PARS
Environmental
Inc.

FOCUSED SITE INVESTIGATION REPORT

Sievers Sandberg USARC
(Camp Pedricktown Reserve Enclave)
Oldmans Township
Salem County, New Jersey

CONTRACT # W912QR-12-d-0006
TASK ORDER # 0007
ITEM # 0001
OPTIONAL ITEM # 0002

Volume I of II

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PARS PROJECT NO. 895-06

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EXECUTIVE SUMMARY

The United States Army Corps of Engineers (USACE), Louisville District retained the services of PARS Environmental, Inc. (PARS) to conduct a focused site investigation at the Sievers Sandberg United States Army Reserve Center (Camp Pedricktown Reserve Enclave) located on U.S. Route 130 South (Crown Point Road) in Oldmans Township, Salem County, New Jersey, hereinafter the "Site". A Site Location Map and Site Plan are included as Figures 1 and 2, respectively.

The purpose of the focused site investigation was to delineate arsenic impacted soils that were encountered adjacent to Buildings 464 and 434 and along a gravel access road located immediately north of the buildings.

Seventeen borings were installed on December 17, 2013 and five borings were installed on June 23, 2014. Borings were advanced to four feet below ground surface (bgs) and discrete soil samples were collected from each boring at 0.5-foot increments. Sampling was performed in accordance with the *Quality Assurance Project Plan (QAPP)/ Sampling and Analysis Plan (SAP) – Focused Site Investigation* (PARS, December 2013). The soil samples were submitted for arsenic laboratory analysis using United States Environmental Protection Agency (USEPA) Method 6010C.

Findings

Arsenic was not detected above the New Jersey Soil Remediation Standard for the metal of 19 milligrams per kilogram (mg/kg) in borings SB-02, SB-04, SB-06, SB-10 and SB-18. Horizontal delineation of arsenic impacts was not achieved at boring locations SB-19, SB-20, SB-21 and SB-22. Vertical delineation of arsenic impacts was not achieved at boring locations SB-03, SB-15, SB-21 and SB-22.

Conclusions

Based on the findings of this investigation, it is concluded that horizontal and vertical delineation of arsenic impacted soil has not been completed. Arsenic impacts extend to the northern and western boundaries of the Site. Additionally, arsenic impacts extend to the east along the access road in the direction of Building 404. Vertical delineation of soil arsenic impacts was not completed at boring locations SB-03, SB-15, SB-21 and SB-22. At these locations, arsenic impacts extend to depths greater than 3.5 to 4 feet below ground surface.

1.0 INTRODUCTION

The United States Army Corps of Engineers (USACE), Louisville District has retained the services of PARS Environmental, Inc. (PARS) to conduct a focused site investigation at the Sievers Sandberg United States Army Reserve Center (USARC), also known as the Camp Pedricktown Reserve Enclave, located on U.S. Route 130 South (Crown Point Road) in Oldmans Township, Salem County, New Jersey, hereinafter the "Site". A Site Location Map and Site Plan are included as Figures 1 and 2, respectively.

The focused site investigation was performed in accordance with the procedures outlined in the Quality *Assurance Project Plan (QAPP)/ Sampling and Analysis Plan (SAP) – Focused Site Investigation* (PARS, December 2013). The purpose of the focused site investigation was to delineate arsenic soil impacts that were encountered adjacent to Buildings 464 and 434 and along a gravel access road located north of the buildings.

The project objectives of the investigation are based on the scope of work (SOW) issued by the USACE, Louisville District on August 15, 2013. The United States Army, as the lead agency, is conducting response actions at the Site in accordance with the Defense Environmental Restoration Program (DERP), which requires that these activities be conducted in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the United States Environmental Protection Agency (USEPA) National Contingency Plan.

2.0 PHYSICAL SETTING

2.1 SITE SETTING

The Site consists of a 40 acre parcel located in the northwest section of Oldmans Township, Salem County, New Jersey. The Site is bound to the east by US Route 130. A Department of Defense wildlife management area is located immediately south of the Site. The Base Closure and Realignment Commission (BRAC) portion of Camp Pedricktown bounds the Site to the north and west. The Salem County Community College is also located north of the Site.

2.2 SITE HISTORY

The 1995 BRAC Commission recommended Camp Pedricktown for closure. The United States Department of the Army retained a portion of Camp Pedricktown (also known as the Sievers Sandberg USARC and Camp Pedricktown Reserve Enclave) to support the mission of the USAR.

The Site is currently vacant and was originally part of the Delaware Ordnance Depot that was established in 1917. The Site was most recently used to support administrative, supply, training and maintenance activities for the USAR. Most of the buildings located at the Site were constructed prior to World War II. Buildings 434 and 464 were constructed circa 1941 and were reportedly used for general storage.

2.3 GEOLOGY

The Site is located within the Atlantic Coastal Plain Physiographic Province. Based on the *Surficial Geologic Map of Central and Southern New Jersey* (USGS, 2000), surficial soils underlying the Site are comprised of the Cape May Formation. The formation consists of sand, pebble gravel, minor silt, clay, peat and cobble gravel. Small amounts of glauconite and limonite occur within the Cape May Formation. The thickness of the formation in the vicinity of the Site ranges from 20 to 30 feet.

The Cape May Formation is underlain by the Potomac Formation (*Bedrock Geology Map of Central and Southern New Jersey* [USGS, 1998]). The formation consists of fine to coarse grained sand interbedded with clay.

Investigation activities at the Site were limited to the upper portion of the Cape May Formation. Soils consist of well-sorted fine sand from 0.0 to 5.0 feet below ground surface (bgs) and fine sand with trace to some silt and some fine rounded gravel from 5.0 to 15.0 feet bgs.

2.4 HYDROGEOLOGY

The surficial aquifer at the Site is comprised of sediments of the Cape May Formation. Groundwater flow is generally to the north and northwest toward the Delaware River (*Environmental Baseline Survey* [Woodward-Clyde, March 1997]).

The bedrock aquifer underlying the Site is the Potomac-Raritan-Magothy Aquifer System. The Potomac-Raritan-Magothy Aquifer System is comprised of four distinct aquifers. The uppermost aquifer is encountered between 50 and 120 feet bgs. This aquifer ranged in thickness from 6 to 43 feet in the vicinity of the Site (*Environmental Baseline Survey* [Woodward-Clyde, March 1997]).

2.5 TOPOGRAPHY AND DRAINAGE

The Site is relatively flat with a slight slope to the northwest. The United States Geological Survey (USGS) quadrangle for Pedricktown, New Jersey indicates that the elevation at the Site is approximately 10 feet above mean sea level. The Site is located within the Pennsville/Penngrove Tributary and Maurice, Salem and Cohansey Watershed Management Area.

No surface water bodies are located at the Site. A man-made lake (the Penns Grove Project) is located southwest of the Site within the wildlife management area and the Delaware River is approximately 0.5 miles northwest of the Site.

A series of storm sewer systems are located at the Site. Storm water runoff from paved areas is diverted to the storm sewer. The storm sewer lines continue onto the BRAC portion of the former Camp Pedricktown and discharge into the Delaware River.

