the tank: _____

c. Specify the product to be stored in the tank: _____

9. For NEW OR REPLACEMENT INSTALLATIONS:

a. Attach the specifications as required by the attached instructions.

b. Specify the product (s) to be stored in the tank: _____

NOTE: All appropriate and applicable permits, licenses and certificates from any local, state and/or federal agency must be obtained separately from this notification as required by the above stated activity.

CERTIFICATION

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

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

Signature: James Ott

Name (print or type): JAMES OTT

Title: Deputy Director
Dir, Engineering & Housing

Date: 6/19/90

Directorate of Engineering and Housing

US Army Fort Monmouth
Charles Wood East
Registration # 0192486
Tank # 29
POC: Dinkerrai Desai (201)532-1475.

Removal Procedure:

All remaining product inside the tank was removed for disposal by L & L Oil Service of Aberdeen, New Jersey. L & L Oil is a licensed hazardous waste transporter and TSDF. (USEPA ID # NJD011427895).

The top of the tank was excavated and cut open across the entire length of the tank. THe soil from the top of the tank was visually inspected and analyzed by using a HNU Model P1-101, photoionizer. No contamination was found.

The inside of the tank was hand cleaned utilizing a biodegradable detergent. The detergent residue was removed by the Waste Oil Company for proper disposal.

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

The tank was then removed from the ground and sent out to be recycled. No contamination was discovered at the site upon removing the tank.

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

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Underground Storage Tanks
CN 029, Trenton, NJ 08625

Auth
Routing
UST NO.

SITE ASSESSMENT COMPLIANCE STATEMENT

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

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

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

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

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

FACILITY U.S. Army Fort Monmouth Charles Wood East UST # 0192486 Tank No 29

Check off the following items as appropriate for the site.

✓ The UST facility is only regulated by State law, therefore a site assessment is not mandatory.

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

The results of the site assessment indicate:

✓ There was NO release from the UST system.

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

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

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

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

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

James Ott Date 6/19/90
(SIGNATURE)

JAMES OTT
Deputy Director
Dir, Engineering & Housing
(Title)

SACS-2,1/89

Attachment B
Field Notes

Location OCEANPORT, NJ Date 11-9-17

Project / Client FTMM / PARSONS

0715 UNLOAD TRAILER AND CARS AT OFFICE.
0800 HASKICKOFF MEETING WITH ECDI DRILLERS (TWO TEAMS)
0900 GEOPROBE CREW TOOL BOX AND ROSMAN SET UP AT PARCEL 1 UST 3035 LOCATION WITH A GEOPROBE 66DT
0915 CALIBRATE PID (S/N: 18853)
0930 BEGIN PUSHING AT SB-01 FROM 0-5'
0935 COLLECT ADDITIONAL TUBE FROM THIS LOCATION. PHOTOGRAPH THE OPEN TUBES FOLLOWING SCREENING WITH PID RECORD RESULTS ON SOIL BORING LOG ALONG WITH SOIL DESCRIPTIONS + SAMPLE COLLECTION INFO
0940 PUSH FOR SB-01 5-10'
0945 COLLECT ADDITIONAL TUBE FROM 5-10'
0950 PUSH FOR SB-01 - 10-15'.
1115 PUSH FOR SB-02 - 0-5'
1125 PUSH FOR SB-02 - 5-10
1135 PUSH FOR SB-02 - 10-15'
11:34 SB-02 0-5' NO PID Readings every 6" - collected sample for EPH and contingency at 2.5-3.0.

JW 11-9-17

Location OCEANPORT, NJ Date 11-9-17

Project / Client FTMM / PARSONS

11:40 SB-02 5-10' no PID reading every 6" so collected sample from 8-8.5' for EPH waste and contingency sample
11:50 - SB-02 10-15' no PID collected so - Reading, this sleeve collected since soil required boring to go to 12' bgs
12:00 set up on SB-03 0-5' no PID reading every 6" water level at 3.0' bgs same collected 2.5-3.0' for EPH and contingency
12:05 SB03-5-10' no PID readings found every 6" Collected sample for EPH at 8.0-8.5' also collected contingency
12:10 SB03 10-15' no PID readings found. Bottom of Boring 15' bgs since soil required sample collected to 12' bgs
12:20 start to decon and move to Parcel 34

JW 11-9-17

Attachment C
Soil Boring Logs

PARSONS

Soil Boring Log

CLIENT: USACE
PROJECT NAME: FTMM - ECP
PROJECT LOCATION: FTMM Parcel -1- 3035
PROJECT NUMBER: 748810-

GROUNDWATER OBSERVATIONS
WATER LEVEL: 3'
DATE: 11-9-17
TIME: 0995
MEAS. FROM: GROUND SURFACE

INSPECTOR: TOM HORN
DRILLER: ECDI JOE BARNAK
WEATHER: OVERCAST, 50°
CONTRACTOR: East Coast Drilling, Inc. (ECDI)
RIG TYPE: Geoprobe(R) 7822DT
DATE/TIME START: 11/9/17 - 0930
DATE/TIME FINISH: 11/9/17 - 0950
WEIGHT OF HAMMER: N/A
DROP OF HAMMER: N/A
TYPE OF HAMMER: N/A

