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

8 September 2017

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

Re: Letter Work Plan for Parcel 98 Building 787, 788 and 789 Area, Fort Monmouth, New Jersey
PI G000000032

Dear Mr. Joshi:

The Fort Monmouth (FTMM) Team has provided this work plan to summarize the results of historical and recent soil sampling at Parcel 98, and to propose additional soil sampling to fulfill data needs.

Parcel 98 Background

Parcel 98 is part of the 700 area (along with ECP Parcel 53 and the southern portion of Parcel 51) and includes Buildings 787, 788, and 789. The buildings are currently unoccupied but were used for civilian personnel office space and training prior to FTMM closure in 2011. Extensive soil borings and full-suite analyses were conducted in the Parcels 53 and 98 areas as part of the Army's Residential Communities Initiatives (RCI) and Enhanced Use Leasing (EUL) programs within the 700 Area of Main Post (Tetra Tech, 2005). Parcel 98, a triangular shaped parcel, was designated in 2015. It is located in the southwestern portion of the Main Post bounded by Tiros Avenue to the west, Nicodemus Avenue to the south and east, and Parcel 51 to the north (Figure 1). The general soil profile at Parcel 98 consists of a layer of top soil overlaying orange-brown, medium to fine sands to eight feet bgs. A clay lens was identified in several borings from approximately 2 to 6 feet bgs (Tetra Tech, 2005).

Soil samples collected during the 2005 investigation identified the polychlorinated biphenyl (PCB) Aroclor-1260 in shallow soils above the New Jersey Department of Environmental Protection (NJDEP) Residential Direct Contact Soil Remediation Standard (RDCSRS) of 0.2 mg/kg at three sample locations (B44, B46, and B49).

A No Further Action (NFA) determination based on compliance averaging of the 2005 results was initially requested for the 700 Area, including the area now designated as Parcel 98 (Department of the Army, 2015). The NJDEP (2015) rejected the NFA request and required that all

exceedances above the RDCSRS be delineated and addressed. Regulatory and Army correspondence associated with Parcel 98 are provided in **Attachment A.**

Additional sampling was completed at Parcel 98 to satisfy the requirement for delineation of exceedances, as reported below.

Recent Investigation Results

A 2016 field investigation was conducted at Parcel 98 to delineate the PCB Aroclor-1260 in surface and subsurface soil within Parcel 98. Parcel 98 was designated as an environmental carve-out that required additional evaluation in the Phase 2 Finding of Suitability of Transfer (FOST) and associated ECP Report Update (Calibre Systems, 2016). Excerpts of correspondence and previous documentation concerning Parcel 98 are provided in Attachment A.

Soil samples were collected in April 2016 from 6 locations (PAR-98-SS-01 through PAR-98-SS-06) at Parcel 98 to delineate PCBs in shallow soil. Samples were collected from 0 to 6 inches (0 to 0.5 feet below ground surface [bgs]), 18 to 24 inches (1.5 to 2 feet bgs), and 30 to 36 inches (2.5 to 3 feet bgs) from borings PAR-98-SS-01 through PAR-98-SS-06 (Figure 2). Confirmation samples PAR-98-SS-01 and PAR-98-SS-03 were collected from the same locations (B44 and B46, respectively) where exceedances of the RDCSRS for PCBs were encountered in the 2005 sampling. Field notes and soil boring logs from this SI Addendum are provided in Attachment B and Attachment C. The samples were analyzed for PCBs (Aroclor-1260 only) by ALS Environmental (ALS) (Attachment D). Aroclor-1260 was not detected in any of the soil samples at concentrations exceeding the RDCSRS, NRDCSRS or NJDEP Impact to Ground Water Soil Screening Levels (SSLs) (Table 1). The deeper samples (2.5 to 3 feet bgs) were submitted on hold to the laboratory, but were not analyzed because there were no exceedances of the overlying sample intervals.

Proposed Sampling at Parcel 98

Soil represented by sample B49 was excavated to a depth of 1.5 feet bgs and removed during the 2005 RCI project due to exceedances of the Nonresidential Direct Contact Soil Remediation Standard (NRDCSRS) for polycyclic aromatic hydrocarbons (PAHs) in soil at that location. However, there has been no post excavation sampling performed to provide vertical PCB delineation at B49. Therefore, one primary Geoprobe boring (PAR-98-SB-07) will be installed for vertical delineation of PCBs at the previous location of Boring 49 (**Figure 3**). Analysis of soil samples for PCBs (specifically Aroclor 1260) is proposed, and the results of this sampling will be presented in a letter report.

The Geoprobe boring will be advanced to assess current concentrations and vertical extent of PCBs above and below the previous excavation. Three soil samples will be collected at 0 to 6 inches (0 to 0.5 feet), 18 to 24 inches (1.5 to 2 feet), and 30 to 36 inches (2.5 to 3 feet bgs). The deeper sample (2.5 to 3 feet bgs) will be submitted on hold to the laboratory pending analysis of the overlying sample intervals.

Thank you for reviewing this work plan. We look forward to your comments and approval prior to implementing this plan (currently scheduled to begin on 2 October 2017). Our technical Point of Contact is Kent Friesen who you may contact directly at (732) 383-7201; kent.friesen@parsons.com. I can be reached at (732) 380-7064; william.r.colvin18.civ@mail.mil.

Sincerely,

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

Figures:

Figure 1 Parcel 98 Location
Figure 2 Parcel 98 Sampling Locations and PCB Exceedances
Figure 3 Parcel 98 Proposed Sampling Locations

Tables:

Table 1 – 2016 Parcel 98 Soil Sampling Results – Comparison to NJDEP Soil Remediation Standards
Table 2 – Summary of Proposed Sampling for Parcel 98

Attachments:

A. Parcel 98 Correspondence and Historical Information
B. 2016 Field Notes
C. 2016 Soil Boring Logs
D. 2016 Analytical Lab Package

Previous Correspondence (provided in Attachment A):

1. Army Letter to NJDEP dated 14 January 2016, re: Response to NJDEP's 22 July 2015 Comments on the May 2015 Underground Storage Tanks and Response to Comments for ECP Parcel 53 (700 Area), Fort Monmouth, New Jersey.
2. NJDEP Letter to the Army dated 22 July 2015, re: Underground Storage Tanks and Response to NJDEP Comments for ECP Parcel 53 (700 Area) dated May 2015.
3. Army letter to the NJDEP dated 21 May 2015, re: Underground Storage Tanks and Response to NJDEP Comments for ECP Parcel 53 (700 Area).

New Jersey Department of Environmental Protection
Site Remediation Program

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

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

Document:

- "Letter Work Plan for Parcel 98, Fort Monmouth, New Jersey" (08 September 2017)

PERSON RESPONSIBLE FOR CONDUCTING THE REMEDIATION INFORMATION AND CERTIFICATION

Full Legal Name of the Person Responsible for Conducting the Remediation: William R. Colvin
Representative First Name: William Representative Last Name: Colvin
Title: Fort Monmouth BRAC Environmental Coordinator (BEC)
Phone Number: (732) 380-7064 Ext: Fax:
Mailing Address: P.O. Box 148
City/Town: Oceanport State: NJ Zip Code: 07757
Email Address: william.r.colvin18.civ@mail.mil

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

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, including all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties.

Signature: William R Colvin Date: 08 September 2017

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

Completed form should be sent to:

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

REFERENCES CITED:

Calibre Systems, Inc. 2016. *Environmental Condition of Property Report Update, Fort Monmouth, New Jersey, Phase 2 Parcels*. Prepared for the U.S. Army Base Realignment and Closure Office. March.

Department of the Army. 2015. *Underground Storage Tanks and Response to NJDEP Comments for ECP Parcel 53 (700 Area), Fort Monmouth, New Jersey*. Prepared by the Office of Assistant Chief of Staff for Installation Management, U.S. Army Fort Monmouth. May 21.

Tetra Tech, 2005. *Final Remedial Action Report for the 800, 700, and 400 Areas, U.S. Army Installation Fort Monmouth, Fort Monmouth, New Jersey.* Final. October.

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

FIGURES

Figure 1 – Parcel 98 Location

Figure 2 – Parcel 98 Sampling Locations and PCB Exceedances

Figure 3 – Parcel 98 Proposed Sampling Locations

Little Silver Borough

Shrewsbury Borough

Tinton Falls Borough

Eatontown Borough

Oceanport Borough

West Long Branch Borough

Parkers Creek

North Branch Parkers Creek

Lafetra Creek

Mill Creek

Husky Brook (Culvert)

Oceanport Creek

Wampum Lake

Wampum Brook

Husky Brook

Turtle Mill Brook

Parcel 98

LEGEND:

- Parcel Boundary
- Installation Boundary
- Municipal Boundary
- Surface Water Feature

N

1 inch = 1,000 feet

0 500 1,000 2,000 Feet

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

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

PARCEL 98 LOCATION

CREATED BY: RR	REVIEWED BY: KF
DATE: FEB. 2016	FIGURE NUMBER: FIGURE 1
PROJECT NUMBER: 748810-01000	FILE: Figure1_Parcel_98.mxd

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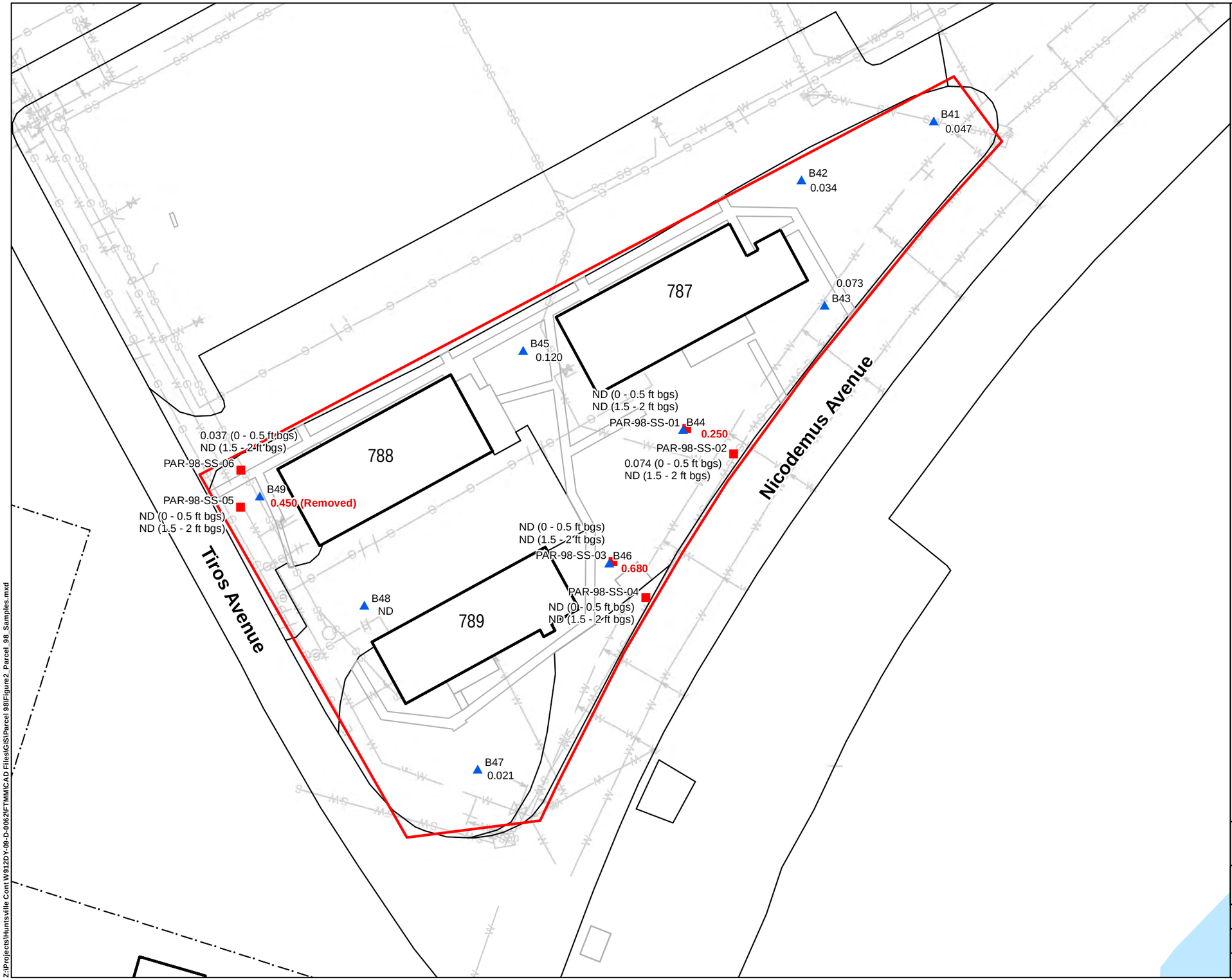

LEGEND:

- 2016 Soil Boring
- Historical Soil Boring Location
- Parcel 98 Boundary
- Installation Boundary
- Surface Water Body
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line

Aroclor 1260 concentration (mg/kg) in 0 to 0.5 ft bgs sample unless noted otherwise.

RDCSRS = 0.2 mg/kg

Exceedances are identified in bold red.

N

1 inch = 40 feet

0 20 40 80 Feet

Source: FTMM Supplied CAD, 2013.

PARSONS
401 Diamond Drive NW,
Huntsville AL

Fort Monmouth
New Jersey

PARCEL 98 SAMPLING LOCATIONS AND PCB EXCEEDANCES

CREATED BY: RR	REVIEWED BY: KF
DATE: JUN. 2017	FIGURE NUMBER: FIGURE 2
PROJECT NUMBER: 748810-02060	FILE: Figure2_Parcel_98_Samples.mxd

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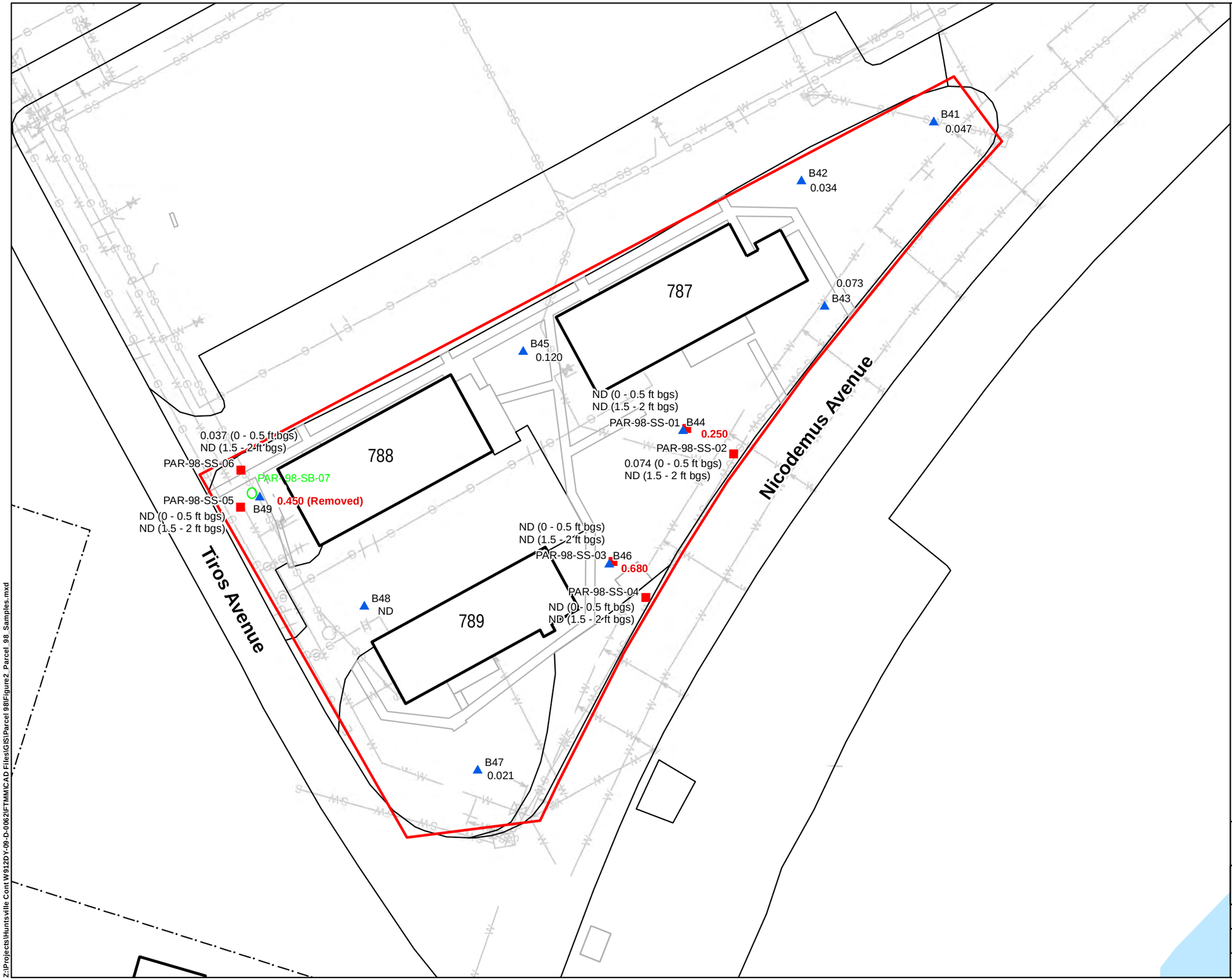

LEGEND:

- Proposed Sampling Location
- 2016 Soil Boring
- Historical Soil Boring Location
- Parcel 98 Boundary
- Installation Boundary
- Surface Water Body
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line

Aroclor 1260 concentration (mg/kg) in 0 to 0.5 ft bgs sample unless noted otherwise.