2.6 PREVIOUS INVESTIGATIONS/ACTIONS

Elevated levels of arsenic were detected at the adjacent BRAC portion of Camp Pedricktown. These investigation activities are summarized in the *Environmental Investigation/Alternatives Analysis* (EI/AA, IT Corporation 2000). Impacted soils were subsequently excavated based on the findings of this investigation. The excavation was not extended onto the Site. However, soil samples were inadvertently collected at the Site north of Building 464 in March 2001. Arsenic was detected in these samples at concentrations exceeding the NJ Soil Remediation Standard of 19 mg/kg. The findings of the March 2001 sampling north of Building 464 are summarized in the *Soil Excavation from the BRAC Property* (ARCADIS, March 2002).

The following summarizes additional investigations in the area of Buildings 464 and 434.

Site Investigation of Specific Areas of Potential Environmental Concern (Kemron, 2005)
Twelve subsurface soil samples (P10SB0104A-C; P10SB0204A-C; P10SB0304A-C and P10SB0404A-C), ten surface soil samples (P10SS0100-P101SS01000) and one groundwater screening sample (P10GW0415) were collected east of Building 464 for arsenic analysis. Concentrations of arsenic exceeded the NJ Soil Remediation Standard in 14 soil samples (seven surface samples and 7 subsurface samples). Arsenic was not detected in the groundwater screening sample at concentrations exceeding the NJ Groundwater Quality Standard (GWQS). Based on the findings of the site investigation, Kemron recommended the excavation of arsenic impacted soils.

Follow-On Closure Activities (CATI, September 2006)
An investigation was performed at the Site in 2006 to evaluate the extent of arsenic impacts in the vicinity of Building 464. Six soil borings were advanced and one soil sample was collected from each boring. Temporary well points were installed in five of the boreholes for the collection of groundwater samples. All samples collected were analyzed for metals. No compounds were detected in the soil samples at concentrations exceeding the most stringent NJ Soil Remediation Standards. Lead and arsenic exceeded the NJ GWQS in the groundwater sample from one temporary well point (PED-GW03).

Two coal slag samples were collected as part of this investigation. The first sample (PED-SLAG01) was collected from the surface of the roadway between Buildings 464 and 434. The second sample (PED-SLAG02) was collected from boring B4 (east of Building 464). The samples were analyzed for metals. Elevated concentrations of arsenic and mercury were detected in the coal slag samples.

Continued Site Investigation (USACHPPM, December 2006)
An investigation was performed in December 2006 to further evaluate the extent of arsenic impacts. Five soil borings were advanced around the perimeter of Building 434 and soil samples were collected from each boring at three depth intervals. Arsenic was detected at concentrations exceeding the NJ Soil Remediation Standard at two boring locations (434-SB-03 and 434-SB-04) which were collected east of Building 434.

Four of the soil borings were converted into monitoring wells (434-MW-01 through 434-MW-04). The four monitoring wells were sampled using the low-flow purge method and were analyzed for explosive residues, arsenic, boron, cadmium, chromium, lead and molybdenum. Arsenic and lead exceeded the NJ GWQS in groundwater samples from two monitoring wells (434-MW-02 and 434-MW-04).

Human Health Risk Assessment (USACHPPM, 2008)
A Human Health Risk Assessment (HHRA) was conducted by the United States Army Center for Health Promotion and Preventive Medicine (USACHPPM) in 2008. The HHRA concluded that exposure to arsenic impacted soil at the Site is safe for industrial, construction and adult residential use. The residential child's potential carcinogenic exposure was 1.3E 10-4, which is slightly above the USEPA acceptable carcinogenic risk range of 1.0E 10-4 to 1.0E 10-6. The residential child's potential non-carcinogenic exposure was 3.43, which is above the non-carcinogenic threshold of 1. The HHRA also concluded that there is no unacceptable risk from exposure to groundwater for commercial/industrial workers and residential exposure based on current or future land use.

3.0 SOIL INVESTIGATION

3.1 SAMPLING METHODS

A public utility mark out was requested for the Site prior to sampling activities. Additionally, PARS performed a private utility mark out using ground penetrating radar (GPR). The approximate locations of below grade utilities are shown in Figure 3. These utility locations are based on the *Pedricktown General Utility Map* (US Directorate of Public Works, August 2005) and the private utility mark out.

Seventeen soil borings (SB-01 through SB-17) were advanced on December 17, 2013 and five borings (SB-18 through SB-22) were advanced on June 23, 2014. All borings were installed using direct-push methods via a hydraulic hammer mounted on a track rig. The rig was equipped with a 4-inch outer diameter by 48-inch-long macro-core sampler. Acetate sleeve liners were placed into the macro-core sampler and used to collect the soil samples at each location.

After each 4-foot interval was collected, the acetate liner was extracted from the core sampler and placed on a flat surface. The liner was cut open vertically and the soil exposed. Each boring was classified and logged, identifying the soils' texture, density, color, moisture, stratification lines, groundwater depth and total soil recovered. Observed soils consisted primarily of brown fine to medium sand. Coal slag was observed at boring locations SB-03, SB-05, SB-06, SB-07, SB-10, SB-12, SB-13, SB-15, SB-16 and SB-17. Groundwater was not encountered in any of the borings installed as part of the focused site investigation. Boring logs are included in Appendix A and soil boring locations are depicted in Figure 3. Boring locations from previous investigations are also depicted in the figure.

Discrete samples were collected in 0.5-foot increments from the acetate liner at each location. Eight discrete samples were collected from each boring location. The bottom sample interval (3.5 to 4.0 feet bgs) for SB-07, SB-08, SB-13 and SB-22 were not sampled due to limited recovery. SB-12 and SB-15 were sampled from 3.0 to 3.5 and 3.5 to 4.0 feet bgs. SB-04 and SB-06 were sampled from 2.5 to 3.0, 3.0 to 3.5 and 3.5 to 4.0 feet bgs. These sample intervals were selected to fill in data gaps from previous investigations (USACHPPM, 2006 and Kemron, 2005).

The sample from each 0.5-foot interval was homogenized in the field and transferred to laboratory-grade glass sample containers. The sample containers were filled to the top and sealed with the appropriate cap. Soil on the threads of the containers were removed prior to placing the caps on the sample containers to ensure an air-tight seal. Sample containers were placed in an iced cooler for shipment to the laboratory under proper chain of custody procedures.

174 soil samples were collected and submitted for laboratory analysis as part of the focused site investigation. These samples included 16 field duplicate and 8 quality assurance (QA) split samples. With the exception of the QA spilt samples, samples were analyzed by TestAmerica in Denver, Colorado. QA spilt samples collected in December 2013 were analyzed by Alpha Analytical in Westborough, Massachusetts. Split samples collected in June 2014 were submitted

to Accutest in Dayton, New Jersey. Five QA split samples were submitted to as part of the December 2013 sampling event and three corresponding QA split samples were submitted to as part of the June 2014 sampling event. Quality control sample results are discussed in Section 4.

Boring locations were surveyed using a hand held global positioning system (GPS) unit. Sample coordinates for each soil boring location in the New Jersey State Plane Coordinate System are included in Table 1.

3.2 ANALYTICAL RESULTS

Arsenic was not detected above the NJ Soil Remediation Standard of 19 mg/kg in samples from 5 of the 22 soil boring advanced as part of this focused site investigation. Detected concentrations of arsenic in samples collected from SB-02, SB-04, SB-06, SB-10 and SB-18 ranged from 1.7 to 19 mg/kg.

