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
 - F.1 UST 211 File Review and Analyses
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 - F.3 UST 213 File Review and Analyses
 - F.4 UST 214 File Review and Analyses
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- G. Unregulated Heating Oil Tanks Along Allen Avenue
 - G.1 UST 225 File Review and Analyses
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 - 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
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 - 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 RE	MEDIAT	ATION INFORMATION AND CERTIFICATION
Full Legal Name of the Person Responsible for Conducti		
Representative First Name: William	Rep	epresentative Last Name: Colvin
Title: Fort Monmouth BRAC Environmental Coordinate	or (BEC)	2)
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	5 5	
This certification shall be signed by the person responsible	le for cor	onducting the remediation who is submitting this notification
in accordance with Administrative Requirements for the F	Remediat	iation of Contaminated Sites rule at N.J.A.C. 7:26C-1.5(a).
the information, to the best of my knowledge, I believe th aware that there are significant civil penalties for knowing	inquiry of at the su gly submi ritten fals	of those individuals immediately responsible for obtaining submitted information is true, accurate and complete. I am mitting false, inaccurate or incomplete information and that I also statement which I do not believe to be true. I am also

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

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

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:

Linda S. Range, NJDEP Parcel 72 Select UHOTs Work Plan Addendum July 1, 2016 Page 2 of 3

- 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

Linda S. Range, NJDEP Parcel 72 Select UHOTs Work Plan Addendum July 1, 2016 Page 3 of 3

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

BRAC Environmental Coordinat

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)

cc:

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

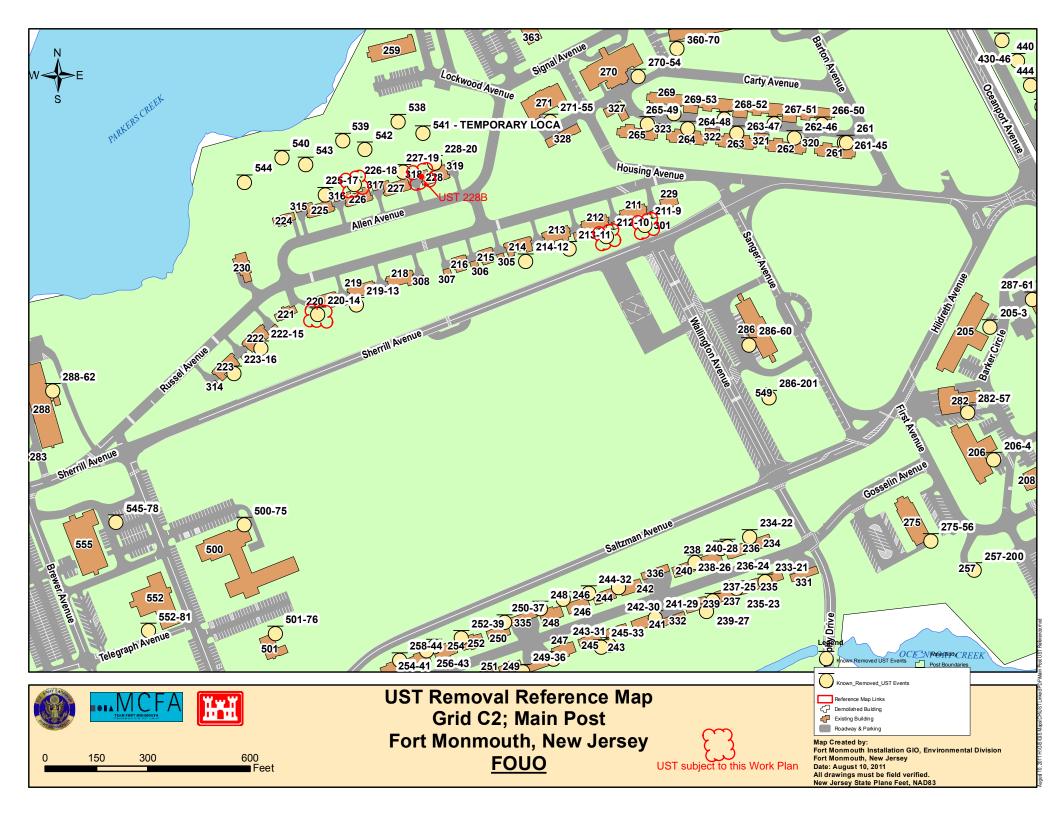


TABLE 2 SUMMARY OF PROPOSED SAMPLING FOR PARCEL 72 FORT MONMOUTH, NEW JERSEY

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 fo	r additional details) ^{e/}				
Field Duplicates (5% Sampli		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 V	OCs per media)	NA	0	1	0
QA Split (5% per media)		NA	1	1	1
Equipment Blank (5% Samp	- 1 V1	NA	1	1	1
	TOTAL	NA	11	11	10

Notes:

NA = not applicable.

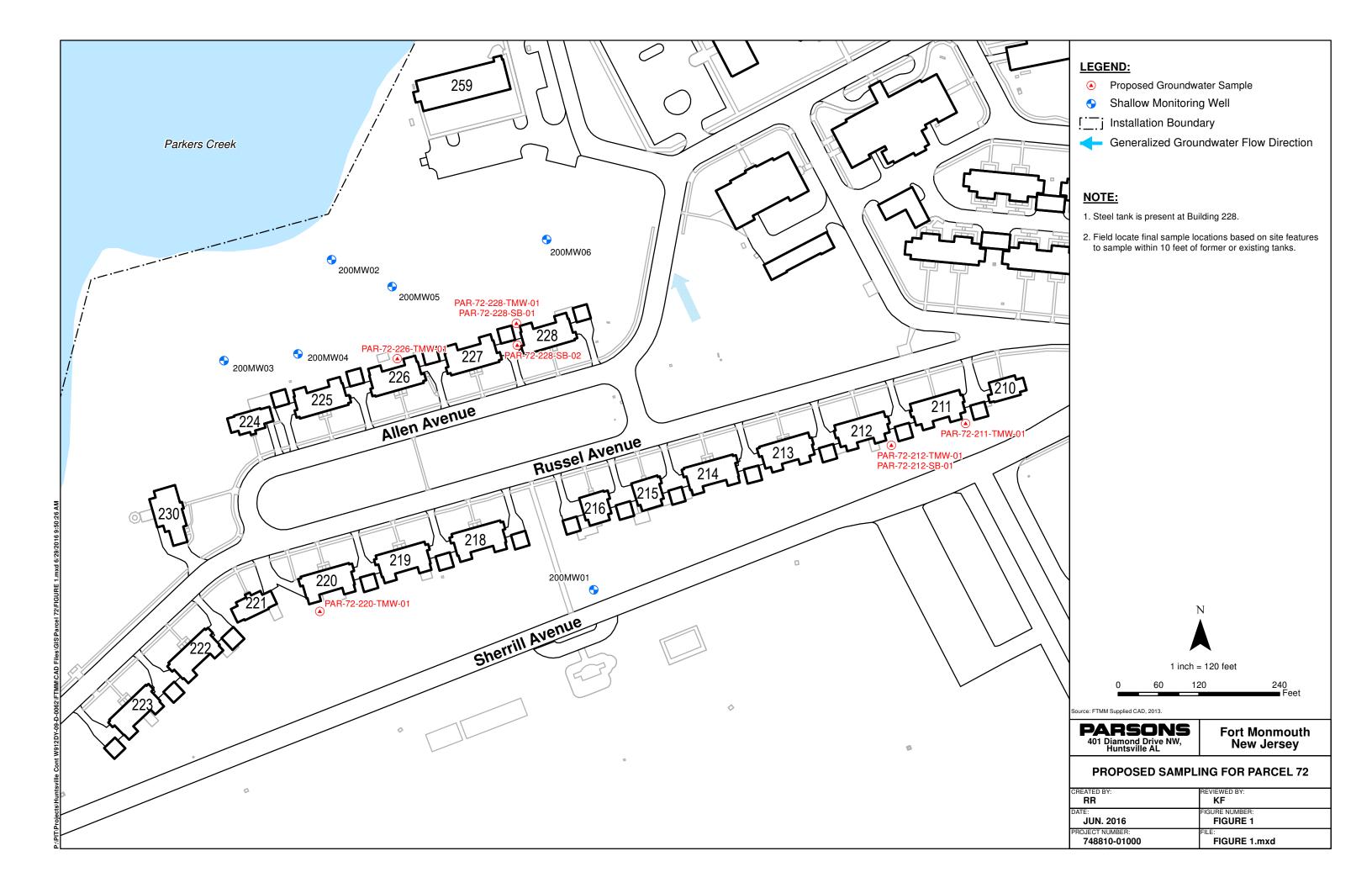
^{a/} Field meter readings include, in soil samples: photoionization detector (PID) readings along entire soil column; and in groundwater: PID headspace, pH, temperature, electrical conductivity, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity.

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.





State of New Jersey

CHRIS CHRISTIE

KIM GUADAGNO Lt. Governor DEPARTMENT OF ENVIRONMENTAL PROTECTION
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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.

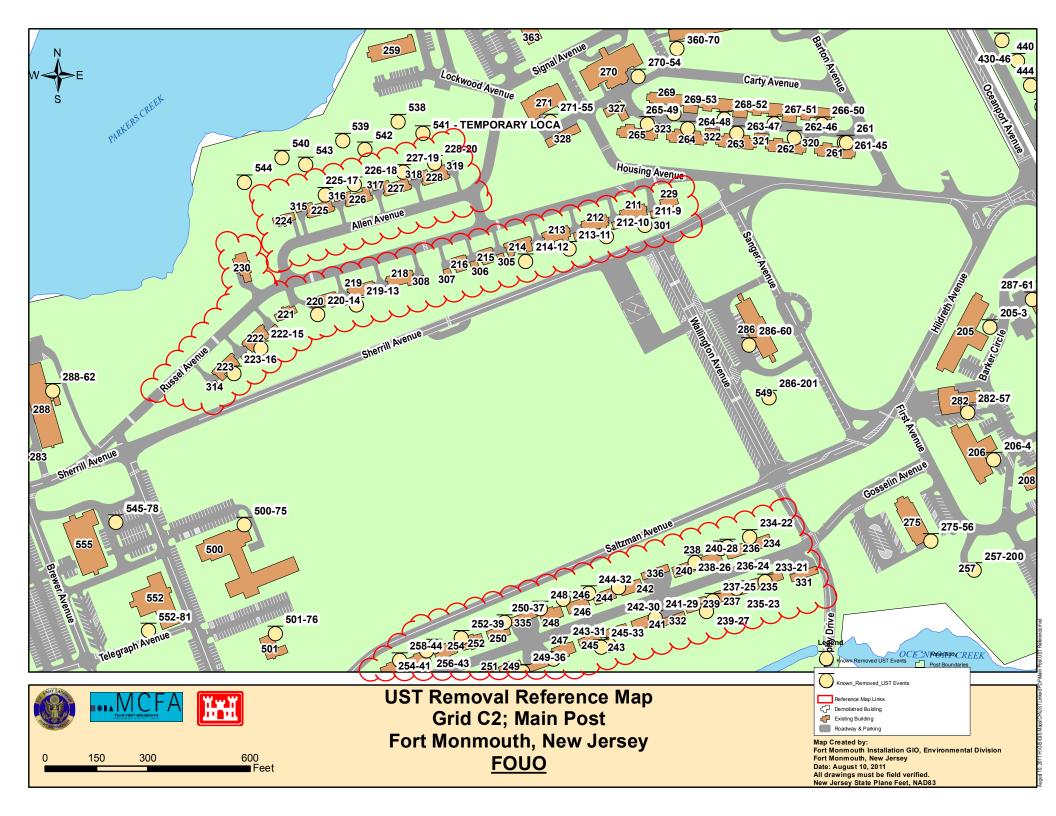
Sincerely,

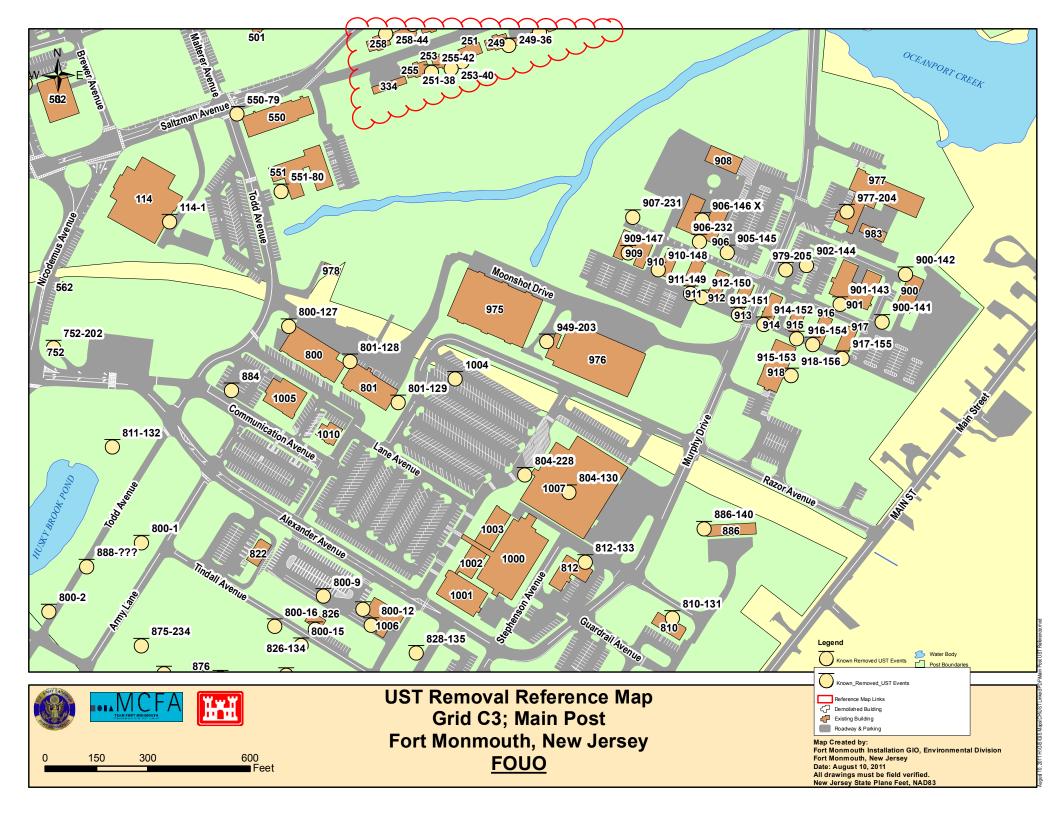
Linda S. Range

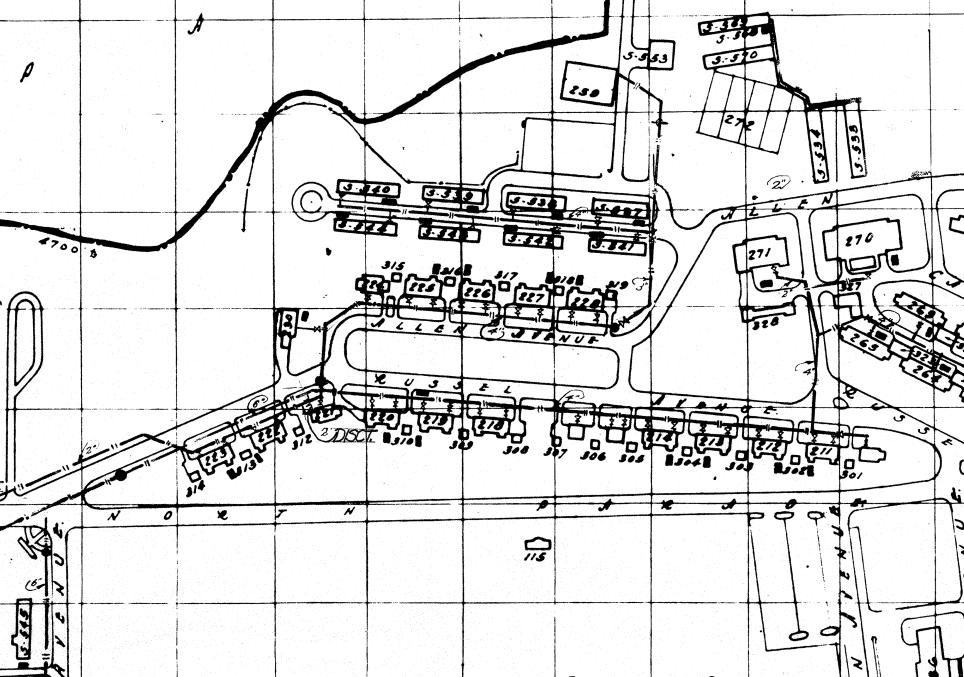
C: Joe Pearson, Calibre James Moore, USACE Rick Harrison, FMERA Joe Fallon, FMERA

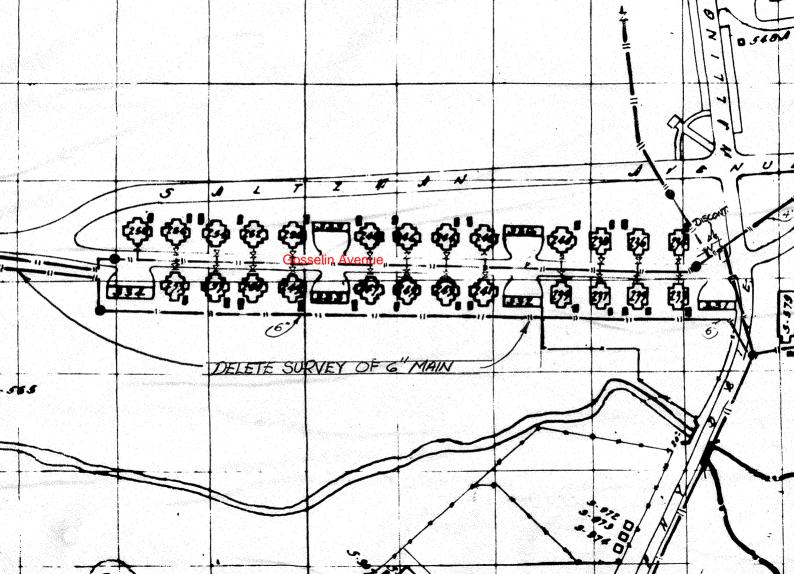
ATTACHMENT B

Site Layout Drawings of Parcel 72 (Recent and Historical)









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	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 GWOC. 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.

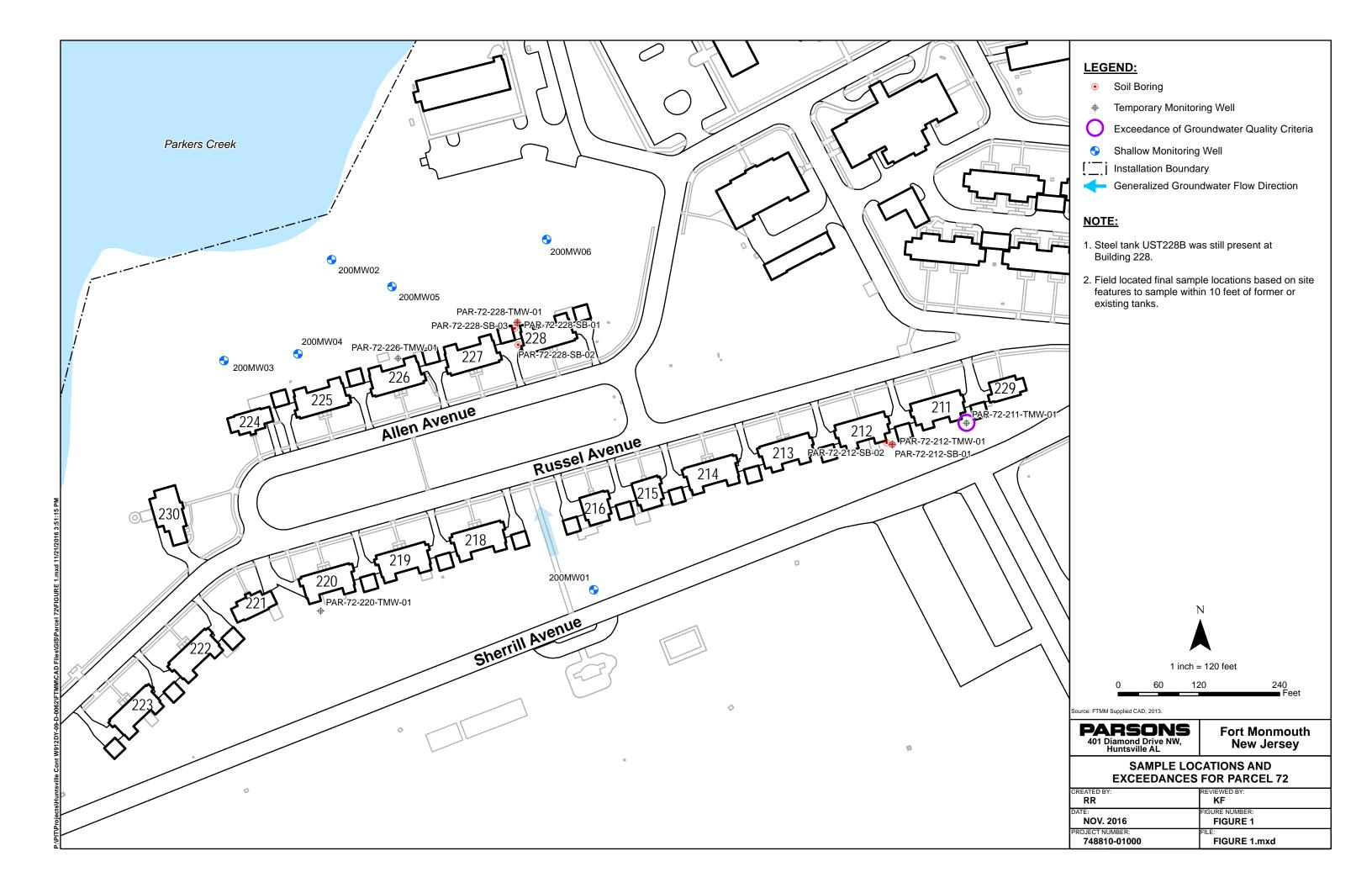
REFERENCES CITED

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



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	Residential Residential		NJ Impact to GW Soil		P72-BLG-212-SB-01	P72-BLG-212-SB-02		
Sample ID	Direct	Direct Contact SRS	Screening	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	Contact SRS	Contact SKS	Level	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	Residential	NJ Impact to GW Soil	P72-BLD-228-SB-01		P72-BLD-2	228-SB-02	P72-BLD-228-SB-03		
Sample ID	Direct	Direct	Screening Level	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	Contact SRS	Contact SRS	Levei	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) Petroleum Hydrocarbons (Version 4.0, August 9, 2010) to determine the category of tank being investigated and 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 Star	dard. ###
- 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 Remediation Standard.	GW Soil Screening Level Direct Contact Soil ###
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 Standard refers to the NJDEP's May 7, 2012 Remediation Standard Reference (NJDEP's May 7, 2012 Reference (NJDEP's May 7, 2012 Reference (NJDEP's May 7, 2012 Reference (NJ	Standards
http://www.nj.gov/dep/rules/njac7_26d.pdf	
- The NJ Non-Residential Direct Contact Soil Remediation Standard refers to the NJDEP's May 7, 2012 Remediation	tion 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).

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

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

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

Loc ID	NJ Ground	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	Water Quality	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	Criteria	8/10/2016	8/10/2016	8/10/2016	8/10/2016	8/10/2016
Sample Round						
Filtered		Total	Total	Total	Total	Total
		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 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)		44000 111				— A
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

	•
Av. 72016	(
Tech: C. WATSON, S. Perr I Ker, LOBIL (2) F. Accous.	
	1440: Sample PAR-72-228-58-02-12-12.5
DUMTLY 7804 Clear	a
on site	install solo Tomb
0725: Bain COC'S	1530: Samperer to obside to beyou cocis
0746: Has tailyate	t GOOT alen Up
02000 Begin Emple prep papac	1600: QW Back tooffice - unt to make
of of dom	note that water level was portively
0915: Mob to 228 ARCES	
0926. FRANK confirms mark out weching	7
80011 DAILTA 228-63	All will
1030: Sumple 228-58-03-6.5-7	1 1
1040: Sumpit 222-18-03-1-7-5	1605: Place cocis 4 ocar an FRANCS Dook -
1045: Benin Prilling 2 228-58-01	to be seamed, Plug in P.I.B, Cool samples
6-1 -1-1-1	ff-5; te
Somple 228-53	
ナーニャスの	
1140: ATTEMPT 228 58-02 and Hit reform	
fig news to be mobed to apposite side	
fact crows building	
TAWON & Bac is get is)
) 	
1235: Instil 2d6-mwoi	
Core	
12do: Mab Riz warns builous to NOW	
228-58-02 Geathan	
1345. Begin Rally 228-58-02	1,

Mayor S	1740		D27	My fam 5.0	9C S)0	rep samples				 					
TIME	1350	15 2 C Z Z	1425	1440	1500	Ce Collect OB	(ocs, DCQR, prep samples			Jack Jack					The second of th	
	1AP-49-58-14-0.5-1	PAR-49-58-15-0.5-1	2.7.7.2 2.7.7.2	PAR-45-48-13-0.5-1		1500 mor to othice	Complete .	. !	•	200				THE COLUMN TWO COLUMN TO THE COLUMN TWO COLU		
GCOT(2) AUG 10 2016 Simplify	all Day	72 ARED - S. Avaler to	STW Anulysis	13.45 voc/swc	0455 13.47	PAK-72-12-58-01-11-11-5 -5-5-5	PAR-72-212-58-02 - 5-5.5 PAR-72-212-58-02-11.5-12	2-211-TMUSI	TMM-61 DTW: 12,02	-TMW-01 DTW: 11.15		Ans (4513	PAL	The state of the s		-
TRSK: 970 Soil & water Sending	10/25: 00-572 0735: 425 to 10.10	Mob to	2	Par-72-228-Timu-01 0835	1848-72-220-5844-01 0455	.1	1000: Simple PAR-72-312-5	1045: Instill town PAR-72-211-towns! PAR-212-TOWNS instilled 50 045	125: Sumple PAR-TA-212-TMM-01	1200- 5cmple PAR-72-211-TMW-01	Deiling	<u> </u>		 196-49-58-111-05-1	35-3 1225	 The second secon

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		

6

6

17-19" crusted fock

19-19" crusted fock

19-

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

Soil Boring Log											
	*400		<u></u>			BORING/WE					
	CLIENT: USAC	Æ			INSPECTOR:	7à-2	1(-TMW01				
PROJEC	T NAME: FTMM	A - ECP			DRILLER:	LOCATION	DESCRIPTION				
PROJECT LO	CATION: FTMM	A Parcel			WEATHER:						
PROJECT N	UMBER: 74881	10-		4	CONTRACTOR: East Coast Onlling, Inc. (EQUI)						
G	ROUNDWATE	R OBSERV	ATIONS		RIG TYPE: Geoprobe(R) 7882DT	LOCATION					
		nlà	\		DATE/TIME START: / /	Oceanport, N	lew Jersey				
WATER LEVEL	-: <u> </u>	0-10			DATE/TIME FINISH:	-					
DATE:		A-4-1			WEIGHT OF HAMMER: N/A						
TIME:					DROP OF HAMMER: N/A TYPE OF HAMMER: N/A						
MEAS, FROM: DEPTH	SAMPLE	BLOWS	ADV/	PID	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS				
(feet)	I.D.	per 6"	REC.	(ppm)	· · · · · · · · · · · · · · · · · · ·						
o	ļ		100	1.6	U-28" SAA, saturated						
	· · · · · · · · · · · · · · · · · · ·			(2:2	D 24"						
1				222	28"-45" Saturated, M. Perse						
				117	grey, MC SAND, lith						
2				404	f grand, trace filt,						
				399	2026						
3			ļ	12.2	Total of the And an Asset						
				8.1	40-60 batwates, miles						
4				O	O(mye/grey/ Brown, MI						
				0	45"-60" gatwated, mance ormetrey/grown, mf mottled SAND, little gilt, Free Fyrnel						
5					- 7.1 - 7						
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,											
6											
7				-							
8											
9											
0				<u> </u>							
Remarks:			· ·								
Sample Types					Consistency vs. Blowcount / Foot						
S – Split-Spoon U – Undisturbed T	ube				Granular (Sand & Gravel) Fine Gratined (Silt & Clay)	so	and - 35-50% ome - 20-35%				
C Rock Core A Auger Cutting:					Loose: 4-10 V. Dense: >50 Soft 2-4 V. Stiff: 15-30 M. Dense: 10-30 M. Stiff: 4-8 Hard: > 30		569 - 10-20% ace - <10%				
" - valor comult	•						tensity, color, pradation				

- .:

Remarks:

10

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

Remarks:

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

			ATTINE.
Page	1	of	6 <u></u>
raye	'_	01	

					Soil Boring Log			
	CLIENT: USA	CE			INSPECTOR: C. Works on	BORING/WE	-212-58-62	
PROJE	CT NAME: FTM	M - ECP			DRILLER: J-BAFNAK	· I'	DESCRIPTION	
PROJECT LOCATION: FTMM Parcel					WEATHER: 30°F LIGHT RAIN			
PROJECT NUMBER: 748810-					CONTRACTOR: East Coast Drilling, Inc. (ECDI)	- Parcel 7d		
GROUNDWATER OBSERVATIONS					RIG TYPE: Geoprobe(R) 7822DT	LOCATION	PLAN	
					DATE/TIME START: OG 40	Oceanport, N	4/4	
WATER LEVI	EL:				DATE/TIME FINISH: 095 D] ` `	,	
DATE:	·				WEIGHT OF HAMMER: N/A	1		
TIME:					DROP OF HAMMER: N/A	1		
MEAS. FROM	 A:				TYPE OF HAMMER: N/A	1		
DEPTH	SAMPLE	BLOWS	ADV/	PIĐ	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS	
(feet)	I.D.	per 6"	REC.	(ppm)				
0			452	0	0-50 Dry, 10052, Brown, mf SAND, trace 5: 14			
			7	1	GAND, trace 5: 15			
					-, ', ',			
1								
2								
-			-					
3]			
				-	-		•	
4								
					-			
	0		3.4					
5	5-5.5	-	6/60	0	0-33" SAA			
				1.	7			
				\rightarrow	Brown occupe mothing, MF SAND, frace 4.14			
6	1				N W All'a			
					Brown occurse morning,			
				+	AF SAND, frace 4.14			
7								
8								
9						[
				+				
10				•				
Remarks:	-							
Sample Types S – Split-Spoon					Consistency vs. Blowcount / Foot Granular (Sand & Grayel) Fine Grained (Sift & Clay)	ar	d - 35-50%	
U Undisturbed 1 C Rock Core	Tube				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	108	ne - 20-35% de - 10-20%	
A Auger Cutting	gs				M. Dense: 10-30 M. Stiff. 4-8 Hard: > 30	tra	ce - <10% ensity, color, gradation	

Soft 2-4

M. Stiff. 4-8

M. Dense: 10-30

V. Stiff: 15-30

Hard; > 30

little - 10-20%

trace - <10% moisture, density, color, gradation

- Rock Core

A -- Auger Cuttings

Page _1__ of _ Z_

					Soil Boring Log		
	CLIENT: USA	^E			INSPECTOR: C-WATSON	BORINGWE	ELL ID:
BBO IEC	T NAME: FTM		***************************************		DRILLER: J. DARNAK	1	DESCRIPTION
	CATION: FTM		***************************************		WEATHER: 85°4 clev	1	7
	UMBER: 7488				CONTRACTOR: East Coast Drilling, Inc. (ECDI)	201	PAR 72
	GROUNDWATE		/ATIONS		RIG TYPE: Geoprobe(R) 7822DT	LOCATION I	DI ANI
· '	SKOUNDIIAIE	K OBSEKY	AHONS		DATE/TIME START: ///()	Oceanport, N	
WATER LEVE		- 11.	5		DATE/TIME START: 77/0 DATE/TIME FINISH: 1500	Toceanport, iv	iew Jeisey
DATE:	L	8/9	Tile	***************************************		1	
		6/1	710		WEIGHT OF HAMMER: N/A		
TIME: MEAS. FROM:		B65			DROP OF HAMMER: N/A TYPE OF HAMMER: N/A		
DEPTH	SAMPLE	BLOWS	ADV/	PID		STRATA	COMMENTS
(feet)	I.D.	per 6"	REC.	(ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS
0			60/60	0	0-16" Diy, 1205e, mf, SAND,		
			/		Brown, little grass		
1	-1				16"LL13" Moist M. ausey Mf.		
	***************************************				Brown, SAND, trece		
2					5:14		
					1.35 441		
3					43:44" M. gravel, grey		
					44-60" Moist, Dense, MF,		
4					12-60 (100)		
				1	Group/Brown/grey Mottled SAND, Some SITE O-19" SAA		
5			6/46	0	0-19" SAA		
				{	161' 2 C'' 8 01 40 00 Co . G		
6					19"-35" Wet, M. Dense, not Brown / orange notslad		
					Brown / Overge notifed		
7					SAND, little GILT		1
	***************************************				35-46 moist Durse, MF		
8					grey/Brown, mottled		
					35-46" moist, Durse, mf grey/Brown, mothed SAND, 1: Hole silt		
9				1	777		
10							
Remarks:							***************************************
0					Acade St. 275		
Sample Types S – Split-Spoon					Consistency vs. Blowcount / Foot Granular (Sand & Gravel) Fine Grained (Sitt & Clay)	a	nd - 35-50%
U Undisturbed T C Rock Core	ube				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	\$0	me - 20-35% ittle - 10-20%
A Auger Cuttings	;				M. Dense: 10-30 M. Stiff: 4-8 Hard: > 30	tra	ace - <10%

Remarks:

Sample Types Consistency vs. Blowcount / Foot S -- Split-Spoon U -- Undisturbed Tube Granular (Sand & Gravel) Fine Grained (Silt & Clay) V. Loose: 0-4 Dense: 30-5: Loose: 4-10 V. Dense: >50 Dense: 30-50 Stiff: 8-15 V. Soft <2 C - Rock Core V. Stiff, 15-30 Soft: 2-4 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

PARSON	is					Page1	of	
					Soil Boring Log			
						BORING/WE	LL ID:	
	CLIENT: USA				INSPECTOR: C.Watz.	7AP-72-256-TALOGI		
	T NAME: FTM					 // 	DESCRIPTION	
	CATION: FTM					1 Cal	12	
	IUMBER: 7488				CONTRACTOR: East Coast Drilling, Inc. (ECDI)			
,	GROUNDWATE	R OBSERV	AHONS		RIG TYPE: Geoprobe(R) 7822DT DATE/TIME START: \$\frac{1}{2}\lb \lb \lo \lo O	LOCATION		
		۸115	<u>.</u> I		DATE/TIME START: 3/3/16 12 30	Oceanport, N	ew Jersey	
WATER LEVE	L;	2/5/11			7771	-		
DATE:		1315			WEIGHT OF HAMMER: N/A	1		
TIME: MEAS. FROM:	-	1347			DROP OF HAMMER: N/A	1		
DEPTH	SAMPLE	BLOWS	ADV/	PID	TYPE OF HAMMER: N/A	1		
(feet)	I.D.	per 6"	REÇ.	(ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS	
0			951	O	0-20" Dry, loose, Mt, Brown			
					SAND, track 5.15			
1					0-20" Dry, loose, Mt, Brown 5AND, trace 5:1+ 20" Minoist, M. 2N/22, Mf Brown			
					SAMA Little Silt trees			
2					SAND, little silt, truce fymul			
					- Tyrnel			
3				Constitution				
4								
			(0)	-				
5			6/47	Ô	0-47 Moist, SAA			
6								

7								
					_			
8								
9								
10								
Remarks:								
Sample Types					Consistency vs. Blowcount / Foot			
S Split-Spoon U Undisturbed Tu	ıbe				Granular (Sand & Gravel) Fine Grained (Sitt & Clay)		d - 35-50% ne - 20-35%	
C – Rock Core 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	litt	de - 10-20% de - <10%	



					Soil Boring Log		0
				***************************************	,	BORING/Wi	ELLID:
	CLIENT: USA				INSPECTOR:		PLAINOI
i	CT NAME: FTM		•		DRILLER:	LOCATION	DESCRIPTION
	OCATION: <u>FTMI</u> NUMBER: 7488				WEATHER:	-	
***************************************	GROUNDWATE		ATIONS	**************************************	RIG TYPE: Geoprobe(R 7822D	LOCATION	DI ANI
	GROUNDWATE	K OBSERV	ATIONS		DATE/TIME START:	Oceanport, N	
WATER LEVE	EL:	~ []	.5		DATE/TIME FINISH:	Oceanport, I	rew Jeisey
DATE:		7/9//	6		WEIGHT OF HAMMER: N/A		
TIME:	-	7 7	240		DROP OF HAMMER: N/A		
MEAS. FROM	:				TYPE OF HAMMER: N/A		
DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC,	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS
0			69y1	0	U-12" SAA		
			, ,		12-27" moist, grey/brown/oren	14	
1					12-27" moist, grey/brownforces Mt M. Durke, SANN truck Silt, Subvete		
					trere silt, sutures	1	
2					D 17"		
					27"-47" saturated, green/gr puse, mt SAMD, Same silt, true from	4/,	
3					0,060, mf SAND, Same		
4					5: It true from	,	
··					procel		
5				-	,		
6							
							İ
7							
-					•		-
8							

9							
0							
Remarks:							
Sample Types				-1	Consistency vs. Blowcount / Foot		
– Sp≨t-Spoon					Granular (Sand & Gravel) Fine Grained (Silt & Clay)		d - 35-50%
Undisturbed Tube Rock Core Auger Cuttings					/. Loose: 0-4 Dense: 30-50 V. Soft: <2	Į lītt	e - 20-35% e - 10-20% e - <10%

Page 1__ of __i<u>}</u>

					Soil Boring Log		
	CLIENT: USA	CE			INSPECTOR: C. Watsm	BORINGWE	111 ID:
PROJEC	T NAME: FTM				DRILLER: 5. BALNAK		DESCRIPTION
	CATION: FTM				WEATHER: 78°L		
	NUMBER: 7488				CONTRACTOR: East Coast Drilling, Inc. (ECDI)	(roce)	72
(GROUNDWATE	ER OBSER	VATIONS		RIG TYPE: Geogrobe(R) 7822DT	LOCATION	PLAN
					DATE/TIME START: 8/9/16 1045	Oceanport, N	ew Jersey
WATER LEVE	L:	٠(9		DATE/TIME FINISH: 8/9/16 1055		
DATE:					WEIGHT OF HAMMER: N/A]	
TIME:			-		DROP OF HAMMER: N/A		
MEAS. FROM:		,			TYPE OF HAMMER: N/A		
DEPTH (feet)	SAMPLE I.D.	BLOWS per 6*	ADV/ REC ₂	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS
0			40	0	0-191 Dry, loosey Brown, mit		
				1	JAND, some + grand,		
1							
					19"-31" M. Oury Brown, MP		
2					savo, little f gravel		
*******				\perp			
3	***************************************			<u> </u>	31:42" n. anse, Brawn,		-
				 	Mt, SANO, little f		
4				1	mt, SANO, little f grown little silt		
5			CO/ma		- 11d'' - 1A		
	W-P-		730		0-48" SAA,		
6				+			
	:				48-58" Saturated, Mt, Brown/ aronge mottled SAND		
7					Lucy Silt tony		
					frace silt, trace f graves		
8] ' ' ' ' ' '		
				\top			
9				1	,		
10	~~~			1			
lemarks;							
ample Types	W-704				Consistency vs. Blowcount / Foot	····	
 Split-Spoon Undisturbed To Rock Core Auger Cuttings 					Granular (Sand & Gravel) Fine Greined (Sift & Clay)	son litt	d - 35 -50% ne - 20-35% fe - 10-20% ne - <10%

					Soil Boring Log		
	OLIENT, LICA	OE.			WEDGGTOD. Chystsins	BORING/WE	ELL ID: -> B· O
nno ir	CLIENT: USA			· ····································	INSPECTOR: (-WYT>	16	DESCRIPTION
	CT NAME: <u>FTM</u>					LOCATION	DESCRIPTION
1	OCATION: FTMI				WEATHER: CONTRACTOR: East Coast Drilling, Inc. (ECDI)	-	
	NUMBER: 7488		/ATIONS			LOCATION	**************************************
	GROUNDWATE	K OBSEK	AHONS			LOCATION	
		~	2.5		DATE/TIME START:	Oceanport, N	lew Jersey
WATER LEVE	<u> </u>				DATE/TIME FINISH: /	-	
DATE:					WEIGHT OF HAMMER: N/A	-	
TIME:					DROP OF HAMMER: N/A	-	
MEAS. FROM	SAMPLE	BLOWS	ADV/	PID	TYPE OF HAMMER: N/A		
(feet)	ſ.D.	per 6"	REC.	(ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS
1_0			52	30.8	0-15" Moist, guy, & SAMO		
	10.5-11			67.8	and clay, m. statt		
1				50-1	and clay, M. Staff 15"-29" moint, gray, V. SHIFF		
	C. 3			6.1	clay		
2	12-125	<u> </u>		1.8	29"- 52" saturated, gray/some	/	
_				0	o omye, mt, mottled		
3				0	SAND, trace lit,		
				Q	Dinse		
4				0			
				0			
5						1	
						.	
6							
7				-			
8							
9							
					·		
0							
Remarks:							A10-000-00-00-00-00-00-00-00-00-00-00-00-
Sample Types				 1	Consistency vs. Blowcount / Foot	<u> </u>	
S Split-Spoon U Undisturbed T	`uha				ranular (Sand & Gravel) Fine Gra/ned (Sirt & Clay) Loose: 0-4 Dense: 30-50 V. Soft <2 Stiff: 8-15		d - 35-50% e - 20-35%
C – Rock Core				ļ	pose: 4-10 V. Dense: >50 Soft: 2-4 V. Stiff: 15-30	l mu	a · 10-20%
A – Auger Cutting	3				. Dense: 10-30 M. Stiff: 4-8 Hard: > 30		sa - <10% nsity, color, pradation

					Soil	Boring Log		
	CLIENT: USA	CE			INS	PECTOR: CWASSIA	BORINGWEI	LL ID: 223 ->B -0Z
	T NAME: FTM					DRILLER: J. BALNAK		ESCRIPTION
PROJECT LO					† "	reather: 82°f Clew	1	
	UMBER: 7488			······	1	RACTOR: East Coast Drilling, Inc. (ECDI)	Pricel	72 -228
	ROUNDWATE	•	ATIONS		7		LOCATIONA	1 Abr
	ROUNDITAIL	IN OBSERV	AHONS			RIG TYPE: Geoprobe(R) 7822DT E START: 1345	LOCATION P	
WATER LEVEL	à	~12.5	\leq			E FINISH: 1355	Oceanport, No	aw Jersey
DATE:		~12.5 8/4/	1/1/	•		•		
TIME:		<u> </u>		•		HAMMER: N/A	1	
MEAS. FROM:		605	<u> </u>		7	Hammer: <u>n/a</u> Hammer: n/a		
DEPTH .	SAMPLE	BLÓWS	ADV/	PID	TIFEOF		070474	
(feet)	ſ.D.	per 6"	REC.	(ppm)		FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS
0			625	0	0-11"	Concrete and Crushed		
				1		foots, some Mt Brown		4 -
1			-			SAND	- 30	
	W				11-20	Dry, brown, it SAND, tree		
2						+ gravel		. jā, sa
					704 - 20	" Back		
3								
4					23-39"	Moist, M. Denze, Mt, Brown		
						GAND, little silt		•
5			69/g1	6	0-16"	SAA, Wet		
			- /41	1				
6					16-27	SAA, Moist		
					27" 46"	Moist, grey, mf sand,		
7	***************************************				-	Some silt, some trace		
	1954-4			\perp		Som 5: It, some time Clay Moist, gray/scom/orange, t SAND, Som Ett,		
8					40-49	Moist, gray/scom/orange,		
				_		+ SAND, Som Elter,		
9				<u> </u>		little clay, v. stiff		
10				到1			!	
Remarks:		·			1.	N-Part Marin Collection		
Cample Tre						Consistence Division (5.1)		
Sample Types S Split-Spoon		-,-		**************************************	Granular (Sand & Gr	Consistency vs. Blowcount / Foot avel) Fine Grained (Sift & Clay)	and	I - 35-50%
U Undisturbed Tul C Rock Core	be					Dense: 30-50 V. Soft: <2 Stiff: 8-15 V. Dense: >50 Soft: 2-4 V, Stiff: 15-30		e- 20-35% a- 10-20%
A Auger Cuttings					M. Dense: 10-30	M. Stiff: 4-8 Hard: > 30	trac	e - <10%

		•	t
3	2	- 4	>
-age	-	_OT	*****

		SAVE SAVE			Soil Boring Log		
						BORINGWE	LL ID: -5B-01
	CLIENT: USA		·····		INSPECTOR:		
l	OT NAME: FTM				DRILLER:	LOCATION D	ESCRIPTION
	DCATION: FTM				WEATHER: CONTRACTOR: Eas (Coas) DHIJING Inc. (EQDI)	4	
	NUMBER: 7488			•			
	GROUNDWATE	ER OBSERV	ATIONS		RIG TYPE: Geopros (BY) 87201	LOCATION P	LAN
					DATE/TIME START: V	Oceanport, No	ew Jersey
WATER LEVE	iL:				DATE/TIME FINISH:	-	-
DATE:					WEIGHT OF HAMMER: <u>N/A</u>	-	
TIME:					DROP OF HAMMER: N/A	_	
MEAS. FROM	······	DI OWO	48111	nin.	TYPE OF HAMMER: N/A	1	
DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.,.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS
o			6/52	0	U-26" SAA, Saturated 26"-32" puist, Densel, grey/greal orange/Brown mothed af SAND, Some		
				1	20"-37" march Drocker / /		
1					de de puist, verse; grey/greaf		
					orange/Brown mothed		-
		1			MF SAND, Some		
2					5; lt		
3				1			
4							
				NR			
				2 15			
5							
6							
7							
8							
	1						
9							
0							
Remarks:							
							Í
Sample Types					Consistency vs. Biowcount / Foot		25 50%
J Undisturbed Tu	ube			ĺ	Fine Grained (Sitt & Clay) Fine Grained (Sitt & Clay) Clay Cl	some	- 35 -50% - 20-35%
C – Rock Core A – Auger Cuttings					oose: 4-10 V. Dense: >50 Soft: 2-4 V. Stiff: 15-30 1. Dense: 10-30 M. Stiff: 4-8 Hard: > 30	trace	• 10-20% • <10% sity, color, gradation

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

Remarks:

- Auger Cuttings

Consistency vs. Blowcount / Foot Fine Graiged (Silt & Clay)

V. Soft: <2 Stiff: 8-15

Soft 2-4 M. Stiff: 4-8 Hard: > 30

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

Remarks:

outrple 13pcs			Cons	distency vs	. Blowcoul	11.7 11001		- 1	
	Granular (Sand & C	Stavel)		Fine Gra	ined (Sit &	Clay)	_	-
U Undisturbed Tube	V. Loose:	0-4	Dense:	30-50	V. Soft:	<2	Stiff: 8-15	7	
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	- 1	
								- 1	

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

and - 35 -50%

ENCLOSURE 5 of Attachment D Analytical Data





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

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: PQF025|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 Kosciewicz, 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

Jebra J Musser

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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

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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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

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 preformed 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 incurbator 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: 2166908001Sample ID: PAR-72-211-TMW-01Sample 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	Ву	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	Ū	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 I	Зу	Analyzed	Ву	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	Ε
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	Е
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
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared	Ву	Analyzed	Ву	Cntr
1,2-Dichloroethane-d4 (S)	114		%	81 - 118			SW846 8260C			8/24/16 14:31	TMP	Ε
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	Е
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	Ε
Toluene-d8 (S)	91.5		%	89 - 112			SW846 8260C			8/23/16 14:54	TMP	F

