



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

13 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: No Further Action Request
Site Investigation Report Addendum
ECP Parcel 72 Underground Storage Tanks
Fort Monmouth, New Jersey**

Attachments:

- A. Correspondence
- B. Site Layout Drawings of Parcel 72 (Recent and Historical)
- C. Summary Table of Parcel 72 Underground Storage Tanks
- D. Summary Narrative for Parcel 72 Select Unregulated Heating Oil Tanks (UHOTS) Investigation Results, Fort Monmouth, NJ
 - D.1 Tables: Soil and Groundwater Results
 - D.2 Figures: Sample Locations and Exceedances
 - D.3 Field Notes
 - D.4 Boring Logs
 - D.5 Analytical Data
- E. Cross Reference of Residential Building Numbers with Street Addresses
- F. Unregulated Heating Oil Tanks Along Russel Avenue
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 - F.2 UST 212 File Review
 - F.3 UST 213 File Review and Analyses
 - F.4 UST 214 File Review and Analyses
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 - F.6 UST 220B File Review and Analyses
 - F.7 UST 222 File Review and Analyses
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- G. Unregulated Heating Oil Tanks Along Allen Avenue
 - G.1 UST 225 File Review and Analyses
 - G.2 UST 226 File Review and Analyses
 - G.3 UST 227 File Review and Analyses
 - G.4 UST 228 and File Review and Analyses (includes UST 228B)

H. Unregulated Heating Oil Tanks Along Gosselin Avenue

- H.1 UST 233 File Review and NFA Letter
- H.2 UST 234 File Review and Analyses
- H.3 UST 235 File Review and Analyses
- H.4 UST 236 File Review and Analyses
- H.5 UST 237 File Review and NFA Letter
- H.6 UST 238 File Review and Analyses
- H.7 UST 239 File Review and Analyses
- H.8 UST 240 File Review and Analyses
- H.9 UST 241 File Review and Analyses
- H.10 UST 242 File Review and Analyses
- H.11 UST 243 File Review and Analyses
- H.12 UST 244 File Review and Sketch Map
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- H.15 UST 247 File Review and Analyses
- H.16 UST 248 File Review and Analyses
- H.17 UST 249 File Review and Analyses
- H.18 UST 250 File Review and Analyses
- H.19 UST 251 File Review and Analyses
- H.20 UST 252 File Review and Analyses
- H.21 UST 253 File Review and Analyses
- H.22 UST 254 File Review and Analyses
- H.23 UST 255 File Review and Analyses
- H.24 UST 256 File Review and Analyses
- H.25 UST 258 File Review and Analyses

Previous Correspondence (provided in Attachment A):

1. Army letter to NJDEP dated July 1, 2016, re: *Parcel 72 Select Unregulated Heating Oil Tanks (UHOTs) Work Plan Addendum, Fort Monmouth, New Jersey.*
2. NJDEP letter to the Army dated July 12, 2016, re: *Parcel 72 Select Unregulated Heating Oil Tanks (UHOTs) Work Plan Addendum.*

Dear Ms. Range:

The U.S. Army Fort Monmouth (FTMM) team has reviewed existing file information for underground storage tank (UST) sites associated with existing Officer Housing residential buildings located along Russel Avenue, Allen Avenue, and Gosselin Avenue at Fort Monmouth in New Jersey. These residential buildings are located within Environmental Condition of Property (ECP) Parcel 72. Each of these UST sites were located at residences that formerly stored No. 2 fuel oil for heating in a UST; therefore, they are considered as unregulated heating oil tanks (UHOTs) in accordance with N.J.A.C. 7:14B-1.4(b). The purpose of this submittal is to provide comprehensive documentation of the closure status of all UHOTs identified within this parcel, and to request a No Further Action (NFA) determination for qualifying UHOTs. Previous correspondence regarding select Parcel 72 Officer Housing UHOTs is provided in **Attachment A**.

Parcel 72 is located within the central portion of the Main Post. The Officer Housing area described in this submittal is generally bounded by Parcel 76 to the north and east, Parcel 51 to the west, Parcel

71 (the FTMM-12 and FTMM-14 landfills) to the south, and Parcel 74 to the east. The locations of the UHOTs within the Officer Housing area of Parcel 72 are presented in **Attachment B**, and a summary table of the UHOTs is provided in **Attachment C**. All of the UHOTs identified within Parcel 72 have been removed, except UST 228B which is empty and remains in place.

Five former UHOTs (USTs 211, 212, 220B, 226, and 228B) were previously identified as requiring additional field sampling to satisfy data needs, as described in Correspondence 1 (**Attachment A**). The results of these additional investigations are presented in **Attachment D**, which support an NFA determination for USTs 212, 220B, and 226. These results also indicate additional work would be needed for NFA determinations to be made for UST 211 and UST 228B.

Not all of the Officer Housing buildings along Russel Avenue, Allen Avenue and Gosselin Avenue had an associated fuel oil UST. Specifically, no UHOTs have been found at Buildings 215, 216, 218, 221 or 229 on Russel Avenue, or Building 224 on Allen Avenue, or the Building 230 Generals Quarters. In some cases, two UHOTs that serviced adjoining buildings were removed from the same excavation, and one set of closure soil samples were collected to represent both tanks (for example, UST 237 and UST 239). In general, these UHOTs were removed from 1990 to 2001 as the residential heating systems were converted to natural gas. Typically, the Army's records reflect removal of fiberglass tanks, which may be second generation tanks that replaced earlier steel USTs used for fuel oil storage. At Building 228, both a fiberglass UST (UST 228 which was removed) and a steel UST (UST 228B which remains in place) were documented to be present.

In some cases, UST closure documentation such as field notes and analytical reports may reference the street address of the residence, rather than the building number. Therefore, a table summarizing the building numbers and corresponding street addresses for the Officer Housing area is provided in Attachment E, for cross reference.

We are submitting the following documentation for the multiple UHOTs that were previously removed from the Parcel 72 Officer Housing area, and we request a No Further Action determination for each site unless otherwise explained further below (sites that have been previously approved for NFA by NJDEP are highlighted in green).

Along Russel Avenue (Attachment F):

- UST 211 file review summary and earlier (pre-2016) soil analyses are presented in Attachment F.1, and recent groundwater analyses are presented in Attachment D, which indicates an impact to groundwater by fuel oil.
- UST 212 file review summary is presented in Attachment F.2, and recent soil and groundwater analyses are presented in Attachment D.
- UST 213 file review summary and analyses are presented in Attachment F.3.
- UST 214 file review summary and analyses are presented in Attachment F.4.
- UST 219 file review summary and analyses are presented in Attachment F.5.
- UST 220B file review summary and analyses are presented in Attachment F.6, and recent groundwater analyses are presented in Attachment D.
- UST 222 file review summary and analyses are presented in Attachment F.7.
- UST 223 file review summary and analyses are presented in Attachment F.8.

Along Allen Avenue (Attachment G):

- UST 225 file review summary and analyses are presented in Attachment G.1.

- UST 226 file review summary and analyses are presented in Attachment G.2, and recent groundwater analyses are presented in Attachment D.
- UST 227 file review summary and analyses are presented in Attachment G.3.
- UST 228 file review summary and analyses are presented in Attachment G.4.
- Recent soil and groundwater analyses for the existing UST 228B steel tank are presented in Attachment D; additional work would be needed for a NFA determination to be made for UST 228B . NJDEP has previously indicated (Correspondence 1 of **Attachment A**) that this tank requires closure in accordance with applicable regulations.

Along Gosselin Avenue (**Attachment H**):

- UST 233 file review summary and analyses are presented in Attachment H.1; **NFA was approved by NJDEP on 1/10/2003.**
- UST 234 file review summary and analyses are presented in Attachment H.2.
- UST 235 file review summary and analyses are presented in Attachment H.3.
- UST 236 file review summary and analyses are presented in Attachment H.4.
- UST 237 file review summary is presented in Attachment H.5; **NFA was approved by NJDEP on 1/10/2003.**
- UST 238 file review summary and analyses are presented in Attachment H.6.
- UST 239 file review summary and analyses are presented in Attachment H.7; this tank was removed and sampled from the same excavation as UST 237, which was **approved for NFA by NJDEP on 1/10/2003.**
- UST 240 file review summary and analyses are presented in Attachment H.8.
- UST 241 file review summary and analyses are presented in Attachment H.9.
- UST 242 file review summary and analyses are presented in Attachment H.10.
- UST 243 file review summary and analyses are presented in Attachment H.11.
- UST 244 file review summary and analyses are presented in Attachment H.12; Building 244 was serviced by the same tank as Building 246, and UST 246 was **approved for NFA by NJDEP on 1/10/2003.**
- UST 245 file review summary and analyses are presented in Attachment H.13.
- UST 246 file review summary and analyses are presented in Attachment H.14; **NFA was approved by NJDEP on 1/10/2003.**
- UST 247 file review summary and analyses are presented in Attachment H.15.
- UST 248 file review summary and analyses are presented in Attachment H.16.
- UST 249 file review summary and analyses are presented in Attachment H.17.
- UST 250 file review summary and analyses are presented in Attachment H.18.
- UST 251 file review summary and analyses are presented in Attachment H.19.
- UST 252 file review summary and analyses are presented in Attachment H.20.
- UST 253 file review summary and analyses are presented in Attachment H.21.
- UST 254 file review summary and analyses are presented in Attachment H.22.
- UST 255 file review summary and analyses are presented in Attachment H.23.
- UST 256 file review summary and analyses are presented in Attachment H.24.
- UST 258 file review summary and analyses are presented in Attachment H.25.

This information supports the conclusion that multiple UHOTs identified within Parcel 72 have been adequately addressed by previous environmental activities under the FTMM tank removal and assessment program. In summary, we submit that the Army has provided adequate due diligence with regards to the environmental condition of UHOTS within the Parcel 72 Officer Housing Area, and we request that NJDEP approve No Further Action for Parcel 72 UHOTs with the exception of UST 211 and UST 228B.

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)



**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:

- "No Further Action Request, Site Investigation Report Addendum, ECP Parcel 72 Underground Storage Tanks, Fort Monmouth, New Jersey" (December 2016)

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:  Date: 13 December 2016

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

ATTACHMENT A

Correspondence

Contents:

1. Army letter to NJDEP dated July 1, 2016, re: *Parcel 72 Select Unregulated Heating Oil Tanks (UHOTs) Work Plan Addendum, Fort Monmouth, New Jersey.*
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OFFICE OF ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
U.S. ARMY FORT MONMOUTH
P.O. 148
OCEANPORT, NEW JERSEY 07757

July 1, 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: Parcel 72 Select Unregulated Heating Oil Tanks (UHOTs) Work Plan Addendum
Fort Monmouth, New Jersey**

Attachments:

- Table 1 Summary of Select Parcel 72 UHOTs
- UST Removal Reference Map (Grid C2)
- Table 2 Summary of Proposed Sampling for Parcel 72
- Figure 1 Proposed Sampling for Parcel 72

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 Environmental Condition of Property (ECP) Parcel 72. The purpose of this review was to ensure that potential environmental issues associated with former UST sites within Parcel 72 have been adequately addressed to facilitate Phase II property transfer.

All of the Parcel 72 USTs are residential unregulated heating oil tanks (UHOTs), such as single family homes, apartments or barracks. Residential UHOTs are exempt from UST regulations (New Jersey Administrative Code [NJAC] 7:14B-1.4 [b][3]). However, the Army anticipates requesting a No Further Action (NFA) determination from the New Jersey Department of Environmental Protection (NJDEP) for Parcel 72 residential UHOTs within a future submittal to facilitate property transfer.

Upon review of Parcel 72 closure sample analytical data, five former UHOTs (USTs 211, 212, 220B, 226, and 228B) were identified with data needs that required additional field sampling, as summarized below. This Work Plan Addendum describes the proposed field sampling for these five Parcel 72 UHOT sites. Detailed field procedures are described in the approved March 2013 *Final Sampling and Analysis Plan* (SAP).

Attached Table 1 describes the tank characteristics for each of these five UHOT sites. The Army's recorded locations of these UHOTs are shown in the attached UST Removal Reference Map. All of these UHOTs except UST 228B were previously removed. Following is a summary of these UHOTs and the associated data needs:

- UST 211 was located at 4 Russel Avenue on the east side of Building 211. This tank was removed in 2001, and TPH concentrations up to 3,968 milligrams per kilogram (mg/kg) were reported in closure soil samples, which may indicate a release but is less than the 5,100 mg/kg human health based remedial goal for Extractible Petroleum Hydrocarbons (EPH). Analyses for volatile organic compounds (VOCs) were also performed on the sample with the highest TPH concentrations, in accordance with then-current protocol; the only VOC detected was acetone, which is a common laboratory-derived contaminant. Proposed field sampling will include collection of a groundwater sample from a temporary well installed at the former location of the tank to determine if a fuel oil release has impacted groundwater.
- UST 212 was located at 8 Russel Avenue on the east side of Building 212. This tank was removed in 2001; closure soil samples were collected and analyzed. However, the associated analytical data have not been found, and therefore soil samples will be collected from one boring using a Geoprobe to determine if a release has occurred. Also, a groundwater sample from a temporary well will be collected from the same boring to determine if there has been an impact to groundwater.
- UST 220B was located at 34 Russel Avenue on the west side of Building 220. This tank was removed in 2001. Initial soil TPH concentrations were up to 3,224 mg/kg. After removal of the contaminated soil, TPH was not detected. Analyses for VOCs were also performed on the sample with the highest TPH, in accordance with then-current protocol; no VOCs were detected. Proposed field sampling will include collection of a groundwater sample from a temporary well installed at the former location of the tank to determine if a fuel oil release has impacted groundwater.
- UST 226 was located at 9 and 10 Allen Avenue near Building 226. This tank was removed in 2000 and TPH concentrations up to 3,915 mg/kg were encountered in closure soil samples. Analyses for VOCs were also performed on the sample with the highest TPH, in accordance with then-current protocol; the VOCs ethylbenzene and xylenes were detected, but concentrations were below the NJDEP Residential Direct Contact Soil Remediation Standards (RDCSRS). Proposed field sampling will include collection of a groundwater sample from a temporary well installed at the former location of the tank to determine if a fuel oil release has impacted groundwater.
- UST 228B (a steel UST) is located at 3 Allen Avenue near Building 228. This tank was located and uncovered in 2010, and then (due primarily to resource constraints) was covered with soil and left in place. Soil samples were collected along the service piping but not from the tank vicinity. Therefore, soil samples will be collected using a Geoprobe to determine if a release has occurred. Two soil borings will be placed near the tank (within 3 feet), with adequate spacing away from the tank to ensure that the integrity of the tank is not compromised. Also, a groundwater sample from a downgradient temporary well will be collected from the northern boring location (PAR-72-228-SB-01) to determine if there has been an impact to groundwater.

Proposed soil borings and temporary wells will be sampled and analyzed as summarized in Table 2 and Figure 1. Final sample locations may be adjusted in the field based on site conditions and site-specific understanding of the former locations of the UHOTs, with the intent of placing the boring within the former UST excavation (or within 10 feet downgradient). At each sample location, a Geoprobe® boring will be completed to approximately 4 feet below the water table (groundwater is

estimated at approximately 10 feet below ground surface). Soil and groundwater samples will be collected from the Geoprobe boring as indicated in Table 2 for each UST site.

Soil samples from the UST 212 and UST 228 soil borings will be collected to assess current concentrations and vertical extent of EPH. Two soil samples will be collected from each boring. At each boring, a sample will be collected from approximately 5.0-5.5 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 5.0-5.5 ft bgs and from just above the water table (estimated at 10.0-10.5 ft bgs). Each soil sample will be analyzed for total 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.

Groundwater will be sampled using temporary wells within the Geoprobe borings, and then the borings will be abandoned. Each groundwater sample will be analyzed for VOCs and SVOCs plus tentatively identified compounds (TICs), which is consistent with the requirements for No. 2 fuel oil in Table 2-1 of the NJAC 7:26E Technical Requirements for Site Remediation.

We look forward to your review and approval of or comments on this submittal. 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,

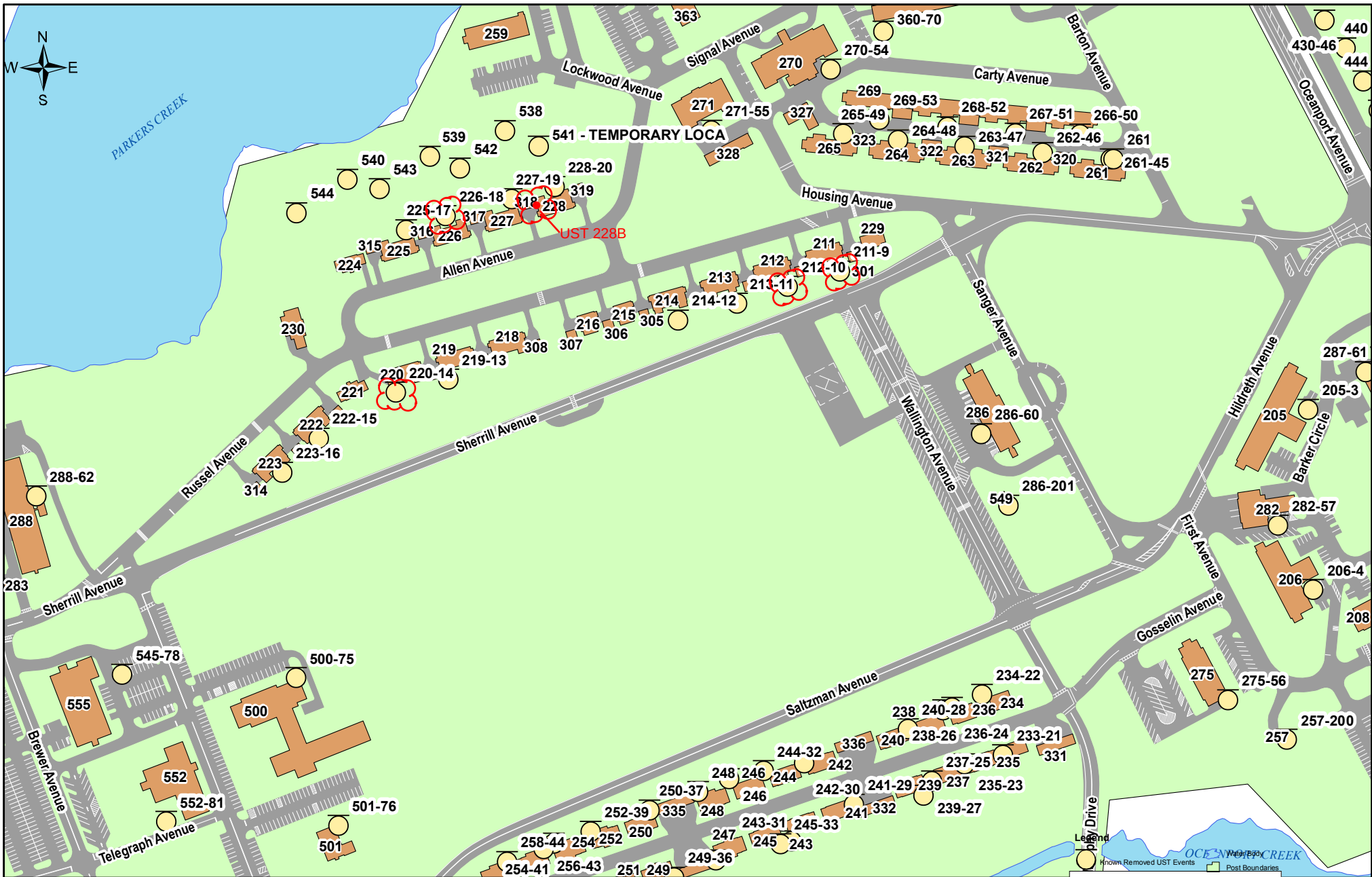


William R. Colvin, PMP, PG, CHMM
BRAC Environmental Coordinator

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)

Table 1
Summary of Select Parcel 72 UHOTs

Site Name	Residential?	Registration ID	DICAR	Tank Size and Type	Product	Comments on Current or Requested NJDEP Status
211	YES	81533-9	None	2,000 gallon fiberglass	#2 FUEL OIL	Collect groundwater sample due to TPH>1000 mg/kg
212	YES	81533-10	None	2,000 gallon fiberglass	#2 FUEL OIL	Sample soils and groundwater to determine if release has occurred
220B	YES	81533-14	None	2,000 gallon; fiberglass?	#2 FUEL OIL	Collect groundwater sample due to TPH>1000 mg/kg
226	YES	81533-18	None	2,000 gallon fiberglass	#2 FUEL OIL	Collect groundwater sample due to TPH>1000 mg/kg
228B	YES	None	None	1,000 gallon steel	#2 FUEL OIL	Steel tank confirmed present



UST Removal Reference Map Grid C2; Main Post Fort Monmouth, New Jersey **FOUO**



UST subject to this Work Plan

- Legend
- Known, Removed UST Events
 - Reference Map Links
 - Demolished Building
 - Existing Building
 - Roadway & Parking

Map Created by:
Fort Monmouth Installation GIO, Environmental Division
Fort Monmouth, New Jersey
Date: August 10, 2011
All drawings must be field verified.
New Jersey State Plane Feet, NAD83

0 150 300 600 Feet

TABLE 2
SUMMARY OF PROPOSED SAMPLING FOR PARCEL 72
FORT MONMOUTH, NEW JERSEY

Location ID	Location	Field Meter Readings ^{a/}	Unfractionated EPH ^{b/}	VOCs + TICs by Method 8260C ^{c/}	SVOCs + TICs by Method 8270C ^{d/}
Soil					
PAR-72-212-SB-01	Building 212 (Figure 1): 1 soil boring, 2 samples.	1 boring	2	0	0
PAR-72-228-SB-01	Building 228 (Figure 1): 1 soil boring, 2 samples.	1 boring	2	0	0
PAR-72-228-SB-02	Building 228 (Figure 1): 1 soil boring, 2 samples.	1 boring	2	0	0
Groundwater					
PAR-72-211-TMW-01	Building 211 (Figure 1): 1 temporary well, 1 sample.	1 well	0	1	1
PAR-72-212-TMW-01	Building 212 (Figure 1): 1 temporary well, 1 sample.	1 well	0	1	1
PAR-72-220-TMW-01	Building 220/UST 220B (Figure 1): 1 temporary well, 1 sample.	1 well	0	1	1
PAR-72-226-TMW-01	Building 226 (Figure 1): 1 temporary well, 1 sample.	1 well	0	1	1
PAR-72-228-TMW-01	Building 228 (Figure 1): 1 temporary well, 1 sample.	1 well	0	1	1
QA/QC samples (see SAP for additional details) ^{e/}					
Field Duplicates (5% Sampling Frequency per media)		NA	1	1	1
Matrix Spike (5% Sampling Frequency per media)		NA	1	1	1
Matrix Spike Duplicate (5% Sampling Frequency per media)		NA	1	1	1
Trip Blank (1 per cooler of VOCs per media)		NA	0	1	0
QA Split (5% per media)		NA	1	1	1
Equipment Blank (5% Sampling Frequency per media)		NA	1	1	1
TOTAL		NA	11	11	10

Notes:

NA = not applicable.

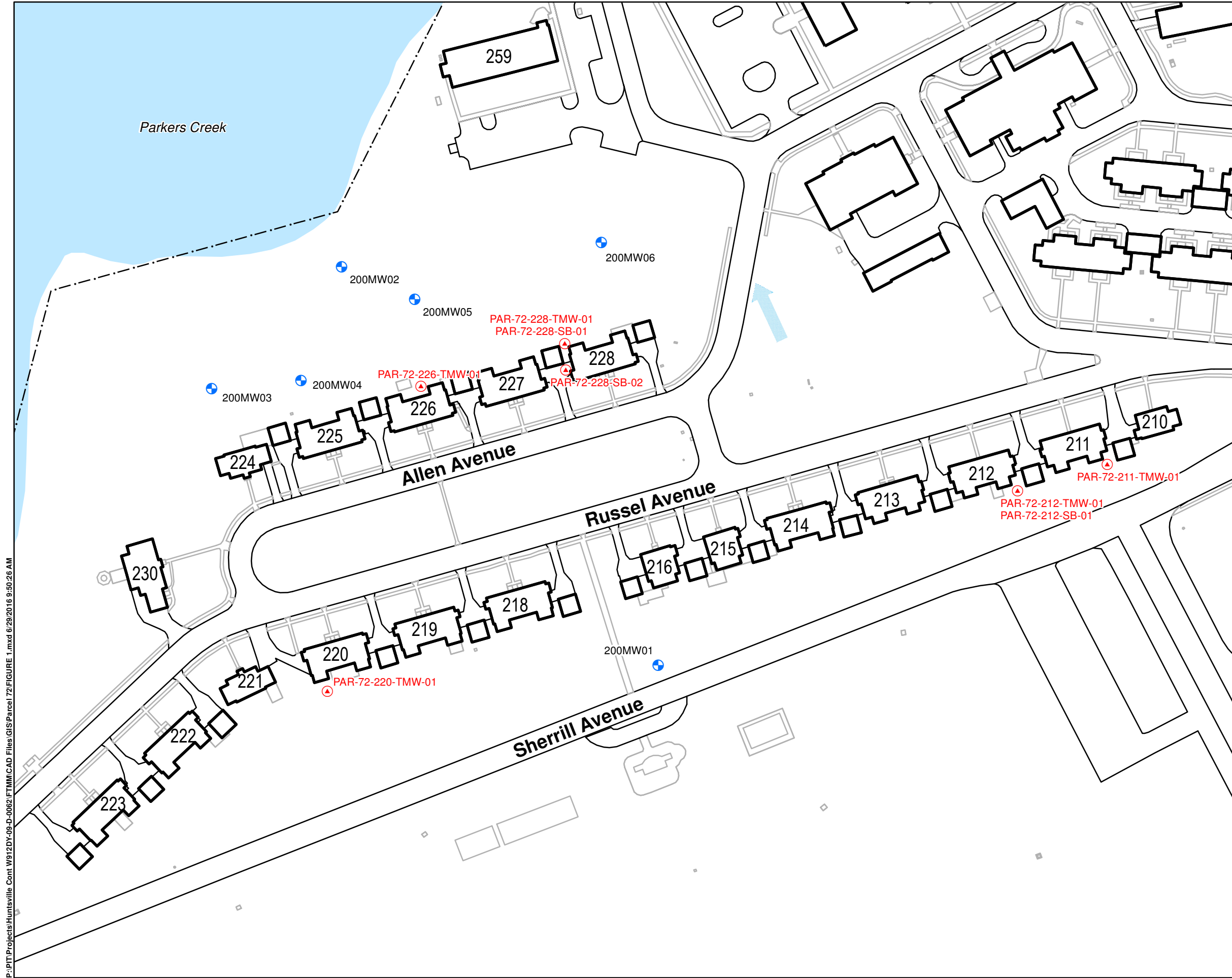
^{a/} Field meter readings include, in soil samples: photoionization detector (PID) readings along entire soil column; and in groundwater: PID headspace, pH, temperature, electrical conductivity, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity.

^{b/} EPH = extractable petroleum hydrocarbons. If any EPH concentrations in soil exceed 1000 mg/kg in any of the site samples, then minimum 25% of the samples where EPH exceeds 1000 mg/kg will also be analyzed for 2-methylnaphthalene and naphthalene.

^{c/} VOCs = volatile organic compounds; TICs = tentatively identified compounds.

^{d/} SVOCs = semivolatile organic compounds; TICs = tentatively identified compounds.

^{e/} QA/QC = quality assurance/quality control; SAP = Sampling and Analysis Plan. The requirement for QA/QC samples may be fulfilled with samples from other parcels.



P:\PTT\Projects\Huntsville Cont W912\DY-09-P-0062\ETM\CAD Files\GIS\Parcel 72\FIGURE 1.mxd 6/29/2016 9:50:26 AM

LEGEND:

- Proposed Groundwater Sample
- Shallow Monitoring Well
- Installation Boundary
- Generalized Groundwater Flow Direction

NOTE:

- Steel tank is present at Building 228.
- Field locate final sample locations based on site features to sample within 10 feet of former or existing tanks.

N

1 inch = 120 feet

0 60 120 240 Feet

Source: FTMM Supplied CAD, 2013.	
PARSONS 401 Diamond Drive NW, Huntsville AL	Fort Monmouth New Jersey
PROPOSED SAMPLING FOR PARCEL 72	
CREATED BY: RR	REVIEWED BY: KF
DATE: JUN. 2016	FIGURE NUMBER: FIGURE 1
PROJECT NUMBER: 748810-01000	FILE: FIGURE 1.mxd



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
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Fax #: 609-633-1439

BOB MARTIN
Commissioner

July 12, 2016

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

Re: *Parcel 72 Select Unregulated Heating Oil Tanks (UHOTs) Work Plan Addendum*
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 on July 7, 2016, prepared by the Department of the Army, to propose soil and/or ground water sampling at four former #2 fuel underground storage tank (UST) areas and one at which the #2 fuel UST remains. Comments are as follows.

UST 211

The collection of a ground water sample as proposed is acceptable.

UST 212

Although sampling was apparently performed when the reported 2000 gallon UST was removed in 2001, the analytical data was reported as unable to be located. A single soil boring is proposed, with a sample to be collected from approximately 5-5.5' below grade (as the base of a 2000 gallon tank would often lie below that depth, perhaps a foot or so deeper should be considered), and a second interval sampled from 0-6" above the water table (which is appropriate). Based upon the former tank size, however, a minimum of two soil boring locations is necessary.

Although the UST is reported as unregulated, and therefore exempt from N.J.A.C. 7:14B, as per Section 3 *Applicability*, of the July 31, 2012 *Technical Guidance for Investigation of Underground Storage Tank Systems*, the exempted USTs must still comply with certain other Department regulations (ARRCs, Tech Rules), and use of the guidance document is appropriate. Section 5.2.1.1 of this guidance document indicates one location for each 5' of tank length is to be collected.

The collection of a ground water sample as proposed is acceptable.

UST 220B

The collection of a ground water sample as proposed is acceptable.

Is UST 220B considered the same tank as that referenced in Appendix G and Figure 15 of the '07 ECP as UST-220-14?

UST 226

The collection of a ground water sample as proposed is acceptable.

UST 228B

UST 228B (is this also known as UST 228-20 in Appendix G & Figure 15?) remains in place, however, appears to be out-of-service. Have the contents been removed? If the tank remains in service, four samples are required (Section 5.1.2 of the above referenced guidance document). If it is out of service, the tank should be closed in accordance with any applicable regulations.

USTs may only be abandoned in place if there is no contamination detected above remediation standards, or when there is evidence of a discharge but removal is not feasible (Section 5.2.2 of the guidance document). Sampling must be performed *through* the bottom of the tank to ensure no contamination is present beneath the UST, at 5' intervals along the center line. As this is a 1000 gallon UST, at least two sample locations through the bottom would be necessary.

Finally, the above comments address only those five USTs included in the work plan, rather than all USTs having been noted (including those of "high potential") within the parcel. This office looks forward to receipt of the request for NFA determination for the former USTs within the parcel as referenced in the submittal.

Please contact this office with any questions.

Sincerely,

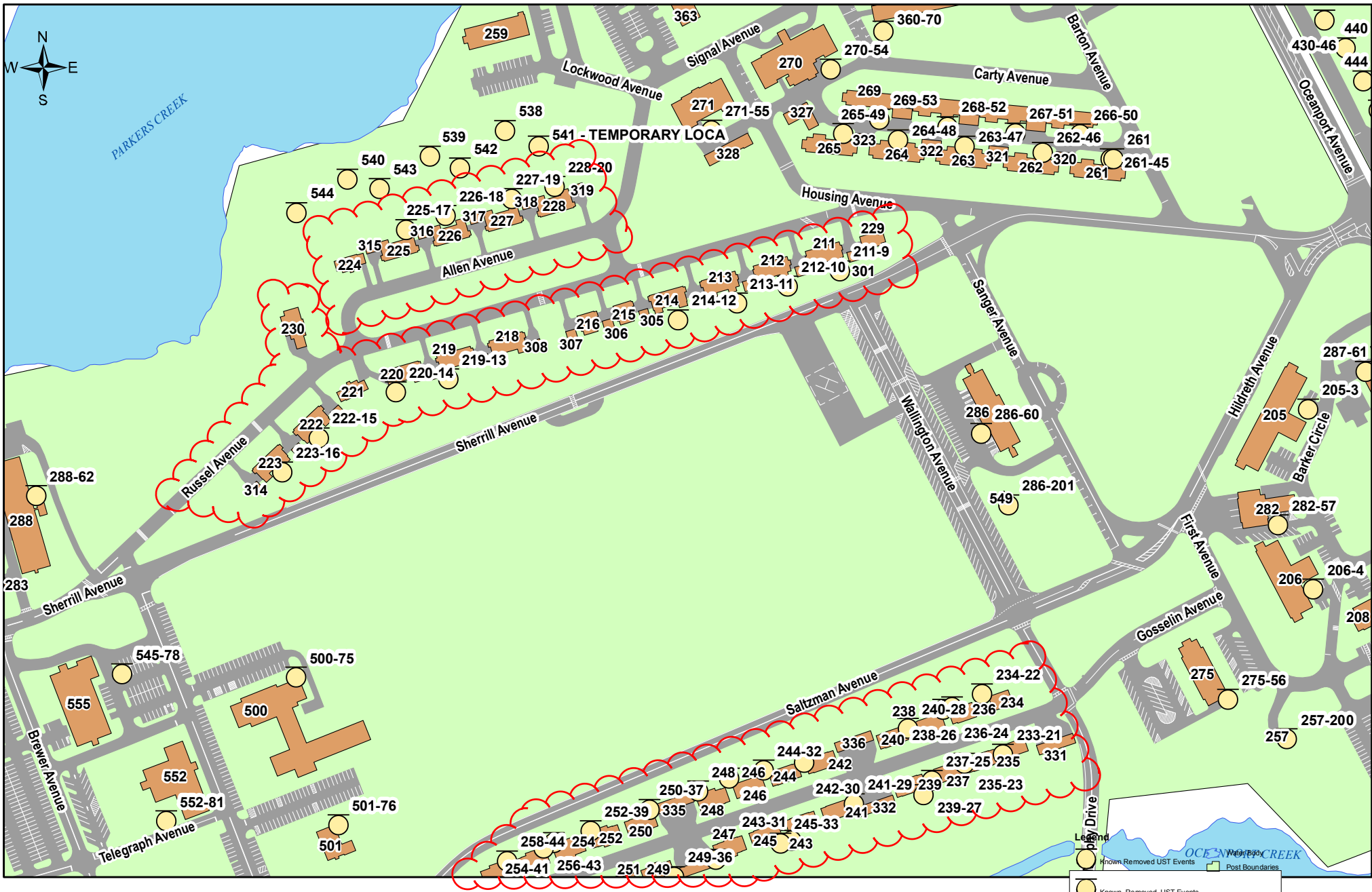
A handwritten signature in blue ink, appearing to read "Linda S. Range". The signature is fluid and cursive, with the first name "Linda" being the most prominent part.

Linda S. Range

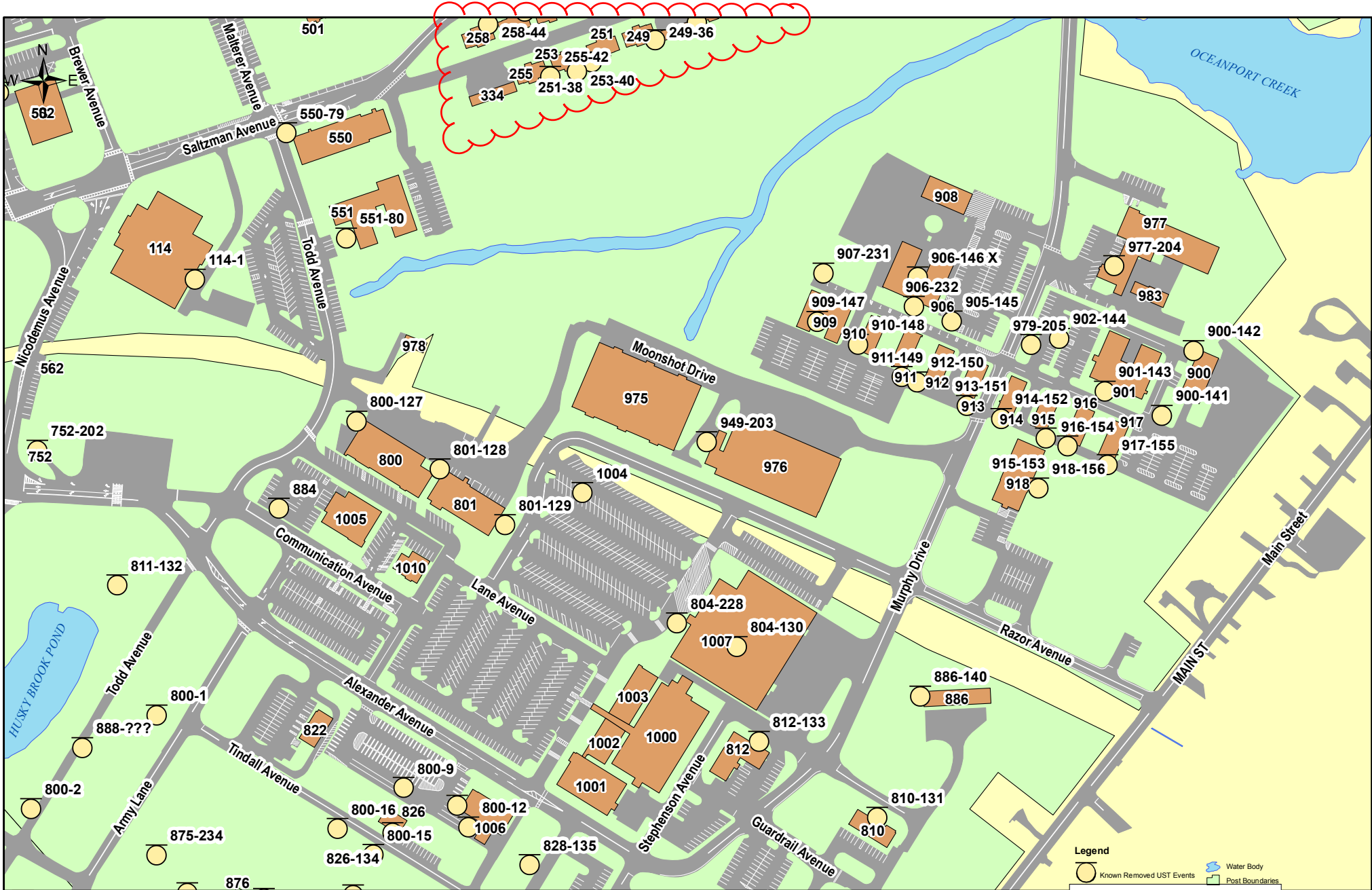
C: Joe Pearson, Calibre
James Moore, USACE
Rick Harrison, FMERA
Joe Fallon, FMERA

ATTACHMENT B

Site Layout Drawings of Parcel 72 (Recent and Historical)



0 150 300 600 Feet



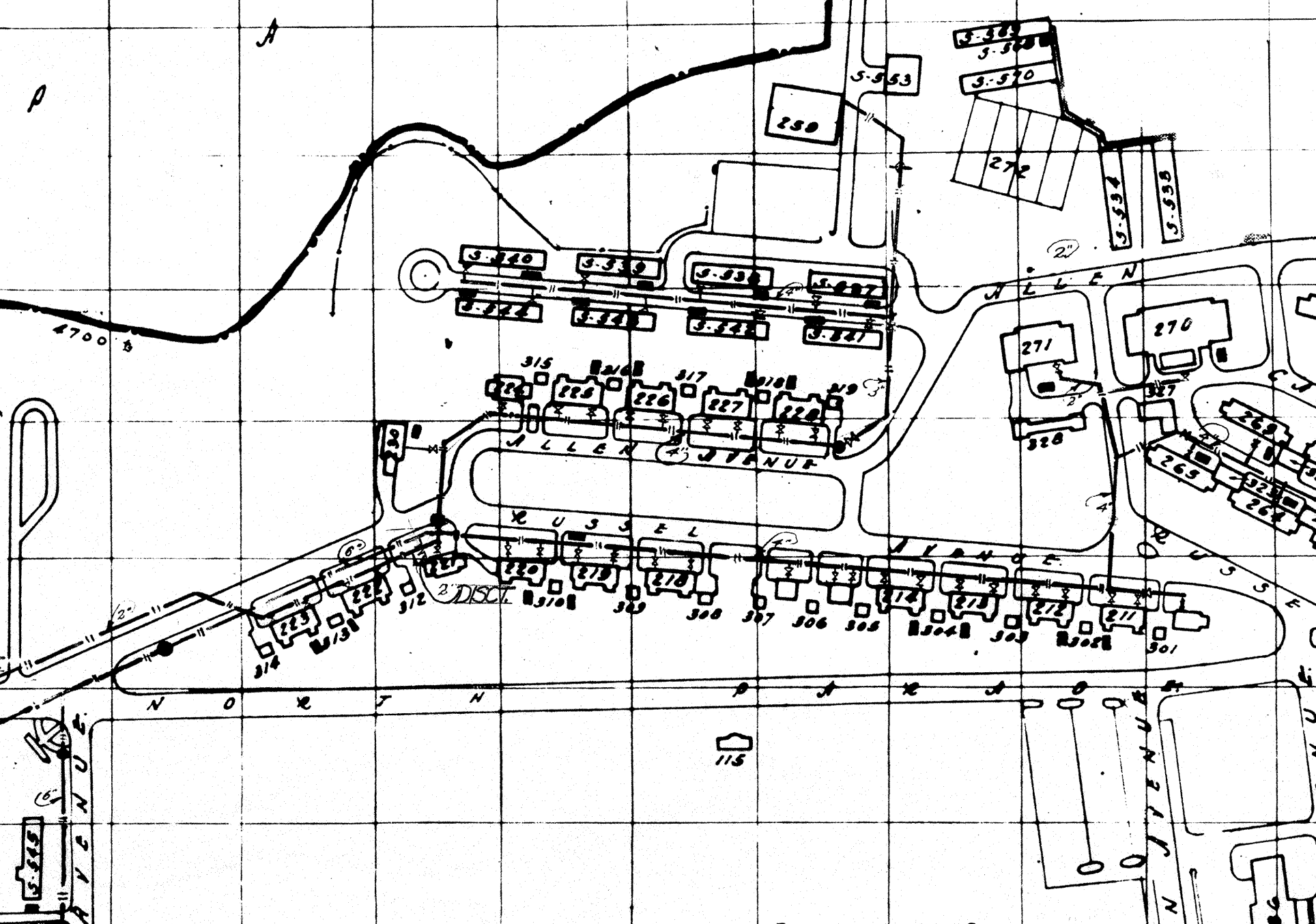
UST Removal Reference Map Grid C3; Main Post Fort Monmouth, New Jersey **FOUO**

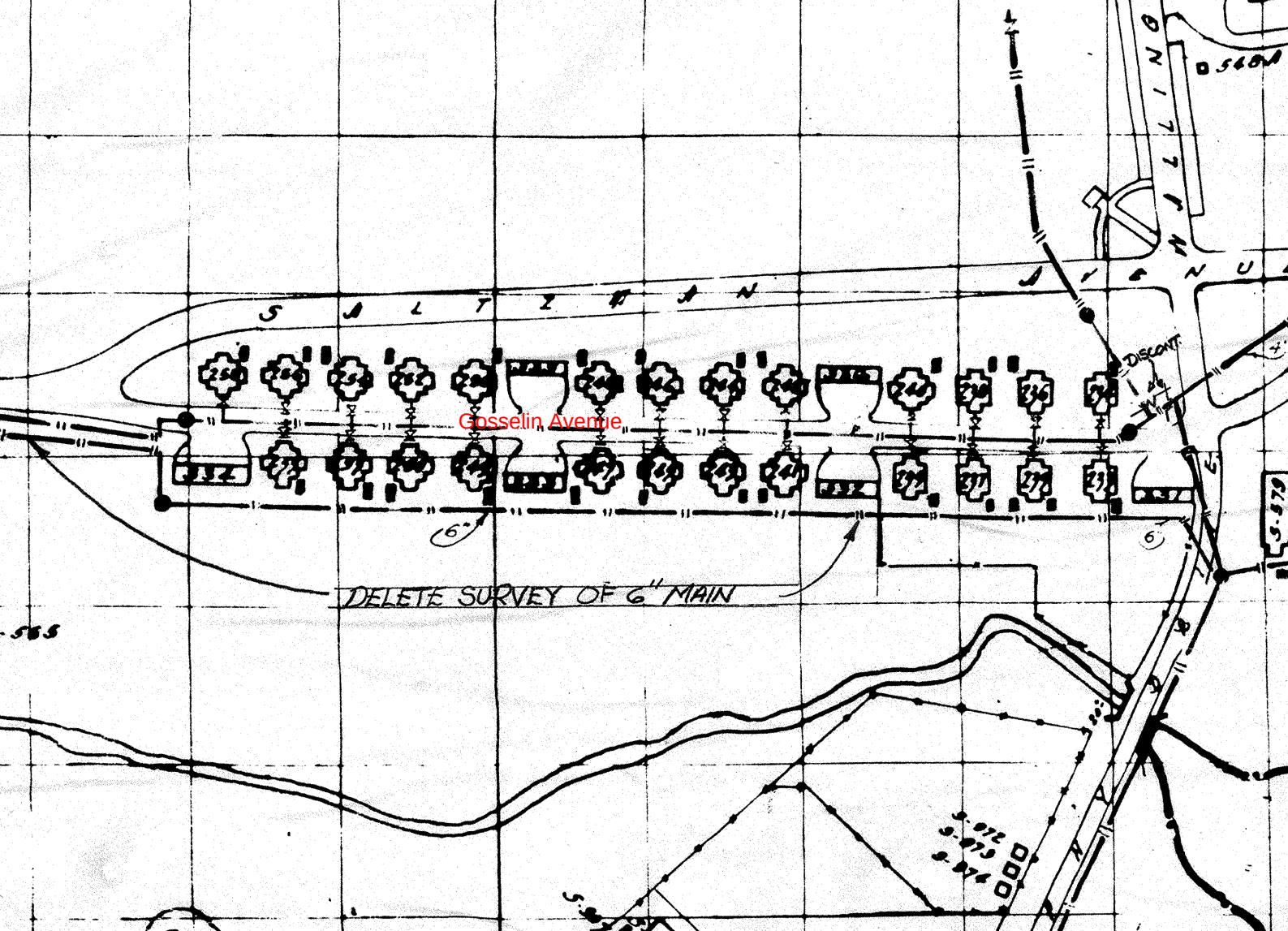
0 150 300 600 Feet

Legend

- Known Removed UST Events
- Reference Map Links
- Demolished Building
- Existing Building
- Roadway & Parking
- Water Body
- Post Boundaries

Map Created by:
Fort Monmouth Installation GIO, Environmental Division
Fort Monmouth, New Jersey
Date: August 10, 2011
All drawings must be field verified.
New Jersey State Plane Feet, NAD83





ATTACHMENT C

Summary Table of Parcel 72 Underground Storage Tanks

Table 1
Summary of Parcel 72 UHOTs

Site Name	Residential?	Registration ID	DICAR	Tank Size and Type	Product	Comments on Current or Requested NJDEP Status
Russel Avenue						
211	YES	81533-9	None	2,000 gallon fiberglass	#2 FUEL OIL	Groundwater exceedances reported in 2016 data; see review summary
212	YES	81533-10	None	2,000 gallon fiberglass	#2 FUEL OIL	Collected soil and groundwater samples in 2016; submit review summary and data, and request NFA
213	YES	81533-11	None	2,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
214	YES	81533-12	None	2,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
219	YES	81533-13	None	2,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
220B	YES	81533-14	None	2,000 gallon; fiberglass?	#2 FUEL OIL	Collected groundwater sample in 2016; submit review summary and data, and request NFA
222	YES	81533-15	None	2,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
223	NO	81533-16	None	2,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
Allen Avenue						
225	YES	81533-17	None	2,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
226	YES	81533-18	None	2,000 gallon fiberglass	#2 FUEL OIL	Collected groundwater sample in 2016; submit review summary and data, and request NFA
227	YES	81533-19	None	2,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
228	YES	81533-20	None	2,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
228 B	YES	None	None	1,000 gallon steel	#2 FUEL OIL	Steel tank confirmed present. Collected soil and groundwater samples in 2016; submit review summary and data, and request NFA
Gosselin Avenue						
233	YES	81533-21	None	1,000 gallon fiberglass	#2 FUEL OIL	NFA approved per 1/10/2003 NJDEP letter
234	YES	81533-22	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
235	YES	81533-23	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
236	YES	81533-24	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
237	YES	81533-25	None	1,000 gallon fiberglass	#2 FUEL OIL	NFA approved per 1/10/2003 NJDEP letter
238	YES	81533-26	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
239	YES	81533-27	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
240	YES	81533-28	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
241	YES	81533-29	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
242	YES	81533-30	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
243	YES	81533-31	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
244	YES	81533-32	None	1,000 gallon fiberglass	#2 FUEL OIL	Same as UST 246; NFA approved

Table 1
Summary of Parcel 72 UHOTs

Site Name	Residential?	Registration ID	DICAR	Tank Size and Type	Product	Comments on Current or Requested NJDEP Status
245	YES	81533-33	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
246	YES	None	98-10-20-1459-24	2,000 gallon steel	#2 FUEL OIL	NFA approved per 1/10/2003 NJDEP letter
247	YES	81533-34	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
248	YES	81533-35	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
249	YES	81533-36	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
250	YES	81533-37	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
251	YES	81533-38	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
252	YES	81533-39	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
253	YES	81533-40	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
254	YES	81533-41	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
255	YES	81533-42	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
256	YES	81533-43	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA
258	YES	81533-44	None	1,000 gallon fiberglass	#2 FUEL OIL	Submit review summary and data, and request NFA

ATTACHMENT D

Parcel 72 Select UHOTs Investigation Results

Contents:

- Summary Narrative
- Enclosure 1 – Figures: Sample Locations and Exceedances
- Enclosure 2 – Tables: Soil and Groundwater Analytical Results
- Enclosure 3 – Field Notes
- Enclosure 4 – Boring Logs
- Enclosure 5 – Analytical Data

Summary Narrative for Parcel 72 Select Unregulated Heating Oil Tanks (UHOTs) Investigation Results, Fort Monmouth, NJ

Enclosures:

- D.1 Figure: Sample Locations and Exceedances for Parcel 72
- D.2 Tables: Soil and Groundwater Analytical Results
- D.3 Field Notes
- D.4 Boring Logs
- D.5 Analytical Data

Previous Correspondence (provided in Attachment A):

1. Army letter to NJDEP dated 1 July 2016, re: *Parcel 72 Select Unregulated Heating Oil Tanks (UHOTs) Work Plan Addendum, Fort Monmouth, New Jersey*.
2. NJDEP letter to the Army dated 12 July 2016, re: *Parcel 72 Select Unregulated Heating Oil Tanks (UHOTs) Work Plan Addendum*.

The U.S. Army Fort Monmouth (FTMM) has prepared this report to present the results of additional field sampling and analyses of soil and groundwater performed at five former Underground Storage Tanks (USTs) within Environmental Condition of Property (ECP) Parcel 72: UST 211, UST 212, UST 220B, UST 226, and UST 228B. These USTs were identified as requiring additional data, as described in the Work Plan Addendum (Correspondence 1) which was approved by the New Jersey Department of Environmental Protection (Correspondence 2).

One temporary groundwater monitoring well was installed with a Geoprobe[®] rig within 10 feet of each of the former USTs. A groundwater sample was collected from each well to determine if a fuel oil release had impacted groundwater. The groundwater samples were analyzed for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) plus tentatively identified compounds (TICs), in accordance with the analytical requirements for a petroleum storage area containing No. 2 fuel oil (Table 2-1 of the New Jersey Administrative Code (NJAC) 7:26E Technical Requirements for Site Remediation). Soil samples were also collected from borings advanced with a Geoprobe[®] rig at former USTs 212 and 228B to assess concentrations and vertical extent of extractable petroleum hydrocarbons (EPH) in soil. Select soil samples were also analyzed for two SVOCs (naphthalene and 2-methylnaphthalene).

The locations of the field samples are presented in **Enclosure D.1** and a summary of the analytical results and exceedances of applicable NJDEP criteria is provided in **Enclosure D.2**. Field sampling was completed on 9 and 10 August 2016; field notes are provided in **Enclosure D.3** and boring logs are provided in **Enclosure D.4**. The field crew observed that the groundwater level was routinely difficult to determine by observation during drilling at Parcel 72, due to tight soils and potential perched water layers. Therefore groundwater levels were measured within the temporary wells with a water level probe after installation. The samples were analyzed by ALS Environmental; analytical data packages are provided in **Enclosure D.5**.

The results of the sampling and analyses are provided below for each of the five UST sites. The UST numbers correspond to the building numbers shown on Figure 1 (**Enclosure D.1**).

UST 211 at Building 211, 4 and 6 Russel Avenue

UST 211 was a residential fuel oil tank that was removed in 2001 as described in **Attachment F.1**. A single temporary well PAR-72-211-TMW-01 was installed, sampled, and subsequently abandoned at the former location of UST 211 (**Enclosure D.1**). Groundwater was encountered at approximately 11 feet below ground surface (bgs) (see **Enclosure D.3**) and petroleum odor and elevated photoionization detector (PID) readings were encountered at approximately 7 to 13 feet bgs (**Enclosure D.4**). As shown on Table 2 of **Enclosure D.2**, the following VOC and SVOC analytes in groundwater exceeded the NJDEP Ground Water Quality Criteria (GWQC): 1,2,4-trimethylbenzene, benzene, naphthalene, 2-methylnaphthalene, dibenzofuran, fluorene, phenanthrene, and TICs. The results of the groundwater analyses at former UST 211 are consistent with a fuel oil release to groundwater.

UST 212 at Building 212, 8 and 10 Russel Avenue

UST 212 was a residential fuel oil tank that was removed in 2001 as described in **Attachment F.2**. Closure soil samples were also collected and analyzed in 2001, but the analytical data package was missing; therefore, two soil borings were sampled in accordance with New Jersey Department of Environmental Protection (NJDEP) comments on the Work Plan Addendum (Correspondence 2). Soil samples from borings PAR-72-212-SB-01 and PAR-72-212-SB-02 were collected from 5.0 to 5.5 feet bgs and from 11.5 to 12 feet bgs and analyzed for EPH. The maximum detected EPH in these soil samples (see Table 1 of **Enclosure D.2**) was 8.3 J (“J” signifies an estimated detected value) milligrams per kilogram (mg/kg), which is well below the 5,100 mg/kg remediation criterion for No. 2 fuel oil in soil. SVOCs were also analyzed in these soil samples, and all detected analytes (see Table 1 of **Enclosure D.2**) were below the respective Residential Direct Contact Soil Remediation Standard (RDCSRS) and the Impact to Ground Water (IGW) Screening Levels.

A single temporary well PAR-72-212-TMW-01 was installed, sampled, and subsequently abandoned at the former location of UST 212 (**Enclosure D.1**). Groundwater was encountered at approximately 12 feet bgs (**Enclosure D.3**) and there were no unusual odors or elevated PID readings encountered in the boring (**Enclosure D.4**). As shown on Table 2 of **Enclosure D.2**, the three groundwater SVOC analytes benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene slightly exceeded the GWQC. However, these detections were estimated (“J” flagged) due to the low concentrations encountered and therefore were considered *de minimis* detections that were too minor to merit additional investigation. These analytes are polycyclic aromatic hydrocarbons (PAHs) that have been encountered at other FTMM locations within surficial soils and fill. Therefore these groundwater exceedances may have resulted from entrainment of soil from other anthropogenic, non-UST related sources (such as surficial soils or fill) resulting from sample turbidity, which is common with temporary well groundwater samples. In addition, there were no detections of naphthalene or 2-methylnaphthalene in this groundwater sample, which would be more indicative of a fuel oil release. Finally, the soil sample results for UST 212 did not exceed IGW Screening Levels, which indicates that the soils do not present a significant potential for groundwater contamination. In summary, the results of the investigation at former UST 212 indicate there has not been a release of fuel oil to soil or groundwater.

UST 220B at Building 220, 32 and 34 Russel Avenue

UST 220B was a residential fuel oil tank that was removed in 2001 as described in **Attachment F.6**. In response to NJDEP's question in Correspondence 2, this tank is the same as UST-220-14 as referenced in the 2007 ECP Report (U.S. Army, 2007). A single temporary well PAR-72-220-TMW-01 was installed, sampled, and subsequently abandoned at the former location of UST 220B (**Enclosure D.1**). Groundwater was encountered at approximately 13.5 feet bgs (see **Enclosure D.3**), and there were no unusual odors or elevated PID readings encountered in the boring (**Enclosure D.4**). As shown on Table 2 of **Enclosure D.2**, the SVOC benzo(a)anthracene slightly exceeded the GWQC. However, this detection was estimated ("J" flagged) due to the low concentrations encountered, and therefore were considered a *de minimis* detection that was too minor to merit additional investigation. This analyte is a PAH that has been encountered at other FTMM locations within surficial soils and fill. Therefore this groundwater exceedance may have resulted from entrainment of soil from other anthropogenic, non-UST related sources (such as surficial soils or fill) resulting from sample turbidity, which is common with temporary well groundwater samples. In addition, naphthalene was not detected and only a very low concentration of 2-methylnaphthalene was detected in this groundwater sample; higher concentrations of these analytes would be expected if a fuel oil release had occurred. In summary, the results of the investigation at former UST 220B indicate there has not been a release of fuel oil to groundwater.

UST 226 at Building 226, 9 and 11 Allen Avenue

UST 226 was a residential fuel oil tank that was removed in 2001 as described in **Attachment G.2**. A single temporary well PAR-72-226-TMW-01 was installed, sampled, and subsequently abandoned at the former location of UST 226 (**Enclosure D.1**). Groundwater was encountered at approximately 13 feet bgs (**Enclosure D.3**), and there were no unusual odors or elevated PID readings encountered in the boring (**Enclosure D.4**). As shown on Table 2 of **Enclosure D.2**, there were no exceedances of the GWQC in this groundwater sample. Therefore the results of the investigation at former UST 220B indicate there has not been a release of fuel oil to groundwater.

UST 228B at Building 228, 1 and 3 Allen Avenue

UST 228B is a steel residential fuel oil tank that was discovered in 2010 but remains in place. In response to NJDEP's question in Correspondence 2, this tank is not the same as UST-228-20 as referenced in the 2007 ECP Report (U.S. Army, 2007). UST 228-20 (registration ID 81533-20) was a fiberglass fuel oil tank removed from the Building 228 area in 2000, as described in **Attachment G.4**. There is no registration ID for the existing steel tank that has been designated as UST 228B. UST 228B is empty based on the 2010 observations. Additional sampling was conducted in August 2016 to determine if a release had occurred from UST 228B.

Three soil borings were sampled in response to NJDEP comments on the Work Plan Addendum (Correspondence 2). Due to safety and logistical concerns, the borings were not advanced through the bottom of the tank, but rather were placed as close to the tank as reasonably possible (approximately 24 inches from the tank). Soil samples were collected from the following borings and sample intervals, and analyzed for EPH:

- Boring PAR-72-228-SB-01 was sampled from 5.0 to 5.5 feet bgs and 8.5 to 9.0 feet bgs;
- Boring PAR-72-228-SB-02 was sampled from 10.5 to 11.0 feet bgs and 12.0 to 12.5 feet bgs; and
- Boring PAR-72-228-SB-03 was sampled from 6.5 to 7.0 feet bgs and 7.0 to 7.5 feet bgs.

Groundwater was encountered at approximately 12 feet bgs (**Enclosure D.3**), and there were elevated PID readings encountered in two of the three borings (**Enclosure D.4**). As shown on Table 1 of **Enclosure D.2**, a Total EPH concentration of 3,100 mg/kg was reported in one soil sample (from the 7 to 7.5 ft bgs interval of boring PAR-72-228-SB-03). As the result of exceeding the contingency analysis threshold of 1,000 mg/kg (NJDEP, 2010), this sample was also analyzed for naphthalene and 2-methylnaphthalene. The 2-methylnaphthalene concentration of 23.9 mg/kg in this sample exceeded the NJDEP IGW screening level, but did not exceed the RDCSRS. Synthetic Precipitation Leachate Procedure (SPLP) analysis of this soil sample was not performed.

A single temporary well (PAR-72-228-TMW-01) was installed in boring PAR-72-228-SB-01, sampled, and subsequently abandoned at the location of UST 228B (**Enclosure D.1**). As shown on Table 2 of **Enclosure D.2**, there were no exceedances of the GWQC in this groundwater sample. Although 2-methylnaphthalene in soil exceeded the IGW Screening Level, 2-methylnaphthalene was notably absent in the temporary well groundwater sample.

The results of the investigation at former UST 228B indicate a release of fuel oil to soil that has not impacted groundwater. To address the 2-methylnaphthalene exceedance of the IGW Screening Level in soil, additional work would be needed which could include removal of the tank to address administrative closure, excavation of contaminated soil, or the performance of SPLP analyses.

In summary, this information supports a No Further Action (NFA) determination for UST 212, UST 220B, and UST 226. Additional work would be needed for NFA determinations to be made for UST 211 and UST 228B.

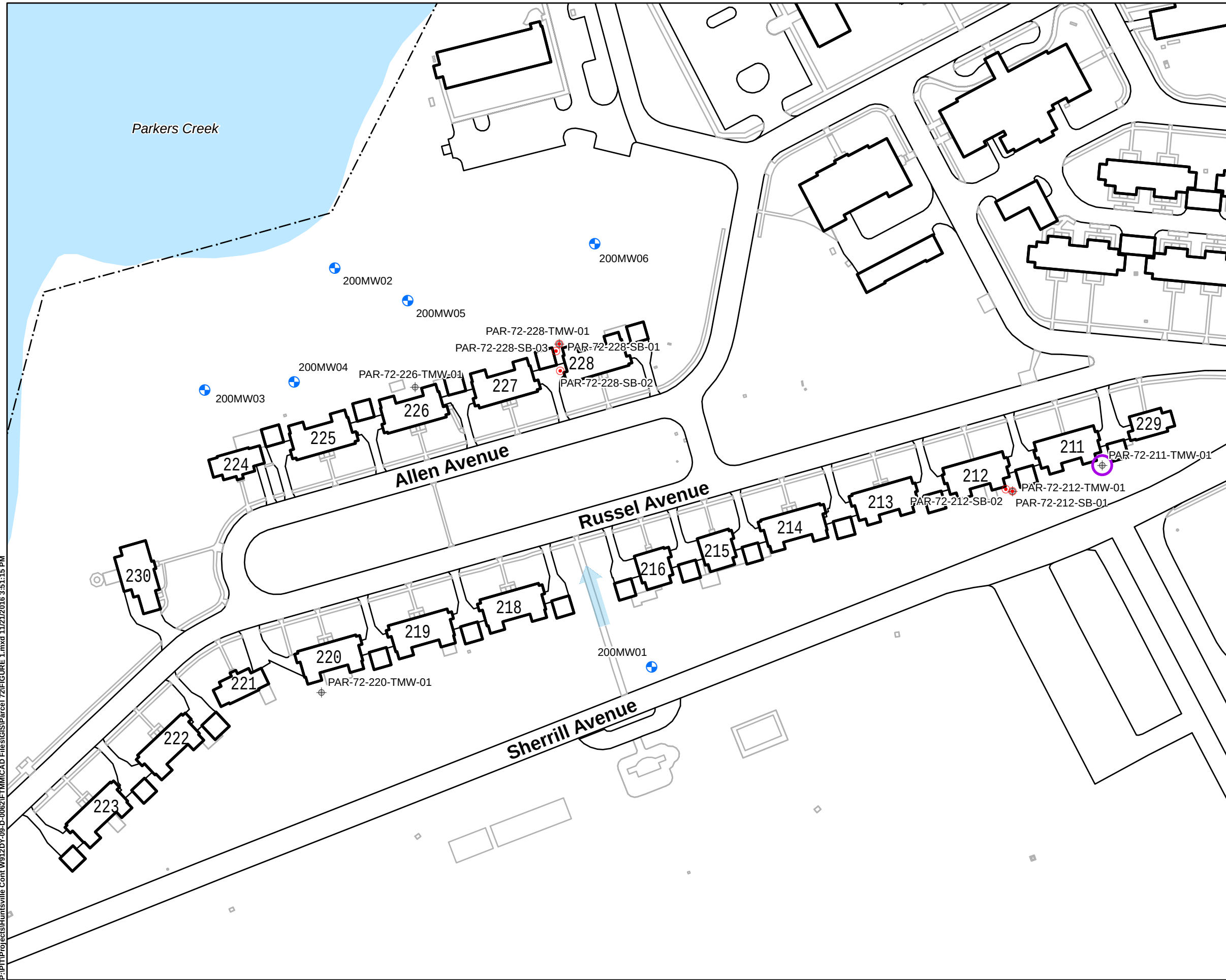
REFERENCES CITED

- NJDEP. 2010. *Protocol for Addressing Extractable Petroleum Hydrocarbons*. Site Remediation Program. Version 5.0. August 9.
- U.S. Army. 2007. *U.S. Army BRAC 2005 Environmental Condition of Property Report, Fort Monmouth, Monmouth County, New Jersey*. Final. January 29.

ENCLOSURE 1 of Attachment D

Figures: Sample Locations and Exceedances

P:\PTT\Projects\Huntsville Cont W912.DY-09-D-0062\FTMMCAD Files\GIS\Parcel 72\FIGURE 1.mxd 11/21/2016 3:51:15 PM

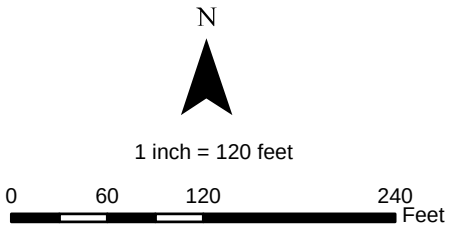


LEGEND:

- Soil Boring
- Temporary Monitoring Well
- Exceedance of Groundwater Quality Criteria
- Shallow Monitoring Well
- Installation Boundary
- Generalized Groundwater Flow Direction

NOTE:

- Steel tank UST228B was still present at Building 228.
- Field located final sample locations based on site features to sample within 10 feet of former or existing tanks.



Source: FTMM Supplied CAD, 2013.

PARSONS 401 Diamond Drive NW, Huntsville AL	Fort Monmouth New Jersey
SAMPLE LOCATIONS AND EXCEEDANCES FOR PARCEL 72	
CREATED BY: RR	REVIEWED BY: KF
DATE: NOV. 2016	FIGURE NUMBER: FIGURE 1
PROJECT NUMBER: 748810-01000	FILE: FIGURE 1.mxd

ENCLOSURE 2 of Attachment D

Tables: Soil and Groundwater Analytical Results

TABLE 1
DETECTED SOIL SAMPLING RESULTS AND COMPARISON TO NJ CRITERIA
SELECT PARCEL 72 UHOTS
FORT MONMOUTH, NEW JERSEY

Loc ID	NJ Residential Direct Contact SRS	NJ Non- Residential Direct Contact SRS	NJ Impact to GW Soil Screening Level	P72-BLG-212-SB-01			P72-BLG-212-SB-02	
Sample ID				PAR-72-212-SB-01-11-11.5	PAR-72-212-SB-01-5.5-5	PAR-72-212-SB-01-5-5.5	PAR-72-212-SB-02-11.5-12	PAR-72-212-SB-02-5-5.5
Sample Date				8/10/2016	8/10/2016	8/10/2016	8/10/2016	8/10/2016
Semivolatile Organic Compounds (mg/kg)								
2-Methylnaphthalene	230	2,400	8	< 0.074	NA	< 0.073	< 0.075	< 0.073
Naphthalene	6	17	25	< 0.074	NA	0.0074 J	< 0.075	< 0.073
Extractable/Volatile Petroleum Hydrocarbons (mg/kg)								
C10-C12 Aromatics	NLE	NLE	NLE	0.66 J	0.84 J	NA	1 J	0.84 J
C12-C16 Aliphatics	NLE	NLE	NLE	< 1.1 UJ	< 1.1 UJ	NA	< 1.2	< 1.1 UJ
C12-C16 Aromatics	NLE	NLE	NLE	0.25 J	0.32 J	NA	0.36 J	0.26 J
C16-C21 Aliphatics	NLE	NLE	NLE	< 1.1 UJ	0.52 J	NA	< 1.2	< 1.1 UJ
C16-C21 Aromatics	NLE	NLE	NLE	1.1 JB	1.4 B	NA	1.2 JB	1.1 JB
C21-C36 Aromatics	NLE	NLE	NLE	0.84 J	0.9 J	NA	0.71 J	0.44 J
C21-C40 Aliphatics	NLE	NLE	NLE	1.9 JB	2.2 JB	NA	3.9	0.73 JB
C9-C12 Aliphatics	NLE	NLE	NLE	0.42 J	0.63 J	NA	0.48 J	0.52 J
Total Aliphatics	NLE	NLE	NLE	2.9 J	3.6 J	NA	5	1.9 J
Total Aromatics	NLE	NLE	NLE	2.8 J	3.4 J	NA	3.3 J	2.6 J
Total EPH	5,100	54,000	NLE	5.7 J	7.1 J	NA	8.3 J	4.5 J
Wet Chemistry - Moisture								
Moisture (percent)	NLE	NLE	NLE	29.5	12	11.6	34	22.9
Percent Solids (percent)	NLE	NLE	NLE	170.5	88	88.4	166	177.1

TABLE 1
DETECTED SOIL SAMPLING RESULTS AND COMPARISON TO NJ CRITERIA
SELECT PARCEL 72 UHOTS
FORT MONMOUTH, NEW JERSEY

Loc ID	NJ Residential Direct Contact SRS	NJ Non- Residential Direct Contact SRS	NJ Impact to GW Soil Screening Level	P72-BLD-228-SB-01		P72-BLD-228-SB-02		P72-BLD-228-SB-03	
Sample ID				PAR-72-228-SB-01-5-5.5	PAR-72-228-SB-01-8.5-9	PAR-72-228-SB-02-10.5-11	PAR-72-228-SB-02-12-12.5	PAR-72-228-SB-03-6.5-7	PAR-72-228-SB-03-7-7.5
Sample Date				8/9/2016	8/9/2016	8/9/2016	8/9/2016	8/9/2016	8/9/2016
Semivolatile Organic Compounds (mg/kg)									
2-Methylnaphthalene	230	2,400	8	NA	NA	NA	NA	NA	23.9
Naphthalene	6	17	25	NA	NA	NA	NA	NA	3.8
Extractable/Volatile Petroleum Hydrocarbons (mg/kg)									
C10-C12 Aromatics	NLE	NLE	NLE	0.86 J	0.84 J	5.8	0.64 J	0.67 J	71
C12-C16 Aliphatics	NLE	NLE	NLE	< 1.1 UJ	< 1.2 UJ	75.7	12.2 J	15.8 J	829
C12-C16 Aromatics	NLE	NLE	NLE	0.35 J	0.28 J	34.3	1.6 J	4	409
C16-C21 Aliphatics	NLE	NLE	NLE	0.5 J	0.65 J	55.5	10.4 J	16.3 J	627
C16-C21 Aromatics	NLE	NLE	NLE	1.2 B	1.2 B	73.8	3.5 BJ	15.7	744
C21-C36 Aromatics	NLE	NLE	NLE	0.6 J	0.39 J	10.6	0.33 J	3.6	109
C21-C40 Aliphatics	NLE	NLE	NLE	0.97 JB	14.2 J	10.7 J	2.9 J	3.9 J	128
C9-C12 Aliphatics	NLE	NLE	NLE	0.52 J	0.52 J	17.7 J	2.7 J	2.3 J	180 J
Total Aliphatics	NLE	NLE	NLE	2.3 J	15.8 J	160	28.1 J	38.2 J	1,760
Total Aromatics	NLE	NLE	NLE	3 J	2.8 J	137	6.1 J	23.9	1,330
Total EPH	5,100	54,000	NLE	5.2 J	18.5	296	34.2 J	62.1	3,100
Wet Chemistry - Moisture									
Moisture (percent)	NLE	NLE	NLE	12.6	22	19.1	21.5	14.8	31.3
Percent Solids (percent)	NLE	NLE	NLE	87.4	78	80.9	78.5	85.2	168.7

Soil Results Footnotes:

- 1) mg/kg = milligrams per kilogram.
- 2) NA = not analyzed.
- 3) NLE = no limit established.
- 4) EPH = Extractable petroleum hydrocarbons.
- 5) **Bold** = chemical detection
- 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.	J = estimated detected value due to a concentration below the reporting limit or due to discrepancies in meeting certain analyte-specific quality control.
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.	E (or ER) = Estimated result.
R = Rejected, data validation rejected the results.	D = Results from dilution of sample.
U = non-detect, i.e. not detected at or above this value.	J-DL = Estimated detected value due to difficult sample matrix.
U-DL = Elevated sample detection limit due to difficult sample matrix.	JN = Tentatively identified compound, estimated concentration.
U-ND = Analyte not detected in sample, but no detection or reporting limit provided.	