Arsenic was detected at concentrations exceeding the NJ Soil Remediation in at least one sample from the remaining 17 soil borings (SB-01, SB-03, SB-05, SB-07, SB-08, SB-09, SB-11, SB-12, SB-13, SB-14, SB-15, SB-16, SB-17, SB-19, SB-20, SB-21 and SB-22). Concentrations of arsenic that exceed the Soil Remediation Standard of 19 mg/kg ranged from 20 to 420 mg/kg.

Analytical results for soil samples are summarized in Table 2. Analytical data for samples exceeding the NJDEP Soil Remediation Standard are shown in Figure 3. Arsenic results that exceed the Soil Remediation Standard from previous investigations are also shown in the figure. The laboratory analytical results reports from TestAmerica (December 2013), Alpha Analytical (December 2013), TestAmerica (June 2014) and Accutest (June 2014) are included in Appendices B, C, D and E, respectively.

4.0 QUALITY CONTROL/QUALITY ASSURANCE

A total of 174 soil samples were collected as part of the focused site investigation performed on December 27, 2013 and June 23, 2014. The reliability of data generated for this report was evaluated and is presented in the following sections.

4.1 FIELD QUALITY CONTROL

All samples were collected and submitted for analysis in accordance with the procedures outlined in the *Quality Assurance Project Plan (QAPP)/ Sampling and Analysis Plan (SAP) – Focused Site Investigation* (PARS, December 2013).

Samples were collected in laboratory grade sample containers. The samples were immediately transferred to insulated coolers provided by the laboratories. A chain-of-custody form was used to trace the path of sample containers from the Site to the laboratories.

Field Duplicate Samples

Sixteen field duplicate samples were collected as part of the focused site investigation. Field duplicate samples are collected to assess quality control/precision from the point of sample collection through laboratory analysis. The field duplicate samples were collected by homogenizing and dividing the sample into two equal parts. The divided samples were submitted to TestAmerica for analysis for arsenic. The measurement performance criteria/data quality objectives for field duplicate samples is a relative percent difference (RPD) of less than or equal to 35%. Values that are less than five times the reporting limit are evaluated by using the absolute difference between the result and reporting limit. The relative percent difference for the field duplicate samples was calculated using the following equation:

RPD = ([X1 - X2]/Xave) x 100
Where:
X_1 = concentration of the first sample
X_2 = concentration of the second sample
X_{ave} = average concentration = ((X1 + X2)/2)

Based on the calculated RPD, it was determined that the data quality objectives were met for 15 of the 16 field duplicate samples. The RPD for 15 of the 16 duplicate samples ranged from 0 to 25%. RPD for the duplicate sample at SB-12 (3.5 to 3.9 feet bgs) was 36%, which was slightly higher than the data quality objective of 35%. The higher of the reported concentrations for the field duplicate samples were used for data evaluation.

Spilt Samples

In addition to field duplicate samples, eight split samples were collected and submitted a second independent laboratory (Alpha Analytical or Accutest) to measure precision from the point of sample collected through laboratory analysis. Split samples were collected in the same manner as field duplicate samples. The measurement performance criteria/data quality objectives for split samples is a RPD of less than or equal to 35%. Values that are less than five times the reporting limit are evaluated by using the absolute difference between the result and reporting limit.

Data quality objectives were met for seven of the eight samples with RPD values between 3 and 32%. RPD for the spilt sample at SB-03 (0.0 to 0.5 feet bgs) was 42%, which was higher than the data quality objective of 35%. The higher of the reported concentrations for the split samples were used for data evaluation.

Duplicate and split sample results are summarized in Table 2 and RPD values are included in Appendix B.

4.2 ANALYTICAL METHODS, PROCEDURES & CALIBRATION

Laboratory analytical services for the focused site investigation were provided by TestAmerica in Denver, Colorado (DoD Environmental Laboratory Accreditation Program Certification No. L2907.01), Alpha Analytical in Westborough, Massachusetts (DoD Environmental Laboratory Accreditation Program Certification No. L2217.01) and Accutest Laboratories in Dayton, New Jersey (DoD Environmental Laboratory Accreditation Program Certification No. L2248). Laboratory conformance was reviewed and summarized by TestAmerica, Alpha Analytical and Accutest. A case narrative was provided as part of the laboratories report packages. Data summaries, included in the laboratory report, were reviewed to evaluate data quality. No conformance issues were reported during the laboratory analysis that are expected to affect data quality.

The laboratory reports are included in Volume II of this report. The laboratory reports by TestAmerica are included in Appendices C and E. The laboratory report provided by Alpha is included in Appendix D. The laboratory report provided by Accutest is included in Appendix F.

Laboratory instruments and equipment were calibrated following SW-846 analytical method protocols. Initial calibrations and calibration checks were performed at a frequency specified by the analytical method.

Nine matrix spike (MS) and matrix spike duplicate (MSD) samples were analyzed by the TestAmerica using soil samples collected as part of the focused site investigation. The purpose of the MS/MSD samples is to measure the accuracy and precision of the analytical method. The measurement performance criteria/data quality objectives for MS/MSD samples is 80 to 120% recovery and less than or equal to 20% RPD. Values that are less than five times the reporting limit are evaluated by using the absolute difference between the result and reporting limit. With the exception of 280-57090-13 (SB-19-1.0-1.5), the data quality objectives for all MS/MSD sample were met. The MS/MSD for 280-57090-13 (SB-19-1.0-1.5) exhibited percent recoveries outside the quality control limits for arsenic. The associated data in the parent sample has been flagged “J” per the DoD QSM. The acceptable lab control sample (LCS) analysis data indicated that the analytical system was operating within control. Therefore, the lab deemed corrective action unnecessary. MS/MSD samples are noted in Table 2 and RPD values are included in Appendix B. MS recovery values are also included in the laboratory reports provided by TestAmerica (Volume II, Appendices C and E).

Method blanks and instrument blanks were used by the laboratory to evaluate accuracy and sensitivity. The method blanks were used to assess potential contamination introduced during sample preparation by the laboratory. Method blanks are prepared and analyzed in the same

manner as the field samples. Arsenic was not detected in any of the method blanks at concentrations above the laboratory method detection limits.

5.0 CONCLUSIONS

Based on the findings of this focused site investigation, it is concluded that horizontal and vertical delineation of arsenic impacted soils has not been completed. Arsenic impacts extend to the northern and western boundaries of the Site. Additionally, arsenic impacts extend to the east along the access road in the direction of Building 404. Vertical delineation of soil arsenic impacts was not completed at boring locations SB-03, SB-15, SB-21 and SB-22. At these locations, arsenic impacts extend to depths greater than 3.5 to 4 feet below ground surface.