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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: 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	Ву	Cntr
Library Search - Volatiles											
Octane, 4-methyl-	10.1	JΝ	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Nonane	10.4	JN	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Decane	117	JN	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Benzene, 1-ethyl-2-methyl-	160	JΝ	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Benzene, 1-ethyl-4-methyl-	107	JN	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
1H-Indene, 2,3-dihydro-	230	JΝ	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Benzene, 1-ethyl-3,5-dimethyl-	68.6	JN	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Benzene, 2-ethyl-1,4- dimethyl-	66.8	JN	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Benzene, 1-ethyl-2,3- dimethyl-	53.0	JN	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
1H-Indene, 2,3-dihydro-2- methy	87.2	JN	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Benzene, 1,2,4,5- tetramethyl-	58.2	JN	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
2,3-Dihydro-1-methylindene	69.5	JN	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Benzene, (1-methyl-1- propenyl)	144	JN	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Naphthalene, 1,2,3,4-tetrahydr	67.8	JN	ug/L				SW846 8260C		8/23/16 14:54	TMP	F
Naphthalene, 1,2,3,4- tetrahydr	52.8	JN	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	В1
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	В1
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

bis(2-Chloroethyl)ether	S B1 S B1 S B1 S B1 S B1 S B1 S B1 S B1
2-Chloronaphthalene 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG 2-Chlorophenol 38.5U U ug/L 154 38.5 6.3 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG 4-Chlorophenyl-phenylether 19.2U U ug/L 154 19.2 2.7 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG Chrysene 19.2U U ug/L 38.5 19.2 2.3 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG mp-Cresol 19.2U U ug/L 154 19.2 2.9 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG CG CF	S B1 S B1 S B1 S B1 S B1 S B1 S B1 S B1
2-Chlorophenol 38.5U U ug/L 154 38.5 6.3 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG 4-Chlorophenyl-phenylether 19.2U U ug/L 38.5 19.2 2.7 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG mp-Cresol 19.2U U ug/L 154 19.2 2.9 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG co-Cresol 19.2U U ug/L 154 19.2 2.9 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG co-Cresol 19.2U U ug/L 154 19.2 2.9 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG co-Cresol 19.2U U ug/L 154 19.2 2.9 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG co-Cresol 19.2U U ug/L 154 19.2 2.7 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG co-Cresol 19.2U U ug/L 154 19.2 1.9 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG co-Cresol 19.2U U ug/L 154 19.2 1.9 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG co-Cresol 19.2U U ug/L 154 19.2 1.9 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG co-Cresol 19.2U U ug/L 154 19.2 1.9 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG co-Cresol 19.2U U ug/L 154 19.2 1.9 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG co-Cresol 1.2-Dichlorobenzene 19.2U U ug/L 154 19.2 3.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG 1.2-Dichlorobenzene 19.2U U ug/L 154 19.2 3.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG 3.3-Dichlorobenzene 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG 3.3-Dichlorobenzene 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG 3.3-Dichlorobenzidine 57.7U U ug/L 308 57.7 9.2 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG 2.4-Dichlorophenol 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG 2.4-Dichlorophenol 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG 2.4-Dichlorophenol 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG 2.4-Dichlorophenol 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG 2.4-Dichlorophenol 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG 2.4-Dichlorophenol 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG 2.4-Dichlorophenol 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG 2.4-Dichlorophenol 19.2U U ug/L 308 154 34.8 SW846	S B1 S B1 S B1 S B1 S B1 S B1 S B1 S 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 CC Chrysene 19.2U U ug/L 154 19.2 2.9 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC o-Cresol 19.2U U ug/L 154 19.2 2.9 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC o-Cresol 19.2U U ug/L 154 19.2 2.7 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC o-Cresol 19.2U U ug/L 154 19.2 2.7 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC Di-n-Butylphthalate 19.2U U ug/L 154 19.2 2.7 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC Di-n-Cytylphthalate 19.2U U ug/L 154 19.2 1.9 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC Di-n-Cytylphthalate 19.2U U ug/L 38.5 19.2 4.0 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC Di-n-Cytylphthalate 19.2U U ug/L 154 19.2 2.1 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC Di-n-Cytylphthalate 19.2U U ug/L 154 19.2 3.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC 1,2-Dichlorobenzene 19.2U U ug/L 154 19.2 3.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC 1,3-Dichlorobenzene 19.2U U ug/L 154 19.2 3.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC 1,4-Dichlorobenzene 19.2U U ug/L 308 57.7 9.2 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC 3,3-Dichlorobenzene 19.2U U ug/L 308 57.7 9.2 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC 2,4-Dinitrophenol 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC 2,4-Dinitrophenol 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC 2,4-Dinitrophenol 154U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC 2,4-Dinitrophenol 154U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC 2,4-Dinitrophenol 154U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC 2,4-Dinitrophenol 154U U ug/L 308 154 34.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC 2,4-Dinitrophenol 154U U ug/L 308 154 34.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC 2,4-Dinitrophenol 154U U ug/L 308 154 34.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC 2,4-Dinitrophenol 154U U ug/L 308 154 34.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC 2,4-Dinitrophenol 154U U ug/L 308 154 34.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CC 2,4-Dinitrophenol 154U	S B1 S B1 S B1 S B1 S B1 S B1 S B1 S B1
Chrysene 19.2U U ug/L 38.5 19.2 2.3 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO o-Cresol 19.2U U ug/L 154 19.2 2.9 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO o-Cresol 19.2U U ug/L 154 19.2 2.9 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO o-Cresol 19.2U U ug/L 154 19.2 2.7 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO Di-n-Butylphthalate 19.2U U ug/L 154 19.2 2.7 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO Di-n-Octylphthalate 19.2U U ug/L 38.5 19.2 1.9 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO Di-n-Octylphthalate 19.2U U ug/L 38.5 19.2 4.0 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO Di-n-Dibenzofuran 247 ug/L 154 19.2 2.1 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 1,3-Dichlorobenzene 19.2U U ug/L 154 19.2 3.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 1,3-Dichlorobenzene 19.2U U ug/L 154 19.2 3.3 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 1,3-Dichlorobenzene 19.2U U ug/L 154 19.2 3.3 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 1,3-Dichlorobenzene 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 1,4-Dichlorobenzene 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dichlorobenzene 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dichlorobenzene 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dichlorobenzene 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dimethylphthalate 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dimethylphthalate 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dinitrophenol 154U U ug/L 308 154 34.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dinitrophenol 154U U ug/L 308 154 34.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dinitrophenol 154U U ug/L 308 154 34.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dinitrophenol 19.2U U ug/L 154 19.2 2.3 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dinitrophenol 19.2U U ug/L 308 154 34.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dinitrophenol 19.2U U ug/L 308 154 34.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 3,4-Dinitropheno	S B1 S B1 S B1 S B1 S B1 S B1 S B1 S B1
mp-Cresol 19.2U U ug/L 154 19.2 2.9 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO o-Cresol 19.2U U ug/L 154 19.2 4.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO Di-n-Butylphthalate 19.2U U ug/L 154 19.2 2.7 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 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 CO Dibenzofuran 247 ug/L 154 19.2 2.1 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 1,2-Dichlorobenzene 19.2U U ug/L 154 19.2 3.1 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 1,3-Dichlorobenzene 19.2U U ug/L 154 19.2 3.3 SW846 8270D 8/15/16	S B1 S B1 S B1 S B1 S B1 S B1 S B1 S B1
O-Cresol 19.2U U ug/L 154 19.2 4.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO Di-n-Butylphthalate 19.2U U ug/L 154 19.2 2.7 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO Di-n-Octylphthalate 19.2U U ug/L 154 19.2 1.9 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 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 CO Dibenzofuran 247 ug/L 154 19.2 2.1 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO Dibenzofuran 19.2U U ug/L 154 19.2 3.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 1,2-Dichlorobenzene 19.2U U ug/L 154 19.2 3.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 1,3-Dichlorobenzene 19.2U U ug/L 154 19.2 3.3 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 1,4-Dichlorobenzene 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 3,3-Dichlorobenzidine 57.7U U ug/L 308 57.7 9.2 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dichlorophenol 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dimethylphthalate 19.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dimethylphenol 96.2U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dimitrophenol 154U U ug/L 154 19.2 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dimitrophenol 154U U ug/L 154 19.2 2.7 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dimitrophenol 154U U ug/L 154 19.2 2.7 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dimitrophenol 154U U ug/L 154 19.2 2.7 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dimitrophenol 154U U ug/L 154 19.2 2.7 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dimitrotoluene 19.2U U ug/L 154 19.2 2.3 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dimitrotoluene 19.2U U ug/L 154 19.2 2.3 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dimitrotoluene 19.2U U ug/L 154 19.2 2.3 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dimitrotoluene 19.2U U ug/L 154 19.2 2.3 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dimitrotoluene 19.2U U ug/L 154 19.2 2.3 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,4-Dimitrotoluene 19.2U U ug/L 154 19.2 5.0 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CO 2,	S B1 S B1 S B1 S B1 S B1 S B1
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Fluorene 663 ug/L 38.5 19.2 3.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG	S B1
Hexachlorobenzene 19.2U U ug/L 154 19.2 4.4 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG	S B1
Hexachlorobutadiene 19.2U U ug/L 154 19.2 3.7 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG	S B1
Hexachlorocyclopentadiene 38.5U U ug/L 154 38.5 3.3 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG	S B1
Hexachloroethane 19.2U U ug/L 154 19.2 5.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG	S 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 CG	S B1
Isophorone 19.2U U ug/L 154 19.2 2.9 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG	S 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 CC	S B1
2-Methylnaphthalene 6680 ug/L 192 96.2 15.4 SW846 8270D 8/15/16 LEH 8/22/16 21:38 DF	F B1
Naphthalene 1450 ug/L 38.5 19.2 2.3 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG	S B1
2-Nitroaniline 19.2U U ug/L 154 19.2 3.8 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG	S B1
3-Nitroaniline 38.5U U ug/L 154 38.5 3.5 SW846 8270D 8/15/16 LEH 8/18/16 12:50 CG	S B1

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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: 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	Ву	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
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
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 - SemiVolatile	es										
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	JN	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	JN	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Naphthalene, 1,4,6-trimethyl-	319	JN	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1

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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: Date Collected: 8/10/2016 12:00 Matrix: Water 2166908001

Date Received: 8/11/2016 20:10 Sample ID: PAR-72-211-TMW-01

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	Ву	Cntr
Naphthalene, 2,3,6-trimethyl-	514	JN	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	JN	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Hexadecane, 2,6,10,14-tetramet	1230	JN	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	JN	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1
Phenanthrene, 2,5-dimethyl-	1250	JN	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:50	CGS	B1

Ms. Debra J. Musser

Project Coordinator

Debra J Musser

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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	Ву	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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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: 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 E	Ву	Analyzed	Ву	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	Ву	Analyzed	Ву	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 - VOLAT	TILES											
No TIC's Detected							Lib Search VOC			8/15/16 18:25	CPK	D
SEMIVOLATILES												

SEMIVOLATILES

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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: 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	Ву	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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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: 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	Ву	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	Ву	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	В1
Terphenyl-d14 (S)	64.1		%	50 - 134			SW846 8270D	8/15/16 LEH	8/16/16 17:44	CGS	B1

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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: 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	Ву	Cntr
Library Search - SemiVol	atiles										
Diethyltoluamide	17.5	JΝ	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

Debra J Musser

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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	Ву	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 I	Ву	Analyzed	Ву	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	Ву	Analyzed	Ву	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 - VOLAT	TILES											
No TIC's Detected							Lib Search VOC			8/15/16 18:03	CPK	D
SEMIVOLATILES												

SEMIVOLATILES

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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: 2166908003 Date Collected: 8/10/2016 09:55 Matrix: Water

Sample ID: PAR-72-220-TMW-01 Date Received: 8/11/2016 20:10

Acenaphthylene	Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	Ву	Cntr
Anthracene Q.93U U Ug/L 27.8 27.	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
Benzo(a)anthracene Q-29,	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
Benzo(a)anthracene 0.29J J ug/L 1.9 0.93 0.12 SW846 8270D 8/15/16 EH 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 EH 8/18/16 12:25 CGS B1 Benzo(s)Li)perylene 0.93U U ug/L 1.9 0.93 0.20 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 Benzo(s)Li)perylene 0.93U U ug/L 1.9 0.93 0.20 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 Benzo(s)Li)perylene 0.93U U ug/L 1.9 0.93 0.12 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 Benzo(s)Li)perylene 0.93U U ug/L 7.4 0.93 0.16 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 Benzo(s)Li)perylene 0.93U U ug/L 7.4 0.93 0.16 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 Butylibenzylphthalate 0.93U U ug/L 7.4 0.93 0.16 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 Butylibenzylphthalate 0.93U U ug/L 7.4 0.93 0.16 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 Butylibenzylphthalate 0.93U U ug/L 7.4 0.93 0.16 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 Butylibenzylphthalate 0.93U U ug/L 7.4 0.93 0.16 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 Bis(2-Chloroethiyl)ether 0.93U U ug/L 7.4 0.93 0.16 SW846 8270D 8/15/16 EH 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 EH 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 EH 8/18/16 12:25 CGS B1 Bis(2-Chloroethyl)ether 0.93U U ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 Bis(2-Chloroethyl)ether 0.93U U ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 Bis(2-Chloroethyl)ether 0.93U U ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 Bis(2-Chloroethyl)ether 0.	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
Benzo(a)pyrene 0.93U	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(b)fluoranthene	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(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 7.4 1.9 0.93 0.16 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Benzy (Alcohol 0.22) Ug/L 7.4 1.9 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 0.16 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Butylbenzylphthalate 0.93U U Ug/L 7.4 0.93 0.11 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Carbazole 0.93U U Ug/L 7.4 0.93 0.18 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 CArbazole 0.93U U Ug/L 7.4 0.93 0.18 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 CArbazole 0.93U U Ug/L 7.4 0.93 0.18 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 CArbazole 0.93U U Ug/L 7.4 0.93 0.18 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 CArbazole 0.93U U Ug/L 7.4 0.93 0.18 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 CArbazole 0.93U U Ug/L 7.4 0.93 0.16 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 CArbazole 0.93U U Ug/L 7.4 0.93 0.16 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 CArbazole 0.93U U Ug/L 7.4 0.93 0.16 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 CArbazole 0.93U U Ug/L 7.4 0.93 0.17 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 CArbazole 0.93U U Ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 CArbazole 0.93U U Ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 CArbazole 0.93U U Ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 CArbazole 0.93U U Ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 CArbazole 0.93U U Ug/L 7.4 0.93	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
Benzok) fluoranthene 0.93U U Ug/L 7.4 1.9 0.93 0.18 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
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-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 bis(2-Chloroethoxy)methane 0.93U U ug/L 7.4 0.93 0.18 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-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 2-Chlorophenol 1.9U ug/L 7.4 0.93 0.16 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 2-Chlorophenol 1.9U ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 2-Chlorophenol 1.9U ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 3-Chlorophenol 1.9U ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 3-Chlorophenol 0.93U U ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 3-Cresol 0.93U U ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 3-Cresol 0.93U U ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 3-Cresol 0.93U U ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 3-Cresol 0.93U U ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS	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
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 4-Chloro-3-methylphenol 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 0.19 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 0.16 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 0.26 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 2	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
Butylbenzylphthalate 0.93U U Ug/L 7.4 0.93 0.10 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 Carbazole 0.93U U Ug/L 7.4 0.93 0.11 SW846 8270D 8/15/16 EH 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 EH 8/18/16 12:25 CGS B1 EACH Chloro-3-methylphenol 0.93U U Ug/L 7.4 0.93 0.18 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 Sig(2-Chloroethoxy)methane 0.93U U Ug/L 7.4 0.93 0.19 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 Bis(2-Chloroethoxy)methane 0.93U U Ug/L 7.4 0.93 0.16 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 Bis(2-Chloroethoxy)methane 0.93U U Ug/L 7.4 0.93 0.16 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 EACH Chloroshorpopyl)ether 0.93U U Ug/L 7.4 0.93 0.16 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 EACH Chlorophenol 0.93U U Ug/L 7.4 0.93 0.17 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 EACH Chlorophenol 0.93U U Ug/L 7.4 0.93 0.11 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 EACH Chlorophenol 0.93U U Ug/L 7.4 0.93 0.11 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 EACH Chlorophenol 0.93U U Ug/L 7.4 0.93 0.11 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 EACH Chlorophenol 0.93U U Ug/L 7.4 0.93 0.11 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 EACH Chlorophenol 0.93U U Ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 EACH Chlorophenol 0.93U U Ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 EACH Chlorophenol 0.93U U Ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 EACH Chlorophenol 0.93U U Ug/L 7.4 0.93 0.10 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 EACH Chlorophenol	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
Carbazole 0.93U U ug/L 7.4 0.93 0.11 SW846 8270D 8/15/16 EH 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 EH 8/18/16 12:25 CGS B1 4-Chloroathinine 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-Chlorosethyl)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-Chlorophenol 1.9U ug/L 7.4 0.93 0.21 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 2-Chlorophenol/enoly-phenylether 0.93U <td>4-Bromophenyl-phenylether</td> <td>0.93U</td> <td>U</td> <td>ug/L</td> <td>7.4</td> <td>0.93</td> <td>0.16</td> <td>SW846 8270D</td> <td>8/15/16 LEH</td> <td>8/18/16 12:25</td> <td>CGS</td> <td>B1</td>	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
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 0.16 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 bis(2-Chloroethy)jether 0.93U U ug/L 7.4 0.93 0.16 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 2-Chloropherol 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-Chloropherol 1.9U ug/L 7.4 0.93 0.11 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Chrysene 0.93U U	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
4-Chloroaniline 0.93U U ug/L 7.4 0.93 0.19 SW846 8270D 8/15/16 EH 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 EH 8/18/16 12:25 CGS B1 bis(2-Chloroethy)lether 0.93U U ug/L 7.4 0.93 0.16 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 2-Chlorophenol 0.93U U ug/L 7.4 0.93 0.17 SW846 8270D 8/15/16 EH 8/18/16 12:25 CGS B1 2-Chlorophenol 1.9U U ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 2-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<	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
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-Chloroethy)lether 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-Chloroisopropy)lether 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-Chlorophenol 0.93U 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 7.4 0.93 0.11 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Di-Derocresol	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
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-Chlorophenol 1.9U 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 0.11 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 0-Crycsol 0.93U U ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 0-in-Butylphthalate <t< td=""><td>4-Chloroaniline</td><td>0.93U</td><td>U</td><td>ug/L</td><td>7.4</td><td>0.93</td><td>0.19</td><td>SW846 8270D</td><td>8/15/16 LEH</td><td>8/18/16 12:25</td><td>CGS</td><td>B1</td></t<>	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-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 7.4 0.93 0.11 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Chrysene 0.93U U Ug/L 7.4 0.93 0.14 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Chrysene 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 0.93U U Ug/L 7.4 0.93 0.23 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Chrysene 0.93U U Ug/L 7.4 0.93 0.23 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Chrysene 0.93U U Ug/L 7.4 0.93 0.03 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Chrysene 0.93U U Ug/L 7.4 0.93 0.03 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Chrysene 0.93U U Ug/L 7.4 0.93 0.19 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Chrysene 0.93U U Ug/L 7.4 0.93 0.19 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Chrysene 0.93U U Ug/L 7.4 0.93 0.19 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Chrysene 0.93U U Ug/L 7.4 0.93 0.19 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Chrysene 0.93U U Ug/L 7.4 0.93 0.19 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Chrysene 0.93U U Ug/L 7.4 0.93 0.19 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Chrysene 0.93U U Ug/L 7.4 0.93 0.17 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Chrysene 0.93U U Ug/L 7.4 0.93 0.17 SW846 8270D 8/	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
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 7.4 0.93 0.11 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-Ostylphthalate 0.93U U ug/L 7.4 0.93 0.093 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Dibenzofuran 0.93U <td< td=""><td>bis(2-Chloroethyl)ether</td><td>0.93U</td><td>U</td><td>ug/L</td><td>7.4</td><td>0.93</td><td>0.16</td><td>SW846 8270D</td><td>8/15/16 LEH</td><td>8/18/16 12:25</td><td>CGS</td><td>B1</td></td<>	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
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 o-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-Dutylphthalate 0.93U U ug/L 7.4 0.93 0.03 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Dibenzofuran 0.93U U ug/L 7.4 0.93 0.19 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 <td>bis(2-Chloroisopropyl)ether</td> <td>0.93U</td> <td>U</td> <td>ug/L</td> <td>7.4</td> <td>0.93</td> <td>0.26</td> <td>SW846 8270D</td> <td>8/15/16 LEH</td> <td>8/18/16 12:25</td> <td>CGS</td> <td>B1</td>	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
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 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 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 c-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 0.23 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Di-n-Cotylphthalate 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 7.4 0.93 0.093 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 0.10 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 0.10 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 0.10 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 0.16 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 0.16 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 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 2,4-Dichlorophenol 0.93U U ug/L 7.4 0.93 0.17 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 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 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 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 Diethylphthalate 0.93U U ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Diethylphthalate 0.93U U ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Diethylphthalate 0.93U U ug/L 7.4 0.93 0.13 SW846 8270D 8/15/16 LEH	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
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 Di-n-Octylphthalate 0.93U U ug/L 1.9 0.93 0.19 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 Di-n-Di-n-Di-n-Di-n-Di-n-Di-n-Di-n-Di-n	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
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 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 0.10 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 1,3-Dichlorobenzene 0.93U <t< td=""><td>4-Chlorophenyl-phenylether</td><td>0.93U</td><td>U</td><td>ug/L</td><td>7.4</td><td>0.93</td><td>0.13</td><td>SW846 8270D</td><td>8/15/16 LEH</td><td>8/18/16 12:25</td><td>CGS</td><td>B1</td></t<>	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
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 7.4 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 0.16 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 1,4-Dichlorobenzene 0.93U <td>Chrysene</td> <td>0.19J</td> <td>J</td> <td>ug/L</td> <td>1.9</td> <td>0.93</td> <td>0.11</td> <td>SW846 8270D</td> <td>8/15/16 LEH</td> <td>8/18/16 12:25</td> <td>CGS</td> <td>B1</td>	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
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 Dibenzofuran 0.93U U ug/L 7.4 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 0.17 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 3,3-Dichlorobenzene 0.93U </td <td>mp-Cresol</td> <td>0.93U</td> <td>U</td> <td>ug/L</td> <td>7.4</td> <td>0.93</td> <td>0.14</td> <td>SW846 8270D</td> <td>8/15/16 LEH</td> <td>8/18/16 12:25</td> <td>CGS</td> <td>B1</td>	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
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 2,4-Dichlorobenzidine	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
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 7.4 0.93 0.30 SW846 8270D 8/15/16 LEH 8/18/16 12:25 CGS B1 2,4-Dichlorobenzidine	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
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 2,4-Dimethylphenol 4.	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
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-Dimethylphthalate	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
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<	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
1,4-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	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
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-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 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	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
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	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
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	3,3-Dichlorobenzidine	2.8U	U		14.8	2.8	0.44	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-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
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	Diethylphthalate	0.93U	U	_	7.4	0.93	0.17	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-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
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	Dimethylphthalate	0.93U	U	_	7.4	0.93	0.13	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
	• •	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		7.4	0.93	0.11	SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1

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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: 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	Ву	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
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
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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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: 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
		9						-,,		,	
Library Search - SemiVola	atiles										
Octadecanoic acid	24.0	JN	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Dotriacontane	6.2	JN	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	JN	ug/L				SW846 8270D	8/15/16 LEH	8/18/16 12:25	CGS	B1
Eicosane	6.7	JN	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	JN	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	JN	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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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: 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	Ву	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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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: 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 E	Зу	Analyzed	Ву	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	Ву	Analyzed	Ву	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 - VOLAT	TILES											
No TIC's Detected							Lib Search VOC			8/15/16 17:41	CPK	D
SEMIVOLATILES												

SEMIVOLATILES

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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: 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	Ву	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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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: 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	Ву	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
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
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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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: 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	Ву	Cntr
Library Search - Semi	Volatiles										
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

Debra J Musser

Ms. Debra J. Musser

Project Coordinator

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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: 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	Ву	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	Е
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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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: 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 E	Ву	Analyzed	Ву	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	Е
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	Ε
1,3,5-Trimethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C			8/24/16 14:09	TMP	Е
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
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared	Ву	Analyzed	Ву	Cntr
1,2-Dichloroethane-d4 (S)	114		%	81 - 118			SW846 8260C			8/24/16 14:09	TMP	Е
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	Ε
Dibromofluoromethane (S)	85.3		%	80 - 119			SW846 8260C			8/24/16 14:09	TMP	Е
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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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: 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	Ву	Cntr
LIBRARY SEARCH - VOLAT	ILES										
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	В1
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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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: 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	Ву	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	В1
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	В1
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	В1
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	В1
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	В1
Hexachlorobenzene	1.0U	U	ug/L	8.1	1.0	0.23	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	В1
Hexachlorobutadiene	1.0U	U	ug/L	8.1	1.0	0.19	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	В1
Hexachlorocyclopentadiene	2.0U	U	ug/L	8.1	2.0	0.17	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	В1
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	В1
Isophorone	1.0U	U	ug/L	8.1	1.0	0.15	SW846 8270D	8/15/16 LEH	8/16/16 16:30	CGS	В1
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	В1
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	В1
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	В1
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
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
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	Ву	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 - SemiVola	tiles										
Undecane, 2,6-dimethyl-	5.2	JN	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	JN	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

Ms. Debra J. Musser Project Coordinator

Debra J Musser

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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	Ву	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 E	Ву	Analyzed	Ву	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
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared	Ву	Analyzed	Ву	Cntr
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 - VOLAT	TILES											
No TIC's Detected							Lib Search VOC			8/15/16 16:13	CPK	D
SEMIVOLATILES												

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	Ву	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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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: 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	Ву	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
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
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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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: 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

Library Search - SemiVolatiles

Unknown 104 J ug/L SW846 8270D 8/15/16 LEH 8/16/16 18:09 CGS B1

Ms. Debra J. Musser Project Coordinator

a J Musser

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

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

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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

Debra J Musser

Ms. Debra J. Musser

Project Coordinator

Report ID: 2166908 - 8/25/2016





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

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.

ALS Environmental Laboratory Locations Across North America

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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

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 Kosciewicz, Mr. Cory Mahony

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

Debra J. Musser

Project Coordinator

ALS Environmental Laboratory Locations Across North America

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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

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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Report ID: 2166911 - 8/22/2016 Page 2 of 8





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

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 preformed 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 incurbator 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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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: 2166911 PQF028|FTMM

Lab ID: 2166911001 Date Collected: 8/10/2016 09:25 Matrix: Solid

Sample ID: PAR-72-212-SB-01-5-5.5 Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	Ву	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
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
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	Α
Total Solids	88.4		%	0.1	0.1	0.01	S2540G-11		8/16/16 10:08	VKB	Α

Debra J Musser

Ms. Debra J. Musser

Project Coordinator

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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: 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	Ву	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
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
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	Α
Total Solids	85.1		%	0.1	0.1	0.01	S2540G-11		8/16/16 10:08	VKB	Α

Debra J Musser

Ms. Debra J. Musser

Project Coordinator

Report ID: 2166911 - 8/22/2016 Page 5 of 8





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: 2166911 PQF028|FTMM

Lab ID: 2166911003 Date Collected: 8/10/2016 10:00 Matrix: Solid

Sample ID: PAR-72-212-SB-02-5-5.5 Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	Ву	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
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
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	Α
Total Solids	88.3		%	0.1	0.1	0.01	S2540G-11		8/16/16 10:08	VKB	Α

Debra J Musser

Ms. Debra J. Musser

Project Coordinator

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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	Ву	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
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
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	Α
Total Solids	83.9		%	0.1	0.1	0.01	S2540G-11		8/16/16 10:08	VKB	Α

Debra J Musser

Ms. Debra J. Musser

Project Coordinator

Report ID: 2166911 - 8/22/2016 Page 7 of 8

State Samples Collected in Receipt Information (completed by Receiving Lab) ğ Initial _Pickup __Labor __ _Rental Equipment 3 Æ 2 × Pickup Sample/COC Comments Them ID: Special Processing Sample Disposa USACE Navy P Special COCiLabels Complete/Accurate? Correct Containers? Cornect Sample Volumes? Custody Seals Present? (if present) Seals Intact? Received on Ico? Cont. in Good Cond.? Correct Preservation? Headspace/Volatiles? Composite Sampling Other ALS Field Services: Courier/Tracking #: No. of Coolers: "Matrix - Ala Alr, DW=Drinking Water, GW=Groundwater, Ol=Oil; OL=Other Liquid; SL=Skudge; SO=Soil; WP=Wipe; WW=Wastewater Cooler Temp: Reportable to PADEP? ALS ENVIRONMENTAL SHIPPING ADDRESS: 1565 Jefferson Road, Building 300, Suite 360 Rochester, NY 14623 USA Standard CLP-like EDDS: Format Type-USACE P S X **GYTRACT AND HOLD** × **PWSID**# Yes Deliveraples **NUR OT G3SIROHTUA** ereo Sample or Field Results Below S 2010 Ţ 72.5 REQUEST FOR ANALYSIS ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT Date ANALY SES/METHOD REQUESTED SAMPLER. INSTRUCTIONS ON THE BACK ò ខ 햠 로 VOC (8260C)+TICs (groundwater) CHAIN OF CUSTODY of Containers Per 좆 로 ≓ SVOC (8270D) + TICs (groundwater) atived By / Company & 4 02 ¥ ş resq (6020) 4C & MECH 40mL dichloroethane & 1,2-dibromoethane 8 VOC (8260C)+TICs including 1,2-3 methylnaphthalene (8270D) 402 Ş 4 ě SAOCs - Naphthalene & 2-Ø 402 ₹ 갂 EPH (fractionated) 2 REVIEWED BY (signature): 2010 Preservative 9 xhtsM" OGGED BY(signature): Container Time 18 M J 10 9* 3/1/1/2 5250 83% 8 Date Time 114 5 Rush-Subject to ALS approval and surcharges Normal-Standard TAT is 10-12 business days. Š Building 300, Suite 360 Rochester, NY 14623 G=Grab; C=Composite 565 Jefferson Road 08/16 X -Y carla.rodman@parsons.com Sample Date MOL Must Meet NJDEP Soil Cleanup Criteria and/or Groundwater. (585)288-5380 Religanished By / Company Name 21-5-11-60-85-516-51-989 48-72-212-58-01-555 5-11-11-10-85-212-22-140 -58-02-555 ample Description/Location (as it will appear on the lab report) 4ddress: 100 High St. 4th Floor Client Name: Parsons Federal Environmental Boston, MA 02110 Project Name#: FTMM Bill To: Parsons Federal Phone#: 617-449-1440 Contact: Cory Mahony Date Required: Quality Standards PAR-7 TAT Email? Fax





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

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 Kosciewicz, 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

lebra J Musser

ALS Environmental Laboratory Locations Across North America

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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

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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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

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 preformed 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 incurbator 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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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

PROJECT SUMMARY

Workorder: 2166913 PQF029|FTMM

Sample Comments

Sample ID: PAR-72-212-SB-01-Lab ID: 2166913001 Sample Type: SAMPLE

5.5-5

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.

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

11.5

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.

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

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

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 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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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

PROJECT SUMMARY

Workorder: 2166913 PQF029|FTMM

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

11.5-12

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 Date Collected: 8/10/2016 09:25 Matrix: Solid

Sample ID: PAR-72-212-SB-01-5.5-5 Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	Ву	Cntr
- arameters	results	ı iay	Office	LOQ	LOD		Wictioa	т тератей Ву	Analyzed	Бу	Onti
AROMATIC PETROLEUM I	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	В
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	В
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	В
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	В
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	В
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	В
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
2-Bromonaphthalene (S)	90.1		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 11:53	KJH	В
2-Fluorobiphenyl (S)	88.2		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 11:53	KJH	В
o-Terphenyl (S)	55.4		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 11:53	KJH	В
ALIPHATIC PETROLEUM H	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	В
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	В
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	В
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	В
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	В
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
1-Chlorooctadecane (S)	32	3	%	40 - 140			NJEPH	8/17/16 MPP	8/22/16 00:54	KJH	В
WET CHEMISTRY											
Moisture	12.0		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	В
Total Solids	88.0		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	В

Ms. Debra J. Musser Project Coordinator

Debra J Musser

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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	Ву	Cntr
- aranieters	Nesuits	riay	UIIIIS	LUQ	LOD	DL	Metriou	тератей бу	Allalyzeu	Бу	Cita
AROMATIC PETROLEUM I	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	В
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	В
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	В
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	В
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	В
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	В
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
2-Bromonaphthalene (S)	89.4		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 13:49	KJH	В
2-Fluorobiphenyl (S)	87.2		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 13:49	KJH	В
o-Terphenyl (S)	59.4		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 13:49	KJH	В
ALIPHATIC PETROLEUM I	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	В
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	В
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	В
C21 TO C40	1.9		mg/kg	1.1	1.1	0.54	NJEPH	8/17/16 MPP	8/22/16 02:53	KJH	В
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	В
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
1-Chlorooctadecane (S)	33.2	1	%	40 - 140			NJEPH	8/17/16 MPP	8/22/16 02:53	KJH	В
WET CHEMISTRY											
Moisture	14.6		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	В
Total Solids	85.4		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	В

Ms. Debra J. Musser Project Coordinator

Debra J Musser

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ANALYTICAL RESULTS

Workorder: 2166913 PQF029|FTMM

Lab ID: 2166913003 Date Collected: 8/10/2016 10:00 Matrix: Solid

Sample ID: PAR-72-212-SB-02-5-5.5 Date Received: 8/11/2016 20:10

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	Ву	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	В
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	В
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	В
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	В
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	В
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	В
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
2-Bromonaphthalene (S)	91.3		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 14:48	KJH	В
2-Fluorobiphenyl (S)	89.4		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 14:48	KJH	В
o-Terphenyl (S)	59.3		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 14:48	KJH	В
ALIPHATIC PETROLEUM I	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	В
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	В
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	В
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	В
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	В
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
1-Chlorooctadecane (S)	34.2	1	%	40 - 140			NJEPH	8/17/16 MPP	8/22/16 03:53	KJH	В
WET CHEMISTRY											
Moisture	11.2		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	В
Total Solids	88.8		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	В

Debia J Musser
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	Ву	Cntr
AROMATIC PETROLEUM I	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	В
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	В
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	В
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	В
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	В
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	В
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
2-Bromonaphthalene (S)	91.4		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 15:46	KJH	В
2-Fluorobiphenyl (S)	89		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 15:46	KJH	В
o-Terphenyl (S)	52.1		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 15:46	KJH	В
ALIPHATIC PETROLEUM I	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	В
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	В
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	В
C21 TO C40	3.9		mg/kg	1.2	1.2	0.59	NJEPH	8/17/16 MPP	8/22/16 04:52	KJH	В
Total EPH Aliphatic	5.0		mg/kg	4.8	4.8	1.8	NJEPH	8/17/16 MPP	8/22/16 04:52	KJH	В
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
1-Chlorooctadecane (S)	42.1		%	40 - 140			NJEPH	8/17/16 MPP	8/22/16 04:52	KJH	В
WET CHEMISTRY											
Moisture	17.9		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	В
Total Solids	82.1		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	В

Ms. Debra J. Musser Project Coordinator

Debra J Musser

ALS Environmental Laboratory Locations Across North America

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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: 2166913 PQF029|FTMM

Lab ID: 2166913005 Date Collected: 8/10/2016 15:30 Matrix: Ground 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	Ву	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	Α
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
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	Α

Ms. Debra J. Musser Project Coordinator

Debra J Musser

Report ID: 2166913 - 8/25/2016

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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

PARAMETER OLIA	ILLEDE

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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1		_				_																											
	2 1 6 6 9 1 3 x if		Receipt Information (completed by Receiving Lab)	Cooler Temp: 1 Therm ID: 352	No. of Coolers: Y N Initial	Custody Seals Present?	(if prosent) Seals Intact?	Received on Ice?	COCCEDER COmplete Accurate 7	Corrt in Good Cond.?	Correct Sample Volumes?	Correct Preservation?	HeadspaceVolatiles?	Sample/COC Comments					111/11/	2/16/1/5	2,121		1.	Other:	Special Processing State Samples	USACE Collected In	Navy NY	×	Sample Disposal		Special 🔲	ERPIMS	astewater
40.	COC#		Recei	Coote	No. of C					ного	6000 Dec		ятх	3					7	ζ I I	7		# C	19	Standard	X CLP-like	USACE		Reportable to PADEP?	Yes		EDDS: Format Type- ER	"G=Grab, C=Composae "Matrix - Al≃Alr, DW=Drinking Water, GW=Groundwater, Ol=Oij OL=Other Liquid; SL=Sludge, SO=Solt, WP=Wipe, WW≡Wastewate
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	JSTODY/ ANALYSIS	INO SN	¥.	11	HCL HCL	ETHOD RE	(Ja	swbr	non	E) sOII	+ (00	(827(OOA	쿹											3140	2210	lame	Ŋ	7	X			Ol=Oil: Of
	PF CU:	RUCTIO	A.	4 02	4c	LYSESIM					(((6020	bsə.	er of Conta					,	19/	11				П		ompany !	9	8	8			oundwater
	CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS SHADED AREAS MUST BE COMPLETED BY	SAMPLER. INSTRUCTIONS ON THE BACK	8	40mL	4C S MEOH	ANA	80			ulani at 1,2-dibr									S X	5/6					à		Received By I Company Name	4	ガガ	The sale			ter, GW=G
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l	3.00									days.				Time	5210	0135	1000	1015	1530						10GGED B	REVIEWED BY(signature):	Date	8/11/16	111/2	11-8			Name of
	1565 Jefferson Road Building 300, Suite 360 Rochester, NY 14623	380				3				X Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.	Approved?	X -Y carla.rodman@parsons.com	Sample	Date	8/10/16	-		_	-	277					undwater			0	4				C=Composi
	1565 Jeffe Building 30 Rochester	(585)288-5380								AT is 10-1. S approve		n(a)pars	100		1	-11.5	5-2-5	15.12	ol6						a andlor Gro		pany Nam		Ì	X			G=Crab.
ı		1	ederal	th Floor	2110	945		Z -		standard T. bject to AL		a.rodma	Sample Description/Location	(as it will appear on the lab report)	58-01-555	11-10-9	8-02-5	1-60-	9 loxasol -	8000					leanup Criteri		Relinquished By / Company Name	200	(1. K			
	(Ŷ)	Lee .	Parsons	High St. 4	Boston, MA 02110	y Mahony	449-1440	one Fodor	OIIS I CACI	Normal-S Rush-Sul	Ü		e Descript	will appear on	-212.	212-5B	-713-5	212-9	3-68	Š.					ts: 748810 NUDEP SOILC	,,,	Inquished	ale a	1	X			
	4	Environmental	Client Name: Parsons Federal	Address: 100 High St. 4th Floor	Bo	Contact: Cory Mahony	Phone#: 617-449-1440	Project Namer#: FIMM Bill To: Dange Enderal		¥ ¥	. 9.	Email?		(85 il	PAR-72-213	29年-72-72-58-01-11-115	3/90-72-212-58-02-5-5:5	49AR-72-212-98-02-115-12	5 PAR-72-EB-						Project Comments: 748810 MDL Must Meet NJDEP Soil Clanup Criteria and/or Groundwater.	Quality Standards	S.	3		1)		
1			5	₹		ŏ	مامة	Σď	5		رق	ii ü	1		4	2	3	4	S	9	7	တ	တ	유	F	a	\sqcup	-	3	S	~	6	_





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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.

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

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

lebra J Musser

ALS Environmental Laboratory Locations Across North America

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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

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 preformed 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 incurbator 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

Sample ID: PAR-72-228-SB-03-Lab ID: 2166914001 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.

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

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

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.

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

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

8.5-9

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.

Sample ID: PAR-72-228-SB-02-12- **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 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 Date Collected: 8/9/2016 10:30 Matrix: Solid

Sample ID: PAR-72-228-SB-03-6.5-7 Date Received: 8/10/2016 20:25

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	Ву	Cntr
AROMATIC PETROLEUM I	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	Α
C12 TO C16	4.0		mg/kg	1.2	1.2	0.21	NJEPH	8/17/16 MPP	8/24/16 05:05	KJH	Α
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	Α
C21 TO C36	3.6		mg/kg	1.2	1.2	0.28	NJEPH	8/17/16 MPP	8/24/16 05:05	KJH	Α
Total EPH Aromatic	23.9		mg/kg	4.7	4.7	1.2	NJEPH	8/17/16 MPP	8/24/16 05:05	KJH	Α
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	Α
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
2-Bromonaphthalene (S)	94.5		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 05:05	KJH	Α
2-Fluorobiphenyl (S)	91.9		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 05:05	KJH	Α
o-Terphenyl (S)	64.9		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 05:05	KJH	Α
ALIPHATIC PETROLEUM H	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	Α
C12 TO C16	15.8		mg/kg	1.2	1.2	0.50	NJEPH	8/17/16 MPP	8/21/16 18:06	KJH	Α
C16 TO C21	16.3		mg/kg	1.2	1.2	0.49	NJEPH	8/17/16 MPP	8/21/16 18:06	KJH	Α
C21 TO C40	3.9		mg/kg	1.2	1.2	0.58	NJEPH	8/17/16 MPP	8/21/16 18:06	KJH	Α
Total EPH Aliphatic	38.2		mg/kg	4.7	4.7	1.7	NJEPH	8/17/16 MPP	8/21/16 18:06	KJH	Α
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
1-Chlorooctadecane (S)	28.7	1	%	40 - 140			NJEPH	8/17/16 MPP	8/21/16 18:06	KJH	Α
WET CHEMISTRY											
Moisture	14.8		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	Α
Total Solids	85.2		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	Α

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ANALYTICAL RESULTS

Workorder: 2166914 PQF030|FTMM

Lab ID: 2166914002 Date Collected: 8/9/2016 10:40 Matrix: Solid

Sample ID: PAR-72-228-SB-03-7-7.5 Date Received: 8/10/2016 20:25

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

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ANALYTICAL RESULTS

Workorder: 2166914 PQF030|FTMM

Lab ID: 2166914003 Date Collected: 8/9/2016 11:00 Matrix: Solid

Sample ID: PAR-72-228-SB-01-5-5.5 Date Received: 8/10/2016 20:25

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	Ву	Cntr
AROMATIC PETROLEUM I	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	Α
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	Α
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	Α
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	Α
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	Α
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	Α
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
2-Bromonaphthalene (S)	85.6		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 07:02	KJH	Α
2-Fluorobiphenyl (S)	82.9		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 07:02	KJH	Α
o-Terphenyl (S)	58.9		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 07:02	KJH	Α
ALIPHATIC PETROLEUM I	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	Α
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	Α
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	Α
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	Α
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	Α
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
1-Chlorooctadecane (S)	29.3	1	%	40 - 140			NJEPH	8/17/16 MPP	8/21/16 20:02	KJH	Α
WET CHEMISTRY											
Moisture	12.6		%	0.1	0.1	0.01	S2540G-11		8/17/16 15:06	VKB	Α
Total Solids	87.4		%	0.1	0.1	0.01	S2540G-11		8/17/16 15:06	VKB	Α

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ANALYTICAL RESULTS

Workorder: 2166914 PQF030|FTMM

Lab ID: 2166914004 Date Collected: 8/9/2016 11:15 Matrix: Solid

Sample ID: PAR-72-228-SB-01-8.5-9 Date Received: 8/10/2016 20:25

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Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	Ву	Cntr
AROMATIC PETROLEUM I	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	Α
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	Α
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	Α
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	Α
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	Α
Total EPH (Aliphatic+Aromatic)	18.5		mg/kg	10	10	3.1	NJEPH	8/17/16 MPP	8/24/16 08:58	KJH	Α
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
2-Bromonaphthalene (S)	87.2		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 08:58	KJH	Α
2-Fluorobiphenyl (S)	84.8		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 08:58	KJH	Α
o-Terphenyl (S)	59.7		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 08:58	KJH	Α
ALIPHATIC PETROLEUM I	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	Α
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	Α
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	Α
C21 TO C40	14.2		mg/kg	1.2	1.2	0.61	NJEPH	8/17/16 MPP	8/21/16 21:59	KJH	Α
Total EPH Aliphatic	15.8		mg/kg	5.0	5.0	1.8	NJEPH	8/17/16 MPP	8/21/16 21:59	KJH	Α
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
1-Chlorooctadecane (S)	28.2	1	%	40 - 140			NJEPH	8/17/16 MPP	8/21/16 21:59	KJH	Α
WET CHEMISTRY											
Moisture	22.0		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	Α
Total Solids	78.0		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	Α

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

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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	Ву	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	Α
C12 TO C16	1.6		mg/kg	1.2	1.2	0.22	NJEPH	8/17/16 MPP	8/24/16 10:55	KJH	Α
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	Α
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	Α
Total EPH Aromatic	6.1		mg/kg	5.0	5.0	1.3	NJEPH	8/17/16 MPP	8/24/16 10:55	KJH	Α
Total EPH (Aliphatic+Aromatic)	34.2		mg/kg	10	10	3.1	NJEPH	8/17/16 MPP	8/24/16 10:55	KJH	Α
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
2-Bromonaphthalene (S)	50.2		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 10:55	KJH	Α
2-Fluorobiphenyl (S)	49.6		%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 10:55	KJH	Α
o-Terphenyl (S)	24.8	4	%	40 - 140			NJEPH	8/17/16 MPP	8/24/16 10:55	KJH	Α
ALIPHATIC PETROLEUM I	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	Α
C12 TO C16	12.2		mg/kg	1.2	1.2	0.54	NJEPH	8/17/16 MPP	8/21/16 23:55	KJH	Α
C16 TO C21	10.4		mg/kg	1.2	1.2	0.52	NJEPH	8/17/16 MPP	8/21/16 23:55	KJH	Α
C21 TO C40	2.9		mg/kg	1.2	1.2	0.61	NJEPH	8/17/16 MPP	8/21/16 23:55	KJH	Α
Total EPH Aliphatic	28.1		mg/kg	5.0	5.0	1.8	NJEPH	8/17/16 MPP	8/21/16 23:55	KJH	Α
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
1-Chlorooctadecane (S)	23.8	1	%	40 - 140			NJEPH	8/17/16 MPP	8/21/16 23:55	KJH	Α
WET CHEMISTRY											
Moisture	21.5		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	Α
Total Solids	78.5		%	0.1	0.1	0.01	S2540G-11		8/15/16 14:50	VKB	Α

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ANALYTICAL RESULTS

Workorder: 2166914 PQF030|FTMM

Lab ID: 2166914007 Date Collected: 8/9/2016 15:30 Matrix: Ground Water

Sample ID: PAR-72-EB-08092016 Date Received: 8/10/2016 20:25

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	Ву	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	Α
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
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	Α

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PARAMETER O	IIAI IEIEDO

Lab ID	#	Sample ID	Analytical Method	Analyte
2166914001	1	PAR-72-228-SB-03-6.5-7	NJEPH	1-Chlorooctadecane
		adecane for method NJEPH was of was reported at a dilution of 1.	outside of control limits. The %	Recovery was reported as 28.7 and the control limits
2166914001	2	PAR-72-228-SB-03-6.5-7	NJEPH	C9 TO C12
The method blan	k reporte	d a detection higher than the repo	rting limit in the C9-C12 range.	
2166914001	3	PAR-72-228-SB-03-6.5-7	NJEPH	C16 TO C21
The Method Blan	k for metl	hod NJEPH reported a value great	er than the reporting level for the	ne analyte C16 TO C21.
2166914002	2	PAR-72-228-SB-03-7-7.5	NJEPH	C16 TO C21
The Method Blan	k for metl	hod NJEPH reported a value great	er than the reporting level for the	ne analyte C16 TO C21.
2166914003	1	PAR-72-228-SB-01-5-5.5	NJEPH	1-Chlorooctadecane
		adecane for method NJEPH was of was reported at a dilution of 1.	outside of control limits. The %	Recovery was reported as 29.3 and the control limits
2166914003	2	PAR-72-228-SB-01-5-5.5	NJEPH	C9 TO C12
The method blan	k reporte	d a detection higher than the repo	rting limit in the C9-C12 range.	
2166914003	3	PAR-72-228-SB-01-5-5.5	NJEPH	C16 TO C21
The Method Blan	k for metl	hod NJEPH reported a value great	er than the reporting level for the	ne analyte C16 TO C21.
2166914004	1	PAR-72-228-SB-01-8.5-9	NJEPH	1-Chlorooctadecane
		adecane for method NJEPH was of was reported at a dilution of 1.	outside of control limits. The %	Recovery was reported as 28.2 and the control limits
2166914004	2	PAR-72-228-SB-01-8.5-9	NJEPH	C9 TO C12
The method blan	k reporte	d a detection higher than the repo	rting limit in the C9-C12 range.	
2166914004	3	PAR-72-228-SB-01-8.5-9	NJEPH	C16 TO C21
The Method Blan	k for metl	hod NJEPH reported a value great	er than the reporting level for the	ne analyte C16 TO C21.
2166914005	1	PAR-72-228-SB-02-10.5-11	NJEPH	1-Chlorooctadecane
		adecane for method NJEPH was of was reported at a dilution of 1.	outside of control limits. The %	Recovery was reported as 26.4 and the control limits
2166914005	2	PAR-72-228-SB-02-10.5-11	NJEPH	C9 TO C12
The method blan	k reporte	d a detection higher than the repo	rting limit in the C9-C12 range.	
2166914005	3	PAR-72-228-SB-02-10.5-11	NJEPH	C16 TO C21
The Method Blan	k for metl	hod NJEPH reported a value great	er than the reporting level for t	ne analyte C16 TO C21.
2166914006	1	PAR-72-228-SB-02-12-12.5	NJEPH	1-Chlorooctadecane
		adecane for method NJEPH was o	outside of control limits. The %	Recovery was reported as 23.8 and the control limits

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.

were 40 to 140. This result was reported at a dilution of 1.