RDCSRS = 0.2 mg/kg

Exceedances are identified in bold red.

N

1 inch = 40 feet

0 20 40 80 Feet

Source: FTMM Supplied CAD, 2013.

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

PARCEL 98 PROPOSED SAMPLING LOCATIONS

CREATED BY: RR	REVIEWED BY: KF
DATE: JUN. 2017	FIGURE NUMBER: FIGURE 2
PROJECT NUMBER: 748810-02060	FILE: Figure2_Parcel_98_Samples.mxd

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TABLES

Table 1 – 2016 Soil Sampling Results – Comparison to NJDEP Soil Remediation Standards

Table 2 – Summary of Proposed Sampling for Parcel 98

Table 1 - 2016 Parcel 98 Soil Sampling Results - Comparision to NJDEP Soil Remediation Standards

Loc ID	NJ Residential Direct Contact SRS	NJ Non-Residential Direct Contact SRS	NJ Impact to GW Soil Screening Level	SB01			SB02	
Sample ID				PAR-98-SB-01-0-0.5	PAR-98-SB-01-1.5-2	PAR-98-SB-101-0-0.5	PAR-98-SB-02-0-0.5	PAR-98-SB-02-1.5-2
Sample Date				4/25/2016	4/25/2016	4/25/2016	4/26/2016	4/26/2016
PCBs (µg/kg)								
Aroclor-1260	200	1,000	NLE	< 19	< 18	< 23	**74**	< 20
Wet Chemistry - Solids								
Percent Solids (percent)	NLE	NLE	NLE	**90.2**	**96.2**	**74.9**	**91.3**	**87.7**

Table 1 - 2016 Parcel 98 Soil Sampling Results - Comparision to NJDEP Soil Remediation Standards

Loc ID	NJ Residential Direct Contact SRS	NJ Non-Residential Direct Contact SRS	NJ Impact to GW Soil Screening Level	SB03		SB04		
Sample ID				PAR-98-SB-03-0-0.5	PAR-98-SB-03-1.5-2	PAR-98-SB-04-0-0.5	PAR-98-SB-04-1.5-2	PAR-98-SB-104-0-0.5
Sample Date				4/25/2016	4/25/2016	4/25/2016	4/25/2016	4/25/2016
PCBs (µg/kg)								
Aroclor-1260	200	1,000	NLE	< 24	< 20	< 20	< 20	< 23
Wet Chemistry - Solids								
Percent Solids (percent)	NLE	NLE	NLE	**72.1**	**86.8**	**88.5**	**88.4**	**74.5**

Table 1 - 2016 Parcel 98 Soil Sampling Results - Comparision to NJDEP Soil Remediation Standards

Loc ID	NJ Residential Direct Contact SRS	NJ Non-Residential Direct Contact SRS	NJ Impact to GW Soil Screening Level	SB05		SB06	
Sample ID				PAR-98-SB-05-0-0.5	PAR-98-SB-05-1.5-2	PAR-98-SB-06-0-0.5	PAR-98-SB-06-1.5-2
Sample Date				4/26/2016	4/26/2016	4/26/2016	4/26/2016
PCBs (µg/kg)							
Aroclor-1260	200	1,000	NLE	< 22	< 20	**37 J**	< 19
Wet Chemistry - Solids							
Percent Solids (percent)	NLE	NLE	NLE	**80.7**	**85.3**	**81.3**	**90.3**

Footnote:
1) All historical data collected prior to 2013 are reported as provided by others.
2) Number of Analyses is the number of detected and non-detected results excluding rejected results. Sample duplicate pairs have not been averaged.
3) NLE = no limit established.
4) ND = not detected in any background sample, no background concentration available.
5) Bold chemical dectection

6) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) during the data validation.
[blank] = detect, i.e. detected chemical result value.
B =Compound detected in the sample at a concentration less than or equal to 5 times (10 times for common lab co
R = Rejected, data validation rejected the results.
U = non-detect, i.e. not detected at or above this value.
U-DL = Elevated sample detection limit due to difficult sample matrix.
U-ND = Analyte not detected in sample, but no detection or reporting limit provided.
J = estimated detected value due to a concetration below the reporting limit or due to discrepancies in meeting certain analyte-specific quality control.
E (or ER) = Estimated result.
D = Results from dilution of sample.
J-DL = Elevated sample detection limit due to difficult sample matrix.
JN = Tentatively identified compound, estimated concentration.

7) Chemical results greater than or equal to the action level (depending on criteria) are highlighted based on the Criteria that are present.
- Cell Shade values represent a result that is above the NJ Residential Direct Contact Soil Remediation Standard. ####
  There are no NJDEP soil standards for individual PCB Aroclors, therefore the total PCB NJDEP standards were used for individual Aroclors.
- Cell Shade values represent a result that is above the NJ Non-Residential Direct Contact Soil Remediation Standard. ###
  There are no NJDEP soil standards for individual PCB Aroclors, therefore the total PCB NJDEP standards were used for individual Aroclors.
- Cell Shade values represent a result that is above the NJ Impact to GW Soil Screening Level ###
Remediation Standard. ###
- Cell Shade values represent a result that is above both the NJ Residential and Non-Residential Direct Contact Soil Remediation Standard. ###

8) Criteria action level source document and web address.
- The NJ Residential Direct Contact Soil Remediation Standard refers to the NJDEP's May 7, 2012 Remediation Standards
  http://www.nj.gov/dep/rules/rules/njac7_26d.pdf
- The NJ Non-Residential Direct Contact Soil Remediation Standard refers to the NJDEP's May 7, 2012 Remediation Standards.
  http://www.nj.gov/dep/rules/rules/njac7_26d.pdf
- The NJ Impact to GW Soil Screening Level criteria refers to the Development of Site Specific Impact to Ground Water Soil Remediation Standards - Nov 2013 revised
  http://www.nj.gov/dep/srp/guidance/rs/partition_equation.pdf

TABLE 2
SUMMARY OF PROPOSED SAMPLING FOR PARCEL 98
FORT MONMOUTH, NEW JERSEY

Location ID	Location	PCBs (Aroclor 1260 only)	Rationale
Soil			
PAR-98-SB-07	See Figure 1: 1 soil boring, 3 samples.	3	Purpose: post excavation vertical delineation of PCBs (Aroclor 1260) at boring 49. Collect soil samples from 0 to 0.5 ft bgs, 1.5 to 2.0 ft bgs, and 2.0 to 2.5 ft bgs. Submit PCBs samples collected from deeper interval (2.0-2.5 ft bgs) to HOLD.
QA/QC samples (see SAP for additional details) [a/ b/]			
Field Duplicates (5% Sampling Frequency per media)		1	--
Matrix Spike (5% Sampling Frequency per media)		1	--
Matrix Spike Duplicate (5% Sampling Frequency per media)		1	--
Trip Blank (1 per cooler of VOCs per media)		0	--
QA Split (5% per media)		1	--
Equipment Blank (5% Sampling Frequency per media)		1	--
	TOTAL	**14**	

Notes:

[a/] 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.

ATTACHMENT A
Previous Parcel 98 Correspondence and Historical Information

1. Army Letter to NJDEP dated 14 January 2016, re: Response to NJDEP's 22 July 2015 Comments on the May 2015 Underground Storage Tanks and Response to Comments for ECP Parcel 53 (700 Area), Fort Monmouth, New Jersey.
2. NJDEP Letter to the Army dated 22 July 2015, re: Underground Storage Tanks and Response to NJDEP Comments for ECP Parcel 53 (700 Area) dated May 2015.
3. Army letter to the NJDEP dated 21 May 2015, re: Underground Storage Tanks and Response to NJDEP Comments for ECP Parcel 53 (700 Area) dated May 2015.
4. Excerpts from Attachment N of the May 2015 "Underground Storage Tanks and Response to NJDEP Comments for ECP Parcel 53."

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

January 14, 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

Text discussing the area currently designated as Parcel 98 are outlined below.

Re: Response to NJDEP's July 22, 2015 Comments on the May 2015 *Underground Storage Tanks and Response to NJDEP Comments for ECP Parcel 53 (700 Area), Fort Monmouth, New Jersey*
PI G000000032

Dear Ms. Range:

Fort Monmouth and Parsons have reviewed the New Jersey Department of Environmental Protection (NJDEP) comments on the subject submittal for ECP Parcel 53 (also known as the 700 Area), as documented in your letter dated July 22, 2015. We appreciate this opportunity to work with you on Parcel 53. Responses to your comments are provided below, for your review and concurrence or further comments.

A. General Comment/Statement:

The New Jersey Department of Environmental Protection (Department) has completed review of the referenced report, received May 28, 2015, prepared by Parsons Government Services Inc. (Parsons). Parcel 53, also generally known as the 700 Area as indicated in the submittal, was included within a report previously submitted in 2005 which summarized the results of remedial activities within three areas of the Fort. Comments generated by the NJDEP in September of 2007 included the requirement for documentation regarding UST activities, delineation of soil to residential criteria, and the performance of a ground water investigation. The referenced submittal provides documentation as to the status of "all USTs identified within this parcel", and responds to the September 2007 NJDEP comment letter as regarding RCI 700 Area (generally, Parcel 53).

A. RESPONSE: Acknowledged.

B. Underground Storage Tanks

B1. COMMENT: *The submittal states the parcel is noted as previously containing sixteen (16) underground storage tanks (USTs), all of which have been removed. Nine of USTs had previously received designations of no further action necessary from the Department, as indicated on page 3 and in Appendix D. Based upon receipt and review of the required documentation, it is agreed no additional action is necessary for the following seven USTs:*

***UST 700-2** aka 700-BI 2 – steel 1000 gallon #2 fuel UST removed 4/2/04*

UST 700-3 *aka 700-BI 3 – steel 1000 gallon #2 fuel UST removed 4/4/04*
UST 700-5 *aka 700-T05 – steel 1000 gallon #2 fuel UST removed 12/24/04*
UST 700-17 *aka 700-BI 17; #04-04-05-1357-41 – 1000 gallon #2 fuel UST removed 4/2/04*
700-18 *aka 700-BI 18; #04-04-14-1305-4-04 – steel 1000 gallon #2 fuel UST removed 4/12/04*
746B *– steel 1000 gallon #2 fuel UST removed 12/13/10*
747B *– steel 1000 gallon #2 fuel UST removed 12/9/10*

B1. RESPONSE: Acknowledged.

B2. COMMENT: *It is unclear, however, how the statement on page 2 of 8, "all of the USTs identified within Parcel 53 have been removed", is reconciled with the potential UHOT locations represented on Figure 2 of May 2014 Addendum 1 – Environmental Condition of Property Report Unregulated Heating Oil Tank Investigation Report, which appears to indicate the continued potential presence of additional USTs at several locations within the parcel?*

B2. RESPONSE: Previous field verification of UST removal at FTMM included geophysical surveys, test trenches, physical evidence of tanks, and the results of soil sampling and analysis, which provides a higher measure of certainty than the "Potential UHOTs" shown on the May 2014 UHOT Addendum Report. The UHOT Addendum Report was only an assessment of available information (such as real property records and historical maps) that may provide collaborative information in the event that a future tank is found, but is not considered a definitive source of information on yet-to-be discovered UHOTs.

C. Section 2.0: Residential Communities Initiative Activities at the 700 Area

C1. COMMENT: *The report indicates one rationale previously provided for not addressing elevated levels of heptachlor was the exceedances were "only one order of magnitude (OOM) above the non-residential cleanup criteria". This is not an acceptable argument; see below (Appendix M) for additional detail.*

C1. RESPONSE: Acknowledged; note that the intent of this statement was only to report the Army's rationale used in the 2007 report. Please see additional response F1 below.

D. Section 3.0: Additional Comparison of Soil Results with Residential Cleanup Criteria

D1. COMMENT: *Additional comparisons were made of existing analytical results to residential standards, however, it is not agreed delineation is "generally" complete. The delineation as required in the Department's September 2007 correspondence was not performed. As acknowledged in the submittal, delineation along the parcel boundaries remains incomplete. See additional comments immediately below and under Appendix N.*

D1. RESPONSE: Acknowledged; additional soil sampling is proposed to delineate PCBs to the parcel boundary, as described below.

D2. COMMENT: *SVOCs - As has been indicated in previous emails and correspondence, the 1995 Weston background study was not accepted by the Department, for several reasons, and should no longer be referenced.*

D2. RESPONSE: Acknowledged; future submittals for Parcel 53 will no longer reference the 1995 Weston background study.

D3. COMMENT: *It is agreed the source of the PAH exceedences are not yet known. It does not seem likely, however, the source was incomplete burning of cigarettes, wood, food or fossil fuels. The referenced possibility of former asphaltic pavement may be feasible; review of historic aerials should reveal their historic presence, but not whether the analytical results are definitively present due to that asphaltic material. The report also speculates PAHs are perhaps present due to historic fill used to develop Fort Monmouth. Although this is certainly a viable possibility, historic fill is considered an area of concern (AOC) under the Technical Requirements for Site Remediation, N.J.A.C. 7:26E, and must be investigated and addressed accordingly.*

D3. RESPONSE: Parcel 53 sampling results for PAHs to date have not revealed evidence of a release. The wide variety of potential sources referenced in the May 2015 submittal demonstrates that these PAHs have come to be located at the site over time due to site conditions (e.g., runoff from asphalt surfaces) and not due to a CERCLA release. Since there is no indication of a CERLCA release, the Army has no further obligation to address PAHs at this site.

D4. COMMENT: *Although it is stated compliance averaged results of both benzo(a)pyrene and benzo(b)fluoranthene were less than the applicable Residential Direct Contact Soil Remediation Standards (RDCSRS), the averaging was performed incorrectly. Delineation to residential criteria was required in September of '07 but was not performed; current regulations [N.J.A.C. 7:26E-4.2(a)] and guidance ("Technical Guidance for the Attainment of Remediation Standards and Site-Specific Criteria") require delineation to not only residential standards, but to the impact to ground water soil remediation standards as well. Additionally, the arithmetic mean method is only for use when there are 9 or fewer samples (rather than the 57 samples at Parcel 53) or two or fewer distinct values, neither of which applies in this situation.*

D4. RESPONSE: Agreed; future reporting of compliance averaging results for FTMM soil data will conform to the current technical guidance document referenced above and future project-specific agreements with NJDEP. Future data will also be compared to the default impact to groundwater soil screening levels as provided in the November 2013 NJDEP guidance document entitled "Development of Impact to Ground Water Soil Remediation Standards Using the Soil-Water Partition Equation."

D5. COMMENT: *Although delineation remains incomplete, PAHs have been identified in several areas of the parcel above RDCSRS. Delineation to all applicable standards is required, and exceedences must be addressed.*

D5. RESPONSE: See response D3, above.

D6. COMMENT: *Pesticides- As above, the background study included in the 1995 Weston report was not accepted by the Department; the study should no longer be referenced.*

D6. RESPONSE: Acknowledged; future submittals for Parcel 53 will no longer reference the 1995 Weston background study.

D7. COMMENT: *Elevated levels of heptachlor, heptachlor epoxide, chlordane and 4,4-DDE were noted within the parcel. Although it is stated compliance averaged results of all but heptachlor were less than the applicable RDCSRS, as above, the averaging was incorrectly performed. Delineation to residential criteria was required in September of '07; current regulations [N.J.A.C. 7:26E-4.2(a)] and guidance ("Technical Guidance for the Attainment of Remediation Standards and Site-Specific Criteria") require delineation to not only residential standards, but to the impact to ground water soil remediation standards (IGWSRS) as well. Also, as above, the arithmetic mean method is only for use when there are 9 or fewer samples.*

D7. RESPONSE: Agreed; future reporting of compliance averaging results for FTMM soil data will conform to the current technical guidance document referenced above and future project-specific agreements with NJDEP.