BORING/WELL ID: PAR-1-3035-SB-01
LOCATION DESCRIPTION: GRASSY AREA
LOCATION PLAN: Oceanport, New Jersey

DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS
0			60/50	0.0	DK BRN GRASS ROOTS, FINE SILTY SAND, TR ROUNDED PEBBLES, MOIST		
				0.0			
1				0.0	CONCRETE RUBBLE GRADING INTO GREY-BROWN SAND, LITTLE SILT, MOIST		
				0.0	WET GREY-BROWN VF-F SAND, TR SILT, TR ROUNDED GRAVEL		
2				0.0			
*	PAR-1-3035-SB-01-2.5-3.0			0.0			
3				0.0	WATER AT ~ 3'		SAMPLE TIME 1000 (2.5'-3') INCLUDES PARENT, DUP AND Q/A SPLIT
				0.0	LT. GREEN YELLOW TAN F-C SAND LITTLE SILT		
4				0.0			
				0.0			
5			60/60	0.0	WET DK BROWN VF-F SAND, TR ROUNDED GRAVEL		
				0.0			
6				0.0			
				0.0	WET F-C GRAVEL, TR F SAND GREY-TAN		
7				0.0	WET GREY TAN F-C SAND, TR F. GRAVEL		
				0.0			
8				0.0	WET ORANGE RED BAND 1/2" GRADING TO GRAY TAN VF-F SAND		
*	PAR-1-3035-SB-01-8.0-8.5'			0.0	WET DARK-GREY VF-F MICACEOUS SAND, TR SILT.		SAMPLE TIME 1045 (8'-8.5') INCLUDES PARENT AND MS/MSD
9				0.0			
				0.0			
10							

Remarks: *=Sample submitted lab analysis

Sample Types
S -- Split-Spoon
U -- Undisturbed Tube
C -- Rock Core
A -- Auger Cuttings

Consistency vs. Blowcount / Foot

Granular (Sand & Gravel)			Fine Grained (Silt & Clay)	
V. Loose: 0-4	Dense:	30-50	V. Soft: <2	Stiff: 8-15
Loose: 4-10	V. Dense:	>50	Soft: 2-4	V. Stiff: 15-30
M. Dense: 10-30			M. Stiff: 4-8	Hard: > 30

and - 35-50%
some - 20-35%
little - 10-20%
trace - <10%
moisture, density, color, gradation

Soil Boring Log

CLIENT: USACE
PROJECT NAME: FTMM - ECP
PROJECT LOCATION: FTMM Parcel - 1 - 3035
PROJECT NUMBER: 748810-

GROUNDWATER OBSERVATIONS
WATER LEVEL: 3'
DATE: 11-9-17
TIME: 0945
MEAS. FROM: GROUND SURFACE

INSPECTOR: TOM HORN
DRILLER: ECDI JOE BARNAK
WEATHER: OVERCAST, 50°F
CONTRACTOR: East Coast Drilling, Inc. (ECDI)
RIG TYPE: Geoprobe(R) 7822DT
DATE/TIME START: 11-9-17 / 0930
DATE/TIME FINISH: 11-9-17 / 0950
WEIGHT OF HAMMER: N/A
DROP OF HAMMER: N/A
TYPE OF HAMMER: N/A

BORING/WELL ID: PAR-1-3035-SB-01
LOCATION DESCRIPTION: GRASSY AREA
LOCATION PLAN: Oceanport, New Jersey

DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS
0				0.0	WET TAN-BROWN VF-F SAND		
				0.0			
1				0.0	WET LT-GREY-TAN, VF-C SAND		
				0.0			
2				0.0			
				0.0			
3				0.0	DK GREENISH-GREY-BROWN SILTY SAND, MICACEOUS, WET		
				0.0			
4				0.0			
				0.0			
5					EOB=15'		
6							
7							
8							
9							
10							

Remarks:

Sample Types
S -- Split-Spoon
U -- Undisturbed Tube
C -- Rock Core
A -- Auger Cuttings

Consistency vs. Blowcount / Foot

Granular (Sand & Gravel)			Fine Grained (Silt & Clay)	
V. Loose: 0-4	Dense: 30-50		V. Soft: <2	Stiff: 8-15
Loose: 4-10	V. Dense: >50		Soft: 2-4	V. Stiff: 15-30
M. Dense: 10-30			M. Stiff: 4-8	Hard: > 30

and - 35-50%
some - 20-35%
little - 10-20%
trace - <10%
moisture, density, color, gradation