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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State Samples Collected In Receipt Information (completed by Receiving Lab) hitial ₹ Rental Equipment 2 ₹ A × Sample/COC Comments Pickup Therm iD: Special Processing Sample Disposal USACE Lab Headspace/Volatiles? Special (if present) Seals Intact? Received on Ica? COC/Labels Complete/Accurate? Cont. In Good Cond.? Cornect Containers? Correct Sample Volumes? Many Custody Seals Present? Cornect Preservation? Composite Sampling Other: ALS Field Services: Courier/Tracking #: No. of Coolers: Matrix - Al=Air, DW=Drinking Water, GW=Groundwater, Ol=Oil; OL≖Other Liquid; SL=Sludgo; SO=Soil; WP=Wipe; WW=Wastewater Cooler Temp: Reportable to PADEP? ALS ENVIRONMENTAL SHIPPING ADDRESS: 1565 Jefferson Road, Building 300, Suite 360 Rochester, NY 14623 USA Standard CLP-like EDDS: Format Type-USACE A EXTRACT AND HOLD # QISMA Yes Deliverables × NUR OT GESIROHTUA × × Data or Field Results Below 89/ Time 1805 202 REQUEST FOR ANALYSIS ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT Ō Date Sec 8/4/10 ANALYSES/METHOD REQUESTED 5/9/16 SAMPLER. INSTRUCTIONS ON THE BACK 40ml 8 호 VOC (8260C)+TICs (groundwater) CHAIN OF CUSTODY Ä 호 Received By / Company Name SVOC (8270D) + TICs (groundwater) = 4 02 ₹ 8 (6020) bead A 4C.8 MECH 40mL dichloroethane & 1,2-dibromoethane ខ VOC (8260C)+TICs including 1,2-(O07S8) enelentringeniyintem Klan 402 ₹ 40 ₹ 3 SVOCs - Naphthalene & 2-ずず 4 0Z ¥ \$ EPH (fractionaled) a 2 SEVIEWED BY(signature): 2 63 2 2 OGGED BY(signature): Preservative xhtsM* 2 8 8 1805 200 Contigue Time 8 825 S O 10 D S S G 1030 0400 X-10-8 00 = (530 1430 9 240 Date 8-10 Time Rush-Subject to ALS approval and surcharges. Normal-Standard TAT is 10-12 business days. Building 300, Suite 360 Rochester, NY 14623 G=Grab; C=Composite PAR-72-728-58-02-12-09 819/16 8/6/16 565 Jefferson Road 9/16/8 81616 X -Y carla.rodman@parsons.com Sample 4050NS MDL Must Meet NJDEP Soft Cleanup Criteria and or Groundwater. 8 6/8 (585)288-5380 Relinquished By / Company Name PAR-72-228-58-02-105-11 PAR-17-228-58-01-85-9 PAR-72-228-58-03-7-7. PAR-72-EB-08092014 PAR-72-228-58-03-65-PAK-12-228-58-01-5 ample Description/Location (as it will appear on the lab report) Address: 100 High St. 4th Floor Client Name: Parsons Federal Environmental Boston, MA 02110 Bill To: Parsons Federal roject Namer#: FTMM Phone#: 617-449-1440 -Y No.: Contact: Cory Mahony Project Comments: 7488 Date Required: **Untilty Standards** TAT Email? ex3





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

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.

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 Kosciewicz, 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

Jebra J Musser

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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

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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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

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 preformed 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 incurbator 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 Date Collected: 8/9/2016 10:40 Matrix: Solid

Sample ID: PAR-72-228-SB-03-7-7.5 Date Received: 8/10/2016 20:25

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

Ms. Debra J. Musser Project Coordinator

Debra J Musser

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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: 2166915 PQF031|FTMM

Lab ID: 2166915007 Date Collected: 8/9/2016 15:30 Matrix: Ground Water

Sample ID: PAR-72-EB-08092016 Date Received: 8/10/2016 20:25

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared By	Analyzed	Ву	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
Surrogate Recoveries	Results	Flag	Units	Limits			Method	Prepared By	Analyzed	Ву	Cntr
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

Debra J Musser

Ms. Debra J. Musser

Ms. Debra J. Musser Project Coordinator

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(ALS) Rochester, NY 14623 Enuironmental (585)288-5380	· .	A.	L SHADE S	O AREA AMPLER	SMUST	BE CON JCTION	ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.	BY THE C BACK.	LIENT /	K	ALS Quote #	F	-
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Contact: Cory Methony					ANALY	SESME	ANALYSES/METHOD REQUESTED	JESTED			Г	Cuttody Seals Present?	
Phone#: 617-449-1440				H	۱,	-	H	-			Г	(Il present) Seals Intact?	
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4 PAR-77-228-50-01-8-5-9 8/9/16	70	S		_						×	1		
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6 PAR-17-228-38-02-12-125 STATED 1440	0	6 50		_		_				×	X	11/2/11	
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Project Comments: 748810 MDL Must Meet NUDEP Soil Chanup Collede andior Groundwater	LOGGED BY(#	Y(signature):	Joel	}			38	511110	3/550	s:	Standard	Special Processing State Samples	amples
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ennifer Dunn

From:

Rodman, Carla < Carla.Rodman@parsons.com>

Sent:

Friday, August 26, 2016 10:46 AM

Ťo:

Vanessa Badman

Çc:

Grill, Cris; Mahony, Cory; Kosciewicz, 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		Allen Avenue	No UST
225	13 & 15	Allen Avenue	
226		Allen Avenue	
227		Allen Avenue	
228		Allen Avenue	
229		Russell Avenue	No UST
230		Allen Avenue	No UST
233		Gosselin Avenue	
234		Gosselin Avenue	
235		Gosselin Avenue	
236		Gosselin Avenue	
237		Gosselin Avenue	
238		Gosselin Avenue	
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252		Gosselin Avenue	
253		Gosselin Avenue	
254		Gosselin Avenue	
255		Gosselin Avenue	
256		Gosselin Avenue	
258		Gosselin Avenue	

ATTACHMENT F

Unregulated Heating Oil Tanks Along Russel Avenue



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: <i>Kent Friesen, Parsons</i>
Site ID: <i>Bldg. 211</i>	Registration ID: 81533-9
Recommended Status of Site: Case	Closed (no change)
UST Probability (from May 2014 "Ad	dendum 1 ECP UHOT Report"): <i>High</i>
Based on the file review, were there	indications of a contaminant release? [] Yes [X] No
NJDEP Release No. or DICAR (If appli	cable): <u>Not Applicable</u>
Did NJDEP approve No Further Actio	n (NFA) for this site? [] Yes [] No [X] Not Applicable
Tank Description: [] Steel [X] Fib	perglass Size: 2000 gals. Contents: No. 2 Fuel Oil
[X] Residential [] Commerci	ial/Industrial
Tank Removed? [X]Yes [] No	If "yes," removal date:11/27/2001
Were closure soil samples taken? [>	(] Yes [] No Analyses: <u>TPH; VOCs in 1 sample</u>
Comparison criteria: 5,100 mg/k	g TPH
Were closure soil sample results less	than comparison criteria? ? [X] Yes [] No
	Brief Narrative
Monmouth Environmental Laborators sample results were non-detected (Center) contained 3968 mg/kg Transcompounds (VOCs). The TPH resulting remediation criterion. The VOC resulting samples are supported by the compounds of the compounds (VOCs).	the tank excavation in 2001 and analyzed by the Fort ory for total petroleum hydrocarbons (TPH). Building 211 ND) for TPH in 5 of the 6 soil samples. One sample (211B-PH; this sample was also analyzed for volatile organicults were less than 5,100 mg/kg, which is the current ults were ND for all compounds except acetone, which is a Therefore, no additional sampling or remedial action was
although certain supporting docume	support the UST Case Status designation of "Case Closed,", entation (such as a map with sample locations, field notes, gh the fiberglass tank was removed, an earlier steel UST
Recommendations (if any):None	Address groundwater

Kent A. Friesen, Parsons

See 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

Blda. 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

> Daniel Wright/Date **Laboratory Director**

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CHAIN OF CUSTODY

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

Chain of Custody Record

NJDEP Certification #13461 / NYDOH Certification #11699

Customer: Dinker Desai	ıker Desai			Project No: 01 9001	1	02-15362	3		Ana	lysis]	Analysis Parameters		
Phone #: X21475	5			Location: R	7 701	11 4+6	P 55867		S	¥			* = Samples Kept <4°C
()DERA (X)OMA UST Assessment	MA UST AS	sessment		UST# 8/533-	UST# 8/533-9				ID	01		guit	
Samplers Nam	ie / Compai	Samplers Name / Company: Frank Accorsi/TVS	rsi/TVS			Sample	#	ЭН	IOS	+ ∀ (Кезс	Remarks / Preservation
Lab Sample I.D.	. San	Sample Location	Depth	Date	Time	Type	Bottles	dТ	%	DΛ	VOA ID#	ыр	Method
1/2/405 6	A118 10	211 A- NORTH END	658	10-LC-11	0%0	7105	7	×	×	X	29 48	0	106
Ö		111B-CENTER	56-6		0955			×	X	メ	29 49	0,0	
8	B3, 211C	211C- 5007HEND	5'6-6		0410			X	×	X	2950	0	
6		2110 - PIPING	51-1		1030			Х		X	19 51	0	
7	S 2116	2116 - PIPING	511-1		00/1			Х	X	X	2952	0	
)	111E	DO 211 F. DUMICATE	6-5.8		0060			メ	×	×	2453	0	
7	OFTRIP BLANK	BLANK	}		090	/ AO	-			×	2954	١	
					1								
					O								
				*		•							
0	M sn#580U-(OVM sn#580U-64455.343 was calibrated with zero	librated with	zero air & w	air & w/245 ppm isobutylene read 245 ppm.	øbutylene r	ead 2	15 ppn	1	1028-11	OSJO FIH (tir	ne/da	产升(time/date & initial)
Relinquished by (signapure):	Lapure):	11-27-01 1127	1127	Rede	Received by (signature):		Comments: \$ 10 +10	Trs: *	× 100	710	455	2590 min.	> 1,000 ppm
Relinquished by (signature):	nature):	Date/Time:	:-	/ Rece	Received by (signature):	ure):		.					
Report Type: ()Full, &)Reduced, ()Standard, ()Screen / non-certified, ()EDD	&)Reduced, ()Standard, ()Screen	/ non-certified,	CEDD				Remarks:			Dedicated S	samplir	Dedicated Sampling Tools Used
Turnaround time: ()S	tandard 2 wks,	CMRush Z Days,	OASAP Verba	I Hrs.				All samp	le points	have b	All sample points have been GPS? XYES		()NO ()NA
0002						-					•		

Change of Chain of Custody

D#: 16605 Site/Project Name: 16605 Lab Project ID#: 16605 Date of Change: 11/2 Date Received:_ Momes Sign: Requested by: print Turnaround Time: (1. Were the correct containers and/or preservatives used for the tests indicated? Nes 2. Was a sufficient amount of sample sent for the tests indicated? Yes No Yes No 3. Are samples Within Holding time for new analysis? Yes No 4. Was the change documented in the sample receipt log book? Sign: Received by: print New Sample New Sample **Analysis** ID# **Analysis** ID# 9.87 1660502 Comments:

METHOD SUMMARY

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

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

			Indicate Yes, No, N/
1.	. Chromatograms labeled/Compounds id	lentified	
	(Field samples and method blanks)		Yes_
2.	Retention times for chromatograms pro	ovided	<u>Yes</u>
3.	GC/MS Tune Specifications		•
	a. BFB Meet Criter	ria.	YCS
	b. DFTPP Meet Cr	iteria	NA
4.		d every 24 hours for 600	
	series and 12 hours for 8000 series		yes_
5 .		n performed before sample	
	analysis and continuing calibration per sample analysis for 600 series and 12 h	formed within 24 hours of	1.60
		outs for 5000 series	45
6.	GC/MS Calibration requirements		
	a. Calibration Chec	ck Compounds Meet Criteria	hes
	b. System Performa	ance Check Compounds Meet Criteria	705
7.	Blank Contamination - If yes, List com	pounds and concentrations in each blank:	_00
	a. VOA Fraction_		,
		NA	
	c. Acid Fraction	NA	
8.	Surrogate Recoveries Meet Criteria		405
	If not met, list those compounds ar	nd their recoveries, which fall	•
	outside the acceptable range:		
	a. VOA Fraction		
	b. B/N Fraction		
	c. Acid Fraction	N.Y.	
	If not met, were the calculations chas "estimated"?	necked and the results qualified	
) .	Matrix Spike/Matrix Spike Duplicate R	Recoveries Meet Criteria	105
	(If not met, list those compounds and the outside the acceptable range)		4-3
	a. VOA Fraction		
	b. B/N Fraction	NA	
	c. Acid Fraction	NA	

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

		·		Indicate Yes, No, N/A
10.		Area/Retention Time Shift Meet to see compounds, which fall outsi		405
	a .	VOA Fraction		
	b. с.	B/N Fraction NA Acid Fraction NA		
11.	Extraction Holding			WA
	If not met, list the	e number of days exceeded for e	ach sample:	
12.	Analysis Holding	Time Met	i w	yes
	If not met, list the	number of days exceeded for ea	ch sample:	C
Add	itional Comments:			•
Labo	oratory Manager:		Date: 17-6-01	

TPHC Conformance/Non-conformance Summary Report

		Indicate Yes, No, N/A
1.	Method Detection Limits provided.	103, 110, 147 185
2.	Method Blank Contamination – If yes, list the sample and the Corresponding concentrations in each blank.	<u>Ne)</u>
3.	Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	- 1 <u>Yes</u>
.4	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	- 1
5.	IR Spectra submitted for standards, blanks and samples.	NA.
6.	Chromatograms submitted for standards, blanks and sample if GC fingerprinting was conducted.	es <u>Yes</u>
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	<u>yes</u>
Additi	ional comments:	·
	12.6-01	
Labor	ratory Manager Date	~~~

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 16605

Site: Bldg. 211

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

VOLATILE ORGANICS

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

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VOLATILE ORGANICS ANALYSIS DATA SHEET

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			•		MB 30Nov01	-
.ab Name:	FMETL			NJDEP # <u>13461</u>	L.	\Box
Project:	0215362	2	Case No.: 16605	Location: 211 SE	OG No.:	_
//atrix: (soil/v	water)	SOIL		Lab Sample ID:	МВ	_
Sample wt/vo	ol:	10.0	(g/ml) <u>G</u>	_ Lab File ID:	VC007512.D	
evel: (low/n	ned)	MED		Date Received:	11/27/01	
% Moisture:	not dec.	0		Date Analyzed:	11/30/01	
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mm)	Dilution Factor:	1.0	
Soil Extract \	/olume:	25000	(uL)	Soil Aliquot Volur	ne: <u>125</u> (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	Ū
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

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VOLATILE ORGANICS ANALYSIS DATA SHEET

_ab Name:	FMETL			NJDEP # 13461	MB 30Nov01	
Project:	021536	2	Case No.: 16605	Location: 211 SD	G No.:	_
//atrix: (soil/	water)	SOIL		Lab Sample ID: 1	МВ	_
Sample wt/ve	ol:	10.0	(g/ml) <u>G</u>	Lab File ID:	/C007512.D	
_evel: (low/r	med)	MED		Date Received: 1	11/27/01	
% Moisture:	not dec.	0		Date Analyzed: 1	11/30/01	
GC Column:	Rtx50	2.2 ID:	<u>0.25</u> (mm)	Dilution Factor: 1	1.0	
Soil Extract \	/olume:	25000	(uL)	Soil Aliquot Volum	ne: <u>125</u> (u	L

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

900

Lab Name:	FMETL			NJDEP	# 13461		MB 30N	ov01
Project:	0215362	Ca	se No.: 1660	 05Locat	ion: <u>2</u> 11	SDC	3 No.:	
Matrix: (soil/v	water)	SOIL	_	l	_ab Sample	D: M	IB	
Sample wt/vo	ol:	10.0	(g/ml) <u>G</u>		_ab File ID:	V	C007512.D	<u> </u>
Level: (low/r	ned)	MED		[Date Recei	ved: 1	1/27/01	
% Moisture:	not dec.	0]	Date Analy:	zed: 1	1/30/01	
GC Column:	Rtx502.	<u>.2</u> ID: <u>0</u> .	25_ (mm)	I	Dilution Fac	tor: 1.	.0	
Soil Extract \	/olume: 2	5000	(uL)	5	Soil Aliquot	Volume	e: <u>125</u>	(uL)
				CONCENTR	ATION UN	ITS:		
Number TICs	s found:	1		(ug/L or ug/K	(g) <u>UG</u>	/KG		
CAS NO.		COMPO	JND NAME		RT	EST.	CONC.	Q
1.	1	unknown			30.85		900	J

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VOLATILE ORGANICS ANALYSIS DATA SHEET

FIE	LD	ID
FIE	LD	ID

Lab Name: FMETL NJDEP # 13461						211B-Center
	Lab Name:	FMETL	NJDEP #	ŧ	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

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	Ū
75650	tert-Butyl alcohol	1600	Ü
1634044	Methyl-tert-Butyl ether	380	Ū
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	Ū
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	Ū
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

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VOLATILE ORGANICS ANALYSIS DATA SHEET

FI	ELD	ID
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Lab Name:	FMETL			NIDED # 10461	211B-Center	1
Lab Ivaille.	LIVIETE			_ NJDEP # <u>13461</u>		L
Project:	0215362	2	Case No.: 16605	Location: 211 SD	OG No.:	_
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	1660502	_
Sample wt/vo	ol:	9.9	(g/ml) <u>G</u>	Lab File ID:	VC007513.D	
_evel: (low/n	ned)	MED		Date Received:	11/27/01	
% Moisture: ı	not dec.	19.79		Date Analyzed:	11/30/01	
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract \	/olume:	25000	(uL)	Soil Aliquot Volun	ne: 125 (u	ıL

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-Tetrachlo	roethane	250	U
541-73-1	1,3-Dichlorobenz	ene	380	U
106-46-7	1,4-Dichlorobenz	ene	380	U
95-50-1	1,2-Dichlorobenz	ene	380	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

_ab Name:	FMETL			NJDEP # 13461	211B-Center	
⊃roject:	0215362	2	Case No.: 16605	Location: 211 SD	G No.:	
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	1660502	
Sample wt/vo	ol:	9.9	(g/ml) G	_ Lab File ID:	VC007513.D	
_evel: (low/n	ned)	MED		Date Received:	11/27/01	
% Moisture: r	not dec.	19.79		Date Analyzed:	11/30/01	
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mm)	Dilution Factor:	1.0	
Soil Extract V	/olume:	25000	(uL)	Soil Aliquot Volun	ne: 125	(uL

CONCENTRATION UNITS:

(ug/L or ug/Kg)

UG/KG

Number TICs found: 15

		I		
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
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•	Trip Blank

Lab Name:	FMETL			_ NJDEP # <u>13461</u>		
Project:	0215362	2	Case No.: 16605	Location: 211 S	DG No.:	
Matrix: (soil/	water)	SOIL		Lab Sample ID:	1660507	
Sample wt/ve	ol:	10.0	(g/ml) <u>G</u>	Lab File ID:	VC007514.D	
Level: (low/r	med)	MED		Date Received:	11/27/01	
% Moisture:	not dec.	0		Date Analyzed:	11/30/01	
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mm)	Dilution Factor:	1.0	
Soil Extract \	Volume:	25000	(uL)	Soil Aliquot Volu	ıme: 125	(ul

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	Ü
75650	tert-Butyl alcohol	1300	Ü
1634044	Methyl-tert-Butyl ether	300	Ü
108203	Di-isopropyl ether	200	Ü
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	Ü
74-83-9	Bromomethane	200	Ü
75-00-3	Chloroethane	300	Ü
75-69-4	Trichlorofluoromethane	200	Ü
75-35-4	1,1-Dichloroethene	100	Ü
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	Ü
78-93-3	2-Butanone	300	U
	cis-1,2-Dichloroethene	100	Ū
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	כ
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

i	F١	Ε	L	D	ı	D

Lab Name:	FMETL			NJDEP # 13461	Trip Blank	
Project:	021536	2	Case No.: 16605	Location: 211 SD	G No.:	
Matrix: (soil/	water)	SOIL		Lab Sample ID: 1	660507	
Sample wt/v	ol:	10.0	(g/ml) G	_ Lab File ID: _\	/C007514.D	
Level: (low/r	med)	MED	. <u></u>	Date Received: 1	1/27/01	
% Moisture:	not dec.	0		Date Analyzed: 1	1/30/01	
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mm)	Dilution Factor: 1	.0	
Soil Extract \	Volume:	25000	(uL)	Soil Aliquot Volum	e: 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

FI	E	LI	D	ĺ	D
	_	_	_	•	_

Lab Name:	FMETL		NJDEP # 13461	Trip Blank
Project:	0215362	Case No.: 16605	Location: 211	BDG No.:
Matrix: (soil/v	water) <u>SOIL</u>		Lab Sample ID:	1660507
Sample wt/vo	ol: <u>10.0</u>	(g/ml) <u>G</u>	Lab File ID:	VC007514.D
Level: (low/n	ned) <u>MED</u>		Date Received:	11/27/01
% Moisture: ı	not dec. 0	.	Date Analyzed:	11/30/01
GC Column:	Rtx502.2 ID:	<u>0.25</u> (mm)	Dilution Factor:	1.0
Soil Extract \	/olume: 25000	(uL)	Soil Aliquot Vol	ume: <u>125</u> (uL
Number TICs	o found:	(L	ONCENTRATION UNITS:	

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

Project #:

16605

DPW. SELFM-PW-EV

Location:

Bldg. 211

Bldg. 173

UST Reg. #:

81533-9

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

27-Nov-01

Matrix:

Soil

Date Extracted:

27-Nov-01

Inst. ID.:

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

28-Nov-01

Injection Volume:

1uL

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
		ļ				
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 <u>and</u> 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	
	Method Detection Limits submitted Lab certified by NJDEP for parameters of appropriate category	
11.	of parameters or a member of the USEPA CLP	<u> </u>
)
Date	Laboratory Manager or Environmental Consultant's Signature	

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



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 9, 2014 Review	и Performed By: <i>Kent Friesen, Parsons</i>
Site ID: Bldg. 212 Registi	ration ID: 81533-10
Recommended Status of Site: Case Open	
UST Probability (from May 2014 "Addendum 1 ECF	OUHOT Report"): <i>High</i>
Based on the file review, were there indications of	a contaminant release? [] Yes [X] No
NJDEP Release No. or DICAR (If applicable): <u>No</u>	t Applicable
Did NJDEP approve No Further Action (NFA) for thi	s 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," remo	val date: <u>3/29/2001</u>
Were closure soil samples taken? [X]Yes [] No	Analyses: <u>TPH</u>
Comparison criteria: 5,100 mg/kg TPH	
Were closure soil sample results less than compari	son criteria? ? [] Yes [] No Not determined
Brief Nari	rative
Closure documentation was missing from the 212 tank excavation in 2001 and analyzed by the Fototal petroleum hydrocarbons (TPH). Samples as were logged into the FTMM laboratory log book a the original data package was missing from the arc	rt Monmouth Environmental Laboratory for ssociated with tank removal activities at 212 s Sample IDs 16021.01 through .07; however,
Based on this file review, we have determined tha until analytical results can be located. There is present time.	
Although the fiberglass tank was removed, an earl	ier steel UST could still be present.
Collect soil samples to	address missing data.
Recommendations (if any): <u>@www.www.www.kow</u>	
analytical data package 16021 from approximately	<u> </u>
Signed: Junt U. Torrin	See also Attachment D for recent (2016) analytical results.

Kent A. Friesen, Parsons



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: Cas	se Closed
UST Probability (from May 2014 "A	ddendum 1 ECP UHOT Report"): <i>High</i>
Based on the file review, were there	e indications of a contaminant release? [] Yes [X] No
NJDEP Release No. or DICAR (If app	licable): <u>Not Applicable</u>
Did NJDEP approve No Further Action	on (NFA) for this site?[]Yes []No [X]Not Applicable
Tank Description: [] Steel [X] F	iberglass Size: 2000 gals. Contents: No. 2 Fuel Oil
[X] Residential [] Commer	cial/Industrial
Tank Removed? [X]Yes [] No	If "yes," removal date: <u>4/30/2001</u>
Were closure soil samples taken? [X] Yes [] No Analyses: <u>TPH</u>
Comparison criteria:5,100 mg/	kg TPH
Were closure soil sample results les	ss than comparison criteria? ? [X] Yes [] No
	Brief Narrative
package for 213 closure samples w	ly missing from the 213 files. Therefore, the original data as located in the FTMM Environmental Laboratory archives, 213 file. Based on this file review, we have determined that to "Case Closed."
Monmouth Environmental Laborate sample results were non-detected TPH, which is the current remediati	n the tank excavation in 2001 and analyzed by the Fortory for total petroleum hydrocarbons (TPH). All Building 213 (ND) for TPH. These results were less than 5,100 mg/kg for ion criterion. Results were also less than 1,000 mg/kg, which criterion for additional required analyses. Therefore, notion was warranted.
Closed, although certain supporting	s generally support changing the UST Case Status to "Case g documentation (such as a map with sample locations, field Although the fiberglass tank was removed, an earlier steel
Recommendations (if any): <u>Char</u>	ige status to "Case closed."
Signed: Wind U. J.	ntin

Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

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

WET-CHÈM - METALS - ORGÀNICS - 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-Арг-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

		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.	<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).	- 1 ¥£5 -
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 sample if GC fingerprinting was conducted.	es yes
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	- jes
Addi	tional comments:	
	5-8	- (a)
labo	pratory Manager Date	

Page

Fort Monmouth Environmental Testing Laboratory

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

Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@maill.monmouth.army.mil NJDEP Certification #13461 / NYDOH Certification #14699

Chain of Custody Record

Customer: Dinker Desai	. Desai		Project No:	Project No: .100004 01 - 000	1000			Analys	Analysis Parameters		
Phone #: X21475			Location: 84	Location: BLD 4. 213 (12+14- Kussez)	(12+14 Ku	(2355	~~~	S	-		* = Samples Kept <4°C
()DERA (X)OMA UST Assessment	UST Assessment		UST# 8/1.5	81533-11		`	**************************************	CID	Λ.Σ	guib	
Samplers Name /	Samplers Name / Company: Frank Accorsi/TVS	rsi/TVS			Sample	*	ЭН	ios +V(. 3.76	Rea	Remarks / Preservation
Lab Sample I.D.	Sample Location	Depth	Date	Time	Type	Bottles	dТ		VOAID#	OI4	Method
10.0501	213-4, HORTH END	56-6	4-30-01	1400	2012	8	×	X	13334	0	102
69	213-8, CENTER	9-9.5		1430		R	\times	X	2335	O	
63	213-C, 500TH END	9-9.5		1450		4	X	X	2336	0	
S	213-0 PIPINA	25-3		1510		7	×	×	2337	Q	
(C)	213-E, PIPING	25-3		1520		7	×	X X	3338	Q-	
8	213-F DUPLICATE	29-95		1450		4	×	×	23342340	0	
るート	TRIP BLANK)		١	40.			×	2340	١	
										province (In the laster	
					·					- مندانداند	
S MVO	OVM sn#580U-64455.343 was calibrated with zero air & w/ 発ppm Isobutylene read	alibrated with	zero air & w	1 245 ppm ls	sobutylene r	ead 245		ppm. <i>1330</i>	1-30-01 PM (time/date & initial)	time/d	ite & initial)
Relinquished by (signature):	re): Date/Time;	JC;	Rek	Referved, by (signature)		Comments: VO+10	its: //	0/40	ζ,	K	#dx wdd 0001
Frank G	Jecon 1-30-01	5/251	/2()	11/1/1	Me		0 /	Z F	HIGHEST, A	1/2.	MINIONE
Relinquished by (signature):	re): Date/Time:	1e:	Rece	Received by (signature):	ture):						
Report Type: (Full, (AReduced, ()Standar Turnaround time: ()Standard 2 wks, (Kitsh	1 2)Screen / non-certified, (Days, ()ASAP Verbal	CEDD I Hrs.				Remarks:	nointe ha	Remarks: Dedicated	icated Sampling To	1.2
								Numer Inc			W. C. LINA

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

Client:

U.S. Army

Project #:

16092

DPW. SELFM-PW-EV

Location:

Bldg.213

Bldg. 173

Ft. Monmouth, NJ 07703

UST Reg. #:

81533-11

Analysis:

OQA-QAM-025

Date Received:

30-Apr-01

Matrix:

Soil

Date Extracted:

01-May-01

Inst. ID. :

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

01-May-01

Injection Volume:

1uL

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

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. 11.	Method Detection Limits submitted Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	
Dat	Laboratory Manager or Environmental Consultant's Signature	
Lab	oratory 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. 214	Registration ID: 81533-12
Recommended Status of Site: <i>Case</i>	Closed (no change)
UST Probability (from May 2014 "Add	dendum 1 ECP UHOT Report"): <i>High</i>
Based on the file review, were there	indications of a contaminant release? [] Yes [X] No
NJDEP Release No. or DICAR (If applic	cable): <u>Not Applicable</u>
Did NJDEP approve No Further Action	n (NFA) for this site? [] Yes [] No [X] Not Applicable
Tank Description: [] Steel [X] Fib	erglass Size: 2000 gals. Contents: No. 2 Fuel Oil
[X] Residential [] Commercia	al/Industrial
Tank Removed? [X]Yes [] No	If "yes," removal date: <u>6/13/2001</u>
Were closure soil samples taken? [X] Yes [] No Analyses: <u>TPH</u>
Comparison criteria: 5,100 mg/kg	g TPH
Were closure soil sample results less	than comparison criteria? ? [X] Yes [] No
	Brief Narrative
(UST) files associated with Building 22 New Jersey. The purpose of the	ons) performed a review of the underground storage tank 14, located on Russel Avenue at Fort Monmouth (FTMM) in file review was to determine if there was sufficient ase Status designation of "Case Closed," as documented in
Monmouth Environmental Laborator sample results were non-detected (NTPH, which is the current applicable	the tank excavation in 2001 and analyzed by the Fort y for total petroleum hydrocarbons (TPH). All Building 214 ID) for TPH. These results were less than 5,100 mg/kg for remediation criterion. Results were also less than 1,000 NJDEP threshold criterion for additional required analyses. remedial action was warranted.
although certain supporting docume	support changing the UST Case Status to "Case Closed," ntation (such as a map with sample locations, field notes, gh the fiberglass tank was removed, an earlier steel UST
Recommendations (if any): None	
Signed: Wind U. Jim	4in

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

> Daniel Wright/Date Laboratory Director

R-76-01

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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 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 SUMMARY

TPHC Conformance/Non-conformance Summary Report

		Indicate
1.	Method Detection Limits provided.	Yes, No, N/A
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).	yes 1
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.	_
6.	Chromatograms submitted for standards, blanks and sample if GC fingerprinting was conducted.	es <u>Yes</u>
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	<u>yes</u>
Addi	tional comments:	
Labo	G-26-01 Date	

CHAIN OF CUSTODY

Fort Monmouth Environmental Testing Laboratory

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

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

Chain of Custody Record

Comments: X VO 40 ON 2575 > 1,000 PM TPH Remarks / Preservation = Samples Kept <4°C Dedicated Sampling Tools Used All sample points have been GPS? (NYES ()NO ()NA 6-13-01 P4 (time/date & initial) 1 CE 0 Q 0 PID Reading P 0 0 ON HIGHEST, MIN. ONE. VOA ID# Analysis Parameters 2503 2500 2502 2501 ZOI+¥O∧ OVM sn#580U-64455.343 was calibrated with zero air & w/ 245, ppm Isobutylene read 245 ppm. 1000 % SOLIDS Remarks: LbHC Bottles Location: PLDK, 214 (16+19 RUSSEL) Sample Type 5017 NJDEP Certification #13461 / NYDOH Certification #11699 Project No: 100004 0/-0001 Received by (signature): UST# 81533-12 1320 410 Time 6-1301 Hrs. Date Report Type: (JPyll, CAReduced, C.)Standard, ()Screen / non-certified, ()EDD Turnaround time: (MStandard 2 wks, (Kush) Days, () ASAP Verbal Depth/6 2-2,5 1500 8.5-9 2-2.5 8,50 8,5.9 6,5,9 Samplers Name / Company: Frank Accorsi/TVS Date/Time 3.01 214C-WEST END 214A-EAST END 214F- DUPLICATE Sample Location 2148-CENTER 14E-91P/WG DERA (X)OMA UST Assessment 2140 - P 18/10 TRIP BLANK 67 Customer: Dinker Desai Z, Relinquished by (signature): Relinquished by (signature): Phone #: X21475 Lab Sample I.D.

age ___ of ___

USTcoc.xls3/21/00

TPHC

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

Client:

U.S. Army

Project #:

16188

DPW. SELFM-PW-EV

Location:

Bldg214

Bldg. 173

Ft. Monmouth, NJ 07703

UST Reg. #:

Analysis:

OQA-QAM-025

Date Received:

13-Jun-01

Matrix:

_ ..

Date Extracted :

18-Jun-01

Inst. ID.:

Soil

Shake

mst. ID. .

GC TPHC INST. #1

Extraction Method :
Analysis Complete :

Snake 18-Jun-01

Column Type:

RTX-5, 0.32mm ID, 30M

Analyst:

Skelton

Injection Volume:

1uL

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	<u>/</u>
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	
	Method Detection Limits submitted Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	
Date	Laboratory Manager or Environmental Consultant's Signature	S —

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

Laboratory Certification #13461

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. 219	Registration ID: 81533-13
Recommended Status of Site: Cas	e Closed (no change)
UST Probability (from May 2014 "Ad	ddendum 1 ECP UHOT Report"): <i>High</i>
Based on the file review, were there	e indications of a contaminant release? [] Yes [X] No
NJDEP Release No. or DICAR (If app	licable): <u>Not Applicable</u>
Did NJDEP approve No Further Action	on (NFA) for this site? [] Yes [] No [X] Not Applicable
Tank Description: [] Steel [X] Fi	iberglass Size: 2000 gals. Contents: No. 2 Fuel Oil
[X] Residential [] Commerc	cial/Industrial
Tank Removed? [X]Yes [] No	If "yes," removal date: <u>6/19/2001</u>
Were closure soil samples taken? [X] Yes [] No Analyses: <u>TPH</u>
Comparison criteria:5,100 mg/	kg TPH
Were closure soil sample results les	s than comparison criteria? ? [X] Yes [] No
	Brief Narrative
Monmouth Environmental Laborators sample results were non-detected TPH, which is the current remediations.	the tank excavation in 2001 and analyzed by the Fortory for total petroleum hydrocarbons (TPH). All Building 219 (ND) for TPH. These results were less than 5,100 mg/kg for on criterion. Results were also less than 1,000 mg/kg, which criterion for additional required analyses. Therefore, no ion was warranted.
certain supporting documentation	s support the UST Case Status of "Case Closed," although (such as a map with sample locations, field notes, etc.) may erglass tank was removed, an earlier steel UST could still be
Recommendations (if any): None	<u> </u>
Signed: Link U. Th	ntin

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

Blda. 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

> Daniel Wright/Date-Laboratory Director

6-26-01

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MS/MSD Results Summary	14-15
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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 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

TPHC Conformance/Non-conformance Summary Report

		Indicate
1.	Method Detection Limits provided.	Yes, No, N/A
2.	Method Blank Contamination – If yes, list the sample and the Corresponding concentrations in each blank.	• <u>~</u>
3.	Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	- 1 405-
4.	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	- <u>405</u>
5.	IR Spectra submitted for standards, blanks and samples.	
6.	Chromatograms submitted for standards, blanks and sample if GC fingerprinting was conducted.	es <u>Yes</u>
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	<u>Yes</u>
Addi	itional comments:	-
	6-26-01	
Labo	oratory Manager Date	

CHAIN OF CUSTODY

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

Chain of Custody Record

		NODE	10401#1101		านกรสนอก เ	#11033							
	Customer: Dinker Desai	· Desai		Project No:	Project No: 400004 01-000	1000			Anal	sis P	Analysis Parameters		
	Phone #: X21475			Location: 84	Location: 8106. 219(30 RUSSEL)	GO RUS.	ser)	<u> </u>		J			* = Samples Kept <4°C
	()DERA (X)OMA UST Assessment	UST Assessment		UST# 8/15	UST# 81533-13					01-		gnib	
	Samplers Name /	Samplers Name / Company: Frank Accorsi/TVS	rsi/TVS			Sample	#	ЭН	OS	+ ∀ (Кеа	Remarks / Preservation
	Lab Sample I.D.	Sample Location	Depth	Date	Time	Type	Bottles	dТ		ΟΛ	VOA ID#	PID	Method
	10 Hb 127	219A-4855 END	6-5-8	10-61-9	1430	2015	7	X	⊢ ⊁	X	2247	٥	32/
	B	2196- CENTR	85-9		1445	<u> </u>	8	7	. X		342	0	
		219C- FEET-END	8.5-9		1310		d	×	×	-	2299	0	
) OU	2190- PIPING	2-25		1320		И	×	×		2300	0	
	R	219E- DUPUCATE	6-5-8		1430	<u> </u>	Ŋ	×	×	7	2301	0	
	9	219F-TRIP BLANK	į	>	}	40.	/			X 2	2302)	
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								+		-			
	OVMS	OVIM sn#580U-64455.343 was calibrated with zero air & w/ 2/5 ppm Isobutylene read 245	alibrated with	zero air & w	I mdd 3/2/	sobutylene	ead 24	BB.	1200		6-19-0/ A (time/date & initial)	me/da	te & initial)
	y (signa	(107)	1e:	A Role	Received by (signature)	iture):	Comments: 7 10 40	A SE	104	1 2	01 25%	٨	ON 25% > 1,000 11m TIM,
	J'rame un	1971 W W	(C)(C)		7	3	2	11642	/ / /	?	OF #4451) MIN. O		
	Relinquished by (signature):	e): Date/Time:	ne:	- Rece	Received by (signature):	ıture):	•						
-	Report Type: OFull,	Report Type: ()Full, (Reduced, ()Standard, ()Screen / non-certified, ()EDD	/ non-certified	, CEDD				Remarks:			Dedicated	Sampli	Dedicated Sampling Tools Used
	Turnaround time: (Standard 2 wees, ()Rush		Days, ()ASAP Verbal	al Hrs.	:			All sample points have been GPS?	e points	have be	en GPS? (A)YES		()NO ()NA
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06					9560	- 30							
	print legibly			100	ひごなし								USTC00 xfs3/21/00

USTcoc.xls3/21/00

TPHC

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

Client:

U.S. Army

Project #:

16194

DPW. SELFM-PW-EV

Location:

Bldg219

Bldg. 173

UST Reg. #:

81533

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

19-Jun-01

Matrix:

Date Extracted:

22-Jun-01

Soil

Inst. ID.:

GC TPHC INST. #1

Extraction Method: Analysis Complete:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

22-Jun-01

Injection Volume:

1uL

Analyst:

 ${\bf Skelton}$

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

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 <u>and</u> 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	<u>/</u>
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	
	Method Detection Limits submitted Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	<u>/</u>
Dat	Laboratory Manager or Environmental Consultant's Signature	

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



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 "Ad	dendum 1 ECP UHOT Report"): <i>High</i>
Based on the file review, were there	indications of a contaminant release? [] Yes [X] No
NJDEP Release No. or DICAR (If appli	cable): <u>Not Applicable</u>
Did NJDEP approve No Further Actio	n (NFA) for this site? [] Yes [] No [X] Not Applicable
Tank Description: [] Steel [X] Fik	perglass Size: 2000 gals. Contents: No. 2 Fuel Oil
[X] Residential [] Commerci	ial/Industrial
Tank Removed? [X]Yes [] No	If "yes," removal date: 6/21/2001
Were closure soil samples taken? [)	(] Yes [] No Analyses: <u>TPH; VOCs in 2 samples</u>
Comparison criteria: 5,100 mg/k	rg TPH
Were closure soil sample results less	than comparison criteria? ? [X] Yes [] No
	Brief Narrative
Monmouth Environmental Laborato sample results ranged from non-det analyzed for volatile organic compo from the excavation, and then four	the tank excavation in 2001 and analyzed by the Fort bry for total petroleum hydrocarbons (TPH). Building 220 sected (ND) to 3224 mg/kg for TPH; two samples were also bunds (VOCs). It appears that additional soil was removed days later the soil was re-sampled where elevated (>1000 to re-sample results were all ND for TPH.
	mg/kg for TPH, which is the current remediation criterion. ompounds. Therefore, no additional sampling or remedial
certain supporting documentation (s	s support the UST Case Status of "Case Closed," although such as a map with sample locations, field notes, etc.) may rglass tank was removed, an earlier steel UST could still be
Recommendations (if any): None	See also Attachment D for recent (2016) analytical results
Signed: Junt U. Tr	Hin

Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL

TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

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

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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

F 14.

Fort Monmouth Environmental Testing Laboratory

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

Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@mail1.monmouth.army.mil NJDEP Certification #13461

Chain of Custody Record

	1040141101											
Customer: Charles Appleby UNKER	Project No: 0/-000 / -00		9696				Anal	Analysis Parameters	rs		Comments:	
Phone #: **26224 DE5# [Location: BLP6, 220 (34 RUSSec.)	06,220	(34 K)	(2×2)		S			V		* = Samples Kept <4 Celsius	
()DERA (X)OMA UST Assessment	UST# 81533-	33-				CID	01-		DEPORT	gnib		
Samplers Name / Company: Frank Accorsi/TVS	rsi/TVS		Samp	#	ЭН	IOS	+ ∀ (Res		
Lab Sample I.D. Sample Location	Date	Time	Type	pottles	dΤ	%)A	VOA ID Number	umber	σId	Remarks / Preservation Method	
1 (AZB). Q1 220A-NORTH WALL	10-12-9	05/1	7/05	7	メ	X	У	2506	19-0	7	301	
22 2208-50UA WALL		1520			×	X	><	2052	159-9	0		
(13, 220c EAST WALL		1430			×	X	X	3208	,59-9	6		
BY 2200-WEST WALL		1400		-	y,	Х	Z	2509	6-6.5'	7		
65 220E-PIPING		1540			メ	χ̈́	X	2510	3-215	0		
. DO 120F. DUPLICATE		1400			×	کد	×	2511	599	D		
- 07 2206-TRIP BLANK		}	\$ \$	_		ļ	×	2512	1	1		
						-						
												766
OVM sn#580U-64455.343 was calibrated with zero air & w/ ⊋4≸ ppm Isobutylene read	rated with zer	oair&w/⊊	mdd ∰	Isobul	ylene r	ead _	345	ppm. 6-19-0	10	T.	(time/date & initial)	7
Relinquished by (signature): Date/Time:	Received by (s	(signature):	d	Relinq	Relinquished by (signature):	y (signa	ture):	Date/Time:		ed by (Received by (signature):	
Relinquished by (signature): Date/Time:	Received by (s	signature):	**************************************	Relinq	Relinquished by (signature):	y (signa	ture):	Date/Time:		ed by (Received by (signature):	
Report Type: ()Full, (Areduced, ()Standard, ()Screen / non-certified Turnaround time: ()Standard 4 wks, ()Rush Days, ()ASAP Ver	Screen / non-certified Days, ()ASAP Verbal	al Hrs.			Remark XVO+ All samp	s: 70 o/ ole poin	2, 2, L	Remarks: Dedicated AUCHO ON 25% > 1,000 PPm. All sample points have been GPS? (XYES		Samplin 7777) NO (Sampling Tools Used 714, ON HIGHEST, MINIONE ()NO ()NA	
] .				1			1

USTcoc.xds8/18/99

Change of Chain of Custody					
Lab Project	ID#: 19202	Site/Pr	roject Name:	Bldg 220 KB1	
Date Receiv	ed: 0-2/-0/	Date o	f Change:	[e/2#101	
Requested b		Sign:_			
Turnaround	-				
1. Were the co	prrect containers and/or preserv	atives used f	or the tests ind		
2. Was a suffic	cient amount of sample sent for	the tests ind	licated?	Yes No	
3. Are samples	s Within Holding time for new ange documented in the sample	analysis?	hook?	Yes No	
Received by		Sign:_	JUUR:	103 190	
Sample	New	Sam	nle	New	
ID#	Analysiş	ID		Analysis	
1/420201	1/04/1 /2/00				
Dy	VOITIS TOCKUS				
				<u> </u>	
		 			
		 			
		 			
		 			
Cameranta		1.]	<u></u>		
Comments	•			· · · · · · · · · · · · · · · · · · ·	
4					
					
					

HILL : 11 H

METHOD SUMMARY

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 as 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

Laboratory Chronicle

Lab ID: 16202

- -

Site: Bldg. 220

Date

Hold Time

Date Sampled

06/21/01

NA

Receipt/Refrigeration

06/21/01

NA

Extractions

1. TPHC

06/22/01

14 days

Analyses

1. Volatile Organics

06/27/01

14 days

2. TPHC

06/22/01

40 days

CONFORMANCE/ NON-CONFORMANCE

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

1.1

HILL FARE

			Indicate Yes, No, N/A
1.	Chromatograms labeled/Cor	mpounds identified	
	(Field samples and met		425
2.	Retention times for chromat	ograms provided	yes
3.	GC/MS Tune Specifications	3	•
		Meet Criteria	Yes
	b. DFTF	PP Meet Criteria	- DA
4.	GC/MS Tuning Frequency - series and 12 hours for 8000	Performed every 24 hours for 600 series	405
5.	analysis and continuing calil	Calibration performed before sample bration performed within 24 hours of es and 12 hours for 8000 series	45
6.	GC/MS Calibration requires	nents	•
	a. Calibr	ration Check Compounds Meet Criteria	UES
	b. System	m Performance Check Compounds Meet Criteria	Jes
7.	Blank Contamination – If ye	es, List compounds and concentrations in each blank:	NO
		Fraction	
		raction NA	
	c. Acid	Fraction NA	
8.	Surrogate Recoveries Meet (Criteria	yes_
	If not met, list those con outside the acceptable ra	npounds and their recoveries, which fall ange:	
	a. VOA	Fraction	
		raction NA	
	c. Acid I	Fraction	
	If not met, were the calcas "estimated"?	culations checked and the results qualified	
9.		Ouplicate Recoveries Meet Criteria unds and their recoveries, which fall	JRS.
	a. VOA	Fraction	
	b. B/N F	ractionNA	
	c. Acid I	Fraction NA	

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 acceptal	ole range)	Yes
	a. VOA Fraction		
	b. B/N Fraction NA		
	c. Acid Fraction NA		
11.	Extraction Holding Time Met		<u> 465</u>
	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:	-	ı
Add	ditional Comments:		
Labo	poratory Manager:Date:	7.5.01	

Minister Company

TPHC Conformance/Non-conformance Summary Report

1.	Method Detection Limits provided.	Ye	licate s, No, N/A
2.	Method Blank Contamination – If yes, list the secorresponding concentrations in each blank.	ample and the	16_
3.	Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding refalls outside the acceptable range).	covery which	es
4.	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding re falls outside the acceptable range).	covery which	<u>es</u>
5.	IR Spectra submitted for standards, blanks and s	amples. <u>N</u>	<u>A</u>
6.	Chromatograms submitted for standards, blanks if GC fingerprinting was conducted.	-	<u>os</u>
7.	Analysis holding time met. (If not met, list number of days exceeded for each	th sample).	<u>es</u> 2 <u>s</u>
Addi	tional comments:		
		-5-01	
Labo	ratory Manager Dat		

VOLATILE ORGANICS

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

VOLATILE ORGANICS ANALYSIS DATA SHEET

FI	EL	D١	D
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SDG No.:

	VOENTIEE ON GOVERNOOP WATER		OTTLE !	MB 1945
Lab Name:	FMETL	NJDEP #	13461	

Case No.: 16202 SOIL Matrix: (soil/water) Lab Sample ID: MB

Project:

010001

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:

Location: 220

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	Ū
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	Ū
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	Ü
100-41-4	Ethylbenzene	200	Ū

VOLATILE ORGANICS ANALYSIS DATA SHEET

					WD 1945	
.ab Name:	FMETL			NJDEP # 13461		
Project:	010001		Case No.: 16202	Location: 220 SI	DG No.:	
Matrix: (soil/\	water)	SOIL		Lab Sample ID:	МВ	
Sample wt/vo	ol:	10.0	(g/ml) <u>G</u>	Lab File ID:	VC006340.D	
_evel: (low/r	ned)	MED		Date Received:	6/21/01	
% Moisture:	not dec.	0		Date Analyzed:	6/27/01	
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mm)	Dilution Factor:	1.0	
Soil Extract \	/olume:	25000	(uL)	Soil Aliquot Volu	me: <u>125</u>	(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	Styrene		200	U
75-25-2	Bromoform	Bromoform		200	U
79-34-5	1,1,2,2-Tetrachlo	oroethane		200	U
541-73-1	1,3-Dichlorobena	1,3-Dichlorobenzene 300		U	
106-46-7	1,4-Dichlorobenz	zene		300	U
95-50-1	1,2-Dichlorobenzene 300		U		

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VOLATILE ORGANICS ANALYSIS DATA SHEET

F	IELD	ID.

