

ACTION MEMORANDUM FOR PARCEL 82
FORT MONMOUTH, OCEANPORT,
MONMOUTH COUNTY, NEW JERSEY

BRAC 05 Facility
Contract W912DY-09-D-0062
Task Order: 0012, Project No. 369857

Submitted To:
U.S. Army Corps of Engineers
New York District and
U.S. Army Engineering and Support Center
Huntsville, Alabama



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Revision No. 0
October 2019

ACTION MEMORANDUM
FOR PARCEL 82
FORT MONMOUTH, NEW JERSEY
APPROVAL

This Action Memorandum presents the selected removal action for contaminated soil at Parcel 82 located at Fort Monmouth in Oceanport, Monmouth County, New Jersey. The U.S. Army is the lead agency at Fort Monmouth under the Defense Environmental Restoration Program, 10 U.S.C. § 2701, and the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601 et seq., as amended (CERCLA). This Action Memorandum is consistent with CERCLA, as amended, and the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300. This Action Memorandum will be incorporated into the Administrative Record file for Fort Monmouth, which is available for public review at the Eastern Branch of the Monmouth County Library, 1001 Route 35, Shrewsbury, New Jersey 07702. This document, presenting the proposed removal action with a present worth cost of approximately \$135,000, is approved by the undersigned.



Thomas E. Lederle
Chief, BRAC Division
Department of the Army Assistant Chief of Staff Installation Management

1 Oct 2019
Date

1.0 STATEMENT OF BASIS AND PURPOSE

This Action Memorandum describes the selected time critical removal action (TCRA) of soil contaminated with polychlorinated biphenyls (PCBs) at Parcel 82 at Fort Monmouth, New Jersey. The purpose of this Action Memorandum is to document the U.S. Army's decision to undertake the TCRA.

This Action Memorandum was developed in accordance with: the Defense Environmental Restoration Program (DERP), 10 United States Code (U.S.C.) Section 2701; the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601 et seq., as amended (CERCLA); and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 Code of Federal Regulations (CFR) Part 300 (USEPA 1991). The U.S. Army is the lead agency for Fort Monmouth in accordance with CERCLA and Executive Order 12,580. The U.S. Army makes remedial decisions for Fort Monmouth in consultation with the New Jersey Department of Environmental Protection (NJDEP), the state support agency.

2.0 SITE CONDITIONS AND BACKGROUND

The location of Parcel 82 is shown on **Figure 1**. A description of Parcel 82 is provided in Section 2.1. Previous investigation activities are summarized in Section 2.2; investigative results are summarized in Section 2.3.

2.1 Site Setting and History

The Main Post (MP) of FTMM was established in 1917 as Camp Little Silver. The name of the Camp was changed shortly thereafter to Camp Alfred Vail. The initial mission of the Camp was to train Signal Corps operators for service in World War I. After the war, Camp Alfred Vail was designated as the site of the Signal Corps School. In 1925, the facility became a permanent post, and its name was changed to Fort Monmouth (FTMM). The primary mission of FTMM was to provide command, administrative, and logistical support for Headquarters, U.S. Fort Monmouth Communications and Electronics Command (CECOM) (Shaw, 2012).

Parcel 82 is located within the 400 Area in the northeast portion of the Main Post (MP) bounded approximately by Evans Avenue to the west, Tilly Avenue to the south, Building 116 to the east, and the former Central Hazardous Waste Storage Area (Buildings 121, 122, and 123) to the north (**Figure 1**). Parcel 82 is part of the 400 Area, which encompasses approximately 30 acres of open fields and paved areas extending east of Oceanport Avenue, south-southeast of Parker's Creek, west of Burns Avenue and north of Tilly Avenue. The parcel is grass covered with a line of trees along the southern border.

Soil sampling was initially conducted in 2004 and 2005 in the 400 area, including Parcel 82, which involved extensive soil borings, full-suite analyses, and contaminated soil removal as part of the Army's Residential Communities Initiatives (RCI) and Enhanced Use Leasing (EUL) programs. Additional soil sampling was completed at Parcel 82 in 2018 (U.S. Army, 2019).

2.2 Summary of Investigation Activities

Soil samples collected during the 2004 investigation identified PCBs and polynuclear aromatic hydrocarbons (PAHs) in shallow soils above the then-current NJDEP Non-Residential Direct Contact Soil Remediation Standard (NRDCSRS) (U.S. Army, 2019). Non-residential cleanup standards were used to support use of the property for a planned maintenance building. Additional soil borings were advanced around the location of initial exceedances of the NRDCSRS to delineate the contamination. Multiple phases of delineation sampling were performed to ensure that the NRDCSRS exceedances were horizontally and vertically delineated. Soil excavation and removal were performed in October 2004 to remediate the soils to concentrations less than the NRDCSRS. Approximately 120 cubic yards (CY) of PCB-contaminated soil from one area and approximately 35 CY of PAH-contaminated soil from multiple locations were excavated and removed for offsite disposal. A No Further Action (NFA) determination was initially requested for the 400 Area (Tetra Tech, 2005); however, the NJDEP (2007) rejected the request and required that all exceedances above the more stringent Residential Direct Contact Soil Remediation Standard (RDCSRSs) be delineated and addressed (Attachment A, Correspondence 1). There have been no subsequent removal actions performed at this area since 2004; therefore, soils remain within Parcel 82 that exceed the current RDCSRS for PAHs and PCBs.

In addition, an area of soil PCB contamination was identified along the northern portion of Parcel 82 in FTMM's Spill Prevention, Control and Countermeasure Plan (SPCCP; U.S. Army, 2013). Building 123 within the former central hazardous waste storage area was formerly used to store PCB containers and transformers. A spill of approximately 10 gallons of PCB transformer oil was identified and addressed in 1994 near the northeast corner of Parcel 82 just south of the hazardous waste storage pad (**Figure 3**). Additional sampling was performed within this spill area in 2005 (U.S. Army, 2019). Additional action after 2005 has not been documented; therefore, soil PCB concentrations in the spill area exceeding the current RDCSRS of 0.2 mg/kg are assumed to exist in this area.

The following additional site investigations were performed at Parcel 82 in 2018 to delineate PCBs and PAHs in soil within the current RDCSRSs.

2.3 2018 Investigation Results

Soil sampling results for PCBs obtained in 2018 were compared to current (September 2017) NJDEP criteria in **Table 1** and to USEPA criteria (November 2017) in **Table 2**. Soil sampling locations are shown on **Figures 2 and 3**. PCBs in soil exceeded the 2017 USEPA RSLs and the 2017 NJDEP RDCSRSs at Parcel 82.

Soil concentrations of the PAH benzo(a)pyrene exceeded the respective 2017 USEPA RSL and the 2017 NJDEP RDCSRS. However, if compliance averaging of the PAH concentrations were to be performed, the average PAH results would be less than the 2017 NJDEP RDCSRS (U.S. Army, 2019).

The Contaminants of Potential Concern (COPCs) are Aroclor-1254 and Aroclor-1260 (which are PCBs) in soil. Additional action (i.e., this TCRA) is planned for soils impacted by PCBs to address the exceedance of the NJDEP RDCSRS for PCBs. There is one NJDEP RDCSRS numerical criterion for PCBs; therefore, this criterion is compared to the sum of the individual detected Aroclor concentrations (Aroclor-1254 and Aroclor-1260 at Parcel 82) for evaluation. Based on the estimated depth to groundwater (4.5 ft below ground surface [bgs]) and the deepest level of soil exceedances (1.0 ft bgs), there is no indication of groundwater contamination, and additional site characterization is not necessary (U.S. Army, 2019).

3.0 THREATS TO PUBLIC HEALTH, WELFARE, AND THE ENVIRONMENT

Concentrations of Aroclor-1254 and Aroclor-1260 in soil were compared to USEPA RSLs to evaluate the potential effects of contaminants in soil on human health and the environment. The results of these comparisons were used to evaluate the need for soil removal and to establish a baseline to evaluate the effectiveness of the proposed removal action.

3.1 Risk Assessment Evaluation

A screening evaluation was performed to evaluate the need for soil removal at Parcel 82 to reduce the threat to human health. **Table 3** presents the maximum detected concentration of the COPCs in soil. The maximum concentration of Aroclor-1254 in recent (2018) data, and the maximum concentration of Aroclor-1260 in historical (2005) data, exceed the USEPA Residential RSL, indicating a potential threat to human health.

Potentially complete terrestrial and aquatic pathways for ecological receptors are incomplete at Parcel 82 due to lack of viable habitat.

Table 3. Maximum COPC Concentrations in Soil at Parcel 82

COPC	Maximum Concentration (mg/kg)	USEPA RSL ¹ (mg/kg)
Aroclor-1254	3.6	0.12
Aroclor-1260	0.16 (2.8) ²	0.24
1. USEPA RSLs for Residential Soil, based on target risk of 1E-06 and target hazard quotient of 0.1. Effective November 2018 (USEPA, 2018a). 2. Recent (2018) data shown, followed by historical (2005) data in parentheses from Table 3 of U.S. Army, 2019.		

4.0 REGULATORY FRAMEWORK AND ENDANGERMENT DETERMINATION

This section summarizes the regulatory framework for the TCRA at Parcel 82 and presents the objectives of the removal action.

4.1 Regulatory Framework

CERCLA provides the President authority to respond to releases of hazardous substances, including removal actions (42 U.S.C. Section 9604(a)). Executive Order 12580 Section 2(d) delegates the President's authority under various CERCLA sections, including Section 9604(a), to the Secretary of the U.S. Department of Defense (DoD). Section 300.415 of the NCP further specifies the structure and requirements for removal actions. As the lead agency, the U.S. Army has decided to implement the removal action in this TCRA in accordance with CERCLA and the NCP. The NJDEP acts as the state support agency.

4.1.1 Justification of the Time Critical Removal Action

A removal action is warranted pursuant to the NCP when the lead agency makes the determination that there is a threat to public health or welfare or the environment (40 CFR 300.415(b)(1)). Of the listed factors in the NCP, the following two factors in Section 300.415(b)(2) of the NCP (40 CFR 300.415) were directly

applicable and were used in determining the appropriateness of a TCRA for the contaminant concentrations in soil at Parcel 82:

Other situations or factors that may pose threats to public health or welfare of the United States or the environment. (40 CFR 300.415(b)(2)(viii)).

While PCBs are present in soil at Parcel 82 at concentrations that could pose a threat to human health, this TCRA is being performed to accelerate the transfer of the property for beneficial reuse and to remove the environmental liability at this parcel from the COPCs listed in Table 3. The NCP also states:

If the lead agency determines that a removal action is appropriate, actions shall, as appropriate, begin as soon as possible to abate, prevent, minimize, stabilize, mitigate, or eliminate the threat to public health or welfare of the United States or the environment. (40 CFR 300.415(b)(3)).

The U.S. Army has determined that a TCRA is appropriate to remove the source of PCB contamination in soil and the long-term environmental liability at Parcel 82. PCBs in soils constitute an immediate threat to the environment. Since soil concentrations exceeded risk-based exposure criteria by over an order of magnitude (Section 3.1), an accelerated response is warranted. This removal action will be expedited because the resources are available, and the contract vehicles are funded and in-place for the Army to address this environmental concern immediately.

4.1.2 Applicable or Relevant and Appropriate Requirements

The TCRA described in this Action Memorandum complies with applicable or relevant and appropriate requirements (ARARs). In accordance with the NCP (40 CFR § 300.415(i)), onsite removal actions conducted under CERCLA are required to meet ARARs “to the extent practicable.” The U.S. Army consulted with NJDEP to confirm that the NJDEP’s RDCSRS in the table below are applicable to this removal action. The Army then compared the NJ RDCSRS to the USEPA Regional Removal Management Levels (RMLs) for the unlimited reuse scenario for Aroclor-1254 and Aroclor-1260. The applicable requirement is the more stringent of the two values (in bold below).

COPC	NJ RDCSRS (mg/kg) ^{1/}	USEPA RMLs Residential Soil (mg/kg) ^{2/}
Aroclor-1254	0.2	1.2
Aroclor-1260	0.2	24

Notes:

^{1/} The NJDEP Criteria refers to the NJDEP’s Sept 18, 2017 Remediation Standards for PCBs, which is compared to the sum total of individual Aroclors.