FIGURES

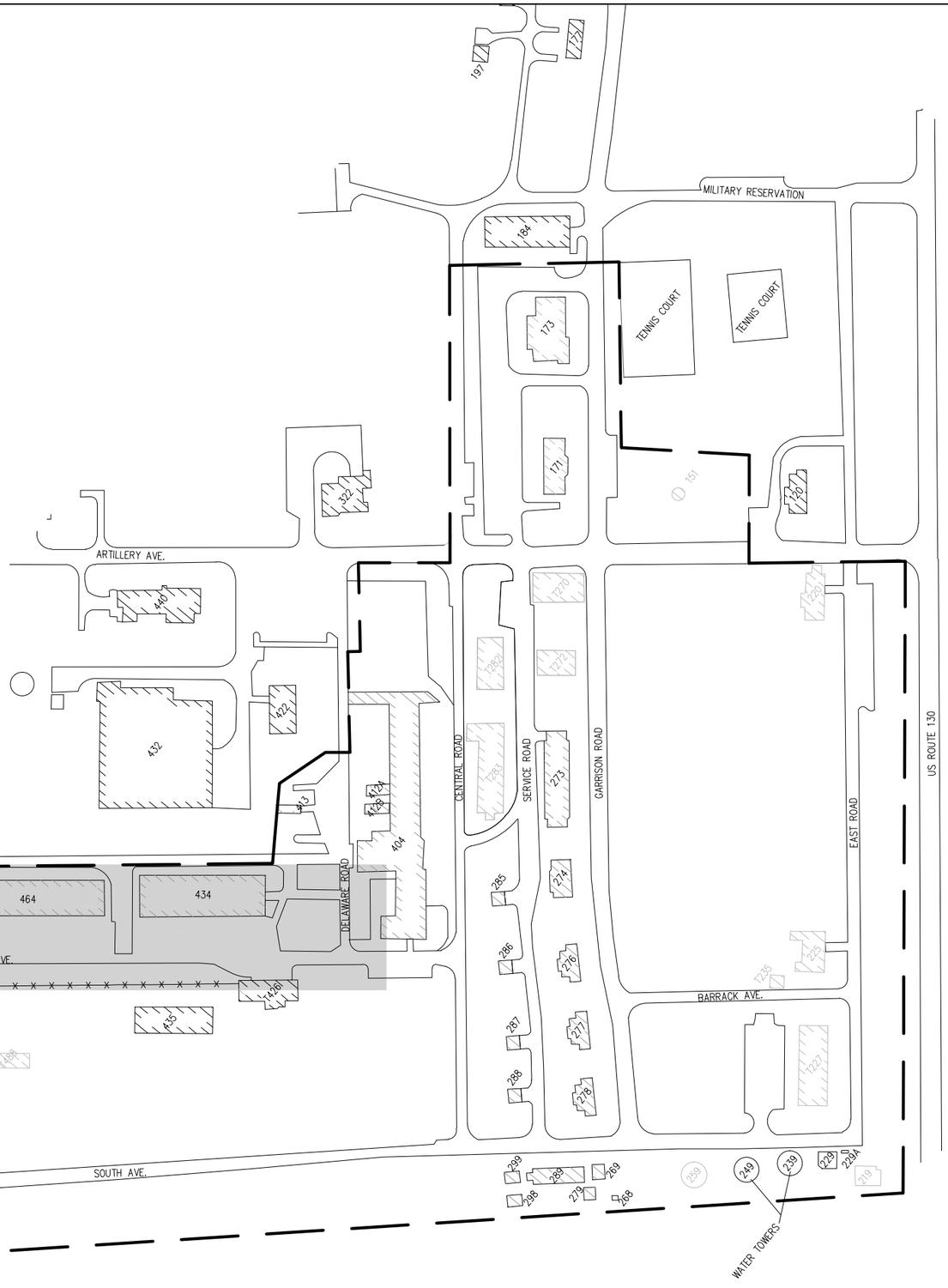
Marcus Hook, PA-DE-NJ
USGS Quadrangle 2011
Contour Interval: 10 Feet

SCALE IN FEET
0 500 1,000 1,500

FIGURE 1
SITE LOCATION MAP
SIEVERS SANDBERG USARC
OLDMANS TOWNSHIP, NEW JERSEY

PARS ENVIRONMENTAL, INC.
ROBBINSVILLE, NEW JERSEY

DR. BY: MN	SCALE: 1"=1,500'	JOB No.: 895-06
CK'D. BY: MM	DATE: 9/23/14	FILE NO.: 895-06
REV. NO. --	REV. DATE: --	FIGURE NO.: 1



L E G E N D

– PROPERTY BOUNDARY

468 – FORMER BUILDINGS

– FOCUSED INVESTIGATION AREA (SEE FIGURE 3.)