	TENTATIVELY IDENTIFIED COMPOUNDS			.
Lab Name: FMET	L	NJDEP # 13461	MB 1945)
Project: 01000	1 Case No.: 162	02 Location: 220 S	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: Rtx5	02.2 ID: <u>0.25</u> (mm)	Dilution Factor:	1.0	_
Soil Extract Volume	25000 (uL)	Soil Aliquot Vol	ume: <u>125</u>	_ (uL)
Number TICs found	:0	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG		
CAS NO.	COMPOUND NAME	RT E	ST. CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Lab Name:	FMETL			NJDEP # 13461	220A	
Project:	010001		Case No.: 16202	Location: 220 SI	DG No.:	
Matrix: (soil/\	water)	SOIL		Lab Sample ID:	1620201	
Sample wt/vo	ol:	11.9	(g/ml) <u>G</u>	_ Lab File ID:	VC006341.D	
Level: (low/r	ned)	MED		Date Received:	6/21/01	
% Moisture:	not dec.	16.97		Date Analyzed:	6/27/01	
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mm)	Dilution Factor:	1.0	
Soil Extract \	/olume:	25000	(uL)	Soil Aliquot Volu	me: <u>125</u>	(uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		710	U
107131	Acrylonitrile		710	U
75650	tert-Butyl alcohol		1300	U
1634044	Methyl-tert-Butyl	ether	300	U
108203	Di-isopropyl ethe	r	200	U
75718	Dichlorodifluorom	ethane	410	U
74-87-3	Chloromethane		100	U
75-01-4	Vinyl Chloride		300	Ū
74-83-9	Bromomethane		200	U
75-00-3	Chloroethane		300	U
75-69-4	Trichlorofluorome	thane	200	U
75-35-4	1,1-Dichloroether	ne	100	U
67-64-1	Acetone		200	U
75-15-0	Carbon Disulfide	ř	100	U
75-09-2	Methylene Chlori	de	200	U
156-60-5	trans-1,2-Dichloro	pethene	200	U
75-35-3	1,1-Dichloroethar	ne	100	U
108-05-4	Vinyl Acetate		300	U
78-93-3	2-Butanone		300	U
	cis-1,2-Dichloroet	thene	100	U
67-66-3	Chloroform		100	U
75-55-6	1,1,1-Trichloroeth	iane	100	U
56-23-5	Carbon Tetrachlo	ride	200	U
71-43-2	Benzene		100	U
107-06-2	1,2-Dichloroethar	ne	200	U
79-01-6	Trichloroethene	•	100	U
78-87-5	1,2-Dichloropropa	ane	100	U
75-27-4	Bromodichlorome		100	J
110-75-8	2-Chloroethyl viny	yl ether	200	J
10061-01-5	cis-1,3-Dichloropi	ropene	100	J
108-10-1	4-Methyl-2-Penta		200	J
108-88-3	Toluene		100	U
10061-02-6	trans-1,3-Dichloro	propene	200	U
79-00-5	1,1,2-Trichloroeth		200	U
127-18-4	Tetrachloroethen	е	100	IJ
591-78-6	2-Hexanone		200	U
126-48-1	Dibromochlorome	ethane	200	U
108-90-7	Chlorobenzene		100	U
100-41-4	Ethylbenzene		200	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIEL	D ID
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_ab Name:	FMETL			NJDEP # 13461	220A	
Project:	010001	C	Case No.: 16202	Location: 220 SI	DG No.:	
Matrix: (soil/v	water)	SOIL		Lab Sample ID:	1620201	
Sample wt/vo	ol:	11.9	(g/ml) <u>G</u>	_ Lab File ID:	VC006341.D	
_evel: (low/n	ned)	MED		Date Received:	6/21/01	
% Moisture: ı	not dec.	16.97		Date Analyzed:	6/27/01	
GC Column:	Rtx502	2.2 ID: 0	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract V	/olume:	25000	(uL)	Soil Aliquot Volu	me: <u>125</u>	(uL

CONCENTRATION UNITS:

CAS NO.	COMPOUND (u	g/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-Tetrachloroeth	nane		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

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VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOLINDS

FIELD ID.

		1 141	ATTVEET IDEN	I II ILD OOMII V		NDS			.
Lab Name:	FMETL			NJDEP	#	13461		220 <i>A</i>	\
Project:	010001		Case No.: 162	D2 Locat	ion	: 220	_ s	DG No.:	
Matrix: (soil/	water)	SOIL		L	.ab	Sample	ID:	1620201	
Sample wt/ve	ol:	11.9	(g/ml) <u>G</u>	L	.ab	File ID:		VC006341.D	
Level: (low/r	med)	MED			Dat	e Receiv	/ed:	6/21/01	
% Moisture:	not dec.	16.97			Dat	e Analyz	ed:	6/27/01	
GC Column:	Rtx50	2.2 ID:	<u>0.25</u> (mm)	Γ	Dilu	ıtion Fac	tor:	1.0	
Soil Extract \	Volume:	25000	(uL)	9	Soil	l Aliquot	Volu	me: <u>125</u>	(uL)
Number TICs	s found:	0		CONCENTR. (ug/L or ug/K					
CAS NO.		COMF	POUND NAME			RT	ES	ST. CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:	FMETL				NJDEP#	13461	2200
Project:	010001	C	Case No.:	16202	Location	n: <u>220</u> S	DG No.:
Matrix: (soil/w	ater)	SOIL			Lat	Sample ID:	1620204
Sample wt/vo	l:	11.0	(g/ml)	G	Lat	File ID:	VC006342.D
Level: (low/m	ned)	MED			Dat	te Received:	6/21/01
% Moisture: n	ot dec.	18.77			Dat	te 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:

FIELD ID.

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	Dichlorodifluorom	ethane	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	Trichlorofluorome	thane	230	U
75-35-4	1,1-Dichloroether	ne	110	U
67-64-1	Acetone		230	U
75-15-0	Carbon Disulfide		110	U
75-09-2	Methylene Chloric	de	230	U
156-60-5	trans-1,2-Dichloro		230	U
75-35-3	1,1-Dichloroethar		110	U
108-05-4	Vinyl Acetate		340	U
78-93-3	2-Butanone		340	U
	cis-1,2-Dichloroet	:hene	110	U
67-66-3	Chloroform		110	U
75-55-6	1,1,1-Trichloroeth	ane	110	U
56-23-5	Carbon Tetrachlo		230	U
71-43-2	Benzene	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 	110	U
107-06-2	1,2-Dichloroethar	 ne	230	U
79-01-6	Trichloroethene		110	U
78-87-5	1,2-Dichloropropa	ane	110	U
75-27-4	Bromodichlorome		110	U
110-75-8	2-Chloroethyl viny		230	Ū
10061-01-5	cis-1,3-Dichloropi		110	U
108-10-1	4-Methyl-2-Penta		230	U
108-88-3	Toluene		110	Ü
10061-02-6	trans-1,3-Dichloro	propene	230	Ū
79-00-5	1,1,2-Trichloroeth		230	Ū
127-18-4	Tetrachloroethen		110	Ü
591-78-6	2-Hexanone		230	Ü
126-48-1	Dibromochlorome	ethane	230	Ū
108-90-7	Chlorobenzene	<u> </u>	110	Ū
100-41-4	Ethylbenzene		230	Ü

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIE	LD ID
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Lab Name:	FMETL		<u>-</u>	NJDEP # <u>13461</u>		
Project:	010001	C	ase No.: 16202	_ Location: 220 S	DG No.:	
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	1620204	
Sample wt/vo	ol:	11.0	(g/ml) <u>G</u>	Lab File ID:	VC006342.D	
Level: (low/m	ned)	MED		Date Received:	6/21/01	
% Moisture: r	not dec.	18.77		Date Analyzed:	6/27/01	
GC Column:	Rtx502	2.2 ID: <u>0</u>	.25 (mm)	Dilution Factor:	1.0	
Soil Extract V	/olume: <u>:</u>	25000	(uL)	Soil Aliquot Volu	ıme: <u>125</u>	(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-Tetrachl	oroethane		230	U
541-73-1	1,3-Dichloroben	1,3-Dichlorobenzene			U
106-46-7	1,4-Dichloroben	zene		340	U
95-50-1	1,2-Dichloroben	zene		340	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

۲	ILL	D	ID.
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Lab Name:	FMETL		NJDEP :	# 13461		220[כ
Project:	010001	Case No.: 1620	2 Locati	on: 220	SD	G No.:	
Matrix: (soil/v	vater) <u>SOIL</u>		L	ab Sample	ė ID: <u>1</u>	1620204	
Sample wt/vo	ol: <u>11.0</u>	(g/ml) <u>G</u>		ab File ID:	: <u>\</u>	/C006342.D	
Level: (low/n	ned) <u>MED</u>		Ε	ate Recei	ved: 6	5/21/01	
% Moisture: r	not dec. <u>18.77</u>			ate Analy	zed: 6	5/27/01	
GC Column:	Rtx502.2 ID	0.25 (mm)		ilution Fac	ctor: 1	1.0	
Soil Extract V	/olume: <u>25000</u>	(uL)	8	Soil Aliquot	Volum	ne: <u>125</u>	(uL
Number TICs	s found:)	CONCENTR/ (ug/L or ug/K		ITS: /KG		
CAS NO.	COM	POUND NAME		RT	FST	CONC.	O

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIEL	D.	ID
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Lab Name:	FMETL			NJDEP # 13461	220G-TripBlank
Lab Maille.	INICIL			13401	L
Project:	010001		Case No.: 16202	Location: 220 SI	OG No.:
Matrix: (soil/v	water)	SOIL		Lab Sample ID:	1620207
Sample wt/vo	ol:	10.0	(g/ml) <u>G</u>	Lab File ID:	VC006343.D
_evel: (low/n	ned)	MED		Date Received:	6/21/01
% Moisture: ı	not dec.	0	***	Date Analyzed:	6/27/01
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mm)	Dilution Factor:	1.0
Soil Extract V	/olume:	25000	(uL)	Soil Aliquot Volur	me: 125 (uL

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	Ü
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	Ü
108203	Di-isopropyl ether	200	Ü
75718	Dichlorodifluoromethane	400	Ū
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	Ū
74-83-9	Bromomethane	200	Ū
75-00-3	Chloroethane	300	Ü
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	Ü
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	Ų
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	Ų
10061-02-6	trans-1,3-Dichloropropene	200	Ų
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	Ų
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

VOLATILE ORGANICS ANALYSIS DATA SHEET

220G-TripBlank

FIELD ID.

- L N				NIDED # 40404	220G-Tripbiank	1
Lab Name:	FMETL			NJDEP # 13461		┙
Project:	010001		Case No.: 16202	Location: 220 SI	DG No.:	_
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	1620207	_
Sample wt/vo	ol:	10.0	(g/ml) <u>G</u>	_ Lab File ID:	VC006343.D	
_evel: (low/n	ned)	MED		Date Received:	6/21/01	
% Moisture: r	not dec.	0		Date Analyzed:	6/27/01	
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract V	/olume:	25000	(uL)	Soil Aliquot Volu	me: 125 (u	ıL)

CONCENTRATION UNITS:

		00.102.11.10			
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-Tetrachl	oroethane		200	U
541-73-1	1,3-Dichloroben	zene	1	300	U
106-46-7	1,4-Dichloroben	zene		300	U
95-50-1	1,2-Dichloroben	zene		300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

Lab Name:	FMETL			NJDEP	# 13461		220G-Trip	Blank
Project:	010001		Case No.: 1620	D2 Locat	tion: 220	SD	G No.:	
Matrix: (soil/	water)	SOIL		!	Lab Sample	e ID:	1620207	
Sample wt/ve	ol:	10.0	(g/ml) <u>G</u>		Lab File ID:		VC006343.D	
Level: (low/r	med)	MED		I	Date Recei	ved:	6/21/01	
% Moisture:	not dec.	0			Date Analy	zed:	6/27/01	
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	I	Dilution Fac	ctor:	1.0	
Soil Extract \	Volume:	25000	(uL)	:	Soil Aliquot	Volun	ne: <u>125</u>	(uL)
Number TICs	s found:	0		CONCENTR (ug/L or ug/k		ITS: /KG		
CAS NO.		COMF	POUND NAME		RT	ES	Г. CONC.	Q

TPHC

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

Client:

U.S. Army

Project #:

16202

DPW. SELFM-PW-EV

Location:

Bldg220

Bldg. 173

UST Reg. #:

81533

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

21-Jun-01

Matrix:

Soil

Date Extracted:

22-Jun-01

Inst. ID.:

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

22-Jun-01

Injection Volume:

1uL

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

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 <u>and</u> 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. 11.	Method Detection Limits submitted Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	<u>/</u>
Date	Laboratory Manager or Environmental Consultant's Signature	

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

Laboratory Certification #13461

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

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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# 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

Table of Contents

Part of the

Section	Pages
Method Summary	1
Conformance/Non-Conformance	2
Chain of Custody	3
Results Summary	4
Blank Spike Summary	4
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Continuing Calibration Summary	6
Surrogate Results Summary	7
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Raw Sample Data	10-17
Laboratory Deliverable Checklist	18
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
1.	Method Detection Limits provided.	Yes, No, N/A
2.	Method Blank Contamination – If yes, list the sample and the Corresponding concentrations in each blank.	<u> </u>
3.	Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	n the
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.	
6.	Chromatograms submitted for standards, blanks and sample if GC fingerprinting was conducted.	es <u>Ves</u>
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	<u>yes</u>
Additio	onal comments:	
·····		
	7-5-01	
Labor	atory Manager Date	

1 1

NJDEP Certification #13461 / NYDOH Certification #11699

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

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

Chain of Custody Record

通り 一人												
Customer: Dinker Desai	ai '		Project No: 01-0001	01-0001				Analysi	Analysis Parameters			
Phone #: X21475			Location: ${\cal B}_{\prime}$	Location: 8406, 220(34 P. USSC1)	(34 BUS	(1)					* = Samples Kept <4°C	_
()DERA (X)OMA UST Assessment	Assessment		UST# 81533	33		,		-10 CID		gnib		
Samplers Name / Company: Frank Accorsi/TVS	pany: Frank Acco	rsi/TVS	A.,		Sample	#	ЭН			Rea	Remarks / Preservation	
Lab Sample I.D.	Sample Location	Depth	Date	Time	Type	Bottles			VOA ID#	PID	Method	
1. (Dd, 10. 01 220	5 PX1- WORTH	6-65	6-25-9	0051	7105	7	X	×	2513	0	70%	
(A) 220	1220 PX2-WEST	6-65		1430		2	\^ X	X	2514	0		
43 220	220 PX3-DUPLICAR	6.6.5		1430	-	æ		X	2515	0		
7/10/12	TRIP BLANK	1		1	40.	1		×	2516	١		
							<u> </u>					
		, ,,										
OVM sn#58	OVM sn#580U-64455.343 was calibrated with zero air & w/ 24を ppm Isobutylene read 24を ppm. てみつ ゟーみつい 研 (time/date & initial)	librated with	zero air & w	1.245 ppm ls	sobutylene r	ead <i>2</i>	ppm.	001	#10-8-9	time/da	ite & initial)	_
Relinquished by (signature):		ie:	Rec	Received by (signature)		Commen	18: **	1401	25 NO 0	<i>28</i>	Comments: X 10+10 ON 3590 > 1,000 PP 1-1PH	
trange Mus un	10-cp-01	103		777	3	K	D, 0 /C	20,	HICHEST			
Relinquished by (signature):	Date/Time:	ie:	(/ Reca	Received by signature):	ture):							
Report Type: ()Full, (Reduced, ()Standard, ()Screen / non-certified, () Turnaround time: ()Standard 2 whe ()Ruch () Days () ASAB Vorbel	ed, OStandard, OScreen	/ non-certified,)ED				Remarks:	_	Dedicate	d Sampli	Dedicated Sampling Tools Used	
1 minomin mire. Ostannaru 2	was, Mirusu (X Days,	Ousar vero	110.5			7	All sample	points ha	All sample points have been GPS? (A)YES () NO () NA	SEL) NA	

USTcoc.xls6/22/01

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

Client:

U.S. Army

Project #:

16210

DPW. SELFM-PW-EV

Location:

Bldg220

Bldg. 173

UST Reg. #:

81533

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

25-Jun-01

Matrix:

Soil

Date Extracted:

26-Jun-01

Inst. ID.:

Shake

GC TPHC INST. #1

Extraction Method: Analysis Complete:

26-Jun-01

Column Type:

RTX-5, 0.32mm ID, 30M

Injection Volume:

1uL

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	МВ	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	
	Method Detection Limits submitted Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	
Dat	Laboratory Manager or Environmental Consultant's Signature	
	oratory 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. 222	Registration ID: 81533-15
Recommended Status of Site: Case	Closed (no change)
UST Probability (from May 2014 "Add	endum 1 ECP UHOT Report"): <i>High</i>
Based on the file review, were there i	ndications of a contaminant release? [] Yes [X] No
NJDEP Release No. or DICAR (If applic	able): <u>Not Applicable</u>
Did NJDEP approve No Further Action	(NFA) for this site? [] Yes [] No [X] Not Applicable
Tank Description: [] Steel [X] Fibe	erglass Size: 2000 gals. Contents: No. 2 Fuel Oil
[X] Residential [] Commercia	ıl/Industrial
Tank Removed? [X]Yes [] No I	f "yes," removal date: <u>6/25/2001</u>
Were closure soil samples taken? [${\sf X}$] Yes [] No Analyses: <u>TPH</u>
Comparison criteria:5,100 mg/kg	<u>TPH</u>
Were closure soil sample results less t	than comparison criteria??[X] Yes [] No
	Brief Narrative
Monmouth Environmental Laboratory sample results were non-detected (N TPH, which is the current remediation	the tank excavation in 2001 and analyzed by the Fort of total petroleum hydrocarbons (TPH). All Building 222 (D) for TPH. These results were less than 5,100 mg/kg for criterion. Results were also less than 1,000 mg/kg, which terion for additional required analyses. Therefore, no n was warranted.
certain supporting documentation (su	support the UST Case Status of "Case Closed," although uch as a map with sample locations, field notes, etc.) may glass tank was removed, an earlier steel UST could still be
Recommendations (if any): None	
Signed: Wind U. Jinh	dù

Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL

TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

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

- 1

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	Matrix	Date and Time	Date Received
	Sample ID#		Of Collection	
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
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Laboratory Authentication Statement	23

Hard : | 1511

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>.00</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).	yes
5 .	IR Spectra submitted for standards, blanks and samples.	- NA
6.	Chromatograms submitted for standards, blanks and sample if GC fingerprinting was conducted.	es <u>yes</u>
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	yes_
Additi	ional comments:	- -
l abs	ratory Manager 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

は漢語はいているというできます。											
Customer: Dinker Desai	·		Project No: 01-0001	01-0001				Analysi	Analysis Parameters		
Phone #: X21475			Location: 8	ocation: 81 16,222 (38 RUSSEL)	(38 Rus.			S ₹			* = Samples Kept <4°C
()DERA (X)OMA UST Assessment	ssessment		UST# 81533-	533-15	١,	١.	 -			guib	
Samplers Name / Company: Frank Accorsi/TVS	nny : Frank Accors	si/TVS			Sample	#	ЭН	+∀(IOS		Kesu	Remarks / Preservation
Lab Sample I.D. Sa	Sample Location	Depth	Date	Time	Type	Bottles	dΤ		VOA ID#	PID	Method
162 B. O. 2221	222A EASTEND 9	56-6	10-97-9	0501	205	2	×	<u>۸</u> لا	2517	Ø	301
023326	2328-center 6	1-95		1115			×	メメ	35.18	0	
03 2220	- WEST END	9-9.5		1135			×	<u>بر</u> رو	2579	0	
44321-	7	3-25		1145	,		Х	X X	2520	0	
177 S	LE- POPLICATE	9-6.5		0501			2	بخ نېد	2521	0	
1 46 TRG	BLAWK	1)	A.Q.			نز	2522	1	
					•						
				<u> </u>							
OVM sn#580U	OVM sn#580U-64455.343 was calibrated with zero air & w/24f ppm Isobutylene read 245 ppm. 10/0	brated with	zero air & w	1 <i>945</i> ppm ls	obutylene r	ad all	ppm	0/0/	6-26-01 FA (t	time/da	[A] (time/date & initial)
Relinquished by (signature):	Date/Time:		Rece	Received by (signature)		Comments:	ts: 1/C	02+6	10 HO ON 25% > 1000 PM	77	HAL MID DOC
	10-216-01	1200	10/	DAMA	4	9		1457	TI WIN, C	1777	
Relinquished by (signature):	Date/Time:		W Rece	Received by (signature):	.ure):						
				۱							
Report Type: ()Full, Reduced, ()Standard, ()Screen / non-certified, (Turnaround time: ()Standard 2 wks, ()Rush () Days. ()ASAP Verhal	$\mathcal{L}_{\mathcal{L}}$	Screen / non-certified, (()EDD				Remarks:		Dedicated	Samplir	Dedicated Sampling Tools Used
	1						III Sample	POIIIIS IIAV	Au Sample Douts have been Gro? (VIES () NO () NA	2	NO ()NA

Page / of

USTcoc.xls6/22/01

print legibly

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

Client:

U.S. Army

Project #:

16213

DPW. SELFM-PW-EV

Location:

Bldg222.

Bldg. 173

UST Reg. #:

81533

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

26-Jun-01

Matrix:

Date Extracted:

26-Jun-01

Soil

Inst. ID.:

GC TPHC INST. #1

Extraction Method: Analysis Complete:

Shake

Column Type:

Injection Volume:

RTX-5, 0.32mm ID, 30M 1uL

Analyst:

26-Jun-01 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

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 <u>and</u> 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	
3.	Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted	_
4.	Document paginated and legible	
5 .	Chain of Custody submitted	·V
6.	Samples submitted to lab within 48 hours of sample collection	<u>/</u>
7.	Methodology Summary submitted	
8.	Laboratory Chronicle and Holding Time Check submitted	
9.	Results submitted on a dry weight basis	ν
10. 11.	Method Detection Limits submitted Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	
	The state of the s	

Laboratory Manager or Environmental Consultant's Signature Date 7/3/91

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: C	Case Closed
UST Probability (from May 2014	"Addendum 1 ECP UHOT Report"): <i>High</i>
Based on the file review, were th	ere indications of a contaminant release? [] Yes [X] No
NJDEP Release No. or DICAR (If a	pplicable): <u>Not Applicable</u>
Did NJDEP approve No Further A	ction (NFA) for this site?[]Yes []No [X]Not Applicable
Tank Description: [] Steel [X	Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil
[X] Residential [] Comm	ercial/Industrial
Tank Removed? [X]Yes [] N	o If "yes," removal date: <u>6/29/2001</u>
Were closure soil samples taken?	? [X] Yes [] No Analyses: <u>TPH</u>
Comparison criteria: 5,100 m	ng/kg TPH
Were closure soil sample results	less than comparison criteria? ? [X] Yes [] No
	Brief Narrative
Monmouth Environmental Labor sample results were non-detected TPH, which is the current remediate.	om the tank excavation in 2001 and analyzed by the Fort ratory for total petroleum hydrocarbons (TPH). All Building 223 ed (ND) for TPH. These results were less than 5,100 mg/kg for lation criterion. Results were also less than 1,000 mg/kg, which d criterion for additional required analyses. Therefore, no action was warranted.
Closed," although certain suppor	ults generally support changing the UST Case Status to "Case ting documentation (such as a map with sample locations, field e. Although the fiberglass tank was removed, an earlier steel
Recommendations (if any): <u>Ch</u>	nange status to "Case closed."
Signed: Junt 1. C	7 Min

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

7.9.01

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Section	Pages
Method Summary	1
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Blank Spike Summary	4
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Continuing Calibration Summary	6
Surrogate Results Summary	7
MS/MSD Results Summary	8
Raw Sample Data	9-20
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 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.	<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). MS-1961 6406	<u>NO</u>
	MSD-1962 (060%)	
4.	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	+ <i>PS</i>
5.	IR Spectra submitted for standards, blanks and samples.	NA
6.	Chromatograms submitted for standards, blanks and sample if GC fingerprinting was conducted.	es <u>ye</u> s
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	- Jos
Addit	ional comments:	 -
		_
لسر	7-9-01	
Labo	ratory Manager Date	
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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

	Noder Certification #13461 / NTDOR Certification #11633	ation #134617	N TOOL CE	uncanon #	66011.							
Customer: Dinker Desai	aker Desai		Project No: 01-0001	1-0001		4		Ana	ysis F	Analysis Parameters		
Phone #: X21475	75		Location: $oldsymbol{eta}_{oldsymbol{\prime}}$	06.22	Location: 8,06,23 /42 Russa)	(355		SC	\star		Ę	* = Samples Kept <4°C
()DERA (X)O	DERA (X)OMA UST Assessment		UST# 81533-	-33-16				ΓIΓ	01-		guiba	
Samplers Nan	Samplers Name / Company: Frank Accorsi/TVS	corsi/TVS			Sample	*	НС	OS	⊦ Α (səX (Remarks / Preservation
Lab Sample I.D	Sample Location	Depth	Date	Time	Type	Bottles	dT	%	λ	VOA ID#	ΔIΔ	Method
aren/	123	10%	10-52-9	1050	7/05	4	メ	ا بر	×	2523	O	10E
7	12 223B - CON TER	 		1/00			×	×		2524	0	
7	72 223C - WESTEND	_		1120			X	X	メ	2525	0	
7	11 2230 - PIPING	-		1/40			×	X	x	975ST	0	
	7 223E - DUPLICATE	8-6.51		1050	A	_	R	× ×	×	2527	C	
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0	OVM sn#580U-64455.343 was calibrated with zero	s calibrated with		1 245 ppm	air & w/ 245 ppm Isobutylene read 245 ppm. 1030	ead 23	Igg St	٦. /۵	1	6-1901 FW (ti	me/da	产 (time/date & initial)
Relinquished by (signature):	mi 1024	Date/Time; 0/ 1/3/0	Regio	Received by (signature)	yture): 1MM	Comments: * VO +10	nts: *	67 /	110 1611	20,000	600	25% > 6000 ppm
Relinquished by (signature):		Date/Time:	١.	Received by (signature):	ature):	~-	· _	,	'			
Report Type: OFull	Reduced, ()Standard, ()Screen / non-certified, ()EDD	reen / non-certified	CEDD				Remarks:	::		Dedicated	Sampl	Dedicated Sampling Tools Used
Turnaround time: (Standard 2 wks, XRush 2 Da	ORush Z Days, OASAP Verbal	al Hrs.				AII sam	le point	s have	All sample points have been GPS? (20YES ()NO ()NA	ES ()NO ()NA
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3				í	<i>\</i> . ,							

print legibly

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

Client:

U.S. Army

Project #:

16220

DPW. SELFM-PW-EV

Location:

Bldg.233

Bldg. 173

UST Reg. #:

81533-16

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

29-Jun-01

Matrix:

Soil

Date Extracted:

05-Jul-01

Inst. ID.:

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

05-Jul-01

Injection Volume:

1uL

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

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 <u>and</u> 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. 11.	Method Detection Limits submitted Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	
Date	Laboratory Manager or Environmental Consultant's Signature	

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

Laboratory Certification #13461

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

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: Cas	e Closed
UST Probability (from May 2014 "A	ddendum 1 ECP UHOT Report"): <i>High</i>
Based on the file review, were ther	e indications of a contaminant release? [] Yes [X] No
NJDEP Release No. or DICAR (If app	licable): <u>Not Applicable</u>
Did NJDEP approve No Further Acti	on (NFA) for this site? [] Yes [] No [X] Not Applicable
Tank Description: [] Steel [X] F	iberglass Size: 2000 gals. Contents: No. 2 Fuel Oil
[X] Residential [] Commer	cial/Industrial
Tank Removed? [X]Yes [] No	If "yes," removal date: <u>2/14/2001</u>
Were closure soil samples taken? [X] Yes [] No Analyses: _TPH
Comparison criteria:5,100 mg/	'kg TPH
Were closure soil sample results les	ss than comparison criteria? ? [X] Yes [] No
	Brief Narrative
Monmouth Environmental Laborate sample results ranged from non-dethan 5,100 mg/kg for TPH, which than 1,000 mg/kg, which is the	n the tank excavation in 2001 and analyzed by the Fort tory for total petroleum hydrocarbons (TPH). Building 225 etected (ND) to 197 mg/kg for TPH. These results were less is the current remediation criterion. Results were also less current NJDEP threshold criterion for additional required sampling or remedial action was warranted.
although certain supporting docum	ts support changing the UST Case Status to "Case Closed," nentation (such as a map with sample locations, field notes, ough the fiberglass tank was removed, an earlier steel UST
Recommendations (if any): None	<u>e</u>
Signed: Wint U. J.	ntin

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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Surrogate Results Summary	12
MS/MSD Results Summary	13
Blank Spike Summary	14
Raw Sample Data	15-24
Laboratory Deliverable Checklist	25
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

1.	Method Detection Limits provided.	Indicate Yes, No, N/A
2.	Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.	to
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.	405
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	Yes
Addi	tional comments:	
	2-21-01	
abo	ratory Manager Data	

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	r Desai		Project No: -100004-		1000-10	•		Ank	llysis	Analysis Parameters		·
Phone #: X21475			Location: £	Location: BLDG 225(13+15 44LEV)	5(13+15)	(4577)		S	-			* = Samples Kept <4°C
()DERA (X)OMA UST Assessment	UST Assessment		-EE518 #180	33-17	,			CID	10		guib	
Samplers Name /	Samplers Name / Company: Frank Accorsi/TVS	orsi/TVS			Sample	#	ЭН	OS	+ V ()	Kea	Remarks / Preservation
Lab Sample LD.	Sample Location	Depth	Date	Time	Type	Bottles	фL	%	λC	VOA ID#	ΔIA	Method
820	225-4 EAST END	4.58-8	2-1501	0760	7105	18	×	×	X	2271	0	106
27	225-B, CENTER	8-8.5M		5460		4	×	x	¥	2272	Ø	and the same of th
50	225-C, WEST END	8-8-51		0001		16	×	x	x	2273	0	
873	225-D PIPING	8-8.5H		5101		7	×	×	×	2274	0	
8.14	225-E, DUPLICATE	8-8.517		0820		4	ĸ	幺	K	2275	0	
	TRIP BLANK	{		(40,	_			بح	2276	ſ	
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OVMS	OVM sn#580U-64455.343 was calibrated with zero air & w/ 2枚 ppm Isobutylene read 245 ppm.	alibrated with :	zero air & w	11 245 ppm ls	sobutylene r	ead 74	rgq /	ا نے ا	2	2-14-09 (tin	me/da	(time/date & initial)
Relinquished by (signature):	re): Date/Time:	ne:) / Recu	Received by (signature)		Common	1 2	1740,	6	25	Λ,	147 790 1PW TPH,
Frank Cle	14 2-15-1	1430	77	7777	`	A NO	Ġ	7	MOHES	K		
Relinquished by (signature):	re): Datc/Time:	ne:	// Reca	Received by (signature):	ture):							
Report Type: (Full, (K)	\supset	n / non-certified, 1	CEDD				Remarks:	, ;;; ,	,	Dedicated	Sampli	Dedicated Sampling Tools Used
I mutavound time: (X) orangard 4 wks, () folish		Days, Chark veroal	I LITS.			1	All samp	le point	s have i	All sample points have been GPS? XYES ()NO ()NA	S	NO () NA

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

Client:

U.S. Army

Project #:

870-874

DPW. SELFM-PW-EV

Location:

Bldg.225

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

15-Feb-01

Matrix:

Soil

Date Extracted:

16-Feb-01

Inst. ID.:

Shake

GC TPHC INST. #1

Extraction Method: Analysis Complete:

16-Feb-01

Column Type:

RTX-5, 0.32mm ID, 30M

Analyst:

B.Patel

 ${\bf Injection\ Volume:}$

1uL

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

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9.	Results submitted on a dry weight basis	
10. 11.	Method Detection Limits submitted Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	
Dat	Laboratory Manager or Environmental Consultant's Signature	

Laboratory Certification #13461

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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: <i>Bldg. 226</i>	Registration ID: 81533-18
Recommended Status of Site: Case Close	d
UST Probability (from May 2014 "Addendun	n 1 ECP UHOT Report"): <i>High</i>
Based on the file review, were there indicat	ions 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/Indu	strial
Tank Removed? [X] Yes [] No If "yes,	" removal date: <u>4/28/2000</u>
Were closure soil samples taken? [X] Yes	No Analyses: <u>TPH; VOCs in 1 sample</u>
Comparison criteria:5,100 mg/kg TPH;	NJAC 7:26E
Were closure soil sample results less than co	omparison criteria? ? [X] Yes [] No
Brie	f Narrative
Monmouth Environmental Laboratory for sample results for TPH in soil ranged from (226A-Center) that contained 3386 mg/compounds (VOCs). The TPH results we remediation criterion. The VOC results we xylenes; however, concentrations of these	nk excavation in 2000 and analyzed by the Fort total petroleum hydrocarbons (TPH). Building 226 n non-detected (ND) to 3915 mg/kg. One sample kg TPH was also analyzed for volatile organic ere less than 5,100 mg/kg, which is the current ere ND for all compounds except ethylbenzene and detected compounds were well below the NJDEP n standards (RDCSRS). Therefore, no additional
Closed," although certain supporting docum	changing the UST Case Status designation to "Case nentation (such as a map with sample locations, field h the fiberglass tank was removed, an earlier steel
See al Recommendations (if any): <u>None</u> results	so Attachment D for recent (2016) analytical
Signed: Wind U. Tomain	

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	Matrix	Date and Time	Date Received
	Sample ID#		of Collection	
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

> Daniel Wright/Date Laboratory Director

CHAIN OF CUSTODY



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

Chain of Custody Record

Customer:	D. DRAS	Project No:	00-00	toa		, A	nalysis	Analysis Parameters	8	Comments:
Phone #: X2 (47)		Location: 6:04. 226	St. O.K.	226		G				
()DERA ()OMA ()Other:	()Other:		:		+) }}				
Samplers Name / Company:	FRANK	ACCOKS,	lous.	Sample	/	07 []				
Lab Sample I.D.	Sample Location	Date	Time	Type bo	Pottles P	14				Remarks / Preservation Method
5381.01	226- A CENTER	4-28-00	0877		$X \mid z$					
			•							
						-				
							-			
									·	
							-			
Relinquished by (signature):	Date/Time: (Received by (signature):	signature): 11111	. <u>e</u>	Relinquished by (signature);	by (signat	же);	Date/Time:		Received by (signature):
Relinquished by (signature):	re): Date/Time:	Received by (signature):	gnature):	. 2 4	Relinquished by (signature):	by (signat	пе):	Date/Time:		-
Report Type: ()Full, ()Reduced, (Standar Turnaround time: ()Standard 3 wks, (XRush	d,	OScreen / non-certified, (Days, OASAP Verbal	, ()EDD		Rema	Remarks: 🛪 VO 110	0710	5 No	wood occh	H & 2 w d
					,					

Page

Coc.xls4/19/00

Change of Chain of Custody Lab Project ID#: 5381 Site/Project Name: Bldg 226

Date Received: 4128100 Date of Change: 4128100 Dinke/D Requested by: print Sign: Turnaround Time: ASAP 1. Were the correct containers and/or preservatives used for the tests indicated? Wes No 2. Was a sufficient amount of sample sent for the tests indicated? No 3. Are samples Within Holding time for new analysis? No 4. Was the change documented in the sample receipt log book? No Received by:print Sign: New Sample Sample New ID# **Analysis** ID# **Analysis** VO9 +15 5381

Comments.			 	
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		-		

VOLATILES

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Lab Name:	FMETL		70.	NJDEP# 13461	VDIK82	
Project:	000004		Case No.: 5381	Location: 226 S	DG No.:	
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	Vblk82	
Sample wt/vo	ol:	10.0	(g/ml) <u>G</u>	Lab File ID:	VC003189.D	
Level: (low/n	ned)	MED		Date Received:	4/28/00	
% Moisture: r	not dec.	0		Date Analyzed:	4/28/00	
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract V	olume:	25000	(uL)	Soil Aliquot Volu	ıme: <u>50</u>	(uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	1800	Ū
107131	Acrylonitrile	1800	Ŭ
75650	tert-Butyl alcohol	3200	Ü
1634044	Methyl-tert-Butyl ether	750	Ū
108203	Di-isopropyl ether	500	Ü
	Dichlorodifluoromethane	1000	Ü
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	Ū
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	Ü
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	Ū
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	Û
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

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Lab Name:	FMETL			NJDEP# 13461	VDIKOZ	
Project:	000004		Case No.: 5381	Location: 226 S	DG No.:	
Matrix: (soil/v	water)	SOIL	·	Lab Sample ID:	Vblk82	
Sample wt/vo	ol:	10.0	(g/ml) <u>G</u>	Lab File ID:	VC003189.D	_
Level: (low/n	ned)	MED		Date Received:	4/28/00	_
% Moisture: ı	not dec.	0		Date Analyzed:	4/28/00	_
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mm)	Dilution Factor:	1.0	_
Soil Extract \	/olume:	25000	(uL)	Soil Aliquot Volu	me: <u>50</u>	(uL)
			COI	NCENTRATION 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	J
100-42-5	Styrene		And a second sec	500	U
75-25-2	Bromoform			500	Ú
79-34-5	1,1,2,2-Tetrachlord	ethane		500	Ū

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID

							·	1
Lab Name:	FMETL			NJDEP #	# 13461		Vbik8	12
Project:	000004		Dase No.: <u>538</u>	1 Locati	on: <u>226</u>	s	DG No.:	
Matrix: (soil/\	water)	SOIL		L	ab Sample	e ID:	Vblk82	
Sample wt/vo	ol:	10.0	(g/ml) G	L	ab File ID:		VC003189.D	
Level: (low/r	ned)	MED			ate Recei	ved:	4/28/00	
% Moisture:	not dec.	0	·	D	ate Analyz	zed:	4/28/00	
GC Column:	Rtx50	2.2 ID:	0.25 (mm)	D	ilution Fac	ctor:	1.0	
Soil Extract \	√olume:	25000	(uL)	S	oil Aliquot	Volu	me: <u>50</u>	(uL)
Number TICs	s found:	0		CONCENTRA (ug/L or ug/Ko				
CAS NO.		COMP	OUND NAME		RT	ES	ST. CONC.	Q

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:

Dilution Factor: 1.0

Rtx502.2 ID: 0.25 (mm) 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	IJ
10061-01-5	cis-1,3-Dichloropropene	280	υ
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	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

	V	OLATIL		TOO BATA STILLT	226-A	
Lab Name:	FMETL			NJDEP# 13461	220-A	
Project:	000004		Case No.: <u>5381</u>	Location: 226 S	DG No.:	
Matrix: (soil/w	vater)	SOIL		Lab Sample ID:	5381.01	
Sample wt/vo	ol:	11.2	(g/ml) G	Lab File ID:	VC003205.D	
Level: (low/m	ned)	MED		Date Received:	4/28/00	
% Moisture: r	not dec.	20.07		Date Analyzed:	4/29/00	
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mm)	Dilution Factor:	1.0	
Soil Extract V	olume:	25000	(uL)	Soil Aliquot Volu	me: <u>50</u>	(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		- Live	560	U
75-25-2	Bromoform	17		560	U
79-34-5	1,1,2,2-Tetrachloroe	thane		560	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD I	D.
---------	----

Lab Name:	FMETL			NJDEP # 13461		
Project:	000004		Case No.: 5381	Location: 226 S	DG No.:	
Matrix: (soil/w	vater)	SOIL		Lab Sample ID:	5381.01	
Sample wt/vo	ol:	11.2	(g/ml) <u>G</u>	Lab File ID:	VC003205.D	
Level: (low/m	ned)	MED		Date Received:	4/28/00	
% Moisture: r	not dec.	20.07		Date Analyzed:	4/29/00	
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract V	olume:	25000	(uL)	Soil Aliquot Volu	me: <u>50</u>	(uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 10

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000111-8	1-2 Nonane	26.97	6300	JN
2. 000622-9	6-8 Benzene, 1-ethyl-4-methyl-	30.84	4700	JN
3. 000108-6	7-8 Benzene, 1,3,5-trimethyl-	31.92	12000	JΝ
4. 000526-7	3-8 Benzene, 1,2,3-trimethyl-	33.03	4000	JN
5. 001120-2	1-4 Undecane	33.10	9800	JN
6. 001074-4	3-7 Benzene, 1-methyl-3-propyl-	33.37	6700	JN
7. 000095-9	Benzene, 1,2,4,5-tetramethyl-	33.55	5700	JN
8. 000496-1	1-7 Indane	33.77	3300	JN
9. 000933-9	3-2 Benzene, 1-ethyl-2,3-dimethyl-	34.44	4800	JN
10. 029949-2	7-7 n-Amylcyclohexane	34.86	3200	JN

TPHC

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

Client:

U.S. Army

Project #:

5381

DPW. SELFM-PW-EV

Location:

Bldg.226

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

28-Apr-00

Matrix:

Soil

Date Extracted:

28-Apr-00

Inst. ID.:

GC TPHC INST. #1

Extraction Method: Analysis Complete:

Shake 28-Apr-00

Column Type: Injection Volume: RTX-5, 0.32mm ID, 30M 1 uL

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
			,			
		.				
	· · · · · · · · · · · · · · · · · · ·					
				<u> </u>		
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	Matrix	Date and Time	Date Received
	Sample ID#		of Collection	
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

> Daniel Wright/Date Laboratory Director

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Section	<u>Pages</u>
Method Summary	1
Conformance/Non-Conformance	2
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Continuing Calibration Summary	6-8
Surrogate Results Summary	9
MS/MSD Results Summary	10
Blank Spike Summary	11
Raw Sample Data	12-17
Laboratory Deliverable Checklist	18
Laboratory Authentication Statement	19

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Continuing Calibration Summary	6
Surrogate Results Summary	7
MS/MSD Results Summary	8
Blank Spike Summary	9
Raw Sample Data	10-19
Laboratory Deliverable Checklist	20
Laboratory Authentication Statement	. 21

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

1.	Method Detection Limits provided.		Indicate Yes, No, N/A
2.	Method Blank Contamination – If yes, corresponding concentrations in each b	~	No
3.	Matrix Spike Results Summary Meet C (If not met, list the sample and corresponding outside the acceptable range).		yes
4.	Duplicate Results Summary Meet Crite (If not met, list the sample and corresponding soutside the acceptable range).	onding recovery which	Yes
5,	IR Spectra submitted for standards, blan	nks and samples.	NA
6.	Chromatograms submitted for standard if GC fingerprinting was conducted.	s, blanks and samples	yes
7.	Analysis holding time met. (If not met, list number of days exceede	, ,	yes
Addi	itional comments:		
		5-4.00	
Labo	oratory Manager	Date	

Fort Monmouth Environmental Testing Laboratory

Bidg. 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	· Desai		Project No: 100004	100004	,			Analy	sis Pa	Analysis Parameters		
Phone #: X21475			Location: ${\cal B}$	Location: eta L $oldsymbol{\mathcal{G}}$ L $oldsymbol$	6 (11 4	LEN)			ملد			* = Samples Kept <4°C
()DERA (X)OMA UST Assessment	UST Assessment		UST#				;	rid	01-		guib	
Samplers Name /	Samplers Name / Company: Frank Accorsi/TVS	rsi/TVS			Sample	*	ЭН		-∀ (Rea	Remarks / Preservation
Lab Sample I.D.	Sample Location	Depth	Date	Time	Type	Bottles	dΤ			VOA ID#	DID	Method
5382.01	501819, 8-225	2,5-3,0	70-82-6	1230	7105	7	χ	x	メ	1891	0	. ,
07	226-C, PIPING	1,5-20		1400	7.1	ď	×	×		8891	9	
13	B3 # TRIP BLAWK	\	7	\	40,	~			<u></u>	0 × 90	١	
			•							Ŧ		A THE PROPERTY OF THE PROPERTY
									<u> </u>			
								<u> </u>	ļ			
							<u> </u>	<u> </u>	<u> </u>			
§ M∨O	OVM sn#580U-64455.343 was calibrated with zero air & w/ 245 ppm Isobutylene read 245	alibrated with	zero air & w	1 245 ppm ls	sobutylene r	ead 24:	bpm.	ppm. 0830		4-25-00月(time/date & initial)	me/da	te & initial)
by (sign	ngure): Date/Time:	me: / 570 O	(/k/	(Received by (signature):	ture):	Commen	rts:*) / (0 0	Comments: * 10 +10 01 25%		HA my 6001 2
Relinquished by (signature):			Rece	Received by (signature):	ture):				·			
Report Type: ()Full, ()	Reduced, (XS) and ard, (US) cree	n/non-certified,	CEDD	>			Remarks:			Dedicated	Samplin	Dedicated Sampling Tools Used
Turnaround time: ()Stan	Turnaround time: ()Standard 2 wks. ()Rush Days, ()ASAP Verbal I	AASAP Verb	al Hrs.			7	All sample points have been GPS?	points	nave bee	n GPS? ()YES		(X) NO () NA
000	<i>)</i>	-										
				~	`							

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

Client:

U.S. Army

Project #:

5382

DPW. SELFM-PW-EV

Location:

Bldg.226

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

28-Apr-00

Matrix:

Inst. ID. :

Soil

Date Extracted:

28-Apr-00

GC TPHC INST. #1

Extraction Method: Analysis Complete:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analyst:

28-Apr-00 **B.Patel**

Injection Volume:

luL

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

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 <u>and</u> in the main body of the report.