Soil Boring Log

CLIENT: USACE
PROJECT NAME: FTMM - ECP
PROJECT LOCATION: FTMM Parcel 1-3035
PROJECT NUMBER: 748810-

GROUNDWATER OBSERVATIONS
WATER LEVEL: 3.0
DATE: 11-9-17
TIME: 1140
MEAS. FROM: Ground surface

INSPECTOR: Tom Nolan
DRILLER: ECDI Joe Barnak
WEATHER: 54° Overcast
CONTRACTOR: East Coast Drilling, Inc. (ECDI)
RIG TYPE: Geoprobe(R) 7822DT
DATE/TIME START: 11-9-17 / 1115
DATE/TIME FINISH: 11-9-17 / 1135
WEIGHT OF HAMMER: N/A
DROP OF HAMMER: N/A
TYPE OF HAMMER: N/A

BORING/WELL ID: PAR-1-3035-SB-02
LOCATION DESCRIPTION: Grassy area
LOCATION PLAN: Oceanport, New Jersey

DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC."	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS
0			50/60	0.0	Brown moist silty sand and grass roots		
				0.0	concrete rubble moist		
1				0.0	LT grey brown F sand, tr silt, brick rubble		
				0.0	LT orange tan moist VF-F sand		
2				0.0	SAA		
				0.0	WET DK brown micaceous silty sand		
3 *	PAR-1-3035-SB-02-2.5-3.0'			0.0	WET mod soft sandy silt DK brown, micaceous, tr VF gravel.		Sample grab parent @ 1115
				0.0			
4				0.0			
				0.0			
5			60/60	0.0	WET mod dense, DK grey brown VF-F sand		
				0.0			
6				0.0	WET light grey with 1" band of orange-brown VF-F sand mod dense		
				0.0			
7				0.0	WET LT grey mod dense VF-F sand		
				0.0			
8 *	PAR-1-3035-SB-02-8.0'-8.5'			0.0	WET DK grey-brown mod stiff sandy silt micaceous		Collected @ 1141
				0.0			
9				0.0			
				0.0			
10							

Remarks: * = Sample submitted lab analysis

Sample Types
S – Split-Spoon
U – Undisturbed Tube
C – Rock Core
A – Auger Cuttings

Consistency vs. Blowcount / Foot

Granular (Sand & Gravel)			Fine Grained (Silt & Clay)	
V. Loose: 0-4	Dense: 30-50		V. Soft: <2	Stiff: 8-15
Loose: 4-10	V. Dense: >50		Soft: 2-4	V. Stiff: 15-30
M. Dense: 10-30			M. Stiff: 4-8	Hard: > 30

and - 35-50%
some - 20-35%
little - 10-20%
trace - <10%
moisture, density, color, gradation

Soil Boring Log

CLIENT: USACE
PROJECT NAME: FTMM - ECP
PROJECT LOCATION: FTMM Parcel-1-3035
PROJECT NUMBER: 748810-

GROUNDWATER OBSERVATIONS
WATER LEVEL:
DATE:
TIME:
MEAS. FROM:

INSPECTOR: TOM HORN
DRILLER: ECDI JOE BARNES
WEATHER: 54° OVERCAST
CONTRACTOR: East Coast Drilling, Inc. (ECDI)
RIG TYPE: Geoprobe(R) 7822DT
DATE/TIME START: 11-9-17 / 1115
DATE/TIME FINISH: 11-9-17 / 1135
WEIGHT OF HAMMER: N/A
DROP OF HAMMER: N/A
TYPE OF HAMMER: N/A

BORING/WELL ID: PAR-1-3035-SB-02
LOCATION DESCRIPTION: GRASSY AREA
LOCATION PLAN: Oceanport, New Jersey

DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS
0			60/60	0.0	WET DK BROWN MOD DENSE F SAND		
				0.0	↓		
1				0.0	WET GREY BROWN TAN VF - F MOD LOOSE SAND		
				0.0	WET DARK GREY - BROWN MOD DENSE MICACEOUS SAND, LITTLE SILT		
2				0.0			
				0.0			
3				0.0			
				0.0			
4				0.0			
				0.0			
5					EOB = 15'		
6							
7							
8							
9							
10							

Remarks:

Sample Types
S -- Split-Spoon
U -- Undisturbed Tube
C -- Rock Core
A -- Auger Cuttings

Consistency vs. Blowcount / Foot

Granular (Sand & Gravel)			Fine Grained (Silt & Clay)	
V. Loose: 0-4	Dense: 30-50		V. Soft: <2	Stiff: 8-15
Loose: 4-10	V. Dense: >50		Soft: 2-4	V. Stiff: 15-30
M. Dense: 10-30			M. Stiff: 4-8	Hard: > 30

and - 35-50%
some - 20-35%
little - 10-20%
trace - <10%
moisture, density, color, gradation