^{2/} The USEPA RMLs refer to the USEPA’s April 2019 Summary Table (USEPA, 2019).

The TCRA described in this Action Memorandum also complies with applicable requirements for offsite actions (i.e., Resource Conservation and Recovery Act [RCRA] hazardous waste transportation and offsite treatment requirements prior to land disposal as required by the RCRA land disposal restrictions).

4.2 Endangerment Determination

Actual or threatened releases of hazardous substances from Parcel 82, if not addressed by implementing the response action selected in this Action Memorandum, may result in unacceptable exposures to contaminants and present a threat to human health. Future land use of Parcel 82 is proposed to be a residential district,

with low to medium density housing (Fort Monmouth Economic Revitalization Authority [FMERA], 2019).

4.3 Removal Action Objective

The removal action objective (RAO) for Parcel 82 is to remove Aroclor-1254 and Aroclor-1260 concentrations in soil that pose a threat to human health and the environment. This removal action was expedited because the resources were available, and the contract vehicles were funded and in-place for the Army to address this environmental concern immediately.

5.0 DESCRIPTION OF THE REMOVAL ACTION

Two alternatives for Parcel 82 were evaluated using the effectiveness, implementability, and cost selection criteria established by the NCP. The relative performances of the alternatives were subsequently evaluated in a comparative analysis.

The alternatives considered for Parcel 82 were:

- Alternative 1 – No Action
- Alternative 2 – Soil Removal and Offsite Disposal.

Both alternatives were evaluated against CERCLA remedial criteria of effectiveness, implementability, and cost. Only Alternative 2 satisfied the threshold criteria of protecting human health and the environment and complied with ARARs and was effective and implementable; therefore, it was then assessed for cost. Based on the comparative analysis in terms of effectiveness, implementability, and cost, the U.S. Army's selected alternative was **Alternative 2 – Soil Removal and Offsite Disposal**. Protectiveness is achieved by the removal of contamination in soil and is more cost effective in the long term compared to institutional controls.

The selected action consists of removing approximately 500 cubic yards of PCB-contaminated soil from the two excavation areas shown on **Figure 3** to a depth of 1.5 feet bgs. Removal action activities will include site preparation, excavation of contaminated soil, offsite transportation and disposal, and site restoration.

Site preparation will include staking the excavation locations and identifying locations of utilities. Excavated soil will be removed, sampled (for characterization analyses), and stockpiled prior to offsite disposal. Verification soil samples will be collected from the excavation bottom and sidewalls prior to backfilling to document PCB concentrations in the soils remaining in place and to ensure removal action goals are met. Clean backfill will be compacted in lifts and graded to maintain positive drainage. The areas impacted during the removal action will be restored (typically grass seed and straw in previously vegetated areas). Characterization, transportation, and offsite disposal will comply with all appropriate Federal and state laws.

The ability of this action to meet the criteria of effectiveness, implementability, and cost is described below.

5.1 Effectiveness

The proposed action at Parcel 82 will be effective at providing short- and long-term protection. This action is permanent because a significant source of soil contamination will be removed. This alternative will comply with the ARARs in Section 4.1.2 because PCB-contaminated soil with concentrations in excess of

the NJDEP RDCSRS will be removed. Risks to workers during the removal action will be addressed through engineering controls and by implementing approved health and safety practices.

5.2 Implementability

The soil excavation employs construction practices that are routinely implemented. All services and materials required are readily available. Therefore, the removal action will be both technically and administratively implementable. This alternative will likely be acceptable to the community because the soil removal will achieve the RAO.

5.3 Contribution to Remedial Performance

The removal action will meet the RDCSRS identified in Section 4.1.2, and no hazardous substances will remain above an unrestricted use/unlimited exposure scenario. Therefore, the risks at Parcel 82 will be addressed and no post-removal CERCLA action will be necessary. The results of the removal action will be documented in the Remedial Action Completion Report.

5.4 Cost

The estimated cost of the TCRA is approximately \$135,000. A breakdown of the costs is provided in **Table 4**. The costs include development of project-specific work plans, site preparation, soil excavation, transportation and disposal, and site restoration.

Table 4. Approximate Costs for the Parcel 82 Removal Action

Phase Name	Year 1
Work Plan	\$10,000
Soil Removal	\$20,000
Transportation and Disposal	\$65,000
Restoration	\$25,000
U.S. Army Corps of Engineers Costs	\$15,000
Present Worth Total Cost:	\$135,000

6.0 EXPECTED CHANGE IN THE SITUATION HAD THE ACTION BEEN DELAYED OR NOT TAKEN

Delaying the implementation of the removal action or taking no action could result in potential threats to human health and the environment, as well as delays in the redevelopment of the property and transfer of Parcel 82 from the U.S. Army to the FMERA.

7.0 PUBLIC INVOLVEMENT AND PARTICIPATION

This Action Memorandum will be made available for a 30-day public review and comment period from Tuesday 08 October to Thursday 07 November 2019, and will be placed in the FTMM Environmental Restoration Public Information Repository (the Administrative Record) at the following location:

Monmouth County Library, Eastern Branch

1001 Route 35, Shrewsbury, NJ

Phone: (732) 683-8980

Hours: Mon-Thurs, 9am-9pm; Fri-Sat, 9am-5pm; and Sun, 1pm-5pm

Appendix A includes the public press release regarding the TCRA and the public notice requesting comments.

8.0 CONCLUSIONS

The removal action for PCB-contaminated soil at Parcel 82 meets the NCP criteria because it:

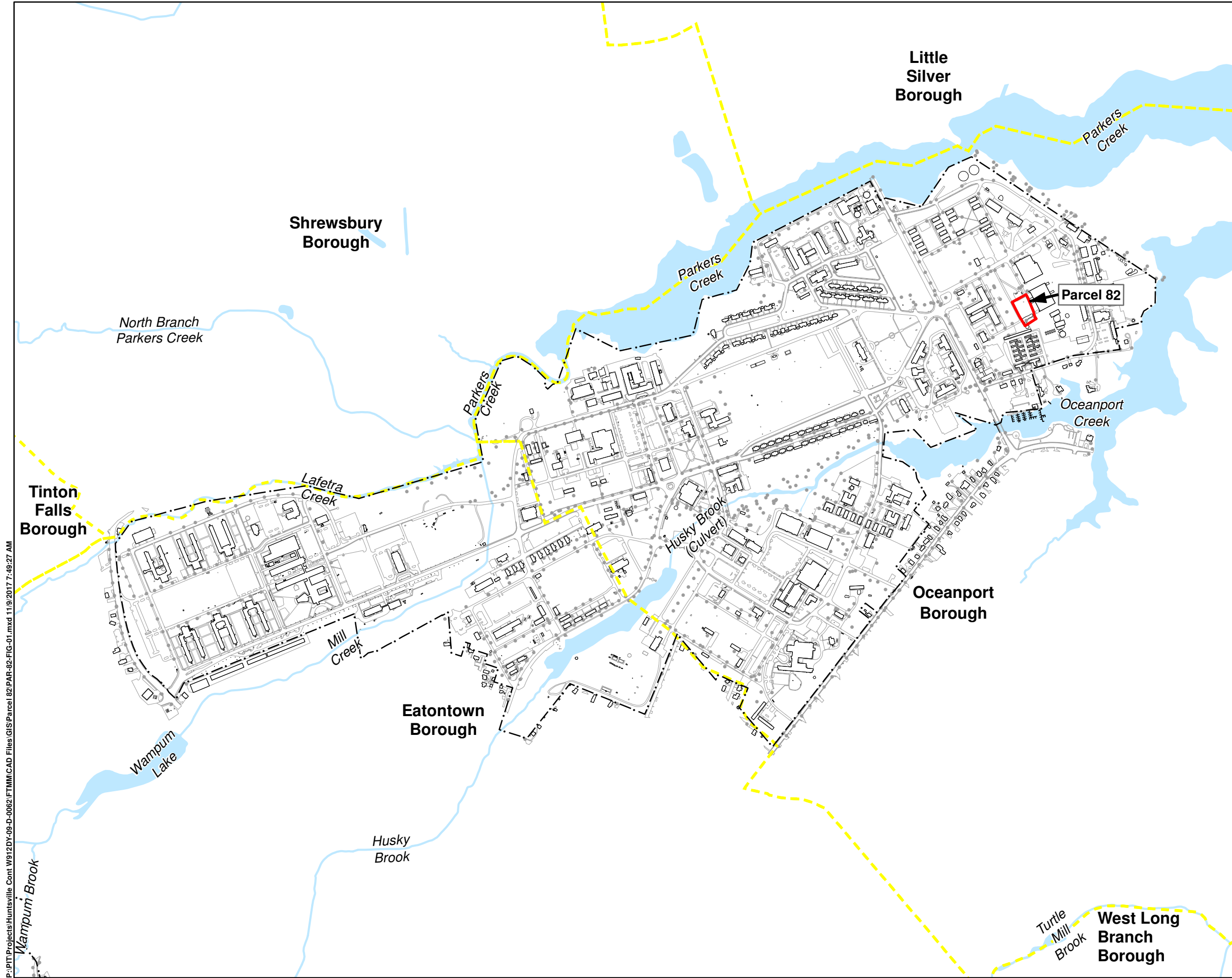
- Is technically feasible based on commonly used construction techniques and demonstrated proven approaches;
- Is administratively feasible;
- Provides a high degree of long-term public health and environmental protection through the removal of the source of the contaminated soil;
- Complies with chemical- and action-specific ARARs;
- Imposes no restrictions on future use of the site;
- Meets the criteria of effectiveness, implementability, and cost;
- Will facilitate transfer of the property to the FMERA; and
- Serves as a final action at the site.

9.0 REFERENCES

- Fort Monmouth Economic Revitalization Authority (FMERA), 2019. E-mail from Joseph Fallon to William Colvin; re: Future Land Use. July 9.
- New Jersey Department of Environmental Protection (NJDEP), 2007. Letter to Army; Re: *Remedial Action Report for the 800, 700, and 400 Areas, Fort Monmouth, New Jersey*. September 5.
- Shaw, 2012. *Final Fort Monmouth Main Post and Charles Wood Area Baseline Ecological Evaluation Report, U.S. Army Garrison Fort Monmouth, Fort Monmouth, New Jersey*. Prepared for the Army Corps of Engineers, Baltimore District. Rev. 1.
- 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.
- U.S. Army, 2013. *Spill Prevention, Control and Countermeasures Plan (SPCCP), Installation Spill Contingency Plan (ISCP), and RCRA Contingency Plan (RCP)*. Prepared by the Office of the Assistant Chief of Staff for Installation Management, Fort Monmouth, New Jersey. December 1992; last revision November 2013.
- U.S. Army, 2019. *Parcel 82 Site Investigation Report, Fort Monmouth, Monmouth County, Oceanport, New Jersey*. Prepared by the Office of the Assistant Chief of Staff for Installation Management, Fort Monmouth, New Jersey. April 29.
- USEPA, 2018. Regional Screening Levels Summary Table (based on target risk of 1E-06 and target hazard quotient of 0.1). November. Available at: <https://semspub.epa.gov/work/HQ/197416.pdf>.
- USEPA, 2019. Regional Removal Management Levels (RMLs) User's Guide and Summary Table (based on target risk of 1E-04 and target hazard quotient of 1.0). April. Available at: <https://www.epa.gov/risk/regional-removal-management-levels-chemicals-rmls>

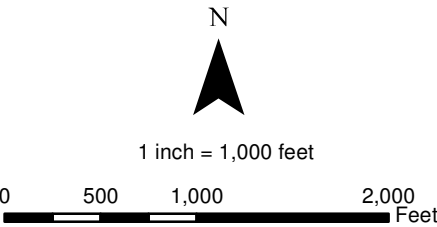
Figure 1

Parcel 82 Location



LEGEND:

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



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

PARSONS
401 Diamond Drive NW,
Huntsville AL

Fort Monmouth
New Jersey

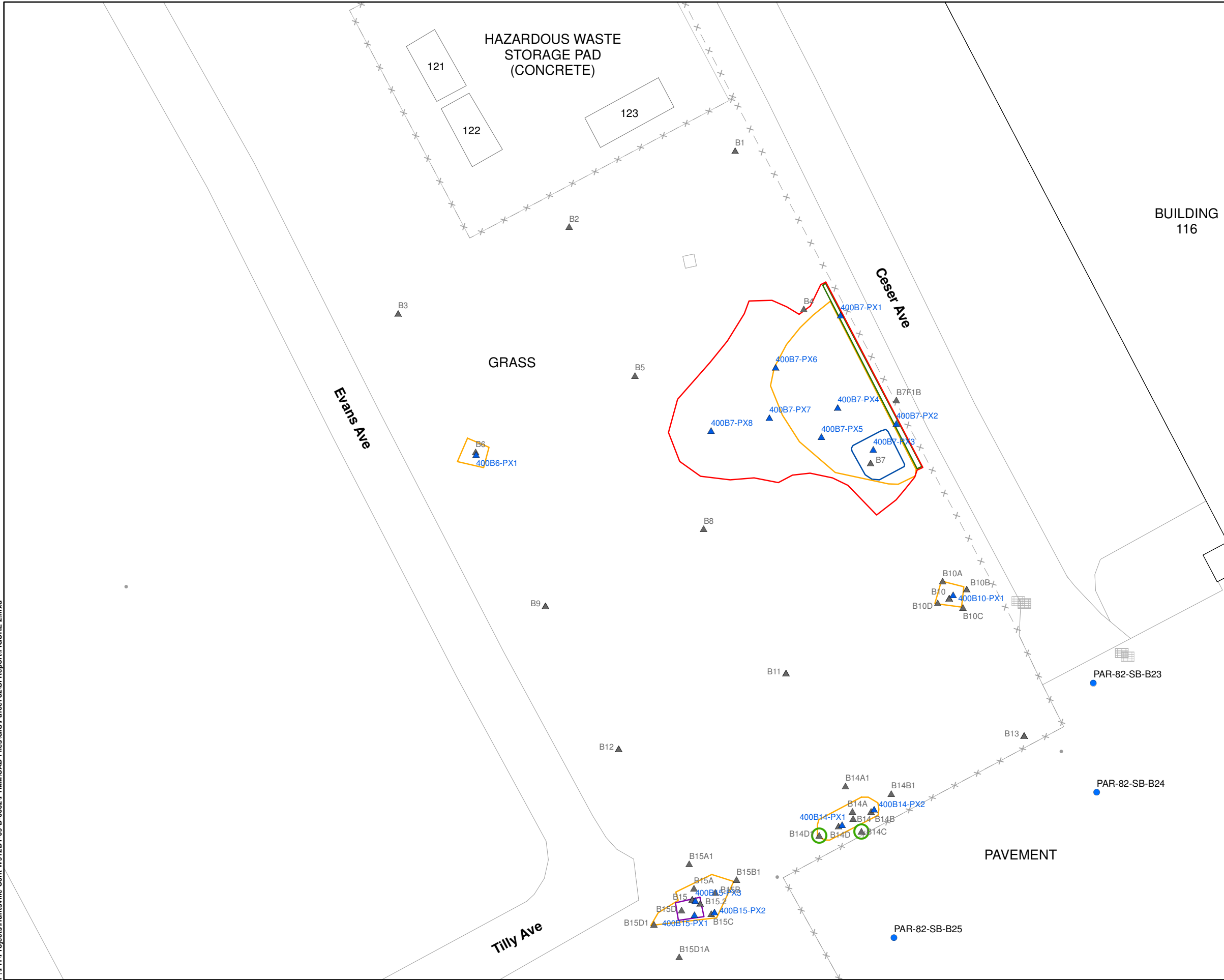
PARCEL 82 LOCATION

CREATED BY: RR	REVIEWED BY: KF
DATE: NOV. 2017	FIGURE NUMBER: PAR-82-FIG-01
PROJECT NUMBER: 748810-06012	FILE: PAR-82-FIG-01.mxd

Figure 2

Parcel 82 PAH Soil Sampling Locations and Results

P:\PTT\Projects\Huntsville Cont W912DY-09-D-0062\FTMMCAD Files\GIS\Parcel 82\SI Report\FIGURE 2.mxd

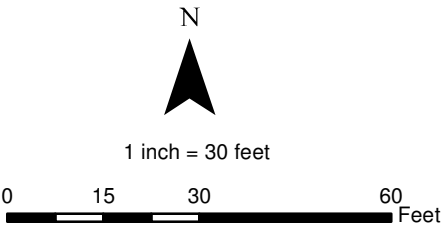


LEGEND:

- PAH Sampling Location (2018)
- PAH Exceedance of RDCSRS In Soil Left in Place
- ▲ Historic PAH Soil Boring (2004 and 2005)
- ▲ Post Excavation Sample

2004 Excavation Limits

- Excavation Boundary (0.5' Depth)
- Excavation Boundary (1' Depth)
- Excavation Boundary (1.5' Depth)
- Excavation Boundary (2.0' Depth)
- Excavation Boundary (2.5' Depth)



Source: FTMM Supplied CAD; Shaw Environmental 2008.

PARSONS
401 Diamond Drive NW,
Huntsville AL

Fort Monmouth
New Jersey

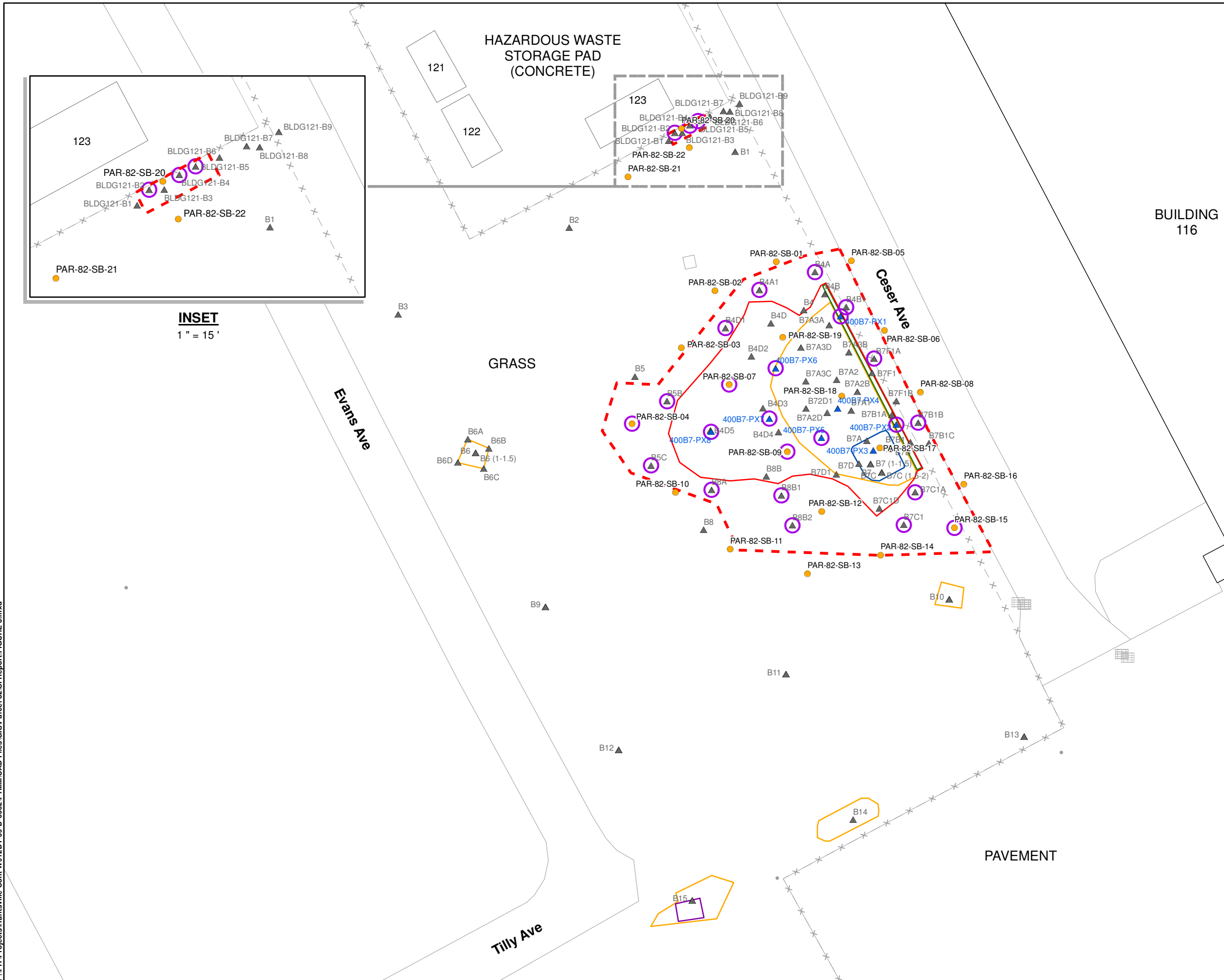
**PARCEL 82 PAH SOIL SAMPLING
LOCATIONS AND EXCEEDANCES**

CREATED BY: RR	REVIEWED BY: AM
DATE: MAR, 2019	FIGURE NUMBER: FIGURE 2
PROJECT NUMBER: 748810-06012	FILE: FIGURE 2.mxd

Figure 3

Parcel 82 PCB Soil Sampling Locations and Results

P:\PTT\Projects\Huntsville Cont W912DY-09-D-0062\FTMMCAD Files\GIS\Parcel 82\SI Report\FIGURE 3.mxd

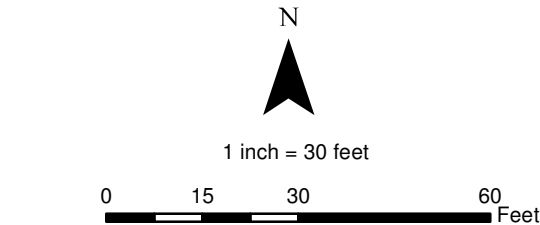


LEGEND:

- PCB Sampling Location (2018)
- PCB Exceedance of RDCSRS In Soil Left in Place
- ▲ Historic PCB Soil Boring (2004 and 2005)
- ▲ Post Excavation Sample
- - - Estimated Extent of Contamination

2004 Excavation Limits

- Excavation Boundary (0.5' Depth)
- Excavation Boundary (1' Depth)
- Excavation Boundary (1.5' Depth)
- Excavation Boundary (2.0' Depth)
- Excavation Boundary (2.5' Depth)



Source: FTMM Supplied CAD; Shaw Environmental 2008.