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

a) 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.	####
- 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.	###

10) Criteria action level source document and web address.

- The NJ Residential Direct Contact Soil Remediation Standard refers to the NJDEP's May 7, 2012 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 May 7, 2012 Remediation Standards.
http://www.nj.gov/dep/rules/rules/njac7_26d.pdf
- The standards for EPH refers to the NJDEP's August 9, 2010 guidance entitled Protocol for Addressing Extractable Petroleum Hydrocarbons (Version 5.0).
- 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

TABLE 2
DETECTED GROUNDWATER RESULTS AND COMPARISON TO NJ CRITERIA
SELECT PARCEL 72 UHOTS
FORT MONMOUTH, NEW JERSEY

Loc ID	NJ Ground Water Quality Criteria	P72-BLD-211-TMW-01	P72-BLD-212-TMW-01	P72-BLD-220-TMW-01	P72-BLD-226-TMW-01	P72-BLD-228-TMW-01
Sample ID		PAR-72-211-TMW-01	PAR-72-212-TMW-01	PAR-72-220-TMW-01	PAR-72-226-TMW-01	PAR-72-228-TMW-01
Sample Date		8/10/2016	8/10/2016	8/10/2016	8/10/2016	8/10/2016
Sample Round						
Filtered		Total	Total	Total	Total	Total
Volatile Organic Compounds (µg/l)						
1,2,4-Trimethylbenzene	100	543 J	< 0.75	< 0.75	< 0.75	< 0.75
1,3,5-Trimethylbenzene	100	81.4	< 0.75	< 0.75	< 0.75	< 0.75
Acetone	6,000	< 3.8	< 3.8	7.6 B	5.1 B	8 B
Benzene	1	2.8	< 0.75	< 0.75	< 0.75	< 0.75
Cymene	100	16.9	< 0.75	< 0.75	< 0.75	< 0.75
Ethyl benzene	700	92.4	< 0.75	< 0.75	< 0.75	< 0.75
Isopropylbenzene	700	29.3	< 0.75	< 0.75	< 0.75	< 0.75
Meta/Para Xylene	1,000	118	< 1.5	< 1.5	< 1.5	< 1.5
Methyl ethyl ketone	300	2.9 J	< 3.8	< 3.8	< 3.8	< 3.8
Naphthalene	300	862 J	< 0.75	< 0.75	0.44 J	< 0.75
n-Butylbenzene	100	26.1	< 0.75	< 0.75	< 0.75	< 0.75
Ortho Xylene	1,000	39.1	< 0.75	< 0.75	< 0.75	< 0.75
Propylbenzene	100	48.4	< 0.75	< 0.75	< 0.75	< 0.75
sec-Butylbenzene	100	25	< 0.75	< 0.75	< 0.75	< 0.75
Toluene	600	2.1	< 0.75	< 0.75	< 0.75	< 0.75
TIC VOCs (µg/l)						
Total TICs, Volatile	500	1302.4 JN	0	0	0	0
Semivolatile Organic Compounds (µg/l)						
2-Methylnaphthalene	30	6,680	< 0.93	0.16 J	< 1.1	< 1
Acenaphthylene	100	< 19.2	< 0.93	0.3 J	< 1.1	< 1
Anthracene	2,000	195	0.15 J	< 0.93	< 1.1	0.22 J
Benzo(a)anthracene	0.1	< 19.2	0.41 J	0.29 J	< 1.1	< 1
Benzo(a)pyrene	0.1	< 19.2	0.26 J	< 0.93	< 1.1	< 1
Benzo(b)fluoranthene	0.2	< 19.2	0.33 J	0.17 J	< 1.1	< 1
Benzyl alcohol	2,000	< 38.5	< 1.9	0.22 J	< 2.1	< 2
Bis(2-Ethylhexyl)phthalate	3	< 19.2	< 0.93	0.73 J	< 1.1	< 1
Chrysene	5	< 19.2	0.33 J	0.19 J	< 1.1	< 1
Dibenzofuran	100	247	< 0.93	< 0.93	< 1.1	0.16 J
Diethyl phthalate	6,000	< 19.2	< 0.93	< 0.93	1.5 J	0.22 J
Di-n-butylphthalate	700	< 19.2	0.21 J	0.35 J	< 1.1	< 1
Fluoranthene	300	< 19.2	0.73 J	0.26 J	< 1.1	< 1
Fluorene	300	663	< 0.93	0.19 J	< 1.1	0.21 J
Indeno(1,2,3-cd)pyrene	0.2	< 19.2	< 0.93	0.093 J	< 1.1	< 1
Naphthalene	300	1,450	< 0.93	< 0.93	< 1.1	< 1
Phenanthrene	100	1,740	0.45 J	0.46 J	< 1.1	0.29 J
Pyrene	200	185	0.65 J	0.39 J	< 1.1	0.17 J
TIC SVOCs (µg/l)						
Total TICs, Semi-Volatile	500	14322 JN	98.9 JN	187.7 JN	25.2 JN	50.1 JN

Groundwater results Footnotes:

- 1) ug/l = micrograms per liter.
- 2) TICs - tentatively identified compounds.
- 3) NLE = no limit established.
- 4) Not used.
- 5) **Bold** = chemical detection
- 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.	J = estimated detected value due to a concentration below the reporting limit or due to discrepancies in meeting certain analyte-specific quality control.
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.	E (or ER) = Estimated result.
R = Rejected, data validation rejected the results.	D = Results from dilution of sample.
U = non-detect, i.e. not detected at or above this value.	J-DL = Estimated detected value due to difficult sample matrix.
U-DL = Elevated sample detection limit due to difficult sample matrix.	JN = Tentatively identified compound, estimated concentration.
U-ND = Analyte not detected in sample, but no detection or reporting limit provided.	

8) Not used.

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 Ground Water Quality Criteria

####

NJDEP Interim Specific GWQC values are presented for the NJ GWQS where there is not a Specific Ground Water Quality Criteria. A full list of compounds is available at (http://www.nj.gov/dep/wms/bwqsa/gwqs_interim_criteria_table.htm).

NJDEP Interim Generic GWQC values are presented for the NJ GWQS where there is not a GWQC or a NJDEP Interim Specific GWQC. Available at (http://www.nj.gov/dep/wms/bwqsa/gwqs_interim_criteria_table.htm).

10) Criteria action level source document and web address.

- The NJ Ground Water Quality Criteria refers to the NJDEP Groundwater Quality Standards - Adopted July 22, 2010

<http://www.state.nj.us/dep/wms/bwqsa/docs/njac79C.pdf>

ENCLOSURE 3 of Attachment D

Field Notes

Aug 9 2016

Tech: C. Watson, S. Perlickar, ECOI (2), F. Access:

TASK: SB's + TMW's @ 72

Wentw' 780ft clear

0720: on-site

0725: Begin COC's

0746: H&B tailgate

0800: Begin sample prep aa/oc

0840: Mob to 72 (ECOI/i. watson)

0915: Mob to 228 AREA

0926: FRANK confirms mark out locations,

0930: Begin Drilling 228-SB-03

1030: Sample 228-SB-03-6.5-7

1040: Sample 228-SB-03-7-7.5

1045: Begin Drilling @ 228-SB-01

1100: 1st Sample 228-SB-01-5.0-5.5

1115: Sample 228-SB-01-8.5-9

1130: install TMW-01 @ 228-SB-01

1140: Attempt 228-SB-02 and hit refusal,

Rig needs to be moved to opposite side of fence around buildings - will attempt after TMW-01 @ 226-TMW-01

1200: Drilling @ 226-TMW-01

1235: install 226-TMW-01

1250: Lunch

1300: Mob Rig around buildings to new 228-SB-02 location

1345: Begin drilling 228-SB-02

1430: Sample 10.5-11.0 PAR-72-228-SB-02-10.5-11

1440: Sample PAR-72-228-SB-02-12-12.5

1440: Begin drilling @ 226-TMW-01

1525: install 226-TMW-01

1530: Sameera to office to begin COC's

1545: C. Watson + ECOI clean up + Demo's

1600: CW Back to office - want to make

note that water level was routinely

difficult to determine in parcel 72 -

Soil also very tight with layers of

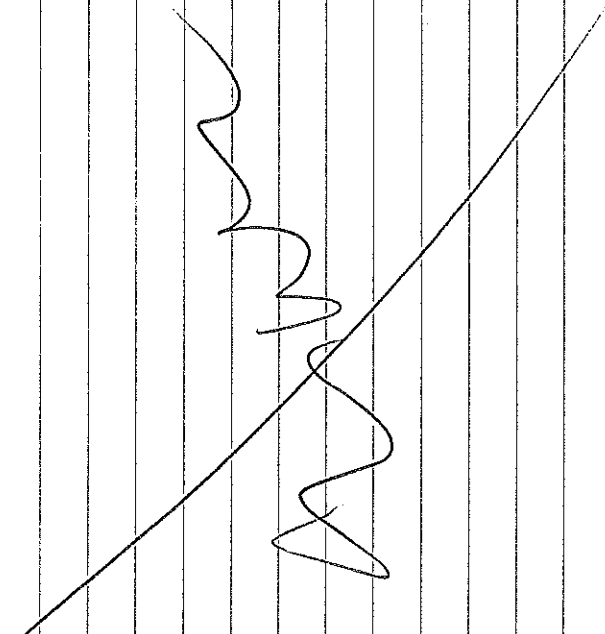
packed water, will gauge all wells in

AM.

1605: Place COC's + DRR on FRANKS Desk

to be scanned, Plug in P.I.D, Cool samples

1625: off-site



Tech: C. Watson, S. Pralder, ECOI(2) AUG 10 2016

TASK: P72 Soil & water sampling

Weather: 82°F D.C. - storms all day

10725: on-site

0735: H+S tailgate

0800: Mob to 722 AREA - S. Pralder to

sample temp wells

SAMPLE ID	Time	DTW	Analysis
PAR-72-228-TMW-01	0835	12.40	VOC/SVOC
PAR-72-226-TMW-01	0900	13.25	
PAR-72-220-TMW-01	0955	13.47	

0925: Sample PAR-72-212-SB-01-5-5.5 ^{EPA} _{SVOC}

0935: Sample PAR-72-212-SB-01-11-11.5 ^{EPA} _{SVOC}

1000: Sample PAR-72-212-SB-02-5-5.5

1015: Sample PAR-72-212-SB-02-11.5-12

1045: Install ~~temp~~ PAR-72-211-TMW01

PAR-212-TMW01 installed @ 0950

1125: Sample PAR-72-212-TMW-01 DTW: 12.02

1200: Sample PAR-72-211-TMW-01 DTW: 11.25

1210: Mob to parcel 49

1225: Lunch

1245: Begin Drilling

1255: Lunch

1300: Sample PAR-72-211-TMW-01 DTW: 11.25

1310: Sample PAR-72-211-TMW-01 DTW: 11.25

1320: Sample PAR-72-211-TMW-01 DTW: 11.25

1330: Sample PAR-72-211-TMW-01 DTW: 11.25

1340: Sample PAR-72-211-TMW-01 DTW: 11.25

1350: Sample PAR-72-211-TMW-01 DTW: 11.25

1400: Sample PAR-72-211-TMW-01 DTW: 11.25

1415: Sample PAR-72-211-TMW-01 DTW: 11.25

1430: Sample PAR-72-211-TMW-01 DTW: 11.25

1445: Sample PAR-72-211-TMW-01 DTW: 11.25

1460: Sample PAR-72-211-TMW-01 DTW: 11.25

1475: Sample PAR-72-211-TMW-01 DTW: 11.25

SAMPLE ID	Time	Analysis
PAR-49-SB-17-0.5-1	1345	PAH
2.5-3	1350	
4.5-5	1355	
PAR-49-SB-15-0.5-1	1415	
2.5-3	1425	
4.5-5	1435	
PAR-49-SB-13-0.5-1	1440	
2.5-3	1450	
4.5-5	1500	

1500 Mob to office

1530 collect ~~fatig~~ collect GB

1545 complete COCS, DCQR, prep samples

1630: Offsite

[Signature]

ENCLOSURE 4 of Attachment D

Boring Logs

PARCEL 72 SAMPLE LOCATIONS

LocID	Y coordinate (Northing)	X coordinate (Easting)
PAR-72-211-TMW-01	540978.01	620944.35
PAR-72-212-TMW-01	540945.82	620833.94
PAR-72-212-SB-01	540945.82	620833.94
PAR-72-212-SB-02	540948.22	620825.91
PAR-72-220-TMW-01	540698.81	619983.67
PAR-72-226-TMW-01	541074.1	620098.88
PAR-72-228-TMW-01	541126.77	620276.24
PAR-72-228-SB-01	541126.77	620276.24
PAR-72-228-SB-02	541094.14	620277.52
PAR-72-228-SB-03	541118.37	620272.36

Soil Boring Log

CLIENT: USACE					INSPECTOR: <u>O. Watson</u>		BORING/WELL ID: <u>PA-7D-211-TM001</u>	
PROJECT NAME: FTMM - ECP					DRILLER: <u>J. BOENAK</u>		LOCATION DESCRIPTION	
PROJECT LOCATION: FTMM Parcel					WEATHER: <u>80°F</u>			
PROJECT NUMBER: 748810-					CONTRACTOR: East Coast Drilling, Inc. (ECDI)			
GROUNDWATER OBSERVATIONS					RIG TYPE: <u>Geoprobe(R) 7822DT</u>		LOCATION PLAN	
WATER LEVEL: <u>~12</u>					DATE/TIME START: <u>8/10/16</u> <u>1020</u>		Oceanport, New Jersey	
DATE: <u>8/10/16</u>					DATE/TIME FINISH: <u>8/10/16</u> <u>1035</u>			
TIME:					WEIGHT OF HAMMER: <u>N/A</u>			
MEAS. FROM:					DROP OF HAMMER: <u>N/A</u>			
TYPE OF HAMMER: <u>N/A</u>								
DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS	
0				0	0-36" moist, m. dense Brown mf SAND, trace silt			
1					36"-44" moist, dense, Brown mf SAND, little silt			
2					44"-49" moist, dense, grey mf SAND, little silt			
3								
4								
5		60/46		0	0-17" SAA			
				0	17-19" crushed Rock			
6				0	19"-39" grey, moist, mf, m. dense SAND, some silt, odor			
7				19.1				
				6.0				
8				1.2	39"-46" moist, grey/accrue mf mottled SAND, some silt			
				22.6				
9				NR				
				NR				
10								

Remarks:

Sample Types

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

Consistency vs. Blowcount / Foot

Granular (Sand & Gravel)

V. Loose: 0-4 Dense: 30-50
 Loose: 4-10 V. Dense: >50
 M. Dense: 10-30

Fine Grained (Silt & Clay)

V. Soft: <2 Stiff: 8-15
 Soft: 2-4 V. Stiff: 15-30
 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: <u>USACE</u> PROJECT NAME: <u>FTMM - ECP</u> PROJECT LOCATION: <u>FTMM Parcel</u> PROJECT NUMBER: <u>748810-</u>					INSPECTOR: _____ DRILLER: _____ WEATHER: _____ CONTRACTOR: <u>East Coast Drilling, Inc. (ECDI)</u> RIG TYPE: <u>Geoprobe (R) 7822DT</u> DATE/TIME START: _____ DATE/TIME FINISH: _____ WEIGHT OF HAMMER: <u>N/A</u> DROP OF HAMMER: <u>N/A</u> TYPE OF HAMMER: <u>N/A</u>		BORING/WELL ID: <u>72-211-TMWO1</u> LOCATION DESCRIPTION: _____ LOCATION PLAN: _____ Oceanport, New Jersey																		
GROUNDWATER OBSERVATIONS WATER LEVEL: <u>~12</u> DATE: _____ TIME: _____ MEAS. FROM: _____																									
DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS																		
0				1.6	0-28" SAA, saturated																				
				12.2	24"																				
1				222	28"-45" saturated, m. dense																				
				117	grey, MC SAND, little																				
2				404	f gravel, trace silt,																				
				399	odor																				
3				12.2																					
				8.1	45"-60" saturated, m. dense																				
4				0	orange/grey/brown, mF																				
				0	mottled SAND, little																				
					silt, trace gravel																				
5																									
6																									
7																									
8																									
9																									
10																									
Remarks:																									
Sample Types S - Split-Spoon U - Undisturbed Tube C - Rock Core A - Auger Cuttings					Consistency vs. Blowcount / Foot <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2">Granular (Sand & Gravel)</th> <th colspan="2">Fine Grained (Silt & Clay)</th> </tr> <tr> <td>V. Loose: 0-4</td> <td>Dense: 30-50</td> <td>V. Soft: <2</td> <td>Stiff: 8-15</td> </tr> <tr> <td>Loose: 4-10</td> <td>V. Dense: >50</td> <td>Soft: 2-4</td> <td>V. Stiff: 15-30</td> </tr> <tr> <td>M. Dense: 10-30</td> <td></td> <td>M. Stiff: 4-8</td> <td>Hard: > 30</td> </tr> </table>			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	
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																						

Soil Boring Log

CLIENT: USACE					INSPECTOR: C. WATSON		BORING/WELL ID: PAR-72-212-SB-01	
PROJECT NAME: FTMM - ECP					DRILLER: J. BARNIAK		LOCATION DESCRIPTION	
PROJECT LOCATION: FTMM Parcel					WEATHER: 84°F D.C.		72-212	
PROJECT NUMBER: 748810-					CONTRACTOR: East Coast Drilling, Inc. (ECDI)			
GROUNDWATER OBSERVATIONS					RIG TYPE: Geoprobe(R) 7822DT		LOCATION PLAN	
WATER LEVEL: _____					DATE/TIME START: 0855 8/10/16		Oceanport, New Jersey	
DATE: _____					DATE/TIME FINISH: 0910 8/10/16			
TIME: _____					WEIGHT OF HAMMER: N/A			
MEAS. FROM: _____					DROP OF HAMMER: N/A			
					TYPE OF HAMMER: N/A			
DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS	
0			60/57	0	0-26" Dry, loose, Brown, mf SAND, trace silt			
1					26"-57" Dry, m. dense, orange/brown, mf SAND, trace silt			
2								
3								
4								
5			60/51	0	0-20" SAA			
6					20"-51" moist, m. dense, molthy brown w/ orange w/ grey mottling, mf SAND, little silt			
7								
8								
9								
10								
Remarks:								
Sample Types					Consistency vs. Blowcount / Foot			
S -- Split-Spoon					Granular (Sand & Gravel)			
U -- Undisturbed Tube					Fine Grained (Silt & Clay)			
C -- Rock Core					V. Loose: 0-4 Dense: 30-50 V. Soft: <2 Stiff: 8-15			
A -- Auger Cuttings					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: <u>USACE</u> PROJECT NAME: <u>FTMM - ECP</u> PROJECT LOCATION: <u>FTMM Parcel</u> PROJECT NUMBER: <u>748810-</u>					INSPECTOR: _____ DRILLER: _____ WEATHER: _____ CONTRACTOR: <u>East Coast Drilling, Inc. (ECD)</u> RIG TYPE: <u>Geoprobe(R) 7822DT</u> DATE/TIME START: _____ DATE/TIME FINISH: _____ WEIGHT OF HAMMER: <u>N/A</u> DROP OF HAMMER: <u>N/A</u> TYPE OF HAMMER: <u>N/A</u>		BORING/WELL ID: <u>212-SB-01</u> LOCATION DESCRIPTION: _____ LOCATION PLAN: _____ Oceanport, New Jersey																		
GROUNDWATER OBSERVATIONS WATER LEVEL: _____ DATE: _____ TIME: _____ MEAS. FROM: _____																									
DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS																		
0			60/47	0	0-19" SAA																				
1					19"-31" Saturated, m. Dense, Brown/orange/gray, mf mottled SAND, some silt																				
2																									
3					31"-47" Saturated, m. Dense, Brown/orange/gray, mf mottled SAND, trace silt																				
4																									
5																									
6																									
7																									
8																									
9																									
10																									
Remarks:																									
Sample Types S - Split-Spoon U - Undisturbed Tube C - Rock Core A - Auger Cuttings					Consistency vs. Blowcount / Foot <table border="1" style="width:100%; border-collapse: collapse; font-size: small;"> <tr> <th colspan="2">Granular (Sand & Gravel)</th> <th colspan="2">Fine Grained (Silt & Clay)</th> </tr> <tr> <td>V. Loose: 0-4</td> <td>Dense: 30-50</td> <td>V. Soft: <2</td> <td>Stiff: 8-15</td> </tr> <tr> <td>Loose: 4-10</td> <td>V. Dense: >50</td> <td>Soft: 2-4</td> <td>V. Stiff: 15-30</td> </tr> <tr> <td>M. Dense: 10-30</td> <td></td> <td>M. Stiff: 4-8</td> <td>Hard: >30</td> </tr> </table>			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	
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																						

Soil Boring Log

CLIENT: USACE PROJECT NAME: FTMM - ECP PROJECT LOCATION: FTMM Parcel PROJECT NUMBER: 748810-					INSPECTOR: C. Watkins DRILLER: J. BARNAK WEATHER: 80°F light rain CONTRACTOR: East Coast Drilling, Inc. (ECDI)		BORING/WELL ID: PAP-72-215-58-02 LOCATION DESCRIPTION: Parcel 72																
GROUNDWATER OBSERVATIONS WATER LEVEL: _____ DATE: _____ TIME: _____ MEAS. FROM: _____					RIG TYPE: Geoprobe(R) 7822DT DATE/TIME START: 0940 DATE/TIME FINISH: 0950 WEIGHT OF HAMMER: N/A DROP OF HAMMER: N/A TYPE OF HAMMER: N/A		LOCATION PLAN Oceanport, New Jersey																
DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS																
0			6%52	0	0-52 Dry, loose, brown, mf SAND, trace silt																		
1																							
2																							
3																							
4																							
5	5-5.5		6%60	0	0-33" SAA																		
6					33"-60" moist, m. dense, mostly brown/orange mottling, mf SAND, trace silt																		
7																							
8																							
9																							
10																							
Remarks:																							
Sample Types S - Split-Spoon U - Undisturbed Tube C - Rock Core A - Auger Cuttings					Consistency vs. Blowcount / Foot <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2">Granular (Sand & Gravel)</th> <th colspan="2">Fine Grained (Silt & Clay)</th> </tr> <tr> <td>V. Loose: 0-4</td> <td>Dense: 30-50</td> <td>V. Soft: <2</td> <td>Stiff: 8-15</td> </tr> <tr> <td>Loose: 4-10</td> <td>V. Dense: >50</td> <td>Soft: 2-4</td> <td>V. Stiff: 15-30</td> </tr> <tr> <td>M. Dense: 10-30</td> <td></td> <td>M. Stiff: 4-8</td> <td>Hard: >30</td> </tr> </table>			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
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: <u>USACE</u> PROJECT NAME: <u>FTMM - ECP</u> PROJECT LOCATION: <u>FTMM Parcel</u> PROJECT NUMBER: <u>748810-</u>					INSPECTOR: _____ DRILLER: _____ WEATHER: _____ CONTRACTOR: <u>East Coast Drilling, Inc. (ECDI)</u> RIG TYPE: <u>Geoprobe(R) 7822DT</u> DATE/TIME START: _____ DATE/TIME FINISH: _____ WEIGHT OF HAMMER: <u>N/A</u> DROP OF HAMMER: <u>N/A</u> TYPE OF HAMMER: <u>N/A</u>		BORING/WELL ID: <u>PHE-72-212-5B-01</u> LOCATION DESCRIPTION: _____ LOCATION PLAN: _____ Oceanport, New Jersey																		
GROUNDWATER OBSERVATIONS WATER LEVEL: _____ <u>~12</u> DATE: _____ TIME: _____ MEAS. FROM: _____																									
DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS																		
0			<u>60/15</u>	<u>6</u>	0-22" SAA																				
1					22-41" Saturated, light Brown/orange and gray M ^t SAND, little silt																				
2	<u>11.5-12</u>				41"-49" Saturated, orange, m. dense, MC SAND, trace f gravel, trace silt																				
3																									
4																									
5			<u>60/60</u>	<u>0</u>	0-19" SAA																				
6					19"-60" Saturated, gray/Brown/ orange, m. dense, MF SAND, trace + gravel																				
7																									
8																									
9																									
10																									
Remarks: _____																									
Sample Types S - Split-Spoon U - Undisturbed Tube C - Rock Core A - Auger Cuttings					Consistency vs. Blowcount / Foot <table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <tr> <th colspan="2">Granular (Sand & Gravel)</th> <th colspan="2">Fine Grained (Silt & Clay)</th> </tr> <tr> <td>V. Loose: 0-4</td> <td>Dense: 30-50</td> <td>V. Soft: <2</td> <td>Stiff: 8-15</td> </tr> <tr> <td>Loose: 4-10</td> <td>V. Dense: >50</td> <td>Soft: 2-4</td> <td>V. Stiff: 15-30</td> </tr> <tr> <td>M. Dense: 10-30</td> <td></td> <td>M. Stiff: 4-8</td> <td>Hard: >30</td> </tr> </table>			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	
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																						

Soil Boring Log

CLIENT: <u>USACE</u> PROJECT NAME: <u>FTMM - ECP</u> PROJECT LOCATION: <u>FTMM Parcel</u> PROJECT NUMBER: <u>748810-</u>					INSPECTOR: <u>C. WATSON</u> DRILLER: <u>J. DARNAK</u> WEATHER: <u>85°F clear</u> CONTRACTOR: <u>East Coast Drilling, Inc. (ECDI)</u>		BORING/WELL ID: <u>220-TMW01</u> LOCATION DESCRIPTION: <u>220/PAR 72</u>																
GROUNDWATER OBSERVATIONS WATER LEVEL: <u>11.5</u> DATE: <u>8/9/16</u> TIME: <u>BGS</u> MEAS. FROM: <u>BGS</u>					RIG TYPE: <u>Geoprobe(R) 7822DT</u> DATE/TIME START: <u>1440</u> DATE/TIME FINISH: <u>1500</u> WEIGHT OF HAMMER: <u>N/A</u> DROP OF HAMMER: <u>N/A</u> TYPE OF HAMMER: <u>N/A</u>		LOCATION PLAN <u>Oceanport, New Jersey</u>																
DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS																
0			60/60	0	0-16" Dry, loose, mf, SAND, Brown, little grass																		
1					16-43" Moist, m. dense, mf, Brown, SAND, trace silt																		
2																							
3					43-44" M. gravel, grey																		
4					44-60" Moist, Dense, mf, grey/brown/grey mottled SAND, some silt																		
5			60/46	0	0-19" SAA																		
6					19-35" Wet, m. dense, mf Brown/orange mottled SAND, little silt																		
7																							
8					35-46" Moist, Dense, mf grey/brown, mottled SAND, little silt																		
9																							
10																							
Remarks:																							
Sample Types S -- Split-Spoon U -- Undisturbed Tube C -- Rock Core A -- Auger Cuttings					Consistency vs. Blowcount / Foot <table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <tr> <th colspan="2">Granular (Sand & Gravel)</th> <th colspan="2">Fine Grained (Silt & Clay)</th> </tr> <tr> <td>V. Loose: 0-4</td> <td>Dense: 30-50</td> <td>V. Soft: <2</td> <td>Stiff: 8-15</td> </tr> <tr> <td>Loose: 4-10</td> <td>V. Dense: >50</td> <td>Soft: 2-4</td> <td>V. Stiff: 15-30</td> </tr> <tr> <td>M. Dense: 10-30</td> <td></td> <td>M. Stiff: 4-8</td> <td>Hard: > 30</td> </tr> </table>			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
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: <u>USACE</u> PROJECT NAME: <u>FTMM - ECP</u> PROJECT LOCATION: <u>FTMM Parcel</u> PROJECT NUMBER: <u>748810-</u>					INSPECTOR: <u>C. Watson</u> DRILLER: _____ WEATHER: _____ CONTRACTOR: <u>East Coast Drilling, Inc. (ECDI)</u> RIG TYPE: <u>Geoprobe R78/2BT</u> DATE/TIME START: <u>SEE P-1</u> DATE/TIME FINISH: _____ WEIGHT OF HAMMER: <u>N/A</u> DROP OF HAMMER: <u>N/A</u> TYPE OF HAMMER: <u>N/A</u>		BORING/WELL ID: <u>220-TMW01</u> LOCATION DESCRIPTION: _____ LOCATION PLAN: _____ Oceanport, New Jersey	
GROUNDWATER OBSERVATIONS WATER LEVEL: <u>~ 11.5</u> DATE: _____ TIME: _____ MEAS. FROM: _____								
DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS	
0		60/40	0		0-18" SAA			
1					18"-27" saturated, green/grey. Fine SAND, some silt, trace clay			
2					27"-40" Saturated, light brown grey/orange, mottled f SAND, some silt, trace clay			
3								
4								
5								
6								
7								
8								
9								
10								
Remarks:								
Sample Types		Consistency vs. Blowcount / Foot						
S - Split Spoon		Granular (Sand & Gravel)				and - 35-50%		
U - Undisturbed Tube		V. Loose: 0-4 Dense: 30-50				some - 20-35%		
C - Rock Core		V. Soft: <2 V. Stiff: 8-15				little - 10-20%		
A - Auger Cuttings		Loose: 4-10 V. Dense: >50				trace - <10%		
		M. Dense: 10-30 M. Stiff: 4-8 Hard: > 30				moisture, density, color, gradation		

Soil Boring Log

CLIENT: USACE PROJECT NAME: FTMM - ECP PROJECT LOCATION: FTMM Parcel PROJECT NUMBER: 748810-					INSPECTOR: C. Watson DRILLER: J. BARNAK WEATHER: Part Cloud CONTRACTOR: East Coast Drilling, Inc. (ECDI)		BORING/WELL ID: PAR-72-256-TM001 LOCATION DESCRIPTION: Parcel 72																
GROUNDWATER OBSERVATIONS WATER LEVEL: ~11.5 DATE: 8/9/16 TIME: 1245 MEAS. FROM:					RIG TYPE: Geoprobe(R) 7822DT DATE/TIME START: 8/8/16 1200 DATE/TIME FINISH: 8/8/16 1230 WEIGHT OF HAMMER: N/A DROP OF HAMMER: N/A TYPE OF HAMMER: N/A		LOCATION PLAN Oceanport, New Jersey																
DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS																
0			60/51	0	0-20" Dry, loose, mt, Brown SAND, trace silt																		
1					20" moist, m. dense, mt Brown SAND, little silt, trace f gravel																		
2																							
3																							
4																							
5			60/47	0	0-47 moist, SAA																		
6																							
7																							
8																							
9																							
10																							
Remarks:																							
Sample Types S - Split-Spoon U - Undisturbed Tube C - Rock Core A - Auger Cuttings					Consistency vs. Blowcount / Foot <table border="1" style="width:100%; border-collapse: collapse; font-size: small;"> <tr> <th colspan="2">Granular (Sand & Gravel)</th> <th colspan="2">Fine Grained (Silt & Clay)</th> </tr> <tr> <td>V. Loose: 0-4</td> <td>Dense: 30-50</td> <td>V. Soft: <2</td> <td>Stiff: 8-15</td> </tr> <tr> <td>Loose: 4-10</td> <td>V. Dense: >50</td> <td>Soft: 2-4</td> <td>V. Stiff: 15-30</td> </tr> <tr> <td>M. Dense: 10-30</td> <td></td> <td>M. Stiff: 4-8</td> <td>Hard: >30</td> </tr> </table>			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
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: <u>USACE</u> PROJECT NAME: <u>FTMM - ECP</u> PROJECT LOCATION: <u>FTMM Parcel</u> PROJECT NUMBER: <u>748810-</u>					INSPECTOR: _____ DRILLER: _____ WEATHER: _____ CONTRACTOR: <u>East Coast Drilling, Inc. (ECDI)</u> RIG TYPE: <u>Geoprobe/R 7822D</u> DATE/TIME START: _____ DATE/TIME FINISH: _____ WEIGHT OF HAMMER: <u>N/A</u> DROP OF HAMMER: <u>N/A</u> TYPE OF HAMMER: <u>N/A</u>		BORING/WELL ID: <u>226-F/MW 01</u> LOCATION DESCRIPTION: _____ LOCATION PLAN: _____ Oceanport, New Jersey																
GROUNDWATER OBSERVATIONS WATER LEVEL: <u>~ 11.5</u> DATE: <u>8/9/16</u> TIME: <u>1240</u> MEAS. FROM: _____																							
DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS																
0			6/47	0	0-12" SAA																		
1					12-27" moist, grey/brown/orange mt M. Dense, SAND trace silt, saturated																		
2					~ 17"																		
3					27"-47" saturated, green/grey, dense, mt SAND, some silt, trace f round gravel																		
4																							
5																							
6																							
7																							
8																							
9																							
10																							
Remarks: _____																							
Sample Types S - Split-Spoon U - Undisturbed Tube C - Rock Core A - Auger Cuttings					Consistency vs. Blowcount / Foot <table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <tr> <th colspan="2">Granular (Sand & Gravel)</th> <th colspan="2">Fine Grained (Silt & Clay)</th> </tr> <tr> <td>V. Loose: 0-4</td> <td>Dense: 30-50</td> <td>V. Soft: <2</td> <td>Stiff: 8-15</td> </tr> <tr> <td>Loose: 4-10</td> <td>V. Dense: >50</td> <td>Soft: 2-4</td> <td>V. Stiff: 15-30</td> </tr> <tr> <td>M. Dense: 10-30</td> <td></td> <td>M. Stiff: 4-8</td> <td>Hard: >30</td> </tr> </table>			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
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					INSPECTOR: C. Watson		BORING/WELL ID: PAR-SB 72-228-SB-01	
PROJECT NAME: FTMM - ECP					DRILLER: J. BALNAK		LOCATION DESCRIPTION	
PROJECT LOCATION: FTMM Parcel					WEATHER: 78°F		Parcel 72	
PROJECT NUMBER: 748810-					CONTRACTOR: East Coast Drilling, Inc. (ECDI)			
GROUNDWATER OBSERVATIONS					RIG TYPE: Geoprobe(R) 7822DT		LOCATION PLAN	
WATER LEVEL: ~9					DATE/TIME START: 8/9/16 1045		Oceanport, New Jersey	
DATE:					DATE/TIME FINISH: 8/9/16 1055			
TIME:					WEIGHT OF HAMMER: N/A			
MEAS. FROM:					DROP OF HAMMER: N/A			
					TYPE OF HAMMER: N/A			
DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS	
0		60/40	1		0-14" Dry, loosey Brown, mt SAND, some f gravel, free wood chunks			
1					14"-31" M. Densey Brown, mt SAND, little f gravel			
2								
3					31"-42" M. Dense, Brown, mt, SAND, little f gravel, little silt			
4								
5		60/30	0		0-48" SAA,			
6					48"-58" saturated, mt, Brown/ orange mottled SAND, trace silt, trace f gravel			
7								
8								
9								
10								
Remarks:								
Sample Types				Consistency vs. Blowcount / Foot				
S - Split-Spoon				Granular (Sand & Gravel)				
U - Undisturbed Tube				Fine Grained (Silt & Clay)				
C - Rock Core				V. Loose: 0-4 Dense: 30-50 V. Soft: <2 Stiff: 8-15				
A - Auger Cuttings				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 PROJECT NUMBER: 748810-					INSPECTOR: C. W. Tson DRILLER: J. BARNAK WEATHER: CONTRACTOR: East Coast Drilling, Inc. (ECDI) RIG TYPE: Geoprobe(B) 78220T DATE/TIME START: SEE P. 1 DATE/TIME FINISH: WEIGHT OF HAMMER: N/A DROP OF HAMMER: N/A TYPE OF HAMMER: N/A		BORING/WELL ID: 228-2B-01 LOCATION DESCRIPTION: LOCATION PLAN: Oceanport, New Jersey	
GROUNDWATER OBSERVATIONS WATER LEVEL: ~12.5 DATE: TIME: MEAS. FROM:								
DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS	
10			62	20.8	0-15" Moist, gray, f SANDS and clay, M. stiff			
	10.5-11			67.8				
11				50.1	15"-29" Moist, gray, V. stiff clay			
				6.7				
12	12-12.5			1.8	29"-62" saturated, gray/brown/orange, mt, mottled SAND, trace silt, Dense			
				0				
13				0				
				0				
14				0				
				0				
15								
16								
17								
18								
19								
20								

Remarks:

Sample Types	Consistency vs. Blowcount / Foot	and - 35-50%
S - Split-Spoon	Granular (Sand & Gravel)	some - 20-35%
U - Undisturbed Tube	V. Loose: 0-4 Dense: 30-50 V. Soft: <2 Stiff: 8-15	little - 10-20%
C - Rock Core	Loose: 4-10 V. Dense: >50 Soft: 2-4 V. Stiff: 15-30	trace - <10%
A - Auger Cuttings	M. Dense: 10-30 M. Stiff: 4-8 Hard: >30	moisture, density, color, gradation

Soil Boring Log

CLIENT: USACE					INSPECTOR: C. WATSON		BORING/WELL ID: PAF-72-228-9B-02	
PROJECT NAME: FTMM - ECP					DRILLER: J. BARNAK		LOCATION DESCRIPTION	
PROJECT LOCATION: FTMM Parcel					WEATHER: 82°F Clear		Parcel 72-228	
PROJECT NUMBER: 748810-					CONTRACTOR: East Coast Drilling, Inc. (ECDI)			
GROUNDWATER OBSERVATIONS					RIG TYPE: Geoprobe(R) 7822DT		LOCATION PLAN	
WATER LEVEL: ~12.5					DATE/TIME START: 1345		Oceanport, New Jersey	
DATE: 8/9/16					DATE/TIME FINISH: 1355			
TIME: 1400					WEIGHT OF HAMMER: N/A			
MEAS. FROM: 6.5					DROP OF HAMMER: N/A			
					TYPE OF HAMMER: N/A			
DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS	
0			6 1/2	0	0-11" Concrete and crushed rock, some mt Brown SAND			
1					11"-20" Dry, brown, mt SAND, trace + gravel			
2					20"-23" Brick			
3					23"-39" Moist, M. Dense, mt, Brown SAND, little silt			
4								
5			6 1/2	6	0-16" SAA, wet			
6					16"-27" SAA, moist			
7					27"-40" Moist, grey, mt SAND, some silt, some trace clay			
8					40"-49" Moist, gray/brown/orange, + SAND, some silt, little clay, v. stiff			
9								
10								
Remarks:								
Sample Types					Consistency vs. Blowcount / Foot			
S - Split-Spoon					Granular (Sand & Gravel)			
U - Undisturbed Tube					Fine Grained (Silt & Clay)			
C - Rock Core					V. Loose: 0-4 Dense: 30-50 V. Soft: <2 Stiff: 8-15			
A - Auger Cuttings					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 PROJECT NUMBER: 748810-					INSPECTOR: _____ DRILLER: _____ WEATHER: _____ CONTRACTOR: East Coast Drilling, Inc. (ECDI)		BGRING/WELL ID: <u>228-SB-01</u> LOCATION DESCRIPTION: _____ LOCATION PLAN: _____ Oceanport, New Jersey																
GROUNDWATER OBSERVATIONS WATER LEVEL: _____ DATE: _____ TIME: _____ MEAS. FROM: _____					RIG TYPE: Geoprobe (B) 7822DT DATE/TIME START: _____ DATE/TIME FINISH: _____ WEIGHT OF HAMMER: N/A DROP OF HAMMER: N/A TYPE OF HAMMER: N/A																		
DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS																
0			60/52	0	0-26" SAA, saturated 26"-32" moist, dense, grey/green/ orange/Brown mottled w/ SAND, some silt																		
1																							
2																							
3																							
4																							
5				NR																			
6																							
7																							
8																							
9																							
10																							
Remarks:																							
Sample Types S -- Split-Spoon U -- Undisturbed Tube C -- Rock Core A -- Auger Cuttings					Consistency vs. Blowcount / Foot <table border="1" style="width:100%; border-collapse: collapse; font-size: small;"> <tr> <th colspan="2">Granular (Sand & Gravel)</th> <th colspan="2">Fine Grained (Silt & Clay)</th> </tr> <tr> <td>V. Loose: 0-4</td> <td>Dense: 30-50</td> <td>V. Soft: <2</td> <td>Stiff: 8-15</td> </tr> <tr> <td>Loose: 4-10</td> <td>V. Dense: >50</td> <td>Soft: 2-4</td> <td>V. Stiff: 15-30</td> </tr> <tr> <td>M. Dense: 10-30</td> <td></td> <td>M. Stiff: 4-8</td> <td>Hard: >30</td> </tr> </table>			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
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 PROJECT NUMBER: 748810-					INSPECTOR: <u>C. WATSON</u> DRILLER: <u>J. BARNAK</u> WEATHER: <u>80°F Clear</u> CONTRACTOR: East Coast Drilling, Inc. (ECDI)		BORING/WELL ID: <u>PAR-72-228-SB-03</u> LOCATION DESCRIPTION: LOCATION PLAN: Oceanport, New Jersey																
GROUNDWATER OBSERVATIONS WATER LEVEL: <u>~7</u> DATE: <u>8/9/16</u> TIME: MEAS. FROM:					RIG TYPE: Geoprobe(R) 7822DT DATE/TIME START: <u>8/9/16 0930</u> DATE/TIME FINISH: <u>8/9/16 1000</u> WEIGHT OF HAMMER: <u>N/A</u> DROP OF HAMMER: <u>N/A</u> TYPE OF HAMMER: <u>N/A</u>																		
DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS																
0			<u>60/36</u>	<u>0</u>	0-5" Dry, loose, mf Brown SAND, some grass, little + gravel		2 attempt 2 more recovery																
1																							
2					5"-36" Moist, m. dense, Brown, mf SAND, little f gravel, little wood chunks, little silt																		
3				<u>NR</u>																			
4																							
5			<u>60/54</u>	<u>6.7</u>	0-3" S&A																		
6				<u>22.8</u>	3"-22" wet, m. dense, MF Brown w/ gray SAND, little silt, trace f gravel																		
7	<u>6.5-7</u> <u>7.76</u>			<u>61.9</u> <u>66.8</u> <u>72.5</u>																			
8				<u>39.4</u> <u>50.1</u> <u>22.8</u>	22"-37" saturated, m. dense, mf, gray SAND, little f round gravel																		
9				<u>14.9</u> <u>NR</u>	37"-44" moist, m. stiff, gray clay																		
10					44"-54" wet, m. stiff, gray clay and f SAND																		
Remarks:																							
Sample Types					Consistency vs. Blowcount / Foot																		
S - Split-Spoon U - Undisturbed Tube C - Rock Core A - Auger Cuttings					<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2">Granular (Sand & Gravel)</th> <th colspan="2">Fine Grained (Silt & Clay)</th> </tr> <tr> <td>V. Loose: 0-4</td> <td>Dense: 30-50</td> <td>V. Soft: <2</td> <td>Stiff: 8-15</td> </tr> <tr> <td>Loose: 4-10</td> <td>V. Dense: >50</td> <td>Soft: 2-4</td> <td>V. Stiff: 15-30</td> </tr> <tr> <td>M. Dense: 10-30</td> <td></td> <td>M. Stiff: 4-8</td> <td>Hard: >30</td> </tr> </table>			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
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																		

1035
1050

Soil Boring Log

CLIENT: USACE		INSPECTOR: _____	BORING/WELL ID: <u>PAR-228-SB-03</u>
PROJECT NAME: FTMM - ECP		DRILLER: _____	LOCATION DESCRIPTION
PROJECT LOCATION: FTMM Parcel		WEATHER: <u>LEE P. 1</u>	
PROJECT NUMBER: 748810-		CONTRACTOR: <u>East Coast Drilling, Inc. (ECDI)</u>	
GROUNDWATER OBSERVATIONS		RIG TYPE: <u>Geoprobe(R) 7822DT</u>	LOCATION PLAN
WATER LEVEL: _____		DATE/TIME START: _____	Oceanport, New Jersey
DATE: _____		DATE/TIME FINISH: _____	
TIME: _____		WEIGHT OF HAMMER: <u>N/A</u>	
MEAS. FROM: _____		DROP OF HAMMER: <u>N/A</u>	
		TYPE OF HAMMER: <u>N/A</u>	

DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS
<u>1.0</u>				<u>6.7</u>	<u>0-21" SAA</u>		
				<u>22.9</u>	<u>21"-35" moist, m. stiff, gray</u>		
<u>1.1</u>				<u>51.4</u>	<u>and Brown, Clay,</u>		
				<u>49.7</u>	<u>some f SAND</u>		
<u>1.2</u>				<u>17.6</u>	<u>35"-60" saturated, m. anse,</u>		
				<u>22.1</u>	<u>Mf, Brown/orange/gray</u>		
<u>1.3</u>				<u>18.2</u>	<u>SAND, motried,</u>		
				<u>6.6</u>			
<u>1.4</u>				<u>8.1</u>			
				<u>1.8</u>			
<u>1.5</u>				<u>1.2</u>	<u>0-60" SAA</u>		
				<u>1.8</u>			
<u>1.6</u>				<u>0.7</u>			
				<u>0</u>			
<u>1.7</u>				<u>0</u>			
				<u>0</u>			
<u>1.8</u>				<u>0</u>			
				<u>0</u>			
<u>1.9</u>				<u>0</u>			
				<u>0</u>			
<u>2.0</u>							

Remarks:

Sample Types	Consistency vs. Blowcount / Foot	
S - Split-Spoon	Grenular (Sand & Gravel)	Fine Grained (Silt & Clay)
U - Undisturbed Tube	V. Loose: 0-4 Dense: 30-50	V. Soft: <2 Stiff: 8-15
C - Rock Core	Loose: 4-10 V. Dense: >50	Soft: 2-4 V. Stiff: 15-30
A - Auger Cuttings	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

ENCLOSURE 5 of Attachment D

Analytical Data

August 25, 2016

Ms. Carla Rodman
Parsons
301 Plainfield Rd
Suite 350
Syracuse, NY 13212

Certificate of Analysis

Project Name:	Ft. Monmouth Soils	Workorder:	2166908
Purchase Order:		Workorder ID:	PQF025JFTMM

Dear Ms. Rodman:

Enclosed are the analytical results for samples received by the laboratory on Thursday, August 11, 2016.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Debra J. Musser (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Christina Grill , Ms. Maryanne Kosciwicz , Mr. Cory Mahony

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.



Ms. Debra J. Musser
Project Coordinator

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Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

SAMPLE SUMMARY

Workorder: 2166908 PQF025|FTMM

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2166908001	PAR-72-211-TMW-01	Water	8/10/2016 12:00	8/11/2016 20:10	Collected by Client
2166908002	PAR-72-212-TMW-01	Water	8/10/2016 11:25	8/11/2016 20:10	Collected by Client
2166908003	PAR-72-220-TMW-01	Water	8/10/2016 09:55	8/11/2016 20:10	Collected by Client
2166908004	PAR-72-226-TMW-01	Water	8/10/2016 09:00	8/11/2016 20:10	Collected by Client
2166908005	PAR-72-228-TMW-01	Water	8/10/2016 08:35	8/11/2016 20:10	Collected by Client
2166908006	PAR-72-EB-08102016	Water	8/10/2016 15:30	8/11/2016 20:10	Collected by Client
2166908007	PAR-72-TB-08102016	Water	8/11/2016 20:10	8/11/2016 20:10	Collected by Client

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SAMPLE SUMMARY

Workorder: 2166908 PQF025|FTMM

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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PROJECT SUMMARY

Workorder: 2166908 PQF025|FTMM

Sample Comments

Lab ID: 2166908001

Sample ID: PAR-72-211-TMW-01

Sample Type: SAMPLE

The dilution of the sample was run from a vial with headspace.

This sample was analyzed at a dilution in the D8270W analysis due to sample matrix interference and the level of target analyte detected. Reporting limits were adjusted accordingly. One or more of the surrogates could not be evaluated as a result of the dilution.

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908001**

Date Collected: 8/10/2016 12:00

Matrix: Water

Sample ID: **PAR-72-211-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/23/16 14:54	TMP	F
Benzene	2.8		ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Bromobenzene	0.75U	U	ug/L	1.0	0.75	0.20	SW846 8260C		8/23/16 14:54	TMP	F
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
2-Butanone	2.9J	J	ug/L	5.0	3.8	1.6	SW846 8260C		8/23/16 14:54	TMP	F
tert-Butyl Alcohol	12.5U	U	ug/L	25.0	12.5	8.3	SW846 8260C		8/23/16 14:54	TMP	F
n-Butylbenzene	26.1		ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
tert-Butylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
sec-Butylbenzene	25.0		ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
o-Chlorotoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
p-Chlorotoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C		8/23/16 14:54	TMP	F
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
1,3-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
2,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
1,1-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
cis-1,3-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908001**

Date Collected: 8/10/2016 12:00

Matrix: Water

Sample ID: **PAR-72-211-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
trans-1,3-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Ethylbenzene	92.4		ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Hexachlorobutadiene	0.75U	U	ug/L	1.0	0.75	0.43	SW846 8260C		8/23/16 14:54	TMP	F
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/23/16 14:54	TMP	F
Isopropylbenzene	29.3		ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
p-Isopropyltoluene	16.9		ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/23/16 14:54	TMP	F
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Naphthalene	862		ug/L	20.0	15.0	6.6	SW846 8260C		8/24/16 14:31	TMP	E
n-Propylbenzene	48.4		ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
1,1,1,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Toluene	2.1		ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
1,2,3-Trichloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C		8/23/16 14:54	TMP	F
1,2,4-Trimethylbenzene	543		ug/L	20.0	15.0	6.6	SW846 8260C		8/24/16 14:31	TMP	E
1,3,5-Trimethylbenzene	81.4		ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
o-Xylene	39.1		ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 14:54	TMP	F
mp-Xylene	118		ug/L	2.0	1.5	0.66	SW846 8260C		8/23/16 14:54	TMP	F
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	114		%	81 - 118			SW846 8260C		8/24/16 14:31	TMP	E
1,2-Dichloroethane-d4 (S)	112		%	81 - 118			SW846 8260C		8/23/16 14:54	TMP	F
4-Bromofluorobenzene (S)	95		%	85 - 114			SW846 8260C		8/24/16 14:31	TMP	E
4-Bromofluorobenzene (S)	95.8		%	85 - 114			SW846 8260C		8/23/16 14:54	TMP	F
Dibromofluoromethane (S)	84.3		%	80 - 119			SW846 8260C		8/23/16 14:54	TMP	F
Dibromofluoromethane (S)	86.4		%	80 - 119			SW846 8260C		8/24/16 14:31	TMP	E
Toluene-d8 (S)	91.3		%	89 - 112			SW846 8260C		8/24/16 14:31	TMP	E
Toluene-d8 (S)	91.5		%	89 - 112			SW846 8260C		8/23/16 14:54	TMP	F

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Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908001**

Date Collected: 8/10/2016 12:00

Matrix: Water

Sample ID: **PAR-72-211-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
Library Search - Volatiles											
Octane, 4-methyl-	10.1	J N	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Nonane	10.4	J N	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Decane	117	J N	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Benzene, 1-ethyl-2-methyl-	160	J N	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Benzene, 1-ethyl-4-methyl-	107	J N	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
1H-Indene, 2,3-dihydro-	230	J N	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Benzene, 1-ethyl-3,5-dimethyl-	68.6	J N	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Benzene, 2-ethyl-1,4-dimethyl-	66.8	J N	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Benzene, 1-ethyl-2,3-dimethyl-	53.0	J N	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
1H-Indene, 2,3-dihydro-2-methyl	87.2	J N	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Benzene, 1,2,4,5-tetramethyl-	58.2	J N	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
2,3-Dihydro-1-methylindene	69.5	J N	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Benzene, (1-methyl-1-propenyl)	144	J N	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Naphthalene, 1,2,3,4-tetrahydr	67.8	J N	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Naphthalene, 1,2,3,4-tetrahydr	52.8	J N	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
SEMIVOLATILES											
Acenaphthene	19.2U	U	ug/L	38.5	19.2	2.9	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Acenaphthylene	19.2U	U	ug/L	38.5	19.2	3.7	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Anthracene	195		ug/L	38.5	19.2	2.9	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Benzidine	577U	U	ug/L	577	577	59.6	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Benzo(a)anthracene	19.2U	U	ug/L	38.5	19.2	2.5	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Benzo(a)pyrene	19.2U	U	ug/L	38.5	19.2	4.2	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Benzo(b)fluoranthene	19.2U	U	ug/L	38.5	19.2	2.1	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Benzo(g,h,i)perylene	19.2U	U	ug/L	38.5	19.2	4.2	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Benzo(k)fluoranthene	19.2U	U	ug/L	38.5	19.2	3.7	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Benzyl Alcohol	38.5U	U	ug/L	154	38.5	4.4	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
4-Bromophenyl-phenylether	19.2U	U	ug/L	154	19.2	3.3	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Butylbenzylphthalate	19.2U	U	ug/L	154	19.2	2.1	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Carbazole	19.2U	U	ug/L	154	19.2	2.3	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
4-Chloro-3-methylphenol	19.2U	U	ug/L	154	19.2	3.7	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
4-Chloroaniline	19.2U	U	ug/L	154	19.2	4.0	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
bis(2-Chloroethoxy)methane	19.2U	U	ug/L	154	19.2	4.0	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908001**

Date Collected: 8/10/2016 12:00

Matrix: Water

Sample ID: **PAR-72-211-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
bis(2-Chloroethyl)ether	19.2U	U	ug/L	154	19.2	3.3	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
bis(2-Chloroisopropyl)ether	19.2U	U	ug/L	154	19.2	5.4	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
2-Chloronaphthalene	19.2U	U	ug/L	154	19.2	3.5	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
2-Chlorophenol	38.5U	U	ug/L	154	38.5	6.3	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
4-Chlorophenyl-phenylether	19.2U	U	ug/L	154	19.2	2.7	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Chrysene	19.2U	U	ug/L	38.5	19.2	2.3	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
mp-Cresol	19.2U	U	ug/L	154	19.2	2.9	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
o-Cresol	19.2U	U	ug/L	154	19.2	4.8	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Di-n-Butylphthalate	19.2U	U	ug/L	154	19.2	2.7	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Di-n-Octylphthalate	19.2U	U	ug/L	154	19.2	1.9	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Dibenzo(a,h)anthracene	19.2U	U	ug/L	38.5	19.2	4.0	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Dibenzofuran	247		ug/L	154	19.2	2.1	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
1,2-Dichlorobenzene	19.2U	U	ug/L	154	19.2	3.8	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
1,3-Dichlorobenzene	19.2U	U	ug/L	154	19.2	3.3	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
1,4-Dichlorobenzene	19.2U	U	ug/L	154	19.2	3.5	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
3,3-Dichlorobenzidine	57.7U	U	ug/L	308	57.7	9.2	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
2,4-Dichlorophenol	19.2U	U	ug/L	154	19.2	6.2	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Diethylphthalate	19.2U	U	ug/L	154	19.2	3.5	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
2,4-Dimethylphenol	96.2U	U	ug/L	154	96.2	4.0	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Dimethylphthalate	19.2U	U	ug/L	154	19.2	2.7	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
2,4-Dinitrophenol	154U	U	ug/L	308	154	34.8	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
2,4-Dinitrotoluene	19.2U	U	ug/L	154	19.2	2.3	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
2,6-Dinitrotoluene	19.2U	U	ug/L	154	19.2	4.0	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
1,2-Diphenylhydrazine	19.2U	U	ug/L	154	19.2	5.0	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
bis(2-Ethylhexyl)phthalate	19.2U	U	ug/L	154	19.2	4.2	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Fluoranthene	19.2U	U	ug/L	38.5	19.2	3.3	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Fluorene	663		ug/L	38.5	19.2	3.8	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Hexachlorobenzene	19.2U	U	ug/L	154	19.2	4.4	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Hexachlorobutadiene	19.2U	U	ug/L	154	19.2	3.7	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Hexachlorocyclopentadiene	38.5U	U	ug/L	154	38.5	3.3	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Hexachloroethane	19.2U	U	ug/L	154	19.2	5.8	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Indeno(1,2,3-cd)pyrene	19.2U	U	ug/L	38.5	19.2	1.9	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Isophorone	19.2U	U	ug/L	154	19.2	2.9	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
2-Methyl-4,6-dinitrophenol	96.2U	U	ug/L	154	96.2	6.3	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
2-Methylnaphthalene	6680		ug/L	192	96.2	15.4	SW846 8270D	8/15/16 LEH	8/22/16 21:38	DHF	B1
Naphthalene	1450		ug/L	38.5	19.2	2.3	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
2-Nitroaniline	19.2U	U	ug/L	154	19.2	3.8	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
3-Nitroaniline	38.5U	U	ug/L	154	38.5	3.5	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908001**

Date Collected: 8/10/2016 12:00

Matrix: Water

Sample ID: **PAR-72-211-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
4-Nitroaniline	19.2U	U	ug/L	154	19.2	7.9	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Nitrobenzene	38.5U	U	ug/L	154	38.5	5.4	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
2-Nitrophenol	38.5U	U	ug/L	154	38.5	8.7	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
4-Nitrophenol	96.2U	U	ug/L	154	96.2	20.2	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
N-Nitrosodimethylamine	38.5U	U	ug/L	154	38.5	12.3	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
N-Nitroso-di-n-propylamine	19.2U	U	ug/L	154	19.2	4.6	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
N-Nitrosodiphenylamine	38.5U	U	ug/L	154	38.5	3.5	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Pentachlorophenol	154U	U	ug/L	308	154	20.6	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Phenanthrene	1740		ug/L	38.5	19.2	2.5	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Phenol	19.2U	U	ug/L	154	19.2	4.4	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Pyrene	185		ug/L	38.5	19.2	3.1	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
1,2,4-Trichlorobenzene	19.2U	U	ug/L	154	19.2	2.5	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
2,4,5-Trichlorophenol	57.7U	U	ug/L	154	57.7	10.6	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
2,4,6-Trichlorophenol	19.2U	U	ug/L	154	19.2	11.0	SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2,4,6-Tribromophenol (S)	69.9		%	43 - 140			SW846 8270D	8/15/16 LEH	8/22/16 21:38	DHF	B1
2,4,6-Tribromophenol (S)	79.8		%	43 - 140			SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
2-Fluorobiphenyl (S)	0	7	%	44 - 119			SW846 8270D	8/15/16 LEH	8/22/16 21:38	DHF	B1
2-Fluorobiphenyl (S)	74.1		%	44 - 119			SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
2-Fluorophenol (S)	0	4	%	19 - 119			SW846 8270D	8/15/16 LEH	8/22/16 21:38	DHF	B1
2-Fluorophenol (S)	16.8	1	%	19 - 119			SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Nitrobenzene-d5 (S)	254	6	%	44 - 120			SW846 8270D	8/15/16 LEH	8/22/16 21:38	DHF	B1
Nitrobenzene-d5 (S)	0	3	%	44 - 120			SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Phenol-d5 (S)	68.1	2	%	13 - 49			SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Phenol-d5 (S)	0	5	%	13 - 49			SW846 8270D	8/15/16 LEH	8/22/16 21:38	DHF	B1
Terphenyl-d14 (S)	0	8	%	50 - 134			SW846 8270D	8/15/16 LEH	8/22/16 21:38	DHF	B1
Terphenyl-d14 (S)	53.2		%	50 - 134			SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Library Search - SemiVolatiles											
Unknown	2180	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Unknown	2340	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Unknown	292	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Unknown	169	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Unknown	159	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Naphthalene, 1,2,3,4-tetrahydr	149	J N	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Unknown	412	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Naphthalene, 2,6-dimethyl-	647	J N	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Naphthalene, 1,4,6-trimethyl-	319	J N	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908001**

Date Collected: 8/10/2016 12:00

Matrix: Water

Sample ID: **PAR-72-211-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
Naphthalene, 2,3,6-trimethyl-	514	J N	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Unknown	655	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Unknown	779	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
4,4'-Dimethylbiphenyl	960	J N	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Hexadecane, 2,6,10,14-tetramet	1230	J N	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Unknown	637	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Anthracene, 2-methyl-	1630	J N	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Phenanthrene, 2,5-dimethyl-	1250	J N	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1



Ms. Debra J. Musser
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908002**

Date Collected: 8/10/2016 11:25

Matrix: Water

Sample ID: **PAR-72-212-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 18:25	DD	D
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Bromobenzene	0.75U	U	ug/L	1.0	0.75	0.20	SW846 8260C		8/15/16 18:25	DD	D
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 18:25	DD	D
tert-Butyl Alcohol	12.5U	U	ug/L	25.0	12.5	8.3	SW846 8260C		8/15/16 18:25	DD	D
n-Butylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
tert-Butylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
sec-Butylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
o-Chlorotoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
p-Chlorotoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C		8/15/16 18:25	DD	D
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
1,3-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
2,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
1,1-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
cis-1,3-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908002**

Date Collected: 8/10/2016 11:25

Matrix: Water

Sample ID: **PAR-72-212-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
trans-1,3-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Hexachlorobutadiene	0.75U	U,1	ug/L	1.0	0.75	0.43	SW846 8260C		8/15/16 18:25	DD	D
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 18:25	DD	D
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
p-Isopropyltoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 18:25	DD	D
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Naphthalene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
n-Propylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
1,1,1,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
1,2,3-Trichloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C		8/15/16 18:25	DD	D
1,2,4-Trimethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
1,3,5-Trimethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
o-Xylene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:25	DD	D
mp-Xylene	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C		8/15/16 18:25	DD	D
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	By	Cntr
1,2-Dichloroethane-d4 (S)	92.3		%	81 - 118			SW846 8260C		8/15/16 18:25	DD	D
4-Bromofluorobenzene (S)	109		%	85 - 114			SW846 8260C		8/15/16 18:25	DD	D
Dibromofluoromethane (S)	90.8		%	80 - 119			SW846 8260C		8/15/16 18:25	DD	D
Toluene-d8 (S)	96		%	89 - 112			SW846 8260C		8/15/16 18:25	DD	D

LIBRARY SEARCH - VOLATILES

No TIC's Detected

Lib Search VOC

8/15/16 18:25 CPK D

SEMIVOLATILES

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908002**

Date Collected: 8/10/2016 11:25

Matrix: Water

Sample ID: **PAR-72-212-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
Acenaphthene	0.93U	U	ug/L	1.9	0.93	0.14	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Acenaphthylene	0.93U	U	ug/L	1.9	0.93	0.18	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Anthracene	0.15J	J	ug/L	1.9	0.93	0.14	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Benzidine	27.8U	U	ug/L	27.8	27.8	2.9	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Benzo(a)anthracene	0.41J	J	ug/L	1.9	0.93	0.12	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Benzo(a)pyrene	0.26J	J	ug/L	1.9	0.93	0.20	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Benzo(b)fluoranthene	0.33J	J	ug/L	1.9	0.93	0.10	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Benzo(g,h,i)perylene	0.93U	U	ug/L	1.9	0.93	0.20	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Benzo(k)fluoranthene	0.93U	U	ug/L	1.9	0.93	0.18	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Benzyl Alcohol	1.9U	U	ug/L	7.4	1.9	0.21	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
4-Bromophenyl-phenylether	0.93U	U	ug/L	7.4	0.93	0.16	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Butylbenzylphthalate	0.93U	U	ug/L	7.4	0.93	0.10	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Carbazole	0.93U	U	ug/L	7.4	0.93	0.11	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
4-Chloro-3-methylphenol	0.93U	U	ug/L	7.4	0.93	0.18	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
4-Chloroaniline	0.93U	U	ug/L	7.4	0.93	0.19	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
bis(2-Chloroethoxy)methane	0.93U	U	ug/L	7.4	0.93	0.19	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
bis(2-Chloroethyl)ether	0.93U	U	ug/L	7.4	0.93	0.16	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
bis(2-Chloroisopropyl)ether	0.93U	U	ug/L	7.4	0.93	0.26	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
2-Chloronaphthalene	0.93U	U	ug/L	7.4	0.93	0.17	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
2-Chlorophenol	1.9U	U	ug/L	7.4	1.9	0.31	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
4-Chlorophenyl-phenylether	0.93U	U	ug/L	7.4	0.93	0.13	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Chrysene	0.33J	J	ug/L	1.9	0.93	0.11	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
mp-Cresol	0.93U	U	ug/L	7.4	0.93	0.14	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
o-Cresol	0.93U	U	ug/L	7.4	0.93	0.23	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Di-n-Butylphthalate	0.21J	J	ug/L	7.4	0.93	0.13	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Di-n-Octylphthalate	0.93U	U	ug/L	7.4	0.93	0.093	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Dibenzo(a,h)anthracene	0.93U	U	ug/L	1.9	0.93	0.19	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Dibenzofuran	0.93U	U	ug/L	7.4	0.93	0.10	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
1,2-Dichlorobenzene	0.93U	U	ug/L	7.4	0.93	0.19	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
1,3-Dichlorobenzene	0.93U	U	ug/L	7.4	0.93	0.16	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
1,4-Dichlorobenzene	0.93U	U	ug/L	7.4	0.93	0.17	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
3,3-Dichlorobenzidine	2.8U	U	ug/L	14.8	2.8	0.44	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
2,4-Dichlorophenol	0.93U	U	ug/L	7.4	0.93	0.30	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Diethylphthalate	0.93U	U	ug/L	7.4	0.93	0.17	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
2,4-Dimethylphenol	4.6U	U	ug/L	7.4	4.6	0.19	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Dimethylphthalate	0.93U	U	ug/L	7.4	0.93	0.13	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
2,4-Dinitrophenol	7.4U	U	ug/L	14.8	7.4	1.7	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
2,4-Dinitrotoluene	0.93U	U	ug/L	7.4	0.93	0.11	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908002**

Date Collected: 8/10/2016 11:25

Matrix: Water

Sample ID: **PAR-72-212-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr	
2,6-Dinitrotoluene	0.93U	U	ug/L	7.4	0.93	0.19	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
1,2-Diphenylhydrazine	0.93U	U	ug/L	7.4	0.93	0.24	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
bis(2-Ethylhexyl)phthalate	0.93U	U	ug/L	7.4	0.93	0.20	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
Fluoranthene	0.73J	J	ug/L	1.9	0.93	0.16	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
Fluorene	0.93U	U	ug/L	1.9	0.93	0.19	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
Hexachlorobenzene	0.93U	U	ug/L	7.4	0.93	0.21	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
Hexachlorobutadiene	0.93U	U	ug/L	7.4	0.93	0.18	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
Hexachlorocyclopentadiene	1.9U	U	ug/L	7.4	1.9	0.16	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
Hexachloroethane	0.93U	U	ug/L	7.4	0.93	0.28	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
Indeno(1,2,3-cd)pyrene	0.93U	U	ug/L	1.9	0.93	0.093	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
Isophorone	0.93U	U	ug/L	7.4	0.93	0.14	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
2-Methyl-4,6-dinitrophenol	4.6U	U	ug/L	7.4	4.6	0.31	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
2-Methylnaphthalene	0.93U	U	ug/L	1.9	0.93	0.15	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
Naphthalene	0.93U	U	ug/L	1.9	0.93	0.11	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
2-Nitroaniline	0.93U	U	ug/L	7.4	0.93	0.19	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
3-Nitroaniline	1.9U	U	ug/L	7.4	1.9	0.17	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
4-Nitroaniline	0.93U	U	ug/L	7.4	0.93	0.38	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
Nitrobenzene	1.9U	U	ug/L	7.4	1.9	0.26	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
2-Nitrophenol	1.9U	U	ug/L	7.4	1.9	0.42	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
4-Nitrophenol	4.6U	U	ug/L	7.4	4.6	0.97	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
N-Nitrosodimethylamine	1.9U	U	ug/L	7.4	1.9	0.59	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
N-Nitroso-di-n-propylamine	0.93U	U	ug/L	7.4	0.93	0.22	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
N-Nitrosodiphenylamine	1.9U	U	ug/L	7.4	1.9	0.17	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
Pentachlorophenol	7.4U	U	ug/L	14.8	7.4	0.99	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
Phenanthrene	0.45J	J	ug/L	1.9	0.93	0.12	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
Phenol	0.93U	U	ug/L	7.4	0.93	0.21	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
Pyrene	0.65J	J	ug/L	1.9	0.93	0.15	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
1,2,4-Trichlorobenzene	0.93U	U	ug/L	7.4	0.93	0.12	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
2,4,5-Trichlorophenol	2.8U	U	ug/L	7.4	2.8	0.51	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
2,4,6-Trichlorophenol	0.93U	U	ug/L	7.4	0.93	0.53	SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1	
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared	By	Analyzed	By	Cntr
2,4,6-Tribromophenol (S)	77.4		%	43 - 140			SW846 8270D	8/15/16	LEH	8/16/16 17:44	CGS	B1
2-Fluorobiphenyl (S)	74.1		%	44 - 119			SW846 8270D	8/15/16	LEH	8/16/16 17:44	CGS	B1
2-Fluorophenol (S)	44.3		%	19 - 119			SW846 8270D	8/15/16	LEH	8/16/16 17:44	CGS	B1
Nitrobenzene-d5 (S)	74.9		%	44 - 120			SW846 8270D	8/15/16	LEH	8/16/16 17:44	CGS	B1
Phenol-d5 (S)	30		%	13 - 49			SW846 8270D	8/15/16	LEH	8/16/16 17:44	CGS	B1
Terphenyl-d14 (S)	64.1		%	50 - 134			SW846 8270D	8/15/16	LEH	8/16/16 17:44	CGS	B1

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908002**

Date Collected: 8/10/2016 11:25

Matrix: Water

Sample ID: **PAR-72-212-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
Library Search - SemiVolatiles											
Diethyltoluamide	17.5	J N	ug/L				SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Unknown	4.3	J	ug/L				SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Unknown	9.6	J	ug/L				SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Unknown	35.7	J	ug/L				SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Unknown	15.4	J	ug/L				SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Unknown	3.8	J	ug/L				SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1
Unknown	12.6	J	ug/L				SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1



Ms. Debra J. Musser
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908003**

Date Collected: 8/10/2016 09:55

Matrix: Water

Sample ID: **PAR-72-220-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	7.6		ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 18:03	DD	D
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Bromobenzene	0.75U	U	ug/L	1.0	0.75	0.20	SW846 8260C		8/15/16 18:03	DD	D
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 18:03	DD	D
tert-Butyl Alcohol	12.5U	U	ug/L	25.0	12.5	8.3	SW846 8260C		8/15/16 18:03	DD	D
n-Butylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
tert-Butylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
sec-Butylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
o-Chlorotoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
p-Chlorotoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C		8/15/16 18:03	DD	D
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
1,3-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
2,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
1,1-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
cis-1,3-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908003**

Date Collected: 8/10/2016 09:55

Matrix: Water

Sample ID: **PAR-72-220-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
trans-1,3-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Hexachlorobutadiene	0.75U	U,1	ug/L	1.0	0.75	0.43	SW846 8260C		8/15/16 18:03	DD	D
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 18:03	DD	D
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
p-Isopropyltoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 18:03	DD	D
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Naphthalene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
n-Propylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
1,1,1,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
1,2,3-Trichloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C		8/15/16 18:03	DD	D
1,2,4-Trimethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
1,3,5-Trimethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
o-Xylene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 18:03	DD	D
mp-Xylene	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C		8/15/16 18:03	DD	D
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	By	Cntr
1,2-Dichloroethane-d4 (S)	92.1		%	81 - 118			SW846 8260C		8/15/16 18:03	DD	D
4-Bromofluorobenzene (S)	110		%	85 - 114			SW846 8260C		8/15/16 18:03	DD	D
Dibromofluoromethane (S)	88.2		%	80 - 119			SW846 8260C		8/15/16 18:03	DD	D
Toluene-d8 (S)	95.7		%	89 - 112			SW846 8260C		8/15/16 18:03	DD	D