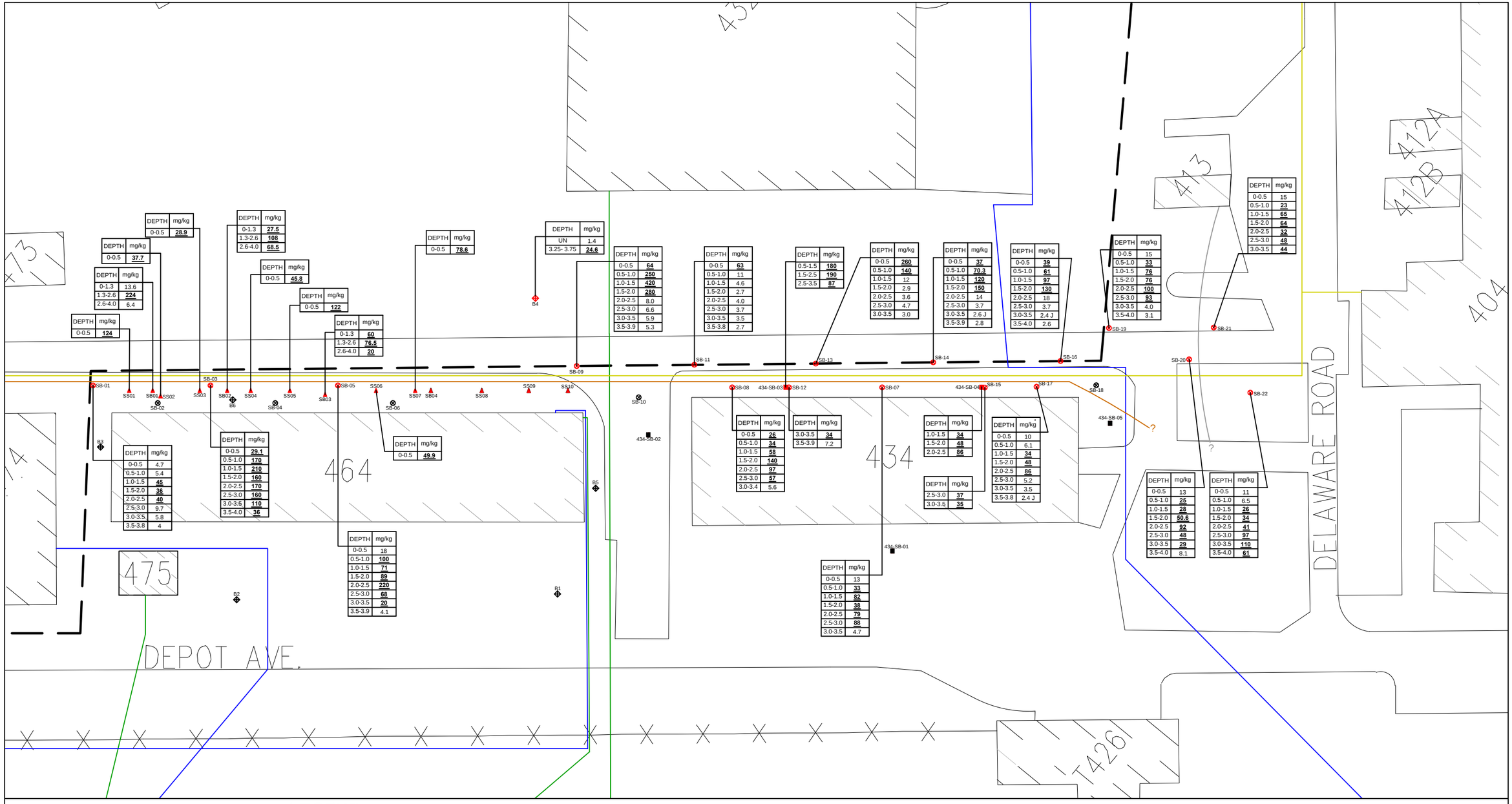
SCALE IN FEET

20 0 40 80 120 160 200

FIGURE 2
SITE PLAN
SIEVERS SANDBERG USARC
OLDMANS TOWNSHIP, NEW JERSEY

PARS ENVIRONMENTAL, INC.
ROBBINSVILLE, NEW JERSEY

DR. BY: KN	SCALE: 1"=200'	JOB No.: 895-06
CK'D. BY: MM	DATE: 10/17/13	FILE NO.: 895-06
REV. NO. 1	REV. DATE: 9/10/14	FIGURE NO.: 2



LEGEND

- -PROPERTY BOUNDARY
- -GAS (PRIVATIZED)
- -SANITARY SEWER
- -WATER
- -TELECOMMUNICATIONS
- -UNKNOWN UTILITY

- ⊗ -FOCUSED INVESTIGATION (PARS, 2013 AND 2014)
- ▲ -KEMRON 2005
- ■ -CONTINUED SITE INVESTIGATION USACHPPM (2006)
- ⊕ -FOLLOW ON CLOSURE ACTIVITIES (2006)
- UN -UNKNOWN
- mg/kg -MILLIGRAMS PER KILOGRAM
- DEPTH -FEET BELOW GROUND SURFACE

-BORING LOCATION IN RED DENOTES EXCEEDENCE OF SOIL REMEDIATION STANDARD FOR ARSENIC (19 mg/kg)

NOTE:

1. UTILITIES BASED ON U.S. DIRECTORATE OF PUBLIC WORKS PEDRICKTOWN GENERAL UTILITY MAP(AUG 2005)
2. CONCENTRATION SHOWN AS UNDERLINE AND BOLD (**thus**) EXCEED SOIL REMEDIATION STANDARDS FOR ARSENIC (19 mg/kg)
3. TELECOMMUNICATIONS LINE IDENTIFIED DURING PRIVATE UTILITY MARK OUT (12/16/13)
4. UNKNOWN UTILITY IDENTIFIED DURING PRIVATE UTILITY MARKOUT (6/23/14)
5. DATA ONLY SHOWN FOR SOIL BORINGS WITH ARSENIC DETECTIONS ABOVE SOIL REMEDIATION STANDARD

SCALE IN FEET
5 0 10 20 30 40 50

FIGURE 3
SOIL ANALYTICAL RESULTS MAP
SIEVERS SANDBERG USARC
OLDMANS TOWNSHIP, NEW JERSEY

PARS ENVIRONMENTAL, INC.
ROBBINSVILLE, NEW JERSEY

DR. BY: KN	SCALE: 1"=50'	JOB No.: 895-06
CK'D. BY: MM	DATE: 10/17/13	FILE NO.: 895-06
REV. NO. 1	REV. DATE:9/10/14	FIGURE NO.: 3

TABLES

Table 1
Soil Boring Coordinates - New Jersey State Plane Coordinate System
Sievers Sandberg USARC - Focused Site Investigation
Pedricktown, New Jersey

Boring Location	Easting	Northing
SB-01	224642.1	336603.4
SB-02	224662.1	336575.5
SB-03	224689.6	336563.2
SB-04	224694.9	336542.9
SB-05	224727.6	336527.0
SB-06	224744.7	336495.7
SB-07	224946.7	336318.7
SB-08	224890.3	336371.7
SB-09	224841.0	336433.3
SB-10	224849.4	336397.8
SB-11	224882.5	336395.4
SB-12	224911.4	336352.6
SB-13	224930.0	336352.7
SB-14	224976.4	336311.1
SB-15	224983.3	336283.1
SB-16	225025.1	336267.4
SB-17	225004.8	336265.5
SB-18	225033.6	336244.3
SB-19	225058.2	336261.7
SB-20	225069.9	336230.6
SB-21	225089.1	336232.5
SB-22	225081.0	336198.2

Table 2
Soil Analytical Results
Sievers Sandberg USARC - Focused Site Investigation
Pedricktown, New Jersey

Sample Location				SB-01	SB-01	SB-01	SB-01	SB-01	SB-01
PARS Sample ID				SB-01-0.0-0.5	SB-01-0.5-1.0	SB-01-1.0-1.5	SB-01-1.5-2.0	SB-01-2.0-2.5	SB-01-2.5-3.0
Laboratory Sample ID				280-50496-1	280-50496-2	280-50496-3	280-50496-4	280-50496-5	280-50496-6
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	0.0-0.5	0.5-1.0	1.0-1.5	1.5-2.0	2.0-2.5	2.5-3.0
Arsenic	19	19	19	4.7	5.4	**45**	**36**	**40**	9.7

Sample Location				SB-01	SB-01	SB-02	SB-02	SB-02 (DUP)	SB-02
PARS Sample ID				SB-01-3.0-3.5	SB-01-3.5-4.0	SB-02-0.0-0.5	SB-02-0.5-1.0	SB-02-0.6-1.1	SB-02-1.0-1.5
Laboratory Sample ID				280-50496-7	280-50496-8	280-50496-9	280-50496-10	280-50496-11	280-50496-12
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	3.0-3.5	3.5-3.8	0.0-0.5	0.5-1.0	0.5-1.0	1.0-1.5
Arsenic	19	19	19	5.8	4.0	12	5.6	7.2	2.8

Sample Location				SB-02	SB-02	SB-02 (MS/MSD)	SB-02	SB-02	SB-03 (SPLIT)
PARS Sample ID				SB-02-1.5-2.0	SB-02-2.0-2.5	SB-02-2.5-3.0	SB-02-3.0-3.5	SB-02-3.5-4.0	SB-03-0.0-0.5S
Laboratory Sample ID				280-50496-13	280-50496-14	280-50496-15	280-50496-16	280-50496-17	280-50496-18
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	1.5-2.0	2.0-2.5	2.5-3.0	3.0-3.5	3.5-3.8	0.0-0.5
Arsenic	19	19	19	2.2 J	3.7	3.2	1.7 J	2.5 J	19