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New Jersey

**PARCEL 82 PCB SOIL SAMPLING
LOCATIONS AND EXCEEDANCES**

CREATED BY: RR	REVIEWED BY: AM
DATE: APR, 2019	FIGURE NUMBER: FIGURE 3
PROJECT NUMBER: 748810-06012	FILE: FIGURE 3.mxd

Table 1

Soil Sampling Results – Comparison to NJDEP Soil Remediation Standards

TABLE 1
SOIL SAMPLING RESULTS - COMPARISON TO NJDEP SOIL REMEDIATION STANDARDS
SITE PARCEL 82
FORT MONMOUTH, NEW JERSEY

Loc ID	NJ Residential 1 Direct Contact SRS	NJ Non-Residential Direct Contact SRS	NJ Impact to GW Soil Screening Level	PAR-82-SB-B01			PAR-82-SB-B02		PAR-82-SB-B03	
Sample ID				PAR-82-SB-B01-0.0-0.5	PAR-82-SB-B101-0.0-0.5	PAR-82-SB-B01-1.5-2.0	PAR-82-SB-B02-0.0-0.5	PAR-82-SB-B02-1.5-2.0	PAR-82-SB-B03-0.0-0.5	PAR-82-SB-B103-0.0-0.5
Sample Date				5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018
Semivolatile Organic Compounds (mg/kg)										
Acenaphthene	3,400	37,000	110	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NLE	300,000	NLE	NA	NA	NA	NA	NA	NA	NA
Anthracene	17,000	30,000	2,400	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	5	17	0.8	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.5	2	0.2	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	5	17	2	NA	NA	NA	NA	NA	NA	NA
Benzo(ghi)perylene	380,000	30,000	NLE	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	45	170	25	NA	NA	NA	NA	NA	NA	NA
Chrysene	450	1,700	80	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.5	2	0.8	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	2,300	24,000	1,300	NA	NA	NA	NA	NA	NA	NA
Fluorene	2,300	24,000	170	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5	17	7	NA	NA	NA	NA	NA	NA	NA
Naphthalene	6	17	25	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NLE	300,000	NLE	NA	NA	NA	NA	NA	NA	NA
Pyrene	1,700	18,000	840	NA	NA	NA	NA	NA	NA	NA
PCBs (mg/kg)										
Aroclor-1016	0.2	NLE	NLE	< 0.03	< 0.03	< 0.03	< 0.029	< 0.028	< 0.03	< 0.03
Aroclor-1221	0.2	NLE	NLE	< 0.03	< 0.03	< 0.03	< 0.029	< 0.028	< 0.03	< 0.03
Aroclor-1232	0.2	NLE	NLE	< 0.03	< 0.03	< 0.03	< 0.029	< 0.028	< 0.03	< 0.03
Aroclor-1242	0.2	NLE	NLE	< 0.03	< 0.03	< 0.03	< 0.029	< 0.028	< 0.03	< 0.03
Aroclor-1248	0.2	NLE	NLE	< 0.03	< 0.03	< 0.03	< 0.029	< 0.028	< 0.03	< 0.03
Aroclor-1254	0.2	NLE	NLE	0.073	0.12	< 0.03	< 0.029	< 0.028	< 0.03	< 0.03
Aroclor-1260	0.2	NLE	NLE	0.031 J	< 0.03	< 0.03	< 0.029	< 0.028	< 0.03	< 0.03
Aroclor-1268	0.2	NLE	NLE	< 0.03	< 0.03	< 0.03	< 0.029	< 0.028	< 0.03	< 0.03
Total PCBs	0.2	NLE	NLE	< 0.27	0.12 J	< 0.27	< 0.26	< 0.26	< 0.27	< 0.27

TABLE 1
SOIL SAMPLING RESULTS - COMPARISON TO NJDEP SOIL REMEDIATION STANDARDS
SITE PARCEL 82
FORT MONMOUTH, NEW JERSEY

Loc ID	NJ Residential I Direct Contact SRS	NJ Non-Residential Direct Contact SRS	NJ Impact to GW Soil Screening Level	PAR-82-SB-B03	PAR-82-SB-B04			PAR-82-SB-B05			PAR-82-SB-B06
Sample ID				PAR-82-SB-B03-1.5-2.0	PAR-82-SB-B04-0.0-0.5	PAR-82-SB-B04-1.5-2.0	PAR-82-SB-B05-0.0-0.5	PAR-82-SB-B105-0.0-0.5	PAR-82-SB-B05-1.5-2.0	PAR-82-SB-B06-0.0-0.5	
Sample Date				5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	
Semivolatile Organic Compounds (mg/kg)											
Acenaphthene	3,400	37,000	110	NA	NA	NA	NA	NA	NA	NA	
Acenaphthylene	NLE	300,000	NLE	NA	NA	NA	NA	NA	NA	NA	
Anthracene	17,000	30,000	2,400	NA	NA	NA	NA	NA	NA	NA	
Benzo(a)anthracene	5	17	0.8	NA	NA	NA	NA	NA	NA	NA	
Benzo(a)pyrene	0.5	2	0.2	NA	NA	NA	NA	NA	NA	NA	
Benzo(b)fluoranthene	5	17	2	NA	NA	NA	NA	NA	NA	NA	
Benzo(ghi)perylene	380,000	30,000	NLE	NA	NA	NA	NA	NA	NA	NA	
Benzo(k)fluoranthene	45	170	25	NA	NA	NA	NA	NA	NA	NA	
Chrysene	450	1,700	80	NA	NA	NA	NA	NA	NA	NA	
Dibenz(a,h)anthracene	0.5	2	0.8	NA	NA	NA	NA	NA	NA	NA	
Fluoranthene	2,300	24,000	1,300	NA	NA	NA	NA	NA	NA	NA	
Fluorene	2,300	24,000	170	NA	NA	NA	NA	NA	NA	NA	
Indeno(1,2,3-cd)pyrene	5	17	7	NA	NA	NA	NA	NA	NA	NA	
Naphthalene	6	17	25	NA	NA	NA	NA	NA	NA	NA	
Phenanthrene	NLE	300,000	NLE	NA	NA	NA	NA	NA	NA	NA	
Pyrene	1,700	18,000	840	NA	NA	NA	NA	NA	NA	NA	
PCBs (mg/kg)											
Aroclor-1016	0.2	NLE	NLE	< 0.028	< 0.029	< 0.031	< 0.026	< 0.027	< 0.031	< 0.026	
Aroclor-1221	0.2	NLE	NLE	< 0.028	< 0.029	< 0.031	< 0.026	< 0.027	< 0.031	< 0.026	
Aroclor-1232	0.2	NLE	NLE	< 0.028	< 0.029	< 0.031	< 0.026	< 0.027	< 0.031	< 0.026	
Aroclor-1242	0.2	NLE	NLE	< 0.028	< 0.029	< 0.031	< 0.026	< 0.027	< 0.031	< 0.026	
Aroclor-1248	0.2	NLE	NLE	< 0.028	< 0.029	< 0.031	< 0.026	< 0.027	< 0.031	< 0.026	
Aroclor-1254	0.2	NLE	NLE	< 0.028	0.19	< 0.031	< 0.026	< 0.027	< 0.031	< 0.026	
Aroclor-1260	0.2	NLE	NLE	< 0.028	0.12	< 0.031	0.068	0.056	< 0.031	0.033 J	
Aroclor-1268	0.2	NLE	NLE	< 0.028	< 0.029	< 0.031	< 0.026	< 0.027	< 0.031	< 0.026	
Total PCBs	0.2	NLE	NLE	< 0.25	0.31 J	< 0.27	< 0.23	< 0.24	< 0.28	< 0.23	

TABLE 1
SOIL SAMPLING RESULTS - COMPARISON TO NJDEP SOIL REMEDIATION STANDARDS
SITE PARCEL 82
FORT MONMOUTH, NEW JERSEY

Loc ID	NJ Residential I Direct Contact SRS	NJ Non-Residential Direct Contact SRS	NJ Impact to GW Soil Screening Level	PAR-82-SB-B06	PAR-82-SB-B07			PAR-82-SB-B08		PAR-82-SB-B09
Sample ID				PAR-82-SB-B06-1.5-2.0	PAR-82-SB-B07-0.0-0.5	PAR-82-SB-B107-0.0-0.5	PAR-82-SB-B07-1.5-2.0	PAR-82-SB-B08-0.0-0.5	PAR-82-SB-B08-1.5-2.0	PAR-82-SB-B09-0.0-0.5
Sample Date				5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018
Semivolatile Organic Compounds (mg/kg)										
Acenaphthene	3,400	37,000	110	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NLE	300,000	NLE	NA	NA	NA	NA	NA	NA	NA
Anthracene	17,000	30,000	2,400	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	5	17	0.8	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.5	2	0.2	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	5	17	2	NA	NA	NA	NA	NA	NA	NA
Benzo(ghi)perylene	380,000	30,000	NLE	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	45	170	25	NA	NA	NA	NA	NA	NA	NA
Chrysene	450	1,700	80	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.5	2	0.8	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	2,300	24,000	1,300	NA	NA	NA	NA	NA	NA	NA
Fluorene	2,300	24,000	170	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5	17	7	NA	NA	NA	NA	NA	NA	NA
Naphthalene	6	17	25	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NLE	300,000	NLE	NA	NA	NA	NA	NA	NA	NA
Pyrene	1,700	18,000	840	NA	NA	NA	NA	NA	NA	NA
PCBs (mg/kg)										
Aroclor-1016	0.2	NLE	NLE	< 0.03	< 0.14	< 0.027	< 0.03	< 0.028	< 0.029	< 0.13
Aroclor-1221	0.2	NLE	NLE	< 0.03	< 0.14	< 0.027	< 0.03	< 0.028	< 0.029	< 0.13
Aroclor-1232	0.2	NLE	NLE	< 0.03	< 0.14	< 0.027	< 0.03	< 0.028	< 0.029	< 0.13
Aroclor-1242	0.2	NLE	NLE	< 0.03	< 0.14	< 0.027	< 0.03	< 0.028	< 0.029	< 0.13
Aroclor-1248	0.2	NLE	NLE	< 0.03	< 0.14	< 0.027	< 0.03	< 0.028	< 0.029	< 0.13
Aroclor-1254	0.2	NLE	NLE	< 0.03	1.4	0.88	0.09	< 0.028	< 0.029	3.6
Aroclor-1260	0.2	NLE	NLE	< 0.03	< 0.14	< 0.027	0.029 J	0.016 J	< 0.029	< 0.13
Aroclor-1268	0.2	NLE	NLE	< 0.03	< 0.14	< 0.027	< 0.03	< 0.028	< 0.029	< 0.13
Total PCBs	0.2	NLE	NLE	< 0.27	1.4 J	0.88	0.12 J	< 0.25	< 0.26	3.6

TABLE 1
SOIL SAMPLING RESULTS - COMPARISON TO NJDEP SOIL REMEDIATION STANDARDS
SITE PARCEL 82
FORT MONMOUTH, NEW JERSEY

Loc ID	NJ Residential 1 Direct Contact SRS	NJ Non-Residential Direct Contact SRS	NJ Impact to GW Soil Screening Level	PAR-82-SB-B09	PAR-82-SB-B10		PAR-82-SB-B11		PAR-82-SB-B12		PAR-82-SB-B13
Sample ID				PAR-82-SB-B09-1.5-2.0	PAR-82-SB-B10-0.0-0.5	PAR-82-SB-B10-1.5-2.0	PAR-82-SB-B11-0.0-0.5	PAR-82-SB-B11-1.5-2.0	PAR-82-SB-B12-0.0-0.5	PAR-82-SB-B12-1.5-2.0	PAR-82-SB-B13-0.0-0.5
Sample Date				5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018
Semivolatile Organic Compounds (mg/kg)											
Acenaphthene	3,400	37,000	110	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NLE	300,000	NLE	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	17,000	30,000	2,400	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	5	17	0.8	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.5	2	0.2	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	5	17	2	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(ghi)perylene	380,000	30,000	NLE	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	45	170	25	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	450	1,700	80	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.5	2	0.8	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	2,300	24,000	1,300	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	2,300	24,000	170	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5	17	7	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	6	17	25	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NLE	300,000	NLE	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	1,700	18,000	840	NA	NA	NA	NA	NA	NA	NA	NA
PCBs (mg/kg)											
Aroclor-1016	0.2	NLE	NLE	< 0.028	< 0.028	< 0.029	< 0.028	< 0.028	< 0.029	< 0.029	< 0.028
Aroclor-1221	0.2	NLE	NLE	< 0.028	< 0.028	< 0.029	< 0.028	< 0.028	< 0.029	< 0.029	< 0.028
Aroclor-1232	0.2	NLE	NLE	< 0.028	< 0.028	< 0.029	< 0.028	< 0.028	< 0.029	< 0.029	< 0.028
Aroclor-1242	0.2	NLE	NLE	< 0.028	< 0.028	< 0.029	< 0.028	< 0.028	< 0.029	< 0.029	< 0.028
Aroclor-1248	0.2	NLE	NLE	< 0.028	< 0.028	< 0.029	< 0.028	< 0.028	< 0.029	< 0.029	< 0.028
Aroclor-1254	0.2	NLE	NLE	< 0.028	< 0.028	0.02 J	< 0.028	< 0.028	0.12	< 0.029	0.048 JN
Aroclor-1260	0.2	NLE	NLE	< 0.028	0.058	< 0.029	0.03 J	< 0.028	0.044 J	< 0.029	0.044 J
Aroclor-1268	0.2	NLE	NLE	< 0.028	< 0.028	< 0.029	< 0.028	< 0.028	< 0.029	< 0.029	< 0.028
Total PCBs	0.2	NLE	NLE	< 0.25	< 0.25	< 0.26	< 0.25	< 0.25	0.17 J	< 0.26	< 0.25