1.	Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted	٤/_
2.	Table of Contents submitted	- L
3.	Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted	<u>/</u>
4.	Document paginated and legible	
5.	Chain of Custody submitted	<u></u>
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. 11.	Method Detection Limits submitted Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	استان الم
Date	Laboratory Manager or Environmental Consultant's Signature	

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

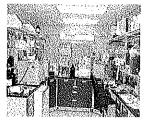
FORT MONMOUTH ENVIRONMENTAL

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

> Daniel Wright/Date Laboratory Director

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Section	<u>Pages</u>
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Continuing Calibration Summary	6-11
Surrogate Results Summary	12
MS/MSD Results Summary	13
Blank Spike Summary	14
Raw Sample Data	15-24
Laboratory Deliverable Checklist	25
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

1.	Method Detection Limits provided.	Indicate Yes, No, N/A <u>Yes</u>
2.	Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.	NB
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).	<u>yes</u>
5.	IR Spectra submitted for standards, blanks and samples.	NA
õ.	Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted.	<u>yes</u>
' .	Analysis holding time met. (If not met, list number of days exceeded for each sample).	yes yes
\ddit	cional comments:	
1	5-8-00	
abor	atory Manager Date	

USTcoc.xls3/21/00

Fort Monmouth Environmental Testing Laboratory

Bidg. 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	r Desai		Project No: 100004	100004				Ana	lysis P	Analysis Parameters		
Phone #: X21475			Location: 8	Location: BL DG. 226 (11 ALLEW)	11 ALL	(ne			*			* = Samples Kept <4°C
()DERA (X)OMA	DERA (X)OMA UST Assessment		UST# &	81533-1	81		•••••	αI	01		guit	
Samplers Name /	Samplers Name / Company: Frank Accorsi/TVS	orsi/TVS			Sample	#	ЭН		+ ∀ (Kesu	Remarks / Preservation
Lab Sample I.D.	Sample Location	Depth	Date	Time	Туре	Bottles	Lb		OΛ	VOA ID#	ara	Method
5391, 01	226-D. NORTH END	11.5-12	20-1-00	1530	7105	7	×	×	X	1691	8	ICF
70	226-E, LEWIER	11.5-12		15.40		7	×	×	\ \	7691	Z	
03	226-F. SOUTH END 11-11.5	511-11		1525		7	×	×	×	1693	23	
DO	226-6, DUPUCATE	11-11.5		5551		~	×	×	8	7691	23	
S +	TRIP BLANK	j			A Q.	1			×	1695	1	
									_			
		-										
									 			
NVO	OVM sn#580U-64455.343 was calibrated with zero	alibrated with	zero air & w	air & w/ 245 ppm Isobutylene read 245 ppm.	sobutylene r	67 pea	udd 5	1. 42	428-00	F.A (time/da	(time/date & initial)
Relinquished by (signature):	1	ne:	Reg	Referved by (signature):	ture):	Comments: *	nts: *	2	VO F10	ON 23	25%	>1,000 ppm
Front Ch	Hugh 5-3-00	0%	1.1/	WILL	\mathcal{L}			HOL	Ĭ	TPH, MINIONE, ON HIGHEST	5	HIGHEST
Relinquished by (signature).	re): Date/Time;	ne:	() Reo	Received by (signature).	ture):				•			
Report Type: ()Full, 🖄	Report Type: ()Full, (Meduced, ()Standard, ()Screen / non-certified, ()EDD	n / non-certified,	CEDD				Remarks:			Dedicated	Sampli	Dedicated Sampling Tools Used
Turnaround time: ()Stan	Turnaround time: ()Standard 2 wks, (g)Rush / Days, ()ASAP Verbal	OASAP Verb	al Hrs.				All samp	le points	have be	All sample points have been GPS? (XYES	ES (()NO ()NA

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

Client:

U.S. Army

Project #:

5391

DPW. SELFM-PW-EV

Location:

Bldg.226

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

02-May-00

Matrix:

Soil

Date Extracted:

02-May-00

Inst. ID.:

GC TPHC INST. #1

Extraction Method: Analysis Complete:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

02-May-00

Injection Volume:

1uL

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

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 <u>and</u> 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-target compounds submitted	ed
4.	Document paginated and legible	
5.	Chain of Custody submitted	<u> </u>
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. 11.	Method Detection Limits submitted Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	
Date	Laboratory Manager or Environmental Consultant's Signature	

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

Laboratory Certification #13461

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. 227	Registration ID: 81533-19
Recommended Status of Site: Case Cl	osed
UST Probability (from May 2014 "Adden	dum 1 ECP UHOT Report"): <i>High</i>
Based on the file review, were there ind	ications of a contaminant release? [] Yes [X] No
NJDEP Release No. or DICAR (If applicab	le): <u>Not Applicable</u>
Did NJDEP approve No Further Action (N	IFA) for this site? [] Yes [] No [X] Not Applicable
Tank Description: [] Steel [X] Fiberg	lass Size: 2000 gals. Contents: No. 2 Fuel Oil
[X] Residential [] Commercial/I	ndustrial
Tank Removed? [X] Yes [] No If "	yes," removal date: <u>11/7/2000</u>
Were closure soil samples taken? [X]Y	es [] No Analyses: <u>TPH</u>
Comparison criteria: 5,100 mg/kg TF	PH
Were closure soil sample results less that	nn comparison criteria? ? [X] Yes [] No
E	Brief Narrative
Monmouth Environmental Laboratory for sample results were non-detected (ND) TPH, which is the current remediation of	e tank excavation in 2000 and analyzed by the Fort or total petroleum hydrocarbons (TPH). All Building 227 for TPH. These results were less than 5,100 mg/kg for riterion. Results were also less than 1,000 mg/kg, which ion for additional required analyses. Therefore, no was warranted.
although certain supporting documenta	pport changing the UST Case Status to "Case Closed," ation (such as a map with sample locations, field notes, the fiberglass tank was removed, an earlier steel UST
Recommendations (if any): Change st	tatus to "Case closed."
Signed: Junt U. Tombin	

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	Matrix	Date and Time	Date Received
	Sample ID#		Of Collection	
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

Daniel Wright/Date
Laboratory Director

Table of Contents

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Method Summary	1
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Surrogate Results Summary	8
MS/MSD Results Summary	9
Blank Spike Summary	10
Raw Sample Data	11-24
Laboratory Deliverable Checklist	25
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

1.	Method Detection Limits provided.		Yes, No, N/
2.	Method Blank Contamination – If yes, list corresponding concentrations in each blank	the sample and the	<u>No</u>
3.	Matrix Spike Results Summary Meet Crite (If not met, list the sample and correspondifalls outside the acceptable range).	ing recovery which	yes
4.	Duplicate Results Summary Meet Criteria (If not met, list the sample and correspond falls outside the acceptable range).	ing recovery which	yes
5 .	IR Spectra submitted for standards, blanks	and samples.	<u>ua</u>
6.	Chromatograms submitted for standards, but if GC fingerprinting was conducted.	planks and samples	yes_
7 .	Analysis holding time met. (If not met, list number of days exceeded)	for each sample).	yes_ yes
Add	itional comments:		
-		11-14-00	
Lab	oratory Manager	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@maill.monmouth.army.mil

NJDEP Certification #13461 / NYDOH Certification #11699

Chain of Custody Record

Customer: Dinker Desai	ır Desai		Project No: 100004	100004				Ana	lysis F	Analysis Parameters		
Phone #: X21475			Location: $BLDL$,		227				*			* = Samples Kept <4°C
()DERA (X)OMA	DERA_(X)OMA_UST_Assessment		ust# 8/53		19			CID	<u>⟨</u> 01-		gnib	
Samplers Name	Samplers Name / Company: Frank Accorsi/TVS	orsi/TVS			Sample	非	ЭН		+ ∀ (Rea	Remarks / Preservation
Lab Sample I.D.	Sample Location	Depth	Date	Time	Type	Bottles	ďΤ		OΛ	VOA ID#	δID	Method
5839. 01	227-A, EAST END	0/-5%	2-8-11	0/60	7/05	7	×	×	×	2122	0	ICE
69	227-B CENTER	9.5-10		0920		~	×	×	×	2123	0	
83	227-C. WESTEND	9.5-10		0630		~	×	تعر	\\\\\	2124	0	
po	227-D. PIPING	3-3.5		056		5	×	×	×	2125	٥	
95	227E PIPING	2-2,5		1005		76	×	×	×	2126	0	
de	227-F. DUPLIEATE	0/-516		0160		. R	>	X	X	2127	0	
10	TRIP BLANK	1		1	40				×	31.28	1	
									-			
		-										
OVM	OVM sn#580U-64455.343 was calibrated with zero	alibrated with		air & w/ 245 ppm Isobutylene read 245	sobutylene r	ead 24	da	ppm. 0852	3	1/8-00 FB (time/date & initial)	me/da	te & initial)
Relinquished by (signature):	ne): , Date/Time:	me:	Rec	Received by (signature)	ture);	Comme	nts: *	101	6	Comments: * VO +O +O ON 25% > 1,000 PM	10/2	TO HAL MAD
than their	1/800	1030		DAINIA	W		* #	16th	1/2	HOHEST, MIN. ONE.		
Relinquished by (signature):	ие): Date/Time:	me:	Rec	Received by (signature):	ture):	,						
Report Type: ()Full, ()	Report Type: ()Full, ()Reduced, (NStandard, ()Screen / non-certified, ()EDD	m / non-certified,	CEDD				Remarks	is.		Dedicated	Sampli	Dedicated Sampling Tools Used
	Main 2 was, Arrusu C Days	, Chart vero	T DIS.		1		All sam	ole point	have by	All sample points have been GPS? AYES ()NO ()NA	SS	NO ·()NA

age of

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

Client:

US. Army

Project #:

5839

DPW. SELFM-PW-EV

Location:

Bldg.227

Bldg. 173

UST Reg. #:

81533-19

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

08-Nov-00

Matrix:

Soil

Date Extracted :

09-Nov-00

Inst. ID. :

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

09-Nov-00

Injection Volume:

luL

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-В	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

		1.				<u></u>
	<u></u>					
METHOD BLANK	TBLK436	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	· <u> </u>
6.	Samples submitted to lab within 48 hours of sample collection	<u> </u>
7.	Methodology Summary submitted	
8.	Laboratory Chronicle and Holding Time Check submitted	
9.	Results submitted on a dry weight basis	
10. 11.	Method Detection Limits submitted Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	
Dat	Laboratory Manager or Environmental Consultant's Signature	

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



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

te: December 10, 2014 Review Performed By: Kent Friesen, Parsons
e ID: <i>Bldg. 228</i> Registration ID: <i>81533-20</i>
commended Status of Site: Case Closed
T Probability (from May 2014 "Addendum 1 ECP UHOT Report"): <i>High (confirmed)</i>
sed on the file review, were there indications of a contaminant release? [] Yes [X] No
DEP Release No. or DICAR (If applicable): <u>Not Applicable</u>
d NJDEP approve No Further Action (NFA) for this site? [] Yes [] No [X] Not Applicable
nk Description: [] Steel [X] Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil
] Residential [] Commercial/Industrial
nk Removed?[X]Yes[] No If "yes," removal date: <u>11/1/2000</u>
ere closure soil samples taken? [X] Yes [] No Analyses: TPH
mparison criteria: <u>5,100 mg/kg TPH</u>
ere closure soil sample results less than comparison criteria? ? [X] Yes [] No Designated as "UST 228B no Registration ID
Brief Narrative
il samples were collected from the fiberglass tank excavation in 2000 and analyzed by the rt Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The ilding 228 soil sample results were non-detected (ND) for TPH. These results were less than L00 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. erefore, no additional sampling or remedial action was warranted.
ditional site evaluation was conducted on December 6, 2010 to confirm or deny the presence an older steel UST. Fuel lines were exposed, and a 1000 gallon steel UST was uncovered. Soil H results from samples collected along the fuel line ranged from ND to 555 mg/kg. This UST is left in place and covered with soil. The confirmed presence of this steel UST suggests that her steel USTs may also be present at the other Allen and Russel Avenue residences.
conclusion, the analytical results support changing the UST Case Status to "Case Closed," hough certain supporting documentation (such as a map with sample locations, field notes, c.) may not be available. Although the fiberglass tank was removed, an earlier steel UST was infirmed to be present and left in place. See also Attachment D for recent (2016) analytical results for UST 228B
commendations (if any):Change status to "Case closed."
Signed: Mind M. Timbin

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

> 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
1.	Method Detection Limits provided.	Yes, No, N/A
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).	- 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 sample if GC fingerprinting was conducted.	\IPC
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	yes yes
Additi	ional comments:	-
	(1-10.00	
Labor	ratory Manager Date	

Fort Monmouth Environmental Testing Laboratory

Bidg. 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 #14699

Chain of Custody Record

	Descri		Droing No. 100004	njent No. 100004				Analys	Analysis Parameters	neters		
Obere # Y71475			neation: 82	06.228	4 611)	W=77		S *			*	= Samples Kept <4°C
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T sh Carmple I D	Sample Location	Deoth	Date	Time	Type	Bottles				VOA ID#	пч	Method
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Relinquished by (signature):	Date/Time:	me:	Red	Received by (signature):	ature):							
Report Type: (Full, ()Reduced, ()Standard, ()Screen / non-certified, ()	Standard, OScree	n / non-certified	OEDD Hrs.				Remarks: All sample	i. le points	have been	Dedicate GPS? <equation-block></equation-block>	d Sampi YES (Remarks: All sample points have been GPS? AYES () NO () NA
1 urraround time: Ostardard 2 was	Transition of the second									3		

TPHC

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

Client:

US. Army

Project #:

5827

DPW. SELFM-PW-EV

Location:

Bldg.228

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

01-Nov-00

Matrix:

Soil

Date Extracted:

02-Nov-00

Inst. ID.:

Extraction Method:

Shake

Column Type:

GC TPHC INST. #1 RTX-5, 0.32mm ID, 30M

Analysis Complete:

02-Nov-00

Injection Volume:

1uL

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

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 <u>and</u> 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. 11.	Method Detection Limits submitted Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	
Date	Laboratory Manager or Environmental Consultant's Signature	

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

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	Matrix	Date and Time	Date
	Sample ID#		of Collection	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: 1/1
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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MS/MSD Results Summary	20
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CHAIN OF CUSTODY

Fort Monmouth Environmental Testing Laboratory

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

Tel (732)532-4359 Fax (732)532-6263 EMail:dean.tardiff@us.army.mil NJDEP Certification #13461

Chain of Custody Record

Customer: CHUCK HOPLESY	Project No.			A 1 A		
Phone #: \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	T	10 per ju		Analysis Farameters		Comments:
()DERA ()OMA (NOther: BRAC	Location: Dr.	200 C	* 1		+ <i>J</i> (w.)	·
Samplers Name / Company: \bigcirc $\mathcal{H}_{RH} \mathcal{NR}$	4 ACCORFI	/7 VS Sample	 }		H18 d)(
LIMS/Work Order # 220 Sample Location	n T. Bate.	Type	2		70 111	Remarks / Brasametica Medical
10527,01 324-PI PINE	11,20	20,70	× -		, i	Nemans / Flese value Memo
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Report Type: ()Full, WReduced, ()Standard, ()Screen / non-certified, (Screen / non-certified		Comments: /	HUL =		
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2 0		Page	/ Jo /.			

Page ___ of __

COC .xls10/23/2010

SAMPLE RECEIPT FORM

Date Received:	<u>/b)·</u>	6-16-22801	Work Order I	ID#: <u></u>	05 x	7		
Site/Proj. Name	: 1810	M Son F	Cooler Temp	(°C):	4.5			
Received By: _ (Print name)	J.	Cil Of 10A	Sign:	10	Kleh			
(11,110,1101,110)		Check the app	ropriate box		1			
1. Did the sample	es come			yes	nó	n/a		
		n good condition?		yes	no			
•	3. Was the chain of custody filled out correctly and legibly? yes no							
4. Was the chain of custody fined out correctly and legisly. yes no								
5. Did the labels agree with the chain of custody?								
6. Were the correct containers/preservatives used?								
7. Was a sufficient amount of sample supplied? Ves no								
		sent in VOA vials?		yes-	-√ no (n/a		
9. Were samples				yes	Jno_	and the same of th		
		diately tests perform	within 15 minutes	yes	nb	n/a		
					-	Committee on march of Control		
Fill out the fo	llowi	ng table for eac	n sample botti	е	*			
Lims ID	рН	Preservative	Sample ID	рН	Prese	ervative		
Lims ID	рН	Preservative	Sample ID	рН	Prese	ervative		
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Lims ID	pН	Preservative	Sample ID	pН	Prese	ervative		
Lims ID	pН	Preservative	Sample ID	pH	Prese	ervative		
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Comments:	pH	Preservative	Sample ID	pH	Prese	ervative		

GPS POINTS

U.S. ARMY - FT. MONMOUTH, NJ

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

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
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

Field Duplicate Identification

Lab ID: 10527 Site: Bldg. 228

The Field Duplicate was performed on 228-P1 Piping @ Bldg. (1052701).

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

TPHC Conformance/Non-conformance Summary Report

1:	Method Detection Limits provided.	Indicate Yes, No, N/A 1es
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).	<u>yes</u> .
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.	MA
6.	Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted.	MA NA Ves
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	
Addi	tional comments:	
Labo	Decentary Manager Date	
l	NA 9 12/10/10	

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

TPHC

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

U.S. Army Client:

DPW. SELFM-PW-EV

Bldg. 173

Ft. Monmouth, NJ 07703

OQA-QAM-025 Analysis:

Matrix:

GC TPHC INST. #1 Inst. ID:

Column Type: RTX-5, 0.32mm ID, 30 m

Injection Vol.: 1 ul

Date Received: Work Order:

6-Dec-10 8-Dec-10

BLDG. 228

Project # Location

ECP:

Shake Extraction Method:

Date Extracted:

Robert Szot Analyst:

Ī		_	\Box							
	Qualifiers									
	Data									
	TPHC Result	(mg/kg)	not detected	1121.30	not detected	not detected	not detected	not detected	555.41	not detected
	R	(mg/kg)	333	333	399	389	388	376	378	406
	MDL	(mg/kg)	23	23	28	27	27	26	26	28
	%	Solid	100.00	100.00	81.9	85.4	85.1	87.8	88.0	81.2
	Weight	(g)	15.00	15.00	15.29	15.06	15.13	15.14	15.05	15.15
	Dilution Weight	Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
- QL	Field ID		MB12081001	LCS12081001	228-P1 PIPING @ BUILDING	228-P2 PIPING + 15'	228-P3 PIPING + 30'	228-P4 PIPING + 45'	228-P5 PIPING + 60'	228 DUPLICATE
ווולביניסון אסויי מר	Lab ID		MB12081001	LCS12081001	1052701	1052702	1052703	1052704	1052705	1052706

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

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 <u>and</u> 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.	<u></u>
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	0
	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

ATTACHMENT H

Unregulated Heating Oil Tanks Along Gosselin Avenue



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

<u>Date: December 12, 2014 Review Performed By: Kent Friesen, Parsons</u>
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"): <i>High</i>
Based on the file review, were there indications of a contaminant release? [X]Yes []No
NJDEP Release No. or DICAR (If applicable): <u>None</u>
Did NJDEP approve No Further Action (NFA) for this site? [X] Yes [] No [] Not Applicable
Tank Description: [] Steel [X] Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil
[X] Residential [] Commercial/Industrial
Tank Removed? [X] Yes [] No If "yes," removal date: <u>12/23/1998</u>
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? ? [X] 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 initia 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, not 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 Versal for 233 (<i>Underground Storage Tank Closure and Site Investigation Report, Building 233</i> ; 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: Link a. Friting

Kent A. Friesen, Parsons



James E. McGreevey
Governor

Department of Environmental Protection

Bradley M. Campbell Commissioner

Mr. Dinkertai 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 1 0 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	ŃO
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

:

7

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

FTMMTH116IRC.DOC



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

Date: December	<i>r 12, 2014</i> R	Review Performed By: Kent Friesen, Parsons
Site ID: Bldg. 23	34 (Gosselin Ave.)	Registration ID: 81533-22
Recommended S	Status of Site: Case Closed	(no change)
UST Probability ((from May 2014 "Addendum :	1 ECP UHOT Report"): <i>High</i>
Based on the file	e review, were there indication	ons of a contaminant release? [] Yes [X] No
NJDEP Release N	lo. or DICAR (If applicable):	<u>None</u>
Did NJDEP appro	ove No Further Action (NFA) fo	or this site? [] Yes [] No [X] Not Applicable
Tank Description	n: [] Steel [X] Fiberglass	Size: 1000 gals. Contents: No. 2 Fuel Oil
[X] Residentia	[] Commercial/Indust	trial
Tank Removed?	[X]Yes [] No If "yes,"	removal date: <u>2/5/1999</u>
Were closure so	il samples taken? [X]Yes [] No Analyses: <u>TPH</u>
Comparison crite	eria: <u>5,100 mg/kg TPH</u>	
Were closure so	il sample results less than con	mparison criteria?? [X]Yes []No
	Brief	Narrative
Monmouth Envi 234 soil sample than 5,100 mg/l than 1,000 mg/	ronmental Laboratory for to results were non-detected (I kg for TPH, which is the curr /kg, which is the current N	k excavation in 1999 and analyzed by the Forotal petroleum hydrocarbons (TPH). The Building ND) to 209 mg/kg for TPH. The results were lestent remediation criterion. Results were also lest IJDEP threshold criterion for additional required or remedial action was warranted.
	e analytical results support th vas removed, an earlier steel l	he UST Case Status of "Case Closed." Although the UST could still be present.
Recommendatio	ons (if any): <u>None</u>	
Signed:	Wind I. Tombin 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

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Section	Pages
Method Summary	1
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Results Summary	4
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Continuing Calibration Summary	11-16
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MS/MSD Results Summary	18
Blank Spike Summary	19
Raw Sample Data	20-35
Laboratory Deliverable Checklist	36
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

1.	Method Detection Limits provided.	Indicate Yes, No, N/A
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).	Hes
4.	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	les
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. (If not met, list number of days exceeded for each sample).	yes
Addi ——	tional comments:	
Labo	ratory Manager Date	

Рапе

Fort Monmouth Environmental Testing Laboratory

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

Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil

Chain of Custody Record

NJDEP Certification #13461

Customer: Charles Appleby	Project No:	J-66	8000-66			Analysi	Analysis Parameters		Comments:	ints:
Phone #: X26224	Location:	3 Gosselin	3:10		SC			30	*	= Samples Kept <4 Celsius
()DERA (X)OMA UST Assessment	UST#	:		` 						
Samplers Name / Company: David Daniels TVS	niels TVS		Sample	HC #	OS			An B		
Lab Sample I.D. Sample Location	Date	Time	Type bot	pottles [T		λ	VOA ID Number	_	-	Remarks / Preservation Method
(15,0) 13-A (6,5)	125.99	0E E1	50:	~ ≺	×	,		0	(100
(6.51)	. 1	1		1						
		0h:E1				-				
Α		13:45								
\		13:50				,				
OG 3-F (9.0')		13:55	· -							Z
	>	14:00	<u></u>	→	>			>		
	•									
	_									
			•							
Note: H	Note: H-Nu Calibrated With 100 ppm Isobutylene & Zero Air @	ted With 10	00 ppm	Isobuty	lene {	& Zero A	1r@ 9.17	***************************************		
Refinquished by (afgnature): Date/Time:	Received by/(signature)	(signature):	, M	elinquish	ed by (s.	Relinquished by (signature):	Date/Time:	Received	Received by (signature):	×
CAMPA CAMPA RISIANIA		11/1/	3							
Relinquished by (signature): Date/Time:	Apocived by (signaphe)	(signaphre):	X	Relinquished by (signature):	ed by (s	ignature):	Date/Time:	Received	Received by (signature):	:
Report Type: ()Full, Okeduced, ()Standard, ()Screen / non-certified Turnaround time: ()Standard 4 wks, ()Rush 3-Days, ()ASAP Verbal	reen / non-certif ays, ()ASAP V	ied crbai Hrs.		Ren	Remarks:		Dedicat	ed Samp	Dedicated Sampling Tools Used	Used

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

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 NJDHP for parameters of appropriate category of parameters or a member of the USEPA CLP	
	oratory Manager or Environmental Consultant's Signature	

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

Laboratory Certification #13461

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 12, 2014	Review Performed By: Kent Friesen, Parsons
Site ID: Bldg. 235 (Gosselin Ave.)	Registration ID: 81533-23
Recommended Status of Site: Case Close	d (no change)
UST Probability (from May 2014 "Addendur	m 1 ECP UHOT Report"): <i>High</i>
Based on the file review, were there indicat	cions of a contaminant release? [] Yes [X] No
NJDEP Release No. or DICAR (If applicable):	<u>None</u>
Did NJDEP approve No Further Action (NFA)) for this site? [] Yes [] No [X] Not Applicable
Tank Description: [] Steel [X] Fiberglass	Size: 1000 gals. Contents: No. 2 Fuel Oil
[X] Residential [] Commercial/Indu	ustrial
Tank Removed? [X] Yes [] No If "yes	," removal date: <u>1/6/1999</u>
Were closure soil samples taken? [X] Yes	[] No Analyses: <u>TPH</u>
Comparison criteria: 5,100 mg/kg TPH	
Were closure soil sample results less than c	omparison criteria? ? [X] Yes [] No
Bri€	ef Narrative
Monmouth Environmental Laboratory for 235 soil sample results were non-detecte mg/kg for TPH, which is the current reme	ink excavation in 1999 and analyzed by the Fort total petroleum hydrocarbons (TPH). The Building d (ND) for TPH. The results were less than 5,100 diation criterion. Results were also less than 1,000 eshold criterion for additional required analyses. Ital action was warranted.
renovation work, and elevated TPH concessample at 235. Careful examination of the the Geoprobe work (2/25/1999) indicates t	ng the Gosselin Ave. buildings to support future entrations (1802 mg/kg) were encountered in one e field notes for the tank excavation (1/6/1999) and hat the elevated TPH was on the opposite side of the H results are enigmatic but apparently not related to
In conclusion, the analytical results support fiberglass tank was removed, an earlier stee	the UST Case Status of "Case Closed." Although the el UST could still be present.
Recommendations (if any): None	
Signed: Juna U. Frin	

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

> Daniel Wright/Date Laboratory Director

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MS/MSD Results Summary	17
Blank Spike Summary	18
Raw Sample Data	19-34
Laboratory Deliverable Checklist	35
Laboratory Authentication Statement	36

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NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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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.

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

PHC Conformance/Non-conformance Summary Report

1.	Method Detection Limits provided.		Indicate Yes, No, N/A
2.	Method Blank Contamination – If yes corresponding concentrations in each		NO.
3.	Matrix Spike Results Summary Meet (If not met, list the sample and corresp falls outside the acceptable range).		yes
4.	Duplicate Results Summary Meet Crit (If not met, list the sample and corresp falls outside the acceptable range).	oonding recovery which	yes
5.	IR Spectra submitted for standards, bl		<u>WA</u>
6.	Chromatograms submitted for standar if GC fingerprinting was conducted.	ds, blanks and samples	yes
7.	Analysis holding time met. (If not met, list number of days exceed	led for each sample).	Yes
Addi	itional comments:		
/		1-13-99	
Labo	oratory Manager	Date	
	· · · · · · · · · · · · · · · · · · ·		

USTcoc1/6/99

Fort Monmouth Environmental Testing Laboratory

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

Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil

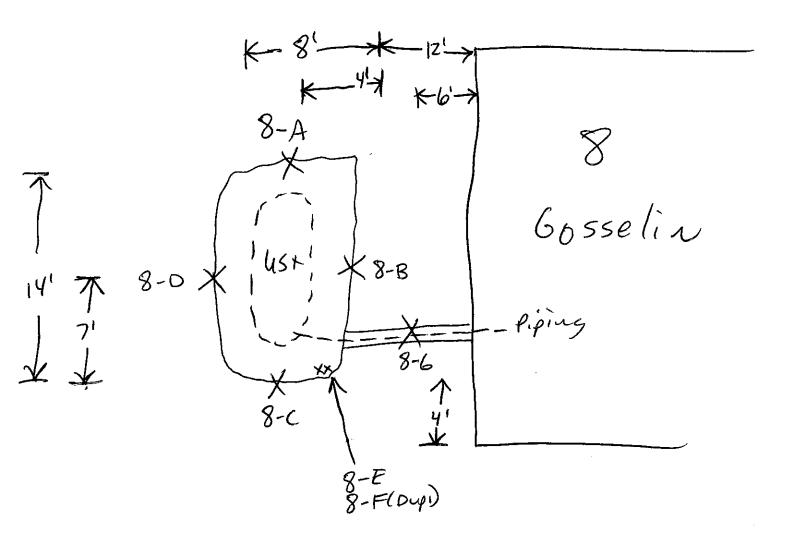
Chain of Custody Record

NJDEP Certification #13461

Customer: Charles Appleby	es Appleby	Project No:	66	8000-66			An	Analysis Parameters	ırs		Comments:
Phone #: X26224		Location:	8 6055e (in	3		9					* = Samples Kept <4 Celsius
()DERA (X)OMA UST Assessment	UST Assessment	UST#		•		l'ID				nibs	
Samplers Name /	Samplers Name / Company: David Daniels TVS	iels TVS		Sample	#	HC	+Α(n Ke	
Lab Sample I.D.	Sample Location	Date	Time	Type	bottles			VOA ID Number	umper	N-H	Remarks / Preservation Method
4/72.01	3-4(65)	1.6.99	13:10			メ				0	168
93	8-B/6.5)	_	c/: 8		_					0	
B3	٧~		51:21							0	
h0	8-D (65)		13:20							0	
50	8-E (9.0')		13:33							0	
96	8- F (9,0)		35:51							0	
100	(,0.2) 9-8	>	54:81	>	> >	>				<	>
	Note: H-	Note: H-Nu Calibrated With 100 ppm Isobutylene & Zero Air @	ed With 1	00 ppr	l sobut	ylene	& Zer	. Air @ 9.	1		
Relinquished/by [signatura]	ma): Date/Time:	Received by (signature)	signature):	3	Relinquished by (signature):	hed by (s	signature): Date/Time:) fq pa	Received by (signature):
Relinquished by (signature):		Received by (signa	signafure):		Relinquished by (signature):	ned by (s	signature); Date/Time:	 	ed by (Received by (signature):
Report Type: (Full, &	Report Type: ()Full, (Reduced, ()Standard, ()Screen / non-certified	en / non-certifi	ed H	1	Re	Remarks:		Dedi	cated San	guilde	Dedicated Sampling Tools Used
	Total Times, V Jews Lay	o, trong		á	-					İ	
3					_	_					

print legibly

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

Lab. ID#:

4172

DPW. SELFM-PW-EV

Date Rec'd:

06-Jan-99

Bldg. 173

Analysis Start:

08-Jan-99

Ft. Monmouth, NJ 07703

Analysis Complete:

11-Jan-99

Analysis:

OQA-QAM-025

UST Reg. #:

Matrix:

Soil

Closure #:

Analyst:

D.DEINHARDT

DICAR#:

1 ul

Inst. ID.

GC TPHC INST. #1

Injection Volume Column ID

0.32 um

Column Type
Ext. Meth:

RTX 5 Shake

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 <u>and</u> 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	
	oratory Manager or Environmental Consultant's Signature	<u> </u>

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

Laboratory Certification #13461

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 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. &	Laboratory	Matrix	Date and Time	Date Received
Location	Sample ID#		Of Collection	
235-6-8.5	4302.01	Soil	25-Feb-99 15:27	02/25/99

ANALYSIS: FORT MONMOUTH ENVIRONMENTAL LAB TPHC, %SOLDIS

> Daniel Wright/Date Laboratory Director

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MS/MSD Results Summary	15
Blank Spike Summary	16
Raw Sample Data	17-20
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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.

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 corresponding concentrations in each blank.	e sample and the	w
3.	Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding falls outside the acceptable range).	a g recovery which	yes
4.	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding falls outside the acceptable range).	g recovery which	yes
5.	IR Spectra submitted for standards, blanks a	nd samples.	NA
6.	Chromatograms submitted for standards, bla if GC fingerprinting was conducted.	nks and samples	yes
7.	Analysis holding time met. (If not met, list number of days exceeded for	r each sample).	yes
Add	litional comments:		
		3-12-99	
Lab	oratory Manager	Date	

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HOL Bidg. 173

Fort Monmouth Environmental Testing Laboratory

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

Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil

Chain of Custody Record

NJDEP Certification #13461

Process Company Construct Constitution Co	Phone #: 15 (0224) ()DERA (y6MA ()0ther: Samplers Name / Company: 1264 IIII Lab Sample I.D. Sample Locatio 43 CA 61 235-6-5-5			CSELVI		<u>:-:-</u>								
Sample # H. Sample # H. Sair Pape Dottion Pape Pape Sair Pape Pape Pape Sair Pape Sair Pape ()DERA (yOMA ()Other: Samplers Name / Company : (2021) Sample Location (1302		ocation:				ŀ						Ţ		
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27 So'L / Physical Solution Physical Solutio	52 10	uo	Date	Time	Type !!		U							Remarks / Preservation Metho
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Report of Analysis U.S. Army, Fort Monmouth Environmental Laboratory NJDEP Certification # 13461

Client :

U.S. Army

Lab. ID #:

4302

DPW. SELFM-PW-EV

Date Rec'd:

25-Feb-99

Bldg. 173

Analysis Start:

01-Mar-99

Ft. Monmouth, NJ 07703

Analysis Complete:

02-Mar-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 #:

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
	· · · · · · · · · · · · · · · · · · ·			<u></u>		
					<u> </u>	
					<u> </u>	
					1	
				<u> </u>	 	
					<u> </u>	
METHOD BLANK	TBLK 220	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.

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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	
Dat	oratory Manager or Environmental Consultant's Signature	>
Lab	oratory 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

Geoprobe Report Sheets

GOSSELIN GEOPROBE REPORT SHEET

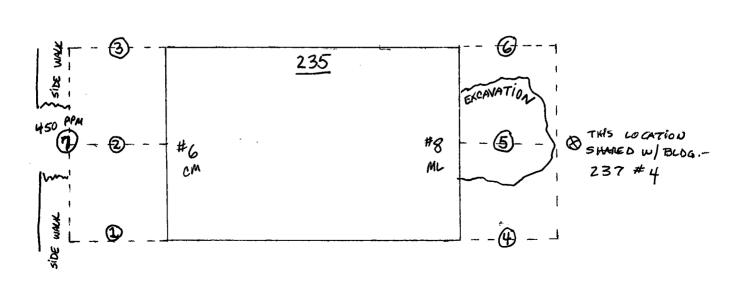
DATE: 2-25-99 OPERATOR: MU/CM	BLDG.#: 235	UNIT#: 6+8
BORING:		
#1: Native	ODOR:	NO ODOR: 🗸
# 2: **	ODOR:	NO ODOR:
#3: 11	ODOR:	NO ODOR: 🗸
#4: Fill/NATive	ODOR:	NO ODOR:
#5: Fiu solls To 7-8'	ODOR:	NO ODOR:
#6: NATIVE	ODOR:	NO ODOR:
#7: FULL OIL - SAMPLED @ 8.5'	ODOR: V HNU= 450 PPM	NO ODOR:
# 8:	ODOR:	NO ODOR:
# 9:	ODOR:	NO ODOR:
# 10:	ODOR:	NO ODOR:

GPS SITE? NO-2-25-99 M

DATE:

NOTES AND MAP:

HZO@ 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. 23	36 (Gosselin Ave.)	Registration ID: 81533-24
Recommended S	Status of Site: Case Close	ed (no change)
UST Probability (from May 2014 "Addendu	m 1 ECP UHOT Report"): <i>High</i>
Based on the file	review, were there indica	tions of a contaminant release? [] Yes [X] No
NJDEP Release N	lo. or DICAR (If applicable):	None
Did NJDEP appro	ove No Further Action (NFA	.) for this site?[]Yes []No [X]Not Applicable
Tank Description	: [] Steel [X] Fiberglas	s Size: 1000 gals. Contents: No. 2 Fuel Oil
[X] Residential	[] Commercial/Indo	ustrial
Tank Removed?	[X]Yes [] No If "yes	s," removal date: <u>2/5/1999</u>
Were closure so	il samples taken? [X] Yes	[] No Analyses: <u>TPH</u>
Comparison crite	eria: <u>5,100 mg/kg TPH</u>	-
Were closure so	il sample results less than o	comparison criteria? ? [X] Yes [] No
	Brid	ef Narrative
Monmouth Envi 234 soil sample mg/kg for TPH, mg/kg, which i	ronmental Laboratory for results were non-detecte which is the current reme	ank excavation in 1999 and analyzed by the Fort total petroleum hydrocarbons (TPH). The Building ed (ND) for TPH. The results were less than 5,100 ediation criterion. Results were also less than 1,000 reshold criterion for additional required analyses. dial action was warranted.
		t the UST Case Status of "Case Closed." Although the el UST could still be present.
Recommendatio	ns (if any): <u>None</u>	
Signed:	Wind M. Jimin 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

Daniel Wright/Date

Laboratory Director

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Raw Sample Data	20-35
Laboratory Deliverable Checklist	36
Laboratory Authentication Statement	37

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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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

1.	Method Detection Limits provided.		Yes, No, N/A
2.	Method Blank Contamination – If yes, corresponding concentrations in each b		<u>100</u>
3.	Matrix Spike Results Summary Meet C (If not met, list the sample and corresponding outside the acceptable range).		<u>yes</u>
4.	Duplicate Results Summary Meet Crite (If not met, list the sample and corresponding outside the acceptable range).		<u>4es</u>
5.	IR Spectra submitted for standards, bla	nks and samples.	NA
6.	Chromatograms submitted for standard if GC fingerprinting was conducted.	s, blanks and samples	405
7.	Analysis holding time met. (If not met, list number of days exceeded)	ed for each sample).	yes
Addi	itional comments:		
		2·17- 9 9	
Labo	oratory Manager	 Date	

Page / of

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

Chain of Custody Record

NJDEP Certification #13461

× (1												
Customer: Charles Appleby	s Appleby	Project No:	9	8000-66			A	alysis P	Analysis Parameters		Comments:	
Phone #: X26224		Location:	7 Gosselin	<u>5</u>			St		•	8 1	* = Samples Kept <4 Celsius	elsius
()DERA (X)OMA UST Assessment	UST Assessment	UST#						CT.		——— nibse	umandamand Af	4
Samplers Name /	Samplers Name / Company: David Daniels TVS	iels TVS		Sample	*	OS OH	OS	+∀(₽P. P.	W	
Lab Sample LD.	Sample Location	Date	Time	Type bottles	cettles				VOA ID Number		Remarks / Preservation Method	Method
4255.01	7-A (6,5')	2,5,99	54:8	1:05	~	×					2)	106
63	7-8 (65)	- <u>-</u> -	:50		,							
63	7-6 (6.5)		8 \$\$		-							
カダー	(5.91) 0-6		00.6									
SP	7-6 (9.00)		50:6		-				,			
46	7-F (9.0')		9:10		-							
797	7-6 (2.0)	\	9:15	>	フ ラ	7					>	
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	,											
						-						
	Note: H-	Note: H-Nu Calibrated With 100 ppm Isobutylene & Zero Air @	ted With 1	00 ppn	J Isobi	ntylene	& Ze	ro Air (0 9.17			
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Report Type: (JFull, 🖄 Turnaround time: (JStan	Report Type: ()Full, & Reduced, ()Standard, ()Screen / non-certified Turnaround time: ()Standard 4 wks, () Kush 3-Days, ()ASAP Verbal	een / non-certif 's, (_)ASAP V	ied erbal Hrs.	છે.	Α.	Remarks:		·	Dedicated	l Sampli	Dedicated Sampling Tools Used	

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

Client:

U.S. Army

Lab. ID#:

4255

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 #:

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

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	<u> </u>
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	
	oratory Manager or Environmental Consultant's Signature	

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

Laboratory Certification #13461

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 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"): <i>High</i>
Based on the file review, were there indications of a contaminant release? [X]Yes []No
NJDEP Release No. or DICAR (If applicable): <u>None</u>
Did NJDEP approve No Further Action (NFA) for this site? [X]Yes []No []Not Applicable
Tank Description: [] Steel [X] Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil
[X] Residential [] Commercial/Industrial
Tank Removed? [X] Yes [] No If "yes," removal date:
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?? [X]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 (<i>Underground Storage Tank Closure and Site Investigation Report, Building 237</i> ; 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: Wind U. Tombin

Kent A. Friesen, Parsons



James E. McGreevey
Governor

Department of Environmental Protection

Bradley M. Campbell Commissioner

Mr. Dinkertai 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 1 0 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
<u> </u>		 	YES
05/15/2002	237	81533-25	
05/15/2002	271	81533-55	YES
05/15/2002	277	90010-24	NO NO
05/15/2002	296B	81533-217	NO NO
05/15/2002	296B	81533-223	NO 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

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7

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

FTMMTH116IRC.DOC



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. 23	88 (Gosselin Ave.)	Registration ID: 81533-26
Recommended S	Status of Site: Case Clos	ed (no change)
UST Probability (from May 2014 "Addendu	m 1 ECP UHOT Report"): <i>High</i>
Based on the file	review, were there indica	tions of a contaminant release? [] Yes [X] No
NJDEP Release N	lo. or DICAR (If applicable)	: <u>None</u>
Did NJDEP appro	ove No Further Action (NFA	A) for this site? [] Yes [] No [X] Not Applicable
Tank Description	: [] Steel [X] Fibergla	ss Size: 1000 gals. Contents: No. 2 Fuel Oil
[X] Residential	[] Commercial/Inc	ustrial
Tank Removed?	[X]Yes [] No If "ye	s," removal date: <u>1/22/1999</u>
Were closure soi	il samples taken?[X]Yes	[] No Analyses: <u>TPH</u>
Comparison crite	eria: <u>5,100 mg/kg TPH</u>	
Were closure soi	il sample results less than	comparison criteria??[X] Yes [] No
	Bri	ef Narrative
Monmouth Env Buildings 238 an from this excava for TPH, which i which is the cur	ironmental Laboratory for ald 240 UST areas were san tion were non-detected (s the current remediation	ank excavation in 1999 and analyzed by the Fort or total petroleum hydrocarbons (TPH). Both the mpled as a single excavation. The soil sample results ND) for TPH. The results were less than 5,100 mg/kg criterion. Results were also less than 1,000 mg/kg, erion for additional required analyses. Therefore, no swarranted.
		t the UST Case Status of "Case Closed." Although the el UST could still be present.
Recommendatio	ns (if any): <u>None</u>	
Signed:	Jana U. Fortin	
	Kent A. Friesen, Parsons	

Report of Analysis U Army, Fort Monmouth Environmental Labo ry 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

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

Haran Bid,

Fort Monmouth Environmental Testing Laboratory

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

Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil

Chain of Custody Record

NJDEP Certification #13461

Customon Charles Amalaka		0000		Amotoria	Anolinia Donomatora		Commonter
Customer: Charles Applical	Project No:	88-0008		Alianysis	raidileters		Comments.
Phone #: X26224	Location: 11 / 13 (605se fix	SC			81	* = Samples Kept <4 Celsius
()DERA (X)OMA UST Assessment	usT#			si-		ùbs€	
Samplers Name / Company: David Daniels	niels TVS	Sample #	SOI HC	+∀0		Au Ro	
Lab Sample I.D. Sample Location	Date Time	Type bottles	ДL	·	VOA ID Number		Remarks / Preservation Method
4215. 0/ 11-13-A(6,5')	01:51 99.501	50:11	XX			0	100
B) 11-13-B(6.5)	1.22.99 13:15		/ []				
	1.22.99 13:20					-	
11-13-p/ 6.5')	52: 8) 66:22:1						
Q 11-13-E (9,0)	1.22.99 13.35						
BO 11-13-F (9,0)	1.22.99 13-37					•	
(11-13-6 (1,51)	1.22.99 13:40						
(1)-13-H (1.0.)	1-22-99 13:43						
By 11-13-I (1.0')	1-22.99 13:50						-
1-13-5(1.51)	1-22-99 13:55	<i>></i>	トト			>	>
		-					
				_			
Note: H	Note: H-Nu Calibrated With	With 100 ppm Isobutylene & Zero Air @	butylene 8	Zero Air	@ 9.21	Į.	
Rejemushed by (sepature): Date/Time:	Received by Signature):	Relin	Relinquished by (signature):	gnature):	Date/Time: R	eceived by	Received by (signature):
l by (signature):	Received by (signature):	Relin	Relinquished by (signature);	gnature):	Date/Time: R	eceived by	Received by (signature):
Report Type: ()Full, (AReduced, ()Standard, ()Screen / non-certified Turnsround time: ()Standard 4 wks. (ARush 3-5 Days. ()ASAP Verbal		Hrs.	Remarks:		Dedicated	Samplin	Dedicated Sampling Tools Used
I unitationity mine. Community was,	ı						

	(
UNDERGROUND STOR	RAGE TANK PROJECT
REMOVAL/REMEDIA	
DATE OF TANK RE	MOVAL: WORKSHEET PREPARED BY:
11/13 60ssetiw 1.23	2.99 DHD
COMMENTS:	CONFINED SPACE ENTRY NOTIFICATIONS:
Buildings 238/240	FT. MONMOUTH FIRE DEPARTMENT-
Buildings 200/290	QC/SAFETY OFFICE-
,	
	WEATHER:
	48°F, Cloudy
EVIDENCE OF A DISCHARGE:	CONDITION OF THE TANK/PIPING:
	1000 C //ou Fileralass
4 1	1,000-Gallon Fiberglass UST- Good
None	UST- 6000
	1/2" copper Lines - Good
	12
TYPICAL SOIL PROFILE:	
Brown Silty C	oaM
(Pea Gravel in	Excavation)
Concrete pad	from 27-8' B65
SITE INFORMATION:	SOIL SAMPLING:
(N S I P P T) (N A V K	<u> </u>
PRODUCT REMOVED FROM TANK-# 2 Fuel oil	DAIT
SOLIDS (OIL SPILL DEBRIS)-	FIELD DUPLICATE = SAMPLE
APPROX. DEPTH TO GROUNDWATER- Not DEPTH OF SOIL COVER- 2. 2	COMMENTS-
DEPTH OF SOIL COVER- & 2'	
TANK DIAMETER/LENGTH- 2 4 X 11	No H-Nu Readings
DEPTH OF EXCAVATION- 27	
SOIL SAMPLING:	SOIL SAMPLING:
DATE-	DATE-
FIELD DUPLICATE = SAMPLE	FIELD DUPLICATE = SAMPLE
COMMENTS-	COMMENTS-

•	(i		· (· · · · · · · · · · · · · · · · · · ·
1.72.99	Dela Sair 4	CONTAMINAT	ED SOIL EXCAVATED: _CUBIC YARDS	SOIL SAMPLES COLLECTED yes no
SKETCH OI	WORK PERFORMED:			
	See	Sampling	Sketch	
DATE:	WORK PERFORMED:	CONTAMINAT	ED SOIL EXCAVATED:CUBIC YARDS	SOIL SAMPLES COLLECTED: yes no
SKETCH OI	WORK PERFORMED:	1		I
DATE:	WORK PERFORMED:	CONTAMINA	TED SOIL EXCAVATED:	SOIL SAMPLES
			CUBIC YARDS	COLLECTED: yes no
SKETCH O	F WORK PERFORMED:			
				•

1/13 Friday. Electrical Electrica forch Concrete Pad

٠. .