LIBRARY SEARCH - VOLATILES

No TIC's Detected

Lib Search VOC

8/15/16 18:03 CPK D

SEMIVOLATILES

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908003**

Date Collected: 8/10/2016 09:55

Matrix: Water

Sample ID: **PAR-72-220-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
Acenaphthene	0.93U	U	ug/L	1.9	0.93	0.14	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Acenaphthylene	0.30J	J	ug/L	1.9	0.93	0.18	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Anthracene	0.93U	U	ug/L	1.9	0.93	0.14	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Benzidine	27.8U	U	ug/L	27.8	27.8	2.9	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Benzo(a)anthracene	0.29J	J	ug/L	1.9	0.93	0.12	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Benzo(a)pyrene	0.93U	U	ug/L	1.9	0.93	0.20	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Benzo(b)fluoranthene	0.17J	J	ug/L	1.9	0.93	0.10	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Benzo(g,h,i)perylene	0.93U	U	ug/L	1.9	0.93	0.20	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Benzo(k)fluoranthene	0.93U	U	ug/L	1.9	0.93	0.18	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Benzyl Alcohol	0.22J	J	ug/L	7.4	1.9	0.21	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
4-Bromophenyl-phenylether	0.93U	U	ug/L	7.4	0.93	0.16	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Butylbenzylphthalate	0.93U	U	ug/L	7.4	0.93	0.10	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Carbazole	0.93U	U	ug/L	7.4	0.93	0.11	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
4-Chloro-3-methylphenol	0.93U	U	ug/L	7.4	0.93	0.18	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
4-Chloroaniline	0.93U	U	ug/L	7.4	0.93	0.19	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
bis(2-Chloroethoxy)methane	0.93U	U	ug/L	7.4	0.93	0.19	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
bis(2-Chloroethyl)ether	0.93U	U	ug/L	7.4	0.93	0.16	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
bis(2-Chloroisopropyl)ether	0.93U	U	ug/L	7.4	0.93	0.26	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
2-Chloronaphthalene	0.93U	U	ug/L	7.4	0.93	0.17	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
2-Chlorophenol	1.9U	U	ug/L	7.4	1.9	0.31	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
4-Chlorophenyl-phenylether	0.93U	U	ug/L	7.4	0.93	0.13	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Chrysene	0.19J	J	ug/L	1.9	0.93	0.11	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
mp-Cresol	0.93U	U	ug/L	7.4	0.93	0.14	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
o-Cresol	0.93U	U	ug/L	7.4	0.93	0.23	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Di-n-Butylphthalate	0.35J	J	ug/L	7.4	0.93	0.13	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Di-n-Octylphthalate	0.93U	U	ug/L	7.4	0.93	0.093	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Dibenzo(a,h)anthracene	0.93U	U	ug/L	1.9	0.93	0.19	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Dibenzofuran	0.93U	U	ug/L	7.4	0.93	0.10	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
1,2-Dichlorobenzene	0.93U	U	ug/L	7.4	0.93	0.19	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
1,3-Dichlorobenzene	0.93U	U	ug/L	7.4	0.93	0.16	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
1,4-Dichlorobenzene	0.93U	U	ug/L	7.4	0.93	0.17	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
3,3-Dichlorobenzidine	2.8U	U	ug/L	14.8	2.8	0.44	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
2,4-Dichlorophenol	0.93U	U	ug/L	7.4	0.93	0.30	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Diethylphthalate	0.93U	U	ug/L	7.4	0.93	0.17	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
2,4-Dimethylphenol	4.6U	U	ug/L	7.4	4.6	0.19	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Dimethylphthalate	0.93U	U	ug/L	7.4	0.93	0.13	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
2,4-Dinitrophenol	7.4U	U	ug/L	14.8	7.4	1.7	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
2,4-Dinitrotoluene	0.93U	U	ug/L	7.4	0.93	0.11	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908003**

Date Collected: 8/10/2016 09:55

Matrix: Water

Sample ID: **PAR-72-220-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
2,6-Dinitrotoluene	0.93U	U	ug/L	7.4	0.93	0.19	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
1,2-Diphenylhydrazine	0.93U	U	ug/L	7.4	0.93	0.24	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
bis(2-Ethylhexyl)phthalate	0.73J	J	ug/L	7.4	0.93	0.20	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Fluoranthene	0.26J	J	ug/L	1.9	0.93	0.16	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Fluorene	0.19J	J	ug/L	1.9	0.93	0.19	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Hexachlorobenzene	0.93U	U	ug/L	7.4	0.93	0.21	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Hexachlorobutadiene	0.93U	U	ug/L	7.4	0.93	0.18	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Hexachlorocyclopentadiene	1.9U	U	ug/L	7.4	1.9	0.16	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Hexachloroethane	0.93U	U	ug/L	7.4	0.93	0.28	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Indeno(1,2,3-cd)pyrene	0.093J	J	ug/L	1.9	0.93	0.093	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Isophorone	0.93U	U	ug/L	7.4	0.93	0.14	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
2-Methyl-4,6-dinitrophenol	4.6U	U	ug/L	7.4	4.6	0.31	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
2-Methylnaphthalene	0.16J	J	ug/L	1.9	0.93	0.15	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Naphthalene	0.93U	U	ug/L	1.9	0.93	0.11	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
2-Nitroaniline	0.93U	U	ug/L	7.4	0.93	0.19	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
3-Nitroaniline	1.9U	U	ug/L	7.4	1.9	0.17	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
4-Nitroaniline	0.93U	U	ug/L	7.4	0.93	0.38	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Nitrobenzene	1.9U	U	ug/L	7.4	1.9	0.26	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
2-Nitrophenol	1.9U	U	ug/L	7.4	1.9	0.42	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
4-Nitrophenol	4.6U	U	ug/L	7.4	4.6	0.97	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
N-Nitrosodimethylamine	1.9U	U	ug/L	7.4	1.9	0.59	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
N-Nitroso-di-n-propylamine	0.93U	U	ug/L	7.4	0.93	0.22	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
N-Nitrosodiphenylamine	1.9U	U	ug/L	7.4	1.9	0.17	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Pentachlorophenol	7.4U	U	ug/L	14.8	7.4	0.99	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Phenanthrene	0.46J	J	ug/L	1.9	0.93	0.12	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Phenol	0.93U	U	ug/L	7.4	0.93	0.21	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Pyrene	0.39J	J	ug/L	1.9	0.93	0.15	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
1,2,4-Trichlorobenzene	0.93U	U	ug/L	7.4	0.93	0.12	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
2,4,5-Trichlorophenol	2.8U	U	ug/L	7.4	2.8	0.51	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
2,4,6-Trichlorophenol	0.93U	U	ug/L	7.4	0.93	0.53	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2,4,6-Tribromophenol (S)	80.8		%	43 - 140			SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
2-Fluorobiphenyl (S)	64.4		%	44 - 119			SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
2-Fluorophenol (S)	39		%	19 - 119			SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Nitrobenzene-d5 (S)	65.6		%	44 - 120			SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Phenol-d5 (S)	26.9		%	13 - 49			SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Terphenyl-d14 (S)	39.2	2	%	50 - 134			SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908003**

Date Collected: 8/10/2016 09:55

Matrix: Water

Sample ID: **PAR-72-220-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
Library Search - SemiVolatiles											
Octadecanoic acid	24.0	J N	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Dotriacontane	6.2	J N	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Unknown	18.6	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Unknown	9.2	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Unknown	8.6	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Tetracontane, 3,5,24-trimethyl	7.0	J N	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Eicosane	6.7	J N	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Unknown	7.3	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Tetratetracontane	7.7	J N	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Unknown	6.6	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Unknown	24.0	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Dodecane, 5,8-diethyl-	6.0	J N	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Unknown	8.5	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Unknown	5.5	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Unknown	10.2	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Unknown	21.1	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Unknown	10.5	J	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1



Ms. Debra J. Musser

Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908004**

Date Collected: 8/10/2016 09:00

Matrix: Water

Sample ID: **PAR-72-226-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	5.1		ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 17:41	DD	D
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Bromobenzene	0.75U	U	ug/L	1.0	0.75	0.20	SW846 8260C		8/15/16 17:41	DD	D
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Bromomethane	0.75U	U,1, 2	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 17:41	DD	D
tert-Butyl Alcohol	12.5U	U	ug/L	25.0	12.5	8.3	SW846 8260C		8/15/16 17:41	DD	D
n-Butylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
tert-Butylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
sec-Butylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
o-Chlorotoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
p-Chlorotoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C		8/15/16 17:41	DD	D
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
1,3-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
2,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
1,1-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
cis-1,3-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908004**

Date Collected: 8/10/2016 09:00

Matrix: Water

Sample ID: **PAR-72-226-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
trans-1,3-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Hexachlorobutadiene	0.75U	U,4	ug/L	1.0	0.75	0.43	SW846 8260C		8/15/16 17:41	DD	D
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 17:41	DD	D
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
p-Isopropyltoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 17:41	DD	D
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Naphthalene	0.44J	J,3	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
n-Propylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
1,1,1,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
1,2,3-Trichloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C		8/15/16 17:41	DD	D
1,2,4-Trimethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
1,3,5-Trimethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
o-Xylene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 17:41	DD	D
mp-Xylene	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C		8/15/16 17:41	DD	D
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	By	Cntr
1,2-Dichloroethane-d4 (S)	93.4		%	81 - 118			SW846 8260C		8/15/16 17:41	DD	D
4-Bromofluorobenzene (S)	110		%	85 - 114			SW846 8260C		8/15/16 17:41	DD	D
Dibromofluoromethane (S)	90.2		%	80 - 119			SW846 8260C		8/15/16 17:41	DD	D
Toluene-d8 (S)	96.9		%	89 - 112			SW846 8260C		8/15/16 17:41	DD	D

LIBRARY SEARCH - VOLATILES

No TIC's Detected

Lib Search VOC

8/15/16 17:41 CPK D

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908004**

Date Collected: 8/10/2016 09:00

Matrix: Water

Sample ID: **PAR-72-226-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
Acenaphthene	1.1U	U	ug/L	2.1	1.1	0.16	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Acenaphthylene	1.1U	U	ug/L	2.1	1.1	0.20	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Anthracene	1.1U	U	ug/L	2.1	1.1	0.16	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Benzidine	31.6U	U	ug/L	31.6	31.6	3.3	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Benzo(a)anthracene	1.1U	U	ug/L	2.1	1.1	0.14	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Benzo(a)pyrene	1.1U	U	ug/L	2.1	1.1	0.23	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Benzo(b)fluoranthene	1.1U	U	ug/L	2.1	1.1	0.12	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Benzo(g,h,i)perylene	1.1U	U	ug/L	2.1	1.1	0.23	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Benzo(k)fluoranthene	1.1U	U	ug/L	2.1	1.1	0.20	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Benzyl Alcohol	2.1U	U	ug/L	8.4	2.1	0.24	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
4-Bromophenyl-phenylether	1.1U	U	ug/L	8.4	1.1	0.18	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Butylbenzylphthalate	1.1U	U	ug/L	8.4	1.1	0.12	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Carbazole	1.1U	U	ug/L	8.4	1.1	0.13	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
4-Chloro-3-methylphenol	1.1U	U	ug/L	8.4	1.1	0.20	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
4-Chloroaniline	1.1U	U	ug/L	8.4	1.1	0.22	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
bis(2-Chloroethoxy)methane	1.1U	U	ug/L	8.4	1.1	0.22	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
bis(2-Chloroethyl)ether	1.1U	U	ug/L	8.4	1.1	0.18	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
bis(2-Chloroisopropyl)ether	1.1U	U	ug/L	8.4	1.1	0.29	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
2-Chloronaphthalene	1.1U	U	ug/L	8.4	1.1	0.19	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
2-Chlorophenol	2.1U	U	ug/L	8.4	2.1	0.35	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
4-Chlorophenyl-phenylether	1.1U	U	ug/L	8.4	1.1	0.15	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Chrysene	1.1U	U	ug/L	2.1	1.1	0.13	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
mp-Cresol	1.1U	U	ug/L	8.4	1.1	0.16	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
o-Cresol	1.1U	U	ug/L	8.4	1.1	0.26	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Di-n-Butylphthalate	1.1U	U	ug/L	8.4	1.1	0.15	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Di-n-Octylphthalate	1.1U	U	ug/L	8.4	1.1	0.11	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Dibenzo(a,h)anthracene	1.1U	U	ug/L	2.1	1.1	0.22	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Dibenzofuran	1.1U	U	ug/L	8.4	1.1	0.12	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
1,2-Dichlorobenzene	1.1U	U	ug/L	8.4	1.1	0.21	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
1,3-Dichlorobenzene	1.1U	U	ug/L	8.4	1.1	0.18	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
1,4-Dichlorobenzene	1.1U	U	ug/L	8.4	1.1	0.19	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
3,3-Dichlorobenzidine	3.2U	U	ug/L	16.8	3.2	0.51	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
2,4-Dichlorophenol	1.1U	U	ug/L	8.4	1.1	0.34	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Diethylphthalate	1.5J	J	ug/L	8.4	1.1	0.19	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
2,4-Dimethylphenol	5.3U	U	ug/L	8.4	5.3	0.22	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Dimethylphthalate	1.1U	U	ug/L	8.4	1.1	0.15	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
2,4-Dinitrophenol	8.4U	U	ug/L	16.8	8.4	1.9	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
2,4-Dinitrotoluene	1.1U	U	ug/L	8.4	1.1	0.13	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908004**

Date Collected: 8/10/2016 09:00

Matrix: Water

Sample ID: **PAR-72-226-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
2,6-Dinitrotoluene	1.1U	U	ug/L	8.4	1.1	0.22	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
1,2-Diphenylhydrazine	1.1U	U	ug/L	8.4	1.1	0.27	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
bis(2-Ethylhexyl)phthalate	1.1U	U	ug/L	8.4	1.1	0.23	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Fluoranthene	1.1U	U	ug/L	2.1	1.1	0.18	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Fluorene	1.1U	U	ug/L	2.1	1.1	0.21	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Hexachlorobenzene	1.1U	U	ug/L	8.4	1.1	0.24	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Hexachlorobutadiene	1.1U	U	ug/L	8.4	1.1	0.20	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Hexachlorocyclopentadiene	2.1U	U	ug/L	8.4	2.1	0.18	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Hexachloroethane	1.1U	U	ug/L	8.4	1.1	0.32	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Indeno(1,2,3-cd)pyrene	1.1U	U	ug/L	2.1	1.1	0.11	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Isophorone	1.1U	U	ug/L	8.4	1.1	0.16	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
2-Methyl-4,6-dinitrophenol	5.3U	U	ug/L	8.4	5.3	0.35	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
2-Methylnaphthalene	1.1U	U	ug/L	2.1	1.1	0.17	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Naphthalene	1.1U	U	ug/L	2.1	1.1	0.13	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
2-Nitroaniline	1.1U	U	ug/L	8.4	1.1	0.21	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
3-Nitroaniline	2.1U	U	ug/L	8.4	2.1	0.19	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
4-Nitroaniline	1.1U	U	ug/L	8.4	1.1	0.43	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Nitrobenzene	2.1U	U	ug/L	8.4	2.1	0.29	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
2-Nitrophenol	2.1U	U	ug/L	8.4	2.1	0.47	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
4-Nitrophenol	5.3U	U	ug/L	8.4	5.3	1.1	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
N-Nitrosodimethylamine	2.1U	U	ug/L	8.4	2.1	0.67	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
N-Nitroso-di-n-propylamine	1.1U	U	ug/L	8.4	1.1	0.25	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
N-Nitrosodiphenylamine	2.1U	U	ug/L	8.4	2.1	0.19	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Pentachlorophenol	8.4U	U	ug/L	16.8	8.4	1.1	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Phenanthrene	1.1U	U	ug/L	2.1	1.1	0.14	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Phenol	1.1U	U	ug/L	8.4	1.1	0.24	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Pyrene	1.1U	U	ug/L	2.1	1.1	0.17	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
1,2,4-Trichlorobenzene	1.1U	U	ug/L	8.4	1.1	0.14	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
2,4,5-Trichlorophenol	3.2U	U	ug/L	8.4	3.2	0.58	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
2,4,6-Trichlorophenol	1.1U	U	ug/L	8.4	1.1	0.60	SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2,4,6-Tribromophenol (S)	80.6		%	43 - 140			SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
2-Fluorobiphenyl (S)	75.6		%	44 - 119			SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
2-Fluorophenol (S)	51.8		%	19 - 119			SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Nitrobenzene-d5 (S)	76.4		%	44 - 120			SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Phenol-d5 (S)	32.8		%	13 - 49			SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Terphenyl-d14 (S)	65.9		%	50 - 134			SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1

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**ANALYTICAL RESULTS**

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908004**

Date Collected: 8/10/2016 09:00

Matrix: Water

Sample ID: **PAR-72-226-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
Library Search - SemiVolatiles											
Unknown	13.0	J	ug/L				SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1
Unknown	12.2	J	ug/L				SW846 8270D	8/15/16 LEH	8/16/16 16:55	CGS	B1

Ms. Debra J. Musser

Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908005**

Date Collected: 8/10/2016 08:35

Matrix: Water

Sample ID: **PAR-72-228-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	8.0		ug/L	5.0	3.8	1.6	SW846 8260C		8/23/16 15:16	TMP	F
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
Bromobenzene	0.75U	U	ug/L	1.0	0.75	0.20	SW846 8260C		8/23/16 15:16	TMP	F
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/23/16 15:16	TMP	F
tert-Butyl Alcohol	12.5U	U	ug/L	25.0	12.5	8.3	SW846 8260C		8/23/16 15:16	TMP	F
n-Butylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
tert-Butylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
sec-Butylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/24/16 14:09	TMP	E
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
o-Chlorotoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
p-Chlorotoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C		8/23/16 15:16	TMP	F
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
1,3-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
2,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
1,1-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
cis-1,3-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908005**

Date Collected: 8/10/2016 08:35

Matrix: Water

Sample ID: **PAR-72-228-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
trans-1,3-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
Hexachlorobutadiene	0.75U	U	ug/L	1.0	0.75	0.43	SW846 8260C		8/23/16 15:16	TMP	F
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/23/16 15:16	TMP	F
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
p-Isopropyltoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/23/16 15:16	TMP	F
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
Naphthalene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/24/16 14:09	TMP	E
n-Propylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
1,1,1,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
1,2,3-Trichloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C		8/23/16 15:16	TMP	F
1,2,4-Trimethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/24/16 14:09	TMP	E
1,3,5-Trimethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/24/16 14:09	TMP	E
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
o-Xylene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/23/16 15:16	TMP	F
mp-Xylene	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C		8/23/16 15:16	TMP	F
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	114		%	81 - 118			SW846 8260C		8/24/16 14:09	TMP	E
1,2-Dichloroethane-d4 (S)	108		%	81 - 118			SW846 8260C		8/23/16 15:16	TMP	F
4-Bromofluorobenzene (S)	104		%	85 - 114			SW846 8260C		8/23/16 15:16	TMP	F
4-Bromofluorobenzene (S)	102		%	85 - 114			SW846 8260C		8/24/16 14:09	TMP	E
Dibromofluoromethane (S)	85.3		%	80 - 119			SW846 8260C		8/24/16 14:09	TMP	E
Dibromofluoromethane (S)	87.3		%	80 - 119			SW846 8260C		8/23/16 15:16	TMP	F
Toluene-d8 (S)	94.9		%	89 - 112			SW846 8260C		8/24/16 14:09	TMP	E
Toluene-d8 (S)	94.3		%	89 - 112			SW846 8260C		8/23/16 15:16	TMP	F

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908005**

Date Collected: 8/10/2016 08:35

Matrix: Water

Sample ID: **PAR-72-228-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
LIBRARY SEARCH - VOLATILES											
No TIC's Detected	.						Lib Search VOC		8/24/16 14:09	CPK	D
SEMIVOLATILES											
Acenaphthene	1.0U	U	ug/L	2.0	1.0	0.15	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Acenaphthylene	1.0U	U	ug/L	2.0	1.0	0.19	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Anthracene	0.22J	J	ug/L	2.0	1.0	0.15	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Benzidine	30.5U	U	ug/L	30.5	30.5	3.1	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Benzo(a)anthracene	1.0U	U	ug/L	2.0	1.0	0.13	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Benzo(a)pyrene	1.0U	U	ug/L	2.0	1.0	0.22	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Benzo(b)fluoranthene	1.0U	U	ug/L	2.0	1.0	0.11	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Benzo(g,h,i)perylene	1.0U	U	ug/L	2.0	1.0	0.22	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Benzo(k)fluoranthene	1.0U	U	ug/L	2.0	1.0	0.19	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Benzyl Alcohol	2.0U	U	ug/L	8.1	2.0	0.23	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
4-Bromophenyl-phenylether	1.0U	U	ug/L	8.1	1.0	0.17	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Butylbenzylphthalate	1.0U	U	ug/L	8.1	1.0	0.11	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Carbazole	1.0U	U	ug/L	8.1	1.0	0.12	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
4-Chloro-3-methylphenol	1.0U	U	ug/L	8.1	1.0	0.19	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
4-Chloroaniline	1.0U	U	ug/L	8.1	1.0	0.21	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
bis(2-Chloroethoxy)methane	1.0U	U	ug/L	8.1	1.0	0.21	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
bis(2-Chloroethyl)ether	1.0U	U	ug/L	8.1	1.0	0.17	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
bis(2-Chloroisopropyl)ether	1.0U	U	ug/L	8.1	1.0	0.28	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
2-Chloronaphthalene	1.0U	U	ug/L	8.1	1.0	0.18	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
2-Chlorophenol	2.0U	U	ug/L	8.1	2.0	0.34	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
4-Chlorophenyl-phenylether	1.0U	U	ug/L	8.1	1.0	0.14	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Chrysene	1.0U	U	ug/L	2.0	1.0	0.12	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
mp-Cresol	1.0U	U	ug/L	8.1	1.0	0.15	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
o-Cresol	1.0U	U	ug/L	8.1	1.0	0.25	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Di-n-Butylphthalate	1.0U	U	ug/L	8.1	1.0	0.14	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Di-n-Octylphthalate	1.0U	U	ug/L	8.1	1.0	0.10	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Dibenzo(a,h)anthracene	1.0U	U	ug/L	2.0	1.0	0.21	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Dibenzofuran	0.16J	J	ug/L	8.1	1.0	0.11	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
1,2-Dichlorobenzene	1.0U	U	ug/L	8.1	1.0	0.20	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
1,3-Dichlorobenzene	1.0U	U	ug/L	8.1	1.0	0.17	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
1,4-Dichlorobenzene	1.0U	U	ug/L	8.1	1.0	0.18	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
3,3-Dichlorobenzidine	3.0U	U	ug/L	16.2	3.0	0.49	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
2,4-Dichlorophenol	1.0U	U	ug/L	8.1	1.0	0.32	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Diethylphthalate	0.22J	J	ug/L	8.1	1.0	0.18	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
2,4-Dimethylphenol	5.1U	U	ug/L	8.1	5.1	0.21	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908005**

Date Collected: 8/10/2016 08:35

Matrix: Water

Sample ID: **PAR-72-228-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
Dimethylphthalate	1.0U	U	ug/L	8.1	1.0	0.14	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
2,4-Dinitrophenol	8.1U	U	ug/L	16.2	8.1	1.8	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
2,4-Dinitrotoluene	1.0U	U	ug/L	8.1	1.0	0.12	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
2,6-Dinitrotoluene	1.0U	U	ug/L	8.1	1.0	0.21	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
1,2-Diphenylhydrazine	1.0U	U	ug/L	8.1	1.0	0.26	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
bis(2-Ethylhexyl)phthalate	1.0U	U	ug/L	8.1	1.0	0.22	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Fluoranthene	1.0U	U	ug/L	2.0	1.0	0.17	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Fluorene	0.21J	J	ug/L	2.0	1.0	0.20	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Hexachlorobenzene	1.0U	U	ug/L	8.1	1.0	0.23	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Hexachlorobutadiene	1.0U	U	ug/L	8.1	1.0	0.19	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Hexachlorocyclopentadiene	2.0U	U	ug/L	8.1	2.0	0.17	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Hexachloroethane	1.0U	U	ug/L	8.1	1.0	0.30	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Indeno(1,2,3-cd)pyrene	1.0U	U	ug/L	2.0	1.0	0.10	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Isophorone	1.0U	U	ug/L	8.1	1.0	0.15	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
2-Methyl-4,6-dinitrophenol	5.1U	U	ug/L	8.1	5.1	0.34	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
2-Methylnaphthalene	1.0U	U	ug/L	2.0	1.0	0.16	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Naphthalene	1.0U	U	ug/L	2.0	1.0	0.12	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
2-Nitroaniline	1.0U	U	ug/L	8.1	1.0	0.20	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
3-Nitroaniline	2.0U	U	ug/L	8.1	2.0	0.18	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
4-Nitroaniline	1.0U	U	ug/L	8.1	1.0	0.42	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Nitrobenzene	2.0U	U	ug/L	8.1	2.0	0.28	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
2-Nitrophenol	2.0U	U	ug/L	8.1	2.0	0.46	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
4-Nitrophenol	5.1U	U	ug/L	8.1	5.1	1.1	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
N-Nitrosodimethylamine	2.0U	U	ug/L	8.1	2.0	0.65	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
N-Nitroso-di-n-propylamine	1.0U	U	ug/L	8.1	1.0	0.24	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
N-Nitrosodiphenylamine	2.0U	U	ug/L	8.1	2.0	0.18	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Pentachlorophenol	8.1U	U	ug/L	16.2	8.1	1.1	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Phenanthrene	0.29J	J	ug/L	2.0	1.0	0.13	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Phenol	1.0U	U	ug/L	8.1	1.0	0.23	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Pyrene	0.17J	J	ug/L	2.0	1.0	0.16	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
1,2,4-Trichlorobenzene	1.0U	U	ug/L	8.1	1.0	0.13	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
2,4,5-Trichlorophenol	3.0U	U	ug/L	8.1	3.0	0.56	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
2,4,6-Trichlorophenol	1.0U	U	ug/L	8.1	1.0	0.58	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2,4,6-Tribromophenol (S)	77.6		%	43 - 140			SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
2-Fluorobiphenyl (S)	73.7		%	44 - 119			SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
2-Fluorophenol (S)	50.1		%	19 - 119			SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Nitrobenzene-d5 (S)	75.3		%	44 - 120			SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908005**

Date Collected: 8/10/2016 08:35

Matrix: Water

Sample ID: **PAR-72-228-TMW-01**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
Phenol-d5 (S)	31.7		%	13 - 49			SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Terphenyl-d14 (S)	71.3		%	50 - 134			SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Library Search - SemiVolatiles											
Undecane, 2,6-dimethyl-	5.2	J N	ug/L				SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Unknown	8.0	J	ug/L				SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Eicosane	8.2	J N	ug/L				SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Unknown	7.2	J	ug/L				SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Unknown	10.2	J	ug/L				SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1
Unknown	11.3	J	ug/L				SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	B1

Debra J Musser

Ms. Debra J. Musser

Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908006**

Date Collected: 8/10/2016 15:30

Matrix: Water

Sample ID: **PAR-72-EB-08102016**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	3.4J	J	ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 16:13	DD	D
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Bromobenzene	0.75U	U	ug/L	1.0	0.75	0.20	SW846 8260C		8/15/16 16:13	DD	D
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 16:13	DD	D
tert-Butyl Alcohol	12.5U	U	ug/L	25.0	12.5	8.3	SW846 8260C		8/15/16 16:13	DD	D
n-Butylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
tert-Butylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
sec-Butylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
o-Chlorotoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
p-Chlorotoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C		8/15/16 16:13	DD	D
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
1,3-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
2,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
1,1-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
cis-1,3-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908006**

Date Collected: 8/10/2016 15:30

Matrix: Water

Sample ID: **PAR-72-EB-08102016**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
trans-1,3-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Hexachlorobutadiene	0.75U	U,1	ug/L	1.0	0.75	0.43	SW846 8260C		8/15/16 16:13	DD	D
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 16:13	DD	D
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
p-Isopropyltoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 16:13	DD	D
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Naphthalene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
n-Propylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
1,1,1,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
1,2,3-Trichloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C		8/15/16 16:13	DD	D
1,2,4-Trimethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
1,3,5-Trimethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
o-Xylene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 16:13	DD	D
mp-Xylene	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C		8/15/16 16:13	DD	D
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	101		%	81 - 118			SW846 8260C		8/15/16 16:13	DD	D
4-Bromofluorobenzene (S)	109		%	85 - 114			SW846 8260C		8/15/16 16:13	DD	D
Dibromofluoromethane (S)	91		%	80 - 119			SW846 8260C		8/15/16 16:13	DD	D
Toluene-d8 (S)	94.6		%	89 - 112			SW846 8260C		8/15/16 16:13	DD	D

LIBRARY SEARCH - VOLATILES

No TIC's Detected

Lib Search VOC

8/15/16 16:13 CPK D

SEMIVOLATILES

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908006**

Date Collected: 8/10/2016 15:30

Matrix: Water

Sample ID: **PAR-72-EB-08102016**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
Acenaphthene	1.0U	U	ug/L	2.0	1.0	0.15	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Acenaphthylene	1.0U	U	ug/L	2.0	1.0	0.19	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Anthracene	1.0U	U	ug/L	2.0	1.0	0.15	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Benzidine	30.6U	U	ug/L	30.6	30.6	3.2	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Benzo(a)anthracene	1.0U	U	ug/L	2.0	1.0	0.13	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Benzo(a)pyrene	1.0U	U	ug/L	2.0	1.0	0.22	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Benzo(b)fluoranthene	1.0U	U	ug/L	2.0	1.0	0.11	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Benzo(g,h,i)perylene	1.0U	U	ug/L	2.0	1.0	0.22	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Benzo(k)fluoranthene	1.0U	U	ug/L	2.0	1.0	0.19	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Benzyl Alcohol	2.0U	U	ug/L	8.2	2.0	0.23	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
4-Bromophenyl-phenylether	1.0U	U	ug/L	8.2	1.0	0.17	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Butylbenzylphthalate	1.0U	U	ug/L	8.2	1.0	0.11	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Carbazole	1.0U	U	ug/L	8.2	1.0	0.12	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
4-Chloro-3-methylphenol	1.0U	U	ug/L	8.2	1.0	0.19	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
4-Chloroaniline	1.0U	U	ug/L	8.2	1.0	0.21	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
bis(2-Chloroethoxy)methane	1.0U	U	ug/L	8.2	1.0	0.21	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
bis(2-Chloroethyl)ether	1.0U	U	ug/L	8.2	1.0	0.17	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
bis(2-Chloroisopropyl)ether	1.0U	U	ug/L	8.2	1.0	0.29	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
2-Chloronaphthalene	1.0U	U	ug/L	8.2	1.0	0.18	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
2-Chlorophenol	2.0U	U	ug/L	8.2	2.0	0.34	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
4-Chlorophenyl-phenylether	1.0U	U	ug/L	8.2	1.0	0.14	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Chrysene	1.0U	U	ug/L	2.0	1.0	0.12	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
mp-Cresol	1.0U	U	ug/L	8.2	1.0	0.15	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
o-Cresol	1.0U	U	ug/L	8.2	1.0	0.26	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Di-n-Butylphthalate	1.0U	U	ug/L	8.2	1.0	0.14	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Di-n-Octylphthalate	1.0U	U	ug/L	8.2	1.0	0.10	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Dibenzo(a,h)anthracene	1.0U	U	ug/L	2.0	1.0	0.21	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Dibenzofuran	1.0U	U	ug/L	8.2	1.0	0.11	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
1,2-Dichlorobenzene	1.0U	U	ug/L	8.2	1.0	0.20	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
1,3-Dichlorobenzene	1.0U	U	ug/L	8.2	1.0	0.17	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
1,4-Dichlorobenzene	1.0U	U	ug/L	8.2	1.0	0.18	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
3,3-Dichlorobenzidine	3.1U	U	ug/L	16.3	3.1	0.49	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
2,4-Dichlorophenol	1.0U	U	ug/L	8.2	1.0	0.33	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Diethylphthalate	1.0U	U	ug/L	8.2	1.0	0.18	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
2,4-Dimethylphenol	5.1U	U	ug/L	8.2	5.1	0.21	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Dimethylphthalate	1.0U	U	ug/L	8.2	1.0	0.14	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
2,4-Dinitrophenol	8.2U	U	ug/L	16.3	8.2	1.8	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
2,4-Dinitrotoluene	1.0U	U	ug/L	8.2	1.0	0.12	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908006**

Date Collected: 8/10/2016 15:30

Matrix: Water

Sample ID: **PAR-72-EB-08102016**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
2,6-Dinitrotoluene	1.0U	U	ug/L	8.2	1.0	0.21	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
1,2-Diphenylhydrazine	1.0U	U	ug/L	8.2	1.0	0.27	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
bis(2-Ethylhexyl)phthalate	1.0U	U	ug/L	8.2	1.0	0.22	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Fluoranthene	1.0U	U	ug/L	2.0	1.0	0.17	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Fluorene	1.0U	U	ug/L	2.0	1.0	0.20	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Hexachlorobenzene	1.0U	U	ug/L	8.2	1.0	0.23	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Hexachlorobutadiene	1.0U	U	ug/L	8.2	1.0	0.19	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Hexachlorocyclopentadiene	2.0U	U	ug/L	8.2	2.0	0.17	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Hexachloroethane	1.0U	U	ug/L	8.2	1.0	0.31	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Indeno(1,2,3-cd)pyrene	1.0U	U	ug/L	2.0	1.0	0.10	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Isophorone	1.0U	U	ug/L	8.2	1.0	0.15	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
2-Methyl-4,6-dinitrophenol	5.1U	U	ug/L	8.2	5.1	0.34	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
2-Methylnaphthalene	1.0J	J	ug/L	2.0	1.0	0.16	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Naphthalene	0.26J	J	ug/L	2.0	1.0	0.12	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
2-Nitroaniline	1.0U	U	ug/L	8.2	1.0	0.20	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
3-Nitroaniline	2.0U	U	ug/L	8.2	2.0	0.18	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
4-Nitroaniline	1.0U	U	ug/L	8.2	1.0	0.42	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Nitrobenzene	2.0U	U	ug/L	8.2	2.0	0.29	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
2-Nitrophenol	2.0U	U	ug/L	8.2	2.0	0.46	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
4-Nitrophenol	5.1U	U	ug/L	8.2	5.1	1.1	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
N-Nitrosodimethylamine	2.0U	U	ug/L	8.2	2.0	0.65	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
N-Nitroso-di-n-propylamine	1.0U	U	ug/L	8.2	1.0	0.24	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
N-Nitrosodiphenylamine	2.0U	U	ug/L	8.2	2.0	0.18	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Pentachlorophenol	8.2U	U	ug/L	16.3	8.2	1.1	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Phenanthrene	0.25J	J	ug/L	2.0	1.0	0.13	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Phenol	1.0U	U	ug/L	8.2	1.0	0.23	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Pyrene	1.0U	U	ug/L	2.0	1.0	0.16	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
1,2,4-Trichlorobenzene	1.0U	U	ug/L	8.2	1.0	0.13	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
2,4,5-Trichlorophenol	3.1U	U	ug/L	8.2	3.1	0.56	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
2,4,6-Trichlorophenol	1.0U	U	ug/L	8.2	1.0	0.58	SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2,4,6-Tribromophenol (S)	82.2		%	43 - 140			SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
2-Fluorobiphenyl (S)	79.8		%	44 - 119			SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
2-Fluorophenol (S)	55.8		%	19 - 119			SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Nitrobenzene-d5 (S)	83.4		%	44 - 120			SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Phenol-d5 (S)	35.7		%	13 - 49			SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
Terphenyl-d14 (S)	81.8		%	50 - 134			SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1

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ANALYTICAL RESULTS

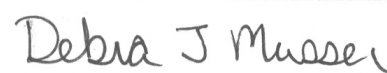
Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908006** Date Collected: 8/10/2016 15:30 Matrix: Water
Sample ID: **PAR-72-EB-08102016** Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
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Library Search - SemiVolatiles

Unknown	104	J	ug/L				SW846 8270D	8/15/16 LEH	8/16/16 18:09	CGS	B1
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Ms. Debra J. Musser
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908007**

Date Collected: 8/11/2016 20:10

Matrix: Water

Sample ID: **PAR-72-TB-08102016**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	16.8		ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 15:51	DD	B
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Bromobenzene	0.75U	U	ug/L	1.0	0.75	0.20	SW846 8260C		8/15/16 15:51	DD	B
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
2-Butanone	2.9J	J	ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 15:51	DD	B
tert-Butyl Alcohol	12.5U	U	ug/L	25.0	12.5	8.3	SW846 8260C		8/15/16 15:51	DD	B
n-Butylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
tert-Butylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
sec-Butylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
o-Chlorotoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
p-Chlorotoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C		8/15/16 15:51	DD	B
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
1,3-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
2,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
1,1-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
cis-1,3-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B

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ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908007**

Date Collected: 8/11/2016 20:10

Matrix: Water

Sample ID: **PAR-72-TB-08102016**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
trans-1,3-Dichloropropene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Hexachlorobutadiene	0.75U	U,1	ug/L	1.0	0.75	0.43	SW846 8260C		8/15/16 15:51	DD	B
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 15:51	DD	B
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
p-Isopropyltoluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C		8/15/16 15:51	DD	B
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Naphthalene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
n-Propylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
1,1,1,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
1,2,3-Trichloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C		8/15/16 15:51	DD	B
1,2,4-Trimethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
1,3,5-Trimethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
o-Xylene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C		8/15/16 15:51	DD	B
mp-Xylene	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C		8/15/16 15:51	DD	B
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	96.5		%	81 - 118			SW846 8260C		8/15/16 15:51	DD	B
4-Bromofluorobenzene (S)	107		%	85 - 114			SW846 8260C		8/15/16 15:51	DD	B
Dibromofluoromethane (S)	89.2		%	80 - 119			SW846 8260C		8/15/16 15:51	DD	B
Toluene-d8 (S)	92.7		%	89 - 112			SW846 8260C		8/15/16 15:51	DD	B
LIBRARY SEARCH - VOLATILES											
No TIC's Detected	.						Lib Search VOC		8/15/16 15:51	CPK	B

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ALS Environmental



34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2166908 PQF025|FTMM

Lab ID: **2166908007**

Date Collected: 8/11/2016 20:10

Matrix: Water

Sample ID: **PAR-72-TB-08102016**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
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Ms. Debra J. Musser
Project Coordinator

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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2166908001	1	PAR-72-211-TMW-01	SW846 8270D	2-Fluorophenol
The surrogate 2-Fluorophenol for method SW846 8270D was outside of control limits. The % Recovery was reported as 16.8 and the control limits were 19 to 119. This result was reported at a dilution of 10.				
2166908001	2	PAR-72-211-TMW-01	SW846 8270D	Phenol-d5
The surrogate Phenol-d5 for method SW846 8270D was outside of control limits. The % Recovery was reported as 68.1 and the control limits were 13 to 49. This result was reported at a dilution of 10.				
2166908001	3	PAR-72-211-TMW-01	SW846 8270D	Nitrobenzene-d5
The surrogate Nitrobenzene-d5 for method SW846 8270D was outside of control limits. The % Recovery was reported as 0 and the control limits were 44 to 120. This result was reported at a dilution of 10.				
2166908001	4	PAR-72-211-TMW-01	SW846 8270D	2-Fluorophenol
The surrogate 2-Fluorophenol for method SW846 8270D was outside of control limits. The % Recovery was reported as 0 and the control limits were 19 to 119. This result was reported at a dilution of 50.				
2166908001	5	PAR-72-211-TMW-01	SW846 8270D	Phenol-d5
The surrogate Phenol-d5 for method SW846 8270D was outside of control limits. The % Recovery was reported as 0 and the control limits were 13 to 49. This result was reported at a dilution of 50.				
2166908001	6	PAR-72-211-TMW-01	SW846 8270D	Nitrobenzene-d5
The surrogate Nitrobenzene-d5 for method SW846 8270D was outside of control limits. The % Recovery was reported as 254 and the control limits were 44 to 120. This result was reported at a dilution of 50.				
2166908001	7	PAR-72-211-TMW-01	SW846 8270D	2-Fluorobiphenyl
The surrogate 2-Fluorobiphenyl for method SW846 8270D was outside of control limits. The % Recovery was reported as 0 and the control limits were 44 to 119. This result was reported at a dilution of 50.				
2166908001	8	PAR-72-211-TMW-01	SW846 8270D	Terphenyl-d14
The surrogate Terphenyl-d14 for method SW846 8270D was outside of control limits. The % Recovery was reported as 0 and the control limits were 50 to 134. This result was reported at a dilution of 50.				
2166908002	1	PAR-72-212-TMW-01	SW846 8260C	Hexachlorobutadiene
The Method Blank for method SW846 8260C reported a value greater than the reporting level for the analyte Hexachlorobutadiene.				
2166908003	1	PAR-72-220-TMW-01	SW846 8260C	Hexachlorobutadiene
The Method Blank for method SW846 8260C reported a value greater than the reporting level for the analyte Hexachlorobutadiene.				
2166908003	2	PAR-72-220-TMW-01	SW846 8270D	Terphenyl-d14
The surrogate Terphenyl-d14 for method SW846 8270D was outside of control limits. The % Recovery was reported as 39.2 and the control limits were 50 to 134. This result was reported at a dilution of 1.				
2166908004	1	PAR-72-226-TMW-01	SW846 8260C	Bromomethane
The QC sample type MS for method SW846 8260C was outside the control limits for the analyte Bromomethane. The % Recovery was reported as 39.9 and the control limits were 53 to 141.				
2166908004	2	PAR-72-226-TMW-01	SW846 8260C	Bromomethane
The QC sample type MSD for method SW846 8260C was outside the control limits for the analyte Bromomethane. The RPD was reported as 38.8 and the upper control limit is 30.				
2166908004	3	PAR-72-226-TMW-01	SW846 8260C	Naphthalene
The QC sample type MS for method SW846 8260C was outside the control limits for the analyte Naphthalene. The % Recovery was reported as 145 and the control limits were 61 to 128.				
2166908004	4	PAR-72-226-TMW-01	SW846 8260C	Hexachlorobutadiene
The Method Blank for method SW846 8260C reported a value greater than the reporting level for the analyte Hexachlorobutadiene.				
2166908006	1	PAR-72-EB-08102016	SW846 8260C	Hexachlorobutadiene
The Method Blank for method SW846 8260C reported a value greater than the reporting level for the analyte Hexachlorobutadiene.				
2166908007	1	PAR-72-TB-08102016	SW846 8260C	Hexachlorobutadiene
The Method Blank for method SW846 8260C reported a value greater than the reporting level for the analyte Hexachlorobutadiene.				

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1565 Jefferson Road
Building 300, Suite 360
Rochester, NY 14623
(585)288-5380

**CHAIN OF CUSTODY/
REQUEST FOR ANALYSIS**

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK

CQC #: 972
ALS QU

ALS Quote #:

[illegible]

August 22, 2016

Ms. Carla Rodman
Parsons
301 Plainfield Rd
Suite 350
Syracuse, NY 13212

Certificate of Analysis

Project Name:	Ft. Monmouth Soils	Workorder:	2166911
Purchase Order:		Workorder ID:	PQF028 FTMM

Dear Ms. Rodman:

Enclosed are the analytical results for samples received by the laboratory on Thursday, August 11, 2016.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Debra J. Musser (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Christina Grill , Ms. Maryanne Kosciwicz , Mr. Cory Mahony

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.



Ms. Debra J. Musser
Project Coordinator

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SAMPLE SUMMARY

Workorder: 2166911 PQF028|FTMM

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2166911001	PAR-72-212-SB-01-5-5.5	Solid	8/10/2016 09:25	8/11/2016 20:10	Collected by Client
2166911002	PAR-72-212-SB-01-11-11.5	Solid	8/10/2016 09:35	8/11/2016 20:10	Collected by Client
2166911003	PAR-72-212-SB-02-5-5.5	Solid	8/10/2016 10:00	8/11/2016 20:10	Collected by Client
2166911004	PAR-72-212-SB-02-11.5-12	Solid	8/10/2016 10:15	8/11/2016 20:10	Collected by Client

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SAMPLE SUMMARY

Workorder: 2166911 PQF028|FTMM

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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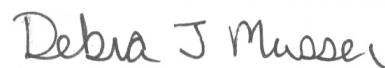
ANALYTICAL RESULTS

Workorder: 2166911 PQF028|FTMM

Lab ID: **2166911001**
Sample ID: **PAR-72-212-SB-01-5-5.5**

Date Collected: 8/10/2016 09:25 Matrix: Solid
Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
SEMIVOLATILES											
2-Methylnaphthalene	0.073U	U	mg/kg	0.29	0.073	0.0054	SW846 8270D	8/15/16 PDK	8/17/16 17:57	CGS	A1
Naphthalene	0.0074J	J	mg/kg	0.11	0.073	0.0065	SW846 8270D	8/15/16 PDK	8/17/16 17:57	CGS	A1
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2,4,6-Tribromophenol (S)	80.3		%	39 - 132			SW846 8270D	8/15/16 PDK	8/17/16 17:57	CGS	A1
2-Fluorobiphenyl (S)	70.1		%	44 - 115			SW846 8270D	8/15/16 PDK	8/17/16 17:57	CGS	A1
2-Fluorophenol (S)	59.8		%	35 - 115			SW846 8270D	8/15/16 PDK	8/17/16 17:57	CGS	A1
Nitrobenzene-d5 (S)	59.5		%	37 - 122			SW846 8270D	8/15/16 PDK	8/17/16 17:57	CGS	A1
Phenol-d5 (S)	71.1		%	33 - 122			SW846 8270D	8/15/16 PDK	8/17/16 17:57	CGS	A1
Terphenyl-d14 (S)	80.2		%	54 - 127			SW846 8270D	8/15/16 PDK	8/17/16 17:57	CGS	A1
WET CHEMISTRY											
Moisture	11.6		%	0.1	0.1	0.01	S2540G-11		8/16/16 10:08	VKB	A
Total Solids	88.4		%	0.1	0.1	0.01	S2540G-11		8/16/16 10:08	VKB	A



Ms. Debra J. Musser
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2166911 PQF028|FTMM

Lab ID: **2166911002**

Date Collected: 8/10/2016 09:35

Matrix: Solid

Sample ID: **PAR-72-212-SB-01-11-11.5**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
SEMIVOLATILES											
2-Methylnaphthalene	0.074U	U	mg/kg	0.30	0.074	0.0055	SW846 8270D	8/15/16 PDK	8/17/16 18:22	CGS	A1
Naphthalene	0.074U	U	mg/kg	0.11	0.074	0.0067	SW846 8270D	8/15/16 PDK	8/17/16 18:22	CGS	A1
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2,4,6-Tribromophenol (S)	78.9		%	39 - 132			SW846 8270D	8/15/16 PDK	8/17/16 18:22	CGS	A1
2-Fluorobiphenyl (S)	73.9		%	44 - 115			SW846 8270D	8/15/16 PDK	8/17/16 18:22	CGS	A1
2-Fluorophenol (S)	74.7		%	35 - 115			SW846 8270D	8/15/16 PDK	8/17/16 18:22	CGS	A1
Nitrobenzene-d5 (S)	73.2		%	37 - 122			SW846 8270D	8/15/16 PDK	8/17/16 18:22	CGS	A1
Phenol-d5 (S)	77		%	33 - 122			SW846 8270D	8/15/16 PDK	8/17/16 18:22	CGS	A1
Terphenyl-d14 (S)	78.3		%	54 - 127			SW846 8270D	8/15/16 PDK	8/17/16 18:22	CGS	A1
WET CHEMISTRY											
Moisture	14.9		%	0.1	0.1	0.01	S2540G-11		8/16/16 10:08	VKB	A
Total Solids	85.1		%	0.1	0.1	0.01	S2540G-11		8/16/16 10:08	VKB	A



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ANALYTICAL RESULTS

Workorder: 2166911 PQF028|FTMM

Lab ID: **2166911003**
Sample ID: **PAR-72-212-SB-02-5-5.5**

Date Collected: 8/10/2016 10:00 Matrix: Solid
Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
SEMIVOLATILES											
2-Methylnaphthalene	0.073U	U	mg/kg	0.29	0.073	0.0054	SW846 8270D	8/15/16 PDK	8/17/16 18:47	CGS	A1
Naphthalene	0.073U	U	mg/kg	0.11	0.073	0.0065	SW846 8270D	8/15/16 PDK	8/17/16 18:47	CGS	A1
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2,4,6-Tribromophenol (S)	77.7		%	39 - 132			SW846 8270D	8/15/16 PDK	8/17/16 18:47	CGS	A1
2-Fluorobiphenyl (S)	78.6		%	44 - 115			SW846 8270D	8/15/16 PDK	8/17/16 18:47	CGS	A1
2-Fluorophenol (S)	76		%	35 - 115			SW846 8270D	8/15/16 PDK	8/17/16 18:47	CGS	A1
Nitrobenzene-d5 (S)	77.5		%	37 - 122			SW846 8270D	8/15/16 PDK	8/17/16 18:47	CGS	A1
Phenol-d5 (S)	78.7		%	33 - 122			SW846 8270D	8/15/16 PDK	8/17/16 18:47	CGS	A1
Terphenyl-d14 (S)	74.2		%	54 - 127			SW846 8270D	8/15/16 PDK	8/17/16 18:47	CGS	A1
WET CHEMISTRY											
Moisture	11.7		%	0.1	0.1	0.01	S2540G-11		8/16/16 10:08	VKB	A
Total Solids	88.3		%	0.1	0.1	0.01	S2540G-11		8/16/16 10:08	VKB	A



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ANALYTICAL RESULTS

Workorder: 2166911 PQF028|FTMM

Lab ID: **2166911004**

Date Collected: 8/10/2016 10:15

Matrix: Solid

Sample ID: **PAR-72-212-SB-02-11.5-12**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
SEMIVOLATILES											
2-Methylnaphthalene	0.075U	U	mg/kg	0.30	0.075	0.0056	SW846 8270D	8/15/16 PDK	8/17/16 19:12	CGS	A1
Naphthalene	0.075U	U	mg/kg	0.11	0.075	0.0067	SW846 8270D	8/15/16 PDK	8/17/16 19:12	CGS	A1
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2,4,6-Tribromophenol (S)	77.9		%	39 - 132			SW846 8270D	8/15/16 PDK	8/17/16 19:12	CGS	A1
2-Fluorobiphenyl (S)	75.3		%	44 - 115			SW846 8270D	8/15/16 PDK	8/17/16 19:12	CGS	A1
2-Fluorophenol (S)	74		%	35 - 115			SW846 8270D	8/15/16 PDK	8/17/16 19:12	CGS	A1
Nitrobenzene-d5 (S)	71.6		%	37 - 122			SW846 8270D	8/15/16 PDK	8/17/16 19:12	CGS	A1
Phenol-d5 (S)	81.5		%	33 - 122			SW846 8270D	8/15/16 PDK	8/17/16 19:12	CGS	A1
Terphenyl-d14 (S)	77.1		%	54 - 127			SW846 8270D	8/15/16 PDK	8/17/16 19:12	CGS	A1
WET CHEMISTRY											
Moisture	16.1		%	0.1	0.1	0.01	S2540G-11		8/16/16 10:08	VKB	A
Total Solids	83.9		%	0.1	0.1	0.01	S2540G-11		8/16/16 10:08	VKB	A



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1565 Jefferson Road
Building 300, Suite 360
Rochester, NY 14623
(585)288-5380

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /
SAMPLER. INSTRUCTIONS ON THE BACK.

Client Name: Parsons Federal		Container Type	AN	AN	CG	AN	AN	CG	AN	CG	Receipt Information (completed by Receiving Lab)	
Address: 100 High St. 4th Floor		Container Size	4 oz	4 oz	40mL	4 oz	1L	40mL	4 oz	40mL	Cooler Temp: 1	Therm ID: 352
Boston, MA 02110		Preservative	4C	4C	4C & MECH	4C	HCL	HCL	4C	HCL	No. of Coolers: Y	N Initial
Contact: Cory Mahony												
Phone#: 617-449-1440												
Project Name#: FTMM												
Bill To: Parsons Federal												
TAT ☒ Normal-Standard TAT is 10-12 business days.												
Date Required: ☐ Rush-Subject to ALS approval and surcharges.												
Email? ☒ Y ☐ N carla.rodman@parsons.com												
Fax? ☐ Y ☐ N												
Sample Description/Location (as it will appear on the lab report)												
Sample Date Time												
1 PAR-72-212-SB-01-5-5 08/12/16 0925												
2 PAR-72-212-SB-01-11-5 0935												
3 PAR-72-212-SB-02-5-5 1000												
4 PAR-72-212-SB-02-11-5-12 1015												
5												
6												
7												
8												
9												
10												
Project Comments: 748910												
MDL Must Meet NDEP Soil Cleanup Criteria and/or Groundwater Quality Standards												
LOGGED BY (signature): [Signature] 8/10/16												
REVIEWED BY (signature): [Signature]												
Relinquished By / Company Name Date Time Received By / Company Name Date Time												
1 [Signature] 8/11/16 1100 [Signature] 8/11/16 1100												
3 [Signature] 8/11/16 1719 [Signature] 8/11/16 1719												
5 [Signature] 8/11/16 2010 [Signature] 8/11/16 2010												
7 [Signature]												
9 [Signature]												
Matrix - A=Air; DW=Drinking Water; GW=Groundwater; O=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater												
ALS ENVIRONMENTAL SHIPPING ADDRESS: 1565 Jefferson Road, Building 300, Suite 360 Rochester, NY 14623 USA												

August 25, 2016

Ms. Carla Rodman
Parsons
301 Plainfield Rd
Suite 350
Syracuse, NY 13212

Certificate of Analysis

Project Name:	Ft. Monmouth Soils	Workorder:	2166913
Purchase Order:		Workorder ID:	PQF029 FTMM

Dear Ms. Rodman:

Enclosed are the analytical results for samples received by the laboratory on Thursday, August 11, 2016.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Debra J. Musser (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

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ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Christina Grill , Ms. Maryanne Kosciwicz , Mr. Cory Mahony

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.



Ms. Debra J. Musser
Project Coordinator

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SAMPLE SUMMARY

Workorder: 2166913 PQF029|FTMM

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2166913001	PAR-72-212-SB-01-5.5-5	Solid	8/10/2016 09:25	8/11/2016 20:10	Collected by Client
2166913002	PAR-72-212-SB-01-11-11.5	Solid	8/10/2016 09:35	8/11/2016 20:10	Collected by Client
2166913003	PAR-72-212-SB-02-5-5.5	Solid	8/10/2016 10:00	8/11/2016 20:10	Collected by Client
2166913004	PAR-72-212-SB-02-11.5-12	Solid	8/10/2016 10:15	8/11/2016 20:10	Collected by Client
2166913005	PAR-72-EB-08102016	Ground Water	8/10/2016 15:30	8/11/2016 20:10	Collected by Client

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SAMPLE SUMMARY

Workorder: 2166913 PQF029|FTMM

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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PROJECT SUMMARY

Workorder: 2166913 PQF029|FTMM

Sample Comments**Lab ID:** 2166913001 **Sample ID:** PAR-72-212-SB-01-5.5-5 **Sample Type:** SAMPLE

The QC sample type LCS in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 32.3% and the limits are 40%-140%.
The QC sample type LCSD in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 33.4% and the limits are 40%-140%.
Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aliphatic analysis. n-Hexatriacontane (C36) was biased high 39%, n-Octatriacontane was biased high 70%, and n-Tetracontane was biased high 90% in the bracketing CCV. Data for these compounds may have been impacted.
Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aromatic analysis. benzo(b)fluoranthene was biased high 37% and benzo(a)pyrene was biased high 35% in the bracketing CCV. Data for these compounds may have been impacted.

Lab ID: 2166913002 **Sample ID:** PAR-72-212-SB-01-11-11.5 **Sample Type:** SAMPLE

The QC sample type LCS in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 32.3% and the limits are 40%-140%.
The QC sample type LCSD in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 33.4% and the limits are 40%-140%.
Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aliphatic analysis. n-Hexatriacontane (C36) was biased high 39%, n-Octatriacontane was biased high 70%, and n-Tetracontane was biased high 90% in the bracketing CCV. Data for these compounds may have been impacted.
Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aromatic analysis. benzo(b)fluoranthene was biased high 37% and benzo(a)pyrene was biased high 35% in the bracketing CCV. Data for these compounds may have been impacted.

Lab ID: 2166913003 **Sample ID:** PAR-72-212-SB-02-5-5.5 **Sample Type:** SAMPLE

The QC sample type LCS in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 32.3% and the limits are 40%-140%.
The QC sample type LCSD in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 33.4% and the limits are 40%-140%.
Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aliphatic analysis. n-Hexatriacontane (C36) was biased high 39%, n-Octatriacontane was biased high 70%, and n-Tetracontane was biased high 90% in the bracketing CCV. Data for these compounds may have been impacted.
Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aromatic analysis. benzo(b)fluoranthene was biased high 37% and benzo(a)pyrene was biased high 35% in the bracketing CCV. Data for these compounds may have been impacted.

Lab ID: 2166913004 **Sample ID:** PAR-72-212-SB-02-11.5-12 **Sample Type:** SAMPLE

The QC sample type LCS in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 32.3% and the limits are 40%-140%.
The QC sample type LCS in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 32.3% and the limits are 40%-140%.
The QC sample type LCS in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 32.3% and the limits are 40%-140%.
The QC sample type LCS in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 32.3% and the limits are 40%-140%.
The QC sample type LCSD in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 33.4% and the limits are 40%-140%.

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PROJECT SUMMARY

Workorder: 2166913 PQF029|FTMM

Lab ID: 2166913004

Sample ID: PAR-72-212-SB-02-
11.5-12

Sample Type: SAMPLE

Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aliphatic analysis. n-Hexatriacontane (C36) was biased high 39%, n-Octatriacontane was biased high 70%, and n-Tetracontane was biased high 90% in the bracketing CCV. Data for these compounds may have been impacted.

Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aromatic analysis. benzo(b)fluoranthene was biased high 37% and benzo(a)pyrene was biased high 35% in the bracketing CCV. Data for these compounds may have been impacted.

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ANALYTICAL RESULTS

Workorder: 2166913 PQF029|FTMM

Lab ID: **2166913001**
Sample ID: **PAR-72-212-SB-01-5.5-5**

Date Collected: 8/10/2016 09:25 Matrix: Solid
Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
AROMATIC PETROLEUM HC's											
C10 TO C12	0.84J	J	mg/kg	1.1	1.1	0.50	NJEPH	8/17/16 MPP	8/24/16 11:53	KJH	B
C12 TO C16	0.32J	J	mg/kg	1.1	1.1	0.20	NJEPH	8/17/16 MPP	8/24/16 11:53	KJH	B
C16 TO C21	1.4	5	mg/kg	1.1	1.1	0.19	NJEPH	8/17/16 MPP	8/24/16 11:53	KJH	B
C21 TO C36	0.90J	J	mg/kg	1.1	1.1	0.27	NJEPH	8/17/16 MPP	8/24/16 11:53	KJH	B
Total EPH Aromatic	3.4J	J,6	mg/kg	4.5	4.5	1.2	NJEPH	8/17/16 MPP	8/24/16 11:53	KJH	B
Total EPH (Aliphatic+Aromatic)	7.1J	J,7	mg/kg	9.0	9.0	2.8	NJEPH	8/17/16 MPP	8/24/16 11:53	KJH	B
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2-Bromonaphthalene (S)	90.1		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 11:53	KJH	B
2-Fluorobiphenyl (S)	88.2		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 11:53	KJH	B
o-Terphenyl (S)	55.4		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 11:53	KJH	B
ALIPHATIC PETROLEUM HC's											
C9 TO C12	0.63J	J,4	mg/kg	1.1	1.1	0.13	NJEPH	8/17/16 MPP	8/22/16 00:54	KJH	B
C12 TO C16	1.1U	U	mg/kg	1.1	1.1	0.48	NJEPH	8/17/16 MPP	8/22/16 00:54	KJH	B
C16 TO C21	0.52J	J	mg/kg	1.1	1.1	0.47	NJEPH	8/17/16 MPP	8/22/16 00:54	KJH	B
C21 TO C40	2.2	1	mg/kg	1.1	1.1	0.55	NJEPH	8/17/16 MPP	8/22/16 00:54	KJH	B
Total EPH Aliphatic	3.6J	J,2	mg/kg	4.5	4.5	1.6	NJEPH	8/17/16 MPP	8/22/16 00:54	KJH	B
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1-Chlorooctadecane (S)	32	3	%	40 - 140			NJEPH	8/17/16 MPP	8/22/16 00:54	KJH	B
WET CHEMISTRY											
Moisture	12.0		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	B
Total Solids	88.0		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	B



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Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2166913 PQF029|FTMM

Lab ID: **2166913002**

Date Collected: 8/10/2016 09:35

Matrix: Solid

Sample ID: **PAR-72-212-SB-01-11-11.5**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
AROMATIC PETROLEUM HC's											
C10 TO C12	0.66J	J	mg/kg	1.1	1.1	0.50	NJEPH	8/17/16 MPP	8/24/16 13:49	KJH	B
C12 TO C16	0.25J	J	mg/kg	1.1	1.1	0.20	NJEPH	8/17/16 MPP	8/24/16 13:49	KJH	B
C16 TO C21	1.1J	J,3	mg/kg	1.1	1.1	0.19	NJEPH	8/17/16 MPP	8/24/16 13:49	KJH	B
C21 TO C36	0.84J	J	mg/kg	1.1	1.1	0.27	NJEPH	8/17/16 MPP	8/24/16 13:49	KJH	B
Total EPH Aromatic	2.8J	J	mg/kg	4.4	4.4	1.1	NJEPH	8/17/16 MPP	8/24/16 13:49	KJH	B
Total EPH (Aliphatic+Aromatic)	5.7J	J	mg/kg	8.8	8.8	2.8	NJEPH	8/17/16 MPP	8/24/16 13:49	KJH	B
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2-Bromonaphthalene (S)	89.4		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 13:49	KJH	B
2-Fluorobiphenyl (S)	87.2		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 13:49	KJH	B
o-Terphenyl (S)	59.4		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 13:49	KJH	B
ALIPHATIC PETROLEUM HC's											
C9 TO C12	0.42J	J,2	mg/kg	1.1	1.1	0.13	NJEPH	8/17/16 MPP	8/22/16 02:53	KJH	B
C12 TO C16	1.1U	U	mg/kg	1.1	1.1	0.48	NJEPH	8/17/16 MPP	8/22/16 02:53	KJH	B
C16 TO C21	1.1U	U	mg/kg	1.1	1.1	0.46	NJEPH	8/17/16 MPP	8/22/16 02:53	KJH	B
C21 TO C40	1.9		mg/kg	1.1	1.1	0.54	NJEPH	8/17/16 MPP	8/22/16 02:53	KJH	B
Total EPH Aliphatic	2.9J	J	mg/kg	4.4	4.4	1.6	NJEPH	8/17/16 MPP	8/22/16 02:53	KJH	B
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1-Chlorooctadecane (S)	33.2	1	%	40 - 140			NJEPH	8/17/16 MPP	8/22/16 02:53	KJH	B
WET CHEMISTRY											
Moisture	14.6		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	B
Total Solids	85.4		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	B



Ms. Debra J. Musser
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2166913 PQF029|FTMM

Lab ID: **2166913003**
Sample ID: **PAR-72-212-SB-02-5-5.5**

Date Collected: 8/10/2016 10:00 Matrix: Solid
Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
AROMATIC PETROLEUM HC's											
C10 TO C12	0.84J	J	mg/kg	1.1	1.1	0.48	NJEPH	8/17/16 MPP	8/24/16 14:48	KJH	B
C12 TO C16	0.26J	J	mg/kg	1.1	1.1	0.19	NJEPH	8/17/16 MPP	8/24/16 14:48	KJH	B
C16 TO C21	1.1J	J,3	mg/kg	1.1	1.1	0.18	NJEPH	8/17/16 MPP	8/24/16 14:48	KJH	B
C21 TO C36	0.44J	J	mg/kg	1.1	1.1	0.26	NJEPH	8/17/16 MPP	8/24/16 14:48	KJH	B
Total EPH Aromatic	2.6J	J	mg/kg	4.3	4.3	1.1	NJEPH	8/17/16 MPP	8/24/16 14:48	KJH	B
Total EPH (Aliphatic+Aromatic)	4.5J	J	mg/kg	8.6	8.6	2.7	NJEPH	8/17/16 MPP	8/24/16 14:48	KJH	B
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2-Bromonaphthalene (S)	91.3		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 14:48	KJH	B
2-Fluorobiphenyl (S)	89.4		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 14:48	KJH	B
o-Terphenyl (S)	59.3		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 14:48	KJH	B
ALIPHATIC PETROLEUM HC's											
C9 TO C12	0.52J	J,2	mg/kg	1.1	1.1	0.13	NJEPH	8/17/16 MPP	8/22/16 03:53	KJH	B
C12 TO C16	1.1U	U	mg/kg	1.1	1.1	0.46	NJEPH	8/17/16 MPP	8/22/16 03:53	KJH	B
C16 TO C21	1.1U	U	mg/kg	1.1	1.1	0.45	NJEPH	8/17/16 MPP	8/22/16 03:53	KJH	B
C21 TO C40	0.73J	J	mg/kg	1.1	1.1	0.53	NJEPH	8/17/16 MPP	8/22/16 03:53	KJH	B
Total EPH Aliphatic	1.9J	J	mg/kg	4.3	4.3	1.6	NJEPH	8/17/16 MPP	8/22/16 03:53	KJH	B
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1-Chlorooctadecane (S)	34.2	1	%	40 - 140			NJEPH	8/17/16 MPP	8/22/16 03:53	KJH	B
WET CHEMISTRY											
Moisture	11.2		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	B
Total Solids	88.8		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	B



Ms. Debra J. Musser
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2166913 PQF029|FTMM

Lab ID: **2166913004**

Date Collected: 8/10/2016 10:15

Matrix: Solid

Sample ID: **PAR-72-212-SB-02-11.5-12**

Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
AROMATIC PETROLEUM HC's											
C10 TO C12	1.0J	J	mg/kg	1.2	1.2	0.54	NJEPH	8/17/16 MPP	8/24/16 15:46	KJH	B
C12 TO C16	0.36J	J	mg/kg	1.2	1.2	0.22	NJEPH	8/17/16 MPP	8/24/16 15:46	KJH	B
C16 TO C21	1.2J	J,2	mg/kg	1.2	1.2	0.20	NJEPH	8/17/16 MPP	8/24/16 15:46	KJH	B
C21 TO C36	0.71J	J	mg/kg	1.2	1.2	0.29	NJEPH	8/17/16 MPP	8/24/16 15:46	KJH	B
Total EPH Aromatic	3.3J	J	mg/kg	4.8	4.8	1.3	NJEPH	8/17/16 MPP	8/24/16 15:46	KJH	B
Total EPH (Aliphatic+Aromatic)	8.3J	J	mg/kg	9.6	9.6	3.0	NJEPH	8/17/16 MPP	8/24/16 15:46	KJH	B
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2-Bromonaphthalene (S)	91.4		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 15:46	KJH	B
2-Fluorobiphenyl (S)	89		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 15:46	KJH	B
o-Terphenyl (S)	52.1		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 15:46	KJH	B
ALIPHATIC PETROLEUM HC's											
C9 TO C12	0.48J	J,1	mg/kg	1.2	1.2	0.14	NJEPH	8/17/16 MPP	8/22/16 04:52	KJH	B
C12 TO C16	1.2U	U	mg/kg	1.2	1.2	0.52	NJEPH	8/17/16 MPP	8/22/16 04:52	KJH	B
C16 TO C21	1.2U	U	mg/kg	1.2	1.2	0.51	NJEPH	8/17/16 MPP	8/22/16 04:52	KJH	B
C21 TO C40	3.9		mg/kg	1.2	1.2	0.59	NJEPH	8/17/16 MPP	8/22/16 04:52	KJH	B
Total EPH Aliphatic	5.0		mg/kg	4.8	4.8	1.8	NJEPH	8/17/16 MPP	8/22/16 04:52	KJH	B
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1-Chlorooctadecane (S)	42.1		%	40 - 140			NJEPH	8/17/16 MPP	8/22/16 04:52	KJH	B
WET CHEMISTRY											
Moisture	17.9		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	B
Total Solids	82.1		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	B



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ANALYTICAL RESULTS

Workorder: 2166913 PQF029|FTMM

Lab ID: **2166913005**
Sample ID: **PAR-72-EB-08102016**

Date Collected: 8/10/2016 15:30 Matrix: Ground Water
Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
PETROLEUM HC's											
Tot Unfractionated EPH C9-C40	104U	U	ug/L	104	104	21.9	NJEPH	8/16/16 ACD	8/17/16 10:50	KJH	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1-Chlorooctadecane (S)	69.9		%	40 - 140			NJEPH	8/16/16 ACD	8/17/16 10:50	KJH	A
o-Terphenyl (S)	77.6		%	40 - 140			NJEPH	8/16/16 ACD	8/17/16 10:50	KJH	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2166913001	1	PAR-72-212-SB-01-5.5-5	NJEPH	C21 TO C40
The QC sample type DUP for method NJEPH was outside the control limits for the analyte C21 TO C40. The RPD was reported as 71 and the upper control limit is 40.				
2166913001	2	PAR-72-212-SB-01-5.5-5	NJEPH	Total EPH Aliphatic
The QC sample type DUP for method NJEPH was outside the control limits for the analyte Total EPH Aliphatic. The RPD was reported as 49.2 and the upper control limit is .				
2166913001	3	PAR-72-212-SB-01-5.5-5	NJEPH	1-Chlorooctadecane
The surrogate 1-Chlorooctadecane for method NJEPH was outside of control limits. The % Recovery was reported as 32 and the control limits were 40 to 140. This result was reported at a dilution of 1.				
2166913001	4	PAR-72-212-SB-01-5.5-5	NJEPH	C9 TO C12
The method blank reported a detection higher than the reporting limit in the C9-C12 range.				
2166913001	5	PAR-72-212-SB-01-5.5-5	NJEPH	C16 TO C21
The Method Blank for method NJEPH reported a value greater than the reporting level for the analyte C16 TO C21.				
2166913001	6	PAR-72-212-SB-01-5.5-5	NJEPH	Total EPH Aromatic
The QC sample type DUP for method NJEPH was outside the control limits for the analyte Total EPH Aromatic. The RPD was reported as 1.49 and the upper control limit is .				
2166913001	7	PAR-72-212-SB-01-5.5-5	NJEPH	Total EPH (Aliphatic+Aromatic)
The QC sample type DUP for method NJEPH was outside the control limits for the analyte Total EPH (Aliphatic+Aromatic). The RPD was reported as 28.2 and the upper control limit is .				
2166913002	1	PAR-72-212-SB-01-11-11.5	NJEPH	1-Chlorooctadecane
The surrogate 1-Chlorooctadecane for method NJEPH was outside of control limits. The % Recovery was reported as 33.2 and the control limits were 40 to 140. This result was reported at a dilution of 1.				
2166913002	2	PAR-72-212-SB-01-11-11.5	NJEPH	C9 TO C12
The method blank reported a detection higher than the reporting limit in the C9-C12 range.				
2166913002	3	PAR-72-212-SB-01-11-11.5	NJEPH	C16 TO C21
The Method Blank for method NJEPH reported a value greater than the reporting level for the analyte C16 TO C21.				
2166913003	1	PAR-72-212-SB-02-5-5.5	NJEPH	1-Chlorooctadecane
The surrogate 1-Chlorooctadecane for method NJEPH was outside of control limits. The % Recovery was reported as 34.2 and the control limits were 40 to 140. This result was reported at a dilution of 1.				
2166913003	2	PAR-72-212-SB-02-5-5.5	NJEPH	C9 TO C12
The method blank reported a detection higher than the reporting limit in the C9-C12 range.				
2166913003	3	PAR-72-212-SB-02-5-5.5	NJEPH	C16 TO C21
The Method Blank for method NJEPH reported a value greater than the reporting level for the analyte C16 TO C21.				
2166913004	1	PAR-72-212-SB-02-11.5-12	NJEPH	C9 TO C12
The method blank reported a detection higher than the reporting limit in the C9-C12 range.				
2166913004	2	PAR-72-212-SB-02-11.5-12	NJEPH	C16 TO C21
The Method Blank for method NJEPH reported a value greater than the reporting level for the analyte C16 TO C21.				