TABLE 1
SOIL SAMPLING RESULTS - COMPARISON TO NJDEP SOIL REMEDIATION STANDARDS
SITE PARCEL 82
FORT MONMOUTH, NEW JERSEY

Loc ID	NJ Residential I Direct Contact SRS	NJ Non-Residential Direct Contact SRS	NJ Impact to GW Soil Screening Level	PAR-82-SB-B13	PAR-82-SB-B14		PAR-82-SB-B15		PAR-82-SB-B16		PAR-82-SB-B17
Sample ID				PAR-82-SB-B13-1.5-2.0	PAR-82-SB-B14-0.0-0.5	PAR-82-SB-B14-1.5-2.0	PAR-82-SB-B15-0.0-0.5	PAR-82-SB-B15-1.5-2.0	PAR-82-SB-B16-0.0-0.5	PAR-82-SB-B16-1.5-2.0	PAR-82-SB-B17-0.0-0.5
Sample Date				5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018
Semivolatile Organic Compounds (mg/kg)											
Acenaphthene	3,400	37,000	110	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NLE	300,000	NLE	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	17,000	30,000	2,400	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	5	17	0.8	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.5	2	0.2	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	5	17	2	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(ghi)perylene	380,000	30,000	NLE	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	45	170	25	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	450	1,700	80	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.5	2	0.8	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	2,300	24,000	1,300	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	2,300	24,000	170	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5	17	7	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	6	17	25	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NLE	300,000	NLE	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	1,700	18,000	840	NA	NA	NA	NA	NA	NA	NA	NA
PCBs (mg/kg)											
Aroclor-1016	0.2	NLE	NLE	< 0.029	< 0.029	< 0.03	< 0.029	< 0.029	< 0.025	< 0.028	< 0.028
Aroclor-1221	0.2	NLE	NLE	< 0.029	< 0.029	< 0.03	< 0.029	< 0.029	< 0.025	< 0.028	< 0.028
Aroclor-1232	0.2	NLE	NLE	< 0.029	< 0.029	< 0.03	< 0.029	< 0.029	< 0.025	< 0.028	< 0.028
Aroclor-1242	0.2	NLE	NLE	< 0.029	< 0.029	< 0.03	< 0.029	< 0.029	< 0.025	< 0.028	< 0.028
Aroclor-1248	0.2	NLE	NLE	< 0.029	< 0.029	< 0.03	< 0.029	< 0.029	< 0.025	< 0.028	< 0.028
Aroclor-1254	0.2	NLE	NLE	< 0.029	0.02 JN	< 0.03	0.52	< 0.029	0.014 J	< 0.028	0.027 J
Aroclor-1260	0.2	NLE	NLE	< 0.029	0.024 J	< 0.03	< 0.029	< 0.029	0.024 J	< 0.028	< 0.028
Aroclor-1268	0.2	NLE	NLE	< 0.029	< 0.029	< 0.03	< 0.029	< 0.029	< 0.025	< 0.028	< 0.028
Total PCBs	0.2	NLE	NLE	< 0.26	< 0.26	< 0.27	0.52	< 0.26	< 0.23	< 0.26	< 0.25

TABLE 1
SOIL SAMPLING RESULTS - COMPARISON TO NJDEP SOIL REMEDIATION STANDARDS
SITE PARCEL 82
FORT MONMOUTH, NEW JERSEY

Loc ID	NJ Residential I Direct Contact SRS	NJ Non-Residential Direct Contact SRS	NJ Impact to GW Soil Screening Level	PAR-82-SB-B17	PAR-82-SB-B18		PAR-82-SB-B19		PAR-82-SB-B20		PAR-82-SB-B21
Sample ID				PAR-82-SB-B17-1.5-2.0	PAR-82-SB-B18-0.0-0.5	PAR-82-SB-B18-1.5-2.0	PAR-82-SB-B19-0.0-0.5	PAR-82-SB-B19-1.5-2.0	PAR-82-SB-B20-0.0-0.5	PAR-82-SB-B20-1.5-2.0	PAR-82-SB-B21-0.0-0.5
Sample Date				5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018
Semivolatile Organic Compounds (mg/kg)											
Acenaphthene	3,400	37,000	110	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NLE	300,000	NLE	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	17,000	30,000	2,400	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	5	17	0.8	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.5	2	0.2	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	5	17	2	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(ghi)perylene	380,000	30,000	NLE	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	45	170	25	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	450	1,700	80	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.5	2	0.8	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	2,300	24,000	1,300	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	2,300	24,000	170	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5	17	7	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	6	17	25	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NLE	300,000	NLE	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	1,700	18,000	840	NA	NA	NA	NA	NA	NA	NA	NA
PCBs (mg/kg)											
Aroclor-1016	0.2	NLE	NLE	< 0.027	< 0.028	< 0.028	< 0.028	< 0.029	< 0.03	< 0.03	< 0.028
Aroclor-1221	0.2	NLE	NLE	< 0.027	< 0.028	< 0.028	< 0.028	< 0.029	< 0.03	< 0.03	< 0.028
Aroclor-1232	0.2	NLE	NLE	< 0.027	< 0.028	< 0.028	< 0.028	< 0.029	< 0.03	< 0.03	< 0.028
Aroclor-1242	0.2	NLE	NLE	< 0.027	< 0.028	< 0.028	< 0.028	< 0.029	< 0.03	< 0.03	< 0.028
Aroclor-1248	0.2	NLE	NLE	< 0.027	< 0.028	< 0.028	< 0.028	< 0.029	< 0.03	< 0.03	< 0.028
Aroclor-1254	0.2	NLE	NLE	0.051	0.019 J	< 0.028	< 0.028	< 0.029	< 0.03	< 0.03	0.048 JN
Aroclor-1260	0.2	NLE	NLE	< 0.027	< 0.028	< 0.028	< 0.028	< 0.029	< 0.03	< 0.03	0.15
Aroclor-1268	0.2	NLE	NLE	< 0.027	< 0.028	< 0.028	< 0.028	< 0.029	< 0.03	< 0.03	< 0.028
Total PCBs	0.2	NLE	NLE	< 0.24	< 0.25	< 0.25	< 0.25	< 0.26	< 0.27	< 0.27	0.2 J

TABLE 1
SOIL SAMPLING RESULTS - COMPARISON TO NJDEP SOIL REMEDIATION STANDARDS
SITE PARCEL 82
FORT MONMOUTH, NEW JERSEY

Loc ID	NJ Residential Direct Contact SRS	NJ Non-Residential Direct Contact SRS	NJ Impact to GW Soil Screening Level	PAR-82-SB-B21	PAR-82-SB-B22		PAR-82-SB-B23		PAR-82-SB-B24		PAR-82-SB-B25
Sample ID				PAR-82-SB-B21-1.5-2.0	PAR-82-SB-B22-0.0-0.5	PAR-82-SB-B22-1.5-2.0	PAR-82-SB-B23-0.5-1.0	PAR-82-SB-B23-3.0-3.5	PAR-82-SB-B24-1.0-1.5	PAR-82-SB-B24-3.0-3.5	PAR-82-SB-B25-1.0-1.5
Sample Date				5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018
Semivolatile Organic Compounds (mg/kg)											
Acenaphthene	3,400	37,000	110	NA	NA	NA	0.016 J	< 0.081	< 0.078	< 0.08	< 0.079
Acenaphthylene	NLE	300,000	NLE	NA	NA	NA	< 0.072	< 0.081	0.039 J	< 0.08	< 0.079
Anthracene	17,000	30,000	2,400	NA	NA	NA	0.0092 J	< 0.081	0.029 J	< 0.08	< 0.079
Benzo(a)anthracene	5	17	0.8	NA	NA	NA	0.05 J	0.017 J	0.12	0.0064 J	0.039 J
Benzo(a)pyrene	0.5	2	0.2	NA	NA	NA	0.059 J	0.01 J	0.12	< 0.08	0.039 J
Benzo(b)fluoranthene	5	17	2	NA	NA	NA	0.082 J	0.018 J	0.16	< 0.08	0.057 J
Benzo(ghi)perylene	380,000	30,000	NLE	NA	NA	NA	0.043 J	< 0.081	0.08 J	< 0.08	0.026 J
Benzo(k)fluoranthene	45	170	25	NA	NA	NA	0.03 J	0.0064 J	0.059 J	< 0.08	0.018 J
Chrysene	450	1,700	80	NA	NA	NA	0.053 J	0.012 J	0.13	< 0.08	0.031 J
Dibenz(a,h)anthracene	0.5	2	0.8	NA	NA	NA	0.012 J	< 0.081	0.012 J	< 0.08	< 0.079
Fluoranthene	2,300	24,000	1,300	NA	NA	NA	0.094 J	0.016 J	0.23	< 0.08	0.071 J
Fluorene	2,300	24,000	170	NA	NA	NA	0.011 J	< 0.081	0.016 J	< 0.08	< 0.079
Indeno(1,2,3-cd)pyrene	5	17	7	NA	NA	NA	0.045 J	0.0097 J	0.084 J	< 0.08	0.029 J
Naphthalene	6	17	25	NA	NA	NA	0.28	< 0.081	0.033 J	< 0.08	< 0.079
Phenanthrene	NLE	300,000	NLE	NA	NA	NA	0.037 J	0.01 J	0.14	< 0.08	0.024 J
Pyrene	1,700	18,000	840	NA	NA	NA	0.081 J	0.016 J	0.24	< 0.08	0.061 J
PCBs (mg/kg)											
Aroclor-1016	0.2	NLE	NLE	< 0.029	< 0.029	< 0.029	NA	NA	NA	NA	NA
Aroclor-1221	0.2	NLE	NLE	< 0.029	< 0.029	< 0.029	NA	NA	NA	NA	NA
Aroclor-1232	0.2	NLE	NLE	< 0.029	< 0.029	< 0.029	NA	NA	NA	NA	NA
Aroclor-1242	0.2	NLE	NLE	< 0.029	< 0.029	< 0.029	NA	NA	NA	NA	NA
Aroclor-1248	0.2	NLE	NLE	< 0.029	< 0.029	< 0.029	NA	NA	NA	NA	NA
Aroclor-1254	0.2	NLE	NLE	< 0.029	0.043 JN	< 0.029	NA	NA	NA	NA	NA
Aroclor-1260	0.2	NLE	NLE	< 0.029	0.13	< 0.029	NA	NA	NA	NA	NA
Aroclor-1268	0.2	NLE	NLE	< 0.029	< 0.029	< 0.029	NA	NA	NA	NA	NA
Total PCBs	0.2	NLE	NLE	< 0.26	0.17 J	< 0.26	NA	NA	NA	NA	NA

TABLE 1
SOIL SAMPLING RESULTS - COMPARISON TO NJDEP SOIL REMEDIATION STANDARDS
SITE PARCEL 82
FORT MONMOUTH, NEW JERSEY

Loc ID	NJ Residential I Direct Contact SRS	NJ Non-Residential Direct Contact SRS	NJ Impact to GW Soil Screening Level	PAR-82-SB-B25	
Sample ID				PAR-82-SB-B125-1.0-1.5	PAR-82-SB-B25-3.0-3.5
Sample Date				5/15/2018	5/15/2018
Semivolatile Organic Compounds (mg/kg)					
Acenaphthene	3,400	37,000	110	< 0.08	< 0.081
Acenaphthylene	NLE	300,000	NLE	< 0.08	< 0.081
Anthracene	17,000	30,000	2,400	< 0.08	< 0.081
Benzo(a)anthracene	5	17	0.8	0.029 J	< 0.081
Benzo(a)pyrene	0.5	2	0.2	0.025 J	< 0.081
Benzo(b)fluoranthene	5	17	2	0.039 J	< 0.081
Benzo(ghi)perylene	380,000	30,000	NLE	0.02 J	< 0.081
Benzo(k)fluoranthene	45	170	25	0.015 J	< 0.081
Chrysene	450	1,700	80	0.026 J	< 0.081
Dibenz(a,h)anthracene	0.5	2	0.8	< 0.08	< 0.081
Fluoranthene	2,300	24,000	1,300	0.054 J	< 0.081
Fluorene	2,300	24,000	170	< 0.08	< 0.081
Indeno(1,2,3-cd)pyrene	5	17	7	0.018 J	< 0.081
Naphthalene	6	17	25	< 0.08	< 0.081
Phenanthrene	NLE	300,000	NLE	0.017 J	< 0.081
Pyrene	1,700	18,000	840	0.044 J	< 0.081
PCBs (mg/kg)					
Aroclor-1016	0.2	NLE	NLE	NA	NA
Aroclor-1221	0.2	NLE	NLE	NA	NA
Aroclor-1232	0.2	NLE	NLE	NA	NA
Aroclor-1242	0.2	NLE	NLE	NA	NA
Aroclor-1248	0.2	NLE	NLE	NA	NA
Aroclor-1254	0.2	NLE	NLE	NA	NA
Aroclor-1260	0.2	NLE	NLE	NA	NA
Aroclor-1268	0.2	NLE	NLE	NA	NA
Total PCBs	0.2	NLE	NLE	NA	NA

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

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

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

E (or ER) = Estimated result.