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. 23	39 (Gosselin Ave.)	Registration ID: 81533-27
Recommended S	Status of Site: <i>Case Close</i>	ed (no change)
UST Probability (from May 2014 "Addendu	m 1 ECP UHOT Report"): <i>High</i>
Based on the file	e review, were there indica	tions of a contaminant release? [] Yes [X] No
NJDEP Release N	lo. or DICAR (If applicable):	<u>None</u>
Did NJDEP appro	ove No Further Action (NFA) for this site? [] Yes [] No [X] Not Applicable
Tank Description	n:[]Steel[X]Fiberglas	s Size: <u>1000 gals.</u> Contents: <u>No. 2 Fuel Oil</u>
[X] Residentia	l [] Commercial/Inde	ustrial
Tank Removed?	[X]Yes [] No If "yes	," removal date: <u>1/4/1999</u>
Were closure so	il samples taken? [X] Yes	[] No Analyses: <u>TPH</u>
Comparison crite	eria: <u>5,100 mg/kg TPH</u>	
Were closure so	il sample results less than o	comparison criteria? ? [X] Yes [] No
	Brid	ef Narrative
Monmouth Env Buildings 239 ar from this excava for TPH, which i which is the cur	ironmental Laboratory fond 237 UST areas were sand ition were non-detected (Note the current remediation)	ank excavation in 1999 and analyzed by the Fort r total petroleum hydrocarbons (TPH). Both the apled as a single excavation. The soil sample results ID) for TPH. The results were less than 5,100 mg/kg criterion. Results were also less than 1,000 mg/kg, rion for additional required analyses. Therefore, no warranted.
237 tank, which	was removed from the sa	and a Versar (2001) report was prepared for the Bldg. me excavation as the 239 tank. It appears that the vation was primarily attributed to 237.
		t the UST Case Status of "Case Closed." Although the el UST could still be present.
Recommendation	ns (if any): <u>None</u>	
Signed:	Yend a. Frience Barren	
	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

> 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	19-36
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Laboratory Authentication Statement	38 .

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

1.	Method Detection Limits provided.	Indicate Yes, No, N/A
2.	Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.	<u> </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>4es</u>
5.	IR Spectra submitted for standards, blanks and samples.	NA
6.	Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted.	<u> 463</u>
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	<u>Yes</u>
Add:	itional comments:	
`	1-13-99	
Labo	oratory Manager Date	

Fort Monmouth Environmental Testing Laboratory

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

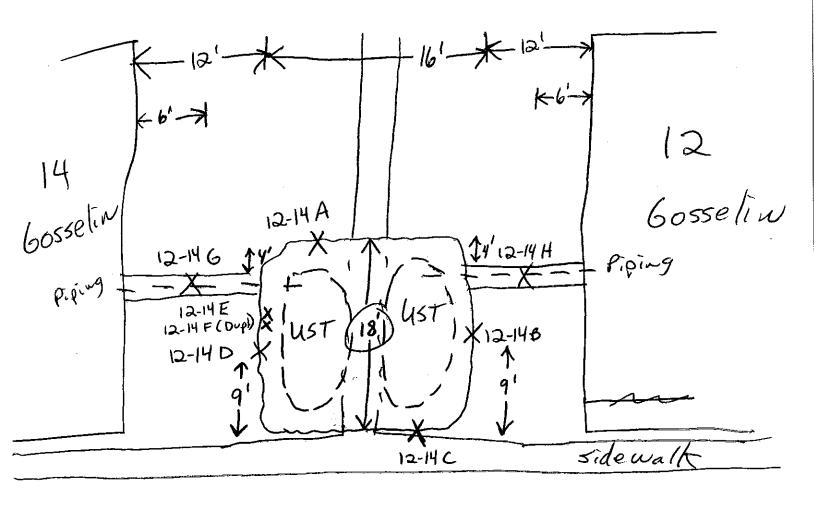
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil

Chain of Custody Record

NJDEP Certification #13461

<u> </u>	Customer: Charles Appleby	es Appleby		Project No:	-66	8000-66			Ą	nalysis	Analysis Parameters		Ŭ	Comments:	
置	Phone #: X26224			Location: $\hat{m{\mathcal{S}}}_i$	Location: Between Building	ding			L		H-Nu Culibrateb	arle l	*	= Samples Kept <4 Celsius	lsius
Ĵ	DERA (X)OMA	DERA (X)OMA UST Assessment		UST# L	י מיים	2550	,	í			at 9,44 seking	5-1			
Ś	amplers Name /	Samplers Name / Company: David Daniels TVS	d Danie	els TVS		Sample	*	ЭНС	OS	-AC		- <i>}</i> /	17 /		
	Lab Sample I.D.	Sample Location	ion	Date	Time	Type	bottles	dT			VOA ID Number	ber	3	Remarks / Preservation Method	Method
۲	460,01	112-14-A (6,5")	()	1.4.99	20:51	1.05	1	X	×)	a)	75,
	62	12-14-B (6,5")	(,)	,	15:03										-
	83	12-14-6/10.51	(،۶		15.05			_	_	-		-			
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<u></u>	80	12-14-H	(۵.۵۰)	>	52:51	>	>	>	7			$\frac{1}{1}$		>	
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<u> </u>										_			\dashv	.,	ļ
<u>l. </u>	Note: O	Note: OVA(#A51903) Calibrated With 95 ppm Methane & Zero Air @	alibrate	d With 95	ppm Meth	ane &	Zero /	ir (0)			mo		á		
8,9	No.	ature): Date/Time:	rime:	Received by (signature):	(signature):	1	Reling	nished t	Relinquished by (signature):	ture):	Date/Time:	Received by (signature):	i by (si	gnature):	
N N	Relinquished by (signature):		ľime:	Received by (signature):	(signaffire):		Relinq	nished b	Relinquished by (signature):	ture);	Date/Time:	Received by (signature):	i by (si	gnature):	
12日	oort Type: (_)Full, \(\right) ansround time: (_)Sta	Report Type: ()Full, Keduced, ()Standard, ()Screen / non-certified Turnaround time: ()Standard 4 wks, Krkush 5-10 bays, ()ASAP Verbal	rd, OScre S-1Gbay	en / non-certif s, ()ASAP V	12	筑		Remark 8 e	Leek.	18.	Dedici	ited Sam	pling 14	Remarks: Dedicated Sampling Tools Used Between Birdings 12 and 14 60550 fin	

12-14 Gosselin



2 USTS in samp excavation -> Sampling done as per a single excavation,

1/4/99 Sunny, 200F

No H-Mu Readings.

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

Client:

U.S. Army

Lab. ID#:

4165

DPW. SELFM-PW-EV

Date Rec'd:

04-Jan-99

Bldg. 173

Analysis Start:

05-Jan-99

Ft. Monmouth, NJ 07703

Analysis Complete:

06-Jan-99

Analysis:

OQA-QAM-025

UST Reg. #:

Matrix:

Soil

Closure #:

Analyst:

D.DEINHARDT

DICAR #:

1 ul

Inst. ID.

Ext. Meth:

GC TPHC INST. #1

Column ID

Injection Volume

0,32 um

Column Type

RTX 5 Shake

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	
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	
	oratory Manager or Environmental Consultant's Signature	5

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	⁻ 15, 2014	Review Performed By: Kent Friesen, Parsons
Site ID: Bldg. 24	40 (Gosselin Ave.)	Registration ID: 81533-28
Recommended S	Status of Site: Case Close	ed (no change)
UST Probability ((from May 2014 "Addendu	m 1 ECP UHOT Report"): <i>High</i>
Based on the file	e review, were there indica	tions of a contaminant release? [] Yes [X] No
NJDEP Release N	lo. or DICAR (If applicable)	. <u>None</u>
Did NJDEP appro	ove No Further Action (NFA	A) for this site? [] Yes [] No [X] Not Applicable
Tank Description	n: [] Steel [X] Fiberglas	s Size: 1000 gals. Contents: No. 2 Fuel Oil
[X] Residentia	l [] Commercial/Ind	ustrial
Tank Removed?	[X]Yes [] No If "yes	s," removal date: <u>1/22/1999</u>
Were closure so	il samples taken?[X]Yes	[] No Analyses: <u>TPH</u>
Comparison crite	eria: <u>5,100 mg/kg TPH</u>	
Were closure so	il sample results less than	comparison criteria? ? [X] Yes [] No
	Bri	ef Narrative
Monmouth Env Buildings 238 ar from this excava for TPH, which i which is the cur	ironmental Laboratory fond 240 UST areas were san etion were non-detected (I s the current remediation	ank excavation in 1999 and analyzed by the Fort or total petroleum hydrocarbons (TPH). Both the appled as a single excavation. The soil sample results ND) for TPH. The results were less than 5,100 mg/kg, criterion. Results were also less than 1,000 mg/kg, erion for additional required analyses. Therefore, no swarranted.
		t the UST Case Status of "Case Closed." Although the el UST could still be present.
Recommendation	ns (if any): <u>None</u>	
Signed:	Yent A. Frieson Barrans	
	Kent A. Friesen, Parsons	

0iagram 11/13 Electricat Electrica Concrete Pad-

PAGE NO		G055	ELIN	en en en en en en en en en en en en en e		PREPARED SY	5K)f
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USTcoc1/6/99

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

NJDEP Certification #13461	ion #13461								
Customer: Charles Appleby	Project No:	8000-66			Ana	Analysis Parameters		Comments:	
Phone #: X26224	Location: 11 /	113 Gossefin	ار خ				8u	* = Samples Kept <4 Celsius	va .
()DERA (X)OMA UST Assessment	#LSD						ribs:		
Samplers Name / Company: David Daniels TVS	els TVS	Sample	#	ЭН	OS 		√u Re		
Lab Sample I.D. Sample Location		Time Type	bottles			VOA ID Number		Remarks / Preservation Method	pg
48165. 0/ 111-13-A(6,5)	6	13:40 50:1	-	X	V		0	100	
(,5,9)8-E1-11 EB		3:15							
(5.0) >-11-13-5(6.5)	1.22.99 13	3:20							
04 11-13-p(6.5')	2) 66,2211	:25							Ï
QS 11-13-E (9,0°)	[3	:35							
B/O 11-13-F (9.0°)	[3	-37					<u></u> -		
67 11-13-6 (1.5')	5	Oh:							
(,0,1) H-13-H (1,0,)	13	£h:							
84.11-13-IL(1.0')	13	95:	_						
11-13-7(1.5')	13	.ss V	>	7			\rightarrow	>	
						And in any or designable in all one of the way.			
Note: H-N	Note: H-Nu Calibrated With 100 ppm Isobutylene & Zero Air @	Nith 100 pp	dosl m	utylene	& Zero	Air @ 9.21	•		
Relimpuished by (aggrature): Date/Time:	Received by signature)	ture);	Reling	uished by	Relinquished by (signature):	Date/Time:	ceived by	Received by (signature):	
Relinquished by (signature): Date/Time:	Received by (signarthe)	(de):	Reling	uished by	Relinquished by (signature):	Date/Time:	ceived by	Received by (signature):	
Report Type: ()Full, (Skeduced, ()Standard, ()Screen / non-certified Turnaround time: ()Standard 4 wks, (Mash 3-5 Days, ()ASAP Verbal	en / non-certified s, (_)ASAP Verbal	Hrs.		Remarks:		Dedicated	Samplir	Dedicated Sampling Tools Used	

Report of Analysis U/ Army, Fort Monmouth Environmental Labor NJDEP Certification # 13461

Client:

U.S. Army

Lab. ID#;

4205

DPW. SELFM-PW-EV

Ft. Monmouth, NJ 07703

Date Rec'd:

22-Jan-99

Bldg. 173

Analysis Start:

Analysis Complete:

22-Jan-99

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

<u>Date: December 15, 2014 Review Performed By: Kent Friesen, Parsons</u>
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"): <i>High</i>
Based on the file review, were there indications of a contaminant release? [] Yes [X] No
NJDEP Release No. or DICAR (If applicable): <u>None</u>
Did NJDEP approve No Further Action (NFA) for this site? [] Yes [] No [X] Not Applicable
Tank Description: [] Steel [X] Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil
[X] Residential [] Commercial/Industrial
Tank Removed? [X] Yes [] No If "yes," removal date: 9/23/1998
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? ? [X] Yes [] No
Brief Narrative
The UST files show two tanks adjacent to Bldg. 241: one UST was located east of 241 (betweer 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 Ford 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: Lina a. Frin

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. &	Laboratory	Matrix	Date and Time	Date Received
Location	Sample ID#		Of Collection	
В	3907.01	Soil	23-Sept-98 14:24	09/23/98
С	3907.02	Soi1	23-Sept-98 14:29	09/23/98
D	3907.03	Soi1	23-Sept-98 14:36	09/23/98
Е	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

10/6/98

ENCLOSURE: CHAIN OF CUSTODY RESULTS

Table of Contents

Section	Pages
Table of Contents	1
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Chain of Custody	4-5
Results Summary	6
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Continuing Calibration Summary	13-14
Surrogate Results Summary	15
MS/MSD Results Summary	16
Blank Spike Summary	17
Raw Sample Data	17 A- 27
Laboratory Deliverable Checklist	28
Laboratory Authentication Statement	29

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 ImL 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

1.	Method Detection Limits provided.	Indicate Yes, No, N/A
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).	Yes.
5.	IR Spectra submitted for standards, blanks and samples.	NA
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).	yes yes
Addi	itional comments:	
		•
Labo	oratory Manager Date	

Dedicated Sampling Tools Used

Date/Time: | Received by (signature):

Relinquished by (signature):

Accived by (signafule):

Date/Time:

Reliberation by (signature):

Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record Remarks / Preservation Method * = Samples Kept <4 Celsius NO Piping Run @ 2.0' NO SIDEWALL @ 6.0 FIELD DUALLATE by Gary DiMartinis Comments: Date/Time: Received by (signature): 10 25 ۷О VOA ID Number Analysis Parameters Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil Relinquished by (signature): SI+AOV % **ZOLIDS** Note: OVA(#A51903) Calibrated With 95 ppm Methane & Zero Air @ ТРНС pottles Location: 18 GOSSELIN AVE. OT COLLECTED Sample Type 5016 98-0001 Time Project No: NJDEP Certification #13461 Samplers Name / Company: Gary DiMartinis TVS #ISN Date/Time: Sample Location)DERA (X)OMA UST Assessment P.25-8 B Customer: Charles Appleby Ö Phone #: X26224 Lab Sample I.D. 3907,

Hrs.

Days, ()ASAP Verbal

Report Type: ()Full, MReduced, ()Standard, ()Screen / non-certified

Turnaround time: (X)Standard 4 wks, ()Rush

print legibly

GOSSELIN AVE. BusH GRASSORA 18 Gossers PorcH [Asphalt] NOTE: COULD NOT GET SAMPLE AT LOCATION A AS PEA GRAVEZ EXTENDED ALL THE WAY TO THE BLDG'S FOOTING. GARAGE BLOG. B 1424 C 1429 1436 ND 9-23-98 SAMPLING EVENT 1447 ND NOTE: GW NOT ENCOUNTERED

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

Client:

U.S. Army

Lab. ID#:

3907

DPW. SELFM-PW-EV

Date Rec'd:

23-Sep-98

Bldg. 173

Analysis Start:

25-Sep-98

Ft. Monmouth, NJ 07703

Analysis Complete:

28-Sep-98

Analysis:

OQA-QAM-025

UST Reg. #:

Matrix:

Soil

Closure #:

Analyst:

D.DEINHARDT

DICAR #:

1 ul

Inst. iD. Column Type GC TPHC INST. #1

Injection Volume Column ID

0.32 um

RTX 5

Ext. Meth:	Shake			Location #:	18	GOSSELIN AV
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

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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	
	oratory Manager or Environmental Consultant's Signature	}

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

Laboratory Certification #13461

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	· 15, 2014	Review Performed By: Kent Friesen, Parsons
Site ID: Bldg. 24	12 (Gosselin Ave.)	Registration ID: 81533-30
Recommended S	Status of Site: Case Close	ed (no change)
UST Probability (from May 2014 "Addendu	m 1 ECP UHOT Report"): <i>High</i>
Based on the file	review, were there indica	tions of a contaminant release? [] Yes [X] No
NJDEP Release N	lo. or DICAR (If applicable):	<u>None</u>
Did NJDEP appro	ve No Further Action (NFA) for this site? [] Yes [] No [X] Not Applicable
Tank Description	i: [] Steel [X] Fiberglas	s Size: 1000 gals. Contents: No. 2 Fuel Oil
[X] Residential	[] Commercial/Ind	ustrial
Tank Removed?	[X] Yes [] No If "yes	s," removal date: <u>10/26/1998</u>
Were closure so	il samples taken? [X] Yes	[] No Analyses: <u>TPH</u>
Comparison crite	eria: <u>5,100 mg/kg TPH</u>	
Were closure so	il sample results less than o	comparison criteria? ? [X] Yes [] No
	Bri	ef Narrative
Monmouth Envi 242 soil sample mg/kg for TPH, mg/kg, which i	ronmental Laboratory for results were non-detecte which is the current reme	ank excavation in 1998 and analyzed by the Fort total petroleum hydrocarbons (TPH). The Building ed (ND) for TPH. The results were less than 5,100 ediation criterion. Results were also less than 1,000 reshold criterion for additional required analyses. Idial action was warranted.
		t the UST Case Status of "Case Closed." Although the el UST could still be present.
Recommendatio	ns (if any): <u>None</u>	
Signed:	Wind M. John 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

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	Soi1	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	Soi1	27-Oct-98	10/27/98				

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
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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

1.	Method Detection Limits provided.	Indicate Yes, No, N/A
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).	yes
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.	Yes
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	Yes Yes
Addi	tional comments:	
Laho	ratory Manager 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	eby	Project No:	86	98-0001	•	:	Analysis	Analysis Parameters		Comments:	
Phone #: X26224		Location:	160556	PGOSSELIN AVE.	(.′	S				* = Samples Kept <4 Celsius	elsius
()DERA (X)OMA UST Assessment	ssessment	#ISO			·	ΠI	51-		·		
Samplers Name / Company: Gary DiMartinis TVS	any : Gary DiMa	artinis TVS		Sample #	HC	IOS	+ ∀ (¥/		
Lab Sample I.D. Sa	Sample Location	Date	Time	Type bottles		%		VOA ID Number	ة O/	Remarks / Preservation Method	Method
10300h	19-81	25-22-01	0803	Saic	X	X			QN	SIGEWAN OSIS'X	米ぶ、
20	Ø		0901						NO	ļ	
03	Ü		2020						als	EXC. FLOOR @ 8	رَى
50	Ũ		3580						J.M.	Prainy Run @ (.S.	ìs
2	DUP	<i>-</i> >	1	<u> </u>	1 9	\rightarrow			١	Field Dupulate	1 32
								:			
				-							
											-
Mote: OVA(#A51903) Calibrated With 95 ppm Methane & Zero Air @ 0845	1903) Calibrate	d With 95 p	pm Meth	ane & Zer	o Air @	1800	,	12761 uo	(q Fr	by Gary DiMartinis	
Relinguished by signafures	Date/Time:	Received by (sign	signature):		Relinquished by (signature):	by (signa	ıture):	Date/Time:	Received by	Received by (signature):	
Relinquished by (signature):	Date/Time:	Received by (signature):	ignature):		Relinquished by (signature):	by (signa	ture):	Date/Time:	Received by	Received by (signature):	
Report Type: (_)Full, (Decended, (_)Standard, (_)Screen / non-certified	()Standard, ()Scre	ten / non-certifie	-		Remarks:	rks:		Dedicate	d Samplir	Dedicated Sampling Tools Used	
Tunamulu une. Ostandard 4 Wks, Oktush 🗾 Days, Oktyba	ks, (Jikush 🗾 Day	s, ()ASAF ver	Dal Hrs.	8	_						

BO 9 **S**000 - GASJICE SAMPLES COULD NOT BE COLLECTED AS PEN GRAVER EXTENDS TO BLOG. FOOTING. GAS METER (3) 17' ELECTRIC (3"PV) MAIN BLOG-D 19 GOSSELIN [PORCH] 10/27/18 SAMPLING EVENT NOTE: GW NOT ENCOUNTERED

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

Client:

U.S. Army

Lab. ID#:

4008

DPW. SELFM-PW-EV

Date Rec'd:

27-Oct-98

Bldg. 173

Analysis Start:

27-Oct-98

Ft. Monmouth, NJ 07703

Analysis Complete:

28-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 #:		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

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 <u>and</u> 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	
	oratory Manager or Environmental Consultant's Signature	The state of the s

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 15, 2014	Review Performed By: Kent Friesen, Parsons
Site ID: Bldg. 243 (Gosselin Ave.)	Registration ID: 81533-31
Recommended Status of Site: Case Close	d (no change)
UST Probability (from May 2014 "Addendur	n 1 ECP UHOT Report"): <i>High</i>
Based on the file review, were there indicat	ions of a contaminant release? [] Yes [X] No
NJDEP Release No. or DICAR (If applicable):	<u>None</u>
Did NJDEP approve No Further Action (NFA)	for this site? [] Yes [] No [X] Not Applicable
Tank Description: [] Steel [X] Fiberglass	S Size: <u>1000 gals.</u> Contents: <u>No. 2 Fuel Oil</u>
[X] Residential [] Commercial/Indu	ıstrial
Tank Removed? [X] Yes [] No If "yes	," removal date: <u>9/28/1998</u>
Were closure soil samples taken? [X] Yes	[] No Analyses: <u>TPH</u>
Comparison criteria: 5,100 mg/kg TPH	
Were closure soil sample results less than c	omparison criteria? ?[X] Yes [] No
Brie	ef Narrative
located adjacent to 241, the UST service collected from the tank excavation in 1998 Laboratory for total petroleum hydrocarbo non-detected (ND) to 169 mg/kg for TPH. which is the current remediation criterion.	and 243. Although the fill port and vent pipe were d adjacent Bldg. 243 instead. Soil samples were and analyzed by the Fort Monmouth Environmental ns (TPH). The Building 243 soil sample results were The results were less than 5,100 mg/kg for TPH, Results were also less than 1,000 mg/kg, which is dditional required analyses. Therefore, no additional.
In conclusion, the analytical results support fiberglass tank was removed, an earlier stee	the UST Case Status of "Case Closed." Although the UST could still be present.
Recommendations (if any): None	
Signed: Wind U. Timbin	

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-Н	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

> Daniel Wright/Date Laboratory Director

ENCLOSURE: CHAIN OF CUSTODY RESULTS

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Laboratory Authentication Statement	44

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

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	dicate es, No, N/
(If not met, list the sample and corresponding recovery which falls outside the acceptable range). 4. Duplicate Results Summary Meet Criteria	1 <u>Q</u>
	<u>එ</u>
(If not met, list the sample and corresponding recovery which falls outside the acceptable range).	<u>e5</u>
5. IR Spectra submitted for standards, blanks and samples.) <u>A</u> _
6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted.	<u>es</u>
7. Analysis holding time met. (If not met, list number of days exceeded for each sample).	<u>(S</u>
Additional comments:	
Laboratory Manager Date	

Fort Monmouth Environmental Testing Laboratory

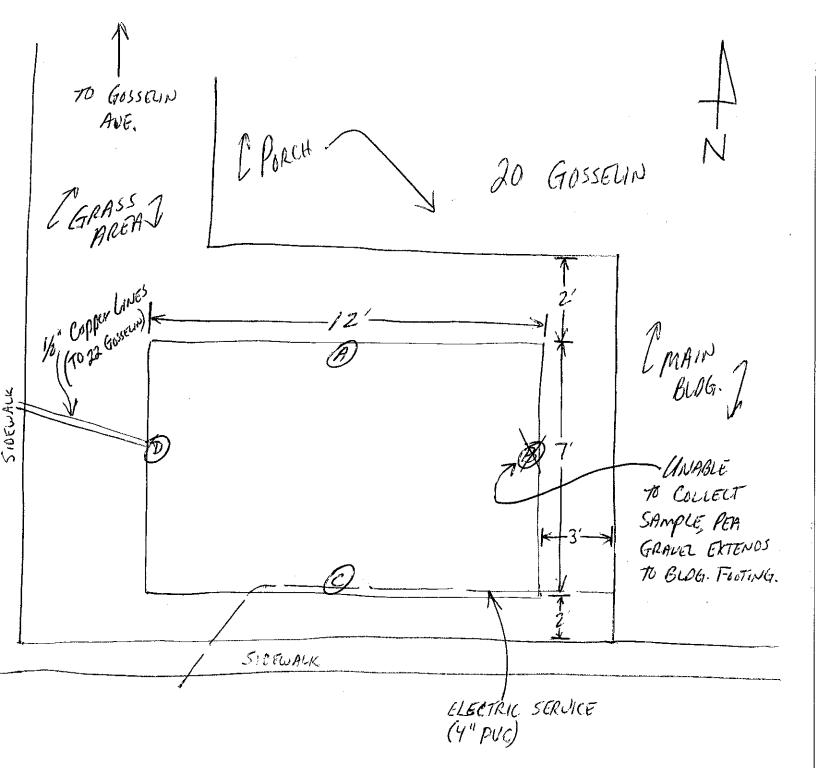
Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

Chain of Custody Record

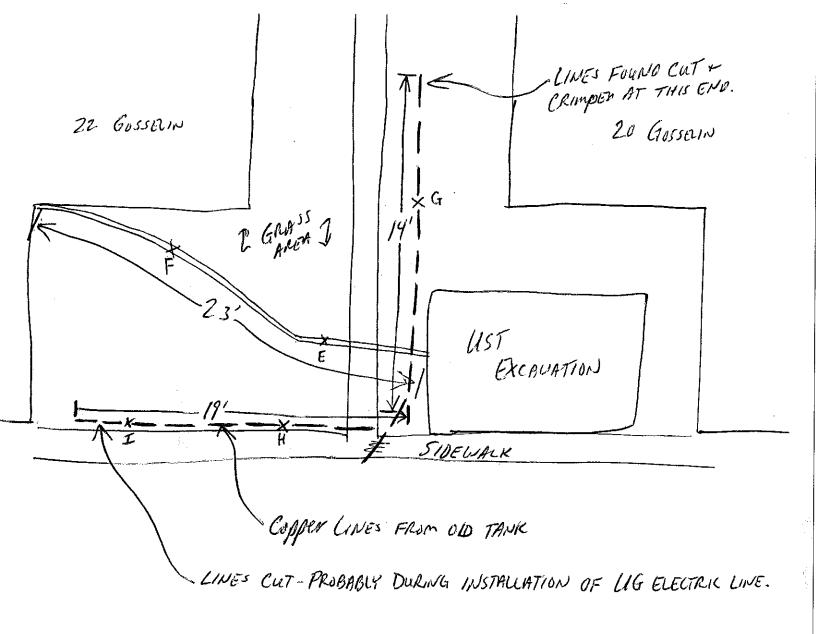
NJDEP Certification #13461

Remarks / Preservation Method * = Samples Kept <4 Celsius 0 FIELD DUPCIFIE by Gary DiMartinis * Q 3 NO SIDEWALL Dedicated Sampling Tools Used Comments: NO Piping 1 Date/Time: | Received by (signature): Received by (signature): 3 3 Ş Ş Z ΥО 9/34/18 @ 0920 VOA ID Number Date/Time: Analysis Parameters Relinquished by (signature): Relinquished by (signature): SI+VOA * CAL. % ZOLIDS Remarks: Note: OVA(#A51903) Calibrated With 95 ppm Methane & Zero Air @ LbHC bottles Location: 20 GOSSELIN AVE. #: Sample Soil Type 98-0001 HL 0938 0932 7830 430 **Secrived by (signature)**: 1336 339 1332 Time Turnaround time: ()Standard 4 wks, (XRush 3 Days, ()ASAP Verbal Report Type: (_)Full, (XReduced, (_)Standard, (_)Screen / non-certified 9-30-P Samplers Name / Company: Gary DiMartinis TVS 83-62-6 Project No: 85-17-6 #LSO Date/Time: Sample Location DERA (X)OMA UST Assessment 0 C A lu U P t Customer: Charles Appleby Relification by (signature): 98 95, 63 62 かめ 88 Phone #: X26224 Lab Sample I.D.



20 GOSSELIN - 9-29-98 SAMPLING EVENT

NOTE: Piping LENGTH (223') GW NOT ENCOUNTERED



9-29-98	98) SAMPLING	E	TUENT	
(Piping SK				
		E	1430	NP
		F	1435	NO
			0932	NO
		Н	0934	NO
		I	0938	ND

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

Client:

U.S. Army

Lab. ID#:

3925

DPW. SELFM-PW-EV

Date Rec'd:

30-Sep-98

Bldg. 173

Analysis Start:

30-Sep-98

Ft. Monmouth, NJ 07703

Analysis Complete:

01-Qct-98

Analysis:

OQA-QAM-025

UST Reg. #:

Matrix:

Soil

Closure #:

Analyst:

D.DEINHARDT

DICAR #:

1 ul

Inst. ID.

GC TPHC INST. #1

Injection Volume

0.32 um

Column Type

RTX 5

Column ID Location #

Ext. Meth:	Shake			Location #:	2	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-Н	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. Wrigh

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 <u>and</u> 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	
Labo Date	oratory Manager or Environmental Consultant's Signature	

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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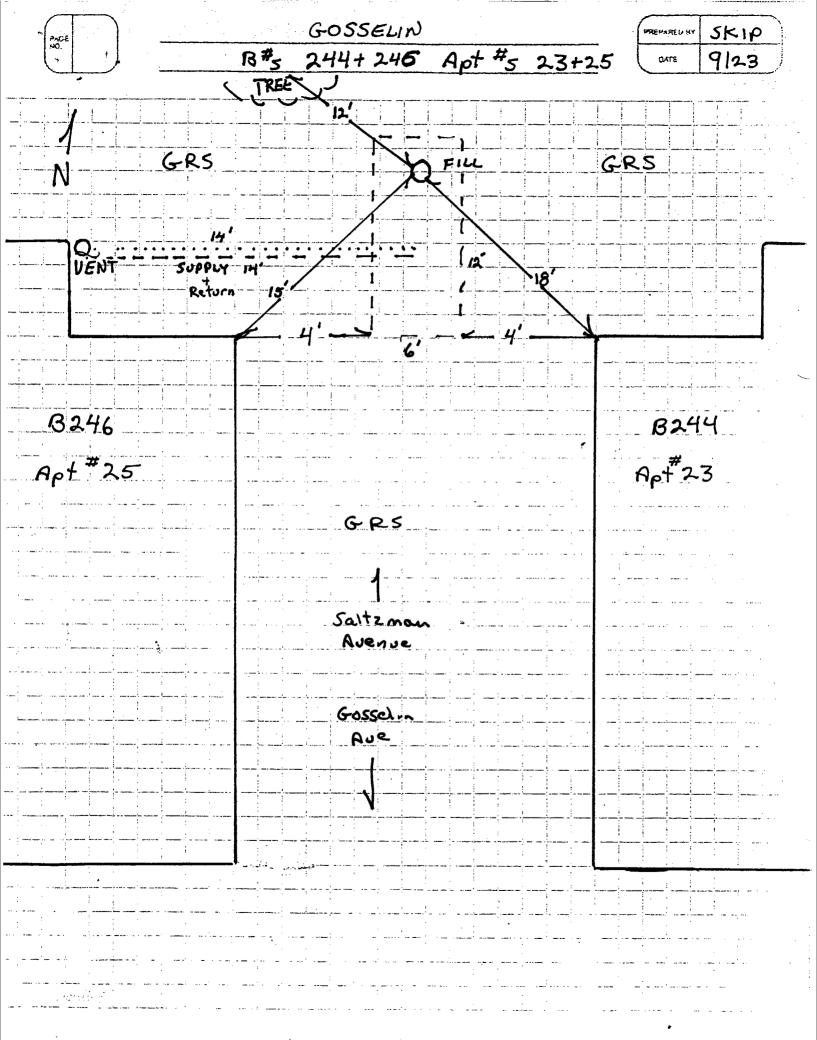
Daniel K. Wright Laboratory Manager



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 Cla	osed
UST Probability (from May 2014 "Adden	dum 1 ECP UHOT Report"): <i>High (see below)</i>
Based on the file review, were there ind	ications of a contaminant release? [X]Yes []No
NJDEP Release No. or DICAR (If applicable	e): <u>None (see also Bldg. 246 file review)</u>
Did NJDEP approve No Further Action (N	IFA) for this site? [] Yes [] No [X] Not Applicable
Tank Description: [X] Steel [] Fiberg	lass Size: 2000 gals. Contents: No. 2 Fuel Oil
[X] Residential [] Commercial/I	ndustrial
Tank Removed? [X] Yes [] No If "	yes," removal date: <u>10/20/1998</u>
Were closure soil samples taken? [X]Y	es [] No Analyses: <u>TPH</u>
Comparison criteria: 5,100 mg/kg TF	PH
Were closure soil sample results less tha	n comparison criteria? [X] Yes [] No
E	Brief Narrative
summary for Bldg. 246 for more details in 1998 and analyzed by the Fort Mor hydrocarbons (TPH). The soil sample rough mg/kg for TPH from the tank excaresults were less than 5,100 mg/kg, which were also less than 1,000 mg/kg, which	ed by a single 2000-gallon steel UST; see the file review. Soil samples were collected from the tank excavation mouth Environmental Laboratory for total petroleum esults from this excavation were non-detected (ND) to vation, and ND to 230 mg/kg from below piping. The TPH, which is the current remediation criterion. Results is the current NJDEP threshold criterion for additional sampling or remedial action was warranted.
service lines to both 25 Gosselin (Bldg. gallon tank. Therefore, both buildings tank removal date of 10/26/1994 appeared with tank contents removal. Although	3/98 soil samples from below the piping clearly shows 246) and 23 Gosselin (Bldg. 244) from the same 2000 were serviced from the same tank. The UST database ars to be in error; instead that was the date associated Bldg. 244 was not specifically included in NJDEP's NFA are the same, and therefore no additional action is
	oport changing the UST Case Status to "Case Closed." it appears unlikely that an earlier steel UST would still
Recommendations (if any):Change st	atus to "Case Closed"
Signed: Junt U. Fortin	

Kent A. Friesen, Parsons





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. 24	15 (Gosselin Ave.)	Registration ID:	: 81533-33
Recommended S	Status of Site: Case Closed	(no change)	
UST Probability	(from May 2014 "Addendum	1 ECP UHOT Report"): High
Based on the file	e review, were there indication	ons of a contaminant	release? [] Yes [X] No
NJDEP Release N	lo. or DICAR (If applicable): _	<u>None</u>	
Did NJDEP appro	ove No Further Action (NFA)	for this site? [] Yes	[] No [X] Not Applicable
Tank Description	n: [] Steel [X] Fiberglass	Size: <u>1000 gals.</u>	Contents: No. 2 Fuel Oil
[X] Residentia	[] Commercial/Indus	trial	
Tank Removed?	[X]Yes[] No If "yes,"	removal date: <u>10</u>	0/6/1998
Were closure so	il samples taken? [X]Yes [] No Analys	es: <u>TPH</u>
Comparison crit	eria: <u>5,100 mg/kg TPH</u>		
Were closure so	il sample results less than co	mparison criteria??	[X]Yes []No
	Brief	Narrative	
Monmouth Env 245 soil sample mg/kg for TPH, mg/kg, which i	ronmental Laboratory for to results were all non-detector which is the current remed	otal petroleum hydro ed (ND) for TPH. The iation criterion. Resu shold criterion for a	18 and analyzed by the Fort ocarbons (TPH). The Building e results were less than 5,100 alts were also less than 1,000 additional required analyses. ed.
	e analytical results support t vas removed, an earlier steel		f "Case Closed." Although the esent.
Recommendatio	ons (if any): <u>None</u>		
Signed:	Yent U. Frin		

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

28 GOSSELIN AVE.

Field Location No. &	Laboratory	Matrix	Date and Time	Date Received
Location	Sample ID#		Of Collection	
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

Daniel Wright/Date

11/16/98

Laboratory Director

ENCLOSURE: CHAIN OF CUSTODY RESULTS

Table of Contents

Section	<u>Pages</u>
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Continuing Calibration Summary	13-16
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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

1.	Method Detection Limits provided.	Indicate Yes, No, N/A <u>↓</u>
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).	405
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.	NA
6.	Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted.	yes
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	405
Addit	tional comments:	
Labor	ratory Manager Date	

USTcoc6/30/98

Fort Monmouth Environmental Testing Laboratory

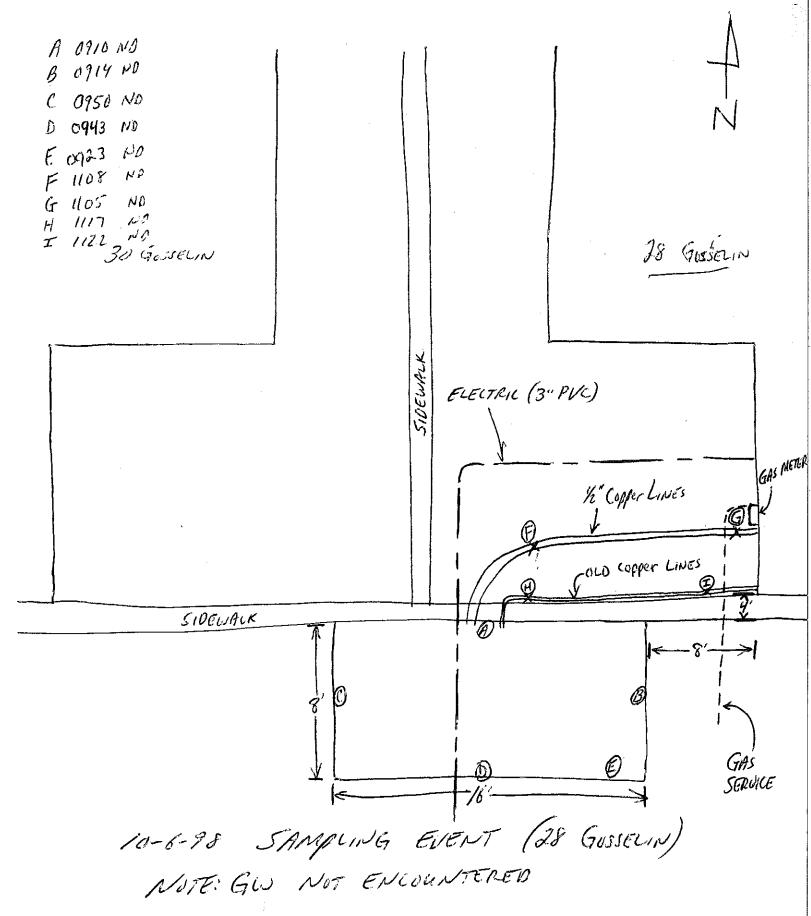
Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

	Customer: Charles Appleby	S Appleby	Project No:	86	98-0001			Analy	Analysis Parameters		Comments.	Г
-	Phone #: X26224		Location 28	603	12 AVE.		S				* = Samples Kept <4 Celsius	
	()DERA (X)OMA UST Assessment	UST Assessment	#LSO					SI			1	
السنسين.	Samplers Name /	Samplers Name / Company: Gary DiMartinis TVS	rtinis TVS		Sample #	HC	IOS	+ γ (V .		
	Lab Sample I.D.	Sample Location	Date	Time	Type bottles			L ΛC	VOA ID Number	ΛΟ 	Remarks / Preservation Method	
	3956. WI	28-A	86-9-01	0710	501-1	X	X			 	_ ·	N/
	602	B		1160	,					N		Ì
	03	U	-	0320	-					3		T
	70	٩		8460						NS	>	T-
	20	ש		0823						3	EXC. Flane @ 80'	
	00	11		1108						3/		Ι.
	40	t)		1105						3		
	08			1117						es		
	40	1-1		1122						₹	***	
	0/	Dup	→	1	→ →	-> >	>				FIELD DUPLICATE V	
						_				_		1
<u> </u>	// Note; OV	Note; OVA(#A51903) Calibrated With 95 pp	With 95 pp	pm Methane	∣જ	Zero Air @_	0820	20	81-9-01 uo) by	by Gary DiMartinis	
	Rejinopished by sigginary	Date/Time:	Received by (signature):	ignature):	Reli	Relinquished by (signature).	by (sign	ature):	Date/Time: Rec	seived by (Received by (signature):	· · · · · · · · · · · · · · · · · · ·
$\overline{}$	Relinquished by (signature).	e): Date/Time:	Received by (signifure)	ign(ture):	Reli	Relinquished by (signature):	by (sign	ature):	Date/Time: Rec	eived by (Received by (signature):	T
H H	Report Type: (_)Full, (VReduced, (_)Standar Turnaround time: (_)Standard 4 wks, (_)Rush	d, (Screen / non-certified Days, (_)ASAP Verbal	d bai Hrs.		Remarks:	rks:		Dedicated S	Sampling	Dedicated Sampling Tools Used	
04					-	-					į	7



Report of Analysis U.S. my, Fort Monmouth Environmental Labora y NJDEP Certification # 13461

Client:

U.S. Army

Lab. ID#:

3956

DPW. SELFM-PW-EV

Date Rec'd:

06-Oct-98

Bldg. 173

Analysis Start:

07-Oct-98

Ft. Monmouth, NJ 07703

Analysis Complete:

08-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 #:

28 Gosselin Ave.

Ext. Meth:	Shake			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-В	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-Н	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 <u>and</u> 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	1
Labo Date	oratory Manager or Environmental Consultant's Signature	

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



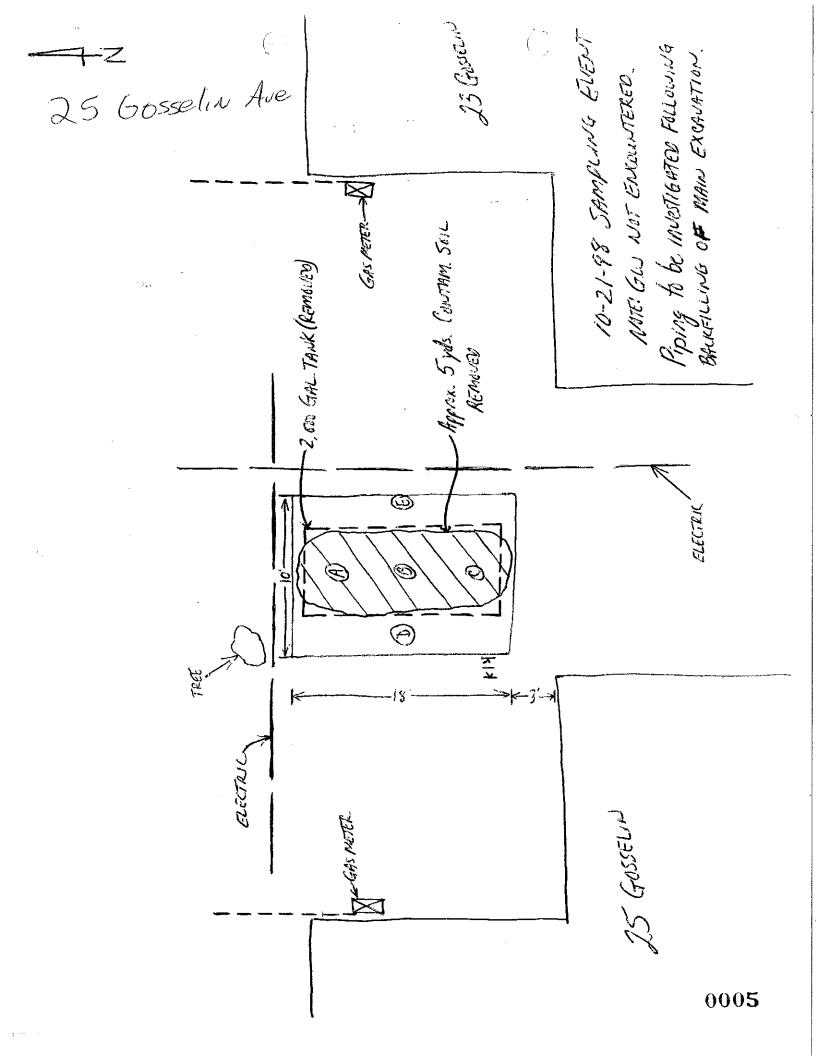
UNDERGROUND STORAGE TANK FILE REVIEW FORT MONMOUTH BRAC 05 FACILITY OCEANPORT, NEW JERSEY

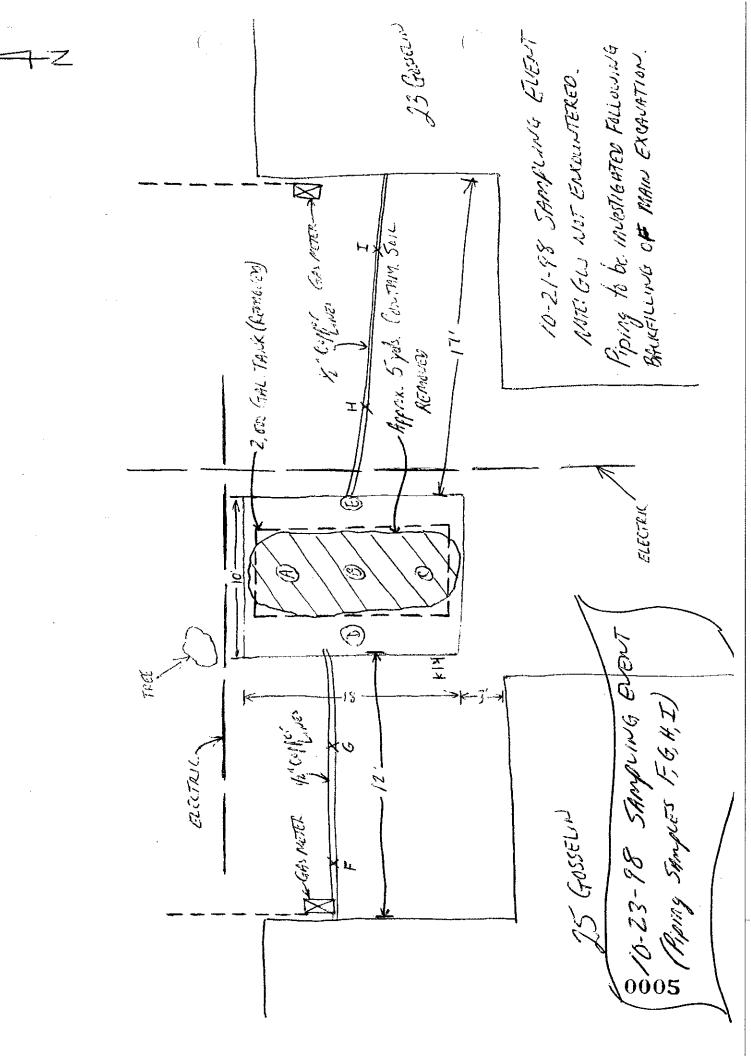
Date: December 15, 2014	Review Performed By: Kent Friesen, Parsons
Site ID: Bldg. 246 (Gosselin Ave.)	Registration ID: none assigned
Recommended Status of Site: Case Close	ed (no change)
UST Probability (from May 2014 "Addendu	m 1 ECP UHOT Report"): NFA
Based on the file review, were there indica	tions of a contaminant release? [X]Yes []No
NJDEP Release No. or DICAR (If applicable):	<u>98-10-20-1459-24</u>
Did NJDEP approve No Further Action (NFA) for this site? [X] Yes [] No [] Not Applicable
Tank Description: [X] Steel [] Fiberglas	s Size: 2000 gals. Contents: No. 2 Fuel Oil
[X] Residential [] Commercial/Ind	ustrial
Tank Removed? [X] Yes [] No If "yes	s," removal date: <u>10/20/1998</u>
Were closure soil samples taken? [X] Yes	[] No Analyses: <u>TPH</u>
Comparison criteria: 5,100 mg/kg TPH	
Were closure soil sample results less than o	comparison criteria? ? [X] Yes [] No
Bri	ef Narrative
described as "older" in the field notes. Soi 1998 and analyzed by the Fort Monmo hydrocarbons (TPH). The soil sample results were less than 5,100 mg/kg for TPH were also less than 1,000 mg/kg, which is	ced by a single 2000-gallon steel UST, which was I samples were collected from the tank excavation in uth Environmental Laboratory for total petroleum alts from this excavation were non-detected (ND) to tion, and ND to 230 mg/kg from below piping. The I, which is the current remediation criterion. Results the current NJDEP threshold criterion for additional all sampling or remedial action was warranted.
removal. There are also indications from contaminated soil was removed. A sketch from below the piping) clearly shows se Gosselin (Bldg. 244) from the same 2000 §	n two small holes observed in the steel tank during a sketch map that approximately 5 cubic yards of from the 10/23/98 sampling event (for soil samples rvice lines to both 25 Gosselin (Bldg. 246) and 23 gallon tank. Therefore, both buildings were serviced cuments indicates that the "tank was old and never
Ground Water Quality Criteria) detection	9/29/2001 and 11/5/2001 had low (<njac 1,2-dichlorobenzene,="" 1,2-sis,="" 2-threne="" 7:9-6="" analysis.<="" and="" benzene,="" chloroform,="" ethyl="" in="" naphthalene,="" ns="" of="" svocs="" td="" the="" xylenes,=""></njac>
The Army requested closing the DICAR i approved by the NJDEP in their letter dated	n a letter dated $3/5/2002$. NFA for Bldg. 246 was d $1/10/2003$.
	ort the UST Case Status of "Case Closed." Since an rs unlikely that an earlier steel UST would still be
Recommendations (if any): None	



Signed:

Kent A. Friesen, Parsons





USTcoc6/30/98

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

NO LA CONTRACTOR OF THE PARTY O	ราเมเรสเ	Cel ulication #13401		*							
Customer: Charles Appleby		Project No:	-98	98-0001			7	Analysi	Analysis Parameters		Comments:
Phone #: X26224		Location: 25 Grisselin AVE	SGesser	110 A	(y)		S				* = Samples Kept <4 Celsius
()DERA (X)OMA UST Assessment		#ISO						۶ I -			
Samplers Name / Company: Gary DiMartinis TVS	DiMa	tinis TVS		Sample	#	ЭН	IOS	+ A (V /	LLV/ALSTILE
Lab Sample I.D. Sample Location	ПO	Date	Time	Type	pottles	dT	%	Ĺ	VOA ID Number	O	Remarks / Preservation Method
2942. 01 25-A		8-12-01	7110	Soll	ر ا	X				01	CENTER LINE® 10.0 *
7			8160							30	
2 60			0850							35	→
0 50			7230							40	40 SIDEWALL @ P.S'
OS E			H260							30	7
and so		>	1	<u>`</u> >	7	->				-	FREW DUMICATE &
						-					
							-				
Note: OVA(#A51903) Calibrated With 95 ppm Methane & Zero Air @_	libratec	With 95 p	pm Meth	ane &	Zero /	\ir @	0	90	81-17-01 no	- 1	by Gary DiMartinis
Rejudgished Mygankure Date/Time:	me: ///	Repeived by (signature)	signature): Mll	J	Reling	Relinquished by (signature):	y (signa	.ture):	Date/Time: Rec	eived by	Received by (signature):
Relifiquished by (signature): Date/Time:	me:	Received by (signature):	signature):		Relinq	Relinquished by (signature):	y (signa	ture):	Date/Time: Rec	eived by	Received by (signature):
Report Type: ()Full, (Theduced, ()Standard, ()Screen / non-certified Turnaround time: ()Standard 4 wks, (Thush / Days, (ASAP Verbal	, (_)Scree	n/non-certifi , WASAP Ve	ed rrbal Hrs.	85		Remarks:	io		Dedicated S	amplir	Dedicated Sampling Tools Used

Fort Monmouth Environmental Testing Laboratory Bldg. 173, SELFM-PW-EV, Fort Mommouth, NJ 07703

Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.mommouth.army.mil NJDEP Certification #13461

Chain of Custody Record

Remarks / Preservation Method * = Samples Kept <4 Celsius FIELD BUPLICATE by Gary DiMartinis Comments: Dedicated Sampling Tools Used Received by (signature): Date/Time: Received by (signature): 3 202 3 3 10-23-98 VOA ID Number Date/Time: Analysis Parameters 5 Relinquished by (signature): Relinquished by (signature): ε1+ΑΟγ % SOUDS Remarks: Note: OVA(#A51903) Calibrated With 95 ppm Methane & Zero Air @_ LbHC Type bottles GOSSELL PLE. Sample 98-0001 0335 0873 6130 Time Requived by (signature): (gleceived by (sfghature): Report Type: (_)Full, (WKeduced, (_)Standard, (_)Screen / non-certified 10-23-88 Samplers Name / Company: Gary DiMartinis TVS Project No: Date #ISO 14-23-88 1/35 Date/Time: Date/Time: Sample Location)DERA (X)OMA UST Assessment B * Customer: Charles Appleby Relinquished by (signature): *₽* 63 ンジ Phone #: X26224 Lab Sample I.D.