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1565 Jefferson Road
Building 300, Suite 360
Rochester, NY 14623
(585)288-5380

**CHAIN OF CUSTODY/
REQUEST FOR ANALYSIS**
ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /
SAMPLER. INSTRUCTIONS ON THE BACK.

COC #
P72-
ALS Q

Client Name: Parsons Federal		Container Type	AN	AN	CG	AN	AN	CG	Receipt Information (completed by Receiving Lab)	
Address: 100 High St. 4th Floor		Container Size	4 oz	4 oz	40mL	4 oz	1L	40mL	Cooler Temp: 1	Therm ID: 352
Contact: Cory Mahony		Preservative	4C	4C	4C & MECH	4C	HCL	HCL	No. of Coolers: Y	Initial: JSES
Phone#: 617-449-1440		ANALYSES/METHOD REQUESTED								
Project Name#: FTMM		EXTRACT AND HOLD								
Bill To: Parsons Federal		AUTHORIZED TO RUN								
TAT ☒ Normal-Standard TAT is 10-12 business days.		Enter Number of Containers Per Sample or Field Results Below.								
Date Required: ☒ Rush-Subject to ALS approval and surcharges.		Approved? ☒								
Email? ☒ Y carla.rodman@parsons.com		Sample Description/Location (as it will appear on the lab report)								
Fax? ☐ Y No: _____		Sample Date								
		Time								
1 PAR-72-212-SB-01-5-5-5		8/10/16 0725								
2 PAR-72-212-SB-01-11-11-5		0935								
3 PAR-72-212-SB-02-5-5-5		1000								
4 PAR-72-212-SB-02-11-5-12		1015								
5 PAR-72-EB-0802016		1530								
6										
7										
8										
9										
10										
Project Comments: 748810		LOGGED BY (signature): <i>OK</i> Date: 8/10/16								
MCL Must Meet NJDEP Soil Cleanup Criteria and/or Groundwater		REVIEWED BY (signature): _____								
Quality Standards		Date								
Relinquished By / Company Name		Time								
1 <i>OK</i>		8/11/16 1100								
3 <i>OK</i>		8/11/16 1119								
5 <i>OK</i>		8/11/2010 1119								
7 <i>OK</i>		8/11/2010 1119								
9										
Matrix: A=Air; DW=Drinking Water; GW=Groundwater; O=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater		EDOS: Format Type- ERPIMS								

September 15, 2016

Ms. Cris Grill
Parsons
100 High St.
4th Floor
Boston, MA 02110

Certificate of Analysis

Revised Report - 9/15/2016 8:31:18 AM - See workorder comment section for explanation

Project Name:	Ft. Monmouth Soils	Workorder:	2166914
Purchase Order:		Workorder ID:	PQF030 FTMM

Dear Ms. Cris Grill:

Enclosed are the analytical results for samples received by the laboratory on Wednesday, August 10, 2016.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Debra J. Musser (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

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ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.



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SAMPLE SUMMARY

Workorder: 2166914 PQF030|FTMM

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2166914001	PAR-72-228-SB-03-6.5-7	Solid	8/9/2016 10:30	8/10/2016 20:25	Collected by Client
2166914002	PAR-72-228-SB-03-7-7.5	Solid	8/9/2016 10:40	8/10/2016 20:25	Collected by Client
2166914003	PAR-72-228-SB-01-5-5.5	Solid	8/9/2016 11:00	8/10/2016 20:25	Collected by Client
2166914004	PAR-72-228-SB-01-8.5-9	Solid	8/9/2016 11:15	8/10/2016 20:25	Collected by Client
2166914005	PAR-72-228-SB-02-10.5-11	Solid	8/9/2016 14:30	8/10/2016 20:25	Collected by Client
2166914006	PAR-72-228-SB-02-12-12.5	Solid	8/9/2016 14:40	8/10/2016 20:25	Collected by Client
2166914007	PAR-72-EB-08092016	Ground Water	8/9/2016 15:30	8/10/2016 20:25	Collected by Client

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SAMPLE SUMMARY

Workorder: 2166914 PQF030|FTMM

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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PROJECT SUMMARY

Workorder: 2166914 PQF030|FTMM

Workorder Comments

2166914005--This laboratory report was modified to change the result for NJEPH aromatic analysis and total NJEPH due to the file being corrupted in the processing software. KJH 09/12/16

Sample Comments

Lab ID: 2166914001 **Sample ID:** PAR-72-228-SB-03-6.5-7 **Sample Type:** SAMPLE

The QC sample type LCS in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 32.3% and the limits are 40%-140%.
The QC sample type LCSD in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 33.4% and the limits are 40%-140%.
Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aliphatic analysis. n-Hexatriacontane (C36) was biased high 39%, n-Octatriacontane was biased high 70%, and n-Tetracontane was biased high 90% in the bracketing CCV. Data for these compounds may have been impacted.
Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aromatic analysis. benzo(b)fluoranthene was biased high 37% and benzo(a)pyrene was biased high 35% in the bracketing CCV. Data for these compounds may have been impacted.

Lab ID: 2166914002 **Sample ID:** PAR-72-228-SB-03-7-7.5 **Sample Type:** SAMPLE

The QC sample type LCS in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 32.3% and the limits are 40%-140%.
The QC sample type LCSD in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 33.4% and the limits are 40%-140%.
Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aliphatic analysis. n-Hexatriacontane (C36) was biased high 39%, n-Octatriacontane was biased high 70%, and n-Tetracontane was biased high 90% in the bracketing CCV. Data for these compounds may have been impacted.
Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aromatic analysis. benzo(b)fluoranthene was biased high 37% and benzo(a)pyrene was biased high 35% in the bracketing CCV. Data for these compounds may have been impacted.

Lab ID: 2166914003 **Sample ID:** PAR-72-228-SB-01-5-5.5 **Sample Type:** SAMPLE

The QC sample type LCS in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 32.3% and the limits are 40%-140%.
The QC sample type LCSD in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 33.4% and the limits are 40%-140%.
Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aliphatic analysis. n-Hexatriacontane (C36) was biased high 39%, n-Octatriacontane was biased high 70%, and n-Tetracontane was biased high 90% in the bracketing CCV. Data for these compounds may have been impacted.
Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aromatic analysis. benzo(b)fluoranthene was biased high 37% and benzo(a)pyrene was biased high 35% in the bracketing CCV. Data for these compounds may have been impacted.

Lab ID: 2166914004 **Sample ID:** PAR-72-228-SB-01-8.5-9 **Sample Type:** SAMPLE

The QC sample type LCS in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 32.3% and the limits are 40%-140%.
The QC sample type LCSD in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 33.4% and the limits are 40%-140%.

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PROJECT SUMMARY

Workorder: 2166914 PQF030|FTMM

Lab ID: 2166914004**Sample ID:** PAR-72-228-SB-01-8.5-9**Sample Type:** SAMPLE

Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aliphatic analysis. n-Hexatriacontane (C36) was biased high 39%, n-Octatriacontane was biased high 70%, and n-Tetracontane was biased high 90% in the bracketing CCV. Data for these compounds may have been impacted.

Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aromatic analysis. benzo(b)fluoranthene was biased high 37% and benzo(a)pyrene was biased high 35% in the bracketing CCV. Data for these compounds may have been impacted.

Lab ID: 2166914005**Sample ID:** PAR-72-228-SB-02-10.5-11**Sample Type:** SAMPLE

The QC sample type LCS in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 32.3% and the limits are 40%-140%.

The QC sample type LCSD in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 33.4% and the limits are 40%-140%.

Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aliphatic analysis. n-Hexatriacontane (C36) was biased high 39%, n-Octatriacontane was biased high 70%, and n-Tetracontane was biased high 90% in the bracketing CCV. Data for these compounds may have been impacted.

Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aromatic analysis. benzo(b)fluoranthene was biased high 37% and benzo(a)pyrene was biased high 35% in the bracketing CCV. Data for these compounds may have been impacted.

Lab ID: 2166914006**Sample ID:** PAR-72-228-SB-02-12-12.5**Sample Type:** SAMPLE

The QC sample type LCS in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 32.3% and the limits are 40%-140%.

The QC sample type LCSD in the NJEPH aliphatic analysis recovered outside of method control limits for the compound n-Nonane. The recovery was 33.4% and the limits are 40%-140%.

Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aliphatic analysis. n-Hexatriacontane (C36) was biased high 39%, n-Octatriacontane was biased high 70%, and n-Tetracontane was biased high 90% in the bracketing CCV. Data for these compounds may have been impacted.

Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 30% of the initial calibration for the NJEPH aromatic analysis. benzo(b)fluoranthene was biased high 37% and benzo(a)pyrene was biased high 35% in the bracketing CCV. Data for these compounds may have been impacted.

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ANALYTICAL RESULTS

Workorder: 2166914 PQF030|FTMM

Lab ID: **2166914001**
Sample ID: **PAR-72-228-SB-03-6.5-7**

Date Collected: 8/9/2016 10:30 Matrix: Solid
Date Received: 8/10/2016 20:25

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
AROMATIC PETROLEUM HC's											
C10 TO C12	0.67J	J	mg/kg	1.2	1.2	0.53	NJEPH	8/17/16 MPP	8/24/16 05:05	KJH	A
C12 TO C16	4.0		mg/kg	1.2	1.2	0.21	NJEPH	8/17/16 MPP	8/24/16 05:05	KJH	A
C16 TO C21	15.7	3	mg/kg	1.2	1.2	0.20	NJEPH	8/17/16 MPP	8/24/16 05:05	KJH	A
C21 TO C36	3.6		mg/kg	1.2	1.2	0.28	NJEPH	8/17/16 MPP	8/24/16 05:05	KJH	A
Total EPH Aromatic	23.9		mg/kg	4.7	4.7	1.2	NJEPH	8/17/16 MPP	8/24/16 05:05	KJH	A
Total EPH (Aliphatic+Aromatic)	62.1		mg/kg	9.4	9.4	2.9	NJEPH	8/17/16 MPP	8/24/16 05:05	KJH	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2-Bromonaphthalene (S)	94.5		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 05:05	KJH	A
2-Fluorobiphenyl (S)	91.9		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 05:05	KJH	A
o-Terphenyl (S)	64.9		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 05:05	KJH	A
ALIPHATIC PETROLEUM HC's											
C9 TO C12	2.3	2	mg/kg	1.2	1.2	0.14	NJEPH	8/17/16 MPP	8/21/16 18:06	KJH	A
C12 TO C16	15.8		mg/kg	1.2	1.2	0.50	NJEPH	8/17/16 MPP	8/21/16 18:06	KJH	A
C16 TO C21	16.3		mg/kg	1.2	1.2	0.49	NJEPH	8/17/16 MPP	8/21/16 18:06	KJH	A
C21 TO C40	3.9		mg/kg	1.2	1.2	0.58	NJEPH	8/17/16 MPP	8/21/16 18:06	KJH	A
Total EPH Aliphatic	38.2		mg/kg	4.7	4.7	1.7	NJEPH	8/17/16 MPP	8/21/16 18:06	KJH	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1-Chlorooctadecane (S)	28.7	1	%	40 - 140			NJEPH	8/17/16 MPP	8/21/16 18:06	KJH	A
WET CHEMISTRY											
Moisture	14.8		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	A
Total Solids	85.2		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	A



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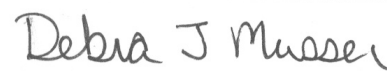
ANALYTICAL RESULTS

Workorder: 2166914 PQF030|FTMM

Lab ID: **2166914002**
Sample ID: **PAR-72-228-SB-03-7-7.5**

Date Collected: 8/9/2016 10:40 Matrix: Solid
Date Received: 8/10/2016 20:25

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
AROMATIC PETROLEUM HC's											
C10 TO C12	71.0		mg/kg	11.7	11.7	5.3	NJEPH	8/17/16 MPP	8/24/16 17:43	KJH	A
C12 TO C16	409		mg/kg	58.6	58.6	10.6	NJEPH	8/17/16 MPP	8/24/16 18:40	KJH	A
C16 TO C21	744	2	mg/kg	58.6	58.6	10	NJEPH	8/17/16 MPP	8/24/16 18:40	KJH	A
C21 TO C36	109		mg/kg	11.7	11.7	2.8	NJEPH	8/17/16 MPP	8/24/16 17:43	KJH	A
Total EPH Aromatic	1330		mg/kg	234	234	61.0	NJEPH	8/17/16 MPP	8/24/16 18:40	KJH	A
Total EPH (Aliphatic+Aromatic)	3100		mg/kg	469	469	147	NJEPH	8/17/16 MPP	8/24/16 18:40	KJH	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2-Bromonaphthalene (S)	85.4		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 06:04	KJH	A
2-Fluorobiphenyl (S)	99.8		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 06:04	KJH	A
o-Terphenyl (S)	86.3		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 06:04	KJH	A
ALIPHATIC PETROLEUM HC's											
C9 TO C12	180		mg/kg	23.4	23.4	2.8	NJEPH	8/17/16 MPP	8/24/16 22:33	KJH	A
C12 TO C16	829		mg/kg	117	117	50.4	NJEPH	8/17/16 MPP	8/24/16 23:31	KJH	A
C16 TO C21	627		mg/kg	117	117	49.2	NJEPH	8/17/16 MPP	8/24/16 23:31	KJH	A
C21 TO C40	128		mg/kg	23.4	23.4	11.5	NJEPH	8/17/16 MPP	8/24/16 22:33	KJH	A
Total EPH Aliphatic	1760		mg/kg	4.7	4.7	1.7	NJEPH	8/17/16 MPP	8/21/16 19:04	KJH	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1-Chlorooctadecane (S)	140		%	40 - 140			NJEPH	8/17/16 MPP	8/21/16 19:04	KJH	A
1-Chlorooctadecane (S)	0		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 23:31	KJH	A
WET CHEMISTRY											
Moisture	15.3		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	A
Total Solids	84.7		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	A



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ANALYTICAL RESULTS

Workorder: 2166914 PQF030|FTMM

Lab ID: **2166914003**
Sample ID: **PAR-72-228-SB-01-5-5.5**

Date Collected: 8/9/2016 11:00 Matrix: Solid
Date Received: 8/10/2016 20:25

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
AROMATIC PETROLEUM HC's											
C10 TO C12	0.86J	J	mg/kg	1.1	1.1	0.51	NJEPH	8/17/16 MPP	8/24/16 07:02	KJH	A
C12 TO C16	0.35J	J	mg/kg	1.1	1.1	0.21	NJEPH	8/17/16 MPP	8/24/16 07:02	KJH	A
C16 TO C21	1.2	3	mg/kg	1.1	1.1	0.19	NJEPH	8/17/16 MPP	8/24/16 07:02	KJH	A
C21 TO C36	0.60J	J	mg/kg	1.1	1.1	0.27	NJEPH	8/17/16 MPP	8/24/16 07:02	KJH	A
Total EPH Aromatic	3.0J	J	mg/kg	4.6	4.6	1.2	NJEPH	8/17/16 MPP	8/24/16 07:02	KJH	A
Total EPH (Aliphatic+Aromatic)	5.2J	J	mg/kg	9.1	9.1	2.9	NJEPH	8/17/16 MPP	8/24/16 07:02	KJH	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2-Bromonaphthalene (S)	85.6		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 07:02	KJH	A
2-Fluorobiphenyl (S)	82.9		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 07:02	KJH	A
o-Terphenyl (S)	58.9		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 07:02	KJH	A
ALIPHATIC PETROLEUM HC's											
C9 TO C12	0.52J	J,2	mg/kg	1.1	1.1	0.14	NJEPH	8/17/16 MPP	8/21/16 20:02	KJH	A
C12 TO C16	1.1U	U	mg/kg	1.1	1.1	0.49	NJEPH	8/17/16 MPP	8/21/16 20:02	KJH	A
C16 TO C21	0.50J	J	mg/kg	1.1	1.1	0.48	NJEPH	8/17/16 MPP	8/21/16 20:02	KJH	A
C21 TO C40	0.97J	J	mg/kg	1.1	1.1	0.56	NJEPH	8/17/16 MPP	8/21/16 20:02	KJH	A
Total EPH Aliphatic	2.3J	J	mg/kg	4.6	4.6	1.7	NJEPH	8/17/16 MPP	8/21/16 20:02	KJH	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1-Chlorooctadecane (S)	29.3	1	%	40 - 140			NJEPH	8/17/16 MPP	8/21/16 20:02	KJH	A
WET CHEMISTRY											
Moisture	12.6		%	0.1	0.1	0.01	S2540G-11		8/17/16 15:06	VKB	A
Total Solids	87.4		%	0.1	0.1	0.01	S2540G-11		8/17/16 15:06	VKB	A



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ANALYTICAL RESULTS

Workorder: 2166914 PQF030|FTMM

Lab ID: **2166914004**
Sample ID: **PAR-72-228-SB-01-8.5-9**

Date Collected: 8/9/2016 11:15 Matrix: Solid
Date Received: 8/10/2016 20:25

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
AROMATIC PETROLEUM HC's											
C10 TO C12	0.84J	J	mg/kg	1.2	1.2	0.56	NJEPH	8/17/16 MPP	8/24/16 08:58	KJH	A
C12 TO C16	0.28J	J	mg/kg	1.2	1.2	0.22	NJEPH	8/17/16 MPP	8/24/16 08:58	KJH	A
C16 TO C21	1.2	3	mg/kg	1.2	1.2	0.21	NJEPH	8/17/16 MPP	8/24/16 08:58	KJH	A
C21 TO C36	0.39J	J	mg/kg	1.2	1.2	0.30	NJEPH	8/17/16 MPP	8/24/16 08:58	KJH	A
Total EPH Aromatic	2.8J	J	mg/kg	5.0	5.0	1.3	NJEPH	8/17/16 MPP	8/24/16 08:58	KJH	A
Total EPH (Aliphatic+Aromatic)	18.5		mg/kg	10	10	3.1	NJEPH	8/17/16 MPP	8/24/16 08:58	KJH	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2-Bromonaphthalene (S)	87.2		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 08:58	KJH	A
2-Fluorobiphenyl (S)	84.8		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 08:58	KJH	A
o-Terphenyl (S)	59.7		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 08:58	KJH	A
ALIPHATIC PETROLEUM HC's											
C9 TO C12	0.52J	J,2	mg/kg	1.2	1.2	0.15	NJEPH	8/17/16 MPP	8/21/16 21:59	KJH	A
C12 TO C16	1.2U	U	mg/kg	1.2	1.2	0.54	NJEPH	8/17/16 MPP	8/21/16 21:59	KJH	A
C16 TO C21	0.65J	J	mg/kg	1.2	1.2	0.52	NJEPH	8/17/16 MPP	8/21/16 21:59	KJH	A
C21 TO C40	14.2		mg/kg	1.2	1.2	0.61	NJEPH	8/17/16 MPP	8/21/16 21:59	KJH	A
Total EPH Aliphatic	15.8		mg/kg	5.0	5.0	1.8	NJEPH	8/17/16 MPP	8/21/16 21:59	KJH	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1-Chlorooctadecane (S)	28.2	1	%	40 - 140			NJEPH	8/17/16 MPP	8/21/16 21:59	KJH	A
WET CHEMISTRY											
Moisture	22.0		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	A
Total Solids	78.0		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	A



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ANALYTICAL RESULTS

Workorder: 2166914 PQF030|FTMM

Lab ID: **2166914005**

Date Collected: 8/9/2016 14:30

Matrix: Solid

Sample ID: **PAR-72-228-SB-02-10.5-11**

Date Received: 8/10/2016 20:25

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
AROMATIC PETROLEUM HC's											
C10 TO C12	5.8		mg/kg	1.2	1.2	0.53	NJEPH	8/17/16 MPP	8/24/16 09:57	KJH	A
C12 TO C16	34.3		mg/kg	11.8	11.8	2.1	NJEPH	8/17/16 MPP	8/24/16 19:38	KJH	A
C16 TO C21	73.8	3	mg/kg	11.8	11.8	2.0	NJEPH	8/17/16 MPP	8/24/16 19:38	KJH	A
C21 TO C36	10.6		mg/kg	1.2	1.2	0.28	NJEPH	8/17/16 MPP	8/24/16 09:57	KJH	A
Total EPH Aromatic	137		mg/kg	47.3	47.3	12.3	NJEPH	8/17/16 MPP	8/24/16 19:38	KJH	A
Total EPH (Aliphatic+Aromatic)	296		mg/kg	94.5	94.5	29.5	NJEPH	8/17/16 MPP	8/24/16 19:38	KJH	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2-Bromonaphthalene (S)	94.3		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 19:38	KJH	A
2-Bromonaphthalene (S)	87.8		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 09:57	KJH	A
2-Fluorobiphenyl (S)	92.2		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 19:38	KJH	A
2-Fluorobiphenyl (S)	87.2		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 09:57	KJH	A
o-Terphenyl (S)	57.8		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 09:57	KJH	A
o-Terphenyl (S)	77.1		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 19:38	KJH	A
ALIPHATIC PETROLEUM HC's											
C9 TO C12	17.7	2	mg/kg	1.2	1.2	0.14	NJEPH	8/17/16 MPP	8/21/16 22:57	KJH	A
C12 TO C16	75.7		mg/kg	11.8	11.8	5.1	NJEPH	8/17/16 MPP	8/25/16 00:30	KJH	A
C16 TO C21	55.5		mg/kg	11.8	11.8	5.0	NJEPH	8/17/16 MPP	8/25/16 00:30	KJH	A
C21 TO C40	10.7		mg/kg	1.2	1.2	0.58	NJEPH	8/17/16 MPP	8/21/16 22:57	KJH	A
Total EPH Aliphatic	160		mg/kg	4.7	4.7	1.7	NJEPH	8/17/16 MPP	8/21/16 22:57	KJH	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1-Chlorooctadecane (S)	26.3		%	40 - 140			NJEPH	8/17/16 MPP	8/25/16 00:30	KJH	A
1-Chlorooctadecane (S)	26.4	1	%	40 - 140			NJEPH	8/17/16 MPP	8/21/16 22:57	KJH	A
WET CHEMISTRY											
Moisture	19.1		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	A
Total Solids	80.9		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	A



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Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2166914 PQF030|FTMM

Lab ID: **2166914006**

Date Collected: 8/9/2016 14:40

Matrix: Solid

Sample ID: **PAR-72-228-SB-02-12-12.5**

Date Received: 8/10/2016 20:25

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
AROMATIC PETROLEUM HC's											
C10 TO C12	0.64J	J	mg/kg	1.2	1.2	0.56	NJEPH	8/17/16 MPP	8/24/16 10:55	KJH	A
C12 TO C16	1.6		mg/kg	1.2	1.2	0.22	NJEPH	8/17/16 MPP	8/24/16 10:55	KJH	A
C16 TO C21	3.5	3	mg/kg	1.2	1.2	0.21	NJEPH	8/17/16 MPP	8/24/16 10:55	KJH	A
C21 TO C36	0.33J	J	mg/kg	1.2	1.2	0.30	NJEPH	8/17/16 MPP	8/24/16 10:55	KJH	A
Total EPH Aromatic	6.1		mg/kg	5.0	5.0	1.3	NJEPH	8/17/16 MPP	8/24/16 10:55	KJH	A
Total EPH (Aliphatic+Aromatic)	34.2		mg/kg	10	10	3.1	NJEPH	8/17/16 MPP	8/24/16 10:55	KJH	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2-Bromonaphthalene (S)	50.2		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 10:55	KJH	A
2-Fluorobiphenyl (S)	49.6		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 10:55	KJH	A
o-Terphenyl (S)	24.8	4	%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 10:55	KJH	A
ALIPHATIC PETROLEUM HC's											
C9 TO C12	2.7	2	mg/kg	1.2	1.2	0.15	NJEPH	8/17/16 MPP	8/21/16 23:55	KJH	A
C12 TO C16	12.2		mg/kg	1.2	1.2	0.54	NJEPH	8/17/16 MPP	8/21/16 23:55	KJH	A
C16 TO C21	10.4		mg/kg	1.2	1.2	0.52	NJEPH	8/17/16 MPP	8/21/16 23:55	KJH	A
C21 TO C40	2.9		mg/kg	1.2	1.2	0.61	NJEPH	8/17/16 MPP	8/21/16 23:55	KJH	A
Total EPH Aliphatic	28.1		mg/kg	5.0	5.0	1.8	NJEPH	8/17/16 MPP	8/21/16 23:55	KJH	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1-Chlorooctadecane (S)	23.8	1	%	40 - 140			NJEPH	8/17/16 MPP	8/21/16 23:55	KJH	A
WET CHEMISTRY											
Moisture	21.5		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	A
Total Solids	78.5		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	A



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ANALYTICAL RESULTS

Workorder: 2166914 PQF030|FTMM

Lab ID: **2166914007**
Sample ID: **PAR-72-EB-08092016**

Date Collected: 8/9/2016 15:30 Matrix: Ground Water
Date Received: 8/10/2016 20:25

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
PETROLEUM HC's											
Tot Unfractionated EPH C9-C40	21.6J	J	ug/L	98.0	98.0	20.6	NJEPH	8/16/16 ACD	8/17/16 09:52	KJH	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1-Chlorooctadecane (S)	62.2		%	40 - 140			NJEPH	8/16/16 ACD	8/17/16 09:52	KJH	A
o-Terphenyl (S)	72.5		%	40 - 140			NJEPH	8/16/16 ACD	8/17/16 09:52	KJH	A



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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2166914001	1	PAR-72-228-SB-03-6.5-7	NJEPH	1-Chlorooctadecane
The surrogate 1-Chlorooctadecane for method NJEPH was outside of control limits. The % Recovery was reported as 28.7 and the control limits were 40 to 140. This result was reported at a dilution of 1.				
2166914001	2	PAR-72-228-SB-03-6.5-7	NJEPH	C9 TO C12
The method blank reported a detection higher than the reporting limit in the C9-C12 range.				
2166914001	3	PAR-72-228-SB-03-6.5-7	NJEPH	C16 TO C21
The Method Blank for method NJEPH reported a value greater than the reporting level for the analyte C16 TO C21.				
2166914002	2	PAR-72-228-SB-03-7-7.5	NJEPH	C16 TO C21
The Method Blank for method NJEPH reported a value greater than the reporting level for the analyte C16 TO C21.				
2166914003	1	PAR-72-228-SB-01-5-5.5	NJEPH	1-Chlorooctadecane
The surrogate 1-Chlorooctadecane for method NJEPH was outside of control limits. The % Recovery was reported as 29.3 and the control limits were 40 to 140. This result was reported at a dilution of 1.				
2166914003	2	PAR-72-228-SB-01-5-5.5	NJEPH	C9 TO C12
The method blank reported a detection higher than the reporting limit in the C9-C12 range.				
2166914003	3	PAR-72-228-SB-01-5-5.5	NJEPH	C16 TO C21
The Method Blank for method NJEPH reported a value greater than the reporting level for the analyte C16 TO C21.				
2166914004	1	PAR-72-228-SB-01-8.5-9	NJEPH	1-Chlorooctadecane
The surrogate 1-Chlorooctadecane for method NJEPH was outside of control limits. The % Recovery was reported as 28.2 and the control limits were 40 to 140. This result was reported at a dilution of 1.				
2166914004	2	PAR-72-228-SB-01-8.5-9	NJEPH	C9 TO C12
The method blank reported a detection higher than the reporting limit in the C9-C12 range.				
2166914004	3	PAR-72-228-SB-01-8.5-9	NJEPH	C16 TO C21
The Method Blank for method NJEPH reported a value greater than the reporting level for the analyte C16 TO C21.				
2166914005	1	PAR-72-228-SB-02-10.5-11	NJEPH	1-Chlorooctadecane
The surrogate 1-Chlorooctadecane for method NJEPH was outside of control limits. The % Recovery was reported as 26.4 and the control limits were 40 to 140. This result was reported at a dilution of 1.				
2166914005	2	PAR-72-228-SB-02-10.5-11	NJEPH	C9 TO C12
The method blank reported a detection higher than the reporting limit in the C9-C12 range.				
2166914005	3	PAR-72-228-SB-02-10.5-11	NJEPH	C16 TO C21
The Method Blank for method NJEPH reported a value greater than the reporting level for the analyte C16 TO C21.				
2166914006	1	PAR-72-228-SB-02-12-12.5	NJEPH	1-Chlorooctadecane
The surrogate 1-Chlorooctadecane for method NJEPH was outside of control limits. The % Recovery was reported as 23.8 and the control limits were 40 to 140. This result was reported at a dilution of 1.				
2166914006	2	PAR-72-228-SB-02-12-12.5	NJEPH	C9 TO C12
The method blank reported a detection higher than the reporting limit in the C9-C12 range.				
2166914006	3	PAR-72-228-SB-02-12-12.5	NJEPH	C16 TO C21
The Method Blank for method NJEPH reported a value greater than the reporting level for the analyte C16 TO C21.				
2166914006	4	PAR-72-228-SB-02-12-12.5	NJEPH	o-Terphenyl
The surrogate o-Terphenyl for method NJEPH was outside of control limits. The % Recovery was reported as 24.8 and the control limits were 40 to 140. This result was reported at a dilution of 1.				

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1565 Jefferson Road
Building 300, Suite 360
Rochester, NY 14623
(585)288-5380

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /
SAMPLER. INSTRUCTIONS ON THE BACK.

Client Name: Parsons Federal		Container Type: 4 oz	AN	CG	AN	CG	AN	CG	Receipt Information (Completed by Receiving Lab)	
Address: 100 High St. 4th Floor		Container Size: 4 oz	4 oz	4 oz	4 oz	4 oz	4 oz	4 oz	Cooler Temp: Therm ID:	
Boston, MA 02110		Preservative: 4C	4C	4C	4C	4C	4C	4C	No. of Coolers: Y N Initial	
Contact: Cory Mahony		ANALYSES/METHOD REQUESTED							Custody Seals Present? (if present) Seals Intact?	
Phone#: 617-449-1440		EPH (fractionated)							Received on Ice?	
Project Name#: FTMM		SVOCs - Naphthalene & 2-methylnaphthalene (8270D)							COCLabels Complete/Accurate?	
Bill To: Parsons Federal		VOC (8260C) + TICs including 1,2-dichloroethane & 1,2-dibromoethane							Cont. In Good Cond.?	
TAT ☒ Normal-Standard TAT is 10-12 business days.		Lead (6020)							Correct Containers?	
Date Required: ☒ Rush-Subject to ALS approval and surcharges.		SVOC (8270D) + TICs (groundwater)							Correct Sample Volumes?	
Email? ☒ Y carla.rodman@parsons.com		VOC (8260C) + TICs (groundwater)							Correct Preservation?	
Fax? ☐ Y No:		EXTRACT AND HOLD							Headspace/Volatiles?	
Sample Description/Location (as it will appear on the lab report)		Sample Date	Time	Enter Number of Containers Per Sample or Field Results Below.						
PAR-72-228-SB-03-65-7		8/9/16	1030	1	AUTHORIZED TO RUN					
2 PAR-72-228-SB-03-7-7.5		8/9/16	1040	1	X					
3 PAR-72-228-SB-01-5-5.5		8/9/16	1100	1	X					
4 PAR-72-228-SB-01-8.5-9		8/9/16	1115	1	X					
5 PAR-72-228-SB-02-10.5-11		8/9/16	1430	1	X					
6 PAR-72-228-SB-02-12-12.5		8/9/16	1440	1	X					
7 PAR-72-EB-08092016		8/9/16	1530	2	X					
8										
9										
10										
Project Comments: 748810		LOGGED BY (signature): <i>Senfer</i>		3/5/16		3/5/16		ALS Field Services: Pickup Labor Composite Sampling Rental Equipment Other:		
MDL, Must Meet NDEP Soil Cleanup Criteria and/or Groundwater Quality Standards		REVIEWED BY (signature): <i>Chet</i>		8/9/16		8/9/16		Special Processing: USACE Navy		
Relinquished By / Company Name		Date	Time	Received By / Company Name		Date	Time	State Samples Collected In: NY NJ PA NC		
1 <i>St. Louis Parsons</i>		8-10-16	1150	2 <i>St. Louis Parsons</i>		8-10-16	1130	Sample Disposal: Lab Special		
3 <i>St. Louis Parsons</i>		8-10-16	1505	4 <i>St. Louis Parsons</i>		8-10-16	1505			
5 <i>St. Louis Parsons</i>		8-10-16	2025	6 <i>St. Louis Parsons</i>		8-10-16	2025			
7				8						
9				10				EDDS: Formal Type- ERPIMS		

* G=Grab; C=Composite ** Matrix - AL=Air; DW=Drinking Water; GW=Groundwater; OL=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 1565 Jefferson Road, Building 300, Suite 360 Rochester, NY 14623 USA

August 26, 2016

Ms. Carla Rodman
Parsons
301 Plainfield Rd
Suite 350
Syracuse, NY 13212

Certificate of Analysis

Project Name: **Ft. Monmouth Soils**Workorder: **2166915**

Purchase Order:

Workorder ID: **PQF031|FTMM**

Dear Ms. Rodman:

Enclosed are the analytical results for samples received by the laboratory on Wednesday, August 10, 2016.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Debra J. Musser (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

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ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Christina Grill , Ms. Maryanne Kosciwicz , Mr. Cory Mahony

*This page is included as part of the Analytical Report and
must be retained as a permanent record thereof.*



Ms. Debra J. Musser
Project Coordinator

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**SAMPLE SUMMARY**

Workorder: 2166915 PQF031|FTMM

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2166915001	PAR-72-228-SB-03-6.5-7	Solid	8/9/2016 10:30	8/10/2016 20:25	Collected by Client
2166915002	PAR-72-228-SB-03-7-7.5	Solid	8/9/2016 10:40	8/10/2016 20:25	Collected by Client
2166915003	PAR-72-228-SB-01-5-5.5	Solid	8/9/2016 11:00	8/10/2016 20:25	Collected by Client
2166915004	PAR-72-228-SB-01-8.5-9	Solid	8/9/2016 11:15	8/10/2016 20:25	Collected by Client
2166915005	PAR-72-228-SB-02-10.5-11	Solid	8/9/2016 14:30	8/10/2016 20:25	Collected by Client
2166915006	PAR-72-228-SB-02-12-12.5	Solid	8/9/2016 14:40	8/10/2016 20:25	Collected by Client
2166915007	PAR-72-EB-08092016	Ground Water	8/9/2016 15:30	8/10/2016 20:25	Collected by Client

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SAMPLE SUMMARY

Workorder: 2166915 PQF031|FTMM

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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ANALYTICAL RESULTS

Workorder: 2166915 PQF031|FTMM

Lab ID: **2166915002**
Sample ID: **PAR-72-228-SB-03-7-7.5**

Date Collected: 8/9/2016 10:40 Matrix: Solid
Date Received: 8/10/2016 20:25

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
SEMIVOLATILES											
2-Methylnaphthalene	23.9		mg/kg	3.1	0.77	0.057	SW846 8270D	8/15/16 CMA	8/17/16 11:22	CGS	A
Naphthalene	3.8		mg/kg	0.11	0.077	0.0069	SW846 8270D	8/15/16 CMA	8/15/16 13:14	CGS	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2,4,6-Tribromophenol (S)	95		%	39 - 132			SW846 8270D	8/15/16 CMA	8/15/16 13:14	CGS	A
2,4,6-Tribromophenol (S)	81.9		%	39 - 132			SW846 8270D	8/15/16 CMA	8/17/16 11:22	CGS	A
2-Fluorobiphenyl (S)	71.6		%	44 - 115			SW846 8270D	8/15/16 CMA	8/15/16 13:14	CGS	A
2-Fluorobiphenyl (S)	73.7		%	44 - 115			SW846 8270D	8/15/16 CMA	8/17/16 11:22	CGS	A
2-Fluorophenol (S)	73.5		%	35 - 115			SW846 8270D	8/15/16 CMA	8/15/16 13:14	CGS	A
2-Fluorophenol (S)	73.8		%	35 - 115			SW846 8270D	8/15/16 CMA	8/17/16 11:22	CGS	A
Nitrobenzene-d5 (S)	85.1		%	37 - 122			SW846 8270D	8/15/16 CMA	8/15/16 13:14	CGS	A
Nitrobenzene-d5 (S)	84.5		%	37 - 122			SW846 8270D	8/15/16 CMA	8/17/16 11:22	CGS	A
Phenol-d5 (S)	77.9		%	33 - 122			SW846 8270D	8/15/16 CMA	8/15/16 13:14	CGS	A
Phenol-d5 (S)	74		%	33 - 122			SW846 8270D	8/15/16 CMA	8/17/16 11:22	CGS	A
Terphenyl-d14 (S)	89.7		%	54 - 127			SW846 8270D	8/15/16 CMA	8/15/16 13:14	CGS	A
Terphenyl-d14 (S)	81		%	54 - 127			SW846 8270D	8/15/16 CMA	8/17/16 11:22	CGS	A
WET CHEMISTRY											
Moisture	16.0		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	A
Total Solids	84.0		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	A



Ms. Debra J. Musser
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 2166915 PQF031|FTMM

Lab ID: **2166915007**
Sample ID: **PAR-72-EB-08092016**

Date Collected: 8/9/2016 15:30 Matrix: Ground Water
Date Received: 8/10/2016 20:25

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	By	Cntr
SEMIVOLATILES											
2-Methylnaphthalene	1.1U	U	ug/L	2.1	1.1	0.17	SW846 8270D	8/15/16 LEH	8/16/16 16:05	CGS	C1
Naphthalene	1.1U	U	ug/L	2.1	1.1	0.13	SW846 8270D	8/15/16 LEH	8/16/16 16:05	CGS	C1
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>			<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2,4,6-Tribromophenol (S)	81.1		%	43 - 140			SW846 8270D	8/15/16 LEH	8/16/16 16:05	CGS	C1
2-Fluorobiphenyl (S)	75.7		%	44 - 119			SW846 8270D	8/15/16 LEH	8/16/16 16:05	CGS	C1
2-Fluorophenol (S)	56.3		%	19 - 119			SW846 8270D	8/15/16 LEH	8/16/16 16:05	CGS	C1
Nitrobenzene-d5 (S)	80.4		%	44 - 120			SW846 8270D	8/15/16 LEH	8/16/16 16:05	CGS	C1
Phenol-d5 (S)	35.3		%	13 - 49			SW846 8270D	8/15/16 LEH	8/16/16 16:05	CGS	C1
Terphenyl-d14 (S)	81.4		%	50 - 134			SW846 8270D	8/15/16 LEH	8/16/16 16:05	CGS	C1



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Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

Jennifer Dunn

From: Rodman, Carla <Carla.Rodman@parsons.com>
Sent: Friday, August 26, 2016 10:46 AM
To: Vanessa Badman
Cc: Grill, Cris; Mahony, Cory; Kosciwicz, Maryanne
Subject: FTMM Parcel 72 SDG 2166915 samples on hold

Hi Vanessa,

Please activate sample PAR-72-228-SB-03-7-7.5 from SDG 2166915 for Naphthalene and 2-Methylnaphthalene. The remaining samples in this SDG do not need to be analyzed.

Please include a copy of this email attached to the COC in the data package for tracking purposes.

Also, on ALS Webtrieve results, these samples show that they are being analyzed for the full SVOC list. They should be extract and hold for Naphthalene and 2-Methylnaphthalene only. Would you look into this and discuss it with me on Monday?

Thank you,
Carla Rodman
Environmental Specialist

301 Plainfield Rd, Suite 350, Syracuse, NY 13212
carla.rodman@parsons.com - Mobile +1 315.209.7565

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ALS Group: Click [here](#) to report this email as spam.

ATTACHMENT E

Cross Reference of Residential Building Numbers with Street Addresses

CROSS REFERENCE OF RESIDENTIAL HOUSING BUILDING NUMBERS WITH STREET ADDRESSES
MAIN POST, FORT MONMOUTH, NEW JERSEY

BLDG No.	ADDRESS		Notes
211	4 & 6	Russell Avenue	
212	8 & 10	Russell Avenue	
213	12 & 14	Russell Avenue	
214	16 & 18	Russell Avenue	
215	20	Russell Avenue	No UST
216	22	Russell Avenue	No UST
218	24 & 26	Russell Avenue	No UST
219	28 & 30	Russell Avenue	
220	32 & 34	Russell Avenue	
221	36	Russell Avenue	No UST
222	38 & 40	Russell Avenue	
223	42 & 44	Russell Avenue	
224	17	Allen Avenue	No UST
225	13 & 15	Allen Avenue	
226	9 & 11	Allen Avenue	
227	5 & 7	Allen Avenue	
228	1 & 3	Allen Avenue	
229	2	Russell Avenue	No UST
230	19	Allen Avenue	No UST
233	4 only	Gosselin Avenue	
234	1 & 3	Gosselin Avenue	
235	6 & 8	Gosselin Avenue	
236	5 & 7	Gosselin Avenue	
237	10 & 12	Gosselin Avenue	
238	9 & 11	Gosselin Avenue	
239	14 & 16	Gosselin Avenue	
240	13 & 15	Gosselin Avenue	
241	18 & 20	Gosselin Avenue	
242	17 & 19	Gosselin Avenue	
243	22 & 24	Gosselin Avenue	
244	21 & 23	Gosselin Avenue	
245	26 & 28	Gosselin Avenue	
246	25 & 27	Gosselin Avenue	
247	30 & 32	Gosselin Avenue	
248	29 & 31	Gosselin Avenue	
249	34 & 36	Gosselin Avenue	
250	33 & 35	Gosselin Avenue	
251	38 & 40	Gosselin Avenue	
252	37 & 39	Gosselin Avenue	
253	42 & 44	Gosselin Avenue	
254	41 & 43	Gosselin Avenue	
255	46 & 48	Gosselin Avenue	
256	45 & 47	Gosselin Avenue	
258	49 & 51	Gosselin Avenue	

ATTACHMENT F

Unregulated Heating Oil Tanks Along Russel Avenue

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEYDate: December 10, 2014Review Performed By: Kent Friesen, ParsonsSite ID: **Bldg. 211**Registration ID: 81533-9Recommended Status of Site: **Case Closed (no change)**UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ NoNJDEP Release No. or DICAR (If applicable): Not ApplicableDid NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not ApplicableTank Description: ☐ Steel ☒ Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil☒ Residential ☐ Commercial/IndustrialTank Removed? ☒ Yes ☐ No If "yes," removal date: 11/27/2001Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH; VOCs in 1 sampleComparison criteria: 5,100 mg/kg TPHWere closure soil sample results less than comparison criteria? ☒ Yes ☐ No**Brief Narrative**

Soil samples were collected from the tank excavation in 2001 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Building 211 sample results were non-detected (ND) for TPH in 5 of the 6 soil samples. One sample (211B-Center) contained 3968 mg/kg TPH; this sample was also analyzed for volatile organic compounds (VOCs). The TPH results were less than 5,100 mg/kg, which is the current remediation criterion. The VOC results were ND for all compounds except acetone, which is a common laboratory contaminant. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status designation of "Case Closed," although certain supporting documentation (such as a map with sample locations, field notes, etc.) may not be available. Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): ~~None~~ Address groundwaterSigned: 
Kent A. Friesen, ParsonsSee also Attachment D for recent (2016) analytical
results; additional activities to address groundwater are
warranted.

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



ANALYTICAL DATA REPORT Fort Monmouth Environmental Laboratory ENVIRONMENTAL DIVISION Fort Monmouth, New Jersey PROJECT: UST Program

Bldg. 211

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
211A-North End/8.5-9'	1660501	Soil	27-Nov-01 09:00	11/27/01
211B-Center/9-9.5'	1660502	Soil	27-Nov-01 09:55	11/27/01
211C-South End/9-9.5'	1660503	Soil	27-Nov-01 09:20	11/27/01
211D-Piping/1-1.5'	1660504	Soil	27-Nov-01 10:30	11/27/01
211E-Piping/1-1.5'	1660505	Soil	27-Nov-01 11:00	11/27/01
211F-Duplicate/8.5-9'	1660506	Soil	27-Nov-01 09:00	11/27/01
Trip Blank	1660507	Methanol	27-Nov-01	11/27/01

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
VOA+15, TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

 12-6-01
Daniel Wright/Date
Laboratory Director

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CHAIN OF CUSTODY

000001

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil

NJDEP Certification #13461 / NYDOH Certification #11699

Chain of Custody Record

Customer: Dinker Desai		Project No: 02-15362		Analysis Parameters				Remarks / Preservation Method	
Phone #: X21475		Location: BLDG. 211 416 R3552		VOA+10		TPHC		* = Samples Kept <4°C	
() IDERA (X) JOMA UST Assessment		UST# 81533-9		VOA ID #		PID Reading			
Samplers Name / Company : Frank Accorsi/TVS				Sample Type	# Bottles				
Lab Sample I.D.	Sample Location	Depth	Date	Time	% SOLIDS	TPHC	VOA ID #	PID Reading	Remarks / Preservation Method
11005 01	211A-NORTH END	8.5-9	11-27-01	0900	X	X	2948	0	100
02	211B-CENTER	9-9.5		0955	X	X	2949	60	
03	211C-SOUTH END	9-9.5		0910	X	X	2950	0	
04	211D-PIPING	1-1.5		1030	X	X	2951	0	
05	211E-PIPING	1-1.5		1100	X	X	2952	0	
06	211F-DUPLICATE	8.5-9		0900	X	X	2953	0	
07	TRIP BLANK	—		0900	X	X	2954	—	
OVM sn#580U-64455.343 was calibrated with zero air & w/245 ppm isobutylene read 245 ppm. 11-27-01 0830 FH(time/date & initial)									
Relinquished by (signature):		Date/Time:		Received by (signature):		Comments: * V0 +10 ON 25% > 1000 PPM TPH, ON HIGHEST, min. ONE			
Relinquished by (signature):		Date/Time:		Received by (signature):					
Report Type: () Full, (X) Reduced, () Standard, () Screen / non-certified, () EDD				Remarks:		Dedicated Sampling Tools Used			
Turnaround time: () Standard 2 wks, (X) Rush 2 Days, () ASAP Verbal Hrs.						All sample points have been GPS? (X) YES () NO () NA			

000002

Change of Chain of Custody

Lab Project ID#:

Site/Project Name:

Date Received:

Date of Change:

Requested by: print

Sign:

Turnaround Time:

- Turnaround Time: 2 hrs.
- | | | |
|---|-----|----|
| 1. Were the correct containers and/or preservatives used for the tests indicated? | Yes | No |
| 2. Was a sufficient amount of sample sent for the tests indicated? | Yes | No |
| 3. Are samples Within Holding time for new analysis? | Yes | No |
| 4. Was the change documented in the sample receipt log book? | Yes | No |
- Sign: _____

Received by: print

Sign:

[illegible]**Comments:**

METHOD SUMMARY

000004

Method Summary

NJDEP Method 8260

Gas Chromatographic Determination of Volatiles in Soil

A 10-gram volume of soil is combined with 25-ml of Methanol and surrogates in the field. Internal standards are added and the sample is placed on a purge and trap concentrator. The sample is purged and desorbed into a GC/MS system. Volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent moisture, methanol volume and concentration.

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five milliliters (25mL) Methylene Chloride is added to the flask and it is secured on a orbital shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL-autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

**CONFORMANCE-
NON-
CONFORMANCE**

000006

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

Indicate
Yes, No, N/A

1. Chromatograms labeled/Compounds identified
(Field samples and method blanks) yes
2. Retention times for chromatograms provided yes
3. GC/MS Tune Specifications
 - a. BFB Meet Criteria yes
 - b. DFTPP Meet Criteria NA
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series yes
5. GC/MS Calibration – Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series yes
6. GC/MS Calibration requirements
 - a. Calibration Check Compounds Meet Criteria yes
 - b. System Performance Check Compounds Meet Criteria yes
7. Blank Contamination – If yes, List compounds and concentrations in each blank: no
 - a. VOA Fraction _____
 - b. B/N Fraction NA
 - c. Acid Fraction NA
8. Surrogate Recoveries Meet Criteria yes

If not met, list those compounds and their recoveries, which fall outside the acceptable range:

 - a. VOA Fraction _____
 - b. B/N Fraction NA
 - c. Acid Fraction NA

If not met, were the calculations checked and the results qualified as "estimated"? _____
9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria yes

(If not met, list those compounds and their recoveries, which fall outside the acceptable range)

 - a. VOA Fraction _____
 - b. B/N Fraction NA
 - c. Acid Fraction NA

000007

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT (cont.)

Indicate
Yes, No, N/A

10. Internal Standard Area/Retention Time Shift Meet Criteria
(If not met, list those compounds, which fall outside the acceptable range)

yes

- a. VOA Fraction _____
b. B/N Fraction NA
c. Acid Fraction NA

11. Extraction Holding Time Met

NA

If not met, list the number of days exceeded for each sample: _____

12. Analysis Holding Time Met

yes

If not met, list the number of days exceeded for each sample: _____

Additional Comments:

Laboratory Manager: _____



Date: 12-6-01

000008

TPHC Conformance/Non-conformance Summary Report

Indicate
Yes, No, N/A

1. Method Detection Limits provided. yes
2. Method Blank Contamination – If yes, list the sample and the Corresponding concentrations in each blank. No

3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range). yes

4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range). yes

5. IR Spectra submitted for standards, blanks and samples. NA
6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. yes
7. Analysis holding time met. yes
(If not met, list number of days exceeded for each sample).

Additional comments: _____



Laboratory Manager

12-6-01
Date

000009

LABORATORY CHRONICLE

000010

Laboratory Chronicle

Lab ID: 16605

Site: Bldg. 211

	Date	Hold Time
Date Sampled	11/27/01	NA
Receipt/Refrigeration	11/27/01	NA
Extractions		
1. TPHC	11/27/01	14 days
Analyses		
1. VOA	11/30/01	14 days
2. TPHC	11/28/01	40 days

000011

VOLATILE ORGANICS

000012

**US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEP CERTIFICATION # 13461**

Definition of Qualifiers

MDL	:	Method Detection Limit
J	:	Compound identified below detection limit
B	:	Compound found in blank
D	:	Results are from a dilution of the sample
U	:	Compound searched for but not detected
E	:	Compound exceeds calibration limit
PQL	:	Practical Quantitation Limit
NLE	:	No limit established
RT	:	Retention time

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

MB 30Nov01

Lab Name: FMETL NJDEP # 13461

Project: 0215362 Case No.: 16605 Location: 211 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: MB

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC007512.D

Level: (low/med) MED Date Received: 11/27/01

% Moisture: not dec. 0 Date Analyzed: 11/30/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	U
	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	100	U
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
75-27-4	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
126-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

MB 30Nov01

Lab Name: FMETL NJDEP # 13461

Project: 0215362 Case No.: 16605 Location: 211 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: MB

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC007512.D

Level: (low/med) MED Date Received: 11/27/01

% Moisture: not dec. 0 Date Analyzed: 11/30/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

1330-20-7	m+p-Xylenes	300	U
1330-20-7	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

MB 30Nov01

Lab Name: FMETL NJDEP # 13461
Project: 0215362 Case No.: 16605 Location: 211 SDG No.:
Matrix: (soil/water) SOIL Lab Sample ID: MB
Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC007512.D
Level: (low/med) MED Date Received: 11/27/01
% Moisture: not dec. 0 Date Analyzed: 11/30/01
GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

Number TICs found: 1 (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	30.85	900	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

211B-Center

Lab Name: FMETL NJDEP # 13461

Project: 0215362 Case No.: 16605 Location: 211 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1660502

Sample wt/vol: 9.9 (g/ml) G Lab File ID: VC007513.D

Level: (low/med) MED Date Received: 11/27/01

% Moisture: not dec. 19.79 Date Analyzed: 11/30/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

107028	Acrolein	890	U
107131	Acrylonitrile	890	U
75650	tert-Butyl alcohol	1600	U
1634044	Methyl-tert-Butyl ether	380	U
108203	Di-isopropyl ether	250	U
75718	Dichlorodifluoromethane	510	U
74-87-3	Chloromethane	130	U
75-01-4	Vinyl Chloride	380	U
74-83-9	Bromomethane	250	U
75-00-3	Chloroethane	380	U
75-69-4	Trichlorofluoromethane	250	U
75-35-4	1,1-Dichloroethene	130	U
67-64-1	Acetone	1300	
75-15-0	Carbon Disulfide	130	U
75-09-2	Methylene Chloride	250	U
156-60-5	trans-1,2-Dichloroethene	250	U
75-35-3	1,1-Dichloroethane	130	U
108-05-4	Vinyl Acetate	380	U
78-93-3	2-Butanone	380	U
	cis-1,2-Dichloroethene	130	U
67-66-3	Chloroform	130	U
75-55-6	1,1,1-Trichloroethane	130	U
56-23-5	Carbon Tetrachloride	250	U
71-43-2	Benzene	130	U
107-06-2	1,2-Dichloroethane	250	U
79-01-6	Trichloroethene	130	U
78-87-5	1,2-Dichloropropane	130	U
75-27-4	Bromodichloromethane	130	U
110-75-8	2-Chloroethyl vinyl ether	250	U
10061-01-5	cis-1,3-Dichloropropene	130	U
108-10-1	4-Methyl-2-Pentanone	250	U
108-88-3	Toluene	130	U
10061-02-6	trans-1,3-Dichloropropene	250	U
79-00-5	1,1,2-Trichloroethane	250	U
127-18-4	Tetrachloroethene	130	U
591-78-6	2-Hexanone	250	U
126-48-1	Dibromochloromethane	250	U
108-90-7	Chlorobenzene	130	U
100-41-4	Ethylbenzene	250	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

211B-Center

Lab Name: FMETL NJDEP # 13461

Project: 0215362 Case No.: 16605 Location: 211 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1660502

Sample wt/vol: 9.9 (g/ml) G Lab File ID: VC007513.D

Level: (low/med) MED Date Received: 11/27/01

% Moisture: not dec. 19.79 Date Analyzed: 11/30/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

1330-20-7	m+p-Xylenes	380	U
1330-20-7	o-Xylene	250	U
100-42-5	Styrene	250	U
75-25-2	Bromoform	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
541-73-1	1,3-Dichlorobenzene	380	U
106-46-7	1,4-Dichlorobenzene	380	U
95-50-1	1,2-Dichlorobenzene	380	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

211B-Center

Lab Name: FMETL NJDEP # 13461

Project: 0215362 Case No.: 16605 Location: 211 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1660502

Sample wt/vol: 9.9 (g/ml) G Lab File ID: VC007513.D

Level: (low/med) MED Date Received: 11/27/01

% Moisture: not dec. 19.79 Date Analyzed: 11/30/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:(ug/L or ug/Kg) UG/KGNumber TICs found: 15

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 002051-30-1	Octane, 2,6-dimethyl-	28.10	2800	JN
2.	unknown	29.00	4200	J
3. 005911-04-6	Nonane, 3-methyl-	29.40	2300	JN
4.	unknown	30.05	2700	J
5.	unknown	30.64	2300	J
6. 002847-72-5	Decane, 4-methyl-	30.89	3600	JN
7.	unknown	31.93	3200	J
8.	unknown	32.03	2200	J
9.	unknown	32.10	2700	J
10.	unknown	32.34	3000	J
11. 001120-21-4	Undecane	33.10	12000	JN
12.	unknown	34.44	2800	J
13.	unknown	34.77	2000	J
14. 004292-92-6	Cyclohexane, pentyl-	34.85	4700	JN
15.	unknown	34.95	3400	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Trip Blank

Lab Name: FMETL NJDEP # 13461

Project: 0215362 Case No.: 16605 Location: 211 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1660507

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC007514.D

Level: (low/med) MED Date Received: 11/27/01

% Moisture: not dec. 0 Date Analyzed: 11/30/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	1000	
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	U
	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	100	U
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
75-27-4	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
126-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Trip Blank

Lab Name: FMETL NJDEP # 13461

Project: 0215362 Case No.: 16605 Location: 211 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1660507

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC007514.D

Level: (low/med) MED Date Received: 11/27/01

% Moisture: not dec. 0 Date Analyzed: 11/30/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

1330-20-7	m+p-Xylenes	300	U
1330-20-7	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

Trip Blank

Lab Name: FMETL NJDEP # 13461

Project: 0215362 Case No.: 16605 Location: 211 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1660507

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC007514.D

Level: (low/med) MED Date Received: 11/27/01

% Moisture: not dec. 0 Date Analyzed: 11/30/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KGNumber TICs found: 7

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	27.44	2000	J
2.	unknown	28.02	1500	J
3.	unknown	28.44	1500	J
4. 000629-50-5	Tridecane	30.76	4300	JN
5.	unknown	31.37	2000	J
6.	unknown	32.18	1800	J
7.	unknown	34.29	2400	J

TPHC

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

Client : U.S. Army
 DPW. SELFM-PW-EV
 Bldg. 173
 Ft. Monmouth, NJ 07703

Project # : 16605
Location : Bldg. 211
UST Reg. # : 81533-9

Analysis : OQA-QAM-025
Matrix : Soil
Inst. ID. : GC TPHC INST. #1
Column Type : RTX-5, 0.32mm ID, 30M
Injection Volume : 1uL

Date Received : 27-Nov-01
Date Extracted : 27-Nov-01
Extraction Method : Shake
Analysis Complete : 28-Nov-01
Analyst : B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1660501	211A	1.00	15.66	82.61	175	ND
1660502	211B	1.00	15.57	80.21	181	3968.46
1660503	211C	1.00	15.49	82.49	177	ND
1660504	211D	1.00	15.16	86.75	172	ND
1660505	211E	1.00	15.22	91.65	162	ND
1660506	211F	1.00	15.30	82.31	180	ND
METHOD BLANK	MB-2671	1.00	15.00	100.00	151	ND

ND = Not Detected
 MDL = Method Detection Limit

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|-------------------------------------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

Laboratory Manager or Environmental Consultant's Signature _____
Date 12/6/01

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

000061

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.



Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 9, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 212**

Registration ID: 81533-10

Recommended Status of Site: **Case Open**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? [] Yes [X] No

NJDEP Release No. or DICAR (If applicable): Not Applicable

Did NJDEP approve No Further Action (NFA) for this site? [] Yes [] No [X] Not Applicable

Tank Description: [] Steel [X] Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil

[X] Residential [] Commercial/Industrial

Tank Removed? [X] Yes [] No If "yes," removal date: 3/29/2001

Were closure soil samples taken? [X] Yes [] No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ? [] Yes [] No *Not determined*

Brief Narrative

Closure documentation was missing from the 212 files. Soil samples were collected from the tank excavation in 2001 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Samples associated with tank removal activities at 212 were logged into the FTMM laboratory log book as Sample IDs 16021.01 through .07; however, the original data package was missing from the archives.

Based on this file review, we have determined that the Case Status should remain "Case Open" until analytical results can be located. There is no available closure documentation at the present time.

Although the fiberglass tank was removed, an earlier steel UST could still be present.

Collect soil samples to address missing data.

Recommendations (if any): Continue to look for the FTMM Environmental Laboratory analytical data package 16021 from approximately 3/28/2001

Signed: 
Kent A. Friesen, Parsons

See also Attachment D for recent (2016) analytical results.

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 9, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 213**

Registration ID: 81533-11

Recommended Status of Site: **Case Closed**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): Not Applicable

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 4/30/2001

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Closure documentation was initially missing from the 213 files. Therefore, the original data package for 213 closure samples was located in the FTMM Environmental Laboratory archives, and was copied and placed in the 213 file. Based on this file review, we have determined that the Case Status should be changed to "Case Closed."

Soil samples were collected from the tank excavation in 2001 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). All Building 213 sample results were non-detected (ND) for TPH. These results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results generally support changing the UST Case Status to "Case Closed, although certain supporting documentation (such as a map with sample locations, field notes, etc.) may not be available. Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): Change status to "Case closed."

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



ANALYTICAL DATA REPORT Fort Monmouth Environmental Laboratory ENVIRONMENTAL DIVISION Fort Monmouth, New Jersey PROJECT: IJO# 01-0001

Bldg. 213

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
213-A North End 9-9.5'	16092.01	Soil	30-Apr-01 14:00	04/30/01
213-B Center 9-9.5'	16092.02	Soil	30-Apr-01 14:30	04/30/01
213-C South End 9-9.5'	16092.03	Soil	30-Apr-01 14:50	04/30/01
213-D Piping 2.5-3'	16092.04	Soil	30-Apr-01 15:10	04/30/01
213-E Piping 2.5-3'	16092.05	Soil	30-Apr-01 15:20	04/30/01
213-F Duplicate 9-9.5'	16092.06	Soil	30-Apr-01 14:50	04/30/01

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS


Daniel Wright/Date
Laboratory Director

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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five milliliters (25mL) Methylene Chloride is added to the flask and it is secured on a orbital shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL-autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

TPHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the Corresponding concentrations in each blank.

_____ | <u>NO</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____

Laboratory Manager

5-8-01
Date

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Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail.monmouth.army.mil

NJDEP Certification #13461 / NYDOH Certification #11699

Chain of Custody Record

Customer: Dinker Desai		Project No: 100004-01-0001		Analysis Parameters						Remarks / Preservation Method		
Phone #: X21475		Location: BL-06.213 (2414 Russell)										
() DERA (X) OMA UST Assessment		UST# 81533-11										
Samplers Name / Company : Frank Accorsi/TVS				Sample		# Bottles						
Lab Sample I.D.	Sample Location	Depth	Date	Time	Type			TPHC	% SOLIDS	VOA+10	VOA ID #	PID Reading
10092-01	213-A, NORTH END	9-9.5	4-30-01	1400	SOL		2	X	X	X	2334	0
02	213-B, CENTER	9-9.5		1430			2	X	X	X	2335	0
03	213-C, SOUTH END	9-9.5		1450			2	X	X	X	2336	0
04	213-D, PIPING	25-3		1510			2	X	X	X	2337	0
05	213-E, PIPING	25-3		1520			2	X	X	X	2338	0
06	213-F, DUPLICATE	9-9.5		1450			2	X	X	X	2339	0
07	TRIP BLANK	-		-	AQ.		1			X	2340	-
OVM sn#580U-64455.343 was calibrated with zero air & w/ 245 ppm Isobutylene read 245 ppm. 1330 4-30-01 FA (time/date & initial)												
Relinquished by (signature): <i>Frank Accorsi</i>		Date/Time: 4-30-01 1545		Retrieved by (signature): <i>[Signature]</i>		Comments: VOA+10 ON 2570 T 1,000 PPM TPH ON H/GHES, MIN. ONE						
Relinquished by (signature):		Date/Time:		Received by (signature):								
Report Type: () Full, (X) Reduced, () Standard, () Screen / non-certified, () EDD Turnaround time: () Standard 2 wks, (X) Rush Days, () ASAP Verbal Hrs. Remarks: Dedicated Sampling Tools Used												

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Project # : 16092
Location : Bldg.213
UST Reg. # : 81533-11

Analysis : OQA-QAM-025
Matrix : Soil
Inst. ID. : GC TPHC INST. #1
Column Type : RTX-5, 0.32mm ID, 30M
Injection Volume : 1uL

Date Received : 30-Apr-01
Date Extracted : 01-May-01
Extraction Method : Shake
Analysis Complete : 01-May-01
Analyst : B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1609201	213-A	1.00	15.37	81.91	187	ND
1609202	213-B	1.00	15.07	81.63	191	ND
1609203	213-C	1.00	15.09	85.00	183	ND
1609204	213-D	1.00	15.04	84.84	184	ND
1609205	213-E	1.00	15.30	83.90	183	ND
1609206	213-F	1.00	15.06	82.80	188	ND
METHOD BLANK	MB-1725	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

000002

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted ☒
2. Table of Contents submitted ☒
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted ☒
4. Document paginated and legible ☒
5. Chain of Custody submitted ☒
6. Samples submitted to lab within 48 hours of sample collection ☒
7. Methodology Summary submitted ☒
8. Laboratory Chronicle and Holding Time Check submitted ☒
9. Results submitted on a dry weight basis ☒
10. Method Detection Limits submitted ☒
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP ☒

Laboratory Manager or Environmental Consultant's Signature _____
Date 5/18/01

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

000029

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, appearing to read 'D.K. Wright', is written over a horizontal line.

Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 10, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 214**

Registration ID: 81533-12

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): Not Applicable

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 6/13/2001

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Parsons Government Services (Parsons) performed a review of the underground storage tank (UST) files associated with Building 214, located on Russel Avenue at Fort Monmouth (FTMM) in New Jersey. The purpose of the file review was to determine if there was sufficient documentation to support the UST Case Status designation of "Case Closed," as documented in the FTMM UST database.

Soil samples were collected from the tank excavation in 2001 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). All Building 214 sample results were non-detected (ND) for TPH. These results were less than 5,100 mg/kg for TPH, which is the current applicable remediation criterion. Results were also less than 1,000 mg/kg for TPH, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support changing the UST Case Status to "Case Closed," although certain supporting documentation (such as a map with sample locations, field notes, etc.) may not be available. Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



ANALYTICAL DATA REPORT Fort Monmouth Environmental Laboratory ENVIRONMENTAL DIVISION Fort Monmouth, New Jersey PROJECT: IJO# 01-0001

Bldg. 214

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
214A-East End 8.5-9'	16188.01	Soil	13-Jun-01 13:20	06/13/01
214B-Center 8.5-9'	16188.02	Soil	13-Jun-01 13:45	06/13/01
214C-West End 8.5-9'	16188.03	Soil	13-Jun-01 14:10	06/13/01
214D-Piping 2-2.5'	16188.04	Soil	13-Jun-01 14:20	06/13/01
214E-Piping 2-2.5'	16188.05	Soil	13-Jun-01 14:40	06/13/01
214F-Duplicate 8.5-9'	16188.06	Soil	13-Jun-01 13:20	06/13/01
Trip Blank	16188.07	Methanol	13-Jun-01	06/13/01

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

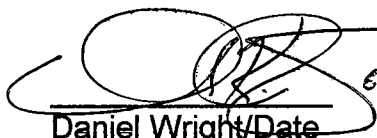
 6-26-01
Daniel Wright/Date
Laboratory Director

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METHOD SUMMARY

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five milliliters (25mL) Methylene Chloride is added to the flask and it is secured on a orbital shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is then removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL-autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

CONFORMANCE/NON CONFORMANCE SUMMARY

TPHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|--|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the
Corresponding concentrations in each blank.

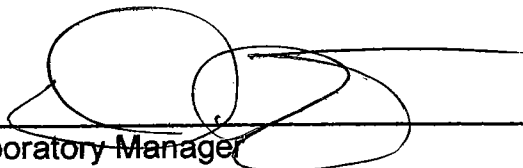
_____ | <u>NO</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which
falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which
falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples
if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____



Laboratory Manager

6-26-01

Date

CHAIN OF CUSTODY

000005

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-6263 Email:wrightd@mail1.monmouth.army.mil

NJDEP Certification #13461 / NYDOH Certification #11699

Chain of Custody Record

Customer: Dinker Desai		Project No: 1000004 01-0001		Analysis Parameters			Remarks / Preservation Method						
Phone #: X21475		Location: Bldg. 214 (16th Russell)											
() IDERA (X) OMA UST Assessment		UST# 81533-12		TPHC		% SOLIDS		VOA+10		VOA ID #		PID Reading	
Samplers Name / Company : Frank Accorsi/TVS				Sample		#							
Lab Sample I.D.		Sample Location		Depth (ft)		Date		Time		Type		Bottles	
11/88. 01		214A-EAST END		8.5-9		6-13-01		1320		501L		2	
02		214B-CENTER		8.5-9				1345				1	
03		214C-WEST END		8.5-9				1410				1	
04		214D-PRING		2-2.5				1420				1	
05		214E-PIPING		2-2.5				1440				1	
06		214F-DUPLICATE		8.5-9				1320				1	
07		TRIP BLANK		-				-		AQ		1	
OVM sn#580U-64455.343 was calibrated with zero air & w/245 ppm isobutylene read 245 ppm. 1000 6-13-01 FA (time/date & initial)													
Relinquished by (signature):		Date/Time:		Received by (signature):		Date/Time:		Comments: *1040 ON 2520 > 1,000 PPM TPH, ON HIGHEST, MIN. ONE.					
Relinquished by (signature):		Date/Time:		Received by (signature):		Date/Time:							
Report Type: () Full, () Reduced, () Standard, () Screen / non-certified, () EDD				Remarks:		Dedicated Sampling Tools Used							
Turnaround time: () Standard 2 wks, () Rush 2 Days, () ASAP Verbal Hrs.				All sample points have been GPS? YES () NO () NA									

TPHC

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Project # : 16188
Location : Bldg214
UST Reg. # :

Analysis : OQA-QAM-025
Matrix : Soil
Inst. ID. : GC TPHC INST. #1
Column Type : RTX-5, 0.32mm ID, 30M
Injection Volume : 1uL

Date Received : 13-Jun-01
Date Extracted : 18-Jun-01
Extraction Method : Shake
Analysis Complete : 18-Jun-01
Analyst : Skelton

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1618801	214A	1.00	15.15	86.37	180	ND
1618802	214B	1.00	15.97	86.82	169	ND
1618803	214C	1.00	15.05	85.40	183	ND
1618804	214D	1.00	16.18	87.49	166	ND
1618805	214E	1.00	16.03	87.66	167	ND
1618806	214F	1.00	15.09	85.61	182	ND
METHOD BLANK	MB-1916	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|-------------------------------------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

Laboratory Manager or Environmental Consultant's Signature

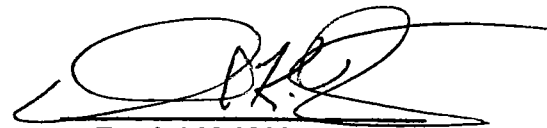
Date 6/26/01

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, appearing to read 'D.K. Wright', with a long horizontal line extending to the right.

Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 10, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 219**

Registration ID: 81533-13

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): Not Applicable

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 6/19/2001

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 2001 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). All Building 219 sample results were non-detected (ND) for TPH. These results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed," although certain supporting documentation (such as a map with sample locations, field notes, etc.) may not be available. Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



ANALYTICAL DATA REPORT Fort Monmouth Environmental Laboratory ENVIRONMENTAL DIVISION Fort Monmouth, New Jersey PROJECT: IJO# 01-0001

Bldg. 219

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
219A-West End 8.5-9'	16194.01	Soil	19-Jun-01 14:30	06/19/01
219B Center 8.5-9'	16194.02	Soil	19-Jun-01 14:45	06/19/01
219C East End 8.5-9'	16194.03	Soil	19-Jun-01 13:10	06/19/01
219D Piping 2-2.5'	16194.04	Soil	19-Jun-01 13:20	06/19/01
219E-Duplicate 8.5-9'	16194.05	Soil	19-Jun-01 14:30	06/19/01
219F-Trip Blank	16194.06	Methanol	19-Jun-01	06/19/01

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

 6-26-01
Daniel Wright/Date
Laboratory Director

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METHOD SUMMARY

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five milliliters (25mL) Methylene Chloride is added to the flask and it is secured on a orbital shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL-autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

CONFORMANCE/ NON CONFORMANCE

TPHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|--|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the
Corresponding concentrations in each blank.