D8. COMMENT: *Although delineation remains incomplete, pesticides have been identified in several areas of the parcel above applicable standards. All exceedances must be delineated and addressed.*

D8. RESPONSE: All results from sampling for pesticides are consistent with levels that would be found from the regular use of properly applied pesticides. Additionally, there is no historic evidence of pesticide storage or a spill within Parcel 53. Therefore, there is no release of pesticides that is the responsibility of the Army.

D9. COMMENT: *PCBs - The PCBs exceedences are located in Parcel 51, rather than Parcel 53; please confirm this portion of Parcel 51 is to be considered in this review? As such, the above comments remain applicable to these areas as well. The compliance averaging was incorrectly performed. PCBs are present at 0.25 ppm and 0.68 ppm, above the RDCSRS ; delineation to the south, toward the parcel boundary, is incomplete. Delineation to RDCSRS/IGWSRS is required. PCBs were reported analyzed in 49 samples, greater than the 9 or fewer samples allowed for use of the average mean method of compliance averaging. All exceedances must be delineated and addressed.*

D9. RESPONSE: The area with PCBs exceedances in soil near Buildings 787, 788 and 789 is actually within Parcel 51 (instead of Parcel 53, as NJDEP has noted). This area has subsequently been designated as Parcel 98 to minimize future confusion. For clarification, the Army requested the NJDEP's review of analytical data within Parcel 98; data from this area was included in the 2005 RCI Report and designated (along with data from Parcel 53) as the "700 Area." However, PCB data from Parcel 98 will be grouped separately from Parcel 53 data during future compliance averaging. The Army proposes additional soil sampling to delineate PCBs in soil within the Parcel 98 area; sample locations and a tabulated summary for proposed sampling will be provided under separate cover. We anticipate that PCBs exceedances will be addressed using compliance averaging, which will conform to the current technical guidance document and future project-specific agreements with NJDEP.

E. Section 4.0: Groundwater Investigation at 700 Area

E1. COMMENT: *See comments under Appendix P.*

E1. RESPONSE: Acknowledged; see Response I1.

F. Appendix M: 700 Area Excerpts from the 2005 RCI Remedial Action Report

F1. COMMENT: *Attachment M contains excerpts from the October '05 RAR referenced above. Page 18 appears to indicate the March 1999 Historic Pesticide Contamination Task Force document exempts heptachlor from remediation as the exceedances are only one order of magnitude above the NRDCSCC. Heptachlor is not exempted from remediation by the referenced March 1999 (which includes no reference to order of magnitude/OOM), and the statement is an inappropriate application of OOM.*

F1. RESPONSE: Concur. The 2005 RAR will not be revised; however, future submittals will not include this argument.

F2. COMMENT: *As stipulated by N.J.A.C. 7:26E-3.2(a)5 – "An evaluation to determine if there is an order of magnitude difference between the concentration of any contaminant in any area of concern and any remediation standard applicable at the time of comparison to the area of concern if there is a prior final remediation document for the area of concern. If there is an order of magnitude difference, then the person responsible for conducting the remediation shall evaluate the protectiveness of any existing engineering or institutional controls on the area of concern and otherwise determine whether additional remediation may be required at the area of concern to ensure the area of concern remains protective of the public health, safety and the environment."*

The analytical results are greater than an OOM above both the former NRDCSCC as well as the current NRDCSRS, and more importantly, this area had no final remediation document (neither approved RAW or NFA).

F2. RESPONSE: Since the levels of pesticides are consistent with properly applied pesticides, and therefore not a CERCLA release for which the Army is responsible, there is no need for remedial action here or a final remedial document.

G. Appendix N: Comparison of RCI Area 700 Soil Results with Residential Cleanup Criteria

G1. COMMENT: *In the Department's September 2007 comment letter, it was stated contamination must be delineated to the residential criteria. No additional delineation efforts, however, have been performed. Rather, a comparison of previously existing data to current RDCSRS was made. Figures 6 and 7 note numerous areas which exceed the RDCSRS for various constituents, several of which locations are situated proximate to the various boundaries of Parcel 53. Based upon a review of the sample locations and results (plotted by this office), and as stated on Page 5 of Section 3.0, it is unclear that contamination above RDCSRS is limited to Parcel 53 boundaries. Delineation to RDCSRS remains incomplete; specifically delineation is incomplete at all perimeter boundaries, including but not necessarily limited to benzo(a)pyrene to the north of B2; heptachlor to*

the north and east of B1; heptachlor, heptachlor epoxide and chlordane to the west of B20; DDE to the south of B39; benzo(a)pyrene to the south of B38; heptachlor, heptachlor epoxide and chlordane to the east of B13; and benzo(a)pyrene to the east of B7.

G1. RESPONSE: See responses D3 and D8, above.

G2. COMMENT: *Page 5 references location B49, and Enclosure 1 includes data from sample locations B44, B46 and B49, however, Figure 19 of the January '07 ECP, titled "ECP Parcels", indicates these locations, while in the 700 Area, are actually located in Parcel 51, west of Parcel 53. As the Report is titled Parcel 53, please clarify.*

G2. RESPONSE: See response D9 above.

H. Attachment O: Compliance Averaging of RCI Area 700 Soil Results

H1. COMMENT: *As indicated in the comments above, the compliance averaging was not performed in accordance with the Department's Technical Guidance for the Attainment of Remediation Standards and Site-Specific Criteria, and is therefore not approved.*

H1. RESPONSE: Noted.

I. Attachment P: Area 700 Groundwater Monitoring Results

I1. COMMENT: *Attachment P includes a large scale contour map with monitor well locations, with Parcel 53 outlined, indicating the presence of several monitor wells along northern and eastern borders of the parcel, as well as ground water flow maps and analytical results of sampling collected from five monitor wells in 2009 and 2010 for VOA+15 only. Very minimal discussion was included in Section 4.0, stating the wells were installed in December 2009 to assess the potential for ground water contamination from the USTs in the area, however, it is unclear what specific USTs or other areas of concern the wells were to assess. Nor was there any discussion as to triggers for the performance of a ground water investigation present at the various areas of soil contamination noted throughout the parcel, e.g. was ground water encountered within 2' of contamination, what type of soils were encountered.*

I1. RESPONSE: The Parcel 53 monitor wells were installed to assess the potential for groundwater contamination from USTs formerly present within the Parcel as a whole. Of the USTs that were recently approved for NFA by NJDEP, only two had reported releases (700-17 and 700-18), and of those two, groundwater was sampled only from UST 700-17. The following observations from UST 700-17 are provided as further support that additional groundwater assessment is not required:

- Contaminated soil was observed and removed from the excavation in 2004 prior to soil sampling;
- Soil samples were collected from a depth of 5.0 to 5.5 feet below ground surface (ft bgs), and were all non-detected (ND) for Total Petroleum Hydrocarbons (TPH);

- Groundwater was encountered at 11 ft bgs and sampled from the excavation, and results were ND for TPH;
- Fine- to medium-grained sandy soils were encountered, as is typical for the Main Post.

Given the uniformity of site conditions across Parcel 53, it is concluded that any residual soil contamination from Parcel 53 USTs would be located considerably higher than 2 ft above the groundwater surface. Based on these observations, there were no indications of a contaminant release to groundwater, and therefore additional groundwater evaluation for the 700 Area is not warranted.

We look forward to your review of these responses and approval or additional comments. As previously indicated, a work plan for additional field soil sampling for PCBs at the Parcel 98 area will be provided under separate cover.

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) 383-5104 or by email at john.e.occhipinti.civ@mail.mil.

Sincerely,

John E. Occhipinti
Fort Monmouth Site Manager

cc: Delight Balducci, HQDA ACSIM
Joseph Pearson, Calibre
James Moore, USACE
Jim Kelly, USACE
Cris Grill, Parsons

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Case Management
401 East State Street
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Trenton, NJ 08625-0028
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BOB MARTIN
Commissioner

July 22, 2015

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

Re: *Underground Storage Tanks and Response to NJDEP Comments for ECP Parcel 53 (700 Area) dated May 2015*
Fort Monmouth
Oceanport, Monmouth County
PI G000000032

Dear Mr. Occhipinti:

The New Jersey Department of Environmental Protection (Department) has completed review of the referenced report, received May 28, 2015, prepared by Parsons Government Services Inc. (Parsons). Parcel 53, also generally known as the 700 Area as indicated in the submittal, was included within a report previously submitted in 2005 which summarized the results of remedial activities within three areas of the Fort. Comments generated by the NJDEP in September of 2007 included the requirement for documentation regarding UST activities, delineation of soil to residential criteria, and the performance of a ground water investigation. The referenced submittal provides documentation as to the status of "all USTs identified within this parcel", and responds to the September 2007 NJDEP comment letter as regarding RCI 700 Area (generally, Parcel 53).

Underground Storage Tanks

The submittal states the parcel is noted as previously containing sixteen (16) underground storage tanks (USTs), all of which have been removed. Nine of USTs had previously received designations of no further action necessary from the Department, as indicated on page 3 and in Appendix D. Based upon receipt and review of the required documentation, it is agreed no additional action is necessary for the following seven USTs:

UST 700-2 aka 700-BI 2 – steel 1000 gallon #2 fuel UST removed 4/2/04
UST 700-3 aka 700-BI 3 – steel 1000 gallon #2 fuel UST removed 4/4/04
UST 700-5 aka 700-T05 – steel 1000 gallon #2 fuel UST removed 12/24/04

UST 700-17 aka 700-BI 17; #04-04-05-1357-41 – 1000 gallon #2 fuel UST rem oved 4/2/04
700-18 aka 700-BI 18; #04-04-14-1305-4-04 – steel 1000 gallon #2 fuel UST removed 4/12/04
746B – steel 1000 gallon #2 fuel UST removed 12/13/10
747B – steel 1000 gallon #2 fuel UST removed 12/9/10

It is unclear, however, how the statement on page 2 of 8, "all of the USTs identified within Parcel 53 have been removed", is reconciled with the potential UHOT locations represented on Figure 2 of May 2014 Addendum 1 – Environmental Condition of Property Report Unregulated Heating Oil Tank Investigation Report, which appears to indicate the continued potential presence of additional USTs at several locations within the parcel?

Section 2.0

The report indicates one rationale previously provided for not addressing elevated levels of heptachlor was the exceedances were "only one order of magnitude (OOM) above the non-residential cleanup criteria". This is not an acceptable argument; see below (Appendix M) for additional detail.

Section 3.0

Additional comparisons were made of existing analytical results to residential standards, however, it is not agreed delineation is "generally" complete. The delineation as required in the Department's September 2007 correspondence was not performed. As acknowledged in the submittal, delineation along the parcel boundaries remains incomplete. See additional comments immediately below and under Appendix N.

SVOCs
As has been indicated in previous emails and correspondence, the 1995 Weston background study was *not accepted* by the Department, for several reasons, and should no longer be referenced.

It is agreed the source of the PAH exceedences are not yet known. It does not seem likely, however, the source was incomplete burning of cigarettes, wood, food or fossil fuels. The referenced possibility of former asphaltic pavement may be feasible; review of historic aerials should reveal their historic presence, but not whether the analytical results are definitively present due to that asphaltic material. The report also speculates PAHs are perhaps present due to historic fill used to develop Fort Monmouth. Although this is certainly a viable possibility, historic fill is considered an area of concern (AOC) under the Technical Requirements for Site Remediation, N.J.A.C. 7:26E, and must be investigated and addressed accordingly.

Although it is stated compliance averaged results of both benzo(a)pyrene and benzo(b)fluoranthene were less than the applicable Residential Direct Contact Soil Remediation Standards (RDCSRS), the averaging was performed incorrectly. Delineation to residential criteria was required in September of '07 but was not performed; current regulations [N.J.A.C. 7:26E-4.2(a)] and guidance ("Technical Guidance for the Attainment of Remediation Standards

and Site-Specific Criteria") require delineation to not only residential standards, but to the impact to ground water soil remediation standards as well. Additionally, the arithmetic mean method is only for use when there are 9 or fewer samples (rather than the 57 samples at Parcel 53) or two or fewer distinct values, neither of which applies in this situation.

Although delineation remains incomplete, PAHs have been identified in several areas of the parcel above RDCSRS. Delineation to all applicable standards is required, and exceedences must be addressed.

Pesticides
As above, the background study included in the 1995 Weston report was not accepted by the Department; the study should no longer be referenced.

Elevated levels of heptachlor, heptachlor epoxide, chlordane and 4,4-DDE were noted within the parcel. Although it is stated compliance averaged results of all but heptachlor were less than the applicable RDCSRS, as above, the averaging was incorrectly performed. Delineation to residential criteria was required in September of '07; current regulations [N.J.A.C. 7:26E-4.2(a)] and guidance ("Technical Guidance for the Attainment of Remediation Standards and Site-Specific Criteria") require delineation to not only residential standards, but to the impact to ground water soil remediation standards (IGWSRS) as well. Also, as above, the arithmetic mean method is only for use when there are 9 or fewer samples.

Although delineation remains incomplete, pesticides have been identified in several areas of the parcel above applicable standards. All exceedances must be delineated and addressed.

Now designated as Parcel 98

PCBs
The PCBs exceedences are located in Parcel 51, rather than Parcel 53; please confirm this portion of Parcel 51 is to be considered in this review? As such, the above comments remain applicable to these areas as well. The compliance averaging was incorrectly performed. PCBs are present at 0.25 ppm and 0.68 ppm, above the RDCSRS ; delineation to the south, toward the parcel boundary, is incomplete. Delineation to RDCSRS/IGWSRS is required. PCBs were reported analyzed in 49 samples, greater than the 9 or fewer samples allowed for use of the average mean method of compliance averaging. All exceedances must be delineated and addressed.

Section 4.0
See comments under Appendix P

Appendix M

Attachment M contains excerpts from the October '05 RAR referenced above. Page 18 appears to indicate the March 1999 *Historic Pesticide Contamination Task Force* document exempts

heptachlor from remediation as the exceedances are only one order of magnitude above the NRDCSCC. Heptachlor is not exempted from remediation by the referenced March 1999 (which includes no reference to order of magnitude/OOM), and the statement is an inappropriate application of OOM.

As stipulated by N.J.A.C. 7:26E-3.2(a)5 – "An evaluation to determine if there is an order of magnitude difference between the concentration of any contaminant in any area of concern and any remediation standard applicable at the time of comparison to the area of concern *if there is a prior final remediation document for the area of concern.* If there is an order of magnitude difference, then the person responsible for conducting the remediation shall evaluate the protectiveness of any existing engineering or institutional controls on the area of concern and otherwise determine whether additional remediation may be required at the area of concern to ensure the area of concern remains protective of the public health, safety and the environment."

The analytical results are greater than an OOM above both the former NRDCSCC as well as the current NRDCSRS, and more importantly, this area had no final remediation document (neither approved RAW or NFA).

Appendix N

In the Department's September 2007 comment letter, it was stated contamination must be delineated to the residential criteria. No additional delineation efforts, however, have been performed. Rather, a comparison of previously existing data to current RDCSRS was made. Figures 6 and 7 note numerous areas which exceed the RDCSRS for various constituents, several of which locations are situated proximate to the various boundaries of Parcel 53. Based upon a review of the sample locations and results (plotted by this office), and as stated on Page 5 of Section 3.0, it is unclear that contamination above RDCSRS is limited to Parcel 53 boundaries. Delineation to RDCSRS remains incomplete; specifically delineation is incomplete at all perimeter boundaries, including but not necessarily limited to benzo(a)pyrene to the north of B2; heptachlor to the north and east of B1; heptachlor, heptachlor epoxide and chlordane to the west of B20; DDE to the south of B39; benzo(a)pyrene to the south of B38; heptachlor, heptachlor epoxide and chlordane to the east of B13; and benzo(a)pyrene to the east of B7.

Page 5 references location B49, and Enclosure 1 includes data from sample locations B44, B46 and B49, however, Figure 19 of the *January '07 ECP*, titled "ECP Parcels", indicates these locations, while in the 700 Area, are actually located in Parcel 51, west of Parcel 53. As the Report is titled Parcel 53, please clarify.

Attachment O

As indicated in the comments above, the compliance averaging was not performed in accordance with the Department's *Technical Guidance for the Attainment of Remediation Standards and Site-Specific Criteria*, and is therefore not approved.

Attachment P

Attachment P includes a large scale contour map with monitor well locations, with Parcel 53 outlined, indicating the presence of several monitor wells along northern and eastern borders of the parcel, as well as ground water flow maps and analytical results of sampling collected from five monitor wells in 2009 and 2010 for VOA+15 only. Very minimal discussion was included in Section 4.0, stating the wells were installed in December 2009 to assess the potential for ground water contamination from the USTs in the area, however, it is unclear what specific USTs or other areas of concern the wells were to assess. Nor was there any discussion as to triggers for the performance of a ground water investigation present at the various areas of soil contamination noted throughout the parcel, e.g. was ground water encountered within 2' of contamination, what type of soils were encountered.