Page of

Days, ()ASAP Verbal

Turnaround time: (Standard 4 wks, ()Rush

Report of Analysis U.S. rmy, Fort Monmouth Environmental Laboratry NJDEP Certification # 13461

Client:

U.S. Army

Lab. ID#:

3992

DPW. SELFM-PW-EV

Date Rec'd:

21-Oct-98

Bldg. 173

Analysis Start:

21-Oct-98

Ft. Monmouth, NJ 07703

Analysis Complete:

22-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.

Ext. Meth:	Shake			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-В	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 ாmy, Fort Monmouth Environmental Labor ாy 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 #:

1 ul

Inst. ID. Column Type GC TPHC INST, #1

Injection Volume Column ID

0.32 um

RTX 5

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



James E. McGreevey
Governor

Department of Environmental Protection

Bradley M. Campbell Commissioner

Mr. Dinkertai 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 1 0 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	ΝÓ
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

:

7

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

FTMMTH116IRC.DOC



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. 24	17 (Gosselin Ave.)	Registration ID	: 81533-34
Recommended S	Status of Site: Case Close	e d (no change)	
UST Probability (from May 2014 "Addendu	m 1 ECP UHOT Report"): High
Based on the file	e review, were there indica	tions of a contaminant	release? [] Yes [X] No
NJDEP Release N	lo. or DICAR (If applicable)	: <u>None</u>	
Did NJDEP appro	ove No Further Action (NFA	A) for this site? [] Yes	[] No [X] Not Applicable
Tank Description	n: [] Steel [X] Fiberglas	ss Size: <u>1000 gals.</u>	Contents: No. 2 Fuel Oil
[X] Residentia	[] Commercial/Ind	ustrial	
Tank Removed?	[X]Yes [] No If "yes	s," removal date: <u>1</u> 0	0/7/1998
Were closure so	il samples taken?[X]Yes	[] No Analys	es: <u>TPH</u>
Comparison crite	eria: <u>5,100 mg/kg TPH</u>		
Were closure so	il sample results less than	comparison criteria??	[X]Yes []No
	Bri	ef Narrative	
Monmouth Envi 247 soil sample mg/kg for TPH, mg/kg, which i	ronmental Laboratory for results were non-detectory which is the current reme	total petroleum hydro ed (ND) for TPH. The ediation criterion. Reso reshold criterion for a	98 and analyzed by the Fort ocarbons (TPH). The Building results were less than 5,100 ults were also less than 1,000 additional required analyses. ed.
	e analytical results suppor as removed, an earlier ste		f "Case Closed." Although the esent.
Recommendatio	ns (if any): <u>None</u>		
Signed:	Wind M. Johns 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

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

Table of Contents

Section	Pages
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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 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

 Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). 	ndicate Yes, No, N/A
(If not met, list the sample and corresponding recovery which	NO.
	400
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.	AKA.
6. Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted.	yes
7. Analysis holding time met. (If not met, list number of days exceeded for each sample).	yes yes
Additional comments:	
Laboratory Mariager 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

Chain of Custody Record

Remarks / Preservation Method * = Samples Kept <4 Celsius ND EXC. FLOOR @ 75 Field Dupilicate by Gary DiMartinis NO SIDEWALL @ Comments: Dedicated Sampling Tools Used Date/Time: Received by (signature): Received by (signature): 3 Ş ۷ΛΟ VOA ID Number Date/Time: Analysis Parameters Relinquished by (signature): Relinquished by (signature): VOA+15 % ZOFIDZ Note; OVA(#A51903) Calibrated With 95 ppm Methane & Zero Air @ LbHC Location: 32 GOSSEUN AUE. Sample Type 98-0001 Hrs. 355 10/ Time Received by (signature): eceived by (signature): Turferound time: (Standard 4 wks, (Likush 3 Days, ()ASAP Verbal Report Type: (_)Full, (VReduced, (_)Standard, (_)Screen / non-certified NJDEP Certification #13461 Samplers Name / Company: Gary DiMartinis TVS Project No: Date #ISO Date/Time; Sample Location)DERA (X)OMA UST Assessment Customer: Charles Appleby Relinquished by (signature): Phone #: X26224 Lab Sample I.D.

32 GUSSELIN -K' Copper LINES NOT COLLECTED CONCRETE? 14" 3 (PEA GRAVEL) CARAGE GAS SERVICE 10-7-98 SAMPLING EVENT (32 GOSSELIN) NOTE: GW NOT ENCOUNTERED

05

Report of Analysis U.S. .rmy, Fort Monmouth Environmental Labor...y NJDEP Certification # 13461

Client:

U.S. Army

Lab. ID #:

3966

DPW. SELFM-PW-EV

Date Rec'd:

07-Oct-98

Bldg. 173

Analysis Start:

08-Oct-98

Ft. Monmouth, NJ 07703

Analysis Complete:

09-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 32 Gosselin Ave.

Ext. Meth: Shake

Location #:

EXI. Metri:	Strake		w	Location #:	•	oz Gosseiin 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 <u>and</u> 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	
Date	ratory Manager or Environmental Consultant's Signature	
Labo	ratory 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	· 15, 2014	Review Performed By	: Kent Friesen, Parsons
Site ID: Bldg. 24	18 (Gosselin Ave.)	Registration ID	: 81533-35
Recommended S	Status of Site: Case Close	e d (no change)	
UST Probability (from May 2014 "Addendu	m 1 ECP UHOT Report"): High
Based on the file	e review, were there indica	tions of a contaminant	release? [] Yes [X] No
NJDEP Release N	lo. or DICAR (If applicable)	: <u>None</u>	
Did NJDEP appro	ove No Further Action (NFA	A) for this site? [] Yes	[] No [X] Not Applicable
Tank Description	n: [] Steel [X] Fiberglas	ss Size: <u>1000 gals.</u>	Contents: No. 2 Fuel Oil
[X] Residential	[] Commercial/Ind	ustrial	
Tank Removed?	[X]Yes [] No If "yes	s," removal date: <u>1</u> 0	0/15/1998
Were closure so	il samples taken? [X]Yes	[] No Analys	es: <u>TPH</u>
Comparison crite	eria: <u>5,100 mg/kg TPH</u>		
Were closure so	il sample results less than	comparison criteria??	[X] Yes [] No
	Bri	ef Narrative	
Monmouth Envi 248 soil sample mg/kg for TPH, mg/kg, which i	ronmental Laboratory for results were non-detectory which is the current remo	total petroleum hydro ed (ND) for TPH. The ediation criterion. Reso reshold criterion for a	98 and analyzed by the Fort ocarbons (TPH). The Building results were less than 5,100 ults were also less than 1,000 additional required analyses.
	e analytical results suppor as removed, an earlier ste		of "Case Closed." Although the esent.
Recommendatio	ns (if any): <u>None</u>		-
Signed:	Wind M. Johns 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

Daniel Wright/Date
Laboratory Director

ENCLOSURE: CHAIN OF CUSTODY RESULTS

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Section	Pages
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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	20-35
Laboratory Deliverable Checklist	36
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.	yes_
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).	Yes
5.	IR Spectra submitted for standards, blanks and samples.	<u>4(1</u>
6.	Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted.	yes Yes
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	Yes_
Add	itional comments:	
T abo	oratory Manager Date	
Tan.	Harry Manager Date	

USTcoc.xls10/6/98

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

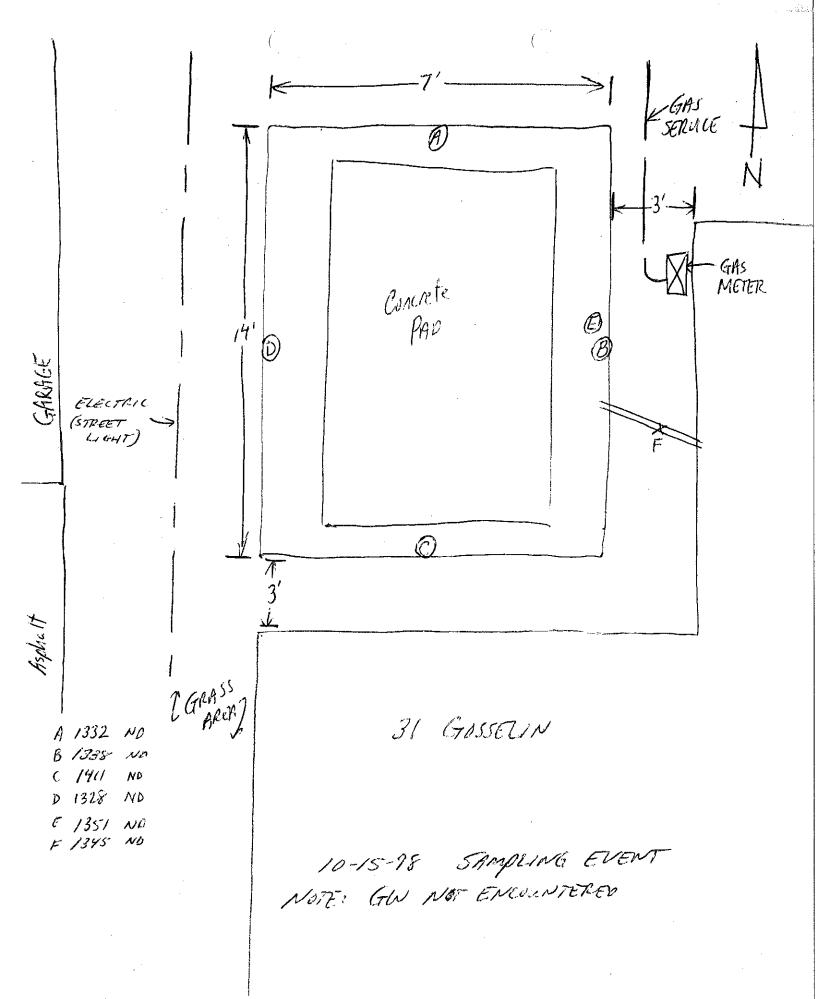
Chain of Custody Record

NJDEP Certification #13461

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Customer: Charles Appleby	leby	Project No:	98	98-0001			Analysis	Analysis Parameters		Comments:		
Phone #: X26224		Location: 3/		GUSSEUN AVE.	45	S			_	* = Samples Kept <4 Celsius	pt <4 Celsius	
()DERA (X)OMA UST Assessment	ssessment	#LSO					\$Į-					
Samplers Name / Company: Gary DiMartinis TVS	any: Gary DiMa	rtinis TVS		Sample	HC #	IOS	+ ∀ (:	V /			
Lab \$ample I.D.	Sample Location	Date	Time	Type bo	bottles			VOA ID Number	\O	Remarks / Preservation Method	rvation Method	
3977. 01	31-4	36-51-01	7881	Soil	X	X			ON	SIDEWALL @ 5.5	※、5.2、米	- W.
02	В		28.81	-					ND		90	(
03	ن		1411						ND			
 方の	A		1328						NE	-> >		-
20	b		1321						1/2	NO EXC. FLOOR @ 8.0'	@ 8.0'	
90	F		1345						M	Piping Run	@ 2.0'	
£0 -	Dar			>	<u>→</u>	>			i	- Field Duplicate	LICATE	.
												1
						:						
				A A CHARACTER OF THE PROPERTY.					-		AND THE RESERVE AND PARTY AND THE PROPERTY AND THE PROPER	
Note: DVA(#AE	Note: OVA(#A51903) Calibrated With 95 ppm Methane	d With 95 p	pm Metha	ane & Ze	& Zero Air @	2 13	15	on 10-15-98		by Gary DiMartínis	inis	
Relinguished by signafund;	Date/Time:	Received by (signature):	signature):	7 %	Relinquished by (signature):	d by (sig	nature):	Date/Time: R	sceived by	Received by (signature):		
Relinguished by (signature):	Date/Time:	Received by (signifure):	signature):	X	Relinquished by (signature):	ed by (sig	nature):	Date/Time: R	sceived by	Received by (signature):		
Report Type: (_)Full, (d, (_)Standard, (_)Scre	een / non-certifie	Ŋ.		Rem	Remarks:		Dedicated	Samplii	Dedicated Sampling Tools Used		7

Page ___ of __

Turnaround time: (_)Standard 4 wks, (DKush 3 Days, (_)ASAP Verbal



Report of Analysis U.S. .my, Fort Monmouth Environmental Labor. .y NJDEP Certification # 13461

Client:

U.S. Army

Lab. ID#:

3977

DPW. SELFM-PW-EV

Date Rec'd:

15-Oct-98

Bldg. 173

Analysis Start:

16-Oct-98

Ft. Monmouth, NJ 07703

Analysis Complete:

19-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 #:

31 Gosselin Ave.

Ext. Meth:	Shake			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 <u>and</u> 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	/
Lab Date	oratory Manager or Environmental Consultant's Signature	

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	· 15, 2014	Review Performed By	: Kent Friesen, Parsons
Site ID: Bldg. 24	19 (Gosselin Ave.)	Registration ID	: 81533-36
Recommended S	Status of Site: Case Clos	ed (no change)	
UST Probability (from May 2014 "Addendu	ım 1 ECP UHOT Report"): High
Based on the file	e review, were there indica	ations of a contaminant	release? [] Yes [X] No
NJDEP Release N	lo. or DICAR (If applicable)	: <u>None</u>	
Did NJDEP appro	ove No Further Action (NFA	A) for this site? [] Yes	[] No [X] Not Applicable
Tank Description	n: [] Steel [X] Fiberglas	ss Size: <u>1000 gals.</u>	Contents: No. 2 Fuel Oil
[X] Residential	[] Commercial/Ind	lustrial	
Tank Removed?	[X]Yes [] No If "ye	s," removal date: <u>1</u>	1/12/1998
Were closure so	il samples taken?[X]Yes	[] No Analys	es: <u>TPH</u>
Comparison crite	eria: <u>5,100 mg/kg TPH</u>		- -
Were closure so	il sample results less than	comparison criteria??	[X]Yes []No
	Bri	ef Narrative	
Monmouth Envi 249 soil sample mg/kg for TPH, mg/kg, which i	ronmental Laboratory for results were non-detect which is the current reme	total petroleum hydro ed (ND) for TPH. The ediation criterion. Res reshold criterion for	PS and analyzed by the Fort ocarbons (TPH). The Building results were less than 5,100 ults were also less than 1,000 additional required analyses. ed.
	e analytical results suppor as removed, an earlier ste		f "Case Closed." Although the esent.
Recommendatio	ns (if any): <u>None</u>		
Signed:	Wind M. Johnsons Kent A. Friesen, Parsons		

FORT MONMOUTH ENVIRONMENTAL

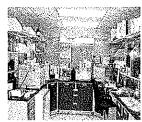
TESTING LABORATORY

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. &	Laboratory	Matrix	Date and Time	Date Received
Location	Sample ID#		Of Collection	
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

> Daniel Wright/Date Laboratory Director

1/24/18

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

1.	Method Detection Limits provided.	Indicate Yes, No, N/A
2.	Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.	yes
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.	<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).	-yes
Addi	tional comments:	
	1 24/96	

USTcoc.xls10/29/98

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

Chain of Custody Record

	NJDEP Certification #13461	ion #13461								
Customer: Charles Appleby	s Appleby	Project No:	98-0001				Analysi	Analysis Parameters		Comments:
Phone #: X26224		Location: 3%	Gossenn ME.	₩E.		S				* = Samples Kept <4 Celsius
()DERA (X)OMA UST Assessment	JST Assessment	UST#				CID	si-			
Samplers Name / (Samplers Name / Company: Gary DiMartinis TVS	rtinis TVS	Sample	#	НС	IOS	+ ∀ (V/	
Lab Sample I.D.	Sample Location	Date Ti	Time Type	bottles		%		VOA ID Number	\O	Remarks / Preservation Method
10 1/5014	4-HE	H 81-21-11	116 Sou	}	X	X			gn	SIDELLAL @ S.S. *
67	В	6/	1424						3	->
85	C		1430						90	
bo	D	<i>h!</i>	119	<u> </u>					an	
185	Duf	- ∧	<u>ት</u> –	>	- *	->			1	Hew Durucate
				ļ						
/ / Note: OV/	Note: OVA(#A51903) Calibrated With 95 ppm Methane & Zero Air @	With 95 ppm	Methane &	Zero	Air @	7/	50%	81-21-11 uo		by Gary DiMartinis
Reindhighed by signatures	Date/Time:	Received by (signature)	ure):	Relin	Relinquished by (signature):	y (sign	ature):	Date/Time: Re	ceived by	Received by (signature):
Relinguished by (signature):	e): Date/Time:	Sectived by (Sgnature):	ure):	Relin	Relinquished by (signature):	y (sign	ature):	Date/Time: Re	seived by	Received by (signature):
Report Type: (Full, (Meduced, ()Standar () Turnaround time: ()Standard 4 wks, (Mkush	ਚੰ	(_)Screen / non-certified Days, (_)ASAP Verbal	Hrs.		Remarks:	;;		Dedicated	Samplin	Dedicated Sampling Tools Used
L										

34 GOSSELIN AVE. L'Copper 16' GAS METER $\mathcal{B}^{\mathcal{O}}$ GASSBEVILE 11-12-98 SAMPLING EVENT NOTE: GW NOT ENCOUNTERED. COULD NOT COLLECT SAMPLES ALONG BLOG. DN 2-510ES AS PER GRAVEL EXTENDS TO BLOG. FOOTING.

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

Client:

U.S. Army

Lab. ID#:

4051

DPW. SELFM-PW-EV

Date Rec'd:

12-Nov-98

Bldg, 173

Analysis Start:

13-Nov-98

Ft. Monmouth, NJ 07703

Analysis Complete:

16-Nov-98

Analysis:

OQA-QAM-025

UST Reg. #:

Matrix:

Soil

Closure #:

Analyst:

D.DEINHARDT

DICAR #:

GC TPHC INST. #1

Injection Volume

1 ul

Inst. ID. Column Type

RTX 5

Column ID

0.32 um

Ext. Meth:

Shake

Location #:

34 Gosselin Ave.

Ext. Meth:	Sпаке			Location #:		54 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
"						
			•			
			N 12-20 T T			
			- 22/1			
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 <u>and</u> 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	<u> </u>
4.	Document paginated and legible	
5.	Chain of Custody submitted	<u> </u>
6.	Samples submitted to lab within 48 hours of sample collection	<u> </u>
7.	Methodology Summary submitted	
8.	Laboratory Chronicle and Holding Time Check submitted	<u> </u>
9.	Results submitted on a dry weight basis	
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>
	oratory Manager or Environmental Consultant's Signature	

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	15, 2014	Review Performed By	: Kent Friesen, Parsons
Site ID: Bldg. 25	50 (Gosselin Ave.)	Registration ID:	81533-37
Recommended S	Status of Site: Case Close	ed (no change)	
UST Probability (from May 2014 "Addendu	m 1 ECP UHOT Report"): High
Based on the file	e review, were there indica	tions of a contaminant	release? [] Yes [X] No
NJDEP Release N	lo. or DICAR (If applicable):	<u>None</u>	
Did NJDEP appro	ove No Further Action (NFA) for this site? [] Yes	[] No [X] Not Applicable
Tank Description	n: [] Steel [X] Fiberglas	s Size: <u>1000 gals.</u>	Contents: No. 2 Fuel Oil
[X] Residentia	[] Commercial/Indo	ustrial	
Tank Removed?	[X]Yes [] No If "yes	s," removal date:1	1/16/1998
Were closure so	il samples taken? [X] Yes	[] No Analys	es: <u>TPH</u>
Comparison crite	eria: <u>5,100 mg/kg TPH</u>		
Were closure so	il sample results less than o	comparison criteria??	[X]Yes []No
	Brid	ef Narrative	
Monmouth Envi 250 soil sample mg/kg for TPH, mg/kg, which i	ronmental Laboratory for results were non-detecte which is the current reme	total petroleum hydro ed (ND) for TPH. The diation criterion. Resu eshold criterion for a	8 and analyzed by the Fort ocarbons (TPH). The Building results were less than 5,100 ults were also less than 1,000 additional required analyses.
	e analytical results support vas removed, an earlier ste		f "Case Closed." Although the sent.
Recommendatio	ns (if any): <u>None</u>		
Signed:	Wind M. Jimin Kent A. Friesen, Parsons		

133 Gosselin

D 18'x 15' 2 7' DEPTH EXCAVATION GAFAGES Och VENT FED +-RETURN 605 B

NOTE: WABLE TO SANTLE

UNES - ± 5' EUN FROM

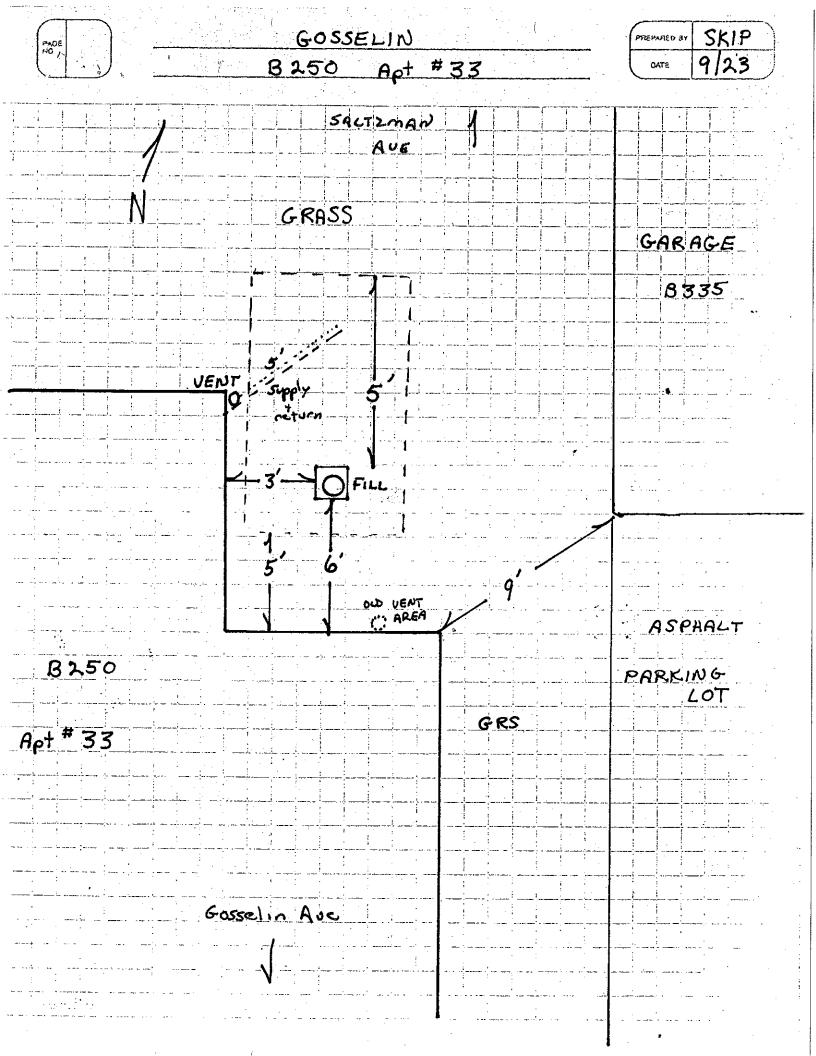
TANK TO BUDG. - ENTIRE

EXCANATION COLLAPSED!

33 C FSSELLKI

10-6"

 $\mathbb{E}(C_{i,j}) = \sum_{i \in \mathcal{I}_{i+1,j}} C_{i,j+1,j}$



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-9814:55	11/17/98

ANALYSIS: FORT MONMOUTH ENVIRONMENTAL LAB. TPHC, %SOLIDS

Daniel Wright/Date
Laboratory Director

11/24/98

ENCLOSURE: CHAIN OF CUSTODY RESULTS

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Laboratory Authentication Statement	30

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.

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

PHC Conformance/Non-conformance Summary Report

1.	Method Detection Limits provided.	Indicate Yes, No, N/
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).	Yos
4.	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	485
5.	IR Spectra submitted for standards, blanks and samples.	NA_
6.	Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted.	<u>(185</u>
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	<u>Yes</u>
Addi	itional comments:	
Tak	11/24/94 Pate	

coc.XLS11/16/98

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

Chain of Custody Record

NJDEP Certification #13461

Remarks / Preservation Method 10 SANTE LINES S'REN - COLLAPSED WITO PEXCANATION POSTO -301, 1, CAPET 55-7 DEPTY O.N. CAPTE D' DAPLIT Comments: NOTE Date/Time: Received by (signature): Received by (signature): 0 <u>~</u> 7 7 2 Date/Time: Analysis Parameters Relinquished by (signature): Relinquished by (signature): Location: 33 Grossella Project No: 99-0009 Sample Type <u>8</u> 455 440 144D 1450 1- 125 WALL 11/16/98 1430 14% Time Received by (signature): eceived by (signature): Date D. MORTH WALL 区とつろれ D-SOTH WALL 0080 06/11/11 - WEST WALL Date/Time: Date/Time: Sample Location BUE-FLOOR Samplers Name / Company: DERA (YOMA ()Other: Customer: C. Hunle Relinquished by (signature): Relinquished by (signature): Phone #: XX/224 Lab Sample I.D. 4057

Remarks:

HS.

Days, (_)ASAP Verbal

Report Type: ()Full, K)Reduced, ()Standard, ()Screen / non-certified Turnaround time: (K)Standard 4 wks, ()Rush Days, ()ASAP Verba

print legibly

Report of Analysis U.S. . . my, Fort Monmouth Environmental Labora. y NJDEP Certification # 13461

Client:

U.S. Army

Lab. ID#:

4059

DPW. SELFM-PW-EV

Date Rec'd:

17-Nov-98

Bldg. 173

Analysis Start:

17-Nov-98

Ft. Monmouth, NJ 07703

Analysis Complete:

20-Nov-98

Analysis:

OQA-QAM-025

UST Reg. #:

Matrix:

Soil

Closure #:

Analyst:

D.DEINHARDT

DICAR #:

Inst. ID.

GC TPHC INST. #1

TBLK 190

1.00

15.00

100,00

Injection Volume

1 ul

Column Type

RTX 5

Column ID

0.32 um

Ext. Meth:	Shake			Location #:	3	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

ND = Not Detected

METHOD BLANK

MDL = Method Detection Limit

Daniel K. Wright Laboratory Director

157

ND

0005

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 <u>and</u> 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	/
Lab Date	oratory Manager or Environmental Consultant's Signature	

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	· 15, 2014	Review Performed By	: Kent Friesen, Parsons
Site ID: Bldg. 25	51 (Gosselin Ave.)	Registration ID	81533-38
Recommended S	Status of Site: Case Close	ed (no change)	
UST Probability (from May 2014 "Addendu	m 1 ECP UHOT Report"): High
Based on the file	review, were there indica	tions of a contaminant	release? [] Yes [X] No
NJDEP Release N	lo. or DICAR (If applicable):	<u>None</u>	
Did NJDEP appro	ove No Further Action (NFA) for this site? [] Yes	[] No [X] Not Applicable
Tank Description	n:[]Steel[X]Fiberglas	s Size: <u>1000 gals.</u>	Contents: No. 2 Fuel Oil
[X] Residential	[] Commercial/Ind	ustrial	
Tank Removed?	[X]Yes [] No If "yes	s," removal date:1	1/2/1998
Were closure so	il samples taken? [X]Yes	[] No Analys	es: <u>TPH</u>
Comparison crite	eria: <u>5,100 mg/kg TPH</u>		
Were closure so	il sample results less than o	comparison criteria??	[X]Yes []No
	Bri	ef Narrative	
were sampled as 1998 and analy hydrocarbons (T results were less were also less th	s a single excavation. Soil zed by the Fort Monmo PH). The Building 251 soils than 5,100 mg/kg for TPH	samples were collecte uth Environmental Lal sample results were no I, which is the current the current NJDEP thr	th the 251 and 253 UST areas d from the tank excavation in coratory for total petroleum on-detected (ND) for TPH. The remediation criterion. Results eshold criterion for additional action was warranted.
	e analytical results suppor as removed, an earlier ste		f "Case Closed." Although the sent.
Recommendatio	ns (if any): <u>None</u>		-
Signed:	Wind M. Jimin 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. &	Laboratory	Matrix	Date and Time	Date Received
Location	Sample ID#		Of Collection	
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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The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

1.	Method Detection Limits provided.	Indicate Yes, No, N/A
2.	Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.	<u>604</u>
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).	40
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. (If not met, list number of days exceeded for each sample).	yes
Addi	tional comments:	
Labo	oratory Manager Date	

USTcoc.xls10/29/98

Dedicated Sampling Tools Used

Remarks:

Hrs.

Turnaround time: ()Standard 4 wks, Wkush 3 Days, ()ASAP Verbal

Fort Monmouth Environmental Testing Laboratory

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

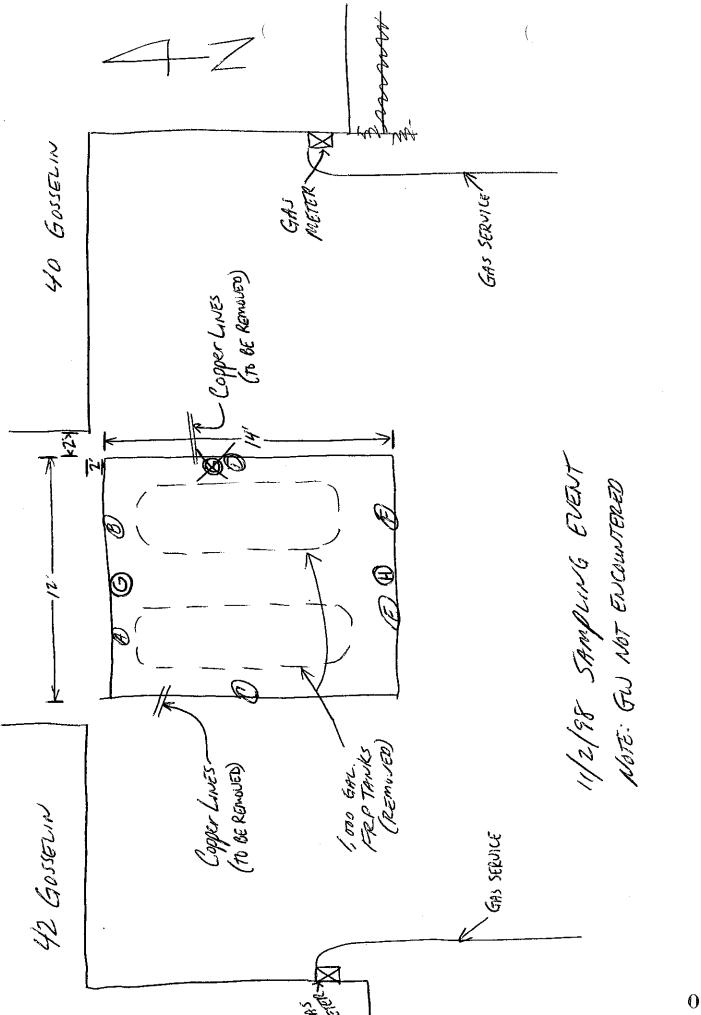
Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

Chain of Custody Record

NJDEP Certification #13461

Remarks / Preservation Method * = Samples Kept <4 Celsius EXC. FLOOR @ 8.5" FIEW DUPLICATE NO SIDEWALLESS by Gary DiMartinis Comments: Date/Time: Received by (signature): Date/Time: Received by (signature): Ş Z Ź Ş ΑΛΟ 3 È Ź VOA ID Number Analysis Parameters <u></u> Relinquished by (signature): Relinquished by (signature): VOA+15 13/18 % ZOLIDS Note; OVA(#A5,1903) Calibrated With 95 ppm Methane & Zero Air @ **LPHC** bottles Project No: 98-0001 Location: 40 12 GVSSELV- ME. Type Sample 1338 |5016 1-TONKS 348 404 353 10%1 Time 11/2 Received by (sugnature): Received by (signature) 341 Report Type: ()Full, (Neduced, ()Standard, ()Screen / non-certified Turnaround time: ()Standard 4 wks, (Neush 3 Days, ()ASAP Verba Samplers Name / Company: Gary DiMartinis TVS Date #ISO 4-2-18/200 Date/Time: Date/Time: Dap Sample Location M P)DERA (X)OMA UST Assessment W Customer: Charles Appleby Religioushed by (signature): 200 03 B BB Phone #: X26224 Lab Sample I.D.

print legibly



Report of Analysis U.S. ...my, Fort Monmouth Environmental Labor...y NJDEP Certification # 13461

Client:

U.S. Army

Lab. ID#:

4021

DPW. SELFM-PW-EV

Date Rec'd:

02-Nov-98

Bldg. 173

Analysis Start:

03-Nov-98

Ft. Monmouth, NJ 07703

Analysis Complete:

04-Nov-98

Analysis:

OQA-QAM-025

UST Reg. #:

Matrix:

Soil

Closure #:

Analyst:

D.DEINHARDT

DICAR #:

1 ul

Inst. ID.

GC TPHC INST. #1.

Injection Volume Column ID

0.32 um

Column Type Ext. Meth:

RTX 5 Shake

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 <u>and</u> 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	<u> </u>
8.	Laboratory Chronicle and Holding Time Check submitted	V
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	/
Lab Date	oratory Manager or Environmental Consultant's Signature	

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

Laboratory Certification #13461

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)532-3484

WET-CHÈM - 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. &	Laboratory	Matrix	Date and Time	Date Received
Location	Sample ID#		Of Collection	
40,42-I	4033.01	Soi1	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

Daniel Wright/Date
Laboratory Director

ENCLOSURE: CHAIN OF CUSTODY RESULTS

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MS/MSD Results Summary	15
Blank Spike Summary	16
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I aboratory 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

1.	Method Detection Limits provided.	Indicate Yes, No, N/A <u>Yes</u>
2.	Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.	yes
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).	YS.
5.	IR Spectra submitted for standards, blanks and samples.	<u> AU</u>
6.	Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted.	yes
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	yes
Addi ——	tional comments:	
Labo	rotory Manakar Date	

USTcoc.xls10/6/98

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

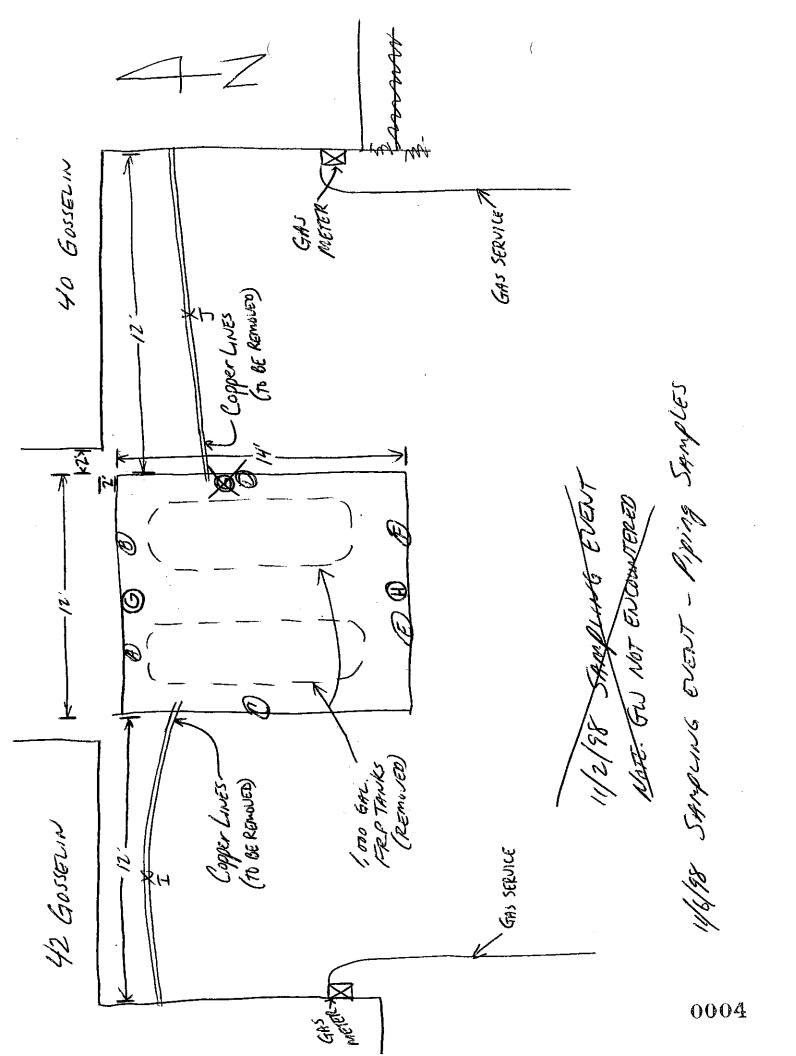
Chain of Custody Record

NJDEP Certification #13461

Remarks / Preservation Method * = Samples Kept <4 Celsius GELD DUNCIONTE by Gary DiMartinis Dedicated Sampling Tools Used Comments: Date/Time: Received by (signature): Date/Time: Received by (signature): 4 3 VOA ID Number Analysis Parameters Relinquished by (signature): Relinquished by (signature): ς[+∀ΟΛ % ZOFIDZ Remarks: Note: OVA(#A51903) Calibrated With 95 ppm Methane & Zero Air @ LbHC Project No: 98-0001 Location: 4042 (2055ELIN AVE) Sample Type Soll 8760 Received by (signature): Received by (signature): Time Report Type: (_)Full, (Le Reduced, (_)Standard, (_)Screen / non-certified 11-6-18 Samplers Name / Company: Gary DiMartinis TVS Date #LSO YLP YLP Date/Time: Date/Time: Sample Location 10 12 - I DERA (X)OMA UST Assessment Report Type: ()Full, (CReduced, ()Standard Ontonia Turnaround time: (CStandard 4 wks, ()Rush Customer: Charles Appleby Relinquished by (signature): Phone #: X26224 Lab Sample I.D.

His

Days, ()ASAP Verbal



Report of Analysis U. & rmy, Fort Monmouth Environmental Labor _ry NJDEP Certification # 13461

Client:

U.S. Army

Lab. ID#:

4033

DPW. SELFM-PW-EV

Date Rec'd:

06-Nov-98

Bldg. 173

Analysis Start:

09-Nov-98

Ft. Monmouth, NJ 07703

Analysis Complete:

10-Nov-98

Analysis:

OQA-QAM-025

UST Reg. #:

Matrix:

Soil

Closure #:

Analyst:

D.DEINHARDT

DICAR #:

1 ul

Inst. ID.

GC TPHC INST. #1

Injection Volume Column ID

0.32 um

Column Type

RTX 5 Shake

Ext. Meth:	Shake			Location #:	40	,42 Gosselin Av
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
						and the state of t
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 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	- Commence of the Commence of
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	<u>/</u>
	oratory Manager or Environmental Consultant's Signature)

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 15, 2014	Review Performed By: Kent Friesen, Parsons
Site ID: Bldg. 252 (Gosselin Ave.)	Registration ID: 81533-39
Recommended Status of Site: Case Cla	osed (no change)
UST Probability (from May 2014 "Adden	dum 1 ECP UHOT Report"): <i>High</i>
Based on the file review, were there ind	ications of a contaminant release? [] Yes [X] No
NJDEP Release No. or DICAR (If applicab	le): <u>None</u>
Did NJDEP approve No Further Action (N	IFA) for this site? [] Yes [] No [X] Not Applicable
Tank Description: [] Steel [X] Fiberg	lass Size: 1000 gals. Contents: No. 2 Fuel Oil
[X] Residential [] Commercial/I	ndustrial
Tank Removed? [X] Yes [] No If "	yes," removal date: <u>12/9/1998</u>
Were closure soil samples taken? [X]Y	es [] No Analyses: <u>TPH</u>
Comparison criteria: 5,100 mg/kg Ti	<u>PH</u>
Were closure soil sample results less that	n comparison criteria?? [X]Yes []No
E	Brief Narrative
Monmouth Environmental Laboratory 252 soil sample results were non-determg/kg for TPH, which is the current re	e tank excavation in 1998 and analyzed by the Fort for total petroleum hydrocarbons (TPH). The Building ected (ND) for TPH. The results were less than 5,100 mediation criterion. Results were also less than 1,000 threshold criterion for additional required analyses. medial action was warranted.
removed from the vicinity just west of t	etch map indicate that an older 1000-gallon UST was he fiberglass tank on 4/26/1991. No additional records have been encountered; therefore the information is pelling case for additional sampling.
In conclusion, the analytical results supp fiberglass tank was removed, an earlier	oort the UST Case Status of "Case Closed." Although the steel UST could still be present.
Recommendations (if any): None	
Signed: Junt 11, Juntin	

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

1.	Method Detection Limits provided.	Indicate Yes, No, N/A
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).	<u>Yes</u>
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.	<u>NA</u>
6.	Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted.	<u> 105</u>
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	<u>yes</u>
Addit	ional comments:	
I aho:	ratory Manager Date	

Fort M

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

COST SOLD THE FERM OP (PEED # DETCEN) CLUB. Remarks / Preservation Method TOTAL SO WASTED TO BUILDINGS. Comments: Date/Time: Received by (signature): Received by (signature): <u>Σ</u> Ð Ž Date/Time: Analysis Parameters Relinquished by (signature): Relinquished by (signature): Remarks: Location: 39 GOSSELM Sample | 100L Type R から 198 Project No: 99 - COOP Hrs (440 14 NS なる 0541 86/60/21 Received by (signature): Received by (signature): Time Days, ()ASAP Verbal Report Type: ()Full, ()Reduced, (Standard, ()Screen / non-certified をあるころ Date DOF" ASH ASITA B HOPTH WALL Date/Time: A WEST WALL Sample Location Report Type: (_)Full, (_)Reduced, (<)Standard, |
Turnaround time: (_)Standard 4 wks, (_)Rush C FLOOR Samplers Name / Company: DERA (JOMA ()Other: Relinquished by (signature); Relinquished by (signature): Lab Sample I.D. Customer: Phone #: 4/2

Page / of /

coc.XLS12/3/98

EASTER TAY PRO DEASTER とからなるとはないと To FOUNDATION! めたご下ばとう TOTAL WALL 12/09/98 SEXINY-002-40° 110 END. るのか

000004

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

Client:

U.S. Army

Lab. ID#;

4127

DPW. SELFM-PW-EV

Date Rec'd:

09-Dec-98

Bldg. 173

Analysis Start:

10-Dec-98

Ft. Monmouth, NJ 07703

Analysis Complete:

Injection Volume

11-Dec-98

Analysis:

OQA-QAM-025

UST Reg. #:

Matrix:

Soil

Closure #:

Analyst:

D.DEINHARDT

DICAR#:

1 ul

Inst. ID.