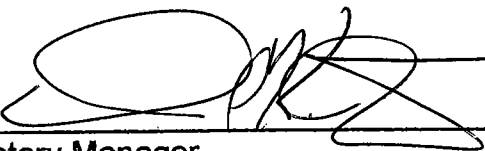
_____ | <u>no</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which
falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which
falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples
if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____



Laboratory Manager

6-26-01
Date

CHAIN OF CUSTODY

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELF-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-6263 Email:wrightd@mail1.monmouth.army.mil

NJDEP Certification #13461 / NYDOH Certification #11699

Chain of Custody Record

Customer: Dinker Desai		Project No: 400004 01-0001		Analysis Parameters			* = Samples Kept <4°C	
Phone #: X21475		Location: Bldg. 219(30 RUSSEZ)		VOA+10			PID Reading	
() DERA (X) OMA UST Assessment		UST# 81533-13		% SOLIDS			VOA ID #	
Samplers Name / Company : Frank Accorsi/TVS		Sample #		TPHC			Remarks / Preservation Method	
Lab Sample I.D.	Sample Location	Depth	Date	Time	Type	Bottles		
101 01	219A- WEST END	8.5-9	6-19-01	1430	50K	2	X	2297
02	219B- CENTRAL END	8.5-9		1445		2	X	2298
03	219C- WEST END	8.5-9		1310		2	X	2299
04	219D- PIPING	2-2.5		1320		2	X	2300
05	219E- DUPLICATE	8.5-9		1430		2	X	2301
06	219F-TRIP BLANK	-		-	AQ.	1	X	2302
OVM sn#580U-64455.343 was calibrated with zero air & w/ 245 ppm Isobutylene read 245 ppm. 1200 6-19-01 (time/date & initial)								
Relinquished by (signature):		Date/Time:		Received by (signature):		Comments: 10+10 ON 25% > 1000 11m TPH, ON HIGHEST, MIN. ONE.		
Relinquished by (signature):		Date/Time:		Received by (signature):				
Report Type: () Full, (X) Reduced, () Standard, () Screen / non-certified, () EDD								
Turnaround time: (X) Standard 2 days, () Rush Days, () ASAP Verbal Hrs.								
Remarks:				Dedicated Sampling Tools Used				
All sample points have been GPS? (X) YES () NO () NA								

000006

print legibly

Page 1 of 1

USTcoc.xls3/21/00

TPHC

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

Client : U.S. Army
 DPW. SELFM-PW-EV
 Bldg. 173
 Ft. Monmouth, NJ 07703

Project # : 16194
Location : Bldg219
UST Reg. # : 81533

Analysis : OQA-QAM-025
Matrix : Soil
Inst. ID. : GC TPHC INST. #1
Column Type : RTX-5, 0.32mm ID, 30M
Injection Volume : 1uL

Date Received : 19-Jun-01
Date Extracted : 22-Jun-01
Extraction Method : Shake
Analysis Complete : 22-Jun-01
Analyst : Skelton

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1619401	219A	1.00	15.27	85.33	180	ND
1619402	219A	1.00	15.09	81.21	192	ND
1619403	219A	1.00	15.07	82.68	189	ND
1619404	219A	1.00	15.04	85.12	184	ND
1619405	219A	1.00	15.06	84.76	184	ND
METHOD BLANK	MB-1928	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

000008

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|-------------------------------------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

Laboratory Manager or Environmental Consultant's Signature

Date 6/26/01

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

000028

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, appearing to read 'D.K. Wright', with a long horizontal line extending to the right.

Daniel K. Wright
Laboratory Manager

Note: red font indicates a December 2016
update to the earlier 2014 file review

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 10, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 220B**

Registration ID: 81533-14

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): Not Applicable

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 6/21/2001

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH; VOCs in 2 samples

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 2001 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Building 220 sample results ranged from non-detected (ND) to 3224 mg/kg for TPH; two samples were also analyzed for volatile organic compounds (VOCs). It appears that additional soil was removed from the excavation, and then four days later the soil was re-sampled where elevated (>1000 mg/kg) TPH was present before. The re-sample results were all ND for TPH.

These results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. The VOC results were ND for all compounds. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed," although certain supporting documentation (such as a map with sample locations, field notes, etc.) may not be available. Although the fiberglass tank was removed, an earlier steel UST could still be present.

See also Attachment D for recent (2016) analytical
results

Recommendations (if any): None

Signed: _____



Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

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WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



ANALYTICAL DATA REPORT Fort Monmouth Environmental Laboratory ENVIRONMENTAL DIVISION Fort Monmouth, New Jersey PROJECT: IJO# 01-0001

Bldg. 220

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
220A-North Wall 6-6.5'	16202.01	Soil	21-Jun-01 14:50	06/21/01
220B-South Wall 6-6.5'	16202.02	Soil	21-Jun-01 15:20	06/21/01
220C-East Wall 6-6.5'	16202.03	Soil	21-Jun-01 14:30	06/21/01
220D-West Wall 6-6.5'	16202.04	Soil	21-Jun-01 14:00	06/21/01
220E-Piping 2-2.5'	16202.05	Soil	21-Jun-01 15:40	06/21/01
220F-Duplicate 6-6.5'	16202.06	Soil	21-Jun-01 14:00	06/21/01
220G-Trip Blank	16202.07	Methanol	21-Jun-01	06/21/01

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
VOA+15, TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS


Daniel Wright Date
Laboratory Director

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CHAIN OF CUSTODY

000001

Fort Monmouth Environmental Testing Laboratory

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Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@mail1.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

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Page 1 of 1

USTCOC.xls8/18/99

00002

Change of Chain of Custody

Lab Project ID#: 16202

Site/Project Name: Bldg 220 Lb

Date Received: 02-01

Date of Change: 6/28/01

Requested by: print D. DeAS

Sign: _____

Turnaround Time: 1 wk

1. Were the correct containers and/or preservatives used for the tests indicated? Yes No
2. Was a sufficient amount of sample sent for the tests indicated? Yes No
3. Are samples Within Holding time for new analysis? Yes No
4. Was the change documented in the sample receipt log book? Yes No

Received by: print

Sign:

[illegible]

Comments: _____

METHOD SUMMARY

000004

Method Summary

EPA SW-846 Method 8260

Gas Chromatographic Determination of Volatiles in Methanol

A 10-gram volume of soil is combined with 25-ml of Methanol and surrogates in the field. Internal standards are added and the sample is placed on a purge and trap concentrator. The sample is purged and desorbed into a GC/MS system. Volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent moisture and concentration.

NJDEP Method OQA-QAM-025 10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

LABORATORY CHRONICLE

000006

Laboratory Chronicle

Lab ID: 16202

Site: Bldg. 220

	Date	Hold Time
Date Sampled	06/21/01	NA

Receipt/Refrigeration	06/21/01	NA
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Extractions

1. TPHC	06/22/01	14 days
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Analyses

1. Volatile Organics	06/27/01	14 days
2. TPHC	06/22/01	40 days

000007

CONFORMANCE/ NON- CONFORMANCE

000008

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

Indicate
Yes, No, N/A

1. Chromatograms labeled/Compounds identified
(Field samples and method blanks) yes
2. Retention times for chromatograms provided yes
3. GC/MS Tune Specifications
 - a. BFB Meet Criteria yes
 - b. DFTPP Meet Criteria NA
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series yes
5. GC/MS Calibration – Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series yes
6. GC/MS Calibration requirements
 - a. Calibration Check Compounds Meet Criteria yes
 - b. System Performance Check Compounds Meet Criteria yes
7. Blank Contamination – If yes, List compounds and concentrations in each blank: NO
 - a. VOA Fraction _____
 - b. B/N Fraction NA
 - c. Acid Fraction NA
8. Surrogate Recoveries Meet Criteria yes

If not met, list those compounds and their recoveries, which fall outside the acceptable range:

 - a. VOA Fraction _____
 - b. B/N Fraction NA
 - c. Acid Fraction NA

If not met, were the calculations checked and the results qualified as "estimated"? _____
9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria yes

(If not met, list those compounds and their recoveries, which fall outside the acceptable range)

 - a. VOA Fraction _____
 - b. B/N Fraction NA
 - c. Acid Fraction NA

000009

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT (cont.)

Indicate
Yes, No, N/A

10. Internal Standard Area/Retention Time Shift Meet Criteria
(If not met, list those compounds, which fall outside the acceptable range)

yes

- a. VOA Fraction _____
b. B/N Fraction NA _____
c. Acid Fraction NA _____

11. Extraction Holding Time Met

yes

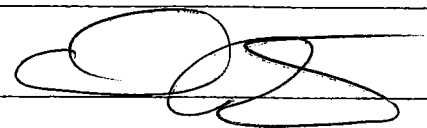
If not met, list the number of days exceeded for each sample: _____

12. Analysis Holding Time Met

yes

If not met, list the number of days exceeded for each sample: _____

Additional Comments:

Laboratory Manager: 

Date: 7.5.01

TPHC Conformance/Non-conformance Summary Report

Indicate
Yes, No, N/A

1. Method Detection Limits provided.
2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

5. IR Spectra submitted for standards, blanks and samples.
6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted.
7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

yes

NB

yes

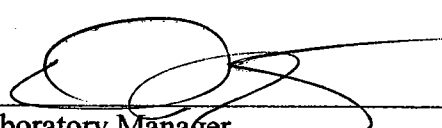
yes

NA

yes

yes

Additional comments: _____



Laboratory Manager

7-5-01

Date

000011

VOLATILE ORGANICS

000012

**US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEP CERTIFICATION # 13461**

Definition of Qualifiers

MDL	:	Method Detection Limit
J	:	Compound identified below detection limit
B	:	Compound found in blank
D	:	Results are from a dilution of the sample
U	:	Compound searched for but not detected
E	:	Compound exceeds calibration limit
PQL	:	Practical Quantitation Limit
NLE	:	No limit established
RT	:	Retention time

000013

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

MB 1945

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16202 Location: 220 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC006340.D

Level: (low/med) MED Date Received: 6/21/01

% Moisture: not dec. 0 Date Analyzed: 6/27/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	U
	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	100	U
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
75-27-4	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
126-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

MB 1945

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16202 Location: 220 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: MB

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC006340.D

Level: (low/med) MED Date Received: 6/21/01

% Moisture: not dec. 0 Date Analyzed: 6/27/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

1330-20-7	m+p-Xylenes	300	U
1330-20-7	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

MB 1945

Lab Name: FMETL NJDEP # 13461
Project: 010001 Case No.: 16202 Location: 220 SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: MB
Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC006340.D
Level: (low/med) MED Date Received: 6/21/01
% Moisture: not dec. 0 Date Analyzed: 6/27/01
GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KGNumber TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

220A

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16202 Location: 220 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1620201

Sample wt/vol: 11.9 (g/ml) G Lab File ID: VC006341.D

Level: (low/med) MED Date Received: 6/21/01

% Moisture: not dec. 16.97 Date Analyzed: 6/27/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	710	U	U
107131	Acrylonitrile	710	U	U
75650	tert-Butyl alcohol	1300	U	U
1634044	Methyl-tert-Butyl ether	300	U	U
108203	Di-isopropyl ether	200	U	U
75718	Dichlorodifluoromethane	410	U	U
74-87-3	Chloromethane	100	U	U
75-01-4	Vinyl Chloride	300	U	U
74-83-9	Bromomethane	200	U	U
75-00-3	Chloroethane	300	U	U
75-69-4	Trichlorofluoromethane	200	U	U
75-35-4	1,1-Dichloroethene	100	U	U
67-64-1	Acetone	200	U	U
75-15-0	Carbon Disulfide	100	U	U
75-09-2	Methylene Chloride	200	U	U
156-60-5	trans-1,2-Dichloroethene	200	U	U
75-35-3	1,1-Dichloroethane	100	U	U
108-05-4	Vinyl Acetate	300	U	U
78-93-3	2-Butanone	300	U	U
	cis-1,2-Dichloroethene	100	U	U
67-66-3	Chloroform	100	U	U
75-55-6	1,1,1-Trichloroethane	100	U	U
56-23-5	Carbon Tetrachloride	200	U	U
71-43-2	Benzene	100	U	U
107-06-2	1,2-Dichloroethane	200	U	U
79-01-6	Trichloroethene	100	U	U
78-87-5	1,2-Dichloropropane	100	U	U
75-27-4	Bromodichloromethane	100	U	U
110-75-8	2-Chloroethyl vinyl ether	200	U	U
10061-01-5	cis-1,3-Dichloropropene	100	U	U
108-10-1	4-Methyl-2-Pentanone	200	U	U
108-88-3	Toluene	100	U	U
10061-02-6	trans-1,3-Dichloropropene	200	U	U
79-00-5	1,1,2-Trichloroethane	200	U	U
127-18-4	Tetrachloroethene	100	U	U
591-78-6	2-Hexanone	200	U	U
126-48-1	Dibromochloromethane	200	U	U
108-90-7	Chlorobenzene	100	U	U
100-41-4	Ethylbenzene	200	U	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

220A

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16202 Location: 220 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1620201

Sample wt/vol: 11.9 (g/ml) G Lab File ID: VC006341.D

Level: (low/med) MED Date Received: 6/21/01

% Moisture: not dec. 16.97 Date Analyzed: 6/27/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		300	U
1330-20-7	o-Xylene		200	U
100-42-5	Styrene		200	U
75-25-2	Bromoform		200	U
79-34-5	1,1,2,2-Tetrachloroethane		200	U
541-73-1	1,3-Dichlorobenzene		300	U
106-46-7	1,4-Dichlorobenzene		300	U
95-50-1	1,2-Dichlorobenzene		300	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

220A

Lab Name: FMETL NJDEP # 13461
Project: 010001 Case No.: 16202 Location: 220 SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: 1620201
Sample wt/vol: 11.9 (g/ml) G Lab File ID: VC006341.D
Level: (low/med) MED Date Received: 6/21/01
% Moisture: not dec. 16.97 Date Analyzed: 6/27/01
GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

220D

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16202 Location: 220 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1620204

Sample wt/vol: 11.0 (g/ml) G Lab File ID: VC006342.D

Level: (low/med) MED Date Received: 6/21/01

% Moisture: not dec. 18.77 Date Analyzed: 6/27/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

107028	Acrolein	790	U
107131	Acrylonitrile	790	U
75650	tert-Butyl alcohol	1500	U
1634044	Methyl-tert-Butyl ether	340	U
108203	Di-isopropyl ether	230	U
75718	Dichlorodifluoromethane	450	U
74-87-3	Chloromethane	110	U
75-01-4	Vinyl Chloride	340	U
74-83-9	Bromomethane	230	U
75-00-3	Chloroethane	340	U
75-69-4	Trichlorofluoromethane	230	U
75-35-4	1,1-Dichloroethene	110	U
67-64-1	Acetone	230	U
75-15-0	Carbon Disulfide	110	U
75-09-2	Methylene Chloride	230	U
156-60-5	trans-1,2-Dichloroethene	230	U
75-35-3	1,1-Dichloroethane	110	U
108-05-4	Vinyl Acetate	340	U
78-93-3	2-Butanone	340	U
	cis-1,2-Dichloroethene	110	U
67-66-3	Chloroform	110	U
75-55-6	1,1,1-Trichloroethane	110	U
56-23-5	Carbon Tetrachloride	230	U
71-43-2	Benzene	110	U
107-06-2	1,2-Dichloroethane	230	U
79-01-6	Trichloroethene	110	U
78-87-5	1,2-Dichloropropane	110	U
75-27-4	Bromodichloromethane	110	U
110-75-8	2-Chloroethyl vinyl ether	230	U
10061-01-5	cis-1,3-Dichloropropene	110	U
108-10-1	4-Methyl-2-Pentanone	230	U
108-88-3	Toluene	110	U
10061-02-6	trans-1,3-Dichloropropene	230	U
79-00-5	1,1,2-Trichloroethane	230	U
127-18-4	Tetrachloroethene	110	U
591-78-6	2-Hexanone	230	U
126-48-1	Dibromochloromethane	230	U
108-90-7	Chlorobenzene	110	U
100-41-4	Ethylbenzene	230	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

220D

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16202 Location: 220 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1620204

Sample wt/vol: 11.0 (g/ml) G Lab File ID: VC006342.D

Level: (low/med) MED Date Received: 6/21/01

% Moisture: not dec. 18.77 Date Analyzed: 6/27/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

1330-20-7	m+p-Xylenes	340	U
1330-20-7	o-Xylene	230	U
100-42-5	Styrene	230	U
75-25-2	Bromoform	230	U
79-34-5	1,1,2,2-Tetrachloroethane	230	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

220D

Lab Name: FMETL NJDEP # 13461
Project: 010001 Case No.: 16202 Location: 220 SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: 1620204
Sample wt/vol: 11.0 (g/ml) G Lab File ID: VC006342.D
Level: (low/med) MED Date Received: 6/21/01
% Moisture: not dec. 18.77 Date Analyzed: 6/27/01
GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

220G-TripBlank

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16202 Location: 220 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1620207

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC006343.D

Level: (low/med) MED Date Received: 6/21/01

% Moisture: not dec. 0 Date Analyzed: 6/27/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	700	U	
107131	Acrylonitrile	700	U	
75650	tert-Butyl alcohol	1300	U	
1634044	Methyl-tert-Butyl ether	300	U	
108203	Di-isopropyl ether	200	U	
75718	Dichlorodifluoromethane	400	U	
74-87-3	Chloromethane	100	U	
75-01-4	Vinyl Chloride	300	U	
74-83-9	Bromomethane	200	U	
75-00-3	Chloroethane	300	U	
75-69-4	Trichlorofluoromethane	200	U	
75-35-4	1,1-Dichloroethene	100	U	
67-64-1	Acetone	200	U	
75-15-0	Carbon Disulfide	100	U	
75-09-2	Methylene Chloride	200	U	
156-60-5	trans-1,2-Dichloroethene	200	U	
75-35-3	1,1-Dichloroethane	100	U	
108-05-4	Vinyl Acetate	300	U	
78-93-3	2-Butanone	300	U	
	cis-1,2-Dichloroethene	100	U	
67-66-3	Chloroform	100	U	
75-55-6	1,1,1-Trichloroethane	100	U	
56-23-5	Carbon Tetrachloride	200	U	
71-43-2	Benzene	100	U	
107-06-2	1,2-Dichloroethane	200	U	
79-01-6	Trichloroethene	100	U	
78-87-5	1,2-Dichloropropane	100	U	
75-27-4	Bromodichloromethane	100	U	
110-75-8	2-Chloroethyl vinyl ether	200	U	
10061-01-5	cis-1,3-Dichloropropene	100	U	
108-10-1	4-Methyl-2-Pentanone	200	U	
108-88-3	Toluene	100	U	
10061-02-6	trans-1,3-Dichloropropene	200	U	
79-00-5	1,1,2-Trichloroethane	200	U	
127-18-4	Tetrachloroethene	100	U	
591-78-6	2-Hexanone	200	U	
126-48-1	Dibromochloromethane	200	U	
108-90-7	Chlorobenzene	100	U	
100-41-4	Ethylbenzene	200	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

220G-TripBlank

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16202 Location: 220 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 1620207

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC006343.D

Level: (low/med) MED Date Received: 6/21/01

% Moisture: not dec. 0 Date Analyzed: 6/27/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

1330-20-7	m+p-Xylenes	300	U
1330-20-7	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

220G-TripBlank

Lab Name: FMETL NJDEP # 13461
Project: 010001 Case No.: 16202 Location: 220 SDG No.:
Matrix: (soil/water) SOIL Lab Sample ID: 1620207
Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC006343.D
Level: (low/med) MED Date Received: 6/21/01
% Moisture: not dec. 0 Date Analyzed: 6/27/01
GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
---------	---------------	----	------------	---

TPHC

000044

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

Client : U.S. Army
 DPW. SELFM-PW-EV
 Bldg. 173
 Ft. Monmouth, NJ 07703

Project # : 16202
Location : Bldg220
UST Reg. # : 81533

Analysis : OQA-QAM-025
Matrix : Soil
Inst. ID. : GC TPHC INST. #1
Column Type : RTX-5, 0.32mm ID, 30M
Injection Volume : 1uL

Date Received : 21-Jun-01
Date Extracted : 22-Jun-01
Extraction Method : Shake
Analysis Complete : 22-Jun-01
Analyst : Skelton

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1620201	220A	1.00	15.32	83.03	185	3055.94
1620202	220B	1.00	15.93	83.26	177	ND
1620203	220C	1.00	15.00	80.13	196	348.01
1620204	220D	1.00	15.46	81.23	187	3224.51
1620205	220E	1.00	15.98	84.30	174	ND
1620206	220F	1.00	15.76	78.18	191	1458.01
METHOD BLANK	MB-1928	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

000045

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted
2. Table of Contents submitted
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted
4. Document paginated and legible
5. Chain of Custody submitted
6. Samples submitted to lab within 48 hours of sample collection
7. Methodology Summary submitted
8. Laboratory Chronicle and Holding Time Check submitted
9. Results submitted on a dry weight basis
10. Method Detection Limits submitted
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP

✓
✓
✓
✓
✓
✓
✓
✓
✓
✓
✓

Laboratory Manager or Environmental Consultant's Signature
Date 7/5/01



Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

000067

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.



Daniel K. Wright
Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



ANALYTICAL DATA REPORT Fort Monmouth Environmental Laboratory ENVIRONMENTAL DIVISION Fort Monmouth, New Jersey PROJECT: IJO# 00-0001

Bldg. 220

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
220 PX1-North Wall 6-6.5'	16210.01	Soil	25-Jun-01 15:00	06/25/01
220 PX2-West Wall 6-6.5'	16210.02	Soil	25-Jun-01 14:30	06/25/01
220 PX3-Duplicate 6-6.5'	16210.03	Soil	25-Jun-01 14:30	06/25/01

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

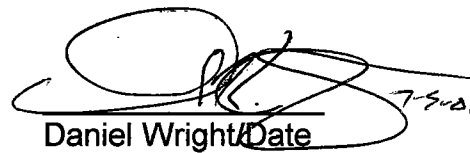

Daniel Wright/Date
Laboratory Director

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Continuing Calibration Summary	6
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MS/MSD Results Summary	8-9
Raw Sample Data	10-17
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Laboratory Authentication Statement	19

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five milliliters (25mL) Methylene Chloride is added to the flask and it is secured on a orbital shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL- autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

TPHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|--|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the
Corresponding concentrations in each blank.

_____ | <u>no</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which
falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which
falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples
if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____

Laboratory Manager

7-5-01
Date

000002

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil

NJDEP Certification #13461 / NYDOH Certification #11699

Chain of Custody Record

[illegible]

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

Client : U.S. Army
 DPW. SELFM-PW-EV
 Bldg. 173
 Ft. Monmouth, NJ 07703

Project # : 16210
Location : Bldg220
UST Reg. # : 81533

Analysis : OQA-QAM-025
Matrix : Soil
Inst. ID. : GC TPHC INST. #1
Column Type : RTX-5, 0.32mm ID, 30M
Injection Volume : 1uL

Date Received : 25-Jun-01
Date Extracted : 26-Jun-01
Extraction Method : Shake
Analysis Complete : 26-Jun-01
Analyst : Skelton

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1621001	220PX1	1.00	15.34	84.70	181	ND
1621002	220PX2	1.00	15.46	85.32	178	ND
1621003	220PX3	1.00	15.70	84.74	177	ND
METHOD BLANK	MB	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

000004

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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AND ACCOMPANY ALL DATA SUBMISSIONS

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It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted
2. Table of Contents submitted
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted
4. Document paginated and legible
5. Chain of Custody submitted
6. Samples submitted to lab within 48 hours of sample collection
7. Methodology Summary submitted
8. Laboratory Chronicle and Holding Time Check submitted
9. Results submitted on a dry weight basis
10. Method Detection Limits submitted
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP

✓
✓
✓
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✓
✓
✓

Laboratory Manager or Environmental Consultant's Signature

Date 7/5/91

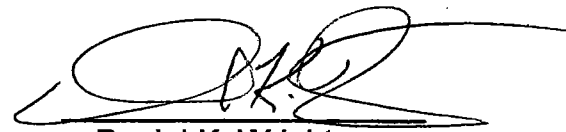
Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

000018

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.



Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 10, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 222**

Registration ID: 81533-15

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): Not Applicable

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 6/25/2001

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 2001 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). All Building 222 sample results were non-detected (ND) for TPH. These results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed," although certain supporting documentation (such as a map with sample locations, field notes, etc.) may not be available. Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



ANALYTICAL DATA REPORT Fort Monmouth Environmental Laboratory ENVIRONMENTAL DIVISION Fort Monmouth, New Jersey PROJECT: IJO# 00-0001

Bldg. 222

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
222A-East End 9-9.5'	16213.01	Soil	26-Jun-01 10:50	06/26/01
222B-Center 9-9.5'	16213.02	Soil	26-Jun-01 11:15	06/26/01
222C-West End 9-9.5'	16213.03	Soil	26-Jun-01 11:35	06/26/01
222D-Piping 3-3.5'	16213.04	Soil	26-Jun-01 11:45	06/26/01
222E-Duplicate 9-9.5'	16213.05	Soil	26-Jun-01	06/26/01

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

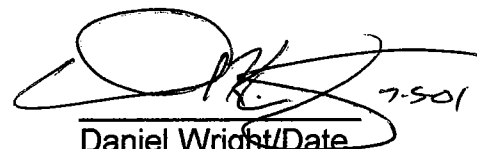

Daniel Wright/Date
Laboratory Director

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MS/MSD Results Summary	9
Raw Sample Data	10-21
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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five milliliters (25mL) Methylene Chloride is added to the flask and it is secured on a orbital shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is then removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL-autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

TPHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|--|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the
Corresponding concentrations in each blank.

_____ | <u>NO</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which
falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which
falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples
if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____

Laboratory Manager

7-501
Date

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil

NJDEP Certification #13461 / NYDOH Certification #11699

Chain of Custody Record

Customer: Dinker Desai				Project No: 01-0001				Analysis Parameters				* = Samples Kept <4°C			
Phone #: X21475				Location: <u>BLDG 222 (38 RUSSEL)</u>				VOA+10				PID Reading			
() DERA (X) OMA UST Assessment				UST# <u>81533-15</u>				TPHC				VOA ID #			
Samplers Name / Company : Frank Accorsi/TVS								Sample		#		Bottles			
Lab Sample I.D.	Sample Location	Depth	Date	Time	Type										
102 B. 01 222A EAST END	9-9.5	6-26-01	1050	5012	2										
02 222B - CENTER	9-9.5		1115												
03 222C - WEST END	9-9.5		1135												
04 222D - PIPING	3-3.5		1145												
05 222E - DUPLICATE	9-9.5		1050												
06 TRIP BLANK	-		-	AQ.	1										
OVM sn#580U-64455.343 was calibrated with zero air & w/245 ppm isobutylene read 245 ppm. 1010 6-26-01 FA (time/date & initial)															
Relinquished by (signature):				Date/Time: 6-26-01 1200				Received by (signature):				Comments: 10+10 ON 2578 > 1000 PPM TPH, ON HIGHEST MIN. ONE			
Relinquished by (signature):				Date/Time:				Received by (signature):							
Report Type: () Full, (X) Reduced, () Screen / non-certified, () EDD															
Turnaround time: () Standard 2 wks, (X) Rush 2 Days, () ASAP Verbal Hrs.															
Remarks:										Dedicated Sampling Tools Used					
All sample points have been GPS? (X) YES () NO () NA															

000003

print legibly

Page 1 of 1

USTcoc.xls6/22/01

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

Client : U.S. Army
 DPW. SELFM-PW-EV
 Bldg. 173
 Ft. Monmouth, NJ 07703

Project # : 16213
Location : Bldg222
UST Reg. # : 81533

Analysis : OQA-QAM-025
Matrix : Soil
Inst. ID. : GC TPHC INST. #1
Column Type : RTX-5, 0.32mm ID, 30M
Injection Volume : 1uL

Date Received : 26-Jun-01
Date Extracted : 26-Jun-01
Extraction Method : Shake
Analysis Complete : 26-Jun-01
Analyst : Skelton

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1621301	222A	1.00	15.20	83.94	184	ND
1621302	222B	1.00	15.01	86.31	181	ND
1621303	222C	1.00	15.06	84.65	184	ND
1621304	222D	1.00	15.32	89.30	172	ND
1621305	222E	1.00	15.02	83.54	187	ND
METHOD BLANK	MB	1.00	15.00	100.00	157	ND

ND = Not Detected
 MDL = Method Detection Limit

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

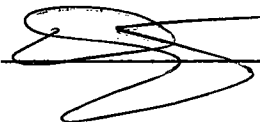
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It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|-------------------------------------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

Laboratory Manager or Environmental Consultant's Signature
Date 7/3/01



Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.



Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 9, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 223**

Registration ID: 81533-16

Recommended Status of Site: **Case Closed**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): Not Applicable

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 6/29/2001

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 2001 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). All Building 223 sample results were non-detected (ND) for TPH. These results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results generally support changing the UST Case Status to "Case Closed," although certain supporting documentation (such as a map with sample locations, field notes, etc.) may not be available. Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): Change status to "Case closed."

Signed: 
Kent A. Friesen, Parsons

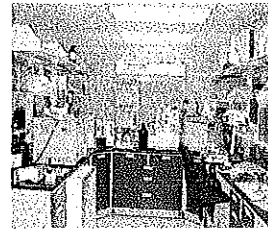
FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



ANALYTICAL DATA REPORT Fort Monmouth Environmental Laboratory ENVIRONMENTAL DIVISION Fort Monmouth, New Jersey PROJECT: IJO# 01-0001

Bldg. 223

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
223A-East End 8-8.5'	16220.01	Soil	29-Jun-01 10:50	06/29/01
223B-Center 8-8.5'	16220.02	Soil	29-Jun-01 11:00	06/29/01
223C-West End 8-8.5'	16220.03	Soil	29-Jun-01 11:20	06/29/01
223D-Piping 3-3.5'	16220.04	Soil	29-Jun-01 11:40	06/29/01
223E-Duplicate 8-8.5'	16220.05	Soil	29-Jun-01 10:50	06/29/01

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS


Daniel Wright/Date
Laboratory Director

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Raw Sample Data	9-20
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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five milliliters (25mL) Methylene Chloride is added to the flask and it is secured on a orbital shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL-autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

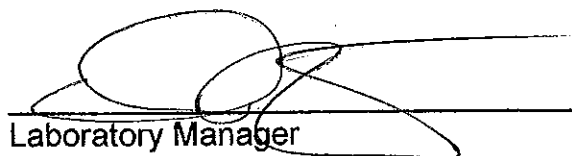
TPHC Conformance/Non-conformance Summary Report

- Indicate
Yes, No, N/A
1. Method Detection Limits provided. yes
 2. Method Blank Contamination – If yes, list the sample and the Corresponding concentrations in each blank. NO

 3. Matrix Spike Results Summary Meet Criteria NO
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).
MS-1961 64%
MSD-1962 66%
 4. Duplicate Results Summary Meet Criteria yes
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

 5. IR Spectra submitted for standards, blanks and samples. NA
 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. yes
 7. Analysis holding time met. yes
(If not met, list number of days exceeded for each sample).

Additional comments: _____



Laboratory Manager

7-9-01

Date

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-6263 Email: wrightd@mail1.monmouth.army.mil

NJDEP Certification #13461 / NYDOH Certification #11699

Chain of Custody Record

Customer: Dinker Desai		Project No: 01-0001		Analysis Parameters				* = Samples Kept <4°C	
Phone #: X21475		Location: 8206. 223 (42 russe)		VOA+IO		PID Reading		Remarks / Preservation Method	
() DERA (X) OMA UST Assessment		UST# 8/1533-16		% SOLIDS		VOA ID #			
Samplers Name / Company : Frank Accorsi/TVS		Sample Type		TPHC					
Lab Sample I.D.	Sample Location	Depth	Date	Time	# Bottles				
16220 Q1	223A - EAST END	8-8.5'	6-28-01	1050	2	X	2523	0	10E
Q2	223B - CENTER	8-8.5'		1100		X	2524	0	
Q3	223C - WEST END	8-8.5'		1120		X	2525	0	
Q4	223D - PIPING	3-3.5'		1140		X	2526	0	
Q5	223E - DUPLICATE	8-8.5'		1050		X	2527	0	
Q6	TRIP BLANK	-		-	1	X	2528	-	
OVM sn#580U-64455.343 was calibrated with zero air & w/ 245 ppm isobutylene read 245 ppm. 1030 6-28-01 FR (time/date & initial)									
Relinquished by (signature):	Date/Time:	Received by (signature):		Comments: * VOTED ON 25% > 1000 ppm TPH, ON HIGHEST, min ONE					
Relinquished by (signature):	Date/Time:	Received by (signature):							
Report Type: () Full (X) Reduced, () Standard, () Screen / non-certified, () EDD									
Turnaround time: () Standard 2 wks. (X) Rush 2-3 Days, () ASAP Verbal Hrs.									
Remarks:				Dedicated Sampling Tools Used					
All sample points have been GPS?				(X) YES () NO () NA					

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

Client : U.S. Army
 DPW. SELFM-PW-EV
 Bldg. 173
 Ft. Monmouth, NJ 07703

Project # : 16220
Location : Bldg.233
UST Reg. # : 81533-16

Analysis : OQA-QAM-025
Matrix : Soil
Inst. ID. : GC TPHC INST. #1
Column Type : RTX-5, 0.32mm ID, 30M
Injection Volume : 1uL

Date Received : 29-Jun-01
Date Extracted : 05-Jul-01
Extraction Method : Shake
Analysis Complete : 05-Jul-01
Analyst : Skelton

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1622001	223A	1.00	14.49	85.19	190	ND
1622002	223B	1.00	15.78	81.52	183	ND
1622003	223C	1.00	16.05	84.88	172	ND
1622004	223D	1.00	14.97	79.23	198	ND
1622005	223E	1.00	15.60	84.80	178	ND
METHOD BLANK	MB-1959	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

000004

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|-------------------------------------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

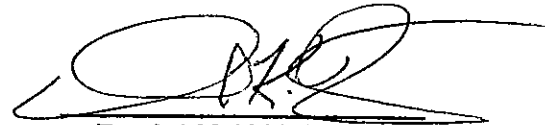
Laboratory Manager or Environmental Consultant's Signature _____
Date 7/9/01

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, appearing to read 'D.K. Wright', is written over a horizontal line.

Daniel K. Wright
Laboratory Manager

ATTACHMENT G

Unregulated Heating Oil Tanks Along Allen Avenue

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 10, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 225**

Registration ID: 81533-17

Recommended Status of Site: **Case Closed**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): Not Applicable

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 2/14/2001

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 2001 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Building 225 sample results ranged from non-detected (ND) to 197 mg/kg for TPH. These results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support changing the UST Case Status to "Case Closed," although certain supporting documentation (such as a map with sample locations, field notes, etc.) may not be available. Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

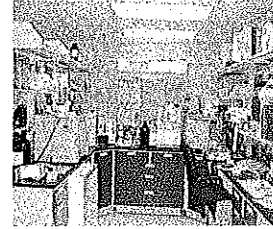
FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



ANALYTICAL DATA REPORT Fort Monmouth Environmental Laboratory ENVIRONMENTAL DIVISION Fort Monmouth, New Jersey PROJECT: IJO# 01-0001

Bldg. 225

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
225-A East End 8-8.5'	870	Soil	15-Feb-01 09:20	02/15/01
225-B Center 8-8.5'	871	Soil	15-Feb-01 09:45	02/15/01
225-C West End 8-8.5'	872	Soil	15-Feb-01 10:00	02/15/01
225-D Piping 8-8.5'	873	Soil	15-Feb-01 10:15	02/15/01
225-E Duplicate 8-8.5'	874	Soil	15-Feb-01 09:20	02/15/01

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

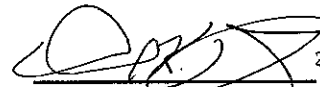

Daniel Wright/Date
Laboratory Director

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MS/MSD Results Summary	13
Blank Spike Summary	14
Raw Sample Data	15-24
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Laboratory Authentication Statement	26

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a orbital shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

000001

TPHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination -- If yes, list the sample and the corresponding concentrations in each blank.

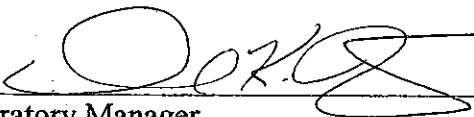
_____ | <u>no</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>N/A</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____


Laboratory Manager

2-21-01
Date

000002

Tel (732) 532-4359 Fax (732) 532-6263 EMail: wrightd@mail1.monmouth.army.mil

Customer: Dinker Desai		Project No: 100004 01-0001		Analysis Parameters				Remarks / Preservation Method	
Phone #: X21475		Location: BLDG 225 (13+15 ALLEN)		TPHC		% SOLIDS		VOA ID #	
() DERA (X) OMA UST Assessment		UST# 81533-17		#		Sample Type		PID Reading	
Samplers Name / Company : Frank Accorsi/TVS		Date		Time		Bottles			
Lab Sample I.D.	Sample Location	Depth	Date	Time	Sample Type	#	TPHC	% SOLIDS	VOA ID #
870	225-A, EAST END	8-8.5 FT	2-15-01	0920	501L	2	X	X	2271
871	225-B, CENTER	8-8.5 FT		0945		2	X	X	2272
872	225-C, WEST END	8-8.5 FT		1000		2	X	X	2273
873	225-D, PIPING	8-8.5 FT		1015		2	X	X	2274
874	225-E, DUPLICATE	8-8.5 FT		0920		2	X	X	2275
	TRIP BLANK	-		-	AG	1			2276
OVM sn#580U-64455.343 was calibrated with zero air & w/ 245 ppm Isobutylene read 245 ppm. 2-14-01 (time/date & initial)									
Relinquished by (signature): Frank Accorsi		Date/Time: 2-15-01 1430		Received by (signature): [Signature]		Comments: VOA+10 ON 25% TO 1,000 PPM TPH, ON HIGHEST.			
Relinquished by (signature):		Date/Time:		Received by (signature):					
Report Type: () Full, (X) Reduced, () Standard, () Screen / non-certified, () EDD									
Turnaround time: (X) Standard 2 wks, () Rush Days, () ASAP Verbal Hrs.									
Remarks: Dedicated Sampling Tools Used									
All sample points have been GPS? (X) YES () NO () NA									

000003

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Project # : 870-874
Location : Bldg.225
UST Reg. # :

Analysis : OQA-QAM-025
Matrix : Soil
Inst. ID. : GC TPHC INST. #1
Column Type : RTX-5, 0.32mm ID, 30M
Injection Volume : 1uL

Date Received : 15-Feb-01
Date Extracted : 16-Feb-01
Extraction Method : Shake
Analysis Complete : 16-Feb-01
Analyst : B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
870	225-A	1.00	15.38	83.10	184	ND
871	225-B	1.00	15.94	84.27	175	ND
872	225-C	1.00	16.11	82.54	177	ND
873	225-D	1.00	15.53	82.56	183	ND
874	225-E	1.00	15.72	84.05	178	197.17
METHOD BLANK	MB-892	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|-------------------------------------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

Laboratory Manager or Environmental Consultant's Signature _____
Date 07/21/01

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

000025

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.



Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEYDate: December 10, 2014Review Performed By: Kent Friesen, ParsonsSite ID: **Bldg. 226**Registration ID: 81533-18Recommended Status of Site: **Case Closed**UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ NoNJDEP Release No. or DICAR (If applicable): Not ApplicableDid NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not ApplicableTank Description: ☐ Steel ☒ Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil☒ Residential ☐ Commercial/IndustrialTank Removed? ☒ Yes ☐ No If "yes," removal date: 4/28/2000Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH; VOCs in 1 sampleComparison criteria: 5,100 mg/kg TPH; NJAC 7:26EWere closure soil sample results less than comparison criteria? ☒ Yes ☐ No**Brief Narrative**

Soil samples were collected from the tank excavation in 2000 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Building 226 sample results for TPH in soil ranged from non-detected (ND) to 3915 mg/kg. One sample (226A-Center) that contained 3386 mg/kg TPH was also analyzed for volatile organic compounds (VOCs). The TPH results were less than 5,100 mg/kg, which is the current remediation criterion. The VOC results were ND for all compounds except ethylbenzene and xylenes; however, concentrations of these detected compounds were well below the NJDEP residential direct contact soil remediation standards (RDCSRs). Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support changing the UST Case Status designation to "Case Closed," although certain supporting documentation (such as a map with sample locations, field notes, etc.) may not be available. Although the fiberglass tank was removed, an earlier steel UST could still be present.

See also Attachment D for recent (2016) analytical
resultsRecommendations (if any): None

Signed: _____



Kent A. Friesen, Parsons

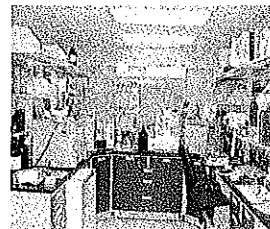
FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: IJO#100004

Bldg. 226

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
226-A Center 9-9.5'	5381.01	Soil	28-Apr-00 11:30	04/28/00

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
VOA+15, TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

 5-4-00
Daniel Wright/Date
Laboratory Director

CHAIN OF CUSTODY

Change of Chain of Custody

Lab Project ID#: 5381 Site/Project Name: Bldg 226

Date Received: 4/28/00 Date of Change: 4/28/00

Requested by: print Dinker D Sign: _____

Turnaround Time: ASAP

1. Were the correct containers and/or preservatives used for the tests indicated? Yes No

2. Was a sufficient amount of sample sent for the tests indicated? ☒ Yes ☐ No

3. Are samples Within Holding time for new analysis? Yes No

4. Was the change documented in the sample receipt log book? Yes ☒ No ☐

Received by: print Sign: _____

Sign:

[illegible]

Comments:

100

VOLATILES

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Vblk82

Lab Name: FMETL NJDEP # 13461

Project: 000004 Case No.: 5381 Location: 226 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: Vblk82

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC003189.D

Level: (low/med) MED Date Received: 4/28/00

% Moisture: not dec. 0 Date Analyzed: 4/28/00

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		1800	U
107131	Acrylonitrile		1800	U
75650	tert-Butyl alcohol		3200	U
1634044	Methyl-tert-Butyl ether		750	U
108203	Di-isopropyl ether		500	U
	Dichlorodifluoromethane		1000	U
74-87-3	Chloromethane		250	U
75-01-4	Vinyl Chloride		750	U
74-83-9	Bromomethane		500	U
75-00-3	Chloroethane		750	U
75-69-4	Trichlorofluoromethane		500	U
75-35-4	1,1-Dichloroethene		250	U
67-64-1	Acetone		500	U
75-15-0	Carbon Disulfide		250	U
75-09-2	Methylene Chloride		500	U
156-60-5	trans-1,2-Dichloroethene		500	U
75-35-3	1,1-Dichloroethane		250	U
108-05-4	Vinyl Acetate		750	U
78-93-3	2-Butanone		750	U
	cis-1,2-Dichloroethene		250	U
67-66-3	Chloroform		250	U
75-55-6	1,1,1-Trichloroethane		250	U
56-23-5	Carbon Tetrachloride		500	U
71-43-2	Benzene		250	U
107-06-2	1,2-Dichloroethane		500	U
79-01-6	Trichloroethene		250	U
78-87-5	1,2-Dichloropropane		250	U
75-27-4	Bromodichloromethane		250	U
110-75-8	2-Chloroethyl vinyl ether		500	U
10061-01-5	cis-1,3-Dichloropropene		250	U
108-10-1	4-Methyl-2-Pentanone		500	U
108-88-3	Toluene		250	U
10061-02-6	trans-1,3-Dichloropropene		500	U
79-00-5	1,1,2-Trichloroethane		500	U
127-18-4	Tetrachloroethene		250	U
591-78-6	2-Hexanone		500	U
126-48-1	Dibromochloromethane		500	U
108-90-7	Chlorobenzene		250	U
100-41-4	Ethylbenzene		500	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

Vblk82

Lab Name: FMETL NJDEP # 13461

Project: 000004 Case No.: 5381 Location: 226 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: Vblk82

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC003189.D

Level: (low/med) MED Date Received: 4/28/00

% Moisture: not dec. 0 Date Analyzed: 4/28/00

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

Vblk82

Lab Name: FMETL NJDEP # 13461
Project: 000004 Case No.: 5381 Location: 226 SDG No.: _____
Matrix: (soil/water) SOIL Lab Sample ID: Vblk82
Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC003189.D
Level: (low/med) MED Date Received: 4/28/00
% Moisture: not dec. 0 Date Analyzed: 4/28/00
GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

226-A

Lab Name: FMETL NJDEP # 13461

Project: 000004 Case No.: 5381 Location: 226 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 5381.01

Sample wt/vol: 11.2 (g/ml) G Lab File ID: VC003205.D

Level: (low/med) MED Date Received: 4/28/00

% Moisture: not dec. 20.07 Date Analyzed: 4/29/00

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

107028	Acrolein	2000	U
107131	Acrylonitrile	2000	U
75650	tert-Butyl alcohol	3600	U
1634044	Methyl-tert-Butyl ether	840	U
108203	Di-isopropyl ether	560	U
	Dichlorodifluoromethane	1100	U
74-87-3	Chloromethane	280	U
75-01-4	Vinyl Chloride	840	U
74-83-9	Bromomethane	560	U
75-00-3	Chloroethane	840	U
75-69-4	Trichlorofluoromethane	560	U
75-35-4	1,1-Dichloroethene	280	U
67-64-1	Acetone	560	U
75-15-0	Carbon Disulfide	280	U
75-09-2	Methylene Chloride	560	U
156-60-5	trans-1,2-Dichloroethene	560	U
75-35-3	1,1-Dichloroethane	280	U
108-05-4	Vinyl Acetate	840	U
78-93-3	2-Butanone	840	U
	cis-1,2-Dichloroethene	280	U
67-66-3	Chloroform	280	U
75-55-6	1,1,1-Trichloroethane	280	U
56-23-5	Carbon Tetrachloride	560	U
71-43-2	Benzene	280	U
107-06-2	1,2-Dichloroethane	560	U
79-01-6	Trichloroethene	280	U
78-87-5	1,2-Dichloropropane	280	U
75-27-4	Bromodichloromethane	280	U
110-75-8	2-Chloroethyl vinyl ether	560	U
10061-01-5	cis-1,3-Dichloropropene	280	U
108-10-1	4-Methyl-2-Pentanone	560	U
108-88-3	Toluene	280	U
10061-02-6	trans-1,3-Dichloropropene	560	U
79-00-5	1,1,2-Trichloroethane	560	U
127-18-4	Tetrachloroethene	280	U
591-78-6	2-Hexanone	560	U
126-48-1	Dibromochloromethane	560	U
108-90-7	Chlorobenzene	280	U
100-41-4	Ethylbenzene	930	

VOLATILE ORGANICS ANALYSIS DATA SHEET

226-A

Lab Name: FMETL NJDEP # 13461
Project: 000004 Case No.: 5381 Location: 226 SDG No.:
Matrix: (soil/water) SOIL Lab Sample ID: 5381.01
Sample wt/vol: 11.2 (g/ml) G Lab File ID: VC003205.D
Level: (low/med) MED Date Received: 4/28/00
% Moisture: not dec. 20.07 Date Analyzed: 4/29/00
GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

1330-20-7	m+p-Xylenes	4400	
1330-20-7	o-Xylene	2100	
100-42-5	Styrene	560	U
75-25-2	Bromoform	560	U
79-34-5	1,1,2,2-Tetrachloroethane	560	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

226-A

Lab Name: FMETL NJDEP # 13461

Project: 000004 Case No.: 5381 Location: 226 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 5381.01

Sample wt/vol: 11.2 (g/ml) G Lab File ID: VC003205.D

Level: (low/med) MED Date Received: 4/28/00

% Moisture: not dec. 20.07 Date Analyzed: 4/29/00

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KGNumber TICs found: 10

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000111-84-2	Nonane	26.97	6300	JN
2. 000622-96-8	Benzene, 1-ethyl-4-methyl-	30.84	4700	JN
3. 000108-67-8	Benzene, 1,3,5-trimethyl-	31.92	12000	JN
4. 000526-73-8	Benzene, 1,2,3-trimethyl-	33.03	4000	JN
5. 001120-21-4	Undecane	33.10	9800	JN
6. 001074-43-7	Benzene, 1-methyl-3-propyl-	33.37	6700	JN
7. 000095-93-2	Benzene, 1,2,4,5-tetramethyl-	33.55	5700	JN
8. 000496-11-7	Indane	33.77	3300	JN
9. 000933-98-2	Benzene, 1-ethyl-2,3-dimethyl-	34.44	4800	JN
10. 029949-27-7	n-Amylcyclohexane	34.86	3200	JN

TPHC

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

Client : U.S. Army
 DPW. SELFM-PW-EV
 Bldg. 173
 Ft. Monmouth, NJ 07703

Project # : 5381
Location : Bldg.226
UST Reg. # :

Analysis : OQA-QAM-025
Matrix : Soil
Inst. ID. : GC TPHC INST. #1
Column Type : RTX-5, 0.32mm ID, 30M
Injection Volume : 1uL

Date Received : 28-Apr-00
Date Extracted : 28-Apr-00
Extraction Method : Shake
Analysis Complete : 28-Apr-00
Analyst : B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
5381.01	226-A	1.00	15.49	79.93	190	3386.59
METHOD BLANK	TBLK387	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: IJO#100004

Bldg. 226

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
226-B Piping 2.5-3.0'	5382.01	Soil	28-Apr-00 12:30	04/28/00
226-C Piping 1.5-2.0'	5382.02	Soil	28-Apr-00 14:00	04/28/00
Trip Blank	5382.03	Methanol	28-Apr-00	04/28/00

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

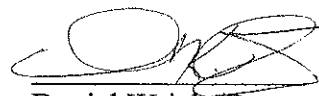
 5-4-00
Daniel Wright/Date
Laboratory Director

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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five milliliters (25mL) Methylene Chloride is added to the flask and it is secured on a orbital shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is then removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL-autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

TPHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

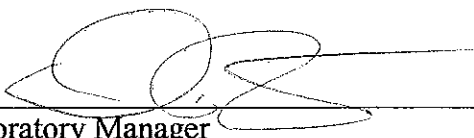
_____ | <u>No</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____



Laboratory Manager

5-4-00

Date

000002

[illegible]

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

Client : U.S. Army
 DPW. SELFM-PW-EV
 Bldg. 173
 Ft. Monmouth, NJ 07703

Project # : 5382
Location : Bldg.226
UST Reg. # :

Analysis : OQA-QAM-025
Matrix : Soil
Inst. ID. : GC TPHC INST. #1
Column Type : RTX-5, 0.32mm ID, 30M
Injection Volume : 1uL

Date Received : 28-Apr-00
Date Extracted : 28-Apr-00
Extraction Method : Shake
Analysis Complete : 28-Apr-00
Analyst : B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
5382.01	226-B	1.00	15.46	81.83	186	ND
5382.02	226-C	1.00	15.01	85.12	184	ND
METHOD BLANK	TBLK387	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

000004

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|----------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | <u>✓</u> |
| 2. Table of Contents submitted | <u>✓</u> |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | <u>✓</u> |
| 4. Document paginated and legible | <u>✓</u> |
| 5. Chain of Custody submitted | <u>✓</u> |
| 6. Samples submitted to lab within 48 hours of sample collection | <u>✓</u> |
| 7. Methodology Summary submitted | <u>✓</u> |
| 8. Laboratory Chronicle and Holding Time Check submitted | <u>✓</u> |
| 9. Results submitted on a dry weight basis | <u>✓</u> |
| 10. Method Detection Limits submitted | <u>✓</u> |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | <u>✓</u> |

Laboratory Manager or Environmental Consultant's Signature _____
Date 5/4/00

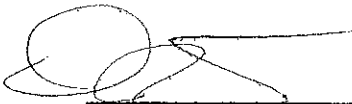
Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

000018

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.



Daniel K. Wright
Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: IJO# 100004

Bldg. 226

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
226-D North End 11.5-12'	5391.01	Soil	01-May-00 15:30	05/02/00
226-E Center 11.5-12'	5391.02	Soil	01-May-00 15:40	05/02/00
226-F South End 11-11.5'	5391.03	Soil	01-May-00 15:55	05/02/00
226-G Duplicate 11-11.5'	5391.04	Soil	01-May-00 15:55	05/02/00
Trip Blank	5391.05	Methanol	01-May-00	05/02/00

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
RESULT
CHAIN OF CUSTODY

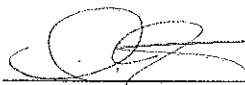
 5-8-00
Daniel Wright/Date
Laboratory Director

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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five milliliters (25mL) Methylene Chloride is added to the flask and it is secured on a orbital shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL-autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

TPHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

_____ | <u>no</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____

Laboratory Manager

5-8-00
Date

000002

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-6263 Email:wrightd@mail1.monmouth.army.mil

NUDEP Certification #13461 / NYDOH Certification #11699

Chain of Custody Record

Customer: Dinker Desai		Project No: 100004		Analysis Parameters				Remarks / Preservation Method	
Phone #: X21475		Location: <u>Bldg. 226 (11 Allen)</u>		* VOA+10		PID Reading		* = Samples Kept <4°C	
() IDERA (X) JOMA UST Assessment		UST# <u>81533-18</u>		% SOLIDS		VOA ID #		Remarks / Preservation Method	
Samplers Name / Company : Frank Accorsi/TVS				Sample		TPHC			
Lab Sample I.D.	Sample Location	Depth	Date	Time	Type	Bottles	#		
5391, 01	226-D, NORTH END	11.5-12	5-1-00	1530	SOIL	2	2	X	1691
02	226-E, CENTER	11.5-12		1540		2	2	X	1692
03	226-F, SOUTH END	11-11.5		1555		2	2	X	1693
04	226-G, DUPLICATE	11-11.5		1555		2	2	X	1694
05	TRIP BLANK	-		-	AQ.	1	1	X	1695
OVM sn#580U-64455.343 was calibrated with zero air & w/ 245 ppm Isobutylene read 245 ppm. 428-00 FA (time/date & initial)									
Relinquished by (signature): <u>Frank Accorsi</u>		Date/Time: <u>5-2-00 8:00</u>		Received by (signature): <u>[Signature]</u>		Comments: * VOA+10 ON 25 TO 21,000 PPM TPH, MIN. ONE, ON HIGHEST			
Relinquished by (signature):		Date/Time:		Received by (signature):					
Report Type: () Full, (X) Reduced, () Standard, () Screen / non-certified, () EDD									
Turnaround time: () Standard 2 wks, (X) Rush 1 Days, () ASAP Verbal Hrs.									
Remarks:						Dedicated Sampling Tools Used			
All sample points have been GPS? (X) YES () NO () NA									

000003

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Project # : 5391
Location : Bldg.226
UST Reg. # :

Analysis : OQA-QAM-025
Matrix : Soil
Inst. ID. : GC TPHC INST. #1
Column Type : RTX-5, 0.32mm ID, 30M
Injection Volume : 1uL

Date Received : 02-May-00
Date Extracted : 02-May-00
Extraction Method : Shake
Analysis Complete : 02-May-00
Analyst : B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
5391.01	226-D	1.00	15.00	83.25	188	ND
5391.02	226-E	1.00	15.01	81.92	191	ND
5391.03	226-F	1.00	15.05	82.35	190	3164.98
5391.04	226-G	1.00	15.15	82.61	188	3915.36
METHOD BLANK	TBLK391	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

000004

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|-------------------------------------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

Laboratory Manager or Environmental Consultant's Signature _____
Date 5/16/00

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

000025

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, appearing to read 'Daniel K. Wright', is written over a horizontal line.

Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 10, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 227**

Registration ID: 81533-19

Recommended Status of Site: **Case Closed**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): Not Applicable

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 11/7/2000

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 2000 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). All Building 227 sample results were non-detected (ND) for TPH. These results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support changing the UST Case Status to "Case Closed," although certain supporting documentation (such as a map with sample locations, field notes, etc.) may not be available. Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): Change status to "Case closed."

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: IJO# 100004

Bldg. 227

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
227-A East End 9.5-10'	5839.01	Soil	08-Nov-00 09:10	11/08/00
227-B Center 9.5-10'	5839.02	Soil	08-Nov-00 09:20	11/08/00
227-C West End 9.5-10'	5839.03	Soil	08-Nov-00 09:30	11/08/00
227-D Piping 3-3.5'	5839.04	Soil	08-Nov-00 09:50	11/08/00
227-E Piping 2-2.5'	5839.05	Soil	08-Nov-00 10:05	11/08/00
227-F East End 9.5-10'	5839.06	Soil	08-Nov-00 09:10	11/08/00
Trip Blank	5839.07	Soil	08-Nov-00	11/08/00

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

 11-14-00
Daniel Wright/Date
Laboratory Director

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Laboratory Authentication Statement	26

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a orbital shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

TPHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

_____ | <u>No</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____

Laboratory Manager

11-14-00
Date

000002

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil

NJDEP Certification #13461 / NYDOH Certification #11699

Chain of Custody Record

Customer: Dinker Desai		Project No: 100004		Analysis Parameters				* = Samples Kept <4°C	
Phone #: X21475		Location: Bldg. 227		* VOA+10		VOA ID #		Remarks / Preservation Method	
() DERA (X) OMA UST Assessment		UST# 81533-19		% SOLIDS		TPHC		PID Reading	
Samplers Name / Company : Frank Accorsi/TVS				Sample Type		# Bottles			
Lab Sample ID.	Sample Location	Depth	Date	Time					
5839-01	227-A, EAST END	9.5-10	11-8-00	0910	SOIL	2	X	2122	0
02	227-B, CENTER	9.5-10		0920		2	X	2123	0
03	227-C, WEST END	9.5-10		0930		2	X	2124	0
04	227-D, PIPING	3-3.5		0950		2	X	2125	0
05	227-E, PIPING	2-2.5		1005		2	X	2126	0
06	227-F, DUPLICATE	9.5-10		0910		2	X	2127	0
07	TRIP BLANK	-		-	AQ	1	X	2128	-
OVM sn#580U-64455.343 was calibrated with zero air & w/ 245 ppm isobutylene read 245 ppm. 0852 11-8-00 FA (time/date & initial)									
Relinquished by (signature):		Date/Time:		Received by (signature):		Date/Time:		Comments: *VO H0 ON 2596 > 1000 PPM TPH, or HIGHEST, min. ONE.	
Relinquished by (signature):		Date/Time:		Received by (signature):		Date/Time:			
Report Type: () Full, () Reduced, (X) Standard, () Screen / non-certified, () EDD									
Turnaround time: () Standard 2 wks, (X) Rush 2 Days, () ASAP Verbal Hrs.									
Remarks:				Dedicated Sampling Tools Used					
All sample points have been GPS? (X) YES () NO () NA									

000003

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

Client : US. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Project # : 5839
Location : Bldg.227
UST Reg. # : 81533-19

Analysis : OQA-QAM-025
Matrix : Soil
Inst. ID. : GC TPHC INST. #1
Column Type : RTX-5, 0.32mm ID, 30M
Injection Volume : 1uL

Date Received : 08-Nov-00
Date Extracted : 09-Nov-00
Extraction Method : Shake
Analysis Complete : 09-Nov-00
Analyst : B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
5839.01	227-A	1.00	15.30	85.82	179	ND
5839.02	227-B	1.00	15.13	87.78	177	ND
5839.03	227-C	1.00	15.25	87.98	175	ND
5839.04	227-D	1.00	15.19	86.12	180	ND
5839.05	227-E	1.00	15.40	88.59	172	ND
5839.06	227-F	1.00	15.05	74.64	209	ND
METHOD BLANK	TBLK436	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

000004

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|----------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | <u>✓</u> |
| 2. Table of Contents submitted | <u>✓</u> |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | <u>✓</u> |
| 4. Document paginated and legible | <u>✓</u> |
| 5. Chain of Custody submitted | <u>✓</u> |
| 6. Samples submitted to lab within 48 hours of sample collection | <u>✓</u> |
| 7. Methodology Summary submitted | <u>✓</u> |
| 8. Laboratory Chronicle and Holding Time Check submitted | <u>✓</u> |
| 9. Results submitted on a dry weight basis | <u>✓</u> |
| 10. Method Detection Limits submitted | <u>✓</u> |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | <u>✓</u> |

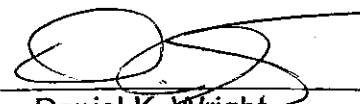
Laboratory Manager or Environmental Consultant's Signature _____
Date 11 / 14 / 20

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.



Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 10, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 228**

Registration ID: 81533-20

Recommended Status of Site: **Case Closed**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High (confirmed)**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): Not Applicable

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 11/1/2000

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Designated as "UST 228B";
no Registration ID

Brief Narrative

Soil samples were collected from the fiberglass tank excavation in 2000 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The Building 228 soil sample results were non-detected (ND) for TPH. These results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

Additional site evaluation was conducted on December 6, 2010 to confirm or deny the presence of an older steel UST. Fuel lines were exposed, and a 1000 gallon steel UST was uncovered. Soil TPH results from samples collected along the fuel line ranged from ND to 555 mg/kg. This UST was left in place and covered with soil. The confirmed presence of this steel UST suggests that other steel USTs may also be present at the other Allen and Russel Avenue residences.

In conclusion, the analytical results support changing the UST Case Status to "Case Closed," although certain supporting documentation (such as a map with sample locations, field notes, etc.) may not be available. Although the fiberglass tank was removed, an earlier steel UST was confirmed to be present and left in place.

See also Attachment D for recent (2016) analytical results for UST 228B

Recommendations (if any): Change status to "Case closed."

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



ANALYTICAL DATA REPORT Fort Monmouth Environmental Laboratory ENVIRONMENTAL DIVISION Fort Monmouth, New Jersey PROJECT: IJO# 100004

Bldg. 228

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
228-A North End 9-9.5'	5827.01	Soil	01-Nov-00 14:30	11/01/00
228-B Center 9-9.5'	5827.02	Soil	01-Nov-00 14:15	11/01/00
228-C South End 9-9.5'	5827.03	Soil	01-Nov-00 14:00	11/01/00
228-D Piping 2-2.5'	5827.04	Soil	01-Nov-00 15:00	11/01/00
228-E Piping 2-2.5'	5827.05	Soil	01-Nov-00 15:20	11/01/00
228-F Duplicate 9-9.5'	5827.06	Soil	01-Nov-00 14:30	11/01/00

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

 11-10-00
Daniel Wright/Date
Laboratory Director

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MS/MSD Results Summary	10
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Laboratory Authentication Statement	27

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five milliliters (25mL) Methylene Chloride is added to the flask and it is secured on a orbital shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL-autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

TPHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|--|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the
Corresponding concentrations in each blank.

_____ | <u>NO</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which
falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which
falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples
if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____

Laboratory Manager

Date

11-10-00

000002

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail.monmouth.army.mil

NJDEP Certification #13461 / NYDOH Certification #11699

Chain of Custody Record

Customer: Dinker Desai		Project No: 100004		Analysis Parameters				* = Samples Kept <4°C	
Phone #: X21475		Location: BLDG. 228 (113 ALLEN AVE)		VOA+10		TPHC		Remarks / Preservation Method	
UST#		UST#		VOA ID #		PID Reading			
Samplers Name / Company : Frank Accorsi/TVS				Sample	#				
Lab Sample I.D.	Sample Location	Depth	Date	Type	Bottles	% SOLIDS	TPHC	VOA ID #	PID Reading
5827. 01	228-A, NORTH END	9-9.5	11-1-00	SOIL	2	X	X	2113	0
02	228-B, CENTER	9-9.5	1415			X	X	2114	0
03	228-C, SOUTH END	9-9.5	1400			X	X	2115	0
04	228-D, PIPING	2-2.5	1500			X	X	2116	0
05	228-E, PIPING	2-2.5	1520			X	X	2117	0
06	228-F, DUPLICATE	9-9.5	1430			X	X	2118	0
07	TRIP BLANK	-	-	AQ	1			2119	-
OVM sn#580U-64455.343 was calibrated with zero air & w/ 245 ppm isobutylene read 244 ppm. 1010 11-1-00 FA (time/date & initial)									
Relinquished by (signature):		Date/Time:		Received by (signature):		Date/Time:		Comments:	
<i>Frank Accorsi</i>		11-1-00 1600		<i>J. V. V...</i>		11-1-00 1010		* VO +10 ON 1010 > 1000 ppm TPH, ON HIGHEST, MIN ONE.	
Relinquished by (signature):		Date/Time:		Received by (signature):		Date/Time:			
Report Type: () Full, () Reduced, (X) Standard, () Screen / non-certified, () EDD									
Turnaround time: () Standard 2 wks, () Rush 2 Days, () ASAP Verbal Hrs.									
Remarks:				Dedicated Sampling Tools Used					
All sample points have been GPS?				YES (X) NO () NA ()					

000003

TPHC

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

Client : US. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Project # : 5827
Location : Bldg.228
UST Reg. # :

Analysis : OQA-QAM-025
Matrix : Soil
Inst. ID. : GC TPHC INST. #1
Column Type : RTX-5, 0.32mm ID, 30M
Injection Volume : 1uL

Date Received : 01-Nov-00
Date Extracted : 02-Nov-00
Extraction Method : Shake
Analysis Complete : 02-Nov-00
Analyst : B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
5827.01	228-A	1.00	15.19	88.13	176	ND
5827.02	228-B	1.00	15.13	90.07	172	ND
5827.03	228-C	1.00	15.11	87.15	178	ND
5827.04	228-D	1.00	15.09	90.33	172	ND
5827.05	228-E	1.00	15.12	81.42	191	ND
5827.06	228-F	1.00	15.26	88.42	174	ND
METHOD BLANK	TBLK434	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

000005

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|-------------------------------------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

Laboratory Manager or Environmental Consultant's Signature _____
Date 11/10/00

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, appearing to read 'D.K. Wright', is written over a horizontal line.

Daniel K. Wright
Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

CERTIFICATIONS: NJDEP #13461



ANALYTICAL DATA REPORT Fort Monmouth Environmental Laboratory ENVIRONMENTAL DIVISION Fort Monmouth, New Jersey PROJECT: UST Program

Bldg. /228

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
228-P1 (Piping)@Bldg.	1052701	Soil	06-Dec-10 11:20	12/06/10
228-P2 (Piping)+15'	1052701	Soil	06-Dec-10 13:00	12/06/10
228-P3 (Piping)+30'	1052701	Soil	06-Dec-10 13:25	12/06/10
228-P4 (Piping)+45'	1052701	Soil	06-Dec-10 14:00	12/06/10
228-P5 (Piping)+60'	1052701	Soil	06-Dec-10 14:20	12/06/10
228-Duplicate	1052701	Soil	06-Dec-10 11:20	12/06/10

ANALYSIS: FORT MONMOUTH ENVIRONMENTAL TESTING LAB TPHC, %SOLIDS

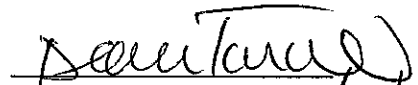

Dean Tardiff/Date: 1/11/11
Laboratory Manager

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Calibration Summary	15-18
Surrogate Results Summary	19
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LCS Summary	21
Raw Sample Data	22-44
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Laboratory Authentication Statement	46

CHAIN OF CUSTODY

000001

Tel (732)532-4359 Fax (732)532-6263 EMail:dean.tardiff@us.army.mil

NJDEP Certification #13461

Chain of Custody Record

[illegible]

000002

SAMPLE RECEIPT FORM

Date Received: 12-10-10

Work Order ID#: 16524

Site/Proj. Name: Bldg 328

Cooler Temp (°C): 4.5

Received By: J. P. [Signature]
(Print name)

Sign: [Signature]

Check the appropriate box

- | | | | |
|---|------------|----|------------|
| 1. Did the samples come in a cooler? | <u>yes</u> | no | n/a |
| 2. Were samples rec'd in good condition? | <u>yes</u> | no | |
| 3. Was the chain of custody filled out correctly and legibly? | <u>yes</u> | no | |
| 4. Was the chain of custody signed in the appropriate place? | <u>yes</u> | no | |
| 5. Did the labels agree with the chain of custody? | <u>yes</u> | no | |
| 6. Were the correct containers/preservatives used? | <u>yes</u> | no | |
| 7. Was a sufficient amount of sample supplied? | <u>yes</u> | no | |
| 8. Were air bubbles present in VOA vials? | <u>yes</u> | no | <u>n/a</u> |
| 9. Were samples received on ice? | <u>yes</u> | no | |
| 10. Were analyze-immediately tests perform within 15 minutes | <u>yes</u> | no | <u>n/a</u> |

Fill out the following table for each sample bottle

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments: _____

GPS POINTS

U.S. ARMY - FT. MONMOUTH, NJ

228
BUILDING ~~224~~ - JUST PIPING

SOIL SAMPLING GPS POSITIONS & COORDINATES

US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

(IN US SURVEY FEET)

SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
224 P1, PIPING @ BUILDING	541127.11	620318.207
224 P2, PIPING PLUS 15FT	541138.219	620308.788
224 P3, PIPING PLUS 30FT	541126.307	620292.639
224 P4, PIPING PLUS 45FT	541127.494	620281.868
224 P5, PIPING PLUS 60FT.	541107.593	620284.693

FIELD DUPLICATE

000006

Field Duplicate Identification

Lab ID: 10527

Site: Bldg. 228

The Field Duplicate was performed on 228-P1 Piping @ Bldg. (1052701).

000007

METHOD SUMMARY

Method Summary

NJDEP Method OQA-QAM-025 02/08

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

CONFORMANCE/ NON-CONFORMANCE SUMMARY

10527 TGH

TPHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>Yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

_____ | <u>No</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>Yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>Yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>N/A</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>N/A</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>Yes</u> |

Additional comments: _____

Laboratory Manager

Date

Dee Turell
12/10/10

000011

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 10527

Site: Bldg 224

	Date	Hold Time
Date Sampled	12/06/10	NA
Receipt/Refrigeration	12/06/10	NA

Analyses

1. TPH

12/08/10

14 Days

000013

TPHC

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

Client: U.S. Army
 DPW SELF-M-PW-EV
 Bldg. 173
 Ft. Monmouth, NJ 07703

Project #:
Location: BLDG. 228
ECP:
Work Order:

Analysis: OQA-QAM-025
Matrix:
Inst. ID: GC TPHC INST. #1
Column Type: RTX-5, 0.32mm ID, 30 m
Injection Vol.: 1 uL

Date Received: 6-Dec-10
Date Extracted: 8-Dec-10
Extraction Method: Shake
Analyst: Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Data	Qualifiers
MB12081001	MB12081001	1.00	15.00	100.00	23	333	not detected		
LCS12081001	LCS12081001	1.00	15.00	100.00	23	333	1121.30		
1052701	228-P1 PIPING @ BUILDING	1.00	15.29	81.9	28	399	not detected		
1052702	228-P2 PIPING + 15'	1.00	15.06	85.4	27	389	not detected		
1052703	228-P3 PIPING + 30'	1.00	15.13	85.1	27	388	not detected		
1052704	228-P4 PIPING + 45'	1.00	15.14	87.8	26	376	not detected		
1052705	228-P5 PIPING + 60'	1.00	15.05	88.0	26	378	555.41		
1052706	228 DUPLICATE	1.00	15.15	81.2	28	406	not detected		

Qualifiers:
 MDL = Method Detection Limit
 RL = Reporting Limit
 E = Result exceeds calibration limit
 J = Estimated value, concentration is between MDL and RL
 D = Result from dilution
 ND = not detected

000014X

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1. Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted.
2. Table of Contents submitted.
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.
4. Document paginated and legible.
5. Chain of Custody submitted.
6. Samples submitted to lab within 48 hours of sample collection.
7. Methodology Summary submitted.
8. Laboratory Chronicle and Holding Time Check submitted.
9. Results submitted on a dry weight basis.
10. Method Detection Limits submitted.
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.

✓
✓
✓
✓
✓
✓
✓
✓
✓
✓
✓

Laboratory Manager or Environmental Consultant's Signature
Date: 1/11/11

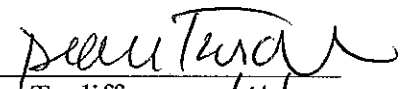
Stanford

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.