Please contact this office if you have any questions.

Sincerely,

Linda S. Range

Linda S. Range

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

Underground Storage Tanks and Response to NJDEP Comments for ECP Parcel 53 (700 Area)

Fort Monmouth, New Jersey

May 21, 2015 Army Letter to NJDEP

May 2015

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

May 21, 2015

Ms. Linda Range
New Jersey Department of Environmental Protection
Case Manager
Bureau of Southern Field Operations
401 East State Street, 5th Floor
PO Box 407
Trenton, NJ 08625

Re: Underground Storage Tanks and Response to NJDEP Comments for ECP Parcel 53 (700 Area), Fort Monmouth, New Jersey

Attachments:

A. Correspondence
B. Site Layout Drawings of Parcel 53 (Recent and Historical)
C. Summary Table of Parcel 53 Underground Storage Tanks
D. No Further Action Letters from NJDEP
E. Geophysical Survey Reports
F. UST 700-2 File Review and Analyses
G. UST 700-3 File Review and Analyses
H. UST 700-5 File Review and Analyses
I. UST 700-17 Report
J. UST 700-18 Report
K. UST 746B File Review and Analyses
L. UST 747B File Review and Analyses
M. 700 Area Excerpts from the 2005 Residential Communities Initiative (RCI) Remedial Action Report
N. Comparison of RCI Area 700 Soil Results with Residential Cleanup Criteria
O. Compliance Averaging of RCI Area 700 Soil Results
P. Area 700 Groundwater Monitoring Results

Previous Correspondence:

1. NJDEP letter to the Army dated September 5, 2007, re: *Remedial Action Report for the 800, 700, and 400 Areas, Ft Monmouth, NJ.*

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 53. The purpose of this submittal is to provide comprehensive documentation of the location and closure status of all USTs identified within this parcel. Previous investigation

results associated with the Residential Communities Initiative (RCI) activities within Parcel 53 (also known as the 700 Area) have been reviewed, as well as the 2007 New Jersey Department of Environmental Protection (NJDEP) comments on the RCI Report (Correspondence 1; provided in Attachment A). This submittal provides a comprehensive response to NJDEP's previous comments on the RCI 700 Area (Correspondence 1), which generally corresponds to Parcel 53. This information should be useful for the future Phase II property transfer.

The Parcel 53 area includes that portion of the Main Post bounded by Echo Avenue to the north, Wilson Avenue to the west, Nicodemus Avenue to the south, and Radio Avenue to the east (see recent and historical layout drawings presented in Attachment B). There are no designated Installation Restoration Program (IRP) sites located within Parcel 53. Parcel 53 was described in the 2007 ECP Report as former housing in the 700 Area, where extensive soil sampling and numerous UST removals were conducted as part of the Army's RCI and Enhanced Use Leasing (EUL) programs. Currently there are no buildings within Parcel 53; however, historically there were up to 40 barracks and other buildings within this area (see Attachment B2). The purpose of the RCI and EUL programs was to assess specific Fort Monmouth site areas for privatized housing and associated support buildings; subsequently the program was discontinued after closure of Fort Monmouth was announced in 2005.

A final report was prepared in 2005 under the RCI program that summarized the results of soils investigation and remediation activities within the 400, 700, and 800 Areas of Fort Monmouth, and requested No Further Action (NFA) for all three areas. In 2007, NJDEP commented (Attachment A) that NFA could not be approved for the following reasons (***current Army responses concerning the 700 Area are provided in bold italics***):

- There was no documentation provided concerning the remediation and closure of USTs removed from the site (***documentation of UST closure activities for the 700 Area is presented in Section 1.0 below***);
- Although soil remediation was completed to non-residential soil cleanup criteria, NJDEP required soil delineation to residential criteria (***a description of the RCI soil results and comparison to NJDEP's residential direct contact soil remediation standards [RDCSRS] is presented in Section 3.0 below***); and
- A site investigation for groundwater was required (***a description of the 700 Area groundwater investigations is presented in Section 4.0 below***).

1.0 UNDERGROUND STORAGE TANKS

A summary table of USTs identified within Parcel 53 is provided in Attachment C, and the locations of these USTs within Parcel 53 are presented in Attachment B. All of the USTs identified within Parcel 53 have been removed. These USTs were either used for residential heating oil, or were less than 2000 gallons in size and used to store heating oil for nonresidential buildings, and are therefore considered unregulated heating oil tanks (UHOTs).

Multiple UHOTs within Parcel 53 were previously approved for No Further Action (NFA) by NJDEP; documentation of this approval is provided in Attachment D, and referenced below. In these cases, there is generally a supporting investigation report that was previously submitted to NJDEP and that describes the basis for closure. For the sake of brevity, we have not included these reports for UHOTs where NFA has already been approved. However, these reports are available within the FTMM environmental records.

In the Attachment C table, the term "Case Closed" has been used (consistent with previous FTMM procedures) to indicate the Army determined that no further sampling or remedial actions were warranted for a specific UST site. "Case Open" indicates the Army previously determined that ongoing monitoring, reporting or possibly even remedial action was warranted. In contrast, "No Further Action" has been reserved for NJDEP approval that no further sampling or remedial actions are warranted. "Case Open" sites previously identified within Parcel 53 in Attachment C can now be considered as "Closed" by this submittal.

Many of the Parcel 53 UHOTs were steel fuel oil tanks associated with previously demolished former barracks. Geophysical surveys were performed to locate potential UHOTs that may have remained after the buildings were removed, as described in Attachment E. A combination of the geophysical surveys as well as the historical maps and metal detectors were used to locate multiple UHOTs within the Parcel 53 area, which were subsequently removed.

Regarding the multiple UHOTs that were previously removed from Parcel 53, we are submitting the following documentation, and we request a No Further Action determination for each site (sites within Parcel 53 that have been previously approved for NFA by NJDEP are highlighted in green):

- UST 700-2 (also referred to as 700-BI2) File Review summary and analyses is presented in Attachment F.
- UST 700-3 (also referred to as 700-BI3) File Review summary and analyses is presented in Attachment G.
- UST 700-5 (also referred to as 700-T05) File Review summary and analyses is presented in Attachment H.
- UST 700-17 (also referred to as 700-BI17) investigation report is presented in Attachment I.
- UST 700-18 (also referred to as 700-BI18) investigation report is presented in Attachment J.
- UST 707 NFA was approved by NJDEP on 8/29/2000 (Attachment D).
- UST 718 NFA was approved by NJDEP on 10/23/2000 (Attachment D).
- UST 739 NFA was approved by NJDEP on 2/24/2000 (Attachment D).
- UST 744 NFA was approved by NJDEP on 2/24/2000 (Attachment D).
- UST 745 NFA was approved by NJDEP on 8/29/2000 (Attachment D).
- UST 746 (also referred to as 746A) NFA was approved by NJDEP on 8/29/2000 (Attachment D).
- UST 746B File Review summary and analyses is presented in Attachment K.
- UST 747A NFA was approved by NJDEP on 2/24/2000 (Attachment D).
- UST 747B File Review summary and analyses is presented in Attachment L.
- UST 748 NFA was approved by NJDEP on 8/29/2000 (Attachment D).
- UST 749 NFA was approved by NJDEP on 8/29/2000 (Attachment D).

2.0 RESIDENTIAL COMMUNITIES INITIATIVE ACTIVITIES AT THE 700 AREA

Extensive soil sampling was performed in 2004 under the RCI to support an evaluation of privatized housing (see Attachment M). Three areas of the Main Post were evaluated: the 400 Area, the 700 Area, and the 800 Area (see Figure 2 of Attachment M). These studies included

environmental assessment of soil using Geoprobe borings (at 100 ft centers; see Figure 6 of Attachment M), and full-suite analysis of soil samples for VOCs, SVOCs, pesticides, PCBs, and metals (provided in Appendix E of Tetra Tech, 2005; these data are also provided in Enclosure 2 of Attachment N). In addition, geophysical investigations were performed to delineate UHOTs historically used for fuel oil from former barracks that had been previously demolished, as discussed in Section 1.0 above (see also Attachment E). As a result, multiple UHOTs were removed from Parcel 53 from 2004 to 2010 with associated site assessment sampling, as discussed in Section 1.0 above.

Under the RCI program, the analytical results from the 700 Area geoprobe soil sampling were compared to NJDEP's published non-residential cleanup criteria (as reported in Attachment M). The rationale for applying non-residential criteria was based on the planned future use of the 700 Area as the site of an RCI/EUL administration office building. The SVOCs benzo(a)pyrene and benzo(a)anthracene were found to exceed the non-residential cleanup criteria in certain discrete areas within the 700 Area (see Figures 6 and 7 in Attachment M), and therefore the impacted soils were excavated and removed for offsite disposal. Multiple rounds of additional step-out characterization and post-excavation sampling were performed to ensure that adequate soil was removed to meet the applicable non-residential cleanup criteria.

The pesticide heptachlor also exceeded non-residential cleanup criteria in 700 Area soils; however, soils were not remediated. Army policy is to not remediate areas that have been impacted by the application of pesticide products to landscaped areas, which were applied in a manner intended for their beneficial use. Also, Tetra Tech (2005) provided the additional rationale that pesticide contamination in excess of the non-residential criteria only occurred at two of the 49 boring locations, and that the exceedances were only one order of magnitude above the non-residential cleanup criteria.

As previously described above, a report (Attachment M) was submitted to NJDEP in 2005 that requested No Further Action for the RCI sites. In 2007, NJDEP commented (Attachment A) that NFA could not be granted because (among other reasons) Area 700 soils were not delineated to residential cleanup criteria.

3.0 Additional Comparison of Soil Results with Residential Cleanup Criteria

Additional comparison of the RCI soil analytical results with residential cleanup criteria has been performed to address NJDEP's 2007 comments (Attachment A) on the RCI Remedial Action Report (Attachment M). Attachment N includes a summary of analytical results for select SVOCs, pesticides, and PCBs in 700 Area soils, and a comparison of detected results with the RDCSRS, as described in the New Jersey Administrative Code (NJAC) 7:26D. Figures presented in Attachment N indicate specific soil boring locations where the soils remaining in place (that is, not remediated in 2004) exceeded the RDCSRS. The purpose of this screening comparison was to assess the adequacy of the existing RCI data for delineation to residential standards. The results of the screening comparison are discussed below for SVOCs, pesticides, and PCBs.

SVOCs

SVOCs were analyzed in a total of 67 soil samples; 5 samples represent soils that were removed by excavating, leaving 62 remaining soil sample results. The exceedances of single-point

compliance comparisons of soil SVOC results with the applicable RDCSRS included the following:

- Benzo(a)pyrene exceeded the RDCSRS of 200 µg/kg in 14 of the 62 soil samples, at concentrations ranging from 210 µg/kg to 600 µg/kg.
- Benzo(b)fluoranthene exceeded the RDCSRS of 600 µg/kg in 5 of the 62 soil samples, at concentrations ranging from 640 µg/kg to 880 µg/kg.

These SVOCs are polycyclic aromatic hydrocarbons (PAHs), which are common anthropogenic compounds that may result from incomplete burning of organic material, such as cigarettes, wood, food, and fossil fuels (New Jersey Comparative Risk Project, 2003) or historic fill used to develop the former Fort Monmouth. The specific source of the PAHs in the 700 Area soils is not known. PAHs could originate from residual fuel oil releases in soil; however, with the exception of boring B30 (which was located midway between UHOTs 700-17 and 700-18, and was subsequently removed by excavation), the soil sample locations that exceeded the RDCSRS do not coincide spatially with former UHOT locations (see the revised Figure 6 in Attachment N).

PAHs are also commonly associated with asphalt pavement and sealants. Although the 700 Area is currently unpaved, there may have been pavement present during historical use of the area for barracks. Exceedances of the RDCSRS for PAHs are relatively minor (that is, within 3 times the RDCSRS), and generally do not exhibit spatially relevant trends. Benzo(a)pyrene and benzo(b)fluoranthene were also detected at concentrations exceeding the RDCSRS in background soil samples collected from the Main Post (Weston, 1995). Therefore, with the exception of the boring B30 area, the PAH occurrences are likely the result of ubiquitous urban impacts, or historic fill used to develop the former Fort Monmouth rather than point-source contamination from within the 700 Area.

The compliance average concentrations of both benzo(a)pyrene and benzo(b)fluoranthene were lower than the respective RDCSRS, as presented in Attachment O. These compliance averages were calculated in general accordance with NJDEP (2012) guidance, except that the arithmetic mean was calculated rather than the 95 percent upper confidence limit (UCL) of the mean, and the entire Area 700 data set was used instead of designating functional areas. Regardless, the calculated averages provide useful information on the central tendency of SVOC concentrations at the site.

The data indicate generally adequate delineation of SVOCs to the RDCSRS, as previously required by NJDEP (Attachment A). However, there are soil samples that exceed the RDCSRS at the perimeter boundary of the data set (for example, borings B2, B7, B38, and step-out samples at B49), suggesting that exceedances of the RDCSRS could also extend outside of the Parcel 53 area. This observation is also consistent with the interpretation that SVOCs in soil are likely the result of ubiquitous urban impacts, rather than point-source contamination from within the 700 Area.

Pesticides

Pesticides were analyzed in a total of 62 soil samples; 5 samples represent soils that were removed by excavating, leaving 57 remaining soil sample results. The exceedances of single-point compliance comparisons of soil pesticide results with the applicable RDCSRS included the following:

- Heptachlor exceeded the RDCSRS of 0.1 mg/kg in 5 of the 57 soil samples, at concentrations ranging from 0.12 mg/kg to 8.1 mg/kg.

- Heptachlor epoxide exceeded the RDCSRS of 0.07 mg/kg in 5 of the 57 soil samples, at concentrations ranging from 0.13 mg/kg to 1.1 mg/kg.
- gamma-Chlordane exceeded the RDCSRS of 0.2 mg/kg in 5 of the 57 soil samples, at concentrations ranging from 0.35 mg/kg to 5.4 mg/kg.
- alpha-Chlordane exceeded the RDCSRS of 0.2 mg/kg in 2 of the 57 soil samples, at concentrations ranging from 1.0 mg/kg to 1.6 mg/kg.
- 4,4'-DDE exceeded the RDCSRS of 2 mg/kg in 1 of the 57 soil samples, at a concentration of 2.1 mg/kg.

Pesticide results are attributed to historical application of pesticide products in a manner consistent with their intended use, and therefore do not indicate a need for additional remediation or deed restrictions. NJDEP (1999) has previously recognized that the historical use of agricultural pesticides in New Jersey has resulted in pesticide concentrations in excess of the residential soil cleanup criteria. The pesticides 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT were previously detected in background soil samples collected from the Main Post (Weston, 1995).

The compliance average concentrations of heptachlor epoxide, alpha- and gamma-chlordane, and 4,4'-DDE were lower than the respective RDCSRS, as presented in Attachment O. The compliance average concentration of heptachlor exceeded the RDCSRS. These compliance averages were calculated in general accordance with NJDEP (2012) guidance, except that the arithmetic mean was calculated rather than the 95 percent upper confidence limit (UCL) of the mean, and the entire Area 700 data set was used instead of designating functional areas. Regardless, the calculated averages provide useful information on the distribution of pesticide concentrations at the site.

The data indicate an adequate delineation of pesticides to the RDCSRS, as previously required by NJDEP (Attachment A). However, there are soil samples that exceed the RDCSRS at the perimeter boundary of the data set (for example, borings B1, B13, B20, and B39), suggesting that exceedances of the RDCSRS could also extend outside of the Parcel 53 area. This observation is also consistent with the interpretation that pesticides in soil can be attributed to historical application of pesticide products.

PCBs

PCBs were analyzed in a total of 49 soil samples; however, 2 samples represent soils that were removed by excavating, leaving 47 remaining soil sample results. The exceedances of single-point compliance comparisons of soil PCB results with the applicable RDCSRS included the following:

- Aroclor 1260 exceeded the RDCSRS of 0.2 mg/kg in 2 of the 47 soil samples, at concentrations ranging from 0.25 mg/kg to 0.68 mg/kg.

Note that the PCB exceedances of the RDCSRS are located entirely within a 0.75 acre portion of the RCI Study Area that is south of Building 750 within ECP Parcel 51, rather than Parcel 53. The source of the PCBs in soils is not known; however, pole-mounted electrical transformers have been used at FTMM, and so the possibility for a release from a historical PCB-containing transformer cannot be completely discounted.

The compliance average concentration of Aroclor 1260 was lower than the respective RDCSRS, as presented in Attachment O. This compliance average was calculated in general accordance with NJDEP (2012) guidance, and indicates that the average concentration of PCBs within this area is less than the RDCSRS.