GC TPHC INST. #1

Column ID

0.32 um

Column Type Ext. Meth:

RTX 5 Shake

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

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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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	_
Labo Date	oratory Manager or Environmental Consultant's Signature	

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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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"): <i>High</i>
Based on the file review, were there indication	ons of a contaminant release? [] Yes [X] No
NJDEP Release No. or DICAR (If applicable): _	<u>None</u>
Did NJDEP approve No Further Action (NFA)	for this site? [] Yes [] No [X] Not Applicable
Tank Description: [] Steel [X] Fiberglass	Size: 1000 gals. Contents: No. 2 Fuel Oil
[X] Residential [] Commercial/Indus	trial
Tank Removed? [X] Yes [] No If "yes,"	removal date: <u>11/2/1998</u>
Were closure soil samples taken? [X] Yes [] No Analyses: <u>TPH</u>
Comparison criteria: 5,100 mg/kg TPH	
Were closure soil sample results less than co	mparison criteria??[X]Yes []No
Brief	Narrative
were sampled as a single excavation. Soil sa 1998 and analyzed by the Fort Monmout hydrocarbons (TPH). The Building 253 soil 274 mg/kg for TPH. The results were less remediation criterion. Results were also le	each other, and both the 251 and 253 UST areas amples were collected from the tank excavation in the Environmental Laboratory for total petroleum sample results ranged from non-detected (ND) to than 5,100 mg/kg for TPH, which is the current ess than 1,000 mg/kg, which is the current NJDEP analyses. Therefore, no additional sampling or
In conclusion, the analytical results support t fiberglass tank was removed, an earlier steel	the UST Case Status of "Case Closed." Although the UST could still be present.
Recommendations (if any): None	
Signed: Junt M. Jinkin	

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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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

1.	Method Detection Limits provided.	Yes, No, N/A
2.	Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.	<u>00</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).	40
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. (If not met, list number of days exceeded for each sample).	yes yes
Add	itional comments:	
	11/24/98	
Labo	oratory Manager Date	

USTcoc.xls10/29/98

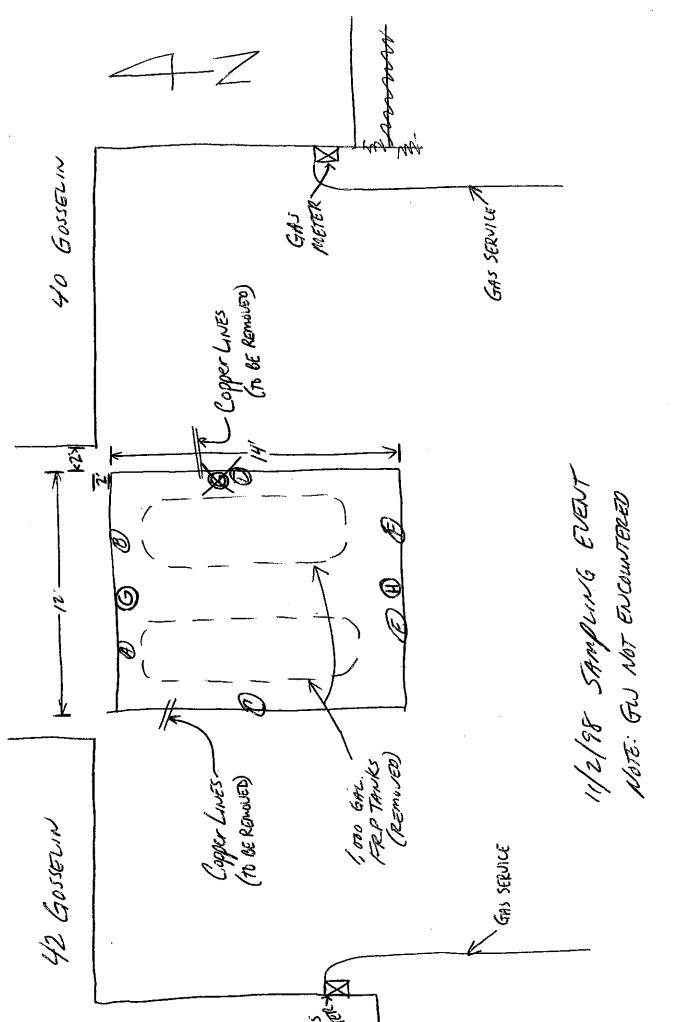
Fort Monmouth Environmental Testing Laboratory

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

A CALL	Mary Land				ŀ						Γ
Customer: Charles Appleby	Appleby	Project No:	98-0001	001			Analysi	Analysis Parameters		Comments:	-
Phone #: X26224		Location: 40	O 12 GUSSELT FATE	seur H	is	S				* = Samples Kept <4 Celsius	
()DERA (X)OMA UST Assessment	3T Assessment	UST#	(2-MUKS)	B	, -	ΓID	51+				_
Samplers Name / Co	Samplers Name / Company: Gary DiMartinis TVS	rtinis TVS	J ₂	ple	HC #		-AC		ΑV		
Lab Sample I.D.	Sample Location	Date	Time	Type bo	pottles			VOA ID Number	O	Remarks / Preservation Method	ष्ठ
10 /100/7	4-24.04	86-2-11	1338	Soil	X	X			3	SIDEWALESS' A	*
	8		148/						20		_
93	U		1348						\$		
20	Ø		1353						3		-
50	W		1041						3		
06	IL.		404						3	>	
16	9		1415	<u> </u>					2	EXC. FLOOR @ &S	
86	H		6/1/						ND		
60	DUP	->	1	>	-> ->	>			1	FIEW DUPLICATE	-
					-						
					-			,			T
Note; OVA	Note; OVA(#A5/1903) Calibrated With 95 ppm Methane & Zero Air @_	d With 95 p	ppm Metha	ane & Ze	ero Air	@ 13,	5	on 11-2-13		by Gary DiMartinis	
Religionation of higher	V	Received by (si	(signature):	P4	elinquist	Relinquished by (signature):	mature):	Date/Time: Re	ceived b	Received by (signature):	
m while	000181-7-18		14/1/1								T
Relifiquished by (signature):): Date/Time:	Beceived by (sh	(sfignature):	14	elinquist	Relinquished by (signature):	mature):	Date/Time: Re	ceived b	Received by (signature):	
Report Type: ()Full, &Reduced, ()Standard, ()Screen / non-certified	educed, (_)Standard, (_)Sorv	sen / non-certifi			Re	Remarks:		Dedicated	Sampli	Dedicated Sampling Tools Used	
I urnaround time: (_)Standa	ard 4 wks, Jukush Juay	S, DADAL V	STOM	á	-]



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

Client:

U.S. Army

Lab. ID#:

4021

DPW. SELFM-PW-EV

Date Rec'd:

02-Nov-98

Bldg. 173

Analysis Start:

03-Nov-98

Ft. Monmouth, NJ 07703

Analysis Complete:

04-Nov-98

Analysis:

OQA-QAM-025

UST Reg. #:

Matrix:

Analyst:

Soil

Closure #: DICAR #:

Inst. ID.

D.DEINHARDT GC TPHC INST. #1

Injection Volume

1 ul

Column Type

RTX 5

Column ID

0.32 um

Location #

40 42 Gosselin Ave.

Ext. Meth:	Shake			Location #:	40	,42 Gosselin A
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	1.90	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 <u>and</u> 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	_/_
3.	Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted	
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	
10.	Method Detection Limits submitted	
11.	Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	
Labo Date	oratory Manager or Environmental Consultant's Signature	

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

Laboratory Certification #13461

Laboratory Authentication Statement

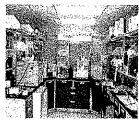
I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information 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)532-3484
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. &	Laboratory	Matrix	Date and Time	Date Received
Location	Sample ID#	1	Of Collection	
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

Daniel Wright/Date
Laboratory Director

ENCLOSURE: CHAIN OF CUSTODY RESULTS

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MS/MSD Results Summary	15
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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

1.	Method Detection Limits provided.	Indicate Yes, No, N/A <u>্বি</u>
2.	Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.	Yes
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).	yes
5.	IR Spectra submitted for standards, blanks and samples.	<u> AU</u>
6.	Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted.	yes
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	yes yes
Add	itional comments:	
Labo	oratory Manager Date	

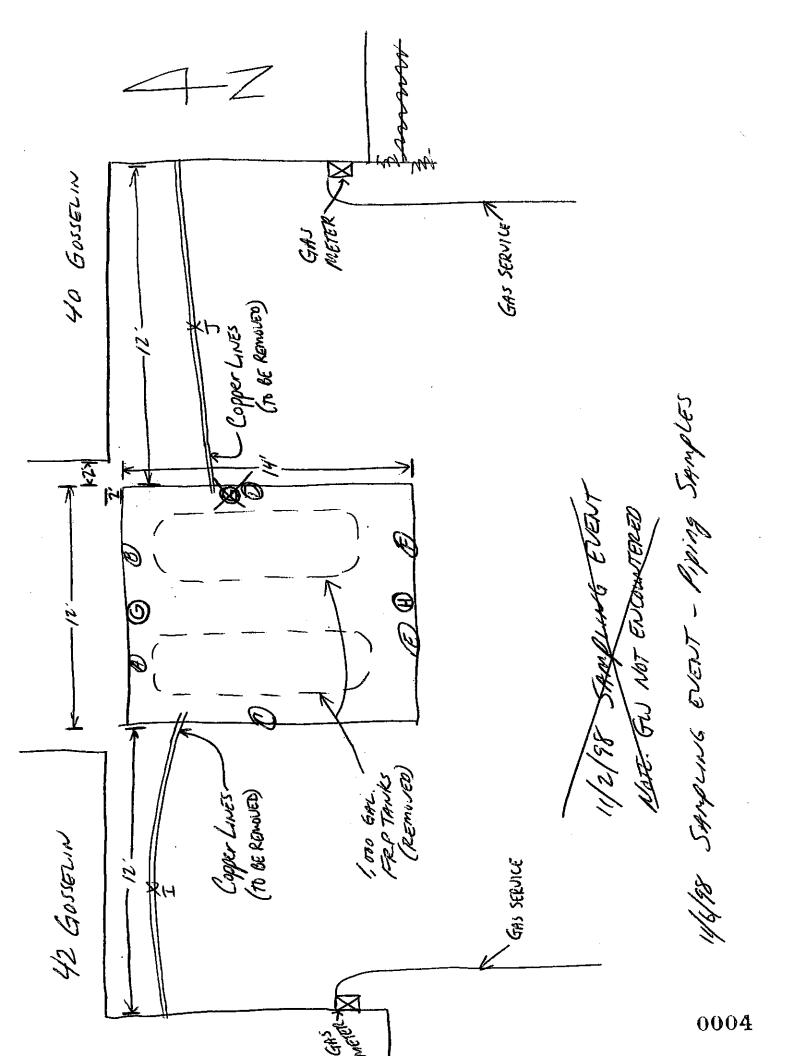
Fort Monmouth Environmental Testing Laboratory

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

1	a a					ŀ					
Custon	Customer: Charles Appleby	s Appleby	Project No:	86	98-0001	_		Analysis	Analysis Parameters		Comments:
Phone #	Phone #: X26224		Location:	OHZ GOSEUM AVE.	/ M735.	E E	SC	<u>, </u>			* = Samples Kept <4 Celsius
()DERA	(X)OMA	DERA (X)OMA UST Assessment	#ISO			; 		<u> </u>	٠		
Sample	ers Name/	Samplers Name / Company: Gary DiMartinis TVS	rtinis TVS		Sample	»HC	OS	-VC		ΑV	
Lab S	Lab Sample I.D.	Sample Location	Date	Time	Type b	battles			VOA ID Number		Remarks / Prese
780H	3 01	40.47.I	86-9-11	8760	Soil	Х -	X			শ্ব	Piping Kun Calo' *
/		h		1460						\$	70.
	83	Dup	->		<u>→</u>	→	>			1	FIELD DUPLICATE
										_	
						-					
					.**					_	
	Note: O	, Note: OVA(#A51903) Calibrated With 95 ppm Methane & Zero Air @	d With 95 p	opm Meth	ane & Z	ero Air	(<i>O</i>)	0/0	-9-// uo		by Gary DiMartinis
Religion	aned by (significate);	Date/Time:	Received by (signature):	(signature):	7	Relinquished by (signature):	sed by (sig	mature):	Date/Time.	Received b	Received by (signature):
Relinqui	Relinduished by (signature):		Received by (segnature):	(signature):		Relinquished by (signature):	ned by (sig	mature):	Date/Time:	Received b	Received by (signature):
COOReport Ty	ype: ()Full, (e	Report Type: ()Full, (LReduced, ()Standard, ()Screen / non-certified () Turnaround time: (LRandard 4 wks, ()Rush Days, ()ASAP Verb)Screen / non-certified Days, (_)ASAP Verbal	ਫ਼ੂ	E E	Re	Remarks:		Dedicate	d Sampl	Dedicated Sampling Tools Used



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

Client:

U.S. Army

Lab. ID#:

4033

DPW. SELFM-PW-EV

Date Rec'd:

06-Nov-98

Bldg. 173

Analysis Start:

09-Nov-98

Ft. Monmouth, NJ 07703

Analysis Complete:

10-Nov-98

Analysis:

OQA-QAM-025

UST Reg. #:

Matrix:

Soil

Closure #:

Analyst:

D.DEINHARDT

DICAR #:

Inst. ID.

GC TPHC INST. #1

Injection Volume

1 ul 0.32 um

Column Type

RTX 5

Column ID

Ext. Meth:	Shake			Location #:	40	,42 Gosselin Av
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
• •						
			1			
	<u> </u>		<u> </u>			
			 	<u> </u>		
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 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 <u>and</u> 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	<u>/</u>
	oratory Manager or Environmental Consultant's Signature)

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 15, 2014	Review Performed By: Kent Friesen, Parsons
Site ID: Bldg. 254 (Gosselin Ave.)	Registration ID: 81533-41
Recommended Status of Site: Case Close	ed (no change)
UST Probability (from May 2014 "Addendur	m 1 ECP UHOT Report"): <i>High</i>
Based on the file review, were there indicate	tions of a contaminant release? [] Yes [X] No
NJDEP Release No. or DICAR (If applicable):	<u>None</u>
Did NJDEP approve No Further Action (NFA) for this site? [] Yes [] No [X] Not Applicable
Tank Description: [] Steel [X] Fiberglass	s Size: 1000 gals. Contents: No. 2 Fuel Oil
[X] Residential [] Commercial/Indu	ustrial
Tank Removed? [X] Yes [] No If "yes	," removal date: <u>11/20/1998</u>
Were closure soil samples taken? [X] Yes	[] No Analyses: <u>TPH</u>
Comparison criteria:5,100 mg/kg TPH	
Were closure soil sample results less than c	omparison criteria? ? [X] Yes [] No
Brie	ef Narrative
were sampled as a single excavation. Soil 1998 and analyzed by the Fort Monmounthydrocarbons (TPH). The soil sample result TPH. The results were less than 5,100 criterion. Results were also less than 1,	to each other, and both the 254 and 256 UST areas samples were collected from the tank excavation in uth Environmental Laboratory for total petroleum its ranged from non-detected (ND) to 204 mg/kg for mg/kg for TPH, which is the current remediation 000 mg/kg, which is the current NJDEP threshold Therefore, no additional sampling or remedial action
In conclusion, the analytical results support fiberglass tank was removed, an earlier stee	the UST Case Status of "Case Closed." Although the el UST could still be present.
Recommendations (if any): None	
Signed: Wind U. Timbin	

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

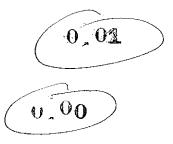
Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
A	4078,01	Soil	20-Nov-98 14:45	11/20/98
Duplicate	4078.02	Soil	20-Nov-98 14:50	11/20/98
В	4078,03	Soil	20-Nov-98 14:55	11/20/98
C	4078.04	Soil	20-Nov-98 15:00	11/20/98
D	4078.05	Soil	20-Nov-98 15:05	11/20/98

ANALYSIS: FORT MONMOUTH ENVIRONMENTAL LAB. TPHC, %SOLIDS

Daniel Wright/Date
Laboratory Director

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MS/MSD Results Summary	11
Quality Control Spike Summary	12
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Laboratory Authentication Statement	42



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

1.	Method Detection Limits provided.	Indicate Yes, No, N/A
2.	Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.	yes
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>405</u>
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. (If not met, list number of days exceeded for each sample).	400
Addi	itional comments:	
Labo	oratory Manager Date	

coc.XLS11/19/98

Fort Monmouth Environmental Testing Laboratory

Bidg. 173, SELFM-PW-EV, Fort Mommouth, NJ 07703

Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

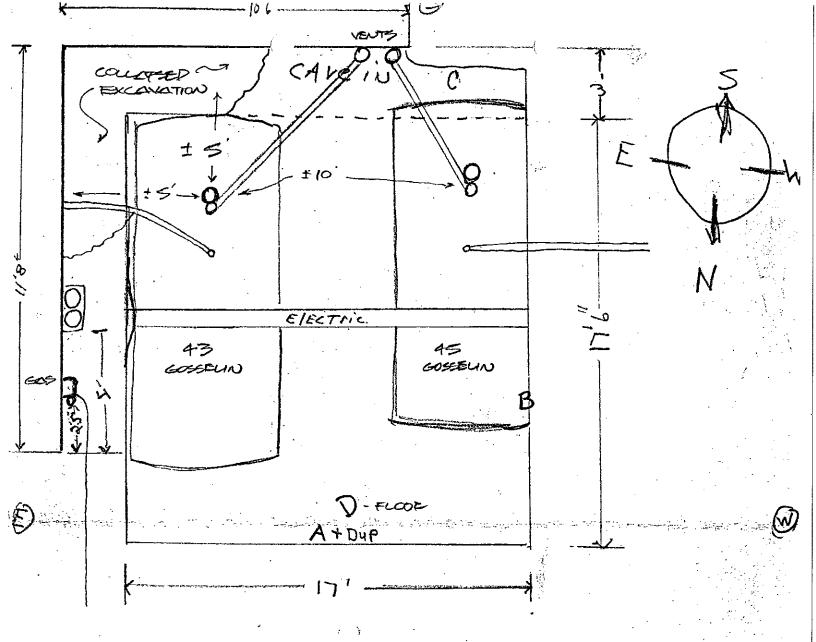
Chain of Custody Record

NJDEP Certification #13461

AS (VITA / BOTTOMS 当下をはして、NOKHも6 EAST SAID- AS Remarks / Preservation Method EXCANATION PRABILITY 10 | 20からない、これがアック/ のできるとしたないる Place 0 7.5-8 TOS AS OF THA CHAVELL Comments: Date/Time: | Received by (signature): Date/Time: | Received by (signature): 212 SP **Analysis Parameters** Relinquished by (signature): Relinquished by (signature): Remarks: bottles Sample Type <u>\$</u> Ŗ <u>8</u> <u>88</u> <u>86</u> 7 Customer: CHAPLES APPLEY Project No. 39-0008 SCHWOOD S 11/20/38 1505 150 Location: 45 \$ 45 £38 (1/80/88) (44h) SX 88 30/2 Time Received by (signature): Received by (signature): イング Turnaround time: WStandard 4 wks, ()Rush Days, ()ASAP Verbal Report Type: ()Full, (XReduced, ()Standard, ()Screen / non-certified 86/82/ii 8/22/3 Date Samplers Name / Company: Gath Line 10 1/20/20 (1/240) Date/Time: Date/Time: Sample Location DOUGHE ()DERA (VOMA ()Other: \emptyset Phone #: 26224 Relinquished by (signature) Relinquished by (signature): an Sand Lab Sample I.D.

Page of

0003



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 concluit spans a cross center of excavation Running EAST TO West

- IN ONE EXCAVATION ...
- . FEED + RETURN LINES NOT CONNECTED AT EITHER TANK

Report of Analysis U. & .rmy, Fort Monmouth Environmental Labor ay NJDEP Certification # 13461

Client:

U.S. Army

Lab. ID#:

4078

DPW. SELFM-PW-EV

Date Rec'd:

20-Nov-98

Bldg. 173

Analysis Start:

24-Nov-98

Ft. Monmouth, NJ 07703

Analysis Complete:

25-Nov-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 #:

43 & 45 Gosselin Ave.

LAL MELII.	Ollake			LOCALION #.	40.	x 40 Gosseiiii F
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	В	1.00	15.40	90.61	168	181.12
4078.04	С	1.00	15.45	85.31	178	204.43
4078.05	D	1.00	15.83	83.02	179	ND
						
			3 - 1 - 1			
METHOD BLANK	TBLK 191	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright

Laboratory Director

0005

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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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 <u>and</u> 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	<u> </u>
11.	Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	<u>/</u>
	oratory Manager or Environmental Consultant's Signature	

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

'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. &	Laboratory	Matrix	Date and Time	Date Received
Location	Sample ID#		Of Collection	
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

Daniel Wright/Date
Laboratory Director

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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 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

1.	Method Detection Limits provided.		Yes, No, N/A
2.	Method Blank Contamination – If yes, corresponding concentrations in each t		_No_
3.	Matrix Spike Results Summary Meet (If not met, list the sample and corresp falls outside the acceptable range).		Yes
4.	Duplicate Results Summary Meet Crite (If not met, list the sample and corresp falls outside the acceptable range).		Yes
5.	IR Spectra submitted for standards, bla	nks and samples.	NA
6.	Chromatograms submitted for standard if GC fingerprinting was conducted.	ls, blanks and samples	yes
7.	Analysis holding time met. (If not met, list number of days exceed	ed for each sample).	yes yes
Addi	tional comments:		
(12-18-9-8	
Labo	ratory Manager	Date	

Fort Monmouth Environmental Testing Laboratory

Bidg. 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	Appleby	Project No:	88	98-0001		:	An	Analysis Parameters		Comments:	
Phone #: X26224		Location:	00-00 000-00 000-000	の そ そ そ り り り り り り り り り り り り り り り り		2				* = Samples Kept <4 Celsius	us
()DERA (X)OMA UST Assessment	T Assessment	UST#	MANG	EUN	· ·	LID					
Samplers Name / Co	Samplers Name / Company: Gary Lamello TVS	tlo TVS		Sample #		HC	+ ∀ (V/		
Lab Sample I.D.	Sample Location	Date	Time	Type bottles			-	VOA ID Number	Ι	Remarks / Preservation Method	thod
4115. Ol	A-16 FEOM WORL & 12"	12/07/28	5160	1 7105	?	X	WAY.	W/W	ムマ	PERSONAL VERTICAL OF	
1 69 K	B-7 FEDRINAL S 18"	12/07/28	0560	1105	7	X	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	d'in	AZ Z	1000	
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					_			de fellement is de l'amount in de ferrence de l'amount			
							-				
											
						-					
					_						
Note: OVA(Note: OVA(#A51903) Calibrated With 95 ppm Methane & Zero Air @	d With 95 p	pm Meth	ane & Zel	o Air	8		no	4	by Gary DiMartinis	
Relinquished by (signature);	Date/Time: (2/07/98 1030	Received by (signature):	signature): AAAAA	Re Be	linquis	Relinquished by (signature):	signatur	e): Date/Time:	- 1	Received by (signature):	
Relinquished by (signature):	: Date/Fime:	Received by (signature):	signature):	Re	linquis	Relinquished by (signature):	signatur	e); Date/Time:	- 1	Received by (signature):	
Report Type: ()Full, ()Reduced, XStandard, ()Screen / non-certified Turnaround time: (XStandard 4 wks, ()Rush Days, ()ASAP Verbal	duced, XStandard, ()Scre d 4 wks, ()Rush Day	en / non-certifi 's, ()ASAP Ve	ed rbal Hrs.	γŝ	Re	Remarks:		Dedica	ted Sampl	Dedicated Sampling Tools Used	

000003

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

Client:

U.S. Army

Lab. ID#:

4115

DPW. SELFM-PW-EV

Date Rec'd:

07-Dec-98

Bidg. 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

TPHC Result Dilution Sample Field ID Weight (g) % Solid MDL (mg/kg) Factor (mg/kg) A-16' from wall 167 4115.01 1.00 15.14 93.14 ND 170 ND B-7' from wall 1.00 15.17 91.14 4115.02 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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9.	Results submitted on a dry weight basis	
10.	Method Detection Limits submitted	
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	oratory Manager or Environmental Consultant's Signature	

Laboratory Certification #13461

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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. 25	55 (Gosselin Ave.)	Registration ID:	81533-42
Recommended S	Status of Site: <i>Case Close</i>	ed (no change)	
UST Probability (from May 2014 "Addendu	m 1 ECP UHOT Report"	: High
Based on the file	review, were there indicate	tions of a contaminant	release? [] Yes [X] No
NJDEP Release N	lo. or DICAR (If applicable):	<u>None</u>	
Did NJDEP appro	ove No Further Action (NFA) for this site? [] Yes	[] No [X] Not Applicable
Tank Description	: [] Steel [X] Fiberglas	s Size: <u>1000 gals.</u>	Contents: No. 2 Fuel Oil
[X] Residential	[] Commercial/Indu	ustrial	
Tank Removed?	[X]Yes [] No If "yes	s," removal date: <u>10</u>)/28/1998
Were closure so	il samples taken? [X] Yes	[] No Analyse	es: <u>TPH</u>
Comparison crite	eria: <u>5,100 mg/kg TPH</u>		
Were closure so	il sample results less than o	comparison criteria??	[X]Yes []No
	Brid	ef Narrative	
Monmouth Enviresults ranged fr mg/kg for TPH, mg/kg, which i	ronmental Laboratory for to from non-detected (ND) to a which is the current reme	otal petroleum hydroca 228 mg/kg for TPH. Th diation criterion. Resu eshold criterion for a	8 and analyzed by the Fort arbons (TPH). The soil sample e results were less than 5,100 alts were also less than 1,000 additional required analyses.
	e analytical results support as removed, an earlier ste		f "Case Closed." Although the sent.
Recommendatio	ns (if any): <u>None</u>		<u>-</u>
Signed:	Wind M. Jimin 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

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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MS/MSD Results Summary	18
Blank Spike Summary	19
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Laboratory Deliverable Checklist	40
Laboratory Authentication Statement	41

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.

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

PHC Conformance/Non-conformance Summary Report

Yes, No, N/A
he <u>No</u>
ch Yes
ch Yes
<u>NA</u>
s <u>yes</u>
<u>465</u> <u>465</u> -
_ _ _
·

USTcoc.xls10/6/98

Lessing Laboratory

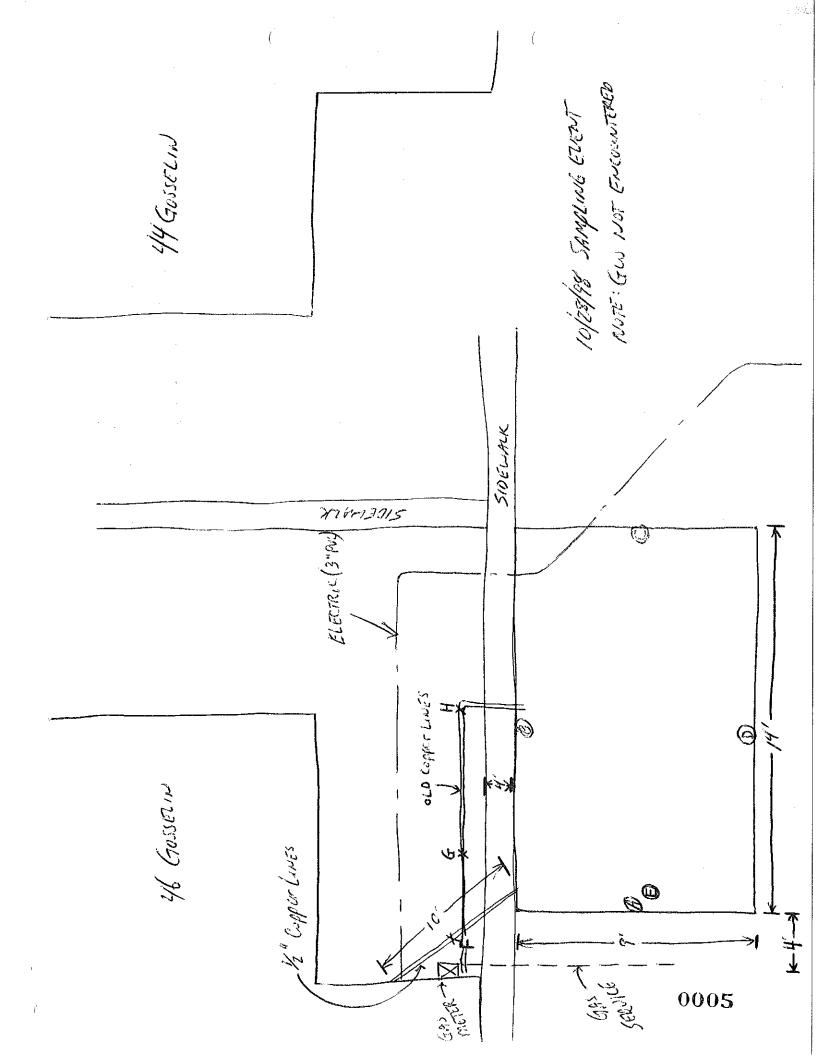
Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

Chain of Custody Record

NJDEP Certification #13461

Sample Constitut Costs		Customer: Charles Appleby	s Appleby	Project No:		98-0001	<u></u>		Ana	lysis Pa	Analysis Parameters		 	Comments:	
Sample # H	x # 2	26224		Location: 5		ELIV 12	رن	•در					il *	* Samples Kept <4 Celsiu	ωņ
Sample # H) ≴	X JOMA L	JST Assessment	UST#											
Time Type bottless Fl. & Scott Number Scott Number Scott Number Scott Number Scott Number Scott Number Scott Number Numb	plers	Name / (Company: Gary DiMa	artinis TVS		Sample	l					▼1	W/		
32.7 Soy 1 X ND Sign Luty & S.5.7 34 35 35 35 35 35 35 37 37 37 37 37 37 37	Sam	ple I.D.	Sample Location	Date	Time	Type b				ΛΟ,	A ID Numl			emarks / Preservation Meti	pot
331	711'0h	10	4.34	83-82-01	1327	7:05	,	$\stackrel{X}{\searrow}$				N		ME WALL @ 5.5'	*
347		83	В		1331				,			3		And the latest and th	<u> </u>
1923		B3	7		1341							3.	8		
My MO MO MO MO MO MO MO MO MO MO MO MO MO		04	Q		1323							3	Q,	->	
m Methane & Zero Air @ /300 on /0-23-88 mature): Relinquished by (signature): Relinquished by (signature): Remarks: Date/Time: Received and Sare a		DJ	. <i>3</i>		1354							3	20	C. FLOOR @ 8.5'	
m Methane & Zero Air @ /300 on /0-23-78/ gnature): Relinquished by (signature): Date/Time: Receiv Remarks: Dedicated Sar		06	Т		1319							13	2	oirs Rus @10	
m Methane & Zero Air @ /300 on /0-23-78 by (signature): Relinquished by (signature): Date/Time: Received by (signature): Relinquished by (signature): Relinquished by (signature): Date/Time: Received by (signature): Remarks: Date/Time: Received by (signature): Remarks: Date/Time: Received by (signature):		62	Ģ		4/4/							13	2	0	
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m Methane & Zero Air @ /300 on /0.23-98 gnature): Relinquished by (signature): Date/Time: Received for Mo. 23-98-98 Received Relinquished by (signature): Date/Time: Received Remarks: Date/Time: Received									-						
m Methane & Zero Air @ /300 on 10-13-18-18- gnature): Relinquished by (signature): Date/Time: Received finature): Relinquished by (signature): Date/Time: Received Remarks: Date/Time: Received													:		
gnature): Relinquished by (signature): Relinquished by (signature): Relinquished by (signature): Remarks:	_	Vote: OV	A(#A51903) Calibrate	d With 95 p	opm Meth	ane & Z	ero Air	(a)	1300	ا ا	10-28		by Ga	ary DiMartinis	,411
gnature): Relinquished by (signature): Da Remarks: al Hrs.	ished of	1 May her	Date/Time:	Received by ((signature): UNNI)	Relinquis	shed by (signature		Date/Time:	Received 1	by (sign	nature):	
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	Type:	: ()Full, (L) time: ()Stand	Reduced, ()Standard, ()Scre lard 4 wks, (e)Rush 3 Day	een / non-certifi	ıal	rs.	쬬	emarks:			Dedicate	ed Sampl	ling T	ools Used	
							-								



Report of Analysis U.S. rmy, Fort Monmouth Environmental Laborary NJDEP Certification # 13461

Client:

U.S. Army

Lab. ID#:

4011

DPW. SELFM-PW-EV

Date Rec'd:

28-Oct-98

Bldg. 173

Analysis Start:

29-Oct-98

Ft. Monmouth, NJ 07703

Analysis Complete:

30-Oct-98

Analysis:

OQA-QAM-025

UST Reg. #:

Matrix:

Soil

Closure #:

Analyst:

D.DEINHARDT

DICAR#:

1 ul

Inst. ID.

GC TPHC INST. #1

Injection Volume Column ID

0.32 um

Column Type

RTX 5

Ext. Meth:	Shake			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

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9.	Results submitted on a dry weight basis	
10.	Method Detection Limits submitted	
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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 Close	ed (no change)
UST Probability (from May 2014 "Addendu	m 1 ECP UHOT Report"): <i>High</i>
Based on the file review, were there indica	tions of a contaminant release? [] Yes [X] No
NJDEP Release No. or DICAR (If applicable):	None
Did NJDEP approve No Further Action (NFA) for this site? [] Yes [] No [X] Not Applicable
Tank Description: [] Steel [X] Fiberglas	s Size: 1000 gals. Contents: No. 2 Fuel Oil
[X] Residential [] Commercial/Inde	ustrial
Tank Removed? [X]Yes [] No If "yes	s," removal date: <u>11/20/1998</u>
Were closure soil samples taken? [${\sf X}$] Yes	[] No Analyses: <u>TPH</u>
Comparison criteria:5,100 mg/kg TPH	
Were closure soil sample results less than o	comparison criteria? ? [X] Yes [] No
Brid	ef Narrative
were sampled as a single excavation. The pipeline extended about 20 ft to the west from the tank excavation in 1998 and Laboratory for total petroleum hydrocarbod detected (ND) to 204 mg/kg for TPH. The the current remediation criterion. Results	to each other, and both the 254 and 256 UST areas nese two tanks were located near Bldg. 254, and at for Bldg. 256 service. Soil samples were collected analyzed by the Fort Monmouth Environmental ons (TPH). The soil sample results ranged from non-results were less than 5,100 mg/kg for TPH, which is were also less than 1,000 mg/kg, which is the current equired analyses. Therefore, no additional sampling
In conclusion, the analytical results supporting fiberglass tank was removed, an earlier ste	t the UST Case Status of "Case Closed." Although the el UST could still be present.
Recommendations (if any): None	
Signed: Link U. Tomain	

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
В	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

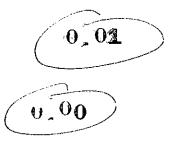
ANALYSIS: FORT MONMOUTH ENVIRONMENTAL LAB. TPHC, %SOLIDS

> Daniel Wright/Date Laboratory Director

11/30/98

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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



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

1.	Method Detection Limits provided.	Indicate Yes, No, N/A
2.	Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.	UES
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>405</u>
5.	IR Spectra submitted for standards, blanks and samples.	ACI
6.	Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted.	405
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	yes
Addi	itional comments:	
Labo	oratory Manager Date	

Fort Monmouth Environmental Testing Laboratory

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

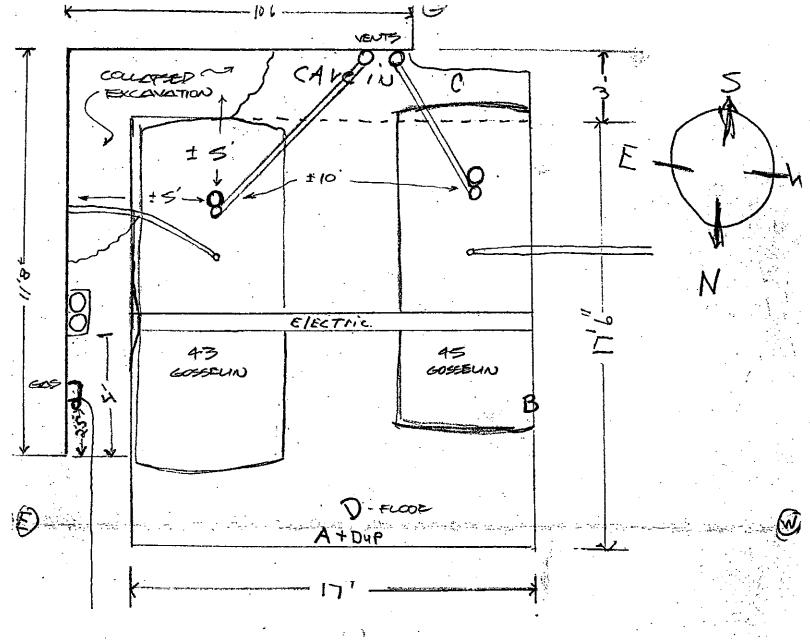
Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

Chain of Custody Record

NJDEP Certification #13461

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Deray Formary Cacey Lower Lo		Phone #:		4	Location: <	九十九	lγ								d d	<u> </u>
Sample ID. Sample Location Date Time Type bottes	<u> </u>)DERA	(YOMA ()Other:	∀	3055E	3		7 }-					77		HAVEL -
Lab Sample I.D. Sample Location Date Time Type bottes Type	لثنا	Samplers	Name / Co	mpany: Gadey Lawe	_/	50	Sample		IJ.					7\(ALION HIGHTON
HE 16 16 16 16 16 16 16 1		Lab San	nple I.D.	Sample Location	ŀ	Time	Type	bottles	1					<i>ر</i>		Preservation Method
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				v.	<i>86/02/11</i>	(455	2017							3/N		L-WESTOR
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	000	eport Type	:: ()Full, & time: (MStar	Reduced, ()Standard, ()Screidard 4 wks, ()Rush Days	en / non-certifi i, ()ASAP Ve	교	છું		Remarks:							

age / of /



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 a cross center of excavation Running EAST TO West

- 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

Lab. ID#:

4078

DPW. SELFM-PW-EV

Date Rec'd:

20-Nov-98

Bldg. 173

Analysis Start:

24-Nov-98

Ft. Monmouth, NJ 07703

Allaysis Clart.

Analysis Complete:

25-Nov-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 #:

43 & 45 Gosselin Ave.

EXt. Meth:	Silake			LUCACION #.	45	d 40 Gosseilli F
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	В	1.00	15.40	90.61	168	181.12
4078.04	С	1.00	15.45	85.31	178	204.43
4078.05	D	1.00	15.83	83.02	. 179	ND
-						
			2.20			
			1 11			
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

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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 <u>and</u> 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	<u>/</u>
	oratory Manager or Environmental Consultant's Signature)

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

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

Daniel Wright/Date
Laboratory Director

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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 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

1.	Method Detection Limits provided.		Indicate Yes, No, N/A <u>Yes</u>
2.	Method Blank Contamination – If yes, I corresponding concentrations in each bl		<u>No</u> _
3.	Matrix Spike Results Summary Meet C (If not met, list the sample and corresponding soutside the acceptable range).		yes
4.	Duplicate Results Summary Meet Crite (If not met, list the sample and corresponding falls outside the acceptable range).		162
5.	IR Spectra submitted for standards, blan	nks and samples.	NA
6.	Chromatograms submitted for standards if GC fingerprinting was conducted.	s, blanks and samples	yes
7.	Analysis holding time met. (If not met, list number of days exceeded	ed for each sample).	yes yes
Add	itional comments:		
(12-18-98	
Labo	oratory Manager	Date	

Fort Monmouth Environmental Testing Laboratory

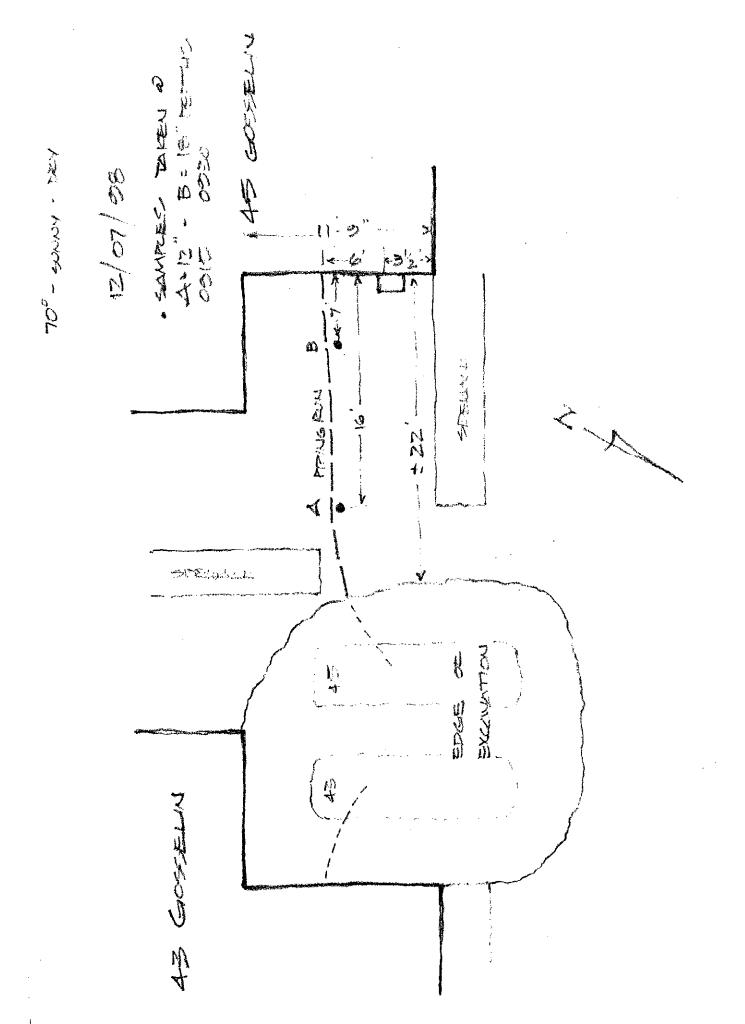
Bidg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

Customer: Charles Appleby	s Appleby	Project No:	8	98-0001			Ana	Analysis Parameters		Comments:
Phone #: X26224		Location:	00-00 00-00 00-00-00-00-00-00-00-00-00-0	g Z Z Z		S				* = Samples Kept <4 Celsius
()DERA (X)OMA UST Assessment	UST Assessment	UST#	SPAG "	₹ 05	, 					
Samplers Name /	Samplers Name / Company: Gary Iamello TVS	lo TVS		Sample #)H	OS	- ∀(V	
Lab Sample I.D.	Sample Location	Date	Time	Type bottles				VOA ID Number		Remarks / Preservation Method
4115. Ol	A-16 FEED WOLL OF 18"	12/07/20	5160	1 7105	7	X	NAW Y	ダイヤ	2	FEED RETURN &
687	B-7 FROMWAL & 10"	86/10/21	0560	sour i	7	× ×	7/v 3	4/14	ΔV	CAUSE CIVIES
		-				<i></i>	.			Д
										TO 8006
										±70° ××-
										1000x
	A STATE OF THE STA									
Note: O	Note: OVA(#A51903) Calibrated With 95 ppm Methane & Zero Air @	d With 95 p	opm Metha	ane & Zei	o Air	0		no	à	by Gary DiMartinis
Relinquished by (signature);	me); Date/Time:	Received by (signature)	(signature):	Re Be	linquisl	Relinquished by (signature):	ignature): Date/Time:	Received by	Received by (signature):
Relinquished by (signature):	ие): Date/Time:	Received by (signature):	(signature):	Re	linquis	Relinquished by (signature):	ignature): Date/Time:	Received by	Received by (signature):
Report Type: ()Full, ()Reduced, KStandar Turnaround time: (MStandard 4 wks, ()Rush	Report Type: (_)Full, (_)Reduced, \(\inftit{X}\)Standard, (_)Screen / non-certified Turnaround time: (_)\(Standard 4 wks, (_)Rush Days, (_)ASAP Verb	rd, (_)Screen / non-certified 	ed rrbal Hrs.	ri.	Re	Remarks:		Dedicat	ed Sampli	Dedicated Sampling Tools Used



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

Client:

U.S. Army

Lab. ID#:

4115

DPW. SELFM-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 0.32 um

Column Type

Ext. Meth:

RTX 5 Shake Column ID
Location #:

45 Gosselin

Pipina 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

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 <u>and</u> 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	<u></u>
Labo Date	oratory Manager or Environmental Consultant's Signature	

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

Laboratory Certification #13461

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	· 15, 2014	Review Performed By	: Kent Friesen, Parsons
Site ID: Bldg. 25	58 (Gosselin Ave.)	Registration ID:	81533-44
Recommended S	Status of Site: Case Clos	ed (no change)	
UST Probability (from May 2014 "Addendu	ım 1 ECP UHOT Report"): High
Based on the file	e review, were there indica	ations of a contaminant	release? [] Yes [X] No
NJDEP Release N	lo. or DICAR (If applicable)	: <u>None</u>	
Did NJDEP appro	ove No Further Action (NFA	A) for this site? [] Yes	[] No [X] Not Applicable
Tank Description	n:[]Steel[X]Fiberglas	ss Size: <u>1000 gals.</u>	Contents: No. 2 Fuel Oil
[X] Residential	[] Commercial/Ind	lustrial	
Tank Removed?	[X]Yes[] No If "ye	s," removal date: <u>12</u>	2/8/1998
Were closure so	il samples taken?[X]Yes	[] No Analyse	es: <u>TPH</u>
Comparison crite	eria: <u>5,100 mg/kg TPH</u>	·	
Were closure so	il sample results less than	comparison criteria??	[X]Yes []No
	Bri	ief Narrative	
Monmouth Environments were nor is the current recurrent NJDEP t	ronmental Laboratory for n-detected (ND) for TPH. 1 emediation criterion. Re:	total petroleum hydroc The results were less tha sults were also less tha ditional required analys	8 and analyzed by the Fort arbons (TPH). The soil sample on 5,100 mg/kg for TPH, which an 1,000 mg/kg, which is the ses. Therefore, no additional
	e analytical results suppor as removed, an earlier ste		f "Case Closed." Although the sent.
Recommendatio	ns (if any): <u>None</u>		_
Signed:	Wind M. Johnsons 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	Soi1	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

1.	Method Detection Limits provided.	Yes, No, N/A
2.	Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.	<u>00</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).	yes
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.	yes
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	yes Yes
Add	itional comments:	
	12-18-96 Date	
I obc	retory Manager / Jare	

coc12/3/98

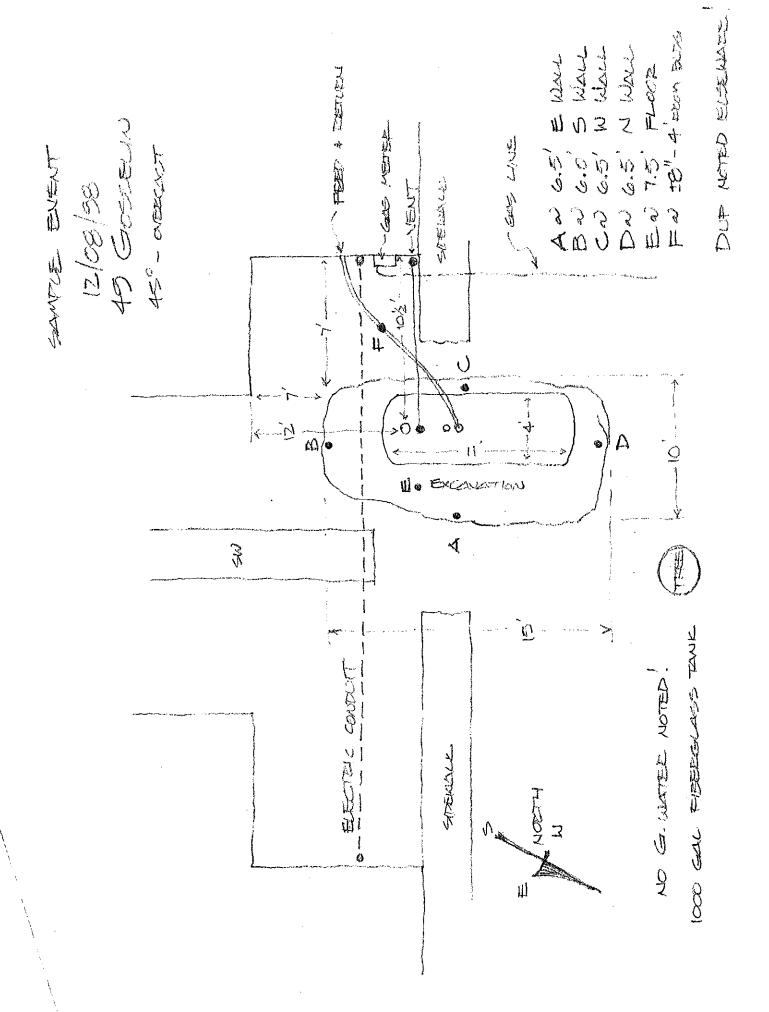
Fort Monmouth Environmental Testing Laboratory

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

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Lab Sample I.D.	Sample Location	Date	Time	Type bottles	<u> </u>	1		0	Remarks / Preservation Method
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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

Diag. ...

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 ui

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

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 <u>and</u> 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	<i></i>
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	
Lab Dat	oratory Manager or Environmental Consultant's Signature	

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