Dean Tardiff
Laboratory Manager 1/11/11

ATTACHMENT H

Unregulated Heating Oil Tanks Along Gosselin Avenue

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 12, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 233 (Gosselin Ave.)**

Registration ID: 81533-21

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☒ Yes ☐ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☒ Yes ☐ No ☐ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 12/23/1998

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 1998 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The initial Building 233 soil sample results were non-detected (ND) for TPH. Additional soil samples were collected 6 months later to support nearby construction activities, and results for those samples were ND to 7888 mg/kg soil TPH. Contaminated soil was excavated, and verification soil samples from the excavation were all ND. These final results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted. A groundwater sample was collected from the site in April 2001, with no VOCs or SVOCs detected. A report was prepared by Versar for 233 (*Underground Storage Tank Closure and Site Investigation Report, Building 233*; dated August 2001), and NFA was approved by NJDEP in their letter dated 1/10/2003.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: _____



Kent A. Friesen, Parsons



State of New Jersey

James E. McGreevey
Governor

Department of Environmental Protection

Bradley M. Campbell
Commissioner

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

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

JAN 10 2003

Dear Mr. Desai:

The NJDEP is in receipt of sixty-eight (68) underground storage tank (UST) closure reports dated between July 17, 2001 and May 15, 2002. The Army has requested to receive No Further Action (NFA) approval letters for each of these reports. This letter approves the NFA requests for the following 68 UST that are located on the Main Post of the Fort Monmouth site:

Submittal Date	Building No.	NJDEP Reg. #	Residential
07/17/2001	104	90010-75	NO
07/17/2001	699A	81533-112	NO
07/17/2001	800A	81533-127	NO
07/17/2001	875	81533-234	NO
07/17/2001	949	81533-203	NO
07/17/2001	1220A	81533-184	NO
07/17/2001	2000B	192486-38	NO
01/02/2002	257	81533-200	NO
01/02/2002	283C	81533-229	NO
01/02/2002	290B	81533-224	NO
01/02/2002	290B	81533-225	NO
01/02/2002	491	90010-71	NO
01/02/2002	605	81533-85	NO
01/02/2002	678	81533-105	NO
01/02/2002	699	81533-236	NO
01/02/2002	699	81533-238	NO
01/02/2002	699	81533-237	NO
01/02/2002	699	81533-235	NO
01/02/2002	801B	81533-129	NO
01/02/2002	804A	81533-130	NO
01/02/2002	2337	81515-65	NO
01/02/2002	2562A	81515-41	NO
01/02/2002	2707	81515-50	NO
01/02/2002	2707	81515-49	NO
01/02/2002	2707	81515-51	NO
01/02/2002	2707	81515-47	NO
01/02/2002	2707	81515-48	NO

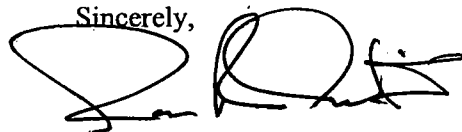
Submittal Date	Building No.	NJDEP Reg. #	Residential
02/13/2002	2044	192486-24	NO
02/13/2002	2044	192486-32	NO
02/13/2002	2044	192486-33	NO
02/26/2002	208B	81533-210	YES
03/05/2002	246	N/A	YES
03/05/2002	261B	N/A	YES
05/15/2002	106	90010-74	NO
05/15/2002	164	90010-15	NO
05/15/2002	173	90010-19	NO
05/15/2002	200	81533-2	NO
05/15/2002	208A	81533-6	YES
05/15/2002	233	81533-21	YES
05/15/2002	237	81533-25	YES
05/15/2002	271	81533-55	YES
05/15/2002	277	90010-24	NO
05/15/2002	296B	81533-217	NO
05/15/2002	296B	81533-223	NO
05/15/2002	296B	81533-221	NO
05/15/2002	296B	81533-220	NO
05/15/2002	296B	81533-222	NO
05/15/2002	296B	81533-218	NO
05/15/2002	296B	81533-216	NO
05/15/2002	296B	81533-215	NO
05/15/2002	296B	81533-214	NO
05/15/2002	296B	81533-213	NO
05/15/2002	296B	81533-219	NO
05/15/2002	426	90010-40	NO
05/15/2002	482	90010-54	NO
05/15/2002	600 A	81533-83	NO
05/15/2002	600 B	81533-212	NO
05/15/2002	611	81533-87	NO
05/15/2002	615	81533-89	NO
05/15/2002	618	81533-91	NO
05/15/2002	619	81533-92	NO
05/15/2002	621	81533-94	NO
05/15/2002	634	N/A	NO
05/15/2002	638	N/A	NO
05/15/2002	639-2	N/A	NO
05/15/2002	640	N/A	NO
05/15/2002	641	N/A	NO
05/15/2002	644	N/A	NO
05/15/2002	664	N/A	NO
05/15/2002	666	N/A	NO
05/15/2002	686	81533-107	NO
05/15/2002	697	81533-194	NO
05/15/2002	697	81533-195	NO

Submittal Date	Building No.	NJDEP Reg. #	Residential
05/15/2002	697	81533-196	NO
05/15/2002	876B	81533-139	NO
05/15/2002	886	81533-140	NO
05/15/2002	905	81533-145	NO
05/15/2002	1102	81533-162	NO
05/15/2002	1104	81533-164	NO
05/15/2002	2067	192486-37	NO
05/15/2002	2534	81515-24	NO
05/15/2002	2603	81515-60	NO
05/15/2002	2700 2,6	81515-61	NO

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

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

Sincerely,



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

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 12, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 234 (Gosselin Ave.)**

Registration ID: 81533-22

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 2/5/1999

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 1999 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The Building 234 soil sample results were non-detected (ND) to 209 mg/kg for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)632-6224 FAX: (732)632-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #99-0008

3 Gosselin

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
3-A (6.5')	4256.01	Soil	05-Feb-99 13:30	02/05/99
3-B (6.5')	4256.02	Soil	05-Feb-99 13:35	02/05/99
3-C (6.5')	4256.03	Soil	05-Feb-99 13:40	02/05/99
3-D (6.5')	4256.04	Soil	05-Feb-99 13:45	02/05/99
3-E (9.0')	4256.05	Soil	05-Feb-99 13:50	02/05/99
3-F (9.0')	4256.06	Soil	05-Feb-99 13:55	02/05/99
3-G (2.0')	4256.07	Soil	05-Feb-99 14:00	02/05/99

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS


Daniel Wright/Date
Laboratory Director

2-17-99

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Laboratory Authentication Statement	37

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>Yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

_____ | <u>NO</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>Yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>Yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>Yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>Yes</u> |

Additional comments: _____

Laboratory Manager

2-17-99
Date

000002

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

Customer: Charles Appleby		Project No: 99-0008		Analysis Parameters			Comments:
Phone #: X26224		Location: 3 Gosselin					
() DERA (X) OMA UST Assessment		UST#		VOA+15		Remarks / Preservation Method	
Samplers Name / Company : David Daniels TVS				VOA ID Number			
Lab Sample ID.	Sample Location	Date	Time	Sample Type	% SOLIDS	TPHC	
01 3-A (6.5')	2.5.99	13:30	Soil	1	X	X	ice
02 3-B (6.5')		13:35					
03 3-C (6.5')		13:40					
04 3-D (6.5')		13:45					
05 3-E (9.0')		13:50					
06 3-F (9.0')		13:55					
07 3-G (2.0')		14:00					
Note: H-Nu Calibrated With 100 ppm Isobutylene & Zero Air @ 9.17							
Relinquished by (signature):	Date/Time:	Received by (signature):		Date/Time:		Received by (signature):	
David H. Daniels	2.5.99/1400	J. Appleby					
Relinquished by (signature):	Date/Time:	Received by (signature):		Date/Time:		Received by (signature):	
Report Type: () Full, (X) Reduced, () Standard, () Screen / non-certified				Remarks: Dedicated Sampling Tools Used			
Turnaround time: () Standard 4 wks, (X) Rush 3-5 Days, () ASAP Verbal Hrs.							

000003

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

Client : U.S. Army Lab. ID # : 4256
DPW. SELFM-PW-EV Date Rec'd: 05-Feb-99
Bldg. 173 Analysis Start: 08-Feb-99
Ft. Monmouth, NJ 07703 Analysis Complete: 09-Feb-99

Analysis: OQA-QAM-025 UST Reg. #:
Matrix: Soil Closure #:
Analyst: D.DEINHARDT DICAR #:
Inst. ID. GC TPHC INST. #1 Injection Volume 1 ul
Column Type RTX 5 Column ID 0.32 um
Ext. Meth: Shake Location #: 3 Gosselin

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4256.01	3-A(6.5')	1.00	15.07	80.77	193	ND
4256.02	3-B(6.5')	1.00	15.84	80.26	185	ND
4256.03	3-C(6.5')	1.00	15.34	80.03	191	ND
4256.04	3-D(6.5')	1.00	15.52	81.32	186	ND
4256.05	3-E(9.0')	1.00	15.77	74.43	200	ND
4256.06	3-F(9.0')	1.00	15.71	75.64	198	209.96
4256.07	3-G(2.0')	1.00	15.55	82.91	182	ND
METHOD BLANK	TBLK 216	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

000004

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted ☒
2. Table of Contents submitted ☒
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted ☒
4. Document paginated and legible ☒
5. Chain of Custody submitted ☒
6. Samples submitted to lab within 48 hours of sample collection ☒
7. Methodology Summary submitted ☒
8. Laboratory Chronicle and Holding Time Check submitted ☒
9. Results submitted on a dry weight basis ☒
10. Method Detection Limits submitted ☒
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP ☒

Laboratory Manager or Environmental Consultant's Signature

Date 2/17/99

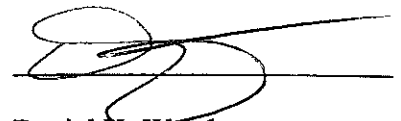
Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

000036

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, appearing to read 'Daniel K. Wright', is written over a horizontal line.

Daniel K. Wright
Laboratory Manager

000037

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 12, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 235 (Gosselin Ave.)**

Registration ID: 81533-23

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 1/6/1999

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

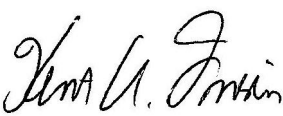
Brief Narrative

Soil samples were collected from the tank excavation in 1999 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The Building 235 soil sample results were non-detected (ND) for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

Geoprobe sampling was performed along the Gosselin Ave. buildings to support future renovation work, and elevated TPH concentrations (1802 mg/kg) were encountered in one sample at 235. Careful examination of the field notes for the tank excavation (1/6/1999) and the Geoprobe work (2/25/1999) indicates that the elevated TPH was on the opposite side of the building as the removed UST. The high TPH results are enigmatic but apparently not related to the UST.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #99-0008

8 Gosselin

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
8-A (6.5')	4172.01	Soil	06-Jan-99 13:10	01/06/99
8-B (6.5')	4172.02	Soil	06-Jan-99 13:12	01/06/99
8-C (6.5')	4172.03	Soil	06-Jan-99 13:15	01/06/99
8-D (6.5')	4172.04	Soil	06-Jan-99 13:20	01/06/99
8-E (9.0')	4172.05	Soil	06-Jan-99 13:33	01/06/99
8-F (9.0')	4172.06	Soil	06-Jan-99 13:35	01/06/99
8-G (2.0')	4172.07	Soil	06-Jan-99 13:45	01/06/99

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

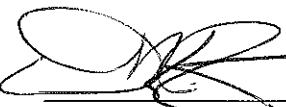

1-12-99
Daniel Wright/Date
Laboratory Director

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Continuing Calibration Summary	12-15
Surrogate Results Summary	16
MS/MSD Results Summary	17
Blank Spike Summary	18
Raw Sample Data	19-34
Laboratory Deliverable Checklist	35
Laboratory Authentication Statement	36

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

_____ | <u>NO</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____



Laboratory Manager

1-13-99

Date

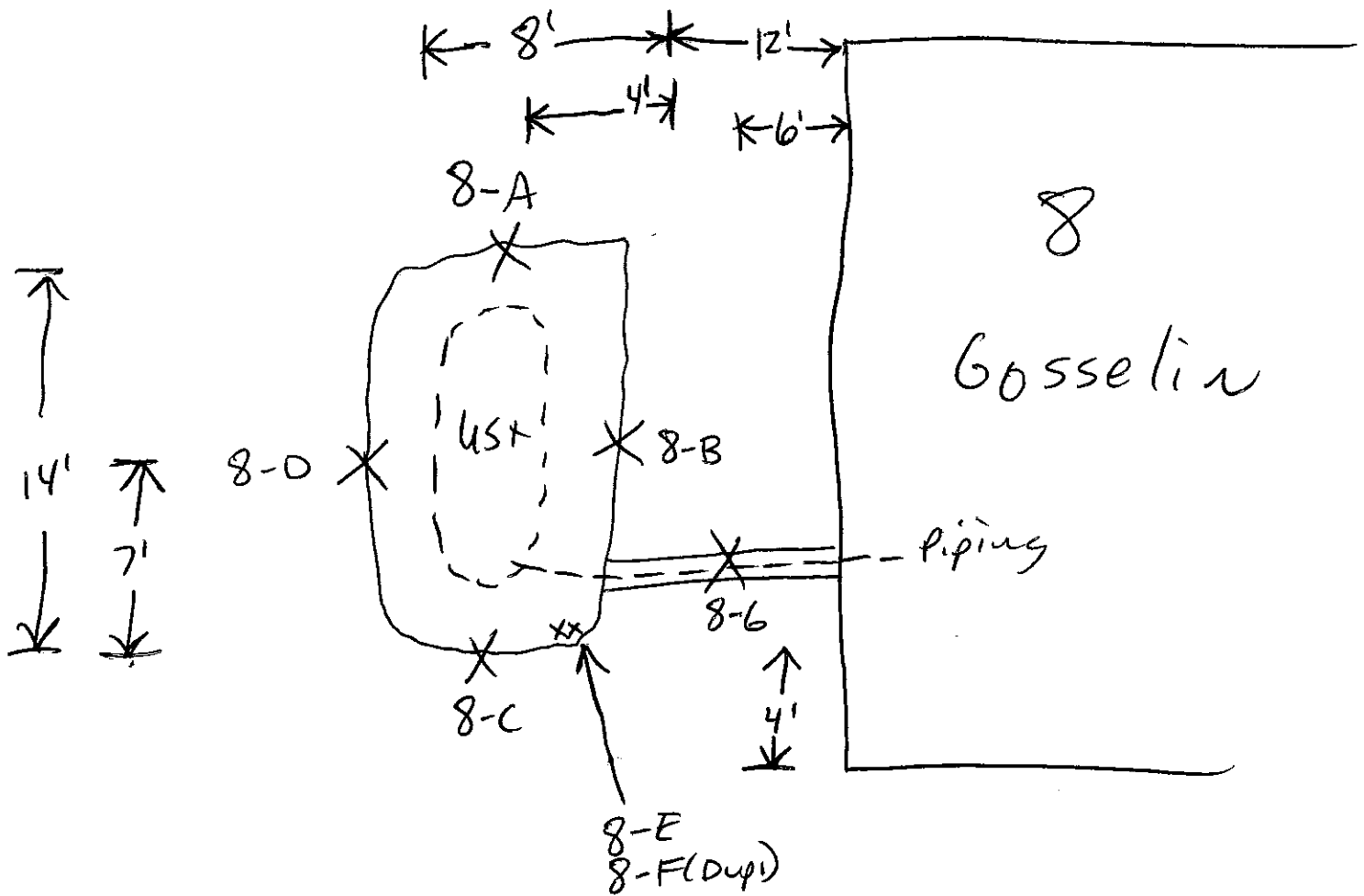
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil

NJDEP Certification #13461

[illegible]

003

8 Gosselin



1/6/99 Sunny, 20°F

No H-Nu Reading S

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 4172
Date Rec'd: 06-Jan-99
Analysis Start: 08-Jan-99
Analysis Complete: 11-Jan-99

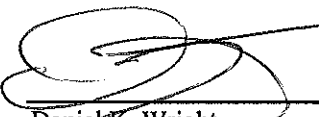
Analysis: OQA-QAM-025
Matrix: Soil
Analyst: D.DEINHARDT
Inst. ID. GC TPHC INST. #1
Column Type RTX 5
Ext. Meth: Shake

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: 8 Gosselin

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4172.01	8-A(6.5')	1.00	15.57	87.06	173	ND
4172.02	8-B(6.5')	1.00	15.00	83.32	188	ND
4172.03	8-C(6.5')	1.00	15.12	83.44	186	ND
4172.04	8-D(6.5')	1.00	14.98	83.55	188	ND
4172.05	8-E(9.0')	1.00	15.37	84.81	180	ND
4172.06	8-F(9.0')	1.00	14.98	85.04	184	ND
4172.07	8-G(2.0')	1.00	15.20	84.25	184	ND
METHOD BLANK	TBLK 204	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|-------------------------------------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

Laboratory Manager or Environmental Consultant's Signature

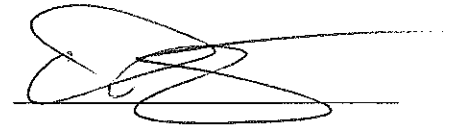
Date 1/12/99

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke extending to the right.

Daniel K. Wright
Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT AND SURVEY

Fort Monmouth Environmental Laboratory

ENVIRONMENTAL DIVISION

Fort Monmouth, New Jersey

PROJECT: Gosselin UST Assessment

235 & 237 Gosselin

Bldg. #	Unit #	Boring #	Lab. I. D.	Date of Survey
235	6	7	4302.01	02/25/99
235	8	N/A	N/A	02/25/99
237	10	N/A	N/A	02/26/99
237	12	6	4305.01	02/26/99
239	14	N/A	N/A	02/26/99
239	16	N/A	N/A	02/26/99
241	18	N/A	N/A	02/26/99
241	20	N/A	N/A	02/26/99
243	22	N/A	N/A	03/04/99
243	24	N/A	N/A	03/04/99
245	26	N/A	N/A	03/04/99
245	28	N/A	N/A	03/04/99
247	30	N/A	N/A	03/04/99
247	32	N/A	N/A	03/04/99
249	34	N/A	N/A	03/05/99
249	36	N/A	N/A	03/05/99
251	38	N/A	N/A	03/05/99
251	40	N/A	N/A	03/05/99
253	42	N/A	N/A	03/05/99
253	44	N/A	N/A	03/05/99
255	46	N/A	N/A	03/05/99
255	48	N/A	N/A	03/05/99
234	1	N/A	N/A	03/11/99
234	3	N/A	N/A	03/11/99
236	5	N/A	N/A	03/11/99
236	7	N/A	N/A	03/11/99
238	9	N/A	N/A	03/11/99
238	11	N/A	N/A	03/11/99

Bldg. #	Unit #	Boring #	Lab. I. D.	Date of Survey
240	13	N/A	N/A	03/11/99
240	15	N/A	N/A	03/11/99
242	17	N/A	N/A	03/11/99
242	19	N/A	N/A	03/11/99
244	21	N/A	N/A	03/11/99
244	23	N/A	N/A	03/11/99
246	25	N/A	N/A	03/12/99
246	27	N/A	N/A	03/12/99
248	29	N/A	N/A	03/12/99
248	31	N/A	N/A	03/12/99
250	33	N/A	N/A	03/12/99
250	35	N/A	N/A	03/12/99
252	37	N/A	N/A	03/12/99
252	39	N/A	N/A	03/12/99
254	41	N/A	N/A	03/12/99
254	43	N/A	N/A	03/12/99
256	45	N/A	N/A	03/12/99
256	47	N/A	N/A	03/12/99
258	49	N/A	N/A	03/12/99
258	51	N/A	N/A	03/12/99

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLDIS


Mark Laura/Date
Geoprobe Operator

Gosselin Soil Sampling Methods

On the days of February 25 and 26th and the days of March 4 and 5th, the Gosselin housing facility was sampled for future building renovation work. The areas sampled were in the areas that footings are to be installed for building additions. Some of the locations were previous underground storage tank excavations. The object was to determine if there is any residual contamination remaining from previous and recent UST projects, and to locate any old UST's that still remain that were never discovered. The project was completed using the Geoprobe soil sampling units and by using hand sampling devices {hand auger}. It was discovered that there was some residual contamination at building 235 on the unit #6 side, and building 237 on the unit #12 side. See enclosed laboratory analysis for the data. The borings were advanced to a depth of eight feet in all cases. Water depth averaged 7.5 to 8'. Soils varied from clean fill at newly excavated areas to mostly native soils at all other areas. The sample locations are indicated on the enclosed Geoprobe report sheets. Basement inspections were not conducted at this time due to time and scheduling constraints.


Mark Laura
Field services

Analytical Results

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: UST Assessment

235 Gosselin

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
235-6 8.5'	4302.01	Soil	25-Feb-99 15:27	02/25/99

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLDIS

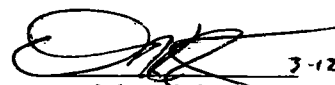

3-12-99
Daniel Wright/Date
Laboratory Director

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MS/MSD Results Summary	15
Blank Spike Summary	16
Raw Sample Data	17-20
Laboratory Deliverable Checklist	21
Laboratory Authentication Statement	22

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

000001

PHC Conformance/Non-conformance Summary Report

Indicate
Yes, No, N/A

1. Method Detection Limits provided. yes
2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. no

3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range). yes

4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range). yes

5. IR Spectra submitted for standards, blanks and samples. NA
6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. yes
7. Analysis holding time met. yes
(If not met, list number of days exceeded for each sample).

Additional comments: _____



Laboratory Manager

3-12-99

Date

000002

NJDEP Certification #13481

[illegible]

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

Client : U.S. Army
 DPW. SELFM-PW-EV
 Bldg. 173
 Ft. Monmouth, NJ 07703

Lab. ID # : 4302
Date Rec'd: 25-Feb-99
Analysis Start: 01-Mar-99
Analysis Complete: 02-Mar-99

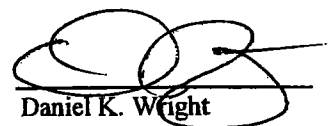
Analysis: OQA-QAM-025
Matrix: Soil
Analyst: D.DEINHARDT
Inst. ID. GC TPHC INST. #1
Column Type RTX 5
Ext. Meth: Shake

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: Bldg. 235 UNIT 6

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4302.01	235-6-8.5'	1.00	15.45	75.61	201	1802.13
METHOD BLANK	TBLK 220	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

000004

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted ☒
2. Table of Contents submitted ☒
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted ☒
4. Document paginated and legible ☒
5. Chain of Custody submitted ☒
6. Samples submitted to lab within 48 hours of sample collection ☒
7. Methodology Summary submitted ☒
8. Laboratory Chronicle and Holding Time Check submitted ☒
9. Results submitted on a dry weight basis ☒
10. Method Detection Limits submitted ☒
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP ☒

Laboratory Manager or Environmental Consultant's Signature

Date 3/12/99

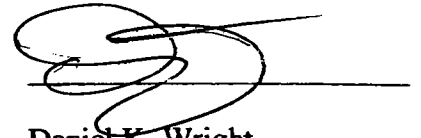
Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

000021

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, appearing to read 'Daniel K. Wright', is written over a horizontal line.

Daniel K. Wright
Laboratory Manager

Geoprobe Report Sheets

GOSSELIN GEOPROBE REPORT SHEET

DATE: 2-25-99 OPERATOR: ML/CM

BLDG.#: 235

UNIT#: 6+8

BORING:

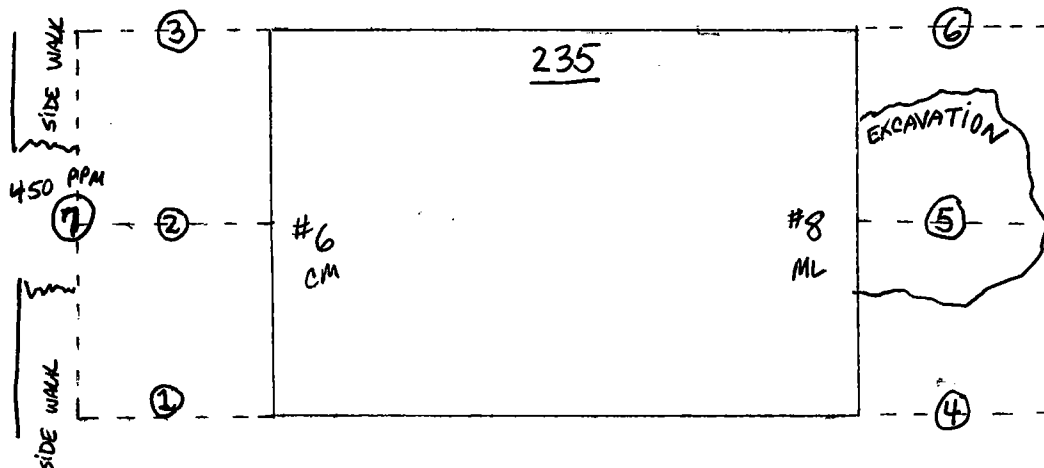
#1: NATIVE	ODOR:	NO ODOR: ✓
#2: "	ODOR:	NO ODOR: ✓
#3: "	ODOR:	NO ODOR: ✓
#4: FILL/NATIVE	ODOR:	NO ODOR: ✓
#5: FILL SOILS TO 7-8'	ODOR:	NO ODOR: ✓
#6: NATIVE	ODOR:	NO ODOR: ✓
#7: FUEL OIL - SAMPLED @ 8.5'	ODOR: ✓ HNU = 450 PPM	NO ODOR:
#8:	ODOR:	NO ODOR:
#9:	ODOR:	NO ODOR:
#10:	ODOR:	NO ODOR:

GPS SITE? NO-2-25-99 (ML)

DATE:

NOTES AND MAP:

H2O @ 8.5'



UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 12, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 236 (Gosselin Ave.)**

Registration ID: 81533-24

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 2/5/1999

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 1999 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The Building 234 soil sample results were non-detected (ND) for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #99-0008

7 Gosseling

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
7-A (6.5')	4255.01	Soil	05-Feb-99 08:45	02/05/99
7-B (6.5')	4255.02	Soil	05-Feb-99 08:50	02/05/99
7-C (6.5')	4255.03	Soil	05-Feb-99 08:55	02/05/99
7-D (6.5')	4255.04	Soil	05-Feb-99 09:00	02/05/99
7-E (9.0')	4255.05	Soil	05-Feb-99 09:05	02/05/99
7-F (9.0')	4255.06	Soil	05-Feb-99 09:10	02/05/99
7-G (2.0')	4255.07	Soil	05-Feb-99 09:15	02/05/99

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS


2-17-99
Daniel Wright/Date
Laboratory Director

Table of Contents

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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

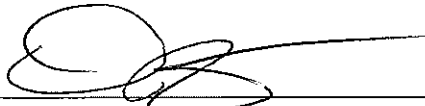
_____ | <u>NO</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____



Laboratory Manager

2-17-99

Date

000002

Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil

Chain of Custody Record

Customer: Charles Appleby			Project No: 99-0008		Analysis Parameters				Comments:	
Phone #: X26224		Location: 7 Gosse Ln								
() DERA (X) OMA UST Assessment			UST#		TPHC	% SOLIDS	VOA+15	VOA ID Number	H-Nu Reading	Remarks / Preservation Method
Samplers Name / Company : David Daniels TVS			Sample #							
Lab Sample I.D.	Sample Location	Date	Time	Type	# bottles					
4255-01	7-A (6.5')	2.5.99	8:45	soil	1	X	X		0	ice
02	7-B (6.5')		8:50							
03	7-C (6.5')		8:55							
04	7-D (6.5')		9:00							
05	7-E (9.0')		9:05							
06	7-F (9.0')		9:10							
07	7-G (2.0')		9:15							
Note: H-Nu Calibrated With 100 ppm Isobutylene & Zero Air @ 9.17										
Relinquished by (signature):		Date/Time:	Received by (signature):		Relinquished by (signature):		Date/Time:		Received by (signature):	
David Daniels		2.5.99 1620	J. Appleby							
Relinquished by (signature):		Date/Time:	Received by (signature):		Relinquished by (signature):		Date/Time:		Received by (signature):	
Report Type: () Full, (X) Reduced, () Standard, () Screen / non-certified										
Turnaround time: () Standard 4 wks, (X) Rush 3-5 Days, () ASAP Verbal Hrs.										

000003

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 4255
Date Rec'd: 05-Feb-99
Analysis Start: 08-Feb-99
Analysis Complete: 09-Feb-99

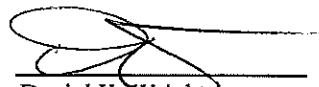
Analysis: OQA-QAM-025
Matrix: Soil
Analyst: D.DEINHARDT
Inst. ID. GC TPHC INST. #1
Column Type RTX 5
Ext. Meth: Shake

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: 7 Gosselin

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4257.01	7-A(6.5')	1.00	15.26	87.66	176	ND
4257.02	7-B(6.5')	1.00	15.40	88.56	172	ND
4257.03	7-C(6.5')	1.00	15.45	87.13	175	ND
4257.04	7-D(6.5')	1.00	15.11	87.72	177	ND
4257.05	7-E(9.0')	1.00	15.24	84.25	183	ND
4257.06	7-F(9.0')	1.00	15.26	85.27	181	ND
4257.07	7-G(2.0')	1.00	15.59	86.57	174	ND
METHOD BLANK	TBLK 216	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

000004

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted ☒
2. Table of Contents submitted ☒
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted ☒
4. Document paginated and legible ☒
5. Chain of Custody submitted ☒
6. Samples submitted to lab within 48 hours of sample collection ☒
7. Methodology Summary submitted ☒
8. Laboratory Chronicle and Holding Time Check submitted ☒
9. Results submitted on a dry weight basis ☒
10. Method Detection Limits submitted ☒
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP ☒

Laboratory Manager or Environmental Consultant's Signature

Date 2/17/99

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

000036

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, consisting of a large, stylized 'D' followed by a series of loops and a long horizontal stroke extending to the right.

Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 12, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 237 (Gosselin Ave.)**

Registration ID: 81533-25

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☒ Yes ☐ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☒ Yes ☐ No ☐ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 1/4/1999

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 1999 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The Building 237 soil sample results from the initial excavation were non-detected (ND) for TPH. Geoprobe sampling was performed on 2/26/1999 along the Gosselin Ave. buildings to support future renovation work, and elevated TPH concentrations (3987 mg/kg) were encountered in one sample from the former 237 UST excavation area. A concrete pad was removed from the bottom of the excavation in June to July 1999, and stained soils and hydrocarbon odors were noted. Contaminated soil was removed from the excavation, and verification soil samples were collected. Both the Buildings 237 and 239 UST areas were sampled as a single excavation. The soil sample results from this excavation were non-detected (ND) for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

A groundwater sample was collected from the site in April and May 2001, with no VOCs or SVOCs detected. A report was prepared by Versar for 237 (*Underground Storage Tank Closure and Site Investigation Report, Building 237*; dated August 2001), and NFA was approved by NJDEP in their letter dated 1/10/2003.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 

Kent A. Friesen, Parsons



State of New Jersey

James E. McGreevey
Governor

Department of Environmental Protection

Bradley M. Campbell
Commissioner

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

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

JAN 10 2003

Dear Mr. Desai:

The NJDEP is in receipt of sixty-eight (68) underground storage tank (UST) closure reports dated between July 17, 2001 and May 15, 2002. The Army has requested to receive No Further Action (NFA) approval letters for each of these reports. This letter approves the NFA requests for the following 68 UST that are located on the Main Post of the Fort Monmouth site:

Submittal Date	Building No.	NJDEP Reg. #	Residential
07/17/2001	104	90010-75	NO
07/17/2001	699A	81533-112	NO
07/17/2001	800A	81533-127	NO
07/17/2001	875	81533-234	NO
07/17/2001	949	81533-203	NO
07/17/2001	1220A	81533-184	NO
07/17/2001	2000B	192486-38	NO
01/02/2002	257	81533-200	NO
01/02/2002	283C	81533-229	NO
01/02/2002	290B	81533-224	NO
01/02/2002	290B	81533-225	NO
01/02/2002	491	90010-71	NO
01/02/2002	605	81533-85	NO
01/02/2002	678	81533-105	NO
01/02/2002	699	81533-236	NO
01/02/2002	699	81533-238	NO
01/02/2002	699	81533-237	NO
01/02/2002	699	81533-235	NO
01/02/2002	801B	81533-129	NO
01/02/2002	804A	81533-130	NO
01/02/2002	2337	81515-65	NO
01/02/2002	2562A	81515-41	NO
01/02/2002	2707	81515-50	NO
01/02/2002	2707	81515-49	NO
01/02/2002	2707	81515-51	NO
01/02/2002	2707	81515-47	NO
01/02/2002	2707	81515-48	NO

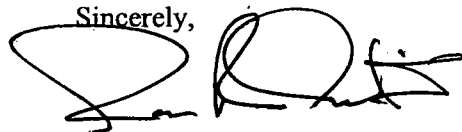
Submittal Date	Building No.	NJDEP Reg. #	Residential
02/13/2002	2044	192486-24	NO
02/13/2002	2044	192486-32	NO
02/13/2002	2044	192486-33	NO
02/26/2002	208B	81533-210	YES
03/05/2002	246	N/A	YES
03/05/2002	261B	N/A	YES
05/15/2002	106	90010-74	NO
05/15/2002	164	90010-15	NO
05/15/2002	173	90010-19	NO
05/15/2002	200	81533-2	NO
05/15/2002	208A	81533-6	YES
05/15/2002	233	81533-21	YES
05/15/2002	237	81533-25	YES
05/15/2002	271	81533-55	YES
05/15/2002	277	90010-24	NO
05/15/2002	296B	81533-217	NO
05/15/2002	296B	81533-223	NO
05/15/2002	296B	81533-221	NO
05/15/2002	296B	81533-220	NO
05/15/2002	296B	81533-222	NO
05/15/2002	296B	81533-218	NO
05/15/2002	296B	81533-216	NO
05/15/2002	296B	81533-215	NO
05/15/2002	296B	81533-214	NO
05/15/2002	296B	81533-213	NO
05/15/2002	296B	81533-219	NO
05/15/2002	426	90010-40	NO
05/15/2002	482	90010-54	NO
05/15/2002	600 A	81533-83	NO
05/15/2002	600 B	81533-212	NO
05/15/2002	611	81533-87	NO
05/15/2002	615	81533-89	NO
05/15/2002	618	81533-91	NO
05/15/2002	619	81533-92	NO
05/15/2002	621	81533-94	NO
05/15/2002	634	N/A	NO
05/15/2002	638	N/A	NO
05/15/2002	639-2	N/A	NO
05/15/2002	640	N/A	NO
05/15/2002	641	N/A	NO
05/15/2002	644	N/A	NO
05/15/2002	664	N/A	NO
05/15/2002	666	N/A	NO
05/15/2002	686	81533-107	NO
05/15/2002	697	81533-194	NO
05/15/2002	697	81533-195	NO

Submittal Date	Building No.	NJDEP Reg. #	Residential
05/15/2002	697	81533-196	NO
05/15/2002	876B	81533-139	NO
05/15/2002	886	81533-140	NO
05/15/2002	905	81533-145	NO
05/15/2002	1102	81533-162	NO
05/15/2002	1104	81533-164	NO
05/15/2002	2067	192486-37	NO
05/15/2002	2534	81515-24	NO
05/15/2002	2603	81515-60	NO
05/15/2002	2700 2,6	81515-61	NO

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

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

Sincerely,



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

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 238 (Gosselin Ave.)**

Registration ID: 81533-26

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 1/22/1999

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 1999 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Both the Buildings 238 and 240 UST areas were sampled as a single excavation. The soil sample results from this excavation were non-detected (ND) for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

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

Client :	U.S. Army	Lab. ID # :	4205
	DPW. SELF-M-PW-EV	Date Rec'd:	22-Jan-99
	Bldg. 173	Analysis Start:	22-Jan-99
	Ft. Monmouth, NJ 07703	Analysis Complete:	26-Jan-99
Analysis:	OQA-QAM-025	UST Reg. #:	
Matrix:	Soil	Closure #:	
Analyst:	D.DEINHARDT	DICAR #:	
Inst. ID.	GC TPHC INST. #1	Injection Volume	1 ul
Column Type	RTX 5	Column ID	0.32 um
Ext. Meth:	Shake	Location #:	11/13 Gosselin

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4205.01	11-13-A(6.5')	1.00	15.44	87.49	174	ND
4205.02	11-13-B(6.5')	1.00	15.63	87.39	172	ND
4205.03	11-13-C(6.5')	1.00	15.18	86.78	178	ND
4205.04	11-13-D(6.5')	1.00	15.69	87.29	172	ND
4205.05	11-13-E(9.0')	1.00	15.45	87.26	174	ND
4205.06	11-13-F(9.0')	1.00	15.17	86.36	179	ND
4205.07	11-13-G(1.5')	1.00	15.50	84.32	180	ND
4205.08	11-13-H(1.0')	1.00	15.63	87.86	171	ND
4205.09	11-13-I(1.0')	1.00	15.21	87.75	176	ND
4205.10	11-13-J(1.5')	1.00	15.02	85.71	183	ND
METHOD BLANK	TBLK 210	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

NJDEP Certification #13461

Chain of Custody Record

Customer: Charles Appleby		Project No: 99-0008		Analysis Parameters				Comments:	
Phone #: X26224		Location: 11/13 Gosse Ln		VOA+15		H-Nu Reading		* = Samples Kept <4 Celsius	
() DERA (X) OMA UST Assessment		UST#		TPHC					
Samplers Name / Company : David Daniels TVS				Sample #		Remarks / Preservation Method			
Lab Sample I.D.	Sample Location	Date	Time	Type	bottles				
01	11-13-A (6.5')	1-22-99	13:10	Soil	1	X		1ce	
02	11-13-B (6.5')	1-22-99	13:15						
03	11-13-C (6.5')	1-22-99	13:20						
04	11-13-D (6.5')	1-22-99	13:25						
05	11-13-E (9.0')	1-22-99	13:35						
06	11-13-F (9.0')	1-22-99	13:37						
07	11-13-G (1.5')	1-22-99	13:40						
08	11-13-H (1.0')	1-22-99	13:43						
09	11-13-I (1.0')	1-22-99	13:50						
10	11-13-J (1.5')	1-22-99	13:55						
Note: H-Nu Calibrated With 100 ppm Isobutylene & Zero Air @ 9.21									
Relinquished by (signature):		Date/Time:		Relinquished by (signature):		Date/Time:		Received by (signature):	
David H. Daniels		1-22-99/1410							
Relinquished by (signature):		Date/Time:		Relinquished by (signature):		Date/Time:		Received by (signature):	
Report Type: () Full, (X) Reduced, () Standard, () Screen / non-certified				Remarks:				Dedicated Sampling Tools Used	
Turnaround time: () Standard 4 wks, (X) Rush 3-5 Days, () ASAP Verbal				Hrs.					

UNDERGROUND STORAGE TANK PROJECT REMOVAL/REMEDIALATION WORKSHEET

PROJECT SITE:

11/13 Gossett

DATE OF TANK REMOVAL:

1.22.99

WORKSHEET PREPARED BY:

DHD

COMMENTS:

Buildings 238/240

CONFINED SPACE ENTRY NOTIFICATIONS:

FT. MONMOUTH FIRE DEPARTMENT-

NA

QC/SAFETY OFFICE-

WEATHER:

48°F, Cloudy

EVIDENCE OF A DISCHARGE:

NONE

CONDITION OF THE TANK/PIPING:

1,000 - Gallon Fiberglass

UST - Good

1/2" Copper Lines - Good

TYPICAL SOIL PROFILE:

Brown silty loam
(Pea Gravel in Excavation)

Concrete pad from ~ 7-8' BGS

SITE INFORMATION:

Casie Protank

PRODUCT REMOVED FROM TANK- #2 Fuel oil

SOLIDS (OIL SPILL DEBRIS)-

APPROX. DEPTH TO GROUNDWATER- Not

DEPTH OF SOIL COVER- ~ 2' Encountered

TANK DIAMETER/LENGTH- ~ 4' x 11'

DEPTH OF EXCAVATION- ~ 7'

SOIL SAMPLING:

DATE 1.22.99

FIELD DUPLICATE = SAMPLE F is 9

COMMENTS- Dupl. of E

No H-Vu Readings

SOIL SAMPLING:

DATE-

FIELD DUPLICATE = SAMPLE _____

COMMENTS-

SOIL SAMPLING:

DATE-

FIELD DUPLICATE = SAMPLE _____

COMMENTS-

DATE: 1-22-99	WORK PERFORMED: Removed tanks and sampled	CONTAMINATED SOIL EXCAVATED: _____ CUBIC YARDS	SOIL SAMPLES COLLECTED: ☒ yes ☐ no
------------------	---	---	--

SKETCH OF WORK PERFORMED:

See Sampling sketch

DATE:	WORK PERFORMED:	CONTAMINATED SOIL EXCAVATED: _____ CUBIC YARDS	SOIL SAMPLES COLLECTED: yes ☐ no ☐
-------	-----------------	---	---

SKETCH OF WORK PERFORMED:

DATE:	WORK PERFORMED:	CONTAMINATED SOIL EXCAVATED: _____ CUBIC YARDS	SOIL SAMPLES COLLECTED: yes ☐ no ☐
-------	-----------------	---	---

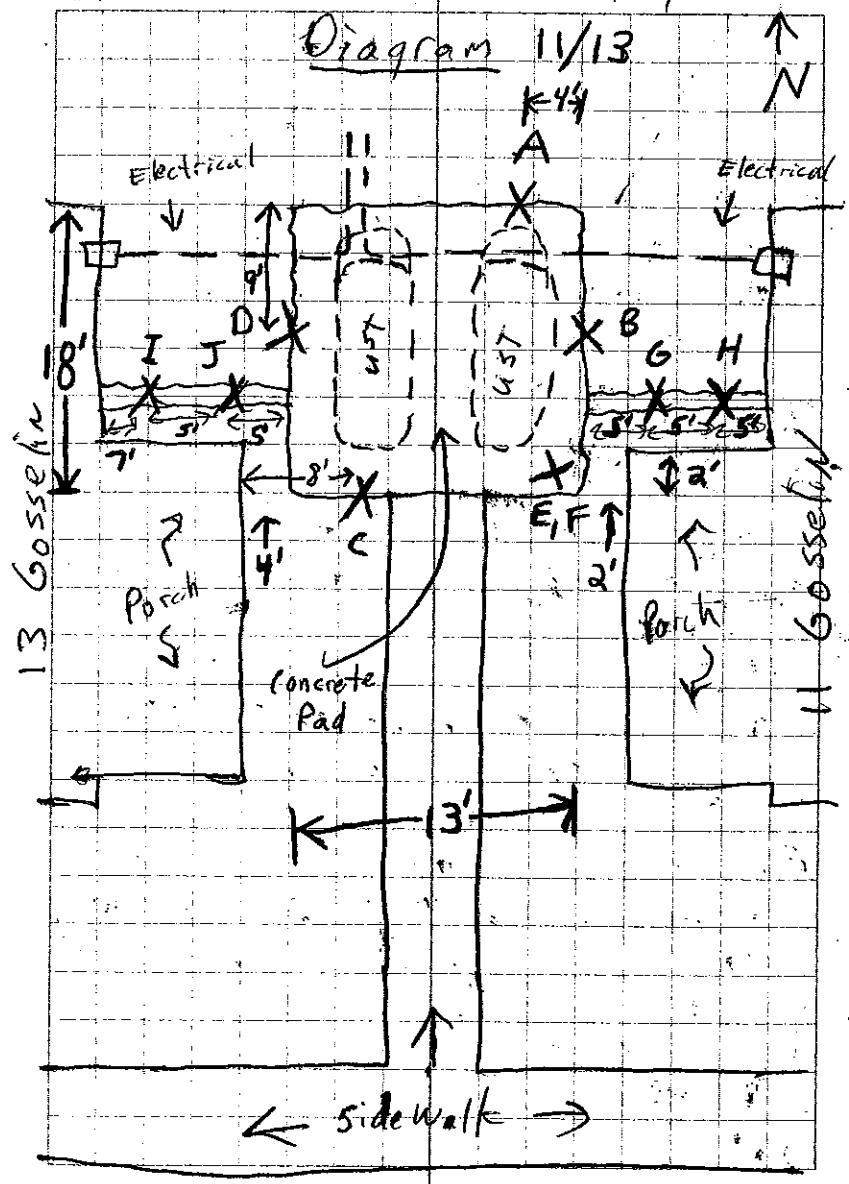
SKETCH OF WORK PERFORMED:

Friday

1/22/99

31

Diagram 11/13



UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 239 (Gosselin Ave.)**

Registration ID: 81533-27

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 1/4/1999

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 1999 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Both the Buildings 239 and 237 UST areas were sampled as a single excavation. The soil sample results from this excavation were non-detected (ND) for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

Additional soil excavation was performed and a Versar (2001) report was prepared for the Bldg. 237 tank, which was removed from the same excavation as the 239 tank. It appears that the soil contamination removed from this excavation was primarily attributed to 237.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #99-0008

12&14 Gosselin

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
12-14-A (6.5')	4165.01	Soil	05-Jan-99 15:00	01/05/98
12-14-B (6.5')	4165.02	Soil	05-Jan-99 15:03	01/05/98
12-14-C (6.5')	4165.03	Soil	05-Jan-99 15:05	01/05/98
12-14-D (6.5')	4165.04	Soil	05-Jan-99 15:10	01/05/98
12-14-E (9.0')	4165.05	Soil	05-Jan-99 15:13	01/05/98
12-14-F (9.0')	4165.06	Soil	05-Jan-99 15:15	01/05/98
12-14-G (2.0')	4165.07	Soil	05-Jan-99 15:20	01/05/98
12-14-H (2.0')	4165.08	Soil	05-Jan-99 15:25	01/05/98

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS


1-12-99
Daniel Wright/Date
Laboratory Director

Table of Contents

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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

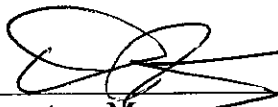
_____ | <u>no</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____



Laboratory Manager

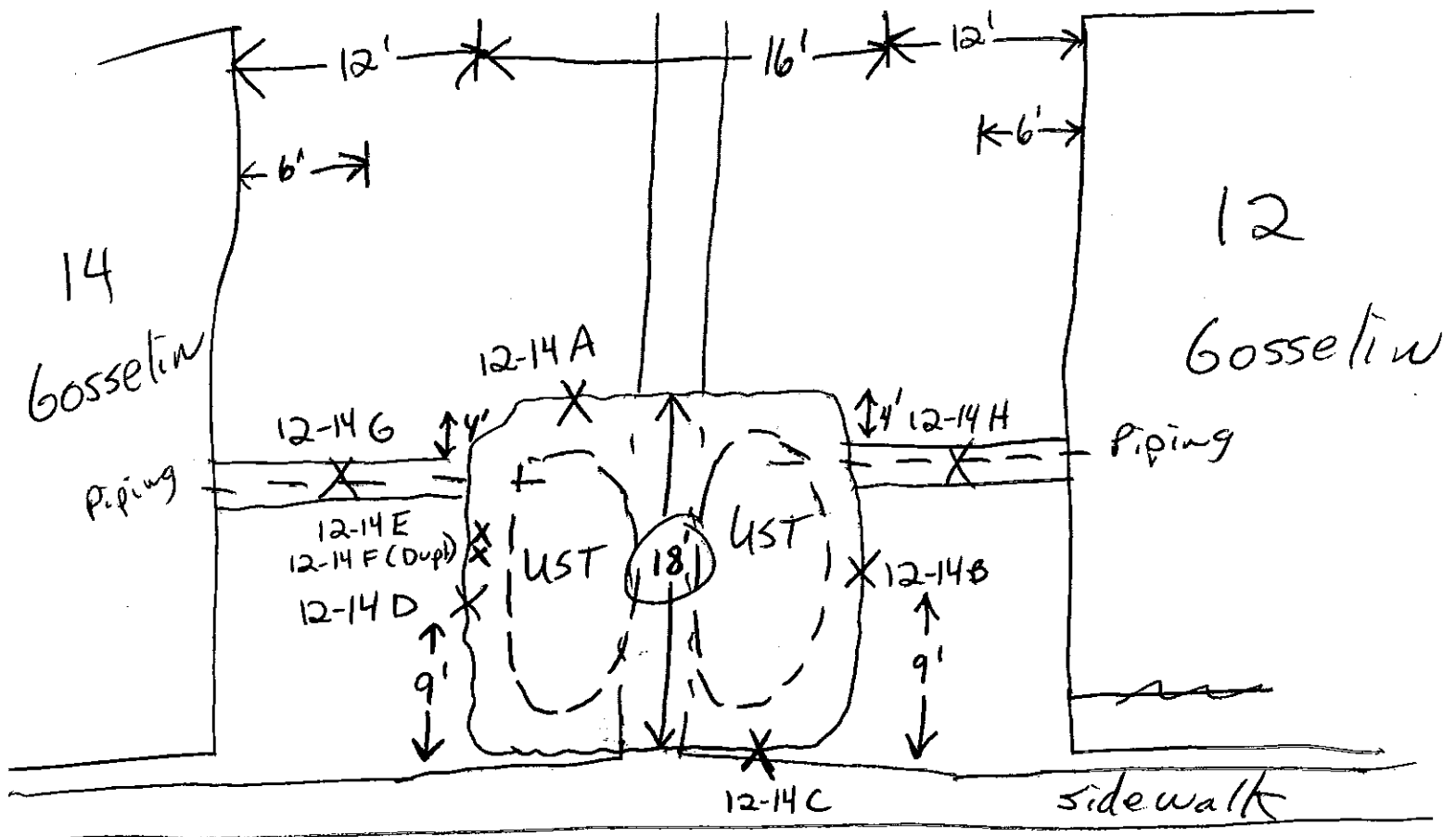
1-13-99

Date

Chain of Custody Record

[illegible]

12-14 Gosselin



2 USTs in samp excavation → Sampling done as per a single excavation.

1/4/99 Sunny, 20°F

No H-Nu Readings.

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 4165
Date Rec'd: 04-Jan-99
Analysis Start: 05-Jan-99
Analysis Complete: 06-Jan-99

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

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: 12/14 Gosselin

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4165.01	12-14-A(6.5')	1.00	15.16	80.24	193	ND
4165.02	12-14-B(6.5')	1.00	15.15	79.82	194	ND
4165.03	12-14-C(6.5')	1.00	15.24	84.54	182	ND
4165.04	12-14-D(6.5')	1.00	15.14	84.92	183	ND
4165.05	12-14-E(9.0')	1.00	15.11	84.51	184	ND
4165.06	12-14-F(9.0')	1.00	15.52	77.79	195	ND
4165.07	12-14-G(2.0')	1.00	15.01	81.68	192	ND
4165.08	12-14-H(2.0')	1.00	15.31	78.44	196	ND
METHOD BLANK	TBLK 203	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

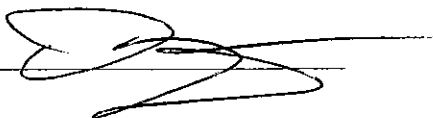
THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|----------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | <u>✓</u> |
| 2. Table of Contents submitted | <u>✓</u> |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | <u>✓</u> |
| 4. Document paginated and legible | <u>✓</u> |
| 5. Chain of Custody submitted | <u>✓</u> |
| 6. Samples submitted to lab within 48 hours of sample collection | <u>✓</u> |
| 7. Methodology Summary submitted | <u>✓</u> |
| 8. Laboratory Chronicle and Holding Time Check submitted | <u>✓</u> |
| 9. Results submitted on a dry weight basis | <u>✓</u> |
| 10. Method Detection Limits submitted | <u>✓</u> |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | <u>✓</u> |

Laboratory Manager or Environmental Consultant's Signature
Date 1/12/99

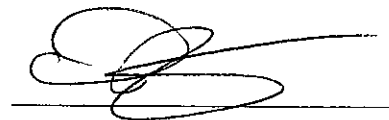


Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke extending to the right, positioned above a solid horizontal line.

Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 240 (Gosselin Ave.)**

Registration ID: 81533-28

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 1/22/1999

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 1999 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Both the Buildings 238 and 240 UST areas were sampled as a single excavation. The soil sample results from this excavation were non-detected (ND) for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

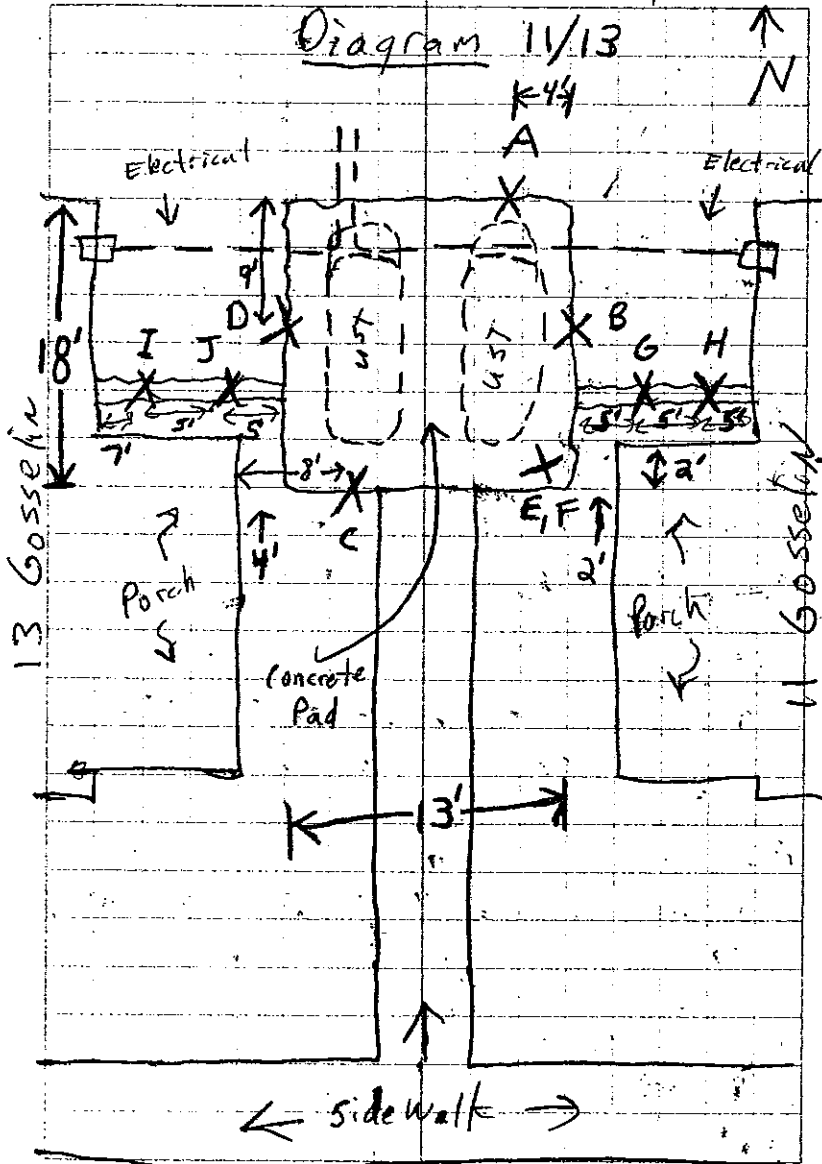
Signed: 
Kent A. Friesen, Parsons

Friday

1/22/99

31

Diagram 11/13



N

SALTZMAN
AVE

GRASS

CONC

SIDEWALK

GRS

return
supply

VENT.

FILL

B 240

Apt # 13

GRS

Gosselin
Ave

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELF-M-PW-EV, Fort Monmouth, NJ 07703

Tel (732) 532-4359 Fax (732) 532-6263 Email: appleby@doim6.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

Customer: Charles Appleby		Project No: 99-0008		Analysis Parameters				Comments: * = Samples Kept <4 Celsius	
Phone #: X26224		Location: 11/13 Gosselin							
() DERA (X) OMA UST Assessment				UST#					
Samplers Name / Company : David Daniels TVS				Sample #					
Lab Sample ID.	Sample Location	Date	Time	Type	bottles	TPHC	% SOLIDS	VOA+IS	VOA ID Number
01	11-13-A (6.5')	1-22-99	13:30	Soil	1	X	X		
02	11-13-B (6.5')	1-22-99	13:15						
03	11-13-C (6.5')	1-22-99	13:20						
04	11-13-D (6.5')	1-22-99	13:25						
05	11-13-E (9.0')	1-22-99	13:35						
06	11-13-F (9.0')	1-22-99	13:37						
07	11-13-G (1.5')	1-22-99	13:40						
08	11-13-H (1.0')	1-22-99	13:43						
09	11-13-I (1.0')	1-22-99	13:50						
10	11-13-J (1.5')	1-22-99	13:55						
Note: H-Nu Calibrated With 100 ppm Isobutylene & Zero Air @ 9.21									
Relinquished by (signature): David Daniels		Date/Time: 1-22-99 1410		Received by (signature): J. Appleby		Date/Time:		Relinquished by (signature):	
Relinquished by (signature):		Date/Time:		Received by (signature):		Date/Time:		Relinquished by (signature):	
Report Type: () Full, (X) Reduced, () Standard, () Screen / non-certified				Remarks:				Dedicated Sampling Tools Used	
Turnaround time: () Standard 4 wks, (X) Rush 3-5 Days, () ASAP Verbal Hrs.									

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

Client :	U.S. Army	Lab. ID # :	4205
	DPW. SELFM-PW-EV	Date Rec'd:	22-Jan-99
	Bldg. 173	Analysis Start:	22-Jan-99
	Fl. Monmouth, NJ 07703	Analysis Complete:	26-Jan-99
Analysis:	OQA-QAM-025	UST Reg. #:	
Matrix:	Soil	Closure #:	
Analyst:	D.DEINHARDT	DICAR #:	
Inst. ID.	GC TPHC INST. #1	Injection Volume	1 ul
Column Type	RTX 5	Column ID	0.32 um
Ext. Meth:	Shake	Location #:	11/13 Gosselin

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4205.01	11-13-A(6.5')	1.00	15.44	87.49	174	ND
4205.02	11-13-B(6.5')	1.00	15.63	87.39	172	ND
4205.03	11-13-C(6.5')	1.00	15.18	86.78	178	ND
4205.04	11-13-D(6.5')	1.00	15.69	87.29	172	ND
4205.05	11-13-E(9.0')	1.00	15.45	87.26	174	ND
4205.06	11-13-F(9.0')	1.00	15.17	86.36	179	ND
4205.07	11-13-G(1.5')	1.00	15.50	84.32	180	ND
4205.08	11-13-H(1.0')	1.00	15.63	87.86	171	ND
4205.09	11-13-I(1.0')	1.00	15.21	87.75	176	ND
4205.10	11-13-J(1.5')	1.00	15.02	85.71	183	ND
METHOD BLANK	TBLK 210	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

 Daniel K. Wright
 Laboratory Director

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 241 (Gosselin Ave.)**

Registration ID: 81533-29

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 9/23/1998

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

The UST files show two tanks adjacent to Bldg. 241: one UST was located east of 241 (between 241 and the garage; this is the UST described in this summary), and another UST was located west of 241 (between Bldgs. 241 and 243). However, the UST located west of 241 serviced the adjacent Bldg. 243 instead, even though the fill port and vent pipe were located adjacent to 241. See the 243 file review for discussion of this other tank.

Soil samples were collected from the tank excavation in 1998 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The Building 241 soil sample results were non-detected (ND) to 329 mg/kg for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: _____



Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461

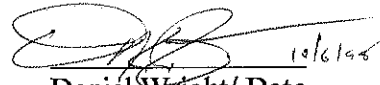


ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIROMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #98-0001/GOSSELIN AVE.

GOSSELIN AVE.

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
B	3907.01	Soil	23-Sept-98 14:24	09/23/98
C	3907.02	Soil	23-Sept-98 14:29	09/23/98
D	3907.03	Soil	23-Sept-98 14:36	09/23/98
E	3907.04	Soil	23-Sept-98 14:47	09/23/98
Dup.	3907.05	Soil	23-Sept-98	09/23/98

ANALYSIS:
FORT MONMOUTH ENVIROMENTAL LAB
TPHC, %SOLIDS


Daniel Wright/ Date
Laboratory Director

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

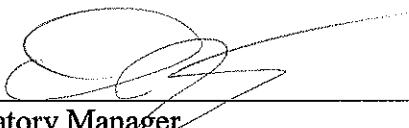
_____ | <u>NO</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____



Laboratory Manager

10/6/26
Date

Fort Monmouth Environmental Testing Laboratory

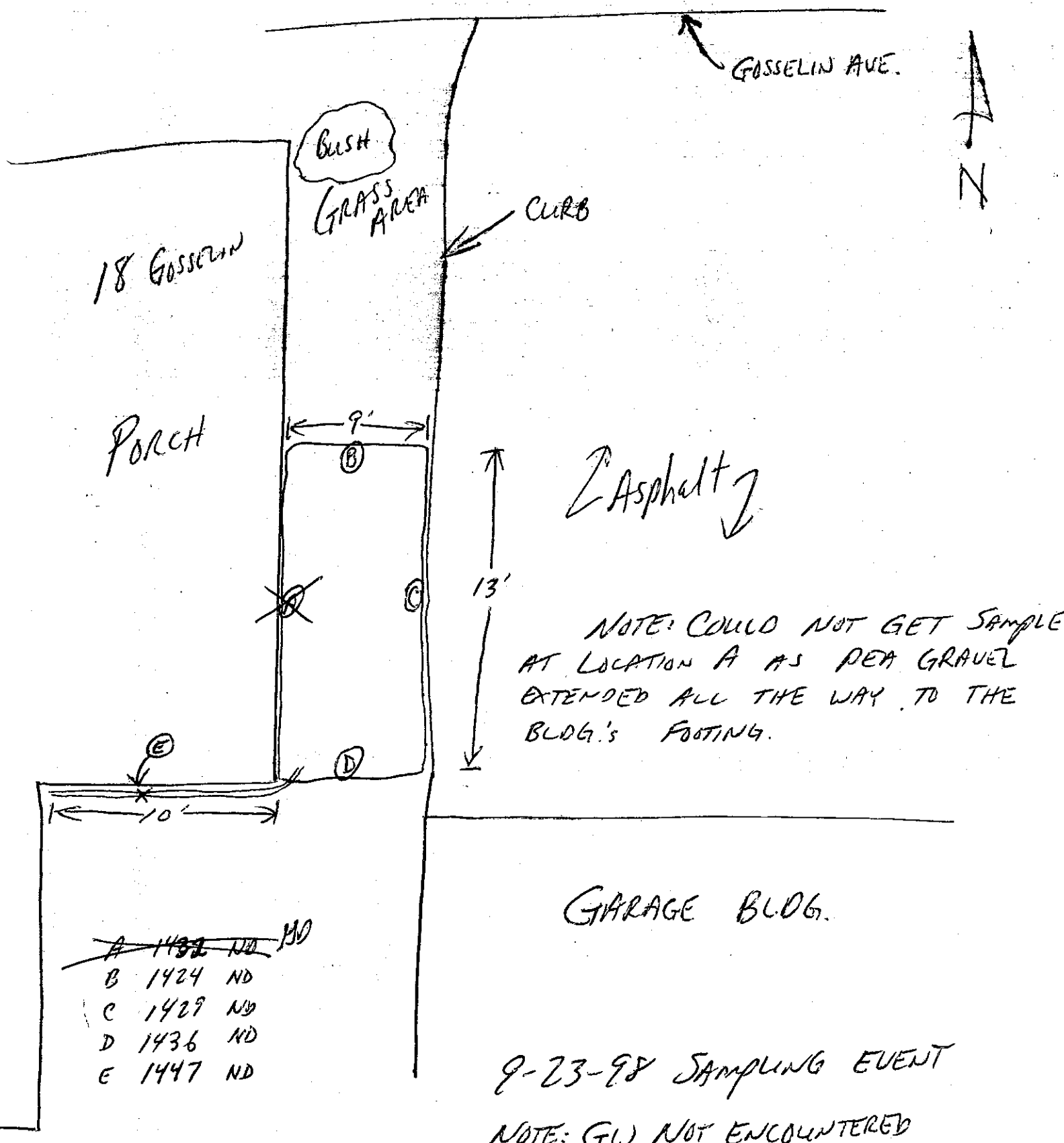
Bldg. 173, SELF-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

Customer: Charles Appleby		Project No: 98-0001		Analysis Parameters			Comments: * = Samples Kept <4 Celsius		
Phone #: X26224		Location: 18 GOSSELIN AVE.							
() DERA (X) OMA UST Assessment		UST#		VOA+IS		VOA ID Number		VOA	
Samplers Name / Company : Gary DiMartinis TVS				% SOLIDS		TPHC		Remarks / Preservation Method	
Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles				
3907.01	18-A	NOT COLLECTED							
021 01	B	9-23-98	1424	SOIL	1	X	X	NA	SIDEWALL @ 6.0' *
030 02	C		1429					NA	
040 03	D		1436					NA	
050 04	E		1447					NA	Piping Run @ 2.0'
060 05	Dup							-	FIELD DUPLICATE
Note: OVA (#A51903) Calibrated With 95 ppm Methane & Zero Air @ 1415 on 9-23-98 by Gary DiMartinis									
Relinquished by (signature):		Date/Time:		Received by (signature):		Date/Time:			
<i>[Signature]</i>		9-23-98 1543		<i>[Signature]</i>					
Relinquished by (signature):		Date/Time:		Received by (signature):		Date/Time:			
<i>[Signature]</i>				<i>[Signature]</i>					
Report Type: () Full, (X) Reduced, () Standard, () Screen / non-certified				Remarks:				Dedicated Sampling Tools Used	
Turnaround time: (X) Standard 4 wks, () Rush Days, () ASAP Verbal Hrs.									



A	1432	ND	ND
B	1424	ND	
C	1429	ND	
D	1436	ND	
E	1447	ND	

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

Client : U.S. Army
DPW. SELF-M-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 3907
Date Rec'd: 23-Sep-98
Analysis Start: 25-Sep-98
Analysis Complete: 28-Sep-98

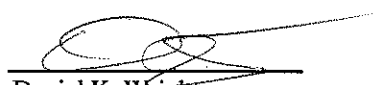
Analysis: OQA-QAM-025
Matrix: Soil
Analyst: D.DEINHARDT
Inst. ID. GC TPHC INST. #1
Column Type RTX 5
Ext. Meth: Shake

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: 18 GOSSELIN AVE.

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3907.01	18-B	1.00	15.12	91.23	170	ND
3907.02	18-C	1.00	15.37	87.65	174	ND
3907.03	18-D	1.00	15.06	85.33	183	ND
3907.04	18-E	1.00	15.11	83.35	187	329.03
3907.05	18-DUP	1.00	15.22	90.49	171	ND
METHOD BLANK	TBLK 169	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted ☒
2. Table of Contents submitted ☒
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted ☒
4. Document paginated and legible ☒
5. Chain of Custody submitted ☒
6. Samples submitted to lab within 48 hours of sample collection ☒
7. Methodology Summary submitted ☒
8. Laboratory Chronicle and Holding Time Check submitted ☒
9. Results submitted on a dry weight basis ☒
10. Method Detection Limits submitted ☒
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP ☒

Laboratory Manager or Environmental Consultant's Signature

Date 10/6/96

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, appearing to read 'DK Wright', is written over a horizontal line.

Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 242 (Gosselin Ave.)**

Registration ID: 81533-30

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 10/26/1998

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 1998 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The Building 242 soil sample results were non-detected (ND) for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #98-0001

19 GOSSELIN AVE.

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
19-A	4008.01	Soil	27-Oct-98 09:03	10/27/98
19-B	4008.02	Soil	27-Oct-98 09:01	10/27/98
19-C	4008.03	Soil	27-Oct-98 09:06	10/27/98
19-D	4008.04	Soil	27-Oct-98 08:56	10/27/98
Dup.	4008.05	Soil	27-Oct-98	10/27/98

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

 11/16/98
Daniel Wright/Date
Laboratory Director

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

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Method Summary

NJDEP Method OOA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>Yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

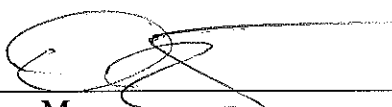
_____ | <u>No</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>Yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>Yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>Yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>Yes</u> |

Additional comments: _____



Laboratory Manager

11/16/98

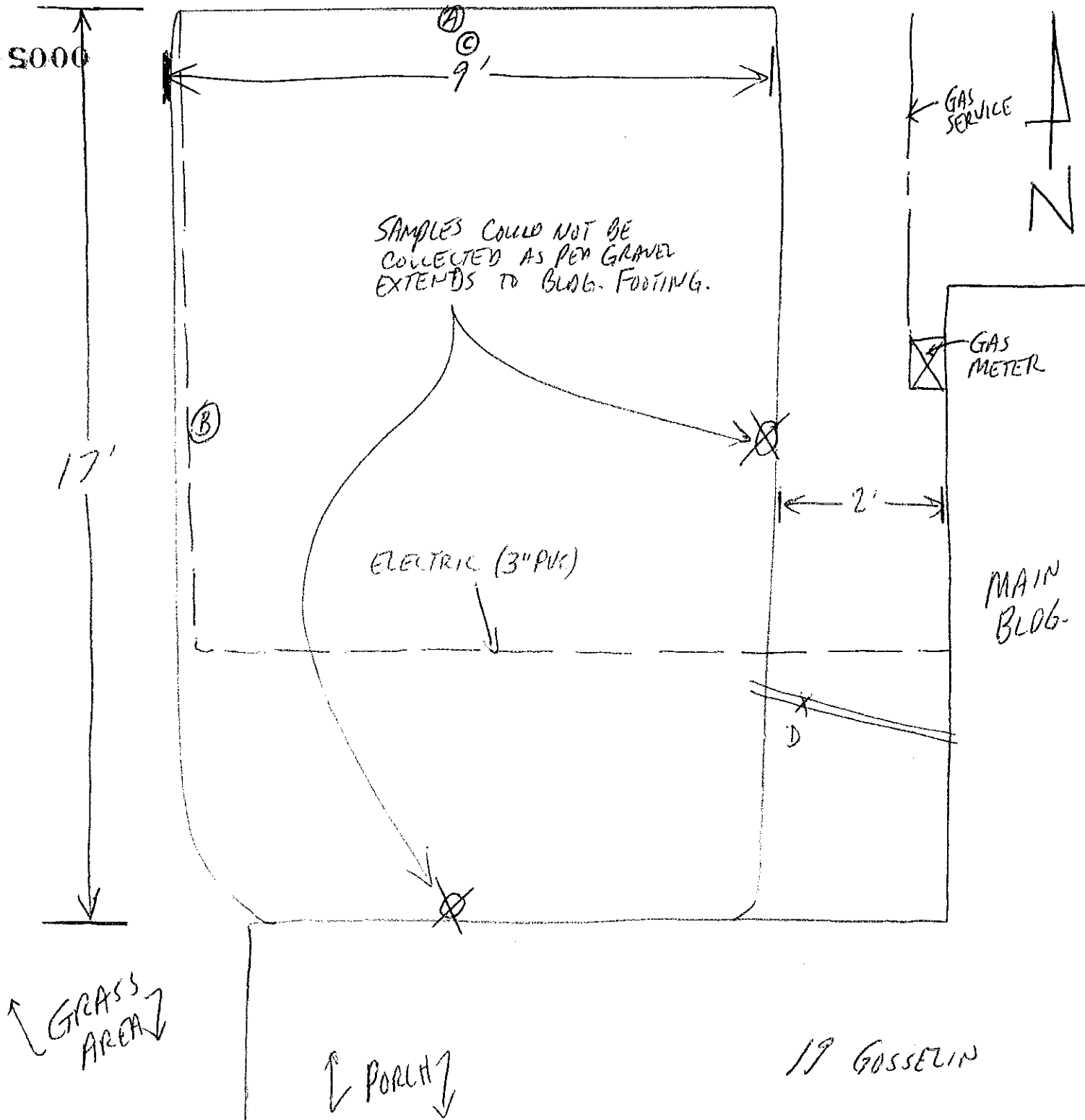
Date

A black and white photograph showing a large, dark, textured object, possibly a piece of machinery or a large animal, in a dark, industrial setting. The object is the central focus, with its surface appearing rough and metallic. In the background, there are faint outlines of industrial structures and what might be a large window or opening. The lighting is dramatic, with strong highlights and deep shadows.

Tel (732) 532-4359 Fax (732) 532-3484 EMail: appleby@doim6.monmouth.army.mil

Chain of Custody Record

print legibly



10/27/98 SAMPLING EVENT
NOTE: GW NOT ENCOUNTERED

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 4008
Date Rec'd: 27-Oct-98
Analysis Start: 27-Oct-98
Analysis Complete: 28-Oct-98

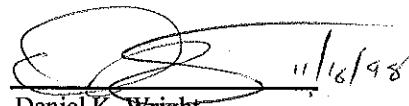
Analysis: OQA-QAM-025
Matrix: Soil
Analyst: D.DEINHARDT
Inst. ID. GC TPHC INST. #1
Column Type RTX 5
Ext. Meth: Shake

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: 19 Gosselin Ave.