The data indicate generally adequate delineation of PCBs to the RDCSRS, as previously required by NJDEP (Attachment A). However, soil results from borings B44 and B46 exceed the RDCSRS at the perimeter boundary of the data set, suggesting that exceedances of the RDCSRS could also extend outside of the study area.

In summary, the RCI data supports the determination of NFA for the 700 Area soils.

4.0 Groundwater Investigation at 700 Area

Five groundwater monitoring wells were installed within the 700 Area in December 2009 to assess the potential for groundwater contamination from the UHOTs located in this area. Monitor wells MW-1, MW-2, MW-3 and MW-5 were each screened from 5 ft to 20 ft below ~~ground surface~~ (bgs), while MW-4 was completed at a deeper screened interval of 50 to 70 ft bgs. Shallow groundwater was typically encountered at approximately 9 ft bgs. Monitor well completion logs for each of these wells and a potentiometric surface map from April 2010 are presented in Attachment P. Shallow groundwater flow direction was primarily towards the northwest in the vicinity of these wells.

Two rounds of groundwater sampling were performed in December 2009 and January 2010, with analysis for VOCs. There were no VOCs detected in these groundwater samples. Therefore, there were no indications of a contaminant release to groundwater from the 700 area.

5.0 Summary

This information supports the conclusion that UHOTs as well as RCI program contamination issues identified within Parcel 53 have been adequately addressed by previous environmental activities. Multiple UHOT sites were identified within this Parcel that were addressed under the FTMM tank removal and assessment program. The RCI program results indicated several areas where individual sample results for SVOCs, pesticides, and PCBs exceed the residential cleanup criteria in soils; however, the average concentrations for these analytes were less than the residential criteria, with the exception of the pesticide heptachlor. Pesticide occurrences have resulted from the application of pesticide products applied in a manner intended for their beneficial use to landscaped areas. Therefore the sample results do not warrant additional remedial activities.

In summary, we submit that the Army has provided adequate due diligence with regards to the environmental condition of this Parcel, and we request that NJDEP approve No Further Action. Should you have any questions or require additional information, please contact me at (732) 383-5104 or by email at john.e.occhipinti.civ@mail.mil.

Sincerely,

John E. Occhipinti
Fort Monmouth Site Manager

cc: Delight Balducci, HQDA ACSIM
Joseph Pearson, Calibre
James Moore, USACE
Cris Grill, Parsons

REFERENCES CITED

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ATTACHMENT A

Correspondence

Contents:

- NJDEP letter to the Army dated September 5, 2007, re: *Remedial Action Report for the 800, 700, and 400 Areas, Ft. Monmouth, NJ.*

JON S. CORZINE
Governor

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Remediation Management & Response
P.O. Box 413
Trenton, New Jersey 08625-0413

LISA P. JACKSON
Commissioner

SEP 5 2007

Mr. Joseph Fallon, CHMM
Directorate of Public Works
ATTN: IMNE-MON-PWE
167 Riverside Ave.
Fort Monmouth, NJ 07703

RE: Remedial Action Report for the 800, 700, and 400 Areas
Fort Monmouth, NJ

Dear Mr. Fallon:

The NJDEP Division of Remediation Management & Response (DRMR) has completed its review of the report titled "Remedial Action Report for the 800, 700, and 400 Areas", dated October 2005, by Tetra Tech EM Inc. Our comments are attached.

NJDEP cannot make No Further Action (NFA) determinations for soil or ground water at the 800, 700, and 400 Areas at this time, based upon the report. Our comments describe the additional investigations or actions that would be needed before NFAs could be considered.

You or your staff may contact me at 609-633-0766 with any questions on the enclosed comments, or any other site remediation matters at Fort Monmouth.

Sincerely,

Larry Quinn

Larry Quinn, P.E., CHMM, Case Manager
Bureau of Design and Construction

Attachment

NJDEP COMMENTS ON
REMEDIAL ACTION REPORT FOR THE 800, 700, AND 400 AREAS
FORT MONMOUTH, NJ

1. General - The report states that during the soil investigation in the 800 Area, seven 1,000 gallon USTs and one 550 gallon UST were removed from the site. A subsequent investigation via backhoe identified four additional USTs in the 800 Area outside of the original site footprint. The document further states that the investigation and remediation/closure of those USTs is not part of this RAR. Documentation must be provided in the RAR (as an addendum) that confirms the remediation and closure of **all** USTs associated with the 800, 700, and 400 Areas (the former UST locations are not shown on any of the Figures).

2. 700 Area - The Report states that soils were delineated and remediated to the NJDEP **non-residential** direct contact soil cleanup criteria (NRDCSCC). However, soil contamination must be delineated to the level of the residential criteria (RDCSCC), since the future use of this area is now unknown. Additional sampling may not be necessary if adequate soil data can be used to extrapolate both horizontally and vertically for delineation (NJDEP Technical Requirements for Site Remediation, 7:26E 4.1). However, if soils contaminated above the RDCSCC remain in place, a deed notice will be required to document the contaminated soil, and appropriate engineering controls must be implemented and documented.

3. 400 Area, page 20 - The Report discusses the electromagnetic (EM) and ground penetrating radar (GPR) surveys conducted as part of the 400 Area investigation. The GPR and the EM survey both produced data that suggested the presence of USTs. It was reported that one EM location produced laterally restricted, high amplitude, parabolic reflections consistent with a UST. Another EM anomaly centered on the mapped location of a former tank suggested that the tank still existed beneath the 400 Area. No further investigation was performed at these suspected UST locations. These locations must be properly investigated.

4. 400 Area - As discussed regarding the 700 Area in comment #2 above, soil contamination must be delineated to the level of the RDCSCC, since the future use of this area is now unknown. Extrapolation may be possible in lieu of additional sampling. If soils contaminated above the RDCSCC remain in place, a deed notice will be required to document the contaminated soil, and appropriate engineering controls must be implemented and documented.

NJDEP COMMENTS ON
REMEDIAL ACTION REPORT FOR THE 800, 700, AND 400 AREAS
FORT MONMOUTH, NJ

5. Ground Water – Due to the reported evidence of releases at the 800, 700, and 400 Areas, a site investigation (SI) for ground water is required at all 3 areas. Ground water sampling by Geoprobe® at the 400 Area (Parcel 79) was included in the ECP Phase II Site Investigation Workplan and approved by NJDEP. Therefore, NJDEP would accept a similar Geoprobe® ground water investigation of the 800 and 700 Areas, provided that the sample locations provide complete coverage of all former UST locations within those Areas, including upgradient and downgradient samples. A remedial investigation for ground water may be required based upon the results of the ground water SIs.

ATTACHMENT O

Compliance Averaging of RCI Area 700 Soil Results

Summary of Compliance Averaging of Select Analytes in 700 Area Soils
Fort Monmouth BRAC 05 Facility
Oceanport, New Jersey

Analyte Group	Analyte	Compliance Average [1/]	RDCSRS [2/]	Is Average > RDCSRS?
PCBs (mg/kg)				
	Aroclor 1260 (0 to 6"):	0.14	0.2	No
Pesticides (mg/kg)				
	4,4'-DDE (0 to 6"):	0.15	2	No
	4,4'-DDE (> 6"):	0.02	2	No
	alpha-Chlordane (0 to 6"):	0.07	0.2	No
	alpha-Chlordane (> 6"):	0.01	0.2	No
	gamma-Chlordane (0 to 6"):	0.19	0.2	No
	gamma-Chlordane (> 6"):	0.01	0.2	No
	Heptachlor (0 to 6"):	0.29	0.1	Yes
	Heptachlor (> 6"):	0.01	0.1	No
	Heptachlor Epoxide (0 to 6"):	0.05	0.07	No
	Heptachlor Epoxide (> 6"):	0.01	0.07	No
SVOCs (ug/kg)				
	Benzo[a]pyrene (0 to 6"):	137	200	No
	Benzo[a]pyrene (> 6"):	150	200	No
	Benzo[b]fluoranthene (0 to 6"):	196	600	No
	Benzo[b]fluoranthene (> 6"):	211	600	No

[1/] Compliance averages were calculated as the arithmetic mean of the specific data presented in the attached tables:
- Compliance Averaging of Select PCBs in 700 Area Soils
- Compliance Averaging of Select Pesticides in 700 Area Soils
- Compliance Averaging of Select SVOCs in 700 Area Soils

[2/] RDCSRS = Residential Direct Contact Soil Remediation Standard

Compliance Averaging of Select PCBs in 700 Area Soils
Fort Monmouth BRAC 05 Facility
Oceanport, New Jersey

Shading indicates the Result exceeds the residential direct contact soil remediation standard (RDCSRS).

Boring	Depth	Analyte	***NJDEP RDCSRS***	Result	Flag	RL	MDL	Value Used for Compliance Averaging	Unit	Notes
B41	0 to 6"	Aroclor 1260	***0.2***	0.047		0.05	0.004	0.047	mg/Kg	
B42	0 to 6"	Aroclor 1260	***0.2***	0.034		0.05	0.004	0.034	mg/Kg	
B43	0 to 6"	Aroclor 1260	***0.2***	0.073		0.05	0.004	0.073	mg/Kg	
B44	0 to 6"	Aroclor 1260	***0.2***	0.25		0.05	0.004	0.25	mg/Kg	
B45	0 to 6"	Aroclor 1260	***0.2***	0.12		0.05	0.004	0.12	mg/Kg	
B46	0 to 6"	Aroclor 1260	***0.2***	0.68		0.05	0.004	0.68	mg/Kg	
B47	0 to 6"	Aroclor 1260	***0.2***	0.021		0.05	0.005	0.021	mg/Kg	
B48	0 to 6"	Aroclor 1260	***0.2***	0.05	U	0.05	0.004	0.002	mg/Kg	
B49	0 to 6"	Aroclor 1260	***0.2***	0.45		0.05	0.005	0.0025	mg/Kg	Soil removed; use MDL
							Average Aroclor 1260 (0 to 6"):	0.137		
							Residential RDCSRS:	0.2		

PCBs in 700 Area Soils
Fort Monmouth BRAC 05 Facility
Oceanport, New Jersey

Boring	Depth	Analyte	***NJDEP RDCSRS***	Result	Unit	Flag	High Limit	High Limit Type	Low Limit	Low Limit Type
B38	0 to 6"	Aroclor 1254	***0.2***	0.05	mg/Kg	U	0.05	RL	0.005	MDL
B38	0 to 6"	Aroclor 1260	***0.2***	0.098	mg/Kg		0.05	RL	0.004	MDL
B39	0 to 6"	Aroclor 1016	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL
B39	0 to 6"	Aroclor 1221	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL
B39	0 to 6"	Aroclor 1232	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL
B39	0 to 6"	Aroclor 1242	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL
B39	0 to 6"	Aroclor 1248	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL
B39	0 to 6"	Aroclor 1254	***0.2***	0.05	mg/Kg	U	0.05	RL	0.005	MDL
B39	0 to 6"	Aroclor 1260	***0.2***	0.05	mg/Kg	U	0.05	RL	0.004	MDL
B40	0 to 6"	Aroclor 1016	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL
B40	0 to 6"	Aroclor 1221	***0.2***	0.05	mg/Kg	U	0.05	RL	0.03	MDL
B40	0 to 6"	Aroclor 1232	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL
B40	0 to 6"	Aroclor 1242	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL
B40	0 to 6"	Aroclor 1248	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL
B40	0 to 6"	Aroclor 1254	***0.2***	0.05	mg/Kg	U	0.05	RL	0.005	MDL
B40	0 to 6"	Aroclor 1260	***0.2***	0.05	mg/Kg	U	0.05	RL	0.005	MDL
B41	0 to 6"	Aroclor 1016	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL
B41	0 to 6"	Aroclor 1221	***0.2***	0.05	mg/Kg	U	0.05	RL	0.03	MDL
B41	0 to 6"	Aroclor 1232	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL
B41	0 to 6"	Aroclor 1242	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL
B41	0 to 6"	Aroclor 1248	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL
B41	0 to 6"	Aroclor 1254	***0.2***	0.05	mg/Kg	U	0.05	RL	0.005	MDL
B41	0 to 6"	Aroclor 1260	***0.2***	0.047	mg/Kg		0.05	RL	0.004	MDL
B42	0 to 6"	Aroclor 1016	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL
B42	0 to 6"	Aroclor 1221	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL
B42	0 to 6"	Aroclor 1232	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL
B42	0 to 6"	Aroclor 1242	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL
B42	0 to 6"	Aroclor 1248	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL
B42	0 to 6"	Aroclor 1254	***0.2***	0.05	mg/Kg	U	0.05	RL	0.005	MDL
B42	0 to 6"	Aroclor 1260	***0.2***	0.034	mg/Kg		0.05	RL	0.004	MDL
B43	0 to 6"	Aroclor 1016	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL
B43	0 to 6"	Aroclor 1221	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL
B43	0 to 6"	Aroclor 1232	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL
B43	0 to 6"	Aroclor 1242	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL
B43	0 to 6"	Aroclor 1248	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL
B43	0 to 6"	Aroclor 1254	***0.2***	0.05	mg/Kg	U	0.05	RL	0.005	MDL
B43	0 to 6"	Aroclor 1260	***0.2***	0.073	mg/Kg		0.05	RL	0.004	MDL

Parcel 98

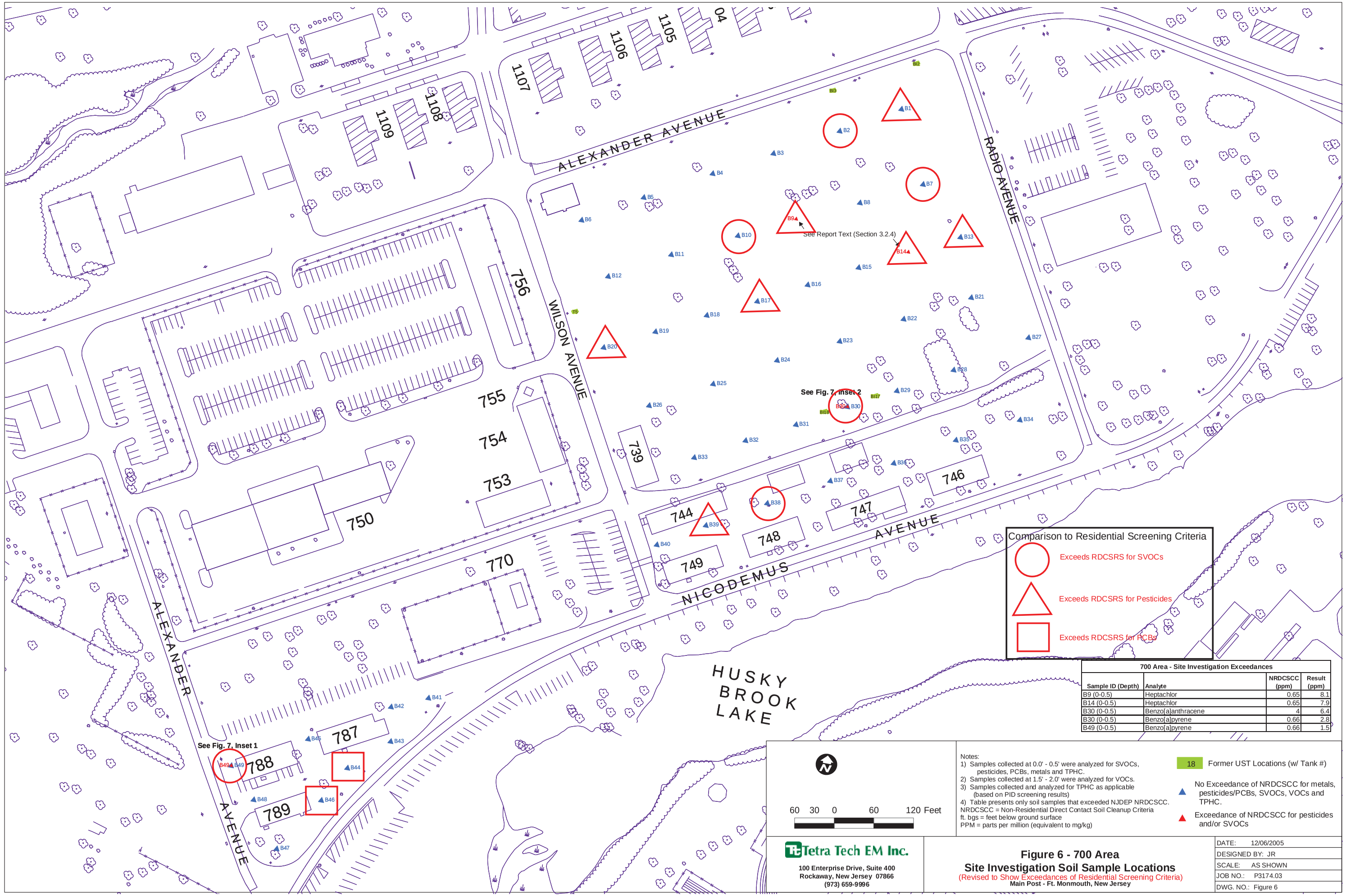
PCBs in 700 Area Soils
Fort Monmouth BRAC 05 Facility
Oceanport, New Jersey