PARSONS

Soil Boring Log

CLIENT: USACE
PROJECT NAME: FTMM - ECP
PROJECT LOCATION: FTMM Parcel - 1 - 3035 UST
PROJECT NUMBER: 748810-

GROUNDWATER OBSERVATIONS
WATER LEVEL: 3'
DATE: 11-9-17
TIME: 1215
MEAS. FROM:

INSPECTOR: T. H
DRILLER:
WEATHER: Low 50's Cloudy
CONTRACTOR: East Coast Drilling, Inc. (ECDI)
RIG TYPE: Geoprobe(R) 7822DT
DATE/TIME START: 11/9/17 11:45
DATE/TIME FINISH: 11/9/17 12:00
WEIGHT OF HAMMER: N/A
DROP OF HAMMER: N/A
TYPE OF HAMMER: N/A

BORING/WELL ID: PAR-1-3035-SB03
LOCATION DESCRIPTION: Grassy Tall
LOCATION PLAN: Oceanport, New Jersey

DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC. "	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS
0			50/60	0.0	MOIST DARK BROWN SILTY SAND AND GRASS ROOTS		
				0.0	MOIST MOD DENSE REDDISH ORANGE GREY-BROWN SILTY SAND		
1				0.0			
				0.0	MOIST MOD DENSE REDDISH GREY BROWN SAND, TR SILT		
2				0.0			
	PAR-1-3035-SB-03-2.5-3.0'			0.0			COLLECT @ 1200
3				0.0	WET DK GREY BROWN MOD DENSE VF-F SAND, TR. SILT		
				0.0			
4				0.0			
				0.0	WET LT GRENISH-GREY-BROWN FSAND		
5			60/60	0.0	LOOSE WET LT GRENISH-GREY TAN VF-F SAND		
				0.0			
6				0.0	WET MOD DENSE F-C SAND SOME F-M GRAVEL, LT. GRENISH-TAN		
				0.0			
7				0.0	WET DARK-GREY-BROWN MOD STIFF SILTY SAND MICACIOUS		
				0.0			
8 X	PAR-1-3035-SB-03-8.0'-8.5'			0.0			1208
				0.0			
9				0.0			
				0.0			
10							

Remarks: * = Samples Submitted lab Analysis

Sample Types
S – Split-Spoon
U – Undisturbed Tube
C – Rock Core
A – Auger Cuttings

Consistency vs. Blowcount / Foot

Granular (Sand & Gravel)			Fine Grained (Silt & Clay)	
V. Loose: 0-4	Dense: 30-50		V. Soft: <2	Stiff: 8-15
Loose: 4-10	V. Dense: >50		Soft: 2-4	V. Stiff: 15-30
M. Dense: 10-30			M. Stiff: 4-8	Hard: > 30

and - 35-50%
some - 20-35%
little - 10-20%
trace - <10%
moisture, density, color, gradation

Soil Boring Log

CLIENT: USACE
PROJECT NAME: FTMM - ECP-1-3035
PROJECT LOCATION: FTMM Parcel
PROJECT NUMBER: 748810-

GROUNDWATER OBSERVATIONS
WATER LEVEL:
DATE: 11-9-17
TIME:
MEAS. FROM:

INSPECTOR:
DRILLER:
WEATHER:
CONTRACTOR: East Coast Drilling, Inc. (ECDI)
RIG TYPE: Geoprobe(R) 7822DT
DATE/TIME START:
DATE/TIME FINISH:
WEIGHT OF HAMMER: N/A
DROP OF HAMMER: N/A
TYPE OF HAMMER: N/A

BORING/WELL ID: FAR-1-3035-SB03
LOCATION DESCRIPTION
LOCATION PLAN
Oceanport, New Jersey

DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS
0					WET LT GRSH-GRSN MOD DENSE SAND AND VF-M GRAVEL SUBROUNDED		
1							
2					WET DENSE LT GREENISH GRAY VF-F SAND		
3					WET DARK-GRSH BROWN MOD STIFF SANDY SILT MICACEOUS ↓		
4							
5					E.O.B. ≈15'		
6							
7							
8							
9							
10							

Remarks:

Sample Types
S – Split-Spoon
U – Undisturbed Tube
C – Rock Core
A – Auger Cuttings

Consistency vs. Blowcount / Foot

Granular (Sand & Gravel)			Fine Grained (Silt & Clay)	
V. Loose: 0-4	Dense: 30-50		V. Soft: <2	Stiff: 8-15
Loose: 4-10	V. Dense: >50		Soft: 2-4	V. Stiff: 15-30
M. Dense: 10-30			M. Stiff: 4-8	Hard: > 30

and - 35-50%
some - 20-35%
little - 10-20%
trace - <10%
moisture, density, color, gradation