Sample Location				SB-03 (SPLIT)	SB-03	SB-03	SB-03 (DUP)	SB-03	SB-03
PARS Sample ID				SB-03-0.0-0.5	SB-03-0.5-1.0	SB-03-1.0-1.5	SB-03-1.1-1.6	SB-03-1.5-2.0	SB-03-2.0-2.5
Laboratory Sample ID				L1325734-01	280-50496-19	280-50496-20	280-50496-22	280-50496-21	280-50496-23
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	0.0-0.5	0.5-1.0	1.0-1.5	1.0-1.5	1.5-2.0	2.0-2.5
Arsenic	19	19	19	**29.1**	**170**	**210**	**210**	**160**	**170**

Sample Location				SB-03	SB-03	SB-03	SB-04	SB-04	SB-04
PARS Sample ID				SB-03-2.5-3.0	SB-03-3.0-3.5	SB-03-3.5-4.0	SB-04-2.5-3.0	SB-04-3.0-3.5	SB-04-3.5-4.0
Laboratory Sample ID				280-50496-24	280-50496-25	280-50496-26	280-50496-27	280-50496-28	280-50496-29
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	2.5-3.0	3.0-3.5	3.5-4.0	2.5-3.0	3.0-3.5	3.5-3.8
Arsenic	19	19	19	**160**	**110**	**36**	3.3	3.0	3.5

Sample Location				SB-04 (DUP)	SB-05 (SPLIT)	SB-05 (SPLIT)	SB-05	SB-05	SB-05
PARS Sample ID				SB-04-3.6-4.1	SB-05-0.0-0.5S	SB-05-0.0-0.5	SB-05-0.5-1.0	SB-05-1.0-1.5	SB-05-1.5-2.0
Laboratory Sample ID				280-50496-30	280-50496-31	L1325734-02	280-50496-32	280-50496-33	280-50496-34
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	3.5-3.8	0.0-0.5	0.0-0.5	0.5-1.0	1.0-1.5	1.5-2.0
Arsenic	19	19	19	3.9	18	16.9	**100**	**71**	**89**

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Sample Location				SB-05	SB-05	SB-05	SB-05	SB-06	SB-06 (MS/MSD)
PARS Sample ID				SB-05-2.0-2.5	SB-05-2.5-3.0	SB-05-3.0-3.5	SB-05-3.5-4.0	SB-06-2.5-3.0	SB-06-3.0-3.5
Laboratory Sample ID				280-50496-35	280-50496-36	280-50496-37	280-50496-38	280-50496-39	280-50496-40
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	2.0-2.5	2.5-3.0	3.0-3.5	3.5-3.9	2.5-3.0	3.0-3.5
Arsenic	19	19	19	**220**	**68**	**20**	4.1	2.1 J	2.4 J

Sample Location				SB-06	SB-07	SB-07	SB-07	SB-07 (DUP)	SB-07
PARS Sample ID				SB-06-3.5-4.0	SB-07-0.0-0.5	SB-07-0.5-1.0	SB-07-1.0-1.5	SB-07-1.1-1.6	SB-07-1.5-2.0
Laboratory Sample ID				280-50496-41	280-50496-68	280-50496-69	280-50496-70	280-50496-71	280-50496-72
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	3.5-4.0	0.0-0.5	0.5-1.0	1.0-1.5	1.0-1.5	1.5-2.0
Arsenic	19	19	19	2.7 J	13	**33**	**76**	**82**	**38**

Sample Location				SB-07 (MS/MSD)	SB-07	SB-07	SB-08	SB-08	SB-08
PARS Sample ID				SB-07-2.0-2.5	SB-07-2.5-3.0	SB-07-3.0-3.5	SB-08-0.0-0.5	SB-08-0.5-1.0	SB-08-1.0-1.5
Laboratory Sample ID				280-50496-73	280-50496-74	280-50496-75	280-50496-51	280-50496-52	280-50496-53
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	2.0-2.5	2.5-3.0	3.0-3.5	0.0-0.5	0.5-1.0	1.0-1.5
Arsenic	19	19	19	**79**	**88**	4.7	**26**	**34**	**58**

Sample Location				SB-08	SB-08	SB-08 (DUP)	SB-08 (SPLIT)	SB-08 (SPLIT)	SB-08
PARS Sample ID				SB-08-1.5-2.0	SB-08-2.0-2.5	SB-08-2.1-2.6	SB-08-2.5-3.0S	SB-08-2.5-3.0	SB-08-3.0-3.5
Laboratory Sample ID				280-50496-54	280-50496-55	280-50496-56	280-50496-57	L1325734-03	280-50496-58
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	1.5-2.0	2.0-2.5	2.0-2.5	2.5-3.0	2.5-3.0	3.0-3.4
Arsenic	19	19	19	**140**	**94**	**97**	**57**	**51.3**	5.6

Sample Location				SB-09	SB-09	SB-09	SB-09 (DUP)	SB-09	SB-09
PARS Sample ID				SB-09-0.0-0.5	SB-09-0.5-1.0	SB-09-1.0-1.5	SB-09-1.1-1.6	SB-09-1.5-2.0	SB-09-2.0-2.5
Laboratory Sample ID				280-50496-42	280-50496-43	280-50496-44	280-50496-45	280-50496-46	280-50496-47
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	0.0-0.5	0.5-1.0	1.0-1.5	1.0-1.5	1.5-2.0	2.0-2.5
Arsenic	19	19	19	**64**	**250**	**420**	**420**	**280**	8.0

Sample Location				SB-09	SB-09	SB-09	SB-10 (MS/MSD)	SB-10	SB-10
PARS Sample ID				SB-09-2.5-3.0	SB-09-3.0-3.5	SB-09-3.5-4.0	SB-10-0.0-0.5	SB-10-0.5-1.0	SB-10-1.0-1.5
Laboratory Sample ID				280-50496-48	280-50496-49	280-50496-50	280-50496-59	280-50496-60	280-50496-61
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	2.5-3.0	3.0-3.5	3.5-3.9	0.0-0.5	0.5-1.0	1.0-1.5
Arsenic	19	19	19	6.6	5.9	5.3	11	10	2.8

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Sample Location				SB-10	SB-10	SB-10	SB-10	SB-10	SB-10 (DUP)
PARS Sample ID				SB-10-1.5-2.0	SB-10-2.0-2.5	SB-10-2.5-3.0	SB-10-3.0-3.5	SB-10-3.5-4.0	SB-10-3.6-4.1
Laboratory Sample ID				280-50496-62	280-50496-63	280-50496-64	280-50496-65	280-50496-66	280-50496-67
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	1.5-2.0	2.0-2.5	2.5-3.0	3.0-3.5	3.5-4.0	3.5-4.0
Arsenic	19	19	19	2.5 J	3.1	4.2	3.9	3.0	3.0

Sample Location				SB-11	SB-11	SB-11	SB-11	SB-11 (SPLIT)	SB-11 (SPLIT)
PARS Sample ID				SB-11-0.0-0.5	SB-11-0.5-1.0	SB-11-1.0-1.5	SB-11-1.5-2.0	SB-11-2.0-2.5S	SB-11-2.0-2.5
Laboratory Sample ID				280-50496-76	280-50496-77	280-50496-78	280-50496-79	280-50496-80	L1325734-04
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	0.0-0.5	0.5-1.0	1.0-1.5	1.5-2.0	2.0-2.5	2.0-2.5
Arsenic	19	19	19	**63**	11	4.6	2.7	4.0	2.9