Parcel 98

Boring	Depth	Analyte	***NJDEP RDCSRS***	Result	Unit	Flag	High Limit	High Limit Type	Low Limit	Low Limit Type	
B44	0 to 6"	Aroclor 1016	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL	
B44	0 to 6"	Aroclor 1221	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL	
B44	0 to 6"	Aroclor 1232	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL	
B44	0 to 6"	Aroclor 1242	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL	
B44	0 to 6"	Aroclor 1248	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL	
B44	0 to 6"	Aroclor 1254	***0.2***	0.05	mg/Kg	U	0.05	RL	0.005	MDL	
B44	0 to 6"	Aroclor 1260	***0.2***	0.25	mg/Kg		0.05	RL	0.004	MDL	
B45	0 to 6"	Aroclor 1016	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL	
B45	0 to 6"	Aroclor 1221	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL	
B45	0 to 6"	Aroclor 1232	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL	
B45	0 to 6"	Aroclor 1242	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL	
B45	0 to 6"	Aroclor 1248	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL	
B45	0 to 6"	Aroclor 1254	***0.2***	0.05	mg/Kg	U	0.05	RL	0.005	MDL	
B45	0 to 6"	Aroclor 1260	***0.2***	0.12	mg/Kg		0.05	RL	0.004	MDL	
B46	0 to 6"	Aroclor 1016	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL	
B46	0 to 6"	Aroclor 1221	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL	
B46	0 to 6"	Aroclor 1232	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL	
B46	0 to 6"	Aroclor 1242	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL	
B46	0 to 6"	Aroclor 1248	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL	
B46	0 to 6"	Aroclor 1254	***0.2***	0.05	mg/Kg	U	0.05	RL	0.005	MDL	
B46	0 to 6"	Aroclor 1260	***0.2***	0.68	mg/Kg		0.05	RL	0.004	MDL	
B47	0 to 6"	Aroclor 1016	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL	
B47	0 to 6"	Aroclor 1221	***0.2***	0.05	mg/Kg	U	0.05	RL	0.03	MDL	
B47	0 to 6"	Aroclor 1232	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL	
B47	0 to 6"	Aroclor 1242	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL	
B47	0 to 6"	Aroclor 1248	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL	
B47	0 to 6"	Aroclor 1254	***0.2***	0.05	mg/Kg	U	0.05	RL	0.005	MDL	
B47	0 to 6"	Aroclor 1260	***0.2***	0.021	mg/Kg		0.05	RL	0.005	MDL	
B48	0 to 6"	Aroclor 1016	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL	
B48	0 to 6"	Aroclor 1221	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL	
B48	0 to 6"	Aroclor 1232	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL	
B48	0 to 6"	Aroclor 1242	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL	
B48	0 to 6"	Aroclor 1248	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL	
B48	0 to 6"	Aroclor 1254	***0.2***	0.05	mg/Kg	U	0.05	RL	0.005	MDL	
B48	0 to 6"	Aroclor 1260	***0.2***	0.05	mg/Kg	U	0.05	RL	0.004	MDL	
B49	0 to 6"	Aroclor 1016	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL	REMOVED
B49	0 to 6"	Aroclor 1221	***0.2***	0.05	mg/Kg	U	0.05	RL	0.03	MDL	REMOVED
B49	0 to 6"	Aroclor 1232	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL	REMOVED

PCBs in 700 Area Soils
Fort Monmouth BRAC 05 Facility
Oceanport, New Jersey

Boring	Depth	Analyte	***NJDEP RDCSRS***	Result	Unit	Flag	High Limit	High Limit Type	Low Limit	Low Limit Type	
B49	0 to 6"	Aroclor 1242	***0.2***	0.05	mg/Kg	U	0.05	RL	0.02	MDL	REMOVED
B49	0 to 6"	Aroclor 1248	***0.2***	0.05	mg/Kg	U	0.05	RL	0.01	MDL	REMOVED
B49	0 to 6"	Aroclor 1254	***0.2***	0.05	mg/Kg	U	0.05	RL	0.005	MDL	REMOVED
B49	0 to 6"	Aroclor 1260	***0.2***	0.45	mg/Kg		0.05	RL	0.005	MDL	REMOVED



700 Area - Site Investigation Exceedances

Sample ID (Depth)	Analyte	NRDCSCC (ppm)	Result (ppm)
B9 (0-0.5)	Heptachlor	0.65	8.1
B14 (0-0.5)	Heptachlor	0.65	7.9
B30 (0-0.5)	Benzo[a]anthracene	4	6.4
B30 (0-0.5)	Benzo[a]pyrene	0.66	2.8
B49 (0-0.5)	Benzo[a]pyrene	0.66	1.5

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100 Enterprise Drive, Suite 400
Rockaway, New Jersey 07866
(973) 659-9996

Figure 6 - 700 Area
Site Investigation Soil Sample Locations
(Revised to Show Exceedances of Residential Screening Criteria)
Main Post - Ft. Monmouth, New Jersey

DATE:	12/06/2005
DESIGNED BY:	JR
SCALE:	AS SHOWN
JOB NO.:	P3174.03
DWG. NO.:	Figure 6

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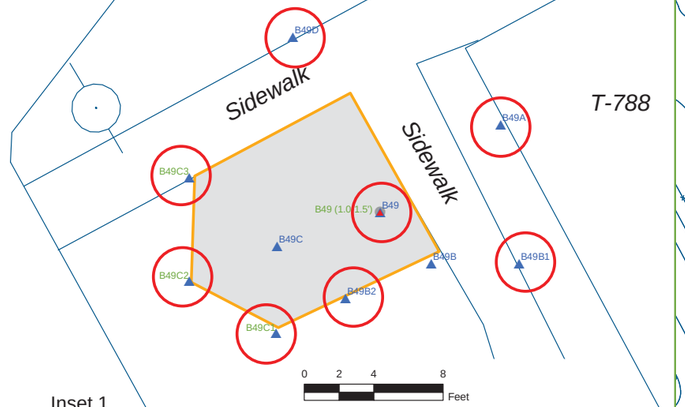
700 Area - Remedial Investigation Exceedances			
Sample ID (Depth)	Analyte	NRDCSCC (ppm)	Result (ppm)
B49 (1-1.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	4	5.7
B49 (1-1.5)	Benzo[a]pyrene	0.66	3.6

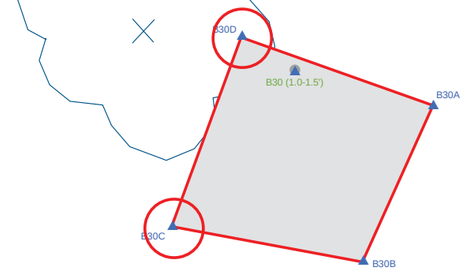
These step-out samples were not analyzed for PCBs



Inset 1

Notes:
1) This inset shows only the site investigation sample (B49) that exceeded the NJDEP criteria, and the Remedial Investigation samples collected to delineate the areal extent of contamination.
2) See Figure 8 for post-excavation sample locations.
3) COCs at this location are SVOCs.

These step-out samples were not analyzed for Pesticides or PCBs



Inset 2

Notes:
1) This inset shows only the site investigation sample (B30) that exceeded the NJDEP criteria, and the Remedial Investigation samples collected to delineate the areal extent of contamination.
2) See Figure 8 for post-excavation sample locations.
3) COCs at this location are SVOCs.

Comparison to Residential Screening Criteria

- Exceeds RDCSRS for SVOCs
- Exceeds RDCSRS for Pesticides
- Exceeds RDCSRS for PCBs

Excavation Boundaries - Indicated for reference only (see Figure 8 for post-excavation sample locations)

- 1' Depth
- 1.5' Depth
- Remedial Investigation Sample - No Exceedance of NRDCSCC for SVOCs
- Remedial Investigation Sample - Exceedance of NRDCSCC for SVOCs
- Original Site Investigation Sample Location

Sample Round Color Code Scheme

- Remedial Investigation - Round 1
- Remedial Investigation - Round 2

60 30 0 60 Feet

Notes:
1) Samples collected were analyzed for SVOCs.
2) Table presents only soil samples that exceeded NJDEP NRDCSCC.
3) All samples collected at 0.0' - 0.5' unless otherwise noted.
ft. bgs = feet below ground surface
PPM = parts per million (equivalent to mg/kg)
NRDCSCC = Non-Residential Direct Contact Soil Cleanup Criteria

Tetra Tech EM Inc.
100 Enterprise Drive, Suite 400
Rockaway, New Jersey 07866
(973) 659-9996

Figure 7 - 700 Area
Remedial Investigation Soil Sample Locations
(Revised to Show Exceedances of Residential Screening Criteria)
Main Post - Ft. Monmouth, New Jersey

DATE:	12/06/2005
DESIGNED BY:	JR
SCALE:	AS SHOWN
JOB NO.:	P3174.03
DWG. NO.:	Figure 7

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700 Area Sample Location GPS Positions

US State Plane 1983 New Jersey (NY East) 2900
NAD 1983 (Conus)
Geoid 96 (Conus)

(In US Survey Feet)

Sample Points

Position	Northing (Y Coord.)	Easting (X Coord.)
B1 700	538584.499	618445.897
B2 700	538536.375	618359.584
B3 700	538484.675	618267.432
B4 700	538439.328	618182.142
B5 700	538385.068	618085.360
B6 700	538334.814	617998.362
B7 700	538478.331	618497.635
B8 700	538433.972	618409.029
B9 700	538393.182	618318.390
B10 700	538352.873	618236.341
B11 700	538306.831	618140.515
B12 700	538257.625	618052.490
B13 700	538409.389	618567.903
B14 700	538372.924	618494.109
B15 700	538336.632	618424.058
B16 700	538297.562	618352.576
B17 700	538260.384	618281.765
B18 700	538225.572	618210.134
B19 700	538187.641	618137.704
B20 700	538151.245	618064.910
B21 700	538321.759	618599.517
B22 700	538271.617	618504.578
B23 700	538221.951	618415.454
B24 700	538176.774	618326.862
B25 700	538125.378	618238.026
B26 700	538075.823	618147.608
B27 700	538276.835	618696.099
B28 700	538209.298	618593.055
B29 700	538162.863	618513.986
B30 700	538125.877	618443.723
B31 700	538086.061	618372.433
B32 700	538048.567	618301.213
B33 700	538010.342	618228.589
B34 700	538152.339	618705.120
B35 700	538105.087	618614.868
B36 700	538053.968	618528.031
B37 700	538011.110	618437.884
B38 700	537961.249	618349.935
B39 700	537911.562	618263.850
B40 700	537870.012	618196.218
B41 700	537581.358	617895.912
B42 700	537557.512	617841.616
B43 700	537506.094	617851.045
B44 700	537455.134	617792.892
B45 700	537487.571	617727.286
B46 700	537400.275	617762.690
B47 700	537315.619	617708.601
B48 700	537382.949	617662.118
B49 700	537427.785	617619.116

Reference Points

Position	Northing (Y Coord.)	Easting (X Coord.)
HYD 141	538520.007	618579.837
HYD 152	538191.487	618000.831

U.S.Army, FT. Monmouth Environmental Laboratory.

Report Of Analysis
NJDEP Certification # 13461
METHOD 8082

Client:	U.S.Army, Bldg 173, Ft. Monmouth, NJ 07703.	MATRIX:	Soil
Location:	700 Area	Date Extracted:	2/25/2004
Lot #.	700 Ar4ea	Ext. Batch:	022504
Client ID:	B41 0-6	Date Analyzed:	2/25/2004
Lab ID:	4012108	DILUTION:	1
Filename:	PC00660.D		
Lab Project No:	40121	Analyst:	A.A.

CAS #	COMPOUNDS	RESULTS (mg/Kg)	*Reporting Limit (mg/Kg)	Cleanup Criteria (mg/Kg)	QUALIFIER	MDL (mg/Kg)
12674-11-2	AROCLOR 1016	ND	0.05	0.49		0.0137
11104-28-2	AROCLOR 1221	ND	0.05	0.49		0.0252
11141-16-5	AROCLOR 1232	ND	0.05	0.49		0.0172
53469-21-9	AROCLOR 1242	ND	0.05	0.49		0.0196
12672-29-6	AROCLOR 1248	ND	0.05	0.49		0.0078
11097-69-1	AROCLOR 1254	ND	0.05	0.49		0.0049
11096-82-5	AROCLOR 1260	0.047	0.05	0.49		0.0044

%SOLIDS	80%
Initial Wt.(gms)	10.20
Final Vol.(ml)	10.00

*RESULTS BETWEEN MDL AND RL ARE ESTIMATED.
MDL = METHOD DETECTION LIMIT
ND =UNDETECTED BELOW THE MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

U.S.Army, FT. Monmouth Environmental Laboratory.

Report Of Analysis
NJDEP Certification # 13461
METHOD 8082

Client:	U.S.Army, Bldg 173, Ft. Monmouth, NJ 07703.	MATRIX:	Soil
Location:	700 Area	Date Extracted:	2/25/2004
Lot #.	700 Ar4ea	Ext. Batch:	022504
Client ID:	B42 0-6	Date Analyzed:	2/25/2004
Lab ID:	4012111	DILUTION:	1
Filename:	PC00661.D		
Lab Project No:	40121	Analyst:	A.A.

CAS #	COMPOUNDS	RESULTS (mg/Kg)	*Reporting Limit (mg/Kg)	Cleanup Criteria (mg/Kg)	QUALIFIER	MDL (mg/Kg)
12674-11-2	AROCLOR 1016	ND	0.05	0.49		0.0134
11104-28-2	AROCLOR 1221	ND	0.05	0.49		0.0246
11141-16-5	AROCLOR 1232	ND	0.05	0.49		0.0167
53469-21-9	AROCLOR 1242	ND	0.05	0.49		0.0191
12672-29-6	AROCLOR 1248	ND	0.05	0.49		0.0076
11097-69-1	AROCLOR 1254	ND	0.05	0.49		0.0048
11096-82-5	AROCLOR 1260	0.034	0.05	0.49		0.0043

%SOLIDS 82%
Initial Wt.(gms) 10.21
Final Vol.(ml) 10.00

*RESULTS BETWEEN MDL AND RL ARE ESTIMATED.
MDL = METHOD DETECTION LIMIT
ND =UNDETECTED BELOW THE MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

U.S.Army, FT. Monmouth Environmental Laboratory.

Report Of Analysis
NJDEP Certification # 13461
METHOD 8082

Client:	U.S.Army, Bldg 173, Ft. Monmouth, NJ 07703.	MATRIX:	Soil
Location:	700 Area	Date Extracted:	2/25/2004
Lot #.	700 Ar4ea	Ext. Batch:	022504
Client ID:	B43 0-6	Date Analyzed:	2/25/2004
Lab ID:	4012114	DILUTION:	1
Filename:	PC00662.D		
Lab Project No:	40121	Analyst:	A.A.

CAS #	COMPOUNDS	RESULTS (mg/Kg)	*Reporting Limit (mg/Kg)	Cleanup Criteria (mg/Kg)	QUALIFIER	MDL (mg/Kg)
12674-11-2	AROCLOR 1016	ND	0.05	0.49		0.0132
11104-28-2	AROCLOR 1221	ND	0.05	0.49		0.0242
11141-16-5	AROCLOR 1232	ND	0.05	0.49		0.0165
53469-21-9	AROCLOR 1242	ND	0.05	0.49		0.0188
12672-29-6	AROCLOR 1248	ND	0.05	0.49		0.0075
11097-69-1	AROCLOR 1254	ND	0.05	0.49		0.0047
11096-82-5	AROCLOR 1260	0.073	0.05	0.49		0.0042

%SOLIDS	84%
Initial Wt.(gms)	10.12
Final Vol.(ml)	10.00

*RESULTS BETWEEN MDL AND RL ARE ESTIMATED.
MDL = METHOD DETECTION LIMIT
ND =UNDETECTED BELOW THE MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

U.S.Army, FT. Monmouth Environmental Laboratory.

Report Of Analysis
NJDEP Certification # 13461
METHOD 8082

Client:	U.S.Army, Bldg 173, Ft. Monmouth, NJ 07703.	**MATRIX:**	Soil
Location:	700 Area	**Date Extracted:**	2/25/2004
Lot #.	700 Ar4ea	**Ext. Batch:**	022504
Client ID:	B44 0-6	**Date Analyzed:**	2/25/2004
Lab ID:	4012117	**DILUTION:**	1
Filename:	PC00663.D		
Lab Project No:	40121	**Analyst:**	A.A.