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4008.01	19-A	1.00	15.14	82.50	188	ND
4008.02	19-B	1.00	15.12	90.38	172	ND
4008.03	19-C	1.00	15.06	90.37	173	ND
4008.04	19-D	1.00	15.70	84.00	178	ND
4008.05	19-DUP	1.00	15.79	90.80	164	ND
METHOD BLANK	TBLK 183	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

6006

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|-------------------------------------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

Laboratory Manager or Environmental Consultant's Signature

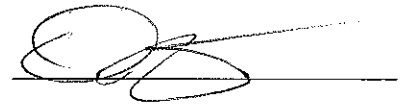
Date 11/16/94

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, appearing to read 'Daniel K. Wright', is written over a horizontal line.

Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 243 (Gosselin Ave.)**

Registration ID: 81533-31

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 9/28/1998

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

This UST was located between Bldgs. 241 and 243. Although the fill port and vent pipe were located adjacent to 241, the UST serviced adjacent Bldg. 243 instead. Soil samples were collected from the tank excavation in 1998 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The Building 243 soil sample results were non-detected (ND) to 169 mg/kg for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIROMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #98-0001

20 GOSSELIN AVE.

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
20-A	3925.01	Soil	29-Sept-98 13:36	09/30/98
20-B			Not Collected	
20-C	3925.03	Soil	29-Sept-98 13:39	09/30/98
20-D	3925.04	Soil	29-Sept-98 13:32	09/30/98
20-E	3925.05	Soil	29-Sept-98 14:30	09/30/98
20-F	3925.06	Soil	29-Sept-98 14:35	09/30/98
20-G	3925.07	Soil	29-Sept-98 09:32	09/30/98
20-H	3925.08	Soil	29-Sept-98 09:34	09/30/98
20-I	3925.09	Soil	29-Sept-98 09:38	09/30/98
Dup.	3925.10	Soil	29-Sept-98	09/30/98

ANALYSIS:
FORT MONMOUTH ENVIROMENTAL LAB
TPHC, %SOLIDS

 10/15/98
Daniel Wright/Date
Laboratory Director

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

_____ | <u>NO</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>N/A</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____



Laboratory Manager

10/12/98
Date



Fort Monmouth Environmental Testing Laboratory

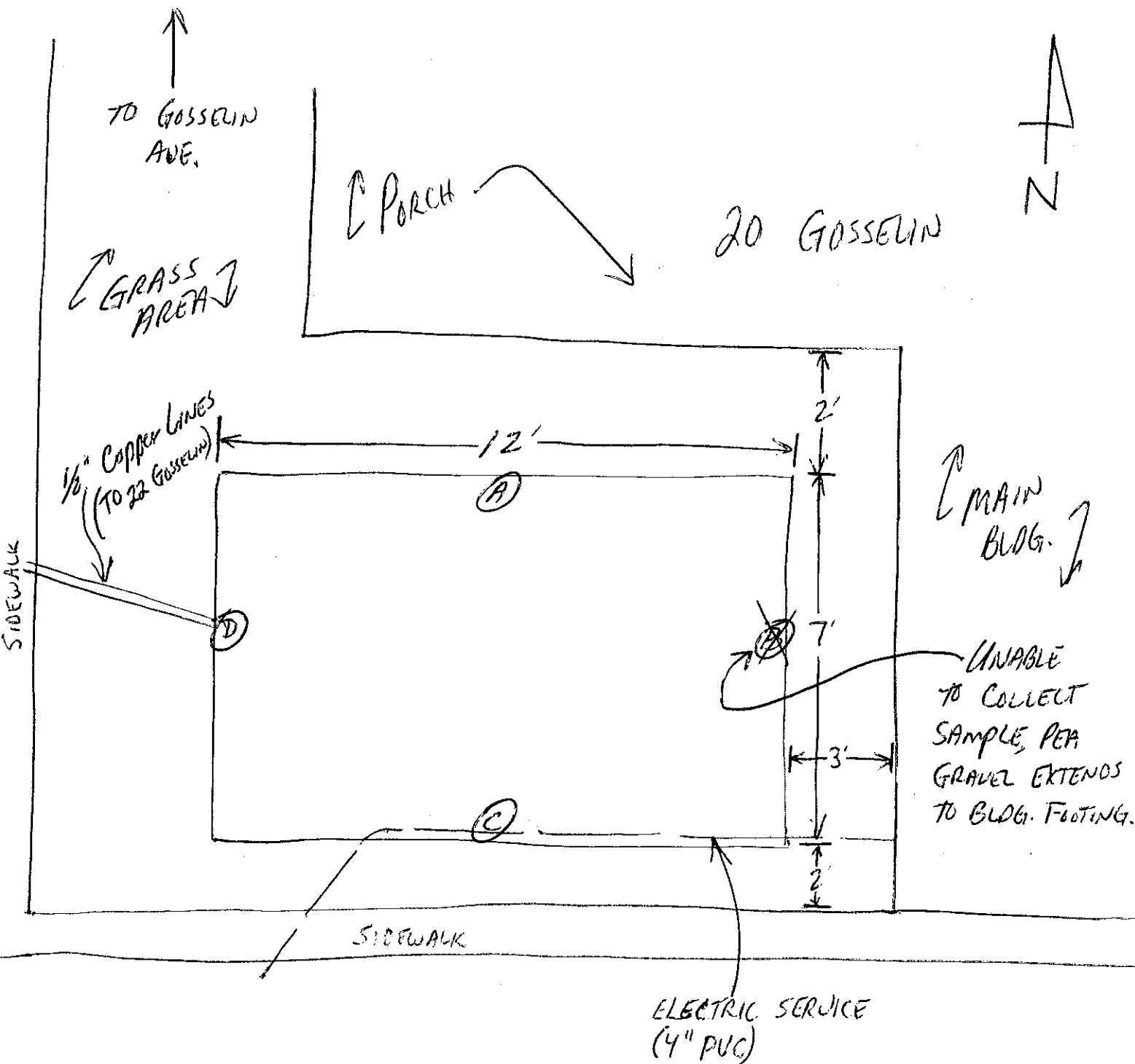
Bldg. 173, SELF-PW-EV, Fort Monmouth, NJ 07703

Tel (732) 532-4359 Fax (732) 532-3484 EMail: appleby@doim6.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

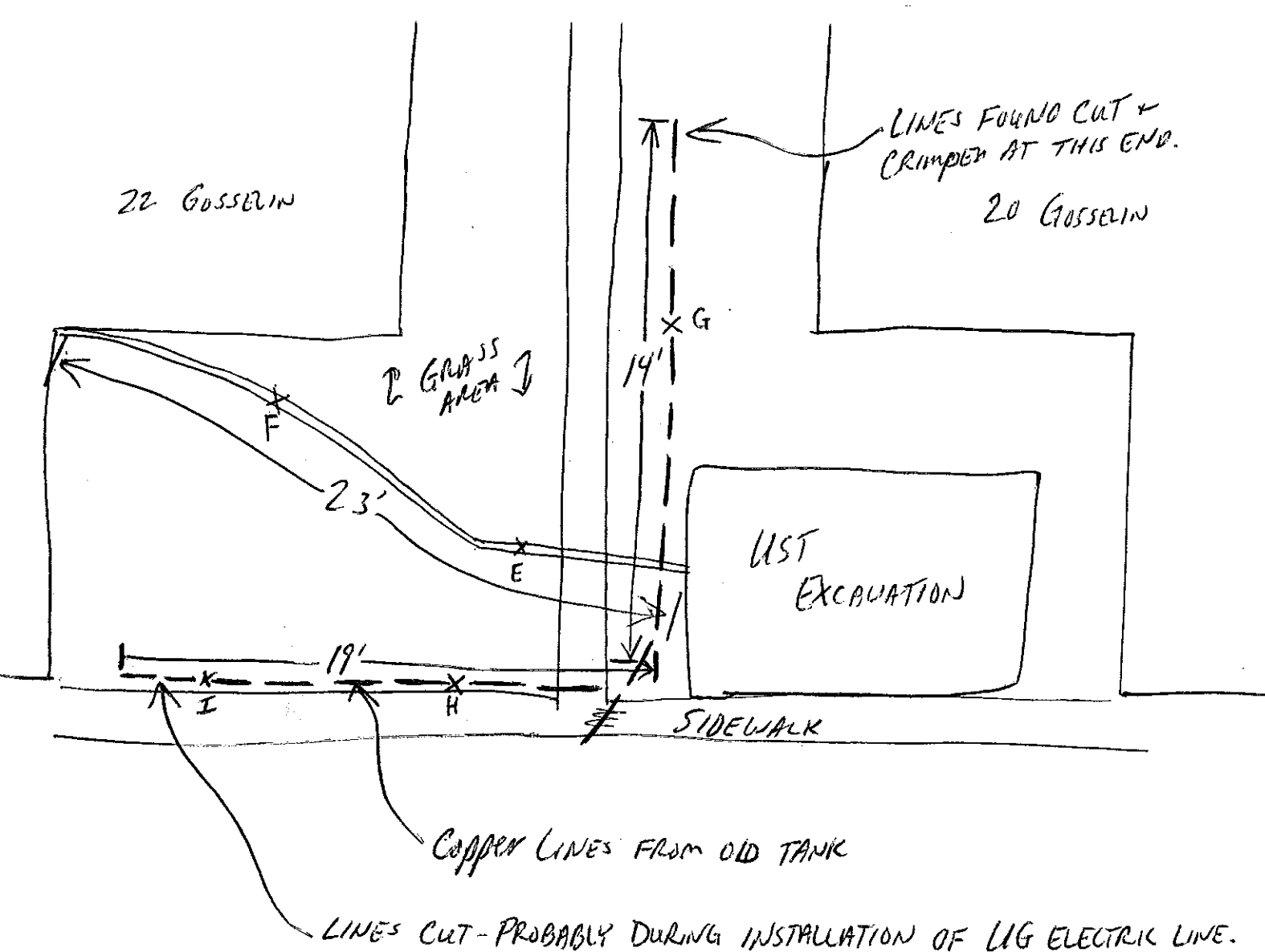
Customer: Charles Appleby		Project No: 98-0001		Analysis Parameters				Comments:	
Phone #: X26224		Location: 20 GOSSETT AVE.		VOA+IS		VOA		* = Samples Kept <4 Celsius	
() DERA (X) OMA UST Assessment		UST#		TPHC		VOA ID Number		Remarks / Preservation Method	
Samplers Name / Company : Gary DiMartinis TVS		Sample #		TPHC		VOA ID Number		Remarks / Preservation Method	
Lab Sample I.D.	Sample Location	Date	Time	Type	bottles	% SOLIDS	VOA ID Number	VOA	Remarks / Preservation Method
3925 01	20-A	9-29-98	1336	SOIL	1	X		NO	SIDEWALL @ 5.5' *
02	B	NOT	COLLECTED						
03	C	9-29-98	1339					NO	
04	D		1332					NO	
05	E		1430					NO	Piping Run @ 1.0'
06	F		1435					NO	
07	G	9-30-98	0932					NO	
08	H		0934					NO	
09	I		0938					NO	
10	Dup							NO	FIELD DUPLICATE
Note: OVA (#A51903) Calibrated With 95 ppm Methane & Zero Air @ 1315 on 9-28-98 by Gary DiMartinis *									
Relinquished by (signature):		Date/Time: 9/30/98 1050		Received by (signature):		Date/Time:		Received by (signature):	
Relinquished by (signature):		Date/Time:		Relinquished by (signature):		Date/Time:		Received by (signature):	
Report Type: () Full, (X) Reduced, () Standard, () Screen / non-certified				Remarks: Dedicated Sampling Tools Used					
Turnaround time: () Standard 4 wks, (X) Rush 3 Days, () ASAP Verbal Hrs.				* CAL. CHECKED 9/30/98 @ 0920					



20 GOSSELIN - 9-29-98 SAMPLING EVENT

NOTE: Piping LENGTH (~23') GLW NOT ENCOUNTERED

A	1336	ND
B		
C	1339	ND
D	1332	ND
E	1436	ND
F	1435	ND



(+ 9-30-98)
 9-29-98 SAMPLING EVENT
 (Piping SKETCH)

E	1430	NO
F	1435	NO
G	0932	NO
H	0934	NO
I	0938	NO

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 3925
Date Rec'd: 30-Sep-98
Analysis Start: 30-Sep-98
Analysis Complete: 01-Oct-98

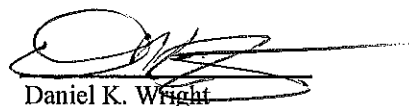
Analysis: OQA-QAM-025
Matrix: Soil
Analyst: D.DEINHARDT
Inst. ID. GC TPHC INST. #1
Column Type RTX 5
Ext. Meth: Shake

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: 20 Gosselin Ave.

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3925.01	20-A	1.00	15.28	90.04	171	ND
3925.03	20-C	1.00	15.18	91.82	169	ND
3925.04	20-D	1.00	15.12	93.97	165	ND
3925.05	20-E	1.00	15.83	92.00	161	169.26
3925.06	20-F	1.00	15.45	87.63	174	ND
3925.07	20-G	1.00	15.21	92.68	167	ND
3925.08	20-H	1.00	15.70	91.01	164	ND
3925.09	20-I	1.00	15.17	88.95	174	ND
3925.10	20-DUP	1.00	15.49	95.29	159	ND
METHOD BLANK	TBLK 172	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|-------------------------------------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

Laboratory Manager or Environmental Consultant's Signature _____

Date 10/15/96

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, consisting of a large, stylized 'D' followed by a series of loops and a long horizontal stroke extending to the right.

Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 244 (Gosselin Ave.)**

Registration ID: 81533-32

Recommended Status of Site: **Case Closed**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High (see below)**

Based on the file review, were there indications of a contaminant release? ☒ Yes ☐ No

NJDEP Release No. or DICAR (If applicable): None (see also Bldg. 246 file review)

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☒ Steel ☐ Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 10/20/1998

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Both Buildings 244 and 246 were serviced by a single 2000-gallon steel UST; see the file review summary for Bldg. 246 for more details. Soil samples were collected from the tank excavation in 1998 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The soil sample results from this excavation were non-detected (ND) to 276 mg/kg for TPH from the tank excavation, and ND to 230 mg/kg from below piping. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

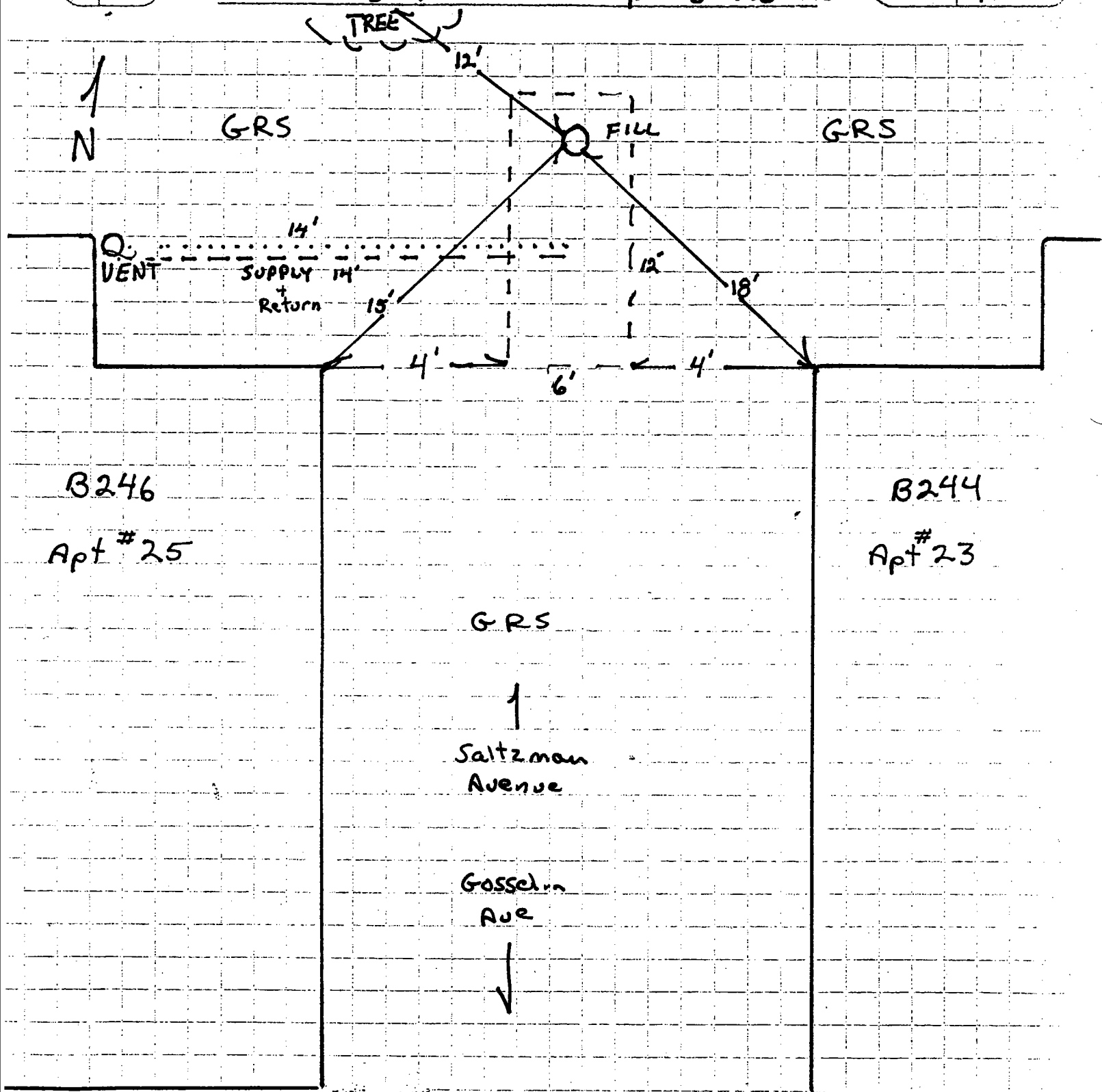
A sketch showing the locations of 10/23/98 soil samples from below the piping clearly shows service lines to both 25 Gosselin (Bldg. 246) and 23 Gosselin (Bldg. 244) from the same 2000 gallon tank. Therefore, both buildings were serviced from the same tank. The UST database tank removal date of 10/26/1994 appears to be in error; instead that was the date associated with tank contents removal. Although Bldg. 244 was not specifically included in NJDEP's NFA approval for Bldg. 246, the locations are the same, and therefore no additional action is warranted.

In conclusion, the analytical results support changing the UST Case Status to "Case Closed." Since an older steel tank was removed, it appears unlikely that an earlier steel UST would still be present.

Recommendations (if any): Change status to "Case Closed"

Signed: 
Kent A. Friesen, Parsons

B#₅ 244 + 246 Apt #₅ 23 + 25



UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 245 (Gosselin Ave.)**

Registration ID: 81533-33

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 10/6/1998

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 1998 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The Building 245 soil sample results were all non-detected (ND) for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #98-0001

28 GOSSELIN AVE.

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
28-A	3956.01	Soil	06-Oct-98 09:10	10/06/98
28-B	3956.02	Soil	06-Oct-98 09:14	10/06/98
28-C	3956.03	Soil	06-Oct-98 09:50	10/06/98
28-D	3956.04	Soil	06-Oct-98 09:43	10/06/98
28-E	3956.05	Soil	06-Oct-98 09:23	10/06/98
28-F	3956.06	Soil	06-Oct-98 11:08	10/06/98
28-G	3956.07	Soil	06-Oct-98 11:05	10/06/98
28-H	3956.08	Soil	06-Oct-98 11:17	10/06/98
28-I	3956.09	Soil	06-Oct-98 11:22	10/06/98
Dup	3956.10	Soil	06-Oct-98	10/06/98

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

 11/16/98
Daniel Wright/Date
Laboratory Director

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

_____ | <u>no</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>N/A</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____



Laboratory Manager

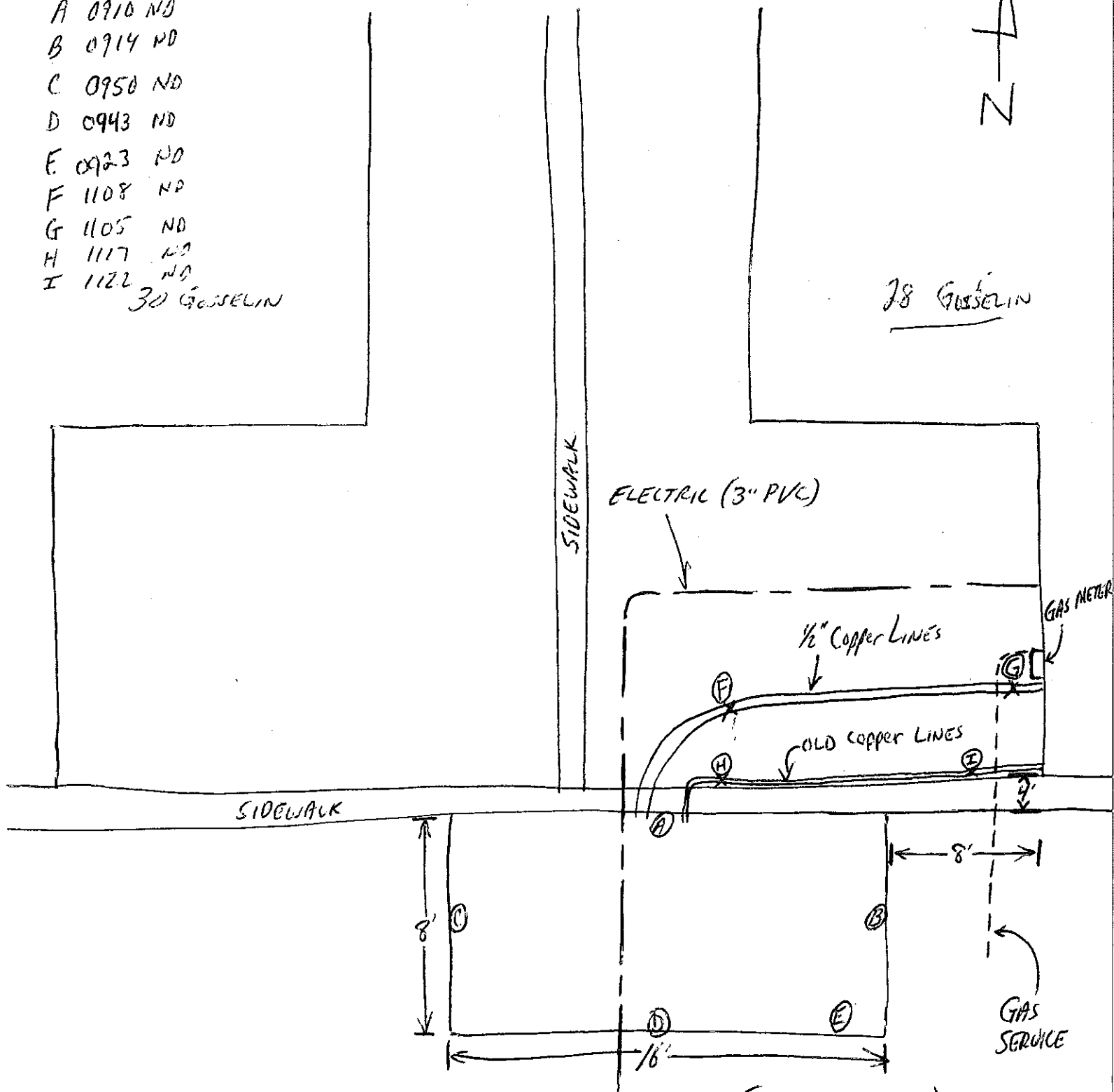
11/16/98

Date

A 0910 NO
 B 0914 NO
 C 0950 NO
 D 0943 NO
 E 0923 NO
 F 1108 NO
 G 1105 NO
 H 1117 NO
 I 1122 NO
 30 GUSSELIN



28 GUSSELIN



10-6-98 SAMPLING EVENT (28 GUSSELIN)

NOTE: GW NOT ENCOUNTERED

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 3956
Date Rec'd: 06-Oct-98
Analysis Start: 07-Oct-98
Analysis Complete: 08-Oct-98

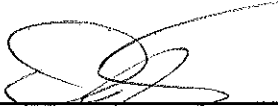
Analysis: OQA-QAM-025
Matrix: Soil
Analyst: D.DEINHARDT
Inst. ID. GC TPHC INST. #1
Column Type RTX 5
Ext. Meth: Shake

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: 28 Gosselin Ave.

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3956.01	28-A	1.00	14.97	85.44	184	ND
3956.02	28-B	1.00	15.19	87.07	178	ND
3956.03	28-C	1.00	15.10	85.75	181	ND
3956.04	28-D	1.00	14.96	84.99	185	ND
3956.05	28-E	1.00	15.57	84.77	178	ND
3956.06	28-F	1.00	15.61	87.04	173	ND
3956.07	28-G	1.00	15.04	88.81	176	ND
3956.08	28-H	1.00	15.60	89.25	169	ND
3956.09	28-I	1.00	15.33	86.07	178	ND
3956.10	28-DUP	1.00	15.60	85.30	177	ND
METHOD BLANK	TBLK 177	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted
2. Table of Contents submitted
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted
4. Document paginated and legible
5. Chain of Custody submitted
6. Samples submitted to lab within 48 hours of sample collection
7. Methodology Summary submitted
8. Laboratory Chronicle and Holding Time Check submitted
9. Results submitted on a dry weight basis
10. Method Detection Limits submitted
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP

✓
✓
✓
✓
✓
✓
✓
✓
✓
✓
✓

Laboratory Manager or Environmental Consultant's Signature

Date 11/16/98

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, appearing to read 'DK Wright', is written over a horizontal line.

Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 246 (Gosselin Ave.)**

Registration ID: none assigned

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **NFA**

Based on the file review, were there indications of a contaminant release? ☒ Yes ☐ No

NJDEP Release No. or DICAR (If applicable): 98-10-20-1459-24

Did NJDEP approve No Further Action (NFA) for this site? ☒ Yes ☐ No ☐ Not Applicable

Tank Description: ☒ Steel ☐ Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 10/20/1998

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Both Buildings 244 and 246 were serviced by a single 2000-gallon steel UST, which was described as "older" in the field notes. Soil samples were collected from the tank excavation in 1998 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The soil sample results from this excavation were non-detected (ND) to 276 mg/kg for TPH from the tank excavation, and ND to 230 mg/kg from below piping. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

A DICAR was reported to NJDEP based on two small holes observed in the steel tank during removal. There are also indications from a sketch map that approximately 5 cubic yards of contaminated soil was removed. A sketch from the 10/23/98 sampling event (for soil samples from below the piping) clearly shows service lines to both 25 Gosselin (Bldg. 246) and 23 Gosselin (Bldg. 244) from the same 2000 gallon tank. Therefore, both buildings were serviced from the same tank. One of the field documents indicates that the "tank was old and never registered."

Two groundwater samples collected on 9/29/2001 and 11/5/2001 had low (<NJAC 7:9-6 Ground Water Quality Criteria) detections of chloroform, ethyl benzene, xylenes, and 1,2-dichlorobenzene in the VOCs analysis, and 1,2-dichlorobenzene, naphthalene, 2-methylnaphthalene, fluorene, and phenanthrene in the SVOCs analysis.

The Army requested closing the DICAR in a letter dated 3/5/2002. NFA for Bldg. 246 was approved by the NJDEP in their letter dated 1/10/2003.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Since an older steel tank was removed, it appears unlikely that an earlier steel UST would still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

N

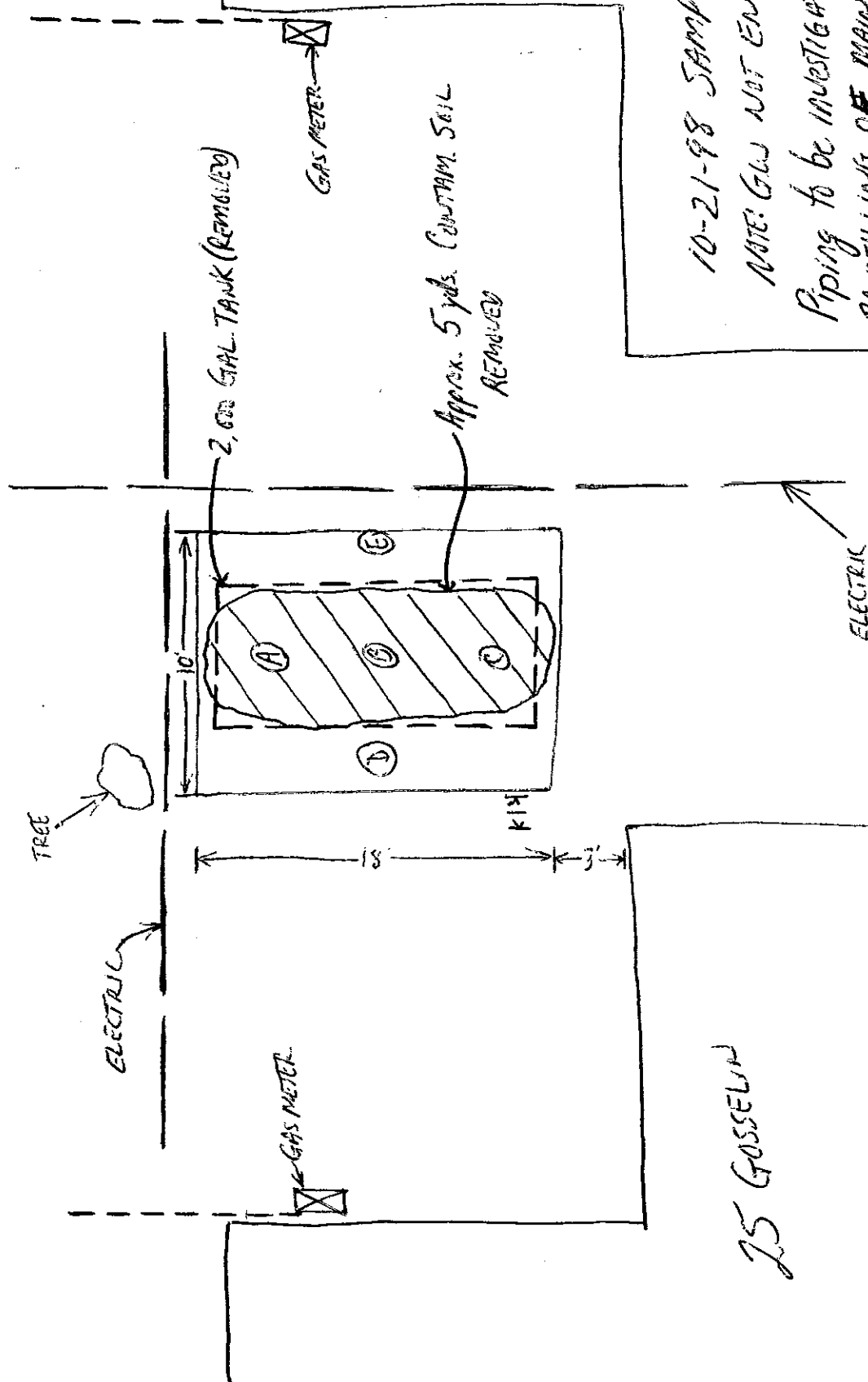
25 Gosselin Ave

23 Gosselin

10-21-98 SAMPLING EVENT

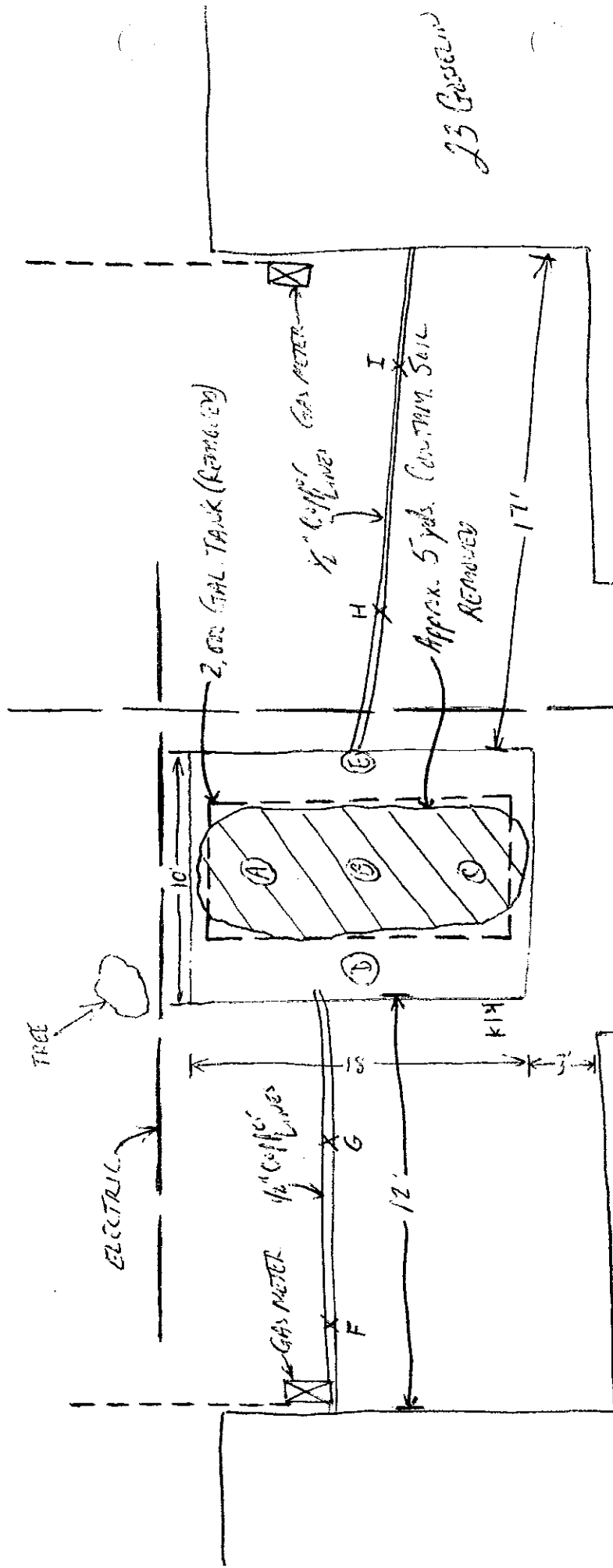
NOTE: GW NOT ENCOUNTERED.

Piping to be INVESTIGATED FOLLOWING
BACKFILLING OF MAIN EXCAVATION.



25 GOSSELIN

N



23 GOSSELUM

10-21-98 SAMPLING EVENT

NOTE: GLW NOT ENCOUNTERED.

Piping to be INVESTIGATED FOLLOWING BACKFILLING OF MAIN EXCAVATION.

25 GOSSELUM

10-23-98 SAMPLING EVENT
(Piping Samples F, G, H, I)

0005

NJDEP Certification #13461

Chain of Custody Record

[illegible]

Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

Chain of Custody Record

print legibly

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 3992
Date Rec'd: 21-Oct-98
Analysis Start: 21-Oct-98
Analysis Complete: 22-Oct-98

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

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: 25 Gosselin Ave.

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3992.01	25-A	1.00	15.38	80.59	190	253.89
3992.02	25-B	1.00	14.98	67.24	233	276.60
3992.03	25-C	1.00	15.35	80.98	189	ND
3992.04	25-D	1.00	15.71	81.28	184	241.00
3992.05	25-E	1.00	15.45	78.42	194	ND
3992.06	25-DUP	1.00	15.24	82.99	186	ND
METHOD BLANK	TBLK 183	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

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

Client :	U.S. Army	Lab. ID # :	4000
	DPW. SELFM-PW-EV	Date Rec'd:	23-Oct-98
	Bldg. 173	Analysis Start:	26-Oct-98
	Ft. Monmouth, NJ 07703	Analysis Complete:	27-Oct-98
Analysis:	OQA-QAM-025	UST Reg. #:	
Matrix:	Soil	Closure #:	
Analyst:	D.DEINHARDT	DICAR #:	
Inst. ID.	GC TPHC INST. #1	Injection Volume	1 ul
Column Type	RTX 5	Column ID	0.32 um
Ext. Meth:	Shake	Location #:	25 Gosselin Ave.

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4000.01	25-F	1.00	15.13	88.34	176	ND
4000.02	25-G	1.00	15.16	90.92	170	178.54
4000.03	25-H	1.00	15.07	89.49	174	209.73
4000.04	25-I	1.00	15.75	87.08	171	ND
4000.05	25-DUP	1.00	15.23	89.95	172	230.73
METHOD BLANK	TBLK 183	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director



State of New Jersey

James E. McGreevey
Governor

Department of Environmental Protection

Bradley M. Campbell
Commissioner

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

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

JAN 10 2003

Dear Mr. Desai:

The NJDEP is in receipt of sixty-eight (68) underground storage tank (UST) closure reports dated between July 17, 2001 and May 15, 2002. The Army has requested to receive No Further Action (NFA) approval letters for each of these reports. This letter approves the NFA requests for the following 68 UST that are located on the Main Post of the Fort Monmouth site:

Submittal Date	Building No.	NJDEP Reg. #	Residential
07/17/2001	104	90010-75	NO
07/17/2001	699A	81533-112	NO
07/17/2001	800A	81533-127	NO
07/17/2001	875	81533-234	NO
07/17/2001	949	81533-203	NO
07/17/2001	1220A	81533-184	NO
07/17/2001	2000B	192486-38	NO
01/02/2002	257	81533-200	NO
01/02/2002	283C	81533-229	NO
01/02/2002	290B	81533-224	NO
01/02/2002	290B	81533-225	NO
01/02/2002	491	90010-71	NO
01/02/2002	605	81533-85	NO
01/02/2002	678	81533-105	NO
01/02/2002	699	81533-236	NO
01/02/2002	699	81533-238	NO
01/02/2002	699	81533-237	NO
01/02/2002	699	81533-235	NO
01/02/2002	801B	81533-129	NO
01/02/2002	804A	81533-130	NO
01/02/2002	2337	81515-65	NO
01/02/2002	2562A	81515-41	NO
01/02/2002	2707	81515-50	NO
01/02/2002	2707	81515-49	NO
01/02/2002	2707	81515-51	NO
01/02/2002	2707	81515-47	NO
01/02/2002	2707	81515-48	NO

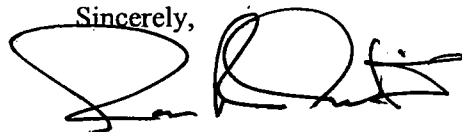
Submittal Date	Building No.	NJDEP Reg. #	Residential
02/13/2002	2044	192486-24	NO
02/13/2002	2044	192486-32	NO
02/13/2002	2044	192486-33	NO
02/26/2002	208B	81533-210	YES
03/05/2002	246	N/A	YES
03/05/2002	261B	N/A	YES
05/15/2002	106	90010-74	NO
05/15/2002	164	90010-15	NO
05/15/2002	173	90010-19	NO
05/15/2002	200	81533-2	NO
05/15/2002	208A	81533-6	YES
05/15/2002	233	81533-21	YES
05/15/2002	237	81533-25	YES
05/15/2002	271	81533-55	YES
05/15/2002	277	90010-24	NO
05/15/2002	296B	81533-217	NO
05/15/2002	296B	81533-223	NO
05/15/2002	296B	81533-221	NO
05/15/2002	296B	81533-220	NO
05/15/2002	296B	81533-222	NO
05/15/2002	296B	81533-218	NO
05/15/2002	296B	81533-216	NO
05/15/2002	296B	81533-215	NO
05/15/2002	296B	81533-214	NO
05/15/2002	296B	81533-213	NO
05/15/2002	296B	81533-219	NO
05/15/2002	426	90010-40	NO
05/15/2002	482	90010-54	NO
05/15/2002	600 A	81533-83	NO
05/15/2002	600 B	81533-212	NO
05/15/2002	611	81533-87	NO
05/15/2002	615	81533-89	NO
05/15/2002	618	81533-91	NO
05/15/2002	619	81533-92	NO
05/15/2002	621	81533-94	NO
05/15/2002	634	N/A	NO
05/15/2002	638	N/A	NO
05/15/2002	639-2	N/A	NO
05/15/2002	640	N/A	NO
05/15/2002	641	N/A	NO
05/15/2002	644	N/A	NO
05/15/2002	664	N/A	NO
05/15/2002	666	N/A	NO
05/15/2002	686	81533-107	NO
05/15/2002	697	81533-194	NO
05/15/2002	697	81533-195	NO

Submittal Date	Building No.	NJDEP Reg. #	Residential
05/15/2002	697	81533-196	NO
05/15/2002	876B	81533-139	NO
05/15/2002	886	81533-140	NO
05/15/2002	905	81533-145	NO
05/15/2002	1102	81533-162	NO
05/15/2002	1104	81533-164	NO
05/15/2002	2067	192486-37	NO
05/15/2002	2534	81515-24	NO
05/15/2002	2603	81515-60	NO
05/15/2002	2700 2,6	81515-61	NO

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

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

Sincerely,



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

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 247 (Gosselin Ave.)**

Registration ID: 81533-34

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 10/7/1998

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 1998 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The Building 247 soil sample results were non-detected (ND) for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #98-0001

32 GOSSELIN AVE.

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
32-A	3966.01	Soil	07-Oct-98 13:35	10/07/98
32-B	3966.02	Soil	07-Oct-98 13:45	10/07/98
32-C	3966.03	Soil	07-Oct-98 13:49	10/07/98
32-D	3966.04	Soil	07-Oct-98 14:01	10/07/98
Dup.	3966.05	Soil	07-Oct-98	10/07/98

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Daniel Wright/Date
Laboratory Director

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

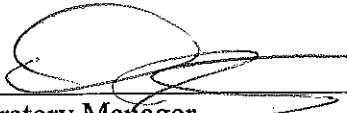
_____ | <u>no</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>N/A</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____



Laboratory Manager

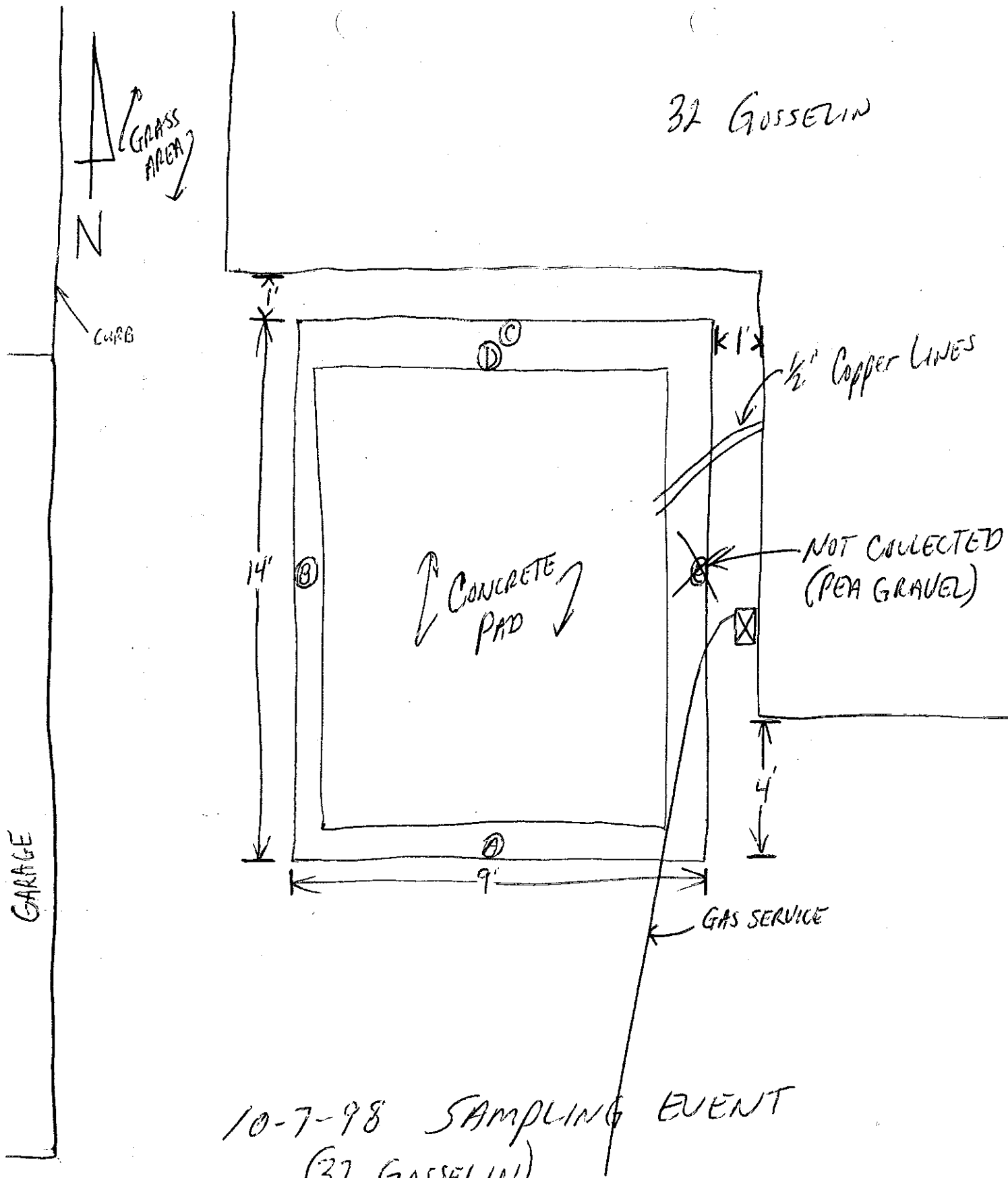
11/16/98

Date

A grainy, high-contrast black and white photograph. The central focus is a large, dark, and heavily textured object that resembles a piece of industrial machinery or perhaps a large animal in a dark environment. The object has a complex, almost organic shape with various protrusions and recesses. The background is dark and indistinct, with some lighter, blurry shapes that suggest an industrial or urban setting. The overall mood is mysterious and somewhat ominous due to the high contrast and grain.

NJDEP Certification #13461

[illegible]



10-7-98 SAMPLING EVENT
(32 GOSSELIN)
NOTE: GW NOT ENCOUNTERED

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 3966
Date Rec'd: 07-Oct-98
Analysis Start: 08-Oct-98
Analysis Complete: 09-Oct-98

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

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: 32 Gosselin Ave.

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3966.01	32-A	1.00	15.14	90.59	171	ND
3966.02	32-B	1.00	15.41	89.81	170	ND
3966.03	32-C	1.00	15.09	86.88	179	ND
3966.04	32-D	1.00	15.77	85.08	175	ND
3966.05	32-DUP	1.00	15.25	91.32	169	ND
METHOD BLANK	TBLK 179	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|-------------------------------------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

Laboratory Manager or Environmental Consultant's Signature _____

Date 11 / 16 / 94

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke extending to the right, positioned above a solid horizontal line.

Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 248 (Gosselin Ave.)**

Registration ID: 81533-35

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 10/15/1998

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 1998 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The Building 248 soil sample results were non-detected (ND) for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIROMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #98-0001

31 GOSSELIN AVE.

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
31-A	3977.01	Soil	15-Oct-98 13:32	10/15/98
31-B	3977.02	Soil	15-Oct-98 13:38	10/15/98
31-C	3977.03	Soil	15-Oct-98 14:11	10/15/98
31-D	3977.04	Soil	15-Oct-98 13:28	10/15/98
31-E	3977.05	Soil	15-Oct-98 13:51	10/15/98
31-F	3977.06	Soil	15-Oct-98 13:45	10/15/98
Dup.	3977.07	Soil	15-Oct-98	10/15/98

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

 11/16/98
Daniel Wright/Date
Laboratory Director

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

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Laboratory Authentication Statement	37

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

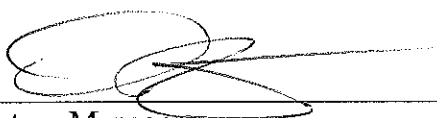
_____ | <u>No</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>N/A</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____



Laboratory Manager

11/16/98

Date

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELF-M-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

Customer: Charles Appleby		Project No: 98-0001		Analysis Parameters			Comments:	
Phone #: X26224		Location: 31 GUSSELIN AVE.		VOA+15		VOA ID Number		Remarks / Preservation Method
() DERA (X) JOMA UST Assessment		UST #		% SOLIDS		VOA		
Samplers Name / Company : Gary DiMartinis TVS				Sample #	Type	Time	Date	
Lab Sample I.D.	Sample Location	Date	Time	bottles	TPHC	% SOLIDS	VOA ID Number	
3977. 01	31-A	10-15-98	1332	Soil	X	X		ND SIDEWALL @ 5.5' *
02	B		1338					ND
03	C		1411					ND
04	D		1328					ND
05	E		1351					ND Exc. Floor @ 8.0'
06	F		1345					ND Piping Run @ 2.0'
07	DUP							- FIELD DUPLICATE
Note: OVA (#A51903) Calibrated With 95 ppm Methane & Zero Air @ 1315 on 10-15-98 by Gary DiMartinis								
Relinquished by (signature):		Date/Time: 10-15-98 1500		Received by (signature):		Date/Time:		Received by (signature):
Relinquished by (signature):		Date/Time:		Received by (signature):		Date/Time:		Received by (signature):
Report Type: () Full, (X) Reduced, () Standard, () Screen / non-certified				Remarks:				
Turnaround time: () Standard 4 wks, (X) Rush 3 Days, () ASAP Verbal Hrs.				Dedicated Sampling Tools Used				

print legibly

Page 1 of 1

USTococ.xls10/6/98

0004

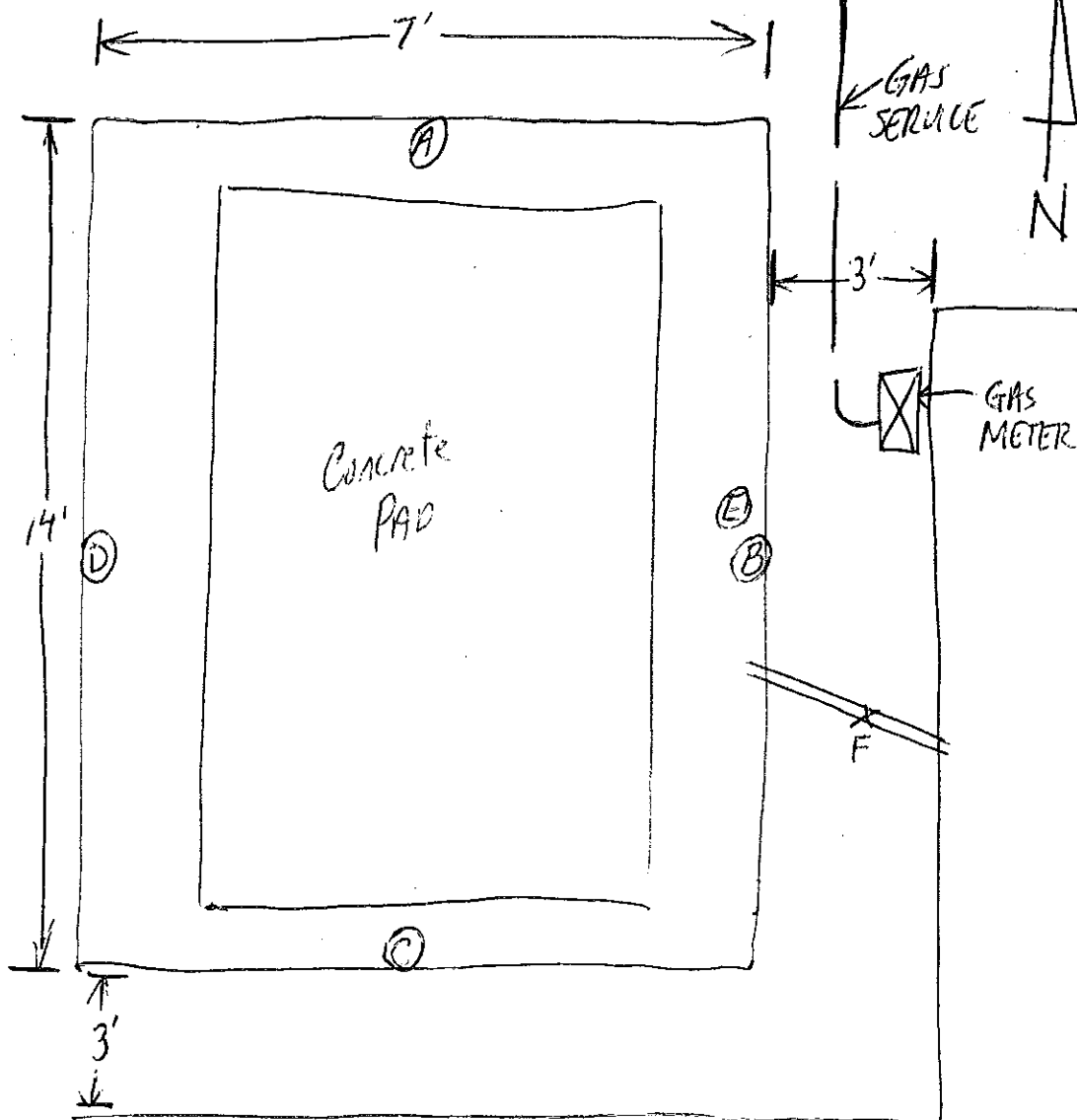
GARAGE

Asphalt

ELECTRIC
(STREET
LIGHT)

A 1332 ND
B 1338 ND
C 1411 ND
D 1328 ND
E 1351 ND
F 1345 ND

[GRASS
AREA]



31 GOSSELIN

10-15-98 SAMPLING EVENT
NOTE: GW NOT ENCOUNTERED

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 3977
Date Rec'd: 15-Oct-98
Analysis Start: 16-Oct-98
Analysis Complete: 19-Oct-98

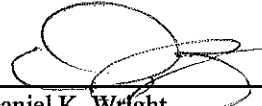
Analysis: OQA-QAM-025
Matrix: Soil
Analyst: D.DEINHARDT
Inst. ID. GC TPHC INST. #1
Column Type RTX 5
Ext. Meth: Shake

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: 31 Gosselin Ave.

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3977.01	31-A	1.00	15.96	88.50	166	ND
3977.02	31-B	1.00	15.53	86.67	175	ND
3977.03	31-C	1.00	15.09	86.33	180	ND
3977.04	31-D	1.00	15.01	89.11	176	ND
3977.05	31-E	1.00	15.15	81.76	190	ND
3977.06	31-F	1.00	15.08	86.08	181	ND
3977.07	31-DUP	1.00	15.23	86.58	178	ND
METHOD BLANK	TBLK 181	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|-------------------------------------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

Laboratory Manager or Environmental Consultant's Signature

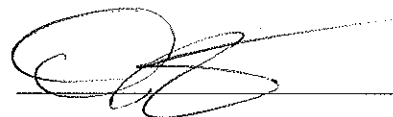
Date 11/16/96

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, appearing to read 'DK Wright', is written over a horizontal line.

Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 249 (Gosselin Ave.)**

Registration ID: 81533-36

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 11/12/1998

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 1998 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The Building 249 soil sample results were non-detected (ND) for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #98-0001

34 GOSSELIN AVE.

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
34-A	4051.01	Soil	12-Nov-98 14:16	11/12/98
34-B	4051.02	Soil	12-Nov-98 14:24	11/12/98
34-C	4051.03	Soil	12-Nov-98 14:30	11/12/98
34-D	4051.04	Soil	12-Nov-98 14:19	11/12/98
Dup.	4051.05	Soil	12-Nov-98	11/12/98

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB.
TPHC, %SOLIDS

 11/24/98
Daniel Wright/Date
Laboratory Director

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

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Continuing Calibration Summary	13-16
Surrogate Results Summary	17
MS/MSD Results Summary	18
Blank Spike Summary	19
Raw Sample Data	20-31
Laboratory Deliverable Checklist	32
Laboratory Authentication Statement	33

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is then removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>Yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

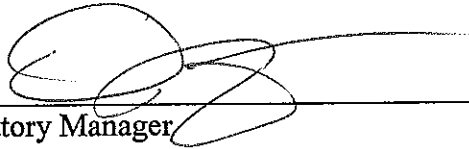
_____ | <u>Yes</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>Yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>Yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>Yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>Yes</u> |

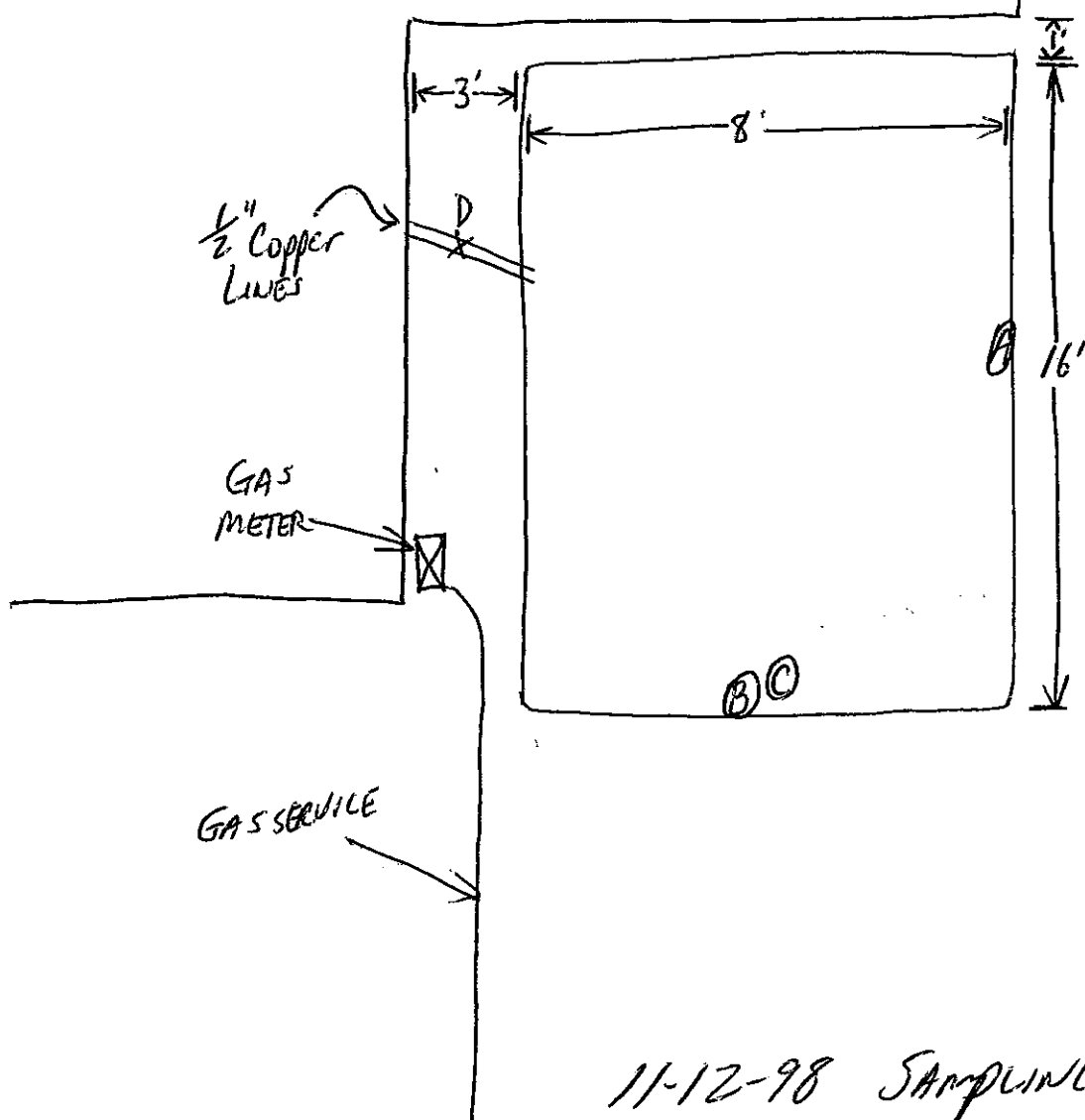
Additional comments: _____



Laboratory Manager

11/24/98
Date

34 GOSSELIN AVE.



11-12-98 SAMPLING EVENT

NOTE: GW NOT ENCOUNTERED.

COULD NOT COLLECT SAMPLES ALONG BLDG. ON 2-SIDES AS
PEA GRAVEL EXTENDS TO BLDG. FOOTING.

0005

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 4051
Date Rec'd: 12-Nov-98
Analysis Start: 13-Nov-98
Analysis Complete: 16-Nov-98

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

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: 34 Gosselin Ave.

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4051.01	34-A	1.00	15.14	90.98	171	ND
4051.02	34-B	1.00	15.84	90.71	164	ND
4051.03	34-C	1.00	15.14	92.12	168	ND
4051.04	34-D	1.00	15.50	88.64	171	ND
4051.05	34-DUP	1.00	15.22	90.92	170	ND
METHOD BLANK	TBLK 189	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|-------------------------------------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

Laboratory Manager or Environmental Consultant's Signature

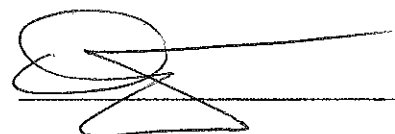
Date 11/24/94

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, consisting of a large, stylized 'D' followed by a series of loops and a long horizontal stroke extending to the right.

Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 250 (Gosselin Ave.)**

Registration ID: 81533-37

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 11/16/1998

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

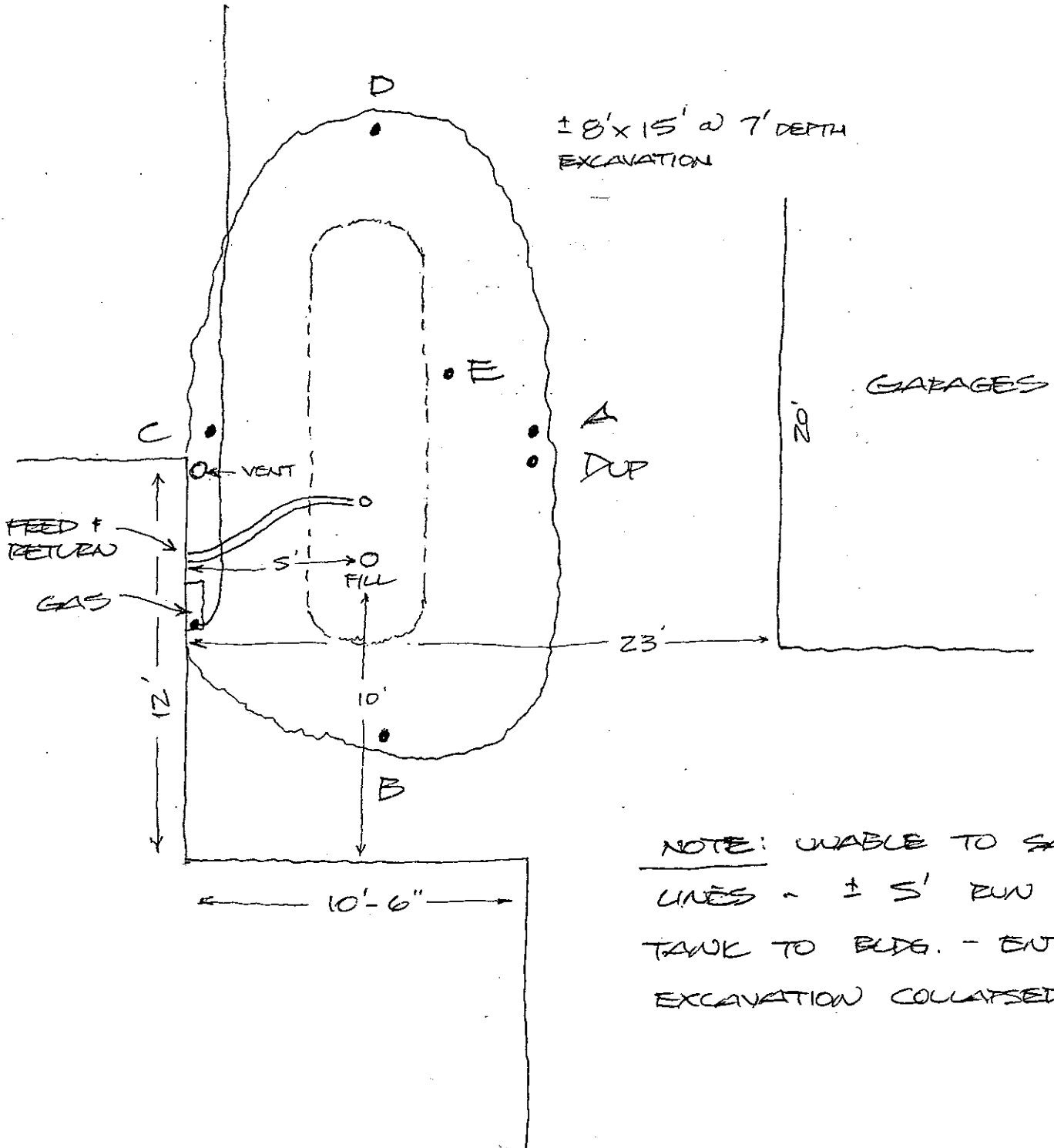
Soil samples were collected from the tank excavation in 1998 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The Building 250 soil sample results were non-detected (ND) for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

33 Gosselin



NOTE: UNABLE TO SAMPLE
LINES - ± 5' RUN FROM
TANK TO BLDG. - ENTIRE
EXCAVATION COLLAPSED!

GOSSELIN

B250 Apt #33

PREPARED BY

SKIP

DATE

9/23

N

SALTZMAN
AVE

GRASS

GARAGE

B335

VENT

5'
Supply
return

FILL

OLD VENT
AREA

B250

Apt #33

ASPHALT

PARKING
LOT

GRS

Gosselin Ave



FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461

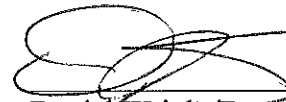


ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #98-0001

33 GOSSELIN AVE.

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
A-East Wall	4059.01	Soil	17-Nov-98 14:30	11/17/98
Duplicate	4059.02	Soil	17-Nov-98 14:35	11/17/98
B-South Wall	4059.03	Soil	17-Nov-98 14:40	11/17/98
C-West Wall	4059.04	Soil	17-Nov-98 14:45	11/17/98
D-North Wall	4059.05	Soil	17-Nov-98 14:50	11/17/98
E-Floor	4059.06	Soil	17-Nov-98 14:55	11/17/98

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB.
TPHC, %SOLIDS


Daniel Wright/Date
Laboratory Director

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

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MS/MSD Results Summary	13
Blank Spike Summary	14
Raw Sample Data	15-28
Laboratory Deliverable Checklist	29
Laboratory Authentication Statement	30

Method Summary

NJDEP Method OOA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>Yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

_____ | <u>No</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>Yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>Yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>N/A</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>Yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>Yes</u> |

Additional comments: _____

Laboratory Manager

11/24/98
Date

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

Customer: <u>C. Appleby</u>		Project No: <u>99-0008</u>		Analysis Parameters		Comments:	
Phone #: <u>826224</u>		Location: <u>33 GOSSELIN</u>					
() DERA (X) OMA () Other: _____		Samplers Name / Company: <u>ENVIRONMENTAL T.V.S.</u>					
Lab Sample ID.	Sample Location	Date	Time	Sample Type	# bottles	Remarks / Preservation Method	
4059. 01	A - EAST WALL	11/16/98	1430	SOIL	1	ND	6.5' DEPTH
02	DUPLICATE		1435		1	ND	
03	B - SOUTH WALL		1440		1	ND	6.5'-7' DEPTH
04	C - WEST WALL		1445		1	ND	6.5' DEPTH
05	D - NORTH WALL		1450		1	ND	6.5'-7' DEPTH
06	E - FLOOR		1455		1	ND	8' DEPTH
							NOTE - UNABLE TO SAMPLE LINES 5' RUN - COLLAPSED INTO EXCAVATION.
Relinquished by (signature): <u>[Signature]</u>		Date/Time: <u>11/17/98 0800</u>	Received by (signature): <u>[Signature]</u>		Date/Time:	Received by (signature):	
Relinquished by (signature):		Date/Time:	Relinquished by (signature):		Date/Time:	Received by (signature):	
Report Type: () Full, (X) Reduced, () Standard, () Screen / non-certified				Remarks:			
Turnaround time: (X) Standard 4 wks, () Rush _____ Days, () ASAP Verbal _____ Hrs.							

0004

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 4059
Date Rec'd: 17-Nov-98
Analysis Start: 17-Nov-98
Analysis Complete: 20-Nov-98

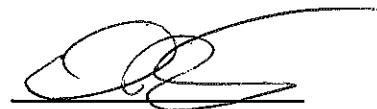
Analysis: OQA-QAM-025
Matrix: Soil
Analyst: D.DEINHARDT
Inst. ID: GC TPHC INST. #1
Column Type: RTX 5
Ext. Meth: Shake

UST Reg. #:
Closure #:
DICAR #:
Injection Volume: 1 ul
Column ID: 0.32 um
Location #: 33 Gosselin Ave.

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4059.01	A-EAST WALL	1.00	15.19	85.64	181	ND
4059.02	DUPLICATE	1.00	15.09	82.48	189	ND
4059.03	B-SOUTH WALL	1.00	14.99	84.60	185	ND
4059.04	C-WEST WALL	1.00	15.27	82.19	187	ND
4059.05	D-NORTH WALL	1.00	15.10	88.61	176	ND
4059.06	E-FLOOR	1.00	14.99	81.68	192	ND
METHOD BLANK	TBLK 190	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

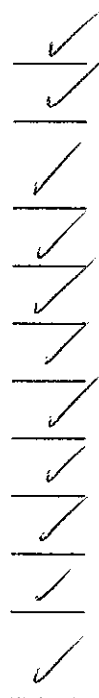
LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted
2. Table of Contents submitted
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted
4. Document paginated and legible
5. Chain of Custody submitted
6. Samples submitted to lab within 48 hours of sample collection
7. Methodology Summary submitted
8. Laboratory Chronicle and Holding Time Check submitted
9. Results submitted on a dry weight basis
10. Method Detection Limits submitted
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP



Laboratory Manager or Environmental Consultant's Signature

Date 11 / 24 / 96

A large, stylized handwritten signature in black ink, written over a horizontal line.

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, consisting of a large, stylized 'D' followed by a series of loops and a horizontal line extending to the right.

Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 251 (Gosselin Ave.)**

Registration ID: 81533-38

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 11/2/1998

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Tanks 251 and 253 were located adjacent to each other, and both the 251 and 253 UST areas were sampled as a single excavation. Soil samples were collected from the tank excavation in 1998 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The Building 251 soil sample results were non-detected (ND) for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #98-0001

40-42 GOSSELIN AVE.