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

D = Results from dilution of sample.

R = Rejected, data validation rejected the results.

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

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

JN = Tentatively identified compound, estimated concentration.

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

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

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

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

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

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

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

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

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

####

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

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

###

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

###

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

###

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

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10) Criteria action level source document and web address.

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

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

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

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

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

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

Table 2

Soil Sampling Results – Comparison to USEPA Soil Remediation Standards

TABLE 2
SOIL SAMPLING RESULTS - COMPARISON TO USEPA CRITERIA
SITE PARCEL 82
FORT MONMOUTH, NEW JERSEY

Loc ID	2017-06 RSL Residential Soil (HQ=0.1)	2017-06 RSL Industrial Soil (HQ=0.1)	2017-06 RSL Protect GW Risk-Based (HQ=0.1)	PAR-82-SB-B01			PAR-82-SB-B02	
Sample ID				PAR-82-SB-B01-0.0-0.5	PAR-82-SB-B01-0.0-0.5	PAR-82-SB-B01-1.5-2.0	PAR-82-SB-B02-0.0-0.5	PAR-82-SB-B02-1.5-2.0
Sample Date				5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018
Semivolatile Organic Compounds (mg/kg)								
Acenaphthene	360	4,500	0.55	NA	NA	NA	NA	NA
Acenaphthylene	NLE	NLE	NLE	NA	NA	NA	NA	NA
Anthracene	1,800	23,000	5.8	NA	NA	NA	NA	NA
Benzo(a)anthracene	1.1	21	0.011	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.11	2.1	0.029	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.1	21	0.3	NA	NA	NA	NA	NA
Benzo(ghi)perylene	NLE	NLE	NLE	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	11	210	2.9	NA	NA	NA	NA	NA
Chrysene	110	2,100	9	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.11	2.1	0.096	NA	NA	NA	NA	NA
Fluoranthene	240	3,000	8.9	NA	NA	NA	NA	NA
Fluorene	240	3,000	0.54	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	1.1	21	0.98	NA	NA	NA	NA	NA
Naphthalene	3.8	17	0.00054	NA	NA	NA	NA	NA
Phenanthrene	NLE	NLE	NLE	NA	NA	NA	NA	NA
Pyrene	180	2,300	1.3	NA	NA	NA	NA	NA
PCBs (mg/kg)								
Aroclor-1016	0.41	5.1	0.013	< 0.03	< 0.03	< 0.03	< 0.029	< 0.028
Aroclor-1221	0.2	0.83	0.00008	< 0.03	< 0.03	< 0.03	< 0.029	< 0.028
Aroclor-1232	0.17	0.72	0.00008	< 0.03	< 0.03	< 0.03	< 0.029	< 0.028
Aroclor-1242	0.23	0.95	0.0012	< 0.03	< 0.03	< 0.03	< 0.029	< 0.028
Aroclor-1248	0.23	0.95	0.0012	< 0.03	< 0.03	< 0.03	< 0.029	< 0.028
Aroclor-1254	0.12	0.97	0.002	0.073	0.12	< 0.03	< 0.029	< 0.028
Aroclor-1260	0.24	0.99	0.0055	0.031 J	< 0.03	< 0.03	< 0.029	< 0.028
Aroclor-1268	NLE	NLE	NLE	< 0.03	< 0.03	< 0.03	< 0.029	< 0.028
Total PCBs	NLE	NLE	NLE	< 0.27	0.12 J	< 0.27	< 0.26	< 0.26

TABLE 2
SOIL SAMPLING RESULTS - COMPARISON TO USEPA CRITERIA
SITE PARCEL 82
FORT MONMOUTH, NEW JERSEY

Loc ID	2017-06 RSL Residential Soil (HQ=0.1)	2017-06 RSL Industrial Soil (HQ=0.1)	2017-06 RSL Protect GW Risk-Based (HQ=0.1)	PAR-82-SB-B03			PAR-82-SB-B04	
Sample ID				PAR-82-SB-B03-0.0-0.5	PAR-82-SB-B103-0.0-0.5	PAR-82-SB-B03-1.5-2.0	PAR-82-SB-B04-0.0-0.5	PAR-82-SB-B04-1.5-2.0
Sample Date				5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018
Semivolatile Organic Compounds (mg/kg)								
Acenaphthene	360	4,500	0.55	NA	NA	NA	NA	NA
Acenaphthylene	NLE	NLE	NLE	NA	NA	NA	NA	NA
Anthracene	1,800	23,000	5.8	NA	NA	NA	NA	NA
Benzo(a)anthracene	1.1	21	0.011	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.11	2.1	0.029	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.1	21	0.3	NA	NA	NA	NA	NA
Benzo(ghi)perylene	NLE	NLE	NLE	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	11	210	2.9	NA	NA	NA	NA	NA
Chrysene	110	2,100	9	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.11	2.1	0.096	NA	NA	NA	NA	NA
Fluoranthene	240	3,000	8.9	NA	NA	NA	NA	NA
Fluorene	240	3,000	0.54	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	1.1	21	0.98	NA	NA	NA	NA	NA
Naphthalene	3.8	17	0.00054	NA	NA	NA	NA	NA
Phenanthrene	NLE	NLE	NLE	NA	NA	NA	NA	NA
Pyrene	180	2,300	1.3	NA	NA	NA	NA	NA
PCBs (mg/kg)								
Aroclor-1016	0.41	5.1	0.013	< 0.03	< 0.03	< 0.028	< 0.029	< 0.031
Aroclor-1221	0.2	0.83	0.00008	< 0.03	< 0.03	< 0.028	< 0.029	< 0.031
Aroclor-1232	0.17	0.72	0.00008	< 0.03	< 0.03	< 0.028	< 0.029	< 0.031
Aroclor-1242	0.23	0.95	0.0012	< 0.03	< 0.03	< 0.028	< 0.029	< 0.031
Aroclor-1248	0.23	0.95	0.0012	< 0.03	< 0.03	< 0.028	< 0.029	< 0.031
Aroclor-1254	0.12	0.97	0.002	< 0.03	< 0.03	< 0.028	0.19	< 0.031
Aroclor-1260	0.24	0.99	0.0055	< 0.03	< 0.03	< 0.028	0.12	< 0.031
Aroclor-1268	NLE	NLE	NLE	< 0.03	< 0.03	< 0.028	< 0.029	< 0.031
Total PCBs	NLE	NLE	NLE	< 0.27	< 0.27	< 0.25	0.31 J	< 0.27

TABLE 2
SOIL SAMPLING RESULTS - COMPARISON TO USEPA CRITERIA
SITE PARCEL 82
FORT MONMOUTH, NEW JERSEY

Loc ID	2017-06 RSL Residential Soil (HQ=0.1)	2017-06 RSL Industrial Soil (HQ=0.1)	2017-06 RSL Protect GW Risk-Based (HQ=0.1)	PAR-82-SB-B05			PAR-82-SB-B06	
Sample ID				PAR-82-SB-B05-0.0-0.5	PAR-82-SB-B105-0.0-0.5	PAR-82-SB-B05-1.5-2.0	PAR-82-SB-B06-0.0-0.5	PAR-82-SB-B06-1.5-2.0
Sample Date				5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018
Semivolatile Organic Compounds (mg/kg)								
Acenaphthene	360	4,500	0.55	NA	NA	NA	NA	NA
Acenaphthylene	NLE	NLE	NLE	NA	NA	NA	NA	NA
Anthracene	1,800	23,000	5.8	NA	NA	NA	NA	NA
Benzo(a)anthracene	1.1	21	0.011	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.11	2.1	0.029	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.1	21	0.3	NA	NA	NA	NA	NA
Benzo(ghi)perylene	NLE	NLE	NLE	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	11	210	2.9	NA	NA	NA	NA	NA
Chrysene	110	2,100	9	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.11	2.1	0.096	NA	NA	NA	NA	NA
Fluoranthene	240	3,000	8.9	NA	NA	NA	NA	NA
Fluorene	240	3,000	0.54	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	1.1	21	0.98	NA	NA	NA	NA	NA
Naphthalene	3.8	17	0.00054	NA	NA	NA	NA	NA
Phenanthrene	NLE	NLE	NLE	NA	NA	NA	NA	NA
Pyrene	180	2,300	1.3	NA	NA	NA	NA	NA
PCBs (mg/kg)								
Aroclor-1016	0.41	5.1	0.013	< 0.026	< 0.027	< 0.031	< 0.026	< 0.03
Aroclor-1221	0.2	0.83	0.00008	< 0.026	< 0.027	< 0.031	< 0.026	< 0.03
Aroclor-1232	0.17	0.72	0.00008	< 0.026	< 0.027	< 0.031	< 0.026	< 0.03
Aroclor-1242	0.23	0.95	0.0012	< 0.026	< 0.027	< 0.031	< 0.026	< 0.03
Aroclor-1248	0.23	0.95	0.0012	< 0.026	< 0.027	< 0.031	< 0.026	< 0.03
Aroclor-1254	0.12	0.97	0.002	< 0.026	< 0.027	< 0.031	< 0.026	< 0.03
Aroclor-1260	0.24	0.99	0.0055	0.068	0.056	< 0.031	0.033 J	< 0.03
Aroclor-1268	NLE	NLE	NLE	< 0.026	< 0.027	< 0.031	< 0.026	< 0.03
Total PCBs	NLE	NLE	NLE	< 0.23	< 0.24	< 0.28	< 0.23	< 0.27

TABLE 2
SOIL SAMPLING RESULTS - COMPARISON TO USEPA CRITERIA
SITE PARCEL 82
FORT MONMOUTH, NEW JERSEY

Loc ID	2017-06 RSL Residential Soil (HQ=0.1)	2017-06 RSL Industrial Soil (HQ=0.1)	2017-06 RSL Protect GW Risk-Based (HQ=0.1)	PAR-82-SB-B07			PAR-82-SB-B08	
Sample ID				PAR-82-SB-B07-0.0-0.5	PAR-82-SB-B107-0.0-0.5	PAR-82-SB-B07-1.5-2.0	PAR-82-SB-B08-0.0-0.5	PAR-82-SB-B08-1.5-2.0
Sample Date				5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018
Semivolatile Organic Compounds (mg/kg)								
Acenaphthene	360	4,500	0.55	NA	NA	NA	NA	NA
Acenaphthylene	NLE	NLE	NLE	NA	NA	NA	NA	NA
Anthracene	1,800	23,000	5.8	NA	NA	NA	NA	NA
Benzo(a)anthracene	1.1	21	0.011	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.11	2.1	0.029	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.1	21	0.3	NA	NA	NA	NA	NA
Benzo(ghi)perylene	NLE	NLE	NLE	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	11	210	2.9	NA	NA	NA	NA	NA
Chrysene	110	2,100	9	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.11	2.1	0.096	NA	NA	NA	NA	NA
Fluoranthene	240	3,000	8.9	NA	NA	NA	NA	NA
Fluorene	240	3,000	0.54	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	1.1	21	0.98	NA	NA	NA	NA	NA
Naphthalene	3.8	17	0.00054	NA	NA	NA	NA	NA
Phenanthrene	NLE	NLE	NLE	NA	NA	NA	NA	NA
Pyrene	180	2,300	1.3	NA	NA	NA	NA	NA
PCBs (mg/kg)								
Aroclor-1016	0.41	5.1	0.013	< 0.14	< 0.027	< 0.03	< 0.028	< 0.029
Aroclor-1221	0.2	0.83	0.00008	< 0.14	< 0.027	< 0.03	< 0.028	< 0.029
Aroclor-1232	0.17	0.72	0.00008	< 0.14	< 0.027	< 0.03	< 0.028	< 0.029
Aroclor-1242	0.23	0.95	0.0012	< 0.14	< 0.027	< 0.03	< 0.028	< 0.029
Aroclor-1248	0.23	0.95	0.0012	< 0.14	< 0.027	< 0.03	< 0.028	< 0.029
Aroclor-1254	0.12	0.97	0.002	1.4	0.88	0.09	< 0.028	< 0.029
Aroclor-1260	0.24	0.99	0.0055	< 0.14	< 0.027	0.029 J	0.016 J	< 0.029
Aroclor-1268	NLE	NLE	NLE	< 0.14	< 0.027	< 0.03	< 0.028	< 0.029
Total PCBs	NLE	NLE	NLE	1.4 J	0.88	0.12 J	< 0.25	< 0.26