Sample Location				SB-11	SB-11 (DUP)	SB-11	SB-11	SB-12	SB-12
PARS Sample ID				SB-11-2.5-3.0	SB-11-2.6-3.1	SB-11-3.0-3.5	SB-11-3.5-4.0	SB-12-3.0-3.5	SB-12-3.5-4.0
Laboratory Sample ID				280-50496-81	280-50496-82	280-50496-83	280-50496-84	280-50496-85	280-50496-86
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	2.5-3.0	2.5-3.0	3.0-3.5	3.5-3.8	3.0-3.5	3.5-3.9
Arsenic	19	19	19	3.7	3.7	3.5	2.7	**34**	7.2

Sample Location				SB-12 (DUP)	SB-13	SB-13	SB-13	SB-13	SB-13
PARS Sample ID				SB-12-3.6-4.1	SB-13-0.0-0.5	SB-13-0.5-1.0	SB-13-1.0-1.5	SB-13-1.5-2.0	SB-13-2.0-2.5
Laboratory Sample ID				280-50496-87	280-50496-88	280-50496-89	280-50496-90	280-50496-91	280-50496-92
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	3.5-3.9	0.0-0.5	0.5-1.0	1.0-1.5	1.5-2.0	2.0-2.5
Arsenic	19	19	19	5.0	**260**	**140**	12	2.9	3.6

Sample Location				SB-13	SB-13	SB-14	SB-14 (SPLIT)	SB-14 (SPLIT)	SB-14
PARS Sample ID				SB-13-2.5-3.0	SB-13-3.0-3.5	SB-14-0.0-0.5	SB-14-0.5-1.0S	SB-14-0.5-1.0	SB-14-1.0-1.5
Laboratory Sample ID				280-50496-93	280-50496-94	280-50496-95	280-50496-96	L1325734-05	280-50496-97
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	2.5-3.0	3.0-3.5	0.0-0.5	0.5-1.0	0.5-1.0	1.0-1.5
Arsenic	19	19	19	4.7	3.0	**37**	**66**	**70.3**	**120**

Sample Location				SB-14	SB-14 (MS/MSD)	SB-14	SB-14	SB-14	SB-15
PARS Sample ID				SB-14-1.5-2.0	SB-14-2.0-2.5	SB-14-2.5-3.0	SB-14-3.0-3.5	SB-14-3.5-4.0	SB-15-2.5-3.0
Laboratory Sample ID				280-50496-98	280-50496-99	280-50496-100	280-50496-101	280-50496-102	280-50496-103
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	1.5-2.0	2.0-2.5	2.5-3.0	3.0-3.5	3.5-3.9	2.5-3.0
Arsenic	19	19	19	**150**	14	3.7	2.6 J	2.8	**37**

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Sample Location				SB-15	SB-15 (DUP)	SB-16	SB-16	SB-16 (MS/MSD)	SB-16
PARS Sample ID				SB-15-3.0-3.5	SB-15-3.1-3.6	SB-16-0.0-0.5	SB-16-0.5-1.0	SB-16-1.0-1.5	SB-16-1.5-2.0
Laboratory Sample ID				280-50496-104	280-50496-105	280-50496-106	280-50496-107	280-50496-108	280-50496-109
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	3.0-3.5	3.0-3.5	0.0-0.5	0.5-1.0	1.0-1.5	1.5-2.0
Arsenic	19	19	19	**35**	**35**	**39**	**61**	**97**	**130**

Sample Location				SB-16	SB-16	SB-16	SB-16	SB-17	SB-17 (DUP)
PARS Sample ID				SB-16-2.0-2.5	SB-16-2.5-3.0	SB-16-3.0-3.5	SB-16-3.5-4.0	SB-17-0.0-0.5	SB-17-0.1-0.6
Laboratory Sample ID				280-50496-110	280-50496-111	280-50496-112	280-50496-113	280-50496-114	280-50496-121
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	2.0-2.5	2.5-3.0	3.0-3.5	3.5-4.0	0.0-0.5	0.0-0.5
Arsenic	19	19	19	18	3.7	2.4 J	2.6	10	9.2

Sample Location				SB-17	SB-17	SB-17	SB-17	SB-17	SB-17
PARS Sample ID				SB-17-0.5-1.0	SB-17-1.0-1.5	SB-17-1.5-2.0	SB-17-2.0-2.5	SB-17-2.5-3.0	SB-17-3.0-3.5
Laboratory Sample ID				280-50496-115	280-50496-116	280-50496-117	280-50496-118	280-50496-119	280-50496-120
Sample Date				12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013	12/17/2013
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	0.5-1.0	1.0-1.5	1.5-2.0	2.0-2.5	2.5-3.0	3.0-3.5
Arsenic	19	19	19	6.1	**34**	**48**	**86**	5.2	3.5

Sample Location				SB-17	SB-18	SB-18	SB-18 (SPLIT)	SB-18 (SPLIT)	SB-18
PARS Sample ID				SB-17-3.5-4.0	SB-18-0.0-0.5	SB-18-0.5-1.0	SB-18-1.0-1.5	SB-18-1.0-1.5S	SB-18-1.5-2.0
Laboratory Sample ID				280-50496-122	280-57090-1	280-57090-2	280-57090-3	JB70087-1	280-57090-4
Sample Date				12/17/2013	6/23/2014	6/23/2014	6/23/2014	6/23/2014	6/23/2014
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	3.5-3.8	0.0-0.5	0.5-1.0	1.0-1.5	1.0-1.5	1.5-2.0
Arsenic	19	19	19	2.4 J	11	7.4	6.7	7.1	2.8

Sample Location				SB-18	SB-18	SB-18	SB-18	SB-18 (DUP)	SB-19
PARS Sample ID				SB-18-2.0-2.5	SB-18-2.5-3.0	SB-18-3.0-3.5	SB-18-3.5-4.0	SB-18-4.0-4.5	SB-19-0.0-0.5
Laboratory Sample ID				280-57090-5	280-57090-6	280-57090-7	280-57090-8	280-57090-9	280-57090-10
Sample Date				6/23/2014	6/23/2014	6/23/2014	6/23/2014	6/23/2014	6/23/2014
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	2.0-2.5	2.5-3.0	3.0-3.5	3.5-4.0	3.5-4.0	0.0-0.5
Arsenic	19	19	19	2.5 J	2.7	3.7	3.5	3.8	14

Sample Location				SB-19 (DUP)	SB-19	SB-19 (MS/MSD)	SB-19	SB-19	SB-19
PARS Sample ID				SB-19-0.3-0.8	SB-19-0.5-1.0	SB-19-1.0-1.5	SB-19-1.5-2.0	SB-19-2.0-2.5	SB-19-2.5-3.0
Laboratory Sample ID				280-57090-11	280-57090-12	280-57090-13	280-57090-14	280-57090-15	280-57090-16
Sample Date				6/23/2014	6/23/2014	6/23/2014	6/23/2014	6/23/2014	6/23/2014
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	0.0-0.5	0.5-1.0	1.0-1.5	1.5-2.0	2.0-2.5	2.5-3.0
Arsenic	19	19	19	15	**33**	**76 J**	**76**	**100**	**93**