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
40,42-A	4021.01	Soil	02-Nov-98 13:38	11/02/98
40,42-B	4021.02	Soil	02-Nov-98 13:41	11/02/98
40,42-C	4021.03	Soil	02-Nov-98 13:48	11/02/98
40,42-D	4021.04	Soil	02-Nov-98 13:53	11/02/98
40,42-E	4021.05	Soil	02-Nov-98 14:01	11/02/98
40,42-F	4021.06	Soil	02-Nov-98 14:04	11/02/98
40,42-G	4021.07	Soil	02-Nov-98 14:15	11/02/98
40,42-H	4021.08	Soil	02-Nov-98 14:19	11/02/98
Dup.	4021.09	Soil	02-Nov-98	11/02/98

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB.
TPHC, %SOLIDS


Daniel Wright/Date
Laboratory Director

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

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MS/MSD Results Summary	16
Blank Spike Summary	17
Raw Sample Data	18-37
Laboratory Deliverable Checklist	38
Laboratory Authentication Statement	39

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

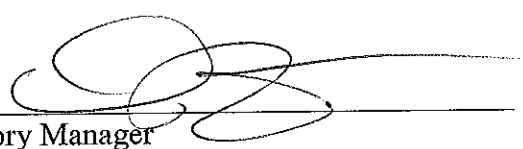
_____ | <u>NO</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____



Laboratory Manager

11/24/98
Date

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

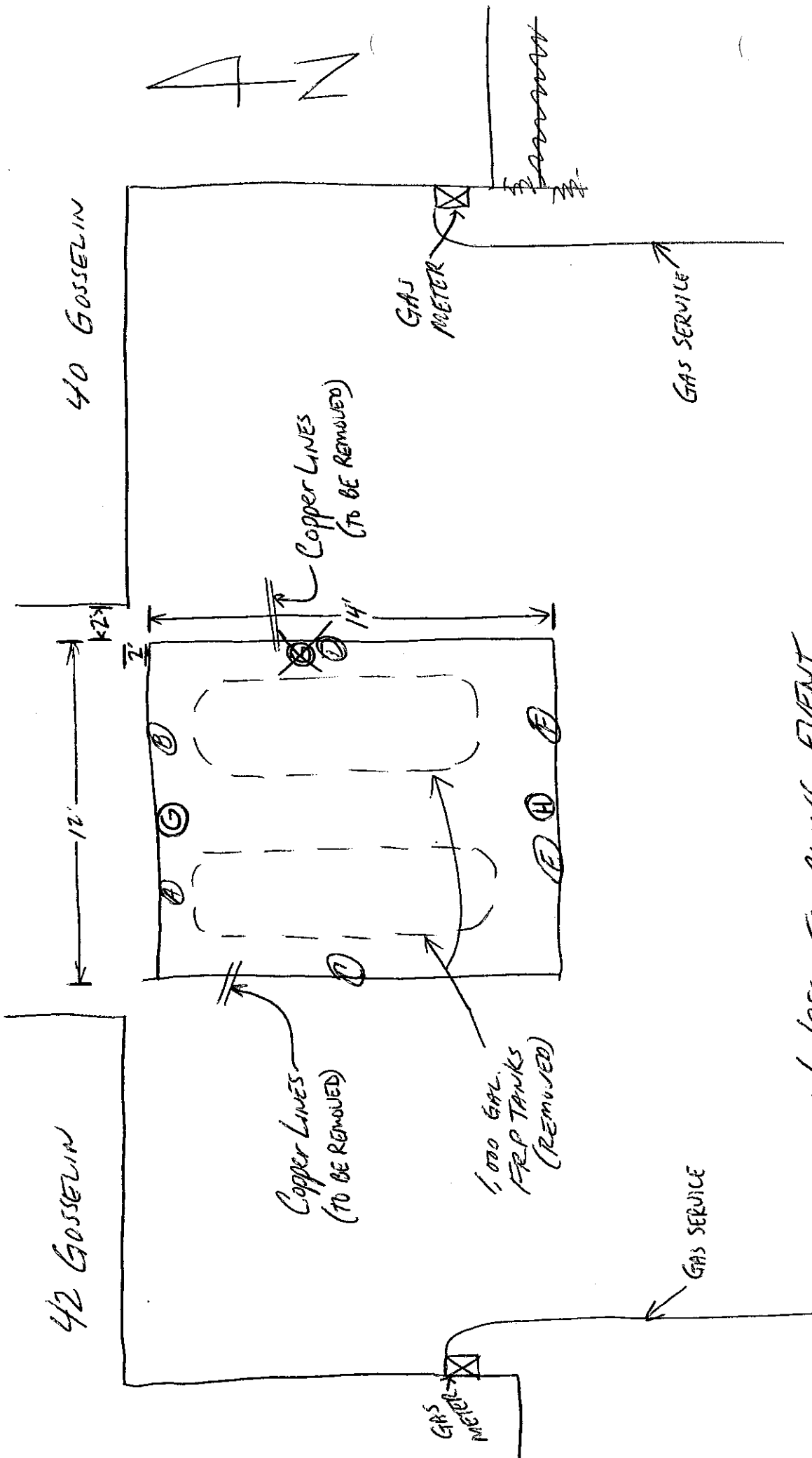
Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

Customer: Charles Appleby		Project No: 98-0001		Analysis Parameters				Comments:	
Phone #: X26224		Location: 4042 GOSSELIN AVE.		VOA+15		VOA ID Number		* = Samples Kept <4 Celsius	
() DERA (X) OMA UST Assessment		UST#		% SOLIDS		VOA ID Number		Remarks / Preservation Method	
Samplers Name / Company : Gary DiMartinis TVS				TPHC		VOA ID Number		Remarks / Preservation Method	
Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	% SOLIDS	VOA ID Number	Remarks / Preservation Method	
4021, 01	4042-A	11-2-98	1338	SOIL	1	X		ND	SIDEWALL @ 5.5' *
02	B		1341					ND	
03	C		1348					ND	
04	D		1353					ND	
05	E		1401					ND	
06	F		1404					ND	
07	G		1415					ND	EXC. FLOOR @ 8.5'
08	H		1419					ND	
09	DUP							-	FIELD DUPLICATE
Note: OVA (#A51903) Calibrated With 95 ppm Methane & Zero Air @ 1315 on 11-2-98 by Gary DiMartinis									
Relinquished by (signature):		Date/Time:		Received by (signature):		Date/Time:		Received by (signature):	
<i>[Signature]</i>		11-2-98/1500		<i>[Signature]</i>					
Relinquished by (signature):		Date/Time:		Received by (signature):		Date/Time:		Received by (signature):	
<i>[Signature]</i>				<i>[Signature]</i>					
Report Type: () Full, () Reduced, () Standard, () Screen / non-certified				Remarks:					
Turnaround time: () Standard 4 wks, () Rush 3 Days, () ASAP Verbal Hrs.				Dedicated Sampling Tools Used					

0004



11/2/98 SAMPLING EVENT
 NOTE: GW NOT ENCOUNTERED

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 4021
Date Rec'd: 02-Nov-98
Analysis Start: 03-Nov-98
Analysis Complete: 04-Nov-98

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

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: 40,42 Gosselin Ave.

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4021.01	40,42-A	1.00	15.21	86.93	178	ND
4021.02	40,42-B	1.00	15.95	82.97	178	ND
4021.03	40,42-C	1.00	15.71	90.77	165	ND
4021.04	40,42-D	1.00	15.40	88.85	172	ND
4021.05	40,42-E	1.00	15.61	90.19	167	ND
4021.06	40,42-F	1.00	15.08	91.20	171	ND
4021.07	40,42-G	1.00	15.69	85.46	175	ND
4021.08	40,42-H	1.00	15.60	83.32	181	ND
4021.09	40,42-DUP	1.00	15.01	85.88	182	ND
METHOD BLANK	TBLK 187	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

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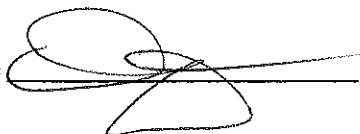
It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

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2. Table of Contents submitted
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5. Chain of Custody submitted
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7. Methodology Summary submitted
8. Laboratory Chronicle and Holding Time Check submitted
9. Results submitted on a dry weight basis
10. Method Detection Limits submitted
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP

✓
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✓

Laboratory Manager or Environmental Consultant's Signature

Date 11/24/96

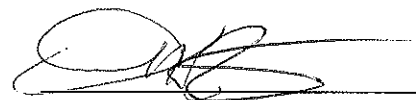


Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, appearing to read 'DK Wright', is written over a horizontal line.

Daniel K. Wright
Laboratory Manager

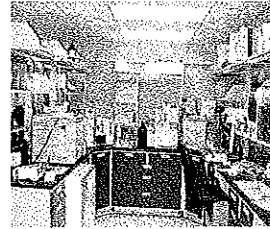
FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #98-0001

40-42 GOSSELIN AVE.

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
40,42-I	4033.01	Soil	06-Nov-98 09:28	11/06/98
40,42-J	4033.02	Soil	06-Nov-98 09:47	11/06/98
Dup.	4033.03	Soil	06-Nov-98	11/06/98

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB.
TPHC, %SOLIDS

 11/24/98
Daniel Wright/Date
Laboratory Director

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

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Blank Spike Summary	16
Raw Sample Data	17-24
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Laboratory Authentication Statement	26

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Water

A thousand mL (1000 mL) of an aqueous sample is added to a 2000 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to a filter lined collection funnel. Surrogate standard spiking solution is then added to the water sample.

Twenty five milliliters(25mL) Methylene Chloride is added to the separatory funnel. The sample is shaken vigorously for 2 minutes. The sample is then removed from the separatory funnel by pouring the accumulated methylene chloride through the collection funnel. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the separatory funnel and shaken for an additional 2 minutes. The sample is again removed by pouring through the collection funnel. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using total volume, and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

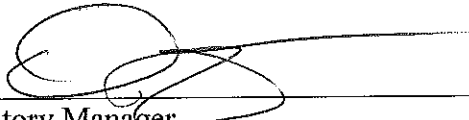
_____ | <u>yes</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

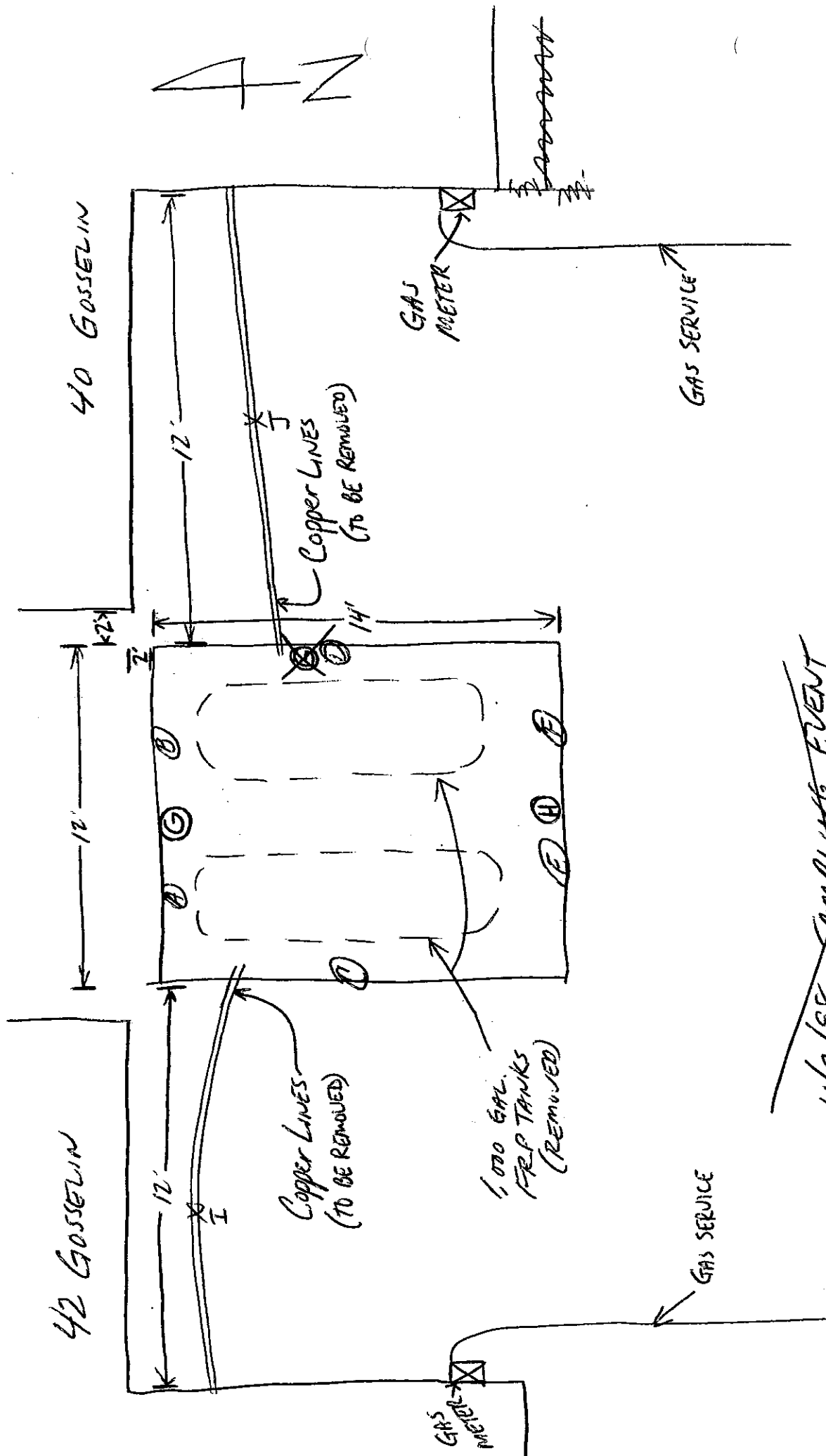
_____ | <u>yes</u> |

Additional comments: _____



Laboratory Manager

11/24/98
Date



~~11/2/98 SAMPLING EVENT~~
~~NOTE: GW NOT ENCOUNTERED~~

11/6/98 SAMPLING EVENT - Piping Samples

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 4033
Date Rec'd: 06-Nov-98
Analysis Start: 09-Nov-98
Analysis Complete: 10-Nov-98

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

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: 40,42 Gosselin Ave.

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4033.01	40,42-I	1.00	15.16	86.39	179	274.48
4033.02	40,42-J	1.00	15.49	89.47	170	ND
4033.03	40,42-DUP	1.00	15.13	85.68	181	ND
METHOD BLANK	TBLK 188	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
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It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted
2. Table of Contents submitted
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted
4. Document paginated and legible
5. Chain of Custody submitted
6. Samples submitted to lab within 48 hours of sample collection
7. Methodology Summary submitted
8. Laboratory Chronicle and Holding Time Check submitted
9. Results submitted on a dry weight basis
10. Method Detection Limits submitted
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP

✓
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✓
✓
✓

Laboratory Manager or Environmental Consultant's Signature

Date 11/24/98

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, consisting of several loops and a horizontal line extending to the right.

Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 252 (Gosselin Ave.)**

Registration ID: 81533-39

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 12/9/1998

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 1998 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The Building 252 soil sample results were non-detected (ND) for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

Field notes with an accompanying sketch map indicate that an older 1000-gallon UST was removed from the vicinity just west of the fiberglass tank on 4/26/1991. No additional records or analytical data for this older tank have been encountered; therefore the information is unconfirmed and does not make a compelling case for additional sampling.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: _____



Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461

ANALYTICAL DATA REPORT

Fort Monmouth Environmental Laboratory

ENVIRONMENTAL DIVISION

Fort Monmouth, New Jersey

PROJECT: #99-0008

39 GOSSELIN

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
A West Wall	4127.01	Soil	09-Dec-98 14:30	12/09/98
B North Wall	4127.02	Soil	09-Dec-98 14:35	12/09/98
C Floor	4127.03	Soil	09-Dec-98 14:40	12/09/98
Dup.	4127.04	Soil	09-Dec-98	12/09/98

ANALYSIS:

FORT MONMOUTH ENVIRONMENTAL LAB.

TPHC, %SOLIDS

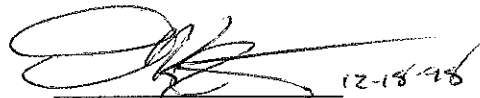

Daniel Wright/Date
Laboratory Director

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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>Yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

_____ | <u>NO</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>Yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>Yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>Yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>Yes</u> |

Additional comments: _____

Laboratory Manager

12-18-48

Date

000002

Chain of Custody Record

Customer: C. Appleby		Project No: 99-0008	
Phone #: 426224		Location: 39 GOSSELIN	
() DERA ()OMA ()Other:			
Samplers Name / Company: Gary Amelio TNS		Sample #	
Lab Sample ID	Sample Location	Date	Time

[illegible]

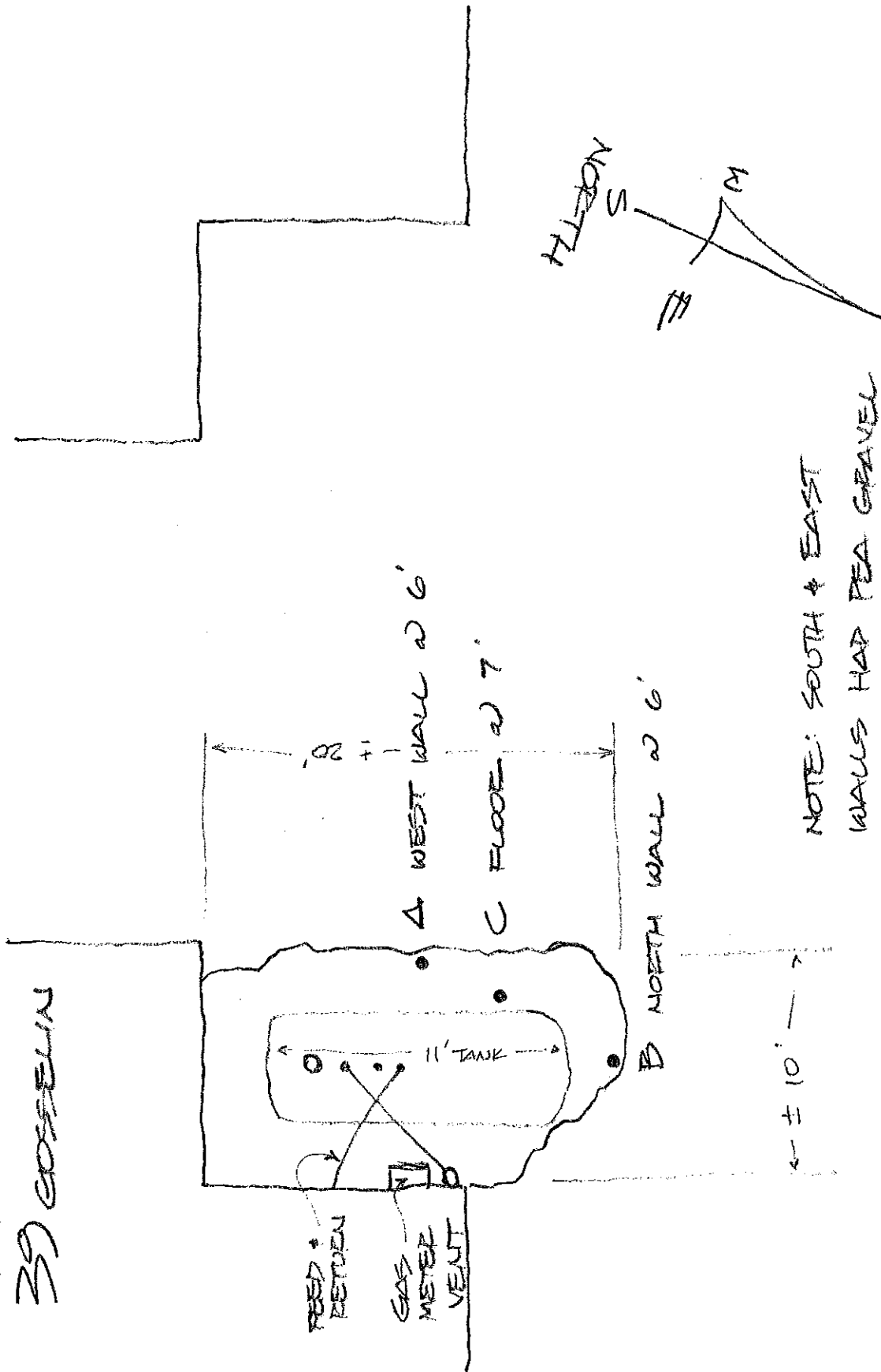
Relinquished by (signature): 	Date/Time: 12/05/98 1510	Received by (signature): 	Relinquished by (signature):	Date/Time:	Received by (signature):
Relinquished by (signature): 	Date/Time:	Received by (signature): 	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ☐ Full, ☐ Reduced, ☒ Standard, ☐ Screen / non-certified	Remarks:
Turnaround time: ☒ Standard 4 wks. ☐ Rush Days. ☐ ASAP Verbal Hrs.	

12/09/98

SPRING - COLD - 40°

39 GOSSELIN



NOTE: SOUTH & EAST
WALLS HAD PEA GRAVEL
TO FOUNDATION!

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 4127
Date Rec'd: 09-Dec-98
Analysis Start: 10-Dec-98
Analysis Complete: 11-Dec-98

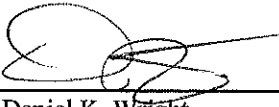
Analysis: OQA-QAM-025
Matrix: Soil
Analyst: D.DEINHARDT
Inst. ID. GC TPHC INST. #1
Column Type RTX 5
Ext. Meth: Shake

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: 49 Gosselin

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4127.01	A west wall	1.00	14.96	84.61	186	ND
4127.02	B North wall	1.00	15.07	83.76	186	ND
4127.03	C Floor	1.00	15.31	86.73	177	ND
4127.04	Dup	1.00	15.43	84.02	181	ND
METHOD BLANK	TBLK 197	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

000005

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|-------------------------------------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

Laboratory Manager or Environmental Consultant's Signature

Date 12 / 14 / 94

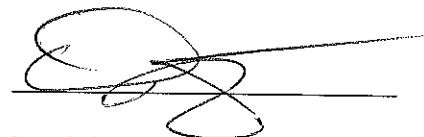
Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

000027

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, appearing to read 'Daniel K. Wright', is written over a horizontal line.

Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 253 (Gosselin Ave.)**

Registration ID: 81533-40

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 11/2/1998

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Tanks 251 and 253 were located adjacent to each other, and both the 251 and 253 UST areas were sampled as a single excavation. Soil samples were collected from the tank excavation in 1998 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The Building 253 soil sample results ranged from non-detected (ND) to 274 mg/kg for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #98-0001

40-42 GOSSELIN AVE.

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
40,42-A	4021.01	Soil	02-Nov-98 13:38	11/02/98
40,42-B	4021.02	Soil	02-Nov-98 13:41	11/02/98
40,42-C	4021.03	Soil	02-Nov-98 13:48	11/02/98
40,42-D	4021.04	Soil	02-Nov-98 13:53	11/02/98
40,42-E	4021.05	Soil	02-Nov-98 14:01	11/02/98
40,42-F	4021.06	Soil	02-Nov-98 14:04	11/02/98
40,42-G	4021.07	Soil	02-Nov-98 14:15	11/02/98
40,42-H	4021.08	Soil	02-Nov-98 14:19	11/02/98
Dup.	4021.09	Soil	02-Nov-98	11/02/98

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB.
TPHC, %SOLIDS

 11/24/98
Daniel Wright/Date
Laboratory Director

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

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MS/MSD Results Summary	16
Blank Spike Summary	17
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Laboratory Authentication Statement	39

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

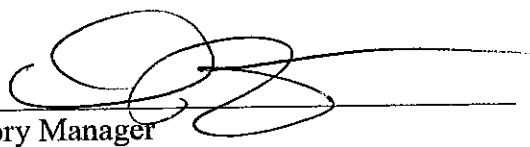
_____ | <u>NO</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____



Laboratory Manager

11/24/98
Date

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

Customer: Charles Appleby		Project No: 98-0001		Analysis Parameters				Comments: * = Samples Kept <4 Celsius			
Phone #: X26224		Location: 4042 Gosselin Ave.									
() DERA (X) OMA UST Assessment		UST#		% SOLIDS		VOA+15		VOA ID Number		OVA	
Samplers Name / Company : Gary DiMartinis TVS				Sample #		TPHC		Remarks / Preservation Method			
Lab Sample I.D.	Sample Location	Date	Time	Type	bottles						
4021.01	4042-A	11-2-98	1338	SOIL	1	ND SIDEWALL @ 5.5' *					
02	B		1341			ND					
03	C		1348			ND					
04	D		1353			ND					
05	E		1401			ND					
06	F		1404			ND					
07	G		1415			ND EXC. FLOOR @ 8.5'					
08	H		1419			ND					
09	DUP					FIELD DUPLICATE					
Note: OVA (#A51903) Calibrated With 95 ppm Methane & Zero Air @ 1315 on 11-2-98 by Gary DiMartinis											
Relinquished by (signature):		Date/Time:		Received by (signature):		Date/Time:		Received by (signature):			
<i>[Signature]</i>		11-2-98 1500		<i>[Signature]</i>				<i>[Signature]</i>			
Relinquished by (signature):		Date/Time:		Received by (signature):		Date/Time:		Received by (signature):			
<i>[Signature]</i>				<i>[Signature]</i>				<i>[Signature]</i>			
Report Type: () Full, () Reduced, () Standard, () Screen / non-certified						Remarks:					
Turnaround time: () Standard 4 wks, () Rush 3 Days, () ASAP Verbal Hrs.						Dedicated Sampling Tools Used					

0004

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 4021
Date Rec'd: 02-Nov-98
Analysis Start: 03-Nov-98
Analysis Complete: 04-Nov-98

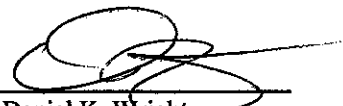
Analysis: OQA-QAM-025
Matrix: Soil
Analyst: D.DEINHARDT
Inst. ID. GC TPHC INST. #1
Column Type RTX 5
Ext. Meth: Shake

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: 40,42 Gosselin Ave.

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4021.01	40,42-A	1.00	15.21	86.93	178	ND
4021.02	40,42-B	1.00	15.95	82.97	178	ND
4021.03	40,42-C	1.00	15.71	90.77	165	ND
4021.04	40,42-D	1.00	15.40	88.85	172	ND
4021.05	40,42-E	1.00	15.61	90.19	167	ND
4021.06	40,42-F	1.00	15.08	91.20	171	ND
4021.07	40,42-G	1.00	15.69	85.46	175	ND
4021.08	40,42-H	1.00	15.60	83.32	181	ND
4021.09	40,42-DUP	1.00	15.01	85.88	182	ND
METHOD BLANK	TBLK 187	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted
2. Table of Contents submitted
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted
4. Document paginated and legible
5. Chain of Custody submitted
6. Samples submitted to lab within 48 hours of sample collection
7. Methodology Summary submitted
8. Laboratory Chronicle and Holding Time Check submitted
9. Results submitted on a dry weight basis
10. Method Detection Limits submitted
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP

✓
✓
✓
✓
✓
✓
✓
✓
✓
✓
✓

Laboratory Manager or Environmental Consultant's Signature

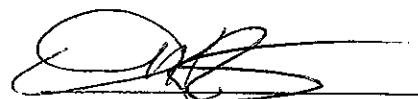
Date 11/24/96

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, appearing to read 'DK Wright', is written over a horizontal line.

Daniel K. Wright
Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #98-0001

40-42 GOSSELIN AVE.

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
40,42-I	4033.01	Soil	06-Nov-98 09:28	11/06/98
40,42-J	4033.02	Soil	06-Nov-98 09:47	11/06/98
Dup.	4033.03	Soil	06-Nov-98	11/06/98

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB.
TPHC, %SOLIDS

 11/24/98
Daniel Wright/Date
Laboratory Director

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

Table of Contents

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Laboratory Authentication Statement	26

Method Summary

NJDEP Method OQA-OAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Water

A thousand mL (1000 mL) of an aqueous sample is added to a 2000 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to a filter lined collection funnel. Surrogate standard spiking solution is then added to the water sample.

Twenty five milliliters(25mL) Methylene Chloride is added to the separatory funnel. The sample is shaken vigorously for 2 minutes. The sample is then removed from the separatory funnel by pouring the accumulated methylene chloride through the collection funnel. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the separatory funnel and shaken for an additional 2 minutes. The sample is again removed by pouring through the collection funnel. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using total volume, and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

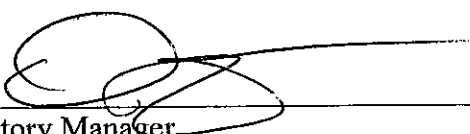
_____ | <u>yes</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____



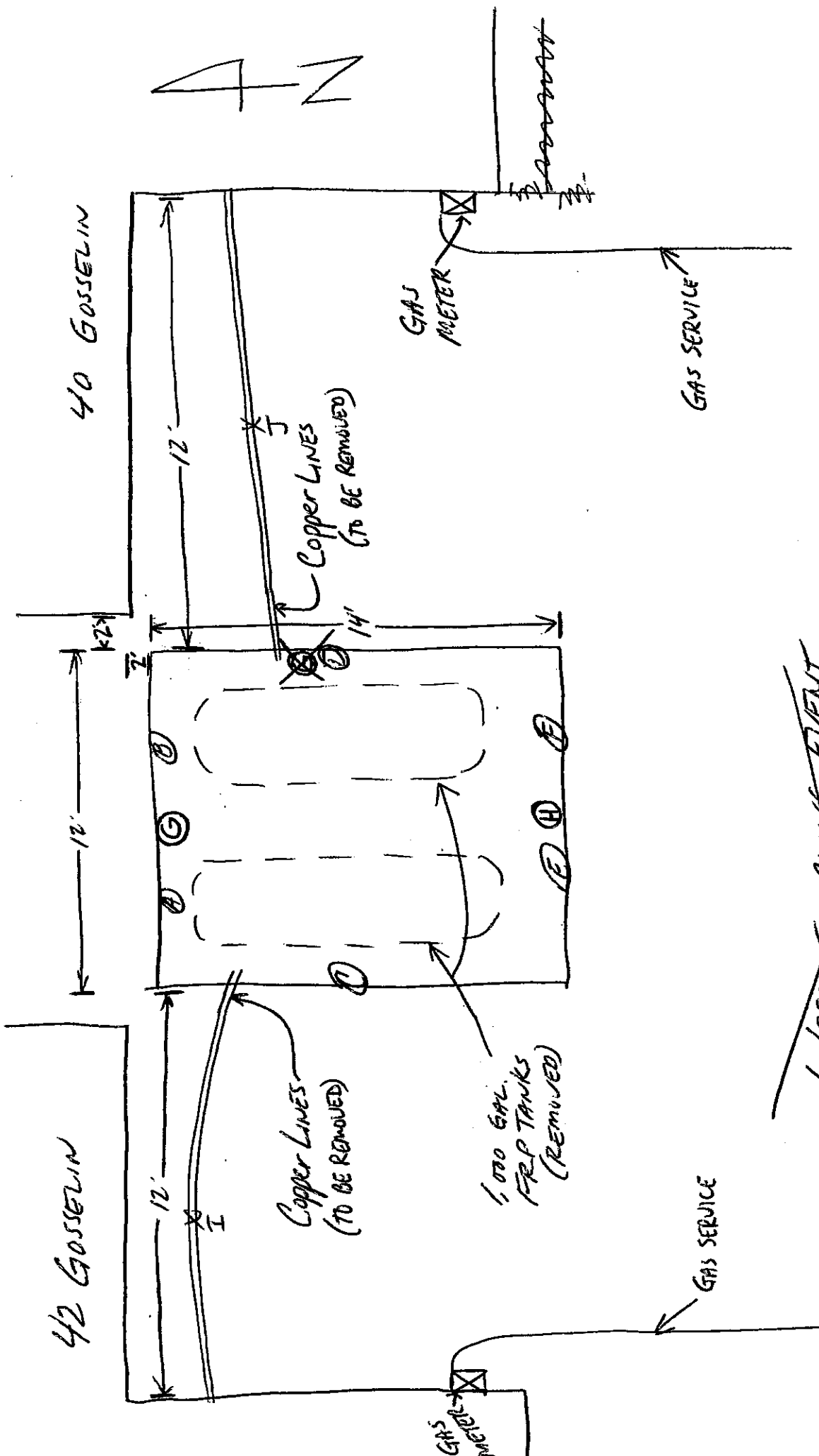
Laboratory Manager

11/24/98

Date

NJDEP Certification #13461

[illegible]



~~11/2/98 SAMPLING EVENT~~
~~NOTE: GW NOT ENCOUNTERED~~

14/6/98 SAMPLING EVENT - Piping Samples

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 4033
Date Rec'd: 06-Nov-98
Analysis Start: 09-Nov-98
Analysis Complete: 10-Nov-98

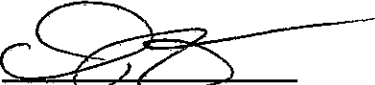
Analysis: OQA-QAM-025
Matrix: Soil
Analyst: D.DEINHARDT
Inst. ID. GC TPHC INST. #1
Column Type RTX 5
Ext. Meth: Shake

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: 40,42 Gosselin Ave.

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4033.01	40,42-I	1.00	15.16	86.39	179	274.48
4033.02	40,42-J	1.00	15.49	89.47	170	ND
4033.03	40,42-DUP	1.00	15.13	85.68	181	ND
METHOD BLANK	TBLK 188	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted
2. Table of Contents submitted
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted
4. Document paginated and legible
5. Chain of Custody submitted
6. Samples submitted to lab within 48 hours of sample collection
7. Methodology Summary submitted
8. Laboratory Chronicle and Holding Time Check submitted
9. Results submitted on a dry weight basis
10. Method Detection Limits submitted
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP

✓
✓
✓
✓
✓
✓
✓
✓
✓
✓
✓

Laboratory Manager or Environmental Consultant's Signature

Date 11/24/98

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, consisting of several overlapping loops and a long horizontal stroke extending to the right.

Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014 Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 254 (Gosselin Ave.)** Registration ID: 81533-41

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 11/20/1998

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Tanks 254 and 256 were located adjacent to each other, and both the 254 and 256 UST areas were sampled as a single excavation. Soil samples were collected from the tank excavation in 1998 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The soil sample results ranged from non-detected (ND) to 204 mg/kg for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT

Fort Monmouth Environmental Laboratory

ENVIRONMENTAL DIVISION

Fort Monmouth, New Jersey

PROJECT: #99-0008

43/45 Gosselin

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
A	4078.01	Soil	20-Nov-98 14:45	11/20/98
Duplicate	4078.02	Soil	20-Nov-98 14:50	11/20/98
B	4078.03	Soil	20-Nov-98 14:55	11/20/98
C	4078.04	Soil	20-Nov-98 15:00	11/20/98
D	4078.05	Soil	20-Nov-98 15:05	11/20/98

ANALYSIS:

FORT MONMOUTH ENVIRONMENTAL LAB.

TPHC, %SOLIDS

 11/30/98
Daniel Wright/Date
Laboratory Director

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~~2~~

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Quality Control Spike Summary	12
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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>Yes</u> |
| 2. Method Blank Contamination -- If yes, list the sample and the corresponding concentrations in each blank.

_____ | <u>Yes</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>Yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>Yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>N/A</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>Yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>Yes</u> |

Additional comments: _____



Laboratory Manager

11/30/98

Date

Chain of Custody Record

Customer: CHARLES APTZBY

Project No: 99-0008

Location: 43 + 45

DERA ()OMA ()Other: ()

Samplers Name / Company: GARY KANELLO / TVS

Lab Sample I.D.	Sample Location	Date	Time	Type	bottle
-----------------	-----------------	------	------	------	--------

11/10/08	11/10/08	11/10/08
----------	----------	----------

2010	△	11/20/20	1445	5010	1
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DUPLICATE	11/20/98	1450	5012
-----------	----------	------	------

11/3/20	11/3/20	11/3/20	11/3/20
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0	11/20/30	1430	3010	1
---	----------	------	------	---

1	7105	0851	06/02/11	U
---	------	------	----------	---

	D	11/20/08	1F	CS'	1
	D	11/20/08	1F	CS'	1

U	10	11/20/50		
R	10	11/20/50		

[illegible]

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[illegible][illegible]

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[illegible][illegible][illegible]

[illegible][illegible]

Relinquished by (signature) _____

Date/Time: _____

Received by (signature): _____

Relinquished by (signature) _____

[Signature]

11/06/20	1545	2017/08/25
----------	------	------------

Relinquished by (signature): _____
Date/Time: _____
Received by (signature): _____
Relinquished by (signature): _____

[illegible]

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Report Type: ☐ Full, ☒ Reduced, ☐ Standard, ☐ Screen / non-certified

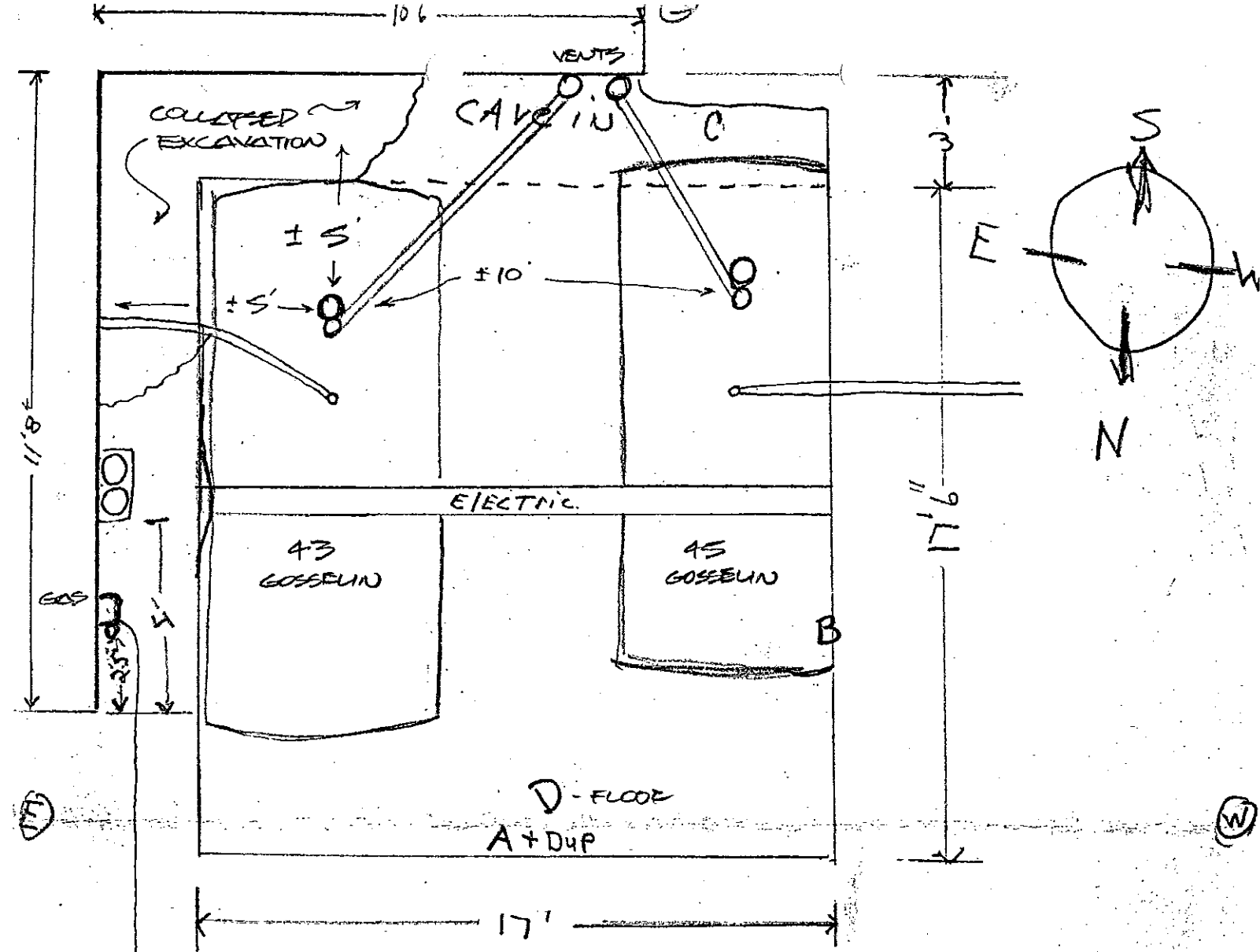
Time around time:	Standard 1	Order 1	Back	Date	ASAP 17-1-1	TT-

unimpaired time. ☒ Standard 4 wks, ☐ Kusil _____ Days, ☐ ASAR verbal _____ Hrs.

print legibly

[illegible]

coc.XLS11/19/98



samples A+Dup @ .6'
 B @ 6'
 C @ 6'
 D @ 8' taken 1.6" below pad

EAST & South walls are pea gravel right up to Footings
 4" electric conduit spans across center of excavation
 Running EAST TO WEST

- TREATED AS ONE SAMPLING EVENT FOR BOTH TANKS IN ONE EXCAVATION...
- FEED + RETURN LINES NOT CONNECTED AT EITHER TANK

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 4078
Date Rec'd: 20-Nov-98
Analysis Start: 24-Nov-98
Analysis Complete: 25-Nov-98

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

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: 43 & 45 Gosselin Ave.

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4078.01	A	1.00	15.18	87.77	176	ND
4078.02	DUPLICATE	1.00	15.06	89.46	174	ND
4078.03	B	1.00	15.40	90.61	168	181.12
4078.04	C	1.00	15.45	85.31	178	204.43
4078.05	D	1.00	15.83	83.02	179	ND
METHOD BLANK	TBLK 191	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|-------------------------------------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

Laboratory Manager or Environmental Consultant's Signature

Date 11/30/98

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, appearing to read 'Daniel K. Wright', is written over a horizontal line.

Daniel K. Wright
Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461

ANALYTICAL DATA REPORT

Fort Monmouth Environmental Laboratory

ENVIRONMENTAL DIVISION

Fort Monmouth, New Jersey

PROJECT: #99-0008

45 GOSSELIN

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
A-16' From Wall @ 12"	4115.01	Soil	07-Dec-98 09:15	12/07/98
B-7' From Wall @ 18"	4115.02	Soil	07-Dec-98 09:30	12/07/98

ANALYSIS:

FORT MONMOUTH ENVIRONMENTAL LAB.

TPHC, %SOLIDS

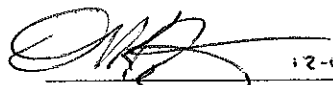
 12-15-98
Daniel Wright/Date
Laboratory Director

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Method Summary

NJDEP Method OOA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

000001

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

_____ | <u>NO</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____



Laboratory Manager

12-18-98
Date

000002

Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

Chain of Custody Record

000003

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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 4115
Date Rec'd: 07-Dec-98
Analysis Start: 09-Dec-98
Analysis Complete: 10-Dec-98

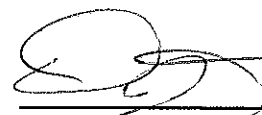
Analysis: OQA-QAM-025
Matrix: Soil
Analyst: D.DEINHARDT
Inst. ID. GC TPHC INST. #1
Column Type RTX 5
Ext. Meth: Shake

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: 45 Gosselin
Piping Run

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4115.01	A-16' from wall	1.00	15.14	93.14	167	ND
4115.02	B-7' from wall	1.00	15.17	91.14	170	ND
METHOD BLANK	TBLK 196	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

000005

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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AND ACCOMPANY ALL DATA SUBMISSIONS

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It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|-------------------------------------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

Laboratory Manager or Environmental Consultant's Signature

Date 12/15/98

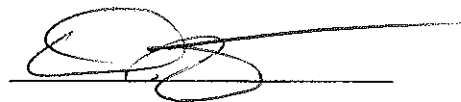
Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

000021

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, appearing to read 'Daniel K. Wright', is written over a horizontal line.

Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 255 (Gosselin Ave.)**

Registration ID: 81533-42

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 10/28/1998

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 1998 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The soil sample results ranged from non-detected (ND) to 228 mg/kg for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #98-0001

46 GOSSELIN AVE.

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
46-A	4011.01	Soil	28-Oct-98 13:27	10/28/98
46-B	4011.02	Soil	28-Oct-98 13:31	10/28/98
46-C	4011.03	Soil	28-Oct-98 13:41	10/28/98
46-D	4011.04	Soil	28-Oct-98 13:23	10/28/98
46-E	4011.05	Soil	28-Oct-98 13:59	10/28/98
46-F	4011.06	Soil	28-Oct-98 13:19	10/28/98
46-G	4011.07	Soil	28-Oct-98 14:14	10/28/98
46-H	4011.08	Soil	28-Oct-98 14:10	10/28/98
Dup.	4011.09	Soil	28-Oct-98	10/28/98

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS


Daniel Wright/Date
Laboratory Director

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

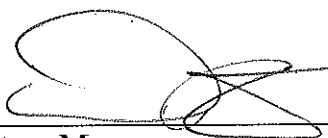
_____ | <u>No</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____



Laboratory Manager

11/16/98

Date

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELEM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

Customer: Charles Appleby		Project No: 98-0001		Analysis Parameters				Comments:	
Phone #: X26224		Location: 46 GOSSELIN AVE.		VOA+15		VOA ID Number		* = Samples Kept <4 Celsius	
() DERA (X) OMA UST Assessment		UST#		% SOLIDS		TPHC		Remarks / Preservation Method	
Samplers Name / Company : Gary DiMartinis TVS				Sample #		Type		bottles	
Lab Sample I.D.	Sample Location	Date	Time						
4011-01	46-A	10-23-98	1327	SOIL		1		SIDE WALL @ 5.5' *	
02	B		1331					ND	
03	C		1341					ND	
04	D		1323					ND	
05	E		1354					ND	
06	F		1319					ND	
07	G		1414					ND	
08	H		1410					ND	
09	Dup							FIELD DUPLICATE	
Note: OVA(#A51903) Calibrated With 95 ppm Methane & Zero Air @ 1300 on 10-23-98 by Gary DiMartinis									
Relinquished by (signature):		Date/Time:		Received by (signature):		Date/Time:		Received by (signature):	
<i>[Signature]</i>		10-23-98 1500		<i>[Signature]</i>					
Relinquished by (signature):		Date/Time:		Received by (signature):		Date/Time:		Received by (signature):	
Report Type: () Full, (X) Reduced, () Standard, () Screen / non-certified				Remarks:					
Turnaround time: () Standard 4 wks, (X) Rush 3 Days, () ASAP Verbal Hrs.				Dedicated Sampling Tools Used					

0004

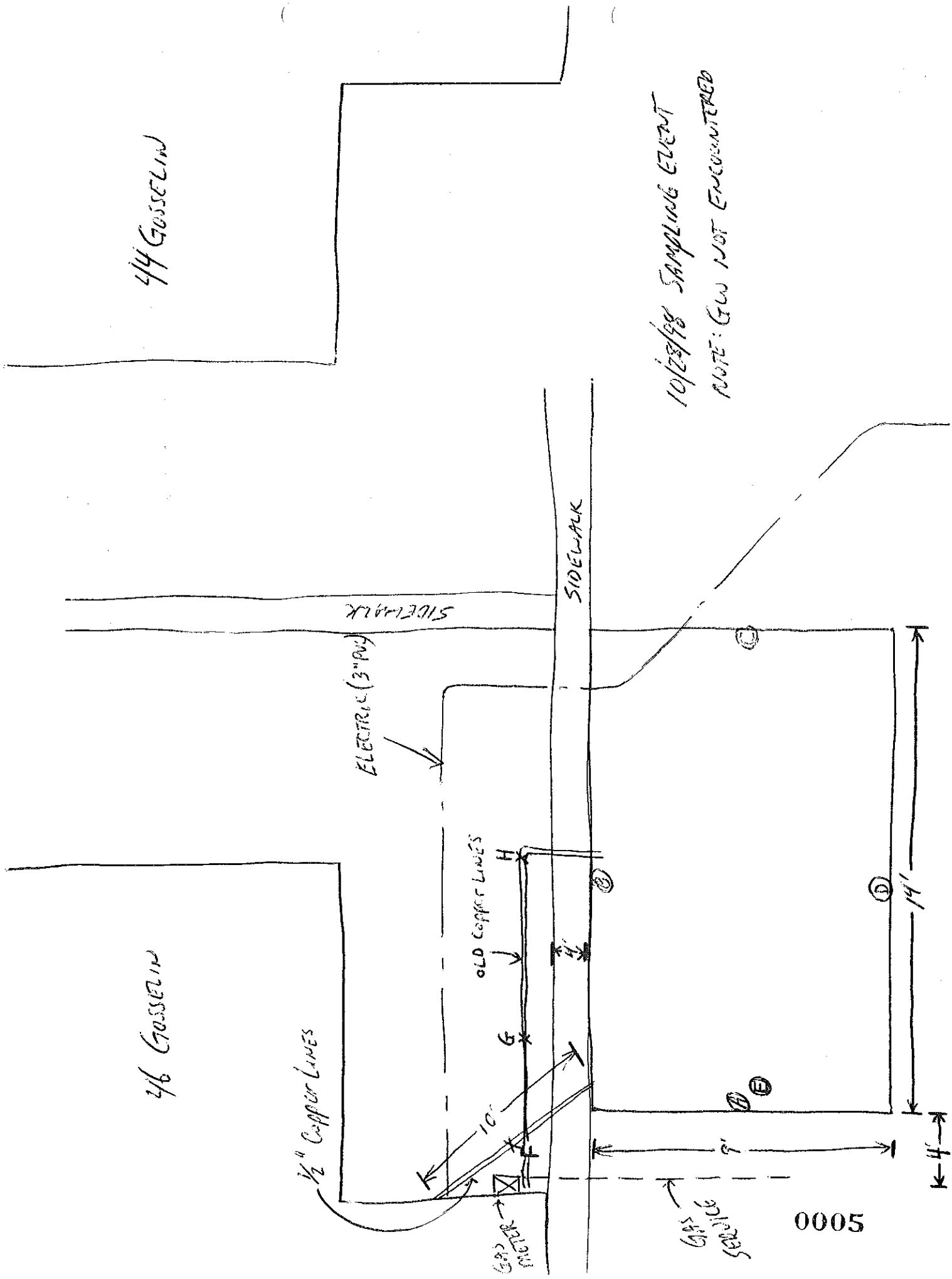
print legibly

Page 1 of 1

USToc.xls10/6/98

44 GOSSELIN

10/28/98 SAMPLING EVENT
NOTE: GW NOT ENCOUNTERED



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

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 4011
Date Rec'd: 28-Oct-98
Analysis Start: 29-Oct-98
Analysis Complete: 30-Oct-98

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

UST Reg. #:
Closure #:
DICAR #:
Injection Volume 1 ul
Column ID 0.32 um
Location #: 46 Gosselin Ave.

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4011.01	46-A	1.00	15.76	88.97	168	ND
4011.02	46-B	1.00	15.72	85.09	176	ND
4011.03	46-C	1.00	15.46	84.59	180	ND
4011.04	46-D	1.00	15.25	90.15	171	ND
4011.05	46-E	1.00	15.02	82.43	190	ND
4011.06	46-F	1.00	15.20	83.57	185	225.06
4011.07	46-G	1.00	14.99	88.91	176	215.91
4011.08	46-H	1.00	15.65	84.29	178	ND
4011.09	46-DUP	1.00	15.85	81.11	183	228.98
METHOD BLANK	TBLK 186	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

0006

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|-------------------------------------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

Laboratory Manager or Environmental Consultant's Signature

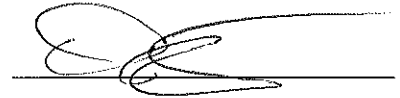
Date 11/16/96

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, appearing to read 'Daniel K. Wright', is written over a horizontal line.

Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 256 (Gosselin Ave.)**

Registration ID: 81533-43

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 11/20/1998

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Tanks 254 and 256 were located adjacent to each other, and both the 254 and 256 UST areas were sampled as a single excavation. These two tanks were located near Bldg. 254, and a pipeline extended about 20 ft to the west for Bldg. 256 service. Soil samples were collected from the tank excavation in 1998 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The soil sample results ranged from non-detected (ND) to 204 mg/kg for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #99-0008

43/45 Gosselin

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
A	4078.01	Soil	20-Nov-98 14:45	11/20/98
Duplicate	4078.02	Soil	20-Nov-98 14:50	11/20/98
B	4078.03	Soil	20-Nov-98 14:55	11/20/98
C	4078.04	Soil	20-Nov-98 15:00	11/20/98
D	4078.05	Soil	20-Nov-98 15:05	11/20/98

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB.
TPHC, %SOLIDS

 11/30/98
Daniel Wright/Date
Laboratory Director

Table of Contents

<u>Section</u>	<u>Pages</u>
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Conformance/Non-Conformance	4
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Initial Calibration Summary	7
Continuing Calibration Summary	8-9
Surrogate Results Summary	10
MS/MSD Results Summary	11
Quality Control Spike Summary	12
Raw Sample Data	13-40
Laboratory Deliverable Checklist	41
Laboratory Authentication Statement	42

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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>Yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

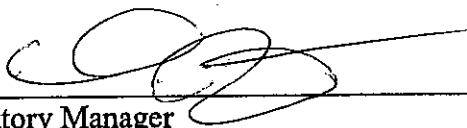
_____ | <u>Yes</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>Yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>Yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>N/A</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>Yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>Yes</u> |

Additional comments: _____



Laboratory Manager

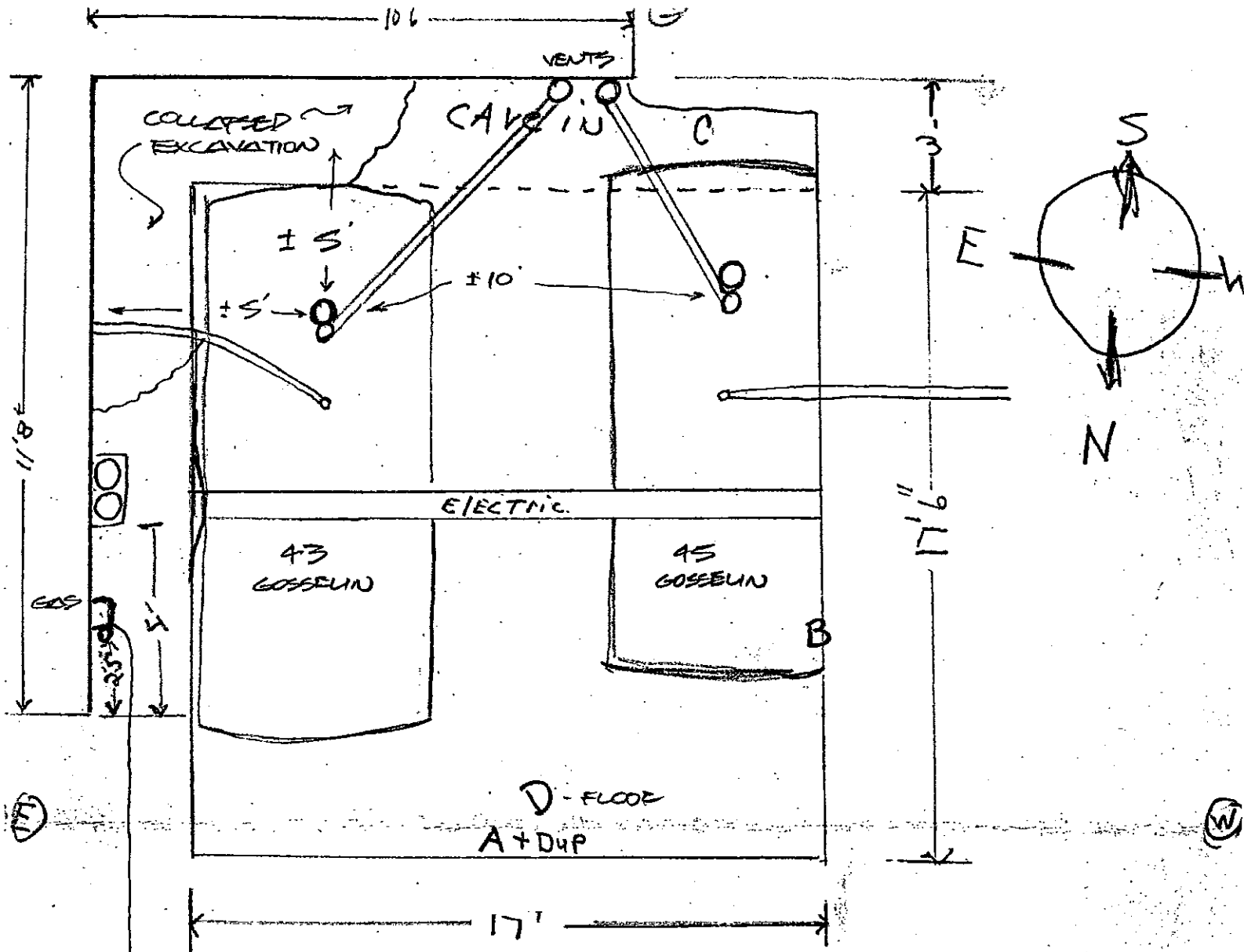
11/30/98
Date

A black and white photograph of a multi-story building, likely a residential or institutional structure. The building features a prominent chimney on the right side and a large, dark window on the left. The architecture appears to be from the early 20th century. The image is grainy and has a high-contrast, almost posterized appearance.

Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

Chain of Custody Record

[illegible]



Samples A+Dup @ .6'
 B @ 6'
 C @ 6'
 D @ 8' TAKEN 1.6" below pad

EAST + South walls ARE pea gravel right up To Footings

4" electric conduit SPANS across center of excavation
 RUNNING EAST TO WEST

- TREATED AS ONE SAMPLING EVENT FOR BOTH TANKS IN ONE EXCAVATION...
- FEED + RETURN LINES NOT CONNECTED AT EITHER TANK

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

Client : U.S. Army
DPW. SELF-M-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Lab. ID # : 4078
Date Rec'd: 20-Nov-98
Analysis Start: 24-Nov-98
Analysis Complete: 25-Nov-98

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

UST Reg. #:
Closure #:
DICAR #:
Injection Volume: 1 ul
Column ID: 0.32 um
Location #: 43 & 45 Gosselin Ave.

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4078.01	A	1.00	15.18	87.77	176	ND
4078.02	DUPLICATE	1.00	15.06	89.46	174	ND
4078.03	B	1.00	15.40	90.61	168	181.12
4078.04	C	1.00	15.45	85.31	178	204.43
4078.05	D	1.00	15.83	83.02	179	ND
METHOD BLANK	TBLK 191	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

- | | |
|--|-------------------------------------|
| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

Laboratory Manager or Environmental Consultant's Signature

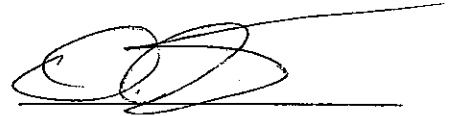
Date 11/30/98

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke extending to the right.

Daniel K. Wright
Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461

ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #99-0008

45 GOSSELIN

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
A-16' From Wall @ 12"	4115.01	Soil	07-Dec-98 09:15	12/07/98
B-7' From Wall @ 18"	4115.02	Soil	07-Dec-98 09:30	12/07/98

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB.
TPHC, %SOLIDS

 12-15-98
Daniel Wright/Date
Laboratory Director

Table of Contents

<u>Section</u>	<u>Pages</u>
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Chain of Custody	3-4
Results Summary	5
Initial Calibration Summary	6-11
Surrogate Results Summary	12
MS/MSD Results Summary	13
Blank Spike Summary	14
Raw Sample Data	15-20
Laboratory Deliverable Checklist	21
Laboratory Authentication Statement	22

Method Summary

NJDEP Method OOA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

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PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
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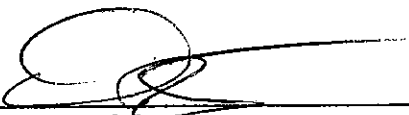
_____ | <u>NO</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
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(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

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| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____



Laboratory Manager

12-18-98

Date

Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

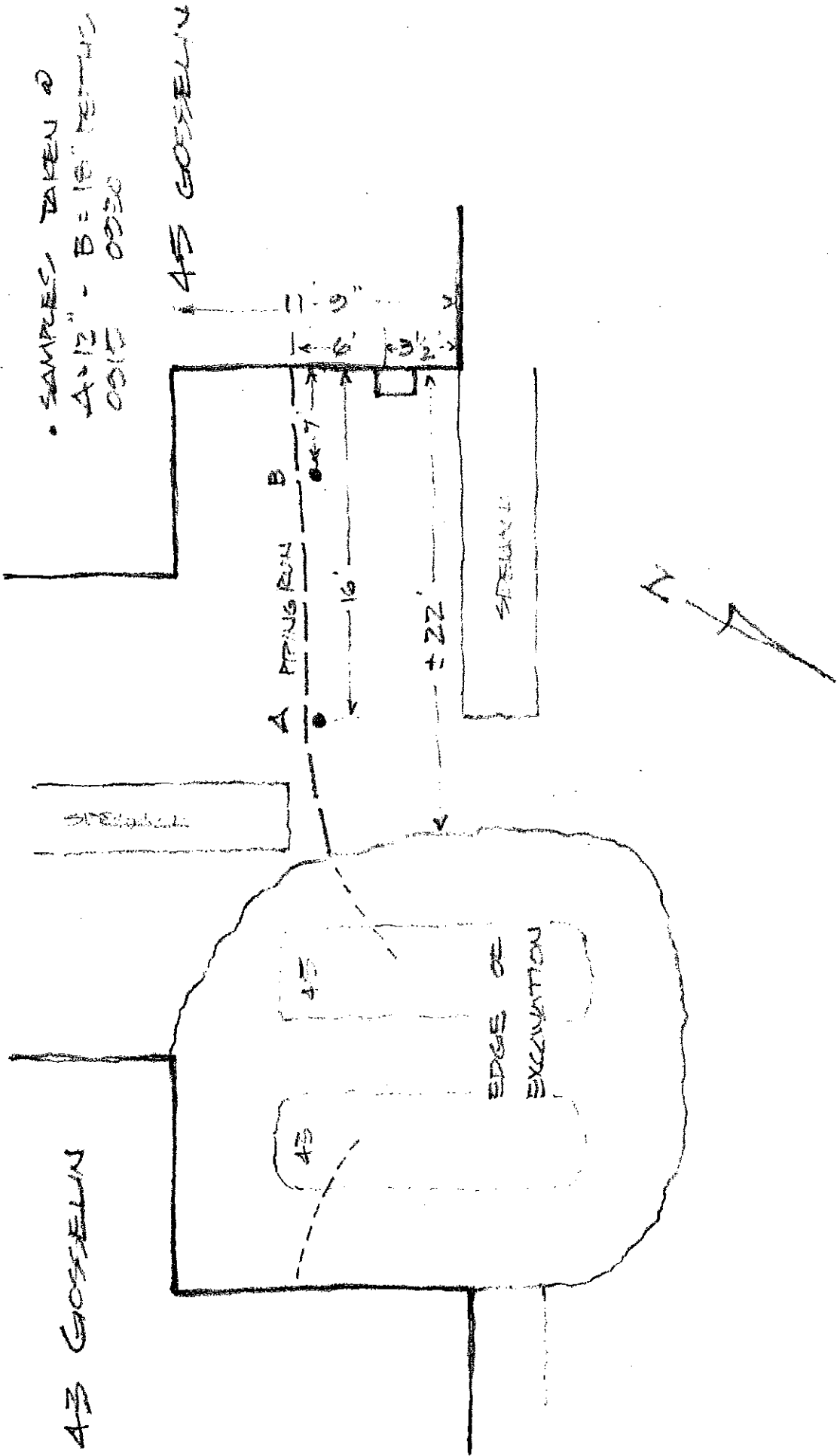
Chain of Custody Record

000003

70° - sunny - dry

12/07/98

SAMPLES TAKEN @
A = 12" - B = 18" DEPTH
0015 0020



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

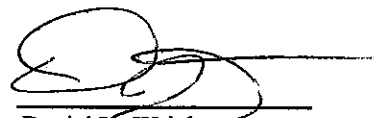
Client :	U.S. Army	Lab. ID # :	4115
	DPW. SELF-M-PW-EV	Date Rec'd:	07-Dec-98
	Bldg. 173	Analysis Start:	09-Dec-98
	Ft. Monmouth, NJ 07703	Analysis Complete:	10-Dec-98

Analysis:	OQA-QAM-025	UST Reg. #:	
Matrix:	Soil	Closure #:	
Analyst:	D.DEINHARDT	DICAR #:	
Inst. ID.	GC TPHC INST. #1	Injection Volume	1 ul
Column Type	RTX 5	Column ID	0.32 um
Ext. Meth:	Shake	Location #:	45 Gosselin Piping Run

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4115.01	A-16' from wall	1.00	15.14	93.14	167	ND
4115.02	B-7' from wall	1.00	15.17	91.14	170	ND
METHOD BLANK	TBLK 196	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

000005

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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- | | |
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| 1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ☒ |
| 2. Table of Contents submitted | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ☒ |
| 4. Document paginated and legible | ☒ |
| 5. Chain of Custody submitted | ☒ |
| 6. Samples submitted to lab within 48 hours of sample collection | ☒ |
| 7. Methodology Summary submitted | ☒ |
| 8. Laboratory Chronicle and Holding Time Check submitted | ☒ |
| 9. Results submitted on a dry weight basis | ☒ |
| 10. Method Detection Limits submitted | ☒ |
| 11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ☒ |

Laboratory Manager or Environmental Consultant's Signature

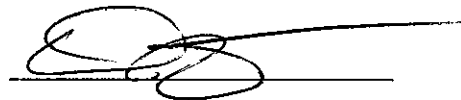
Date 12/18/98

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

A handwritten signature in black ink, appearing to read 'Daniel K. Wright', is written over a horizontal line.

Daniel K. Wright
Laboratory Manager

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: December 15, 2014

Review Performed By: Kent Friesen, Parsons

Site ID: **Bldg. 258 (Gosselin Ave.)**

Registration ID: 81533-44

Recommended Status of Site: **Case Closed (no change)**

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): **High**

Based on the file review, were there indications of a contaminant release? ☐ Yes ☒ No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? ☐ Yes ☐ No ☒ Not Applicable

Tank Description: ☐ Steel ☒ Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

☒ Residential ☐ Commercial/Industrial

Tank Removed? ☒ Yes ☐ No If "yes," removal date: 12/8/1998

Were closure soil samples taken? ☒ Yes ☐ No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ☒ Yes ☐ No

Brief Narrative

Soil samples were collected from the tank excavation in 1998 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The soil sample results were non-detected (ND) for TPH. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

Recommendations (if any): None

Signed: 
Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-3484

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP LABORATORY CERTIFICATION # 13461

ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #99-0008

49 GOSSELIN

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
East Wall 6.5' A	4122.01	Soil	08-Dec-98 09:15	12/08/98
South Wall 6.0' B	4122.02	Soil	08-Dec-98 09:25	12/08/98
West Wall 6.5' C	4122.03	Soil	08-Dec-98 09:30	12/08/98
North Wall 6.5' D	4122.04	Soil	08-Dec-98 09:40	12/08/98
Floor @ 7.5' E	4122.05	Soil	08-Dec-98 09:45	12/08/98
Piping Run 8" F	4122.06	Soil	08-Dec-98 09:55	12/08/98
Field Dup.	4122.07	Soil	08-Dec-98	12/08/98

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB.
TPHC, %SOLIDS


Daniel Wright/Date
Laboratory Director

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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

- | | Indicate
Yes, No, N/A |
|---|--------------------------|
| 1. Method Detection Limits provided. | <u>yes</u> |
| 2. Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.

_____ | <u>NO</u> |
| 3. Matrix Spike Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 4. Duplicate Results Summary Meet Criteria
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).

_____ | <u>yes</u> |
| 5. IR Spectra submitted for standards, blanks and samples. | <u>NA</u> |
| 6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | <u>yes</u> |
| 7. Analysis holding time met.
(If not met, list number of days exceeded for each sample).

_____ | <u>yes</u> |

Additional comments: _____

Laboratory Manager

12-18-98
Date

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Chain of Custody Record

NJDEP Certification #13461

[illegible]

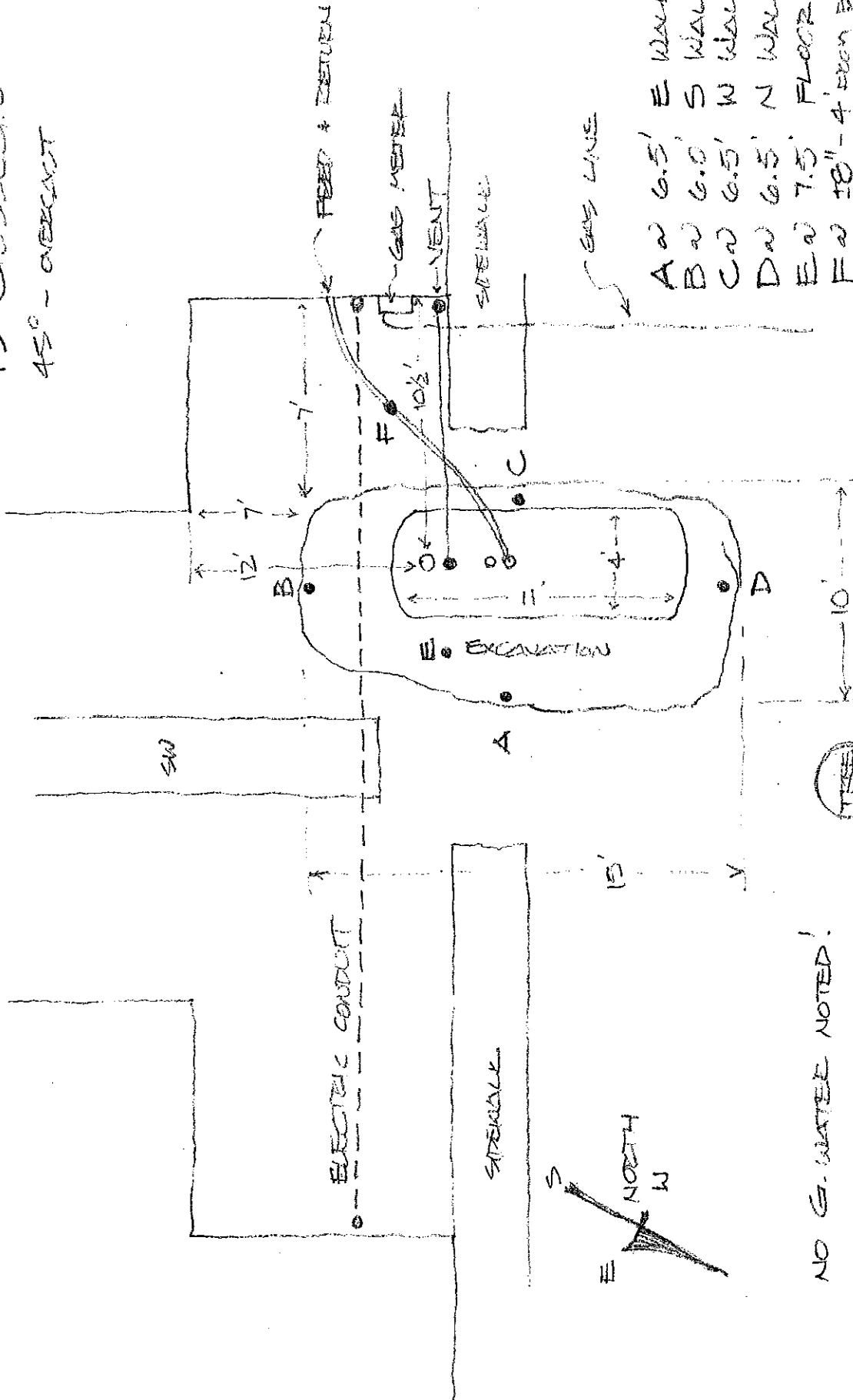
coc12/3/98

SAMPLE EVENT

12/08/98

45 GOSSELIN

45° - overcast



NO G. WATER NOTED!

1000 GAL FIBERGLASS TANK

DUP NOTED ELSEWHERE!

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

Client :	U.S. Army	Lab. ID #:	4122
	DPW. SELFM-PW-EV	Date Rec'd:	08-Dec-98
	Bldg. 173	Analysis Start:	09-Dec-98
	Ft. Monmouth, NJ 07703	Analysis Complete:	10-Dec-98
Analysis:	OQA-QAM-025	UST Reg. #:	
Matrix:	Soil	Closure #:	
Analyst:	D.DEINHARDT	DICAR #:	
Inst. ID.	GC TPHC INST. #1	Injection Volume	1 ul
Column Type	RTX 5	Column ID	0.32 um
Ext. Meth:	Shake	Location #:	49 Gosselin

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4122.01	East wall	1.00	15.17	85.51	181	ND
4122.02	South wall	1.00	15.64	84.34	178	ND
4122.03	West wall	1.00	14.99	86.73	181	ND
4122.04	North wall	1.00	15.13	88.52	175	ND
4122.05	Floor	1.00	15.32	86.21	178	ND
4122.06	Piping run	1.00	15.22	90.04	171	ND
4122.07	Field dup	1.00	15.40	85.96	178	ND
METHOD BLANK	TBLK 196	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

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LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

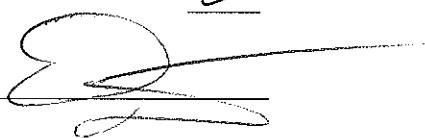
The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted
2. Table of Contents submitted
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted
4. Document paginated and legible
5. Chain of Custody submitted
6. Samples submitted to lab within 48 hours of sample collection
7. Methodology Summary submitted
8. Laboratory Chronicle and Holding Time Check submitted
9. Results submitted on a dry weight basis
10. Method Detection Limits submitted
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP

✓
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✓
✓

Laboratory Manager or Environmental Consultant's Signature _____
Date 2/21/98



Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance.

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Laboratory Authentication Statement

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A handwritten signature in black ink, consisting of a large, stylized 'D' followed by a series of loops and a long horizontal stroke extending to the right.

Daniel K. Wright
Laboratory Manager