TABLE 2
SOIL SAMPLING RESULTS - COMPARISON TO USEPA CRITERIA
SITE PARCEL 82
FORT MONMOUTH, NEW JERSEY

Loc ID	2017-06 RSL Residential Soil (HQ=0.1)	2017-06 RSL Industrial Soil (HQ=0.1)	2017-06 RSL Protect GW Risk-Based (HQ=0.1)	PAR-82-SB-B09		PAR-82-SB-B10		PAR-82-SB-B11	
Sample ID				PAR-82-SB-B09-0.0-0.5	PAR-82-SB-B09-1.5-2.0	PAR-82-SB-B10-0.0-0.5	PAR-82-SB-B10-1.5-2.0	PAR-82-SB-B11-0.0-0.5	PAR-82-SB-B11-1.5-2.0
Sample Date				5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018
Semivolatile Organic Compounds (mg/kg)									
Acenaphthene	360	4,500	0.55	NA	NA	NA	NA	NA	NA
Acenaphthylene	NLE	NLE	NLE	NA	NA	NA	NA	NA	NA
Anthracene	1,800	23,000	5.8	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	1.1	21	0.011	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.11	2.1	0.029	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.1	21	0.3	NA	NA	NA	NA	NA	NA
Benzo(ghi)perylene	NLE	NLE	NLE	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	11	210	2.9	NA	NA	NA	NA	NA	NA
Chrysene	110	2,100	9	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.11	2.1	0.096	NA	NA	NA	NA	NA	NA
Fluoranthene	240	3,000	8.9	NA	NA	NA	NA	NA	NA
Fluorene	240	3,000	0.54	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	1.1	21	0.98	NA	NA	NA	NA	NA	NA
Naphthalene	3.8	17	0.00054	NA	NA	NA	NA	NA	NA
Phenanthrene	NLE	NLE	NLE	NA	NA	NA	NA	NA	NA
Pyrene	180	2,300	1.3	NA	NA	NA	NA	NA	NA
PCBs (mg/kg)									
Aroclor-1016	0.41	5.1	0.013	< 0.13	< 0.028	< 0.028	< 0.029	< 0.028	< 0.028
Aroclor-1221	0.2	0.83	0.00008	< 0.13	< 0.028	< 0.028	< 0.029	< 0.028	< 0.028
Aroclor-1232	0.17	0.72	0.00008	< 0.13	< 0.028	< 0.028	< 0.029	< 0.028	< 0.028
Aroclor-1242	0.23	0.95	0.0012	< 0.13	< 0.028	< 0.028	< 0.029	< 0.028	< 0.028
Aroclor-1248	0.23	0.95	0.0012	< 0.13	< 0.028	< 0.028	< 0.029	< 0.028	< 0.028
Aroclor-1254	0.12	0.97	0.002	3.6	< 0.028	< 0.028	0.02 J	< 0.028	< 0.028
Aroclor-1260	0.24	0.99	0.0055	< 0.13	< 0.028	0.058	< 0.029	0.03 J	< 0.028
Aroclor-1268	NLE	NLE	NLE	< 0.13	< 0.028	< 0.028	< 0.029	< 0.028	< 0.028
Total PCBs	NLE	NLE	NLE	3.6	< 0.25	< 0.25	< 0.26	< 0.25	< 0.25

TABLE 2
SOIL SAMPLING RESULTS - COMPARISON TO USEPA CRITERIA
SITE PARCEL 82
FORT MONMOUTH, NEW JERSEY

Loc ID	2017-06 RSL Residential Soil (HQ=0.1)	2017-06 RSL Industrial Soil (HQ=0.1)	2017-06 RSL Protect GW Risk-Based (HQ=0.1)	PAR-82-SB-B12		PAR-82-SB-B13		PAR-82-SB-B14	
Sample ID				PAR-82-SB-B12-0.0-0.5	PAR-82-SB-B12-1.5-2.0	PAR-82-SB-B13-0.0-0.5	PAR-82-SB-B13-1.5-2.0	PAR-82-SB-B14-0.0-0.5	PAR-82-SB-B14-1.5-2.0
Sample Date				5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018
Semivolatile Organic Compounds (mg/kg)									
Acenaphthene	360	4,500	0.55	NA	NA	NA	NA	NA	NA
Acenaphthylene	NLE	NLE	NLE	NA	NA	NA	NA	NA	NA
Anthracene	1,800	23,000	5.8	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	1.1	21	0.011	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.11	2.1	0.029	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.1	21	0.3	NA	NA	NA	NA	NA	NA
Benzo(ghi)perylene	NLE	NLE	NLE	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	11	210	2.9	NA	NA	NA	NA	NA	NA
Chrysene	110	2,100	9	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.11	2.1	0.096	NA	NA	NA	NA	NA	NA
Fluoranthene	240	3,000	8.9	NA	NA	NA	NA	NA	NA
Fluorene	240	3,000	0.54	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	1.1	21	0.98	NA	NA	NA	NA	NA	NA
Naphthalene	3.8	17	0.00054	NA	NA	NA	NA	NA	NA
Phenanthrene	NLE	NLE	NLE	NA	NA	NA	NA	NA	NA
Pyrene	180	2,300	1.3	NA	NA	NA	NA	NA	NA
PCBs (mg/kg)									
Aroclor-1016	0.41	5.1	0.013	< 0.029	< 0.029	< 0.028	< 0.029	< 0.029	< 0.03
Aroclor-1221	0.2	0.83	0.00008	< 0.029	< 0.029	< 0.028	< 0.029	< 0.029	< 0.03
Aroclor-1232	0.17	0.72	0.00008	< 0.029	< 0.029	< 0.028	< 0.029	< 0.029	< 0.03
Aroclor-1242	0.23	0.95	0.0012	< 0.029	< 0.029	< 0.028	< 0.029	< 0.029	< 0.03
Aroclor-1248	0.23	0.95	0.0012	< 0.029	< 0.029	< 0.028	< 0.029	< 0.029	< 0.03
Aroclor-1254	0.12	0.97	0.002	0.12	< 0.029	0.048 JN	< 0.029	0.02 JN	< 0.03
Aroclor-1260	0.24	0.99	0.0055	0.044 J	< 0.029	0.044 J	< 0.029	0.024 J	< 0.03
Aroclor-1268	NLE	NLE	NLE	< 0.029	< 0.029	< 0.028	< 0.029	< 0.029	< 0.03
Total PCBs	NLE	NLE	NLE	0.17 J	< 0.26	< 0.25	< 0.26	< 0.26	< 0.27

TABLE 2
SOIL SAMPLING RESULTS - COMPARISON TO USEPA CRITERIA
SITE PARCEL 82
FORT MONMOUTH, NEW JERSEY

Loc ID	2017-06 RSL Residential Soil (HQ=0.1)	2017-06 RSL Industrial Soil (HQ=0.1)	2017-06 RSL Protect GW Risk-Based (HQ=0.1)	PAR-82-SB-B15		PAR-82-SB-B16		PAR-82-SB-B17	
Sample ID	Soil (HQ=0.1)	(HQ=0.1)		PAR-82-SB-B15-0.0-0.5	PAR-82-SB-B15-1.5-2.0	PAR-82-SB-B16-0.0-0.5	PAR-82-SB-B16-1.5-2.0	PAR-82-SB-B17-0.0-0.5	PAR-82-SB-B17-1.5-2.0
Sample Date				5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018
Semivolatile Organic Compounds (mg/kg)									
Acenaphthene	360	4,500	0.55	NA	NA	NA	NA	NA	NA
Acenaphthylene	NLE	NLE	NLE	NA	NA	NA	NA	NA	NA
Anthracene	1,800	23,000	5.8	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	1.1	21	0.011	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.11	2.1	0.029	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.1	21	0.3	NA	NA	NA	NA	NA	NA
Benzo(ghi)perylene	NLE	NLE	NLE	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	11	210	2.9	NA	NA	NA	NA	NA	NA
Chrysene	110	2,100	9	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.11	2.1	0.096	NA	NA	NA	NA	NA	NA
Fluoranthene	240	3,000	8.9	NA	NA	NA	NA	NA	NA
Fluorene	240	3,000	0.54	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	1.1	21	0.98	NA	NA	NA	NA	NA	NA
Naphthalene	3.8	17	0.00054	NA	NA	NA	NA	NA	NA
Phenanthrene	NLE	NLE	NLE	NA	NA	NA	NA	NA	NA
Pyrene	180	2,300	1.3	NA	NA	NA	NA	NA	NA
PCBs (mg/kg)									
Aroclor-1016	0.41	5.1	0.013	< 0.029	< 0.029	< 0.025	< 0.028	< 0.028	< 0.027
Aroclor-1221	0.2	0.83	0.00008	< 0.029	< 0.029	< 0.025	< 0.028	< 0.028	< 0.027
Aroclor-1232	0.17	0.72	0.00008	< 0.029	< 0.029	< 0.025	< 0.028	< 0.028	< 0.027
Aroclor-1242	0.23	0.95	0.0012	< 0.029	< 0.029	< 0.025	< 0.028	< 0.028	< 0.027
Aroclor-1248	0.23	0.95	0.0012	< 0.029	< 0.029	< 0.025	< 0.028	< 0.028	< 0.027
Aroclor-1254	0.12	0.97	0.002	0.52	< 0.029	0.014 J	< 0.028	0.027 J	0.051
Aroclor-1260	0.24	0.99	0.0055	< 0.029	< 0.029	0.024 J	< 0.028	< 0.028	< 0.027
Aroclor-1268	NLE	NLE	NLE	< 0.029	< 0.029	< 0.025	< 0.028	< 0.028	< 0.027
Total PCBs	NLE	NLE	NLE	0.52	< 0.26	< 0.23	< 0.26	< 0.25	< 0.24