CAS #	COMPOUNDS	RESULTS (mg/Kg)	*Reporting Limit (mg/Kg)	Cleanup Criteria (mg/Kg)	QUALIFIER	MDL (mg/Kg)
12674-11-2	AROCLOR 1016	ND	0.05	0.49		0.0126
11104-28-2	AROCLOR 1221	ND	0.05	0.49		0.0232
11141-16-5	AROCLOR 1232	ND	0.05	0.49		0.0158
53469-21-9	AROCLOR 1242	ND	0.05	0.49		0.0180
12672-29-6	AROCLOR 1248	ND	0.05	0.49		0.0072
11097-69-1	AROCLOR 1254	ND	0.05	0.49		0.0045
11096-82-5	AROCLOR 1260	0.250	0.05	0.49		0.0041

%SOLIDS	88%
Initial Wt.(gms)	10.10
Final Vol.(ml)	10.00

*RESULTS BETWEEN MDL AND RL ARE ESTIMATED.
MDL = METHOD DETECTION LIMIT
ND =UNDETECTED BELOW THE MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

U.S.Army, FT. Monmouth Environmental Laboratory.

Report Of Analysis
NJDEP Certification # 13461
METHOD 8082

Client:	U.S.Army, Bldg 173, Ft. Monmouth, NJ 07703.	MATRIX:	Soil
Location:	700 Area	Date Extracted:	2/25/2004
Lot #.	700 Ar4ea	Ext. Batch:	022504
Client ID:	B45 0-6	Date Analyzed:	2/25/2004
Lab ID:	4012120	DILUTION:	1
Filename:	PC00664.D		
Lab Project No:	40121	Analyst:	A.A.

CAS #	COMPOUNDS	RESULTS (mg/Kg)	*Reporting Limit (mg/Kg)	Cleanup Criteria (mg/Kg)	QUALIFIER	MDL (mg/Kg)
12674-11-2	AROCLOR 1016	ND	0.05	0.49		0.0135
11104-28-2	AROCLOR 1221	ND	0.05	0.49		0.0247
11141-16-5	AROCLOR 1232	ND	0.05	0.49		0.0168
53469-21-9	AROCLOR 1242	ND	0.05	0.49		0.0192
12672-29-6	AROCLOR 1248	ND	0.05	0.49		0.0077
11097-69-1	AROCLOR 1254	ND	0.05	0.49		0.0048
11096-82-5	AROCLOR 1260	0.120	0.05	0.49		0.0043

%SOLIDS	81%
Initial Wt.(gms)	10.28
Final Vol.(ml)	10.00

*RESULTS BETWEEN MDL AND RL ARE ESTIMATED.
MDL = METHOD DETECTION LIMIT
ND =UNDETECTED BELOW THE MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

U.S.Army, FT. Monmouth Environmental Laboratory.

Report Of Analysis
NJDEP Certification # 13461
METHOD 8082

Client: U.S.Army, Bldg 173, Ft. Monmouth, NJ 07703.
Location: 700 Area
Lot #. 700 Area
Client ID: B46 0-6
Lab ID: 4012502
Filename: PC00665.D
Lab Project No: 40125

MATRIX: Soil
Date Extracted: 2/25/2004
Ext. Batch: 022504
Date Analyzed: 2/25/2004
DILUTION: 1
Analyst: A.A.

CAS #	COMPOUNDS	RESULTS (mg/Kg)	*Reporting Limit (mg/Kg)	Cleanup Criteria (mg/Kg)	QUALIFIER	MDL (mg/Kg)
12674-11-2	AROCLOR 1016	ND	0.05	0.49		0.0133
11104-28-2	AROCLOR 1221	ND	0.05	0.49		0.0245
11141-16-5	AROCLOR 1232	ND	0.05	0.49		0.0167
53469-21-9	AROCLOR 1242	ND	0.05	0.49		0.0191
12672-29-6	AROCLOR 1248	ND	0.05	0.49		0.0076
11097-69-1	AROCLOR 1254	ND	0.05	0.49		0.0048
11096-82-5	AROCLOR 1260	0.680	0.05	0.49		0.0043

%SOLIDS 82%
Initial Wt.(gms) 10.24
Final Vol.(ml) 10.00

*RESULTS BETWEEN MDL AND RL ARE ESTIMATED.
MDL = METHOD DETECTION LIMIT
ND =UNDETECTED BELOW THE MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

U.S.Army, FT. Monmouth Environmental Laboratory.

Report Of Analysis
NJDEP Certification # 13461
METHOD 8082

Client:	U.S.Army, Bldg 173, Ft. Monmouth, NJ 07703.	MATRIX:	Soil
Location:	700 Area	Date Extracted:	2/25/2004
Lot #.	700 Area	Ext. Batch:	022504
Client ID:	B47 0-6	Date Analyzed:	2/25/2004
Lab ID:	4012505	DILUTION:	1
Filename:	PC00666.D		
Lab Project No:	40125	Analyst:	A.A.

CAS #	COMPOUNDS	RESULTS (mg/Kg)	*Reporting Limit (mg/Kg)	Cleanup Criteria (mg/Kg)	QUALIFIER	MDL (mg/Kg)
12674-11-2	AROCLOR 1016	ND	0.05	0.49		0.0143
11104-28-2	AROCLOR 1221	ND	0.05	0.49		0.0263
11141-16-5	AROCLOR 1232	ND	0.05	0.49		0.0179
53469-21-9	AROCLOR 1242	ND	0.05	0.49		0.0205
12672-29-6	AROCLOR 1248	ND	0.05	0.49		0.0082
11097-69-1	AROCLOR 1254	ND	0.05	0.49		0.0051
11096-82-5	AROCLOR 1260	0.021	0.05	0.49		0.0046

%SOLIDS	77%
Initial Wt.(gms)	10.16
Final Vol.(ml)	10.00

*RESULTS BETWEEN MDL AND RL ARE ESTIMATED.
MDL = METHOD DETECTION LIMIT
ND =UNDETECTED BELOW THE MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

U.S.Army, FT. Monmouth Environmental Laboratory.

Report Of Analysis
NJDEP Certification # 13461
METHOD 8082

Client:	U.S.Army, Bldg 173, Ft. Monmouth, NJ 07703.	MATRIX:	Soil
Location:	700 Area	Date Extracted:	2/25/2004
Lot #.	700 Area	Ext. Batch:	022504
Client ID:	B48 0-6	Date Analyzed:	2/25/2004
Lab ID:	4012508	DILUTION:	1
Filename:	PC00667.D		
Lab Project No:	40125	Analyst:	A.A.

CAS #	COMPOUNDS	RESULTS (mg/Kg)	*Reporting Limit (mg/Kg)	Cleanup Criteria (mg/Kg)	QUALIFIER	MDL (mg/Kg)
12674-11-2	AROCLOR 1016	ND	0.05	0.49		0.0129
11104-28-2	AROCLOR 1221	ND	0.05	0.49		0.0237
11141-16-5	AROCLOR 1232	ND	0.05	0.49		0.0161
53469-21-9	AROCLOR 1242	ND	0.05	0.49		0.0184
12672-29-6	AROCLOR 1248	ND	0.05	0.49		0.0074
11097-69-1	AROCLOR 1254	ND	0.05	0.49		0.0046
11096-82-5	AROCLOR 1260	ND	0.05	0.49		0.0041

%SOLIDS	85%
Initial Wt.(gms)	10.23
Final Vol.(ml)	10.00

*RESULTS BETWEEN MDL AND RL ARE ESTIMATED.
MDL = METHOD DETECTION LIMIT
ND =UNDETECTED BELOW THE MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

U.S.Army, FT. Monmouth Environmental Laboratory.

Report Of Analysis
NJDEP Certification # 13461
METHOD 8082

Client:	U.S.Army, Bldg 173, Ft. Monmouth, NJ 07703.	MATRIX:	Soil
Location:	700 Area	Date Extracted:	2/25/2004
Lot #.	700 Area	Ext. Batch:	022504
Client ID:	B49 0-6	Date Analyzed:	2/25/2004
Lab ID:	4012511	DILUTION:	1
Filename:	PC00668.D		
Lab Project No:	40125	Analyst:	A.A.

CAS #	COMPOUNDS	RESULTS (mg/Kg)	*Reporting Limit (mg/Kg)	Cleanup Criteria (mg/Kg)	QUALIFIER	MDL (mg/Kg)
12674-11-2	AROCLOR 1016	ND	0.05	0.49		0.0147
11104-28-2	AROCLOR 1221	ND	0.05	0.49		0.0270
11141-16-5	AROCLOR 1232	ND	0.05	0.49		0.0183
53469-21-9	AROCLOR 1242	ND	0.05	0.49		0.0210
12672-29-6	AROCLOR 1248	ND	0.05	0.49		0.0084
11097-69-1	AROCLOR 1254	ND	0.05	0.49		0.0052
11096-82-5	AROCLOR 1260	0.450	0.05	0.49		0.0047

%SOLIDS	76%
Initial Wt.(gms)	10.04
Final Vol.(ml)	10.00

*RESULTS BETWEEN MDL AND RL ARE ESTIMATED.
MDL = METHOD DETECTION LIMIT
ND =UNDETECTED BELOW THE MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

ATTACHMENT B
2016 Field Notes

Location Oceanport, NJ Date 4/25/16

Project / Client Fmr phase II / USACE

Tech: CW, FA, JB, CJ

TASK: Prod 70 + 98

Weath: 50-65°F clear

0730: on-site & H+S / kick off

0815: gather equipment & mob

0855: Begin Drilling @ Prod 70

SAMPLE ID		TIME	Analysis
PAR-70-SB-02-	0-0.5	0915	PCB + mo/mg
" 02-	1-1.5	0918	
" 02-	2-2.5	0920	Hold
" 02-	3-3.5	0923	Hold
PAR-70-SB-01-	0-0.5	0950	+ Dup
	1-1.5	0953	
	2-2.5	0956	Hold
	3-3.5	0959	Hold
PAR-70-SB-03-	0-0.5	1020	
	1-1.5	1023	
	2-2.5	1026	
	3-3.5	1029	
PAR-70-SB-04-	0-0.5	1055	
	1-1.5	1058	
	2-2.5	1100	
	3-3.5	1103	

Location Oceanport, NJ Date 4/25/16

Project / Client Fmr phase II / USACE

SAMPLE ID		TIME	Analysis
PAR-70-SB-05-	0-0.5	1120	PCB
	1-1.5	1123	
	2-2.5	1126	
	3-3.5	1129	
PAR-70-SB-06-	0-0.5	1148	
	1-1.5	1150	
	2-2.5	1153	
	3-3.5	1156	

LUNCH: 1200-1230

1230: LUNCH

1250: Begin Drilling @ 98

SAMPLE ID		TIME	Analysis
PAR-98-SB-03-	0-0.5	1310	PCB
	1.5-2	1315	
	2.5-3	1320	
PAR-98-SB-04-	0-0.5	1345	
	1.5-2	1350	
	2.5-3	1355	
PAR-98-SB-01-	0-0.5	1420	
	1.5-2	1425	
	2.5-3	1430	

1530: off-site to shop

136

Location Oceanport NJ Date 4/26/15

Project / Client FTMM pipeline

Tech: CW, FA, JB, CT

TASK: Prod 78 SB's / well Development

Weather: 60°f possible T-storms

0730: on site H&S tailgate

0820: Mob to Prod 98

SAMPLE ID	TIME	Analysis
PAR-98-SB-02-0-0.5	0900	MS
1.5-2	0905	
2.5-3	0910	Hold
PAR-98-SB-05-0 0.5	0925	MS/
1.5-2	0930	
2.5-3	0935	Hold
PAR-98-SB-06-0-0.5	0940	MS
1.5-2	0945	MSD
2.5-3	0950	Hold

1015: Mob to Charles Wood

1045: Begin developing MW-56

1350: Mob to main post

1430: Begin Developing @ Prod 51

1525: ECDI off-site

1530: start paperwork / pack coolers

1605: off-site to ship samples

ATTACHMENT C
2016 Soil Boring Logs

PARSONS

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Soil Boring Log

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

GROUNDWATER OBSERVATIONS
WATER LEVEL:
DATE: N/A
TIME:
MEAS. FROM:

INSPECTOR: CW
DRILLER: JB
WEATHER: 68°F
CONTRACTOR: East Coast Drilling, Inc. (ECDI)
RIG TYPE: Geoprobe(R) 7822DT
DATE/TIME START: 4/25/16
DATE/TIME FINISH: 4/25/16
WEIGHT OF HAMMER: N/A
DROP OF HAMMER: N/A
TYPE OF HAMMER: N/A

BORING/WELL ID: PAP-98-SB-01
LOCATION DESCRIPTION: Parcel 98
LOCATION PLAN: Oceanport, New Jersey

DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS
0	0-0.5		60/60	0	0-14" Dry, Brown, Mf SAND, little silt	I	
1					14-28" moist, orange-brown, MC SAND, trace silt, trace f gravel		
1.5-2							
2							
2.5-3					28-60" moist, light tan, MC SAND, trace f gravel	III	
3							
4					end of boring		
5							
6							
7							
8							
9							
10							

1420
1425
1430

Remarks:

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

Consistency vs. Blowcount / Foot

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

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

PARSONS

Page 1 of 1

Soil Boring Log

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

GROUNDWATER OBSERVATIONS
WATER LEVEL:
DATE: N/A
TIME:
MEAS. FROM:

INSPECTOR: CW
DRILLER: JB
WEATHER: 60°F
CONTRACTOR: East Coast Drilling, Inc. (ECDI)
RIG TYPE: Geoprobe(R) 7822DT
DATE/TIME START: 4/25/16
DATE/TIME FINISH: 4/25/16
WEIGHT OF HAMMER: N/A
DROP OF HAMMER: N/A
TYPE OF HAMMER: N/A

BORING/WELL ID: PAR-97-SB-02
LOCATION DESCRIPTION: Parcel 98
LOCATION PLAN: Oceanport, New Jersey

DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS
0	0-6		60/60	0	0-15" Dry, Brown, mf SAND, trace silt		
1					15"-60" Moist, TAN, mc SAND, little f gravel,		
	1.5-2.0 ~~1.5-2.4~~						
2							
	2.5-3 ~~3.0-3.6~~						
3							
4							
5				6	end of Boring		
6							
7							
8							
9							
0							

Remarks:

Sample Types	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

PARSONS

Soil Boring Log

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

GROUNDWATER OBSERVATIONS
WATER LEVEL:
DATE: N/A
TIME:
MEAS. FROM:

INSPECTOR: CW
DRILLER: JB
WEATHER: 62°F
CONTRACTOR: East Coast Drilling, Inc. (ECDI)
RIG TYPE: Geoprobe(R) 7822DT
DATE/TIME START: 4/25/16
DATE/TIME FINISH: 4/25/16
WEIGHT OF HAMMER: N/A
DROP OF HAMMER: N/A
TYPE OF HAMMER: N/A

BORING/WELL ID: PAF-98-SB-03
LOCATION DESCRIPTION: Parcel 98
LOCATION PLAN: Oceanport, New Jersey

DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS
0	0-0.5		60/54	0	0-13" Dry, Brown MF SAND, little silt	I	
1					13"-35" Moist, orange-brown, mf SAND, little silt, little f gravel		
2	1.5-2						
3	2.5-3				35"-54" Moist, light TAN, MC SAND.	III	
4							
5					end of Boring		
6							
7							
8							
9							
10							

1310
1315
1320

Remarks:

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

Consistency vs. Blowcount / Foot

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

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

PARSONS

Page 1 of 1

Soil Boring Log

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

GROUNDWATER OBSERVATIONS
WATER LEVEL:
DATE: N/A
TIME:
MEAS. FROM:

INSPECTOR: CW
DRILLER: JB
WEATHER: 65°F
CONTRACTOR: East Coast Drilling, Inc. (ECDI)
RIG TYPE: Geoprobe(R) 7822DT
DATE/TIME START: 4/25/16
DATE/TIME FINISH: 4/25/16
WEIGHT OF HAMMER: N/A
DROP OF HAMMER: N/A
TYPE OF HAMMER: N/A

BORING/WELL ID: PAR-98-SB-04
LOCATION DESCRIPTION: Parcel 98
LOCATION PLAN: Oceanport, New Jersey

DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS
0	0-0.5		60/60	0	0-25" moist, brown, mf SAND, little silt	I	
1					25-38" moist, orange brown, mc SAND, little silt, trace f gravel		
1350 2	1.5-2						
1355 3	2.5-3				38"-60" moist, light tan, mc SAND, trace f gravel	II	
4					end of boring		
5							
6							
7							
8							
9							
10							