TABLE 2
SOIL SAMPLING RESULTS - COMPARISON TO USEPA CRITERIA
SITE PARCEL 82
FORT MONMOUTH, NEW JERSEY

Loc ID	2017-06 RSL Residential Soil (HQ=0.1)	2017-06 RSL Industrial Soil (HQ=0.1)	2017-06 RSL Protect GW Risk-Based (HQ=0.1)	PAR-82-SB-B18		PAR-82-SB-B19		PAR-82-SB-B20	
Sample ID				PAR-82-SB-B18-0.0-0.5	PAR-82-SB-B18-1.5-2.0	PAR-82-SB-B19-0.0-0.5	PAR-82-SB-B19-1.5-2.0	PAR-82-SB-B20-0.0-0.5	PAR-82-SB-B20-1.5-2.0
Sample Date				5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018
Semivolatile Organic Compounds (mg/kg)									
Acenaphthene	360	4,500	0.55	NA	NA	NA	NA	NA	NA
Acenaphthylene	NLE	NLE	NLE	NA	NA	NA	NA	NA	NA
Anthracene	1,800	23,000	5.8	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	1.1	21	0.011	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.11	2.1	0.029	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1.1	21	0.3	NA	NA	NA	NA	NA	NA
Benzo(ghi)perylene	NLE	NLE	NLE	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	11	210	2.9	NA	NA	NA	NA	NA	NA
Chrysene	110	2,100	9	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.11	2.1	0.096	NA	NA	NA	NA	NA	NA
Fluoranthene	240	3,000	8.9	NA	NA	NA	NA	NA	NA
Fluorene	240	3,000	0.54	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	1.1	21	0.98	NA	NA	NA	NA	NA	NA
Naphthalene	3.8	17	0.00054	NA	NA	NA	NA	NA	NA
Phenanthrene	NLE	NLE	NLE	NA	NA	NA	NA	NA	NA
Pyrene	180	2,300	1.3	NA	NA	NA	NA	NA	NA
PCBs (mg/kg)									
Aroclor-1016	0.41	5.1	0.013	< 0.028	< 0.028	< 0.028	< 0.029	< 0.03	< 0.03
Aroclor-1221	0.2	0.83	0.00008	< 0.028	< 0.028	< 0.028	< 0.029	< 0.03	< 0.03
Aroclor-1232	0.17	0.72	0.00008	< 0.028	< 0.028	< 0.028	< 0.029	< 0.03	< 0.03
Aroclor-1242	0.23	0.95	0.0012	< 0.028	< 0.028	< 0.028	< 0.029	< 0.03	< 0.03
Aroclor-1248	0.23	0.95	0.0012	< 0.028	< 0.028	< 0.028	< 0.029	< 0.03	< 0.03
Aroclor-1254	0.12	0.97	0.002	0.019 J	< 0.028	< 0.028	< 0.029	< 0.03	< 0.03
Aroclor-1260	0.24	0.99	0.0055	< 0.028	< 0.028	< 0.028	< 0.029	< 0.03	< 0.03
Aroclor-1268	NLE	NLE	NLE	< 0.028	< 0.028	< 0.028	< 0.029	< 0.03	< 0.03
Total PCBs	NLE	NLE	NLE	< 0.25	< 0.25	< 0.25	< 0.26	< 0.27	< 0.27

TABLE 2
SOIL SAMPLING RESULTS - COMPARISON TO USEPA CRITERIA
SITE PARCEL 82
FORT MONMOUTH, NEW JERSEY

Loc ID	2017-06 RSL Residential Soil (HQ=0.1)	2017-06 RSL Industrial Soil (HQ=0.1)	2017-06 RSL Protect GW Risk-Based (HQ=0.1)	PAR-82-SB-B21		PAR-82-SB-B22		PAR-82-SB-B23	
Sample ID	Soil (HQ=0.1)	(HQ=0.1)		PAR-82-SB-B21-0.0-0.5	PAR-82-SB-B21-1.5-2.0	PAR-82-SB-B22-0.0-0.5	PAR-82-SB-B22-1.5-2.0	PAR-82-SB-B23-0.5-1.0	PAR-82-SB-B23-3.0-3.5
Sample Date				5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018
Semivolatile Organic Compounds (mg/kg)									
Acenaphthene	360	4,500	0.55	NA	NA	NA	NA	0.016 J	< 0.081
Acenaphthylene	NLE	NLE	NLE	NA	NA	NA	NA	< 0.072	< 0.081
Anthracene	1,800	23,000	5.8	NA	NA	NA	NA	0.0092 J	< 0.081
Benzo(a)anthracene	1.1	21	0.011	NA	NA	NA	NA	0.05 J	0.017 J
Benzo(a)pyrene	0.11	2.1	0.029	NA	NA	NA	NA	0.059 J	0.01 J
Benzo(b)fluoranthene	1.1	21	0.3	NA	NA	NA	NA	0.082 J	0.018 J
Benzo(ghi)perylene	NLE	NLE	NLE	NA	NA	NA	NA	0.043 J	< 0.081
Benzo(k)fluoranthene	11	210	2.9	NA	NA	NA	NA	0.03 J	0.0064 J
Chrysene	110	2,100	9	NA	NA	NA	NA	0.053 J	0.012 J
Dibenz(a,h)anthracene	0.11	2.1	0.096	NA	NA	NA	NA	0.012 J	< 0.081
Fluoranthene	240	3,000	8.9	NA	NA	NA	NA	0.094 J	0.016 J
Fluorene	240	3,000	0.54	NA	NA	NA	NA	0.011 J	< 0.081
Indeno(1,2,3-cd)pyrene	1.1	21	0.98	NA	NA	NA	NA	0.045 J	0.0097 J
Naphthalene	3.8	17	0.00054	NA	NA	NA	NA	0.28	< 0.081
Phenanthrene	NLE	NLE	NLE	NA	NA	NA	NA	0.037 J	0.01 J
Pyrene	180	2,300	1.3	NA	NA	NA	NA	0.081 J	0.016 J
PCBs (mg/kg)									
Aroclor-1016	0.41	5.1	0.013	< 0.028	< 0.029	< 0.029	< 0.029	NA	NA
Aroclor-1221	0.2	0.83	0.00008	< 0.028	< 0.029	< 0.029	< 0.029	NA	NA
Aroclor-1232	0.17	0.72	0.00008	< 0.028	< 0.029	< 0.029	< 0.029	NA	NA
Aroclor-1242	0.23	0.95	0.0012	< 0.028	< 0.029	< 0.029	< 0.029	NA	NA
Aroclor-1248	0.23	0.95	0.0012	< 0.028	< 0.029	< 0.029	< 0.029	NA	NA
Aroclor-1254	0.12	0.97	0.002	0.048 JN	< 0.029	0.043 JN	< 0.029	NA	NA
Aroclor-1260	0.24	0.99	0.0055	0.15	< 0.029	0.13	< 0.029	NA	NA
Aroclor-1268	NLE	NLE	NLE	< 0.028	< 0.029	< 0.029	< 0.029	NA	NA
Total PCBs	NLE	NLE	NLE	0.2 J	< 0.26	0.17 J	< 0.26	NA	NA

TABLE 2
SOIL SAMPLING RESULTS - COMPARISON TO USEPA CRITERIA
SITE PARCEL 82
FORT MONMOUTH, NEW JERSEY

Loc ID	2017-06 RSL Residential Soil (HQ=0.1)	2017-06 RSL Industrial Soil (HQ=0.1)	2017-06 RSL Protect GW Risk-Based (HQ=0.1)	PAR-82-SB-B24		PAR-82-SB-B25		
Sample ID				PAR-82-SB-B24-1.0-1.5	PAR-82-SB-B24-3.0-3.5	PAR-82-SB-B25-1.0-1.5	PAR-82-SB-B125-1.0-1.5	PAR-82-SB-B25-3.0-3.5
Sample Date				5/15/2018	5/15/2018	5/15/2018	5/15/2018	5/15/2018
Semivolatile Organic Compounds (mg/kg)								
Acenaphthene	360	4,500	0.55	< 0.078	< 0.08	< 0.079	< 0.08	< 0.081
Acenaphthylene	NLE	NLE	NLE	0.039 J	< 0.08	< 0.079	< 0.08	< 0.081
Anthracene	1,800	23,000	5.8	0.029 J	< 0.08	< 0.079	< 0.08	< 0.081
Benzo(a)anthracene	1.1	21	0.011	0.12	0.0064 J	0.039 J	0.029 J	< 0.081
Benzo(a)pyrene	0.11	2.1	0.029	0.12	< 0.08	0.039 J	0.025 J	< 0.081
Benzo(b)fluoranthene	1.1	21	0.3	0.16	< 0.08	0.057 J	0.039 J	< 0.081
Benzo(ghi)perylene	NLE	NLE	NLE	0.08 J	< 0.08	0.026 J	0.02 J	< 0.081
Benzo(k)fluoranthene	11	210	2.9	0.059 J	< 0.08	0.018 J	0.015 J	< 0.081
Chrysene	110	2,100	9	0.13	< 0.08	0.031 J	0.026 J	< 0.081
Dibenz(a,h)anthracene	0.11	2.1	0.096	0.012 J	< 0.08	< 0.079	< 0.08	< 0.081
Fluoranthene	240	3,000	8.9	0.23	< 0.08	0.071 J	0.054 J	< 0.081
Fluorene	240	3,000	0.54	0.016 J	< 0.08	< 0.079	< 0.08	< 0.081
Indeno(1,2,3-cd)pyrene	1.1	21	0.98	0.084 J	< 0.08	0.029 J	0.018 J	< 0.081
Naphthalene	3.8	17	0.00054	0.033 J	< 0.08	< 0.079	< 0.08	< 0.081
Phenanthrene	NLE	NLE	NLE	0.14	< 0.08	0.024 J	0.017 J	< 0.081
Pyrene	180	2,300	1.3	0.24	< 0.08	0.061 J	0.044 J	< 0.081
PCBs (mg/kg)								
Aroclor-1016	0.41	5.1	0.013	NA	NA	NA	NA	NA
Aroclor-1221	0.2	0.83	0.00008	NA	NA	NA	NA	NA
Aroclor-1232	0.17	0.72	0.00008	NA	NA	NA	NA	NA
Aroclor-1242	0.23	0.95	0.0012	NA	NA	NA	NA	NA
Aroclor-1248	0.23	0.95	0.0012	NA	NA	NA	NA	NA
Aroclor-1254	0.12	0.97	0.002	NA	NA	NA	NA	NA
Aroclor-1260	0.24	0.99	0.0055	NA	NA	NA	NA	NA
Aroclor-1268	NLE	NLE	NLE	NA	NA	NA	NA	NA
Total PCBs	NLE	NLE	NLE	NA	NA	NA	NA	NA

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

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

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

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

R = Rejected, data validation rejected the results.

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

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

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

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

E (or ER) = Estimated result.

D = Results from dilution of sample.

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

JN = Tentatively identified compound, estimated concentration.

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

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

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

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

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

- Cell Shade values represent a result that is above the USEPA 2017-06 RSL Residential Soil (HQ=0.1).
- Cell Shade values represent a result that is above the USEPA 2017-06 RSL Industrial Soil (HQ=0.1).
- Cell Shade values represent a result that is above the USEPA 2017-06 RSL Protect GW Risk-Based (HQ=0.1).
- Cell Shade values represent a result that is above both the USEPA RSL Residential and Industrial Soil (HQ=0.1), 2017-06.
- Cell Shade values represent a result that is above the USEPA RSL Residential, Industrial, Protect GW Risk-Based Soil (HQ=0.1), 2017-06.

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10) Criteria action level source document and web address.

- The 2017-06 USEPA RSL Residential Soil (HQ=0.1) refers to the EPA's Regional Screening Levels (HQ=0.1)
<https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2017>
- The 2017-06 USEPA RSL Industrial Soil (HQ=0.1) refers to the EPA's Regional Screening Levels (HQ=0.1)

APPENDIX A

PUBLIC NOTICE



*U.S. Army Corps of Engineers,
NY District*

ACTION MEMORANDUM FOR PARCEL 82 at Fort Monmouth, NJ

The U.S. Army Corps of Engineers New York District and the U.S. Army Engineering and Support Center, Huntsville (USAESCH), has prepared an *Action Memorandum* for Parcel 82 at Fort Monmouth (FTMM) in Oceanport, Monmouth County, New Jersey. The U.S. Army is the lead agency for FTMM in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Executive Order 12580. New Jersey Department of Environmental Protection (NJDEP) is the state support agency under the National Contingency Plan for FTMM.

The purpose of the *Action Memorandum* is to document the U.S. Army's decision to undertake the Time Critical Removal Action (TCRA) at Parcel 82 where polychlorinated biphenyl (PCB) contaminated soil was identified. This *Action Memorandum* describes the TCRA proposed for Parcel 82.

The *Action Memorandum*, the associated reports, and the full public record for Parcel 82, are available for review at the Monmouth County Library, Eastern Branch, 1001 Route 35, Shrewsbury NJ 07702.

The New York District invites public comment on the Parcel 82 *Action Memorandum*. Written comments will be accepted during a 30-day comment period starting Tuesday 08 October 2019 and ending Thursday 07 November 2019. All comments must be postmarked by 07 November 2019 and mailed to the address below (or emailed by 07 November 2019 to william.r.colvin18.civ@mail.mil):

BRAC Environmental Coordinator
OACSIM - U.S. Army Fort Monmouth
Attn: Mr. William Colvin
P.O. Box 148, Oceanport, NJ 07757
(732) 383-5104