1345

Remarks:

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

Consistency vs. Blowcount / Foot

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

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

PARSONS

Page 1 of 1

Soil Boring Log

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

GROUNDWATER OBSERVATIONS
WATER LEVEL:
DATE:
TIME:
MEAS. FROM:
N/A

INSPECTOR: CW
DRILLER: JB
WEATHER: 60°F
CONTRACTOR: East Coast Drilling, Inc. (ECDI)
RIG TYPE: Geoprobe(R) 7822DT
DATE/TIME START: 4/26/16
DATE/TIME FINISH: 4/26/16
WEIGHT OF HAMMER: N/A
DROP OF HAMMER: N/A
TYPE OF HAMMER: N/A

BORING/WELL ID: PAR-97-SB-05
LOCATION DESCRIPTION: Parcel 97
LOCATION PLAN: Oceanport, New Jersey

DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS
0	0-0.5		60/49	0	0-13" Dry, Brown, mf SAND, little silt, trace f gravel		
1					13"-49" Moist, orange-brown, MC SAND, trace silt, little f gravel		
	1.5-2						
2							
	2.5-3						
3							
4							
5					end of boring		
6							
7							
8							
9							
0							

Remarks:

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

Consistency vs. Blowcount / Foot

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

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

PARSONS Page 1 of 1

Soil Boring Log

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

GROUNDWATER OBSERVATIONS
WATER LEVEL:
DATE: N/A
TIME:
MEAS. FROM:

INSPECTOR: CH
DRILLER: JB
WEATHER: 65°F
CONTRACTOR: East Coast Drilling, Inc. (ECDI)
RIG TYPE: Geoprobe(R) 7822DT
DATE/TIME START: 4/26/16
DATE/TIME FINISH: 4/25/16
WEIGHT OF HAMMER: N/A
DROP OF HAMMER: N/A
TYPE OF HAMMER: N/A

BORING/WELL ID: ~~Parcel 98~~ P-98-SB-06
LOCATION DESCRIPTION: Parcel 98
LOCATION PLAN: Oceanport, New Jersey

DEPTH (feet)	SAMPLE I.D.	BLOWS per 6"	ADV/ REC.	PID (ppm)	FIELD IDENTIFICATION OF MATERIAL	STRATA	COMMENTS
0	0-0.5		6/5	0	0-14" Dry, Brown, mf SAND, little silt, trace f gravel		
1					14"-60" moist, orange-brown, mc SAND, little f gravel, trace silt		
	1.5-2						
2							
	2.5-3						
3							
4							
5					end of Boring		
6							
7							
8							
9							
10							

Remarks:

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

Consistency vs. Blowcount / Foot

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

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

ATTACHMENT D
Analytical Lab Package

May 23, 2016 Service Request No:R1604157

Mr. Cory Mahony
Parsons Engineering Science
100 High St. 4th Floor
Boston, MA 02110

Laboratory Results for: FTMM Baseline

Dear Mr.Mahony,

Enclosed are the results of the sample(s) submitted to our laboratory April 27, 2016
For your reference, these analyses have been assigned our service request number **R1604157.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7478. You may also contact me via email at Vanessa.Badman@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Vanessa Badman
Customer Service
Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Client: Parsons Engineering Science **Service Request:**R1604157
Project: FTMM Baseline/748810-03000

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1604157-001	PAR-98-SB-03-0-0.5	4/25/2016	1310
R1604157-002	PAR-98-SB-03-1.5-2	4/25/2016	1315
R1604157-003	PAR-98-SB-04-0-0.5	4/25/2016	1345
R1604157-004	PAR-98-SB-104-0-0.5	4/25/2016	1205
R1604157-005	PAR-98-SB-04-1.5-2	4/25/2016	1350
R1604157-006	PAR-98-SB-05-0-0.5	4/26/2016	0925
R1604157-007	PAR-98-SB-05-1.5-2	4/26/2016	0930
R1604157-008	PAR-98-SB-06-0-0.5	4/26/2016	0940
R1604157-009	PAR-98-SB-06-1.5-2	4/26/2016	0945
R1604157-010	PAR-98-SB-01-0-0.5	4/25/2016	1420
R1604157-011	PAR-98-SB-01-1.5-2	4/25/2016	1425
R1604157-012	PAR-98-SB-02-0-0.5	4/26/2016	0900
R1604157-013	PAR-98-SB-02-1.5-2	4/26/2016	0905
R1604157-015	PAR98-EB-04262016	4/26/2016	1300
R1604157-017	PAR-98-SB-101-0-0.5	4/25/2016	1200

This is a preliminary Tier II report in which your Tier III or Tier IV will soon follow. The report has been reviewed for completeness only. The Case Narrative and Raw Data review will be completed upon the assembling of the final data package and therefore could contain some differences between the preliminary report and final data package.
Preliminary Tier II reports containing Metals data could have a slight difference in the final Tier III or Tier IV results due to rounding rules used in the reporting software.
If you have any questions regarding this, please contact your Customer Service Representative.

REPORT QUALIFIERS AND DEFINITIONS

U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.

J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).

B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.

E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.

E Organics- Concentration has exceeded the calibration range for that specific analysis.

D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.

* Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.

H Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.

Spike was diluted out.

\+ Correlation coefficient for MSA is <0.995.

N Inorganics- Matrix spike recovery was outside laboratory limits.

N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.

S Concentration has been determined using Method of Standard Additions (MSA).

W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.

P Concentration >40% (25% for CLP) difference between the two GC columns.

C Confirmed by GC/MS

Q DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).

X See Case Narrative for discussion.

MRL Method Reporting Limit. Also known as:
LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.

MDL Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).

LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.

ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Accredited	Nebraska Accredited	
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047	North Carolina #676	Virginia #460167

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/25/16 13:10
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-03-0-0.5	**Units:**	ug/Kg
Lab Code:	R1604157-001	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1260	46 U	46	24	1	05/12/16 13:18	5/2/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	82	60 - 125	05/12/16 13:18	
Tetrachloro-m-xylene	62	27 - 134	05/12/16 13:18	

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/25/16 13:15
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-03-1.5-2	**Units:**	ug/Kg
Lab Code:	R1604157-002	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1260	38 U	38	20	1	05/12/16 13:43	5/2/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	79	60 - 125	05/12/16 13:43	
Tetrachloro-m-xylene	62	27 - 134	05/12/16 13:43	

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/25/16 13:45
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-04-0-0.5	**Units:**	ug/Kg
Lab Code:	R1604157-003	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1260	37 U	37	20	1	05/12/16 14:08	5/2/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	86	60 - 125	05/12/16 14:08	
Tetrachloro-m-xylene	51	27 - 134	05/12/16 14:08	

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/25/16 12:05
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-104-0-0.5	**Units:**	ug/Kg
Lab Code:	R1604157-004	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1260	44 U	44	23	1	05/12/16 14:33	5/2/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	97	60 - 125	05/12/16 14:33	
Tetrachloro-m-xylene	56	27 - 134	05/12/16 14:33	

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/25/16 13:50
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-04-1.5-2	**Units:**	ug/Kg
Lab Code:	R1604157-005	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1260	37 U	37	20	1	05/12/16 14:59	5/2/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	78	60 - 125	05/12/16 14:59	
Tetrachloro-m-xylene	68	27 - 134	05/12/16 14:59	

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/26/16 09:25
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-05-0-0.5	**Units:**	ug/Kg
Lab Code:	R1604157-006	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1260	41 U	41	22	1	05/12/16 16:39	5/2/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	85	60 - 125	05/12/16 16:39	
Tetrachloro-m-xylene	79	27 - 134	05/12/16 16:39	

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/26/16 09:30
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-05-1.5-2	**Units:**	ug/Kg
Lab Code:	R1604157-007	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1260	39 U	39	20	1	05/12/16 15:24	5/2/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	88	60 - 125	05/12/16 15:24	
Tetrachloro-m-xylene	71	27 - 134	05/12/16 15:24	

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/26/16 09:40
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-06-0-0.5	**Units:**	ug/Kg
Lab Code:	R1604157-008	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1260	**37 J**	41	21	1	05/12/16 15:49	5/2/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	100	60 - 125	05/12/16 15:49	
Tetrachloro-m-xylene	84	27 - 134	05/12/16 15:49	

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/26/16 09:45
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-06-1.5-2	**Units:**	ug/Kg
Lab Code:	R1604157-009	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1260	37 U	37	19	1	05/12/16 17:55	5/2/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	94	60 - 125	05/12/16 17:55	
Tetrachloro-m-xylene	69	27 - 134	05/12/16 17:55	

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/25/16 14:20
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-01-0-0.5	**Units:**	ug/Kg
Lab Code:	R1604157-010	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1260	37 U	37	19	1	05/12/16 18:20	5/2/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	82	60 - 125	05/12/16 18:20	
Tetrachloro-m-xylene	71	27 - 134	05/12/16 18:20	

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/25/16 14:25
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-01-1.5-2	**Units:**	ug/Kg
Lab Code:	R1604157-011	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1260	34 U	34	18	1	05/12/16 18:45	5/2/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	75	60 - 125	05/12/16 18:45	
Tetrachloro-m-xylene	67	27 - 134	05/12/16 18:45	

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/26/16 09:00
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-02-0-0.5	**Units:**	ug/Kg
Lab Code:	R1604157-012	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1260	**74**	36	19	1	05/12/16 19:10	5/2/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	85	60 - 125	05/12/16 19:10	
Tetrachloro-m-xylene	77	27 - 134	05/12/16 19:10	

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/26/16 09:05
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-02-1.5-2	**Units:**	ug/Kg
Lab Code:	R1604157-013	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1260	38 U	38	20	1	05/12/16 20:25	5/2/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	86	60 - 125	05/12/16 20:25	
Tetrachloro-m-xylene	73	27 - 134	05/12/16 20:25	

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/26/16 13:00
Sample Matrix:	Water	**Date Received:**	04/27/16 09:45
Sample Name:	PAR98-EB-04262016	**Units:**	ug/L
Lab Code:	R1604157-015	**Basis:**	NA

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1260	0.94 U	0.94	1	05/04/16 12:33	4/29/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	26	10 - 149	05/04/16 12:33	
Tetrachloro-m-xylene	40	15 - 131	05/04/16 12:33	

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/25/16 12:00
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-101-0-0.5	**Units:**	ug/Kg
Lab Code:	R1604157-017	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1260	44 U	44	23	1	05/12/16 21:15	5/2/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	95	60 - 125	05/12/16 21:15	
Tetrachloro-m-xylene	73	27 - 134	05/12/16 21:15	

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1604724-01	**Basis:**	NA

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1260	1.0 U	1.0	1	05/04/16 10:52	4/29/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	62	10 - 149	05/04/16 10:52	
Tetrachloro-m-xylene	66	15 - 131	05/04/16 10:52	

Client: Parsons Engineering Science
Project: FTMM Baseline/748810-03000
Sample Matrix: Water

Service Request: R1604157
Date Analyzed: 05/04/16

Duplicate Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs) by GC

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1604724-02			RQ1604724-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1260	8082A	3.49	5.00	70	3.39	5.00	68	45-134	3	30

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ1604788-01	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1260	33 U	33	17	1	05/12/16 12:02	5/2/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	87	60 - 125	05/12/16 12:02	
Tetrachloro-m-xylene	81	27 - 134	05/12/16 12:02	

Client: Parsons Engineering Science
Project: FTMM Baseline/748810-03000
Sample Matrix: Soil

Service Request: R1604157
Date Analyzed: 05/12/16

Duplicate Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs) by GC

Units:ug/Kg
Basis: Dry

			Lab Control Sample			Duplicate Lab Control Sample				
			RQ1604788-02			RQ1604788-03				
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1260	8082A	158	167	95	151	167	91	60-130	5	30

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/26/16
Sample Matrix:	Soil	**Date Received:**	04/27/16
		Date Analyzed:	05/12/16
		Date Extracted:	05/2/16

Duplicate Matrix Spike Summary
Polychlorinated Biphenyls (PCBs) by GC

Sample Name:	PAR-98-SB-05-0-0.5	**Units:**	ug/Kg
Lab Code:	R1604157-006	**Basis:**	Dry
Analysis Method:	8082A		
Prep Method:	EPA 3541		

		Matrix Spike RQ1604788-04			Duplicate Matrix Spike RQ1604788-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1260	41 U	180	207	87	177	206	86	60-130	2	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/26/16
Sample Matrix:	Soil	**Date Received:**	04/27/16
		Date Analyzed:	05/12/16
		Date Extracted:	05/2/16

Duplicate Matrix Spike Summary
Polychlorinated Biphenyls (PCBs) by GC

Sample Name:	PAR-98-SB-02-0-0.5	**Units:**	ug/Kg
Lab Code:	R1604157-012	**Basis:**	Dry
Analysis Method:	8082A		
Prep Method:	EPA 3541		

		Matrix Spike RQ1604788-06			Duplicate Matrix Spike RQ1604788-07					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1260	74	216	182	78	244	183	93	60-130	12	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/25/16 13:10
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-03-0-0.5	**Basis:**	As Received
Lab Code:	R1604157-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**72.1**	Percent	-	-	-	1	05/05/16 19:55	

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/25/16 13:15
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-03-1.5-2	**Basis:**	As Received
Lab Code:	R1604157-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**86.8**	Percent	-	-	-	1	05/05/16 19:55	

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/25/16 13:45
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-04-0-0.5	**Basis:**	As Received
Lab Code:	R1604157-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**88.5**	Percent	-	-	-	1	05/05/16 19:55	

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/25/16 12:05
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-104-0-0.5	**Basis:**	As Received
Lab Code:	R1604157-004		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**74.5**	Percent	-	-	-	1	05/05/16 19:55	

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/25/16 13:50
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-04-1.5-2	**Basis:**	As Received
Lab Code:	R1604157-005		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**88.4**	Percent	-	-	-	1	05/05/16 19:55	

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/26/16 09:25
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-05-0-0.5	**Basis:**	As Received
Lab Code:	R1604157-006		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**80.7**	Percent	-	-	-	1	05/05/16 19:55	

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QA/QC Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project	FTMM Baseline/748810-03000	**Date Collected:**	04/26/16
Sample Matrix:	Soil	**Date Received:**	04/27/16
		Date Analyzed:	05/05/16

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	PAR-98-SB-05-0-0.5	**Units:**	Percent
Lab Code:	R1604157-006	**Basis:**	As Received

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample R1604157-006DUP Result	Average	RPD	RPD Limit
Total Solids	ALS SOP	-	-	-	80.7	81.8	81.2	1	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/26/16 09:30
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-05-1.5-2	**Basis:**	As Received
Lab Code:	R1604157-007		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**85.3**	Percent	-	-	-	1	05/05/16 19:55	

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/26/16 09:40
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-06-0-0.5	**Basis:**	As Received
Lab Code:	R1604157-008		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**81.3**	Percent	-	-	-	1	05/05/16 19:55	

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/26/16 09:45
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-06-1.5-2	**Basis:**	As Received
Lab Code:	R1604157-009		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**90.3**	Percent	-	-	-	1	05/05/16 19:55	

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/25/16 14:20
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-01-0-0.5	**Basis:**	As Received
Lab Code:	R1604157-010		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**90.2**	Percent	-	-	-	1	05/05/16 19:55	

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/25/16 14:25
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-01-1.5-2	**Basis:**	As Received
Lab Code:	R1604157-011		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**96.2**	Percent	-	-	-	1	05/05/16 19:55	

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/26/16 09:00
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-02-0-0.5	**Basis:**	As Received
Lab Code:	R1604157-012		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**91.3**	Percent	-	-	-	1	05/05/16 19:55	

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QA/QC Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project	FTMM Baseline/748810-03000	**Date Collected:**	04/26/16
Sample Matrix:	Soil	**Date Received:**	04/27/16
		Date Analyzed:	05/05/16

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	PAR-98-SB-02-0-0.5	**Units:**	Percent
Lab Code:	R1604157-012	**Basis:**	As Received

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample R1604157-012DUP Result	Average	RPD	RPD Limit
Total Solids	ALS SOP	-	-	-	91.3	91.7	91.5	<1	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/26/16 09:05
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-02-1.5-2	**Basis:**	As Received
Lab Code:	R1604157-013		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**87.7**	Percent	-	-	-	1	05/06/16 16:05	

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R1604157
Project:	FTMM Baseline/748810-03000	**Date Collected:**	04/25/16 12:00
Sample Matrix:	Soil	**Date Received:**	04/27/16 09:45
Sample Name:	PAR-98-SB-101-0-0.5	**Basis:**	As Received
Lab Code:	R1604157-017		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**74.9**	Percent	-	-	-	1	05/06/16 16:05	