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Sample Location				SB-19	SB-19	SB-20	SB-20	SB-20
PARS Sample ID				SB-19-3.0-3.5	SB-19-3.5-4.0	SB-20-0.0-0.5	SB-20-0.5-1.0	SB-20-1.0-1.5
Laboratory Sample ID				280-57090-17	280-57090-18	280-57090-19	280-57090-20	280-57090-21
Sample Date				6/23/2014	6/23/2014	6/23/2014	6/23/2014	6/23/2014
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	3.0-3.5	3.5-4.0	0.0-0.5	0.5-1.0	1.0-1.5
Arsenic	19	19	19	4.0	3.1	13	**25**	**28**

Sample Location				SB-20 (SPLIT)	SB-20 (SPLIT)	SB-20	SB-20	SB-20 (DUP)
PARS Sample ID				SB-20-1.5-2.0	SB-20-1.5-2.0S	SB-20-2.0-2.5	SB-20-2.5-3.0	SB-20-2.7-3.2
Laboratory Sample ID				280-57090-22	JB70087-2	280-57090-23	280-57090-24	280-57090-25
Sample Date				6/23/2014	6/23/2014	6/23/2014	6/23/2014	6/23/2014
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	1.5-2.0	1.5-2.0	2.0-2.5	2.5-3.0	2.5-3.0
Arsenic	19	19	19	**46**	**50.6**	**92**	**43**	**48**

Sample Location				SB-20	SB-20	SB-21 (MS/MSD)	SB-21	SB-21
PARS Sample ID				SB-20-3.0-3.5	SB-20-3.5-4.0	SB-21-0.0-0.5	SB-21-0.5-1.0	SB-21-1.0-1.5
Laboratory Sample ID				280-57090-26	280-57090-27	280-57090-28	280-57090-29	280-57090-30
Sample Date				6/23/2014	6/23/2014	6/23/2014	6/23/2014	6/23/2014
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	3.0-3.5	3.5-4.0	0.0-0.5	0.5-1.0	1.0-1.5
Arsenic	19	19	19	**29**	8.1	15	**23**	**65**

Sample Location				SB-21 (DUP)	SB-21	SB-21	SB-21	SB-21
PARS Sample ID				SB-21-4.0-4.5	SB-21-1.5-2.0	SB-21-2.0-2.5	SB-21-2.5-3.0	SB-21-3.0-3.5
Laboratory Sample ID				280-57090-31	280-57090-32	280-57090-33	280-57090-34	280-57090-35
Sample Date				6/23/2014	6/23/2014	6/23/2014	6/23/2014	6/23/2014
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	1.0-1.5	1.5-2.0	2.0-2.5	2.5-3.0	3.0-3.5
Arsenic	19	19	19	**62**	**64**	**32**	**48**	**44**

Sample Location				SB-22 (SPLIT)	SB-22 (SPLIT)	SB-22	SB-22 (MS/MSD)	SB-22
PARS Sample ID				SB-22-0.0-0.5	SB-22-0.0-0.5S	SB-22-0.5-1.0	SB-22-1.0-1.5	SB-22-1.5-2.0
Laboratory Sample ID				280-57090-36	JB70087-3	280-57090-37	280-57090-38	280-57090-39
Sample Date				6/23/2014	6/23/2014	6/23/2014	6/23/2014	6/23/2014
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	0.0-0.5	0.0-0.5	0.5-1.0	1.0-1.5	1.5-2.0
Arsenic	19	19	19	11	10.7	6.5	**26**	**34**

Sample Location				SB-22	SB-22	SB-22 (DUP)	SB-22	SB-22
PARS Sample ID				SB-22-2.0-2.5	SB-22-2.5-3.0	SB-22-4.0-4.5	SB-22-3.0-3.5	SB-22-3.5-4.0
Laboratory Sample ID				280-57090-40	280-57090-41	280-57090-42	280-57090-43	280-57090-44
Sample Date				6/23/2014	6/23/2014	6/23/2014	6/23/2014	6/23/2014
Sample Depth (ft)	IGWS	RDCSRS	NRDCSRS	2.0-2.5	2.5-3.0	2.5-3.0	3.0-3.5	3.5-4.0
Arsenic	19	19	19	**41**	**85**	**97**	**110**	**61**

Table 2
Soil Analytical Results
Sievers Sandberg USARC - Focused Site Investigation
Pedricktown, New Jersey

Notes:
Detected compounds that exceed the applicable Soil Remediation Standard for arsenic are shown underlined and bold [**thus**]

mg/kg	Milligrams per kilogram
ND	Compound not detected above laboratory reporting limit
J	Estimated concentration (result is less than reporting limit, but greater than the minimum detection limit)
IGWS	Default Impact to Groundwater Soil Remediation Standard
RDCSRS	Residential Direct Contact Soil Remediation Standard
NRDCSRS	Non-Residential Direct Contact Soil Remediation Standard
MS/MSD	Matrix Spike/Matrix Spike Duplicate Samples

Sampling Information:
Samples were collected in 4 oz amber glass containers.
Samples were placed in iced coolers at approximately 4^{o}C.

APPENDIX A

Soil Boring Logs

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-01

Drill Method: Direct Push	**Date Drilled:** 12/17/13	**Logged By:** BC
Drilling Contractor: ECDI	**Boring Dia:** 2 Inches	

Recovery (Ft)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
3.8					TOPSOIL.	
					SAND; Brown medium to fine sand, some silt.	Collect sample SB-01-0.0-0.5 from 0.0-0.5 ft.
					SAND; Brown orange medium to fine sand, trace silt, some brown plastic clay.	Collect sample SB-01-0.5-1.0 from 0.5-1.0 ft.
				1	SAND; Dark brown medium to fine sand, some silt, wet at 1.5' bgs.	Collect sample SB-01-1.0-1.5 from 0.5-1.0 ft.
						Collect sample SB-01-1.5-2.0 from 1.5-2.0 ft.
				2		Collect sample SB-02-2.0-2.5 from 2.0-2.5 ft.
					SAND; Brown orange medium to fine sand, trace silt.	Collect sample SB-01-2.5-3.0 from 2.5-3.0 ft.
				3		Collect sample SB-01-3.0-3.5 from 3.0-3.5 ft.
						Collect sample SB-01-3.5-4.0 from 3.5-3.8 ft. End boring at 3.8 ft.
				4		

Notes:

Collected samples SB-01-0.0-0.5, SB-01-0.5-1.0, SB-01-1.0-1.5, SB-01-1.5-2.0, SB-01-2.0-2.5, SB-01-2.5-3.0, SB-01-3.0-3.5 and SB-01-3.5-4.0 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-02

Drill Method: Direct Push	**Date Drilled:** 12/17/13	**Logged By:** BC
Drilling Contractor: ECDI	**Boring Dia:** 2 Inches	

Recovery (FT)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
3.8				1	TOPSOIL.	Collect sample SB-02-0.0-0.5 from 0.0-0.5 ft.
					SAND; Brown medium to fine sand with dark brown sand mottles, trace silt.	Collect sample SB-02-0.5-1.0 and SB-02-0.6-1.1 (DUP) from 0.5-1.0 ft.
				2	SAND; Brown orange medium to fine sand, trace silt, wet at 1.4' bgs.	Collect sample SB-02-1.0-1.5 from 0.5-1.0 ft.
						Collect sample SB-02-1.5-2.0 from 1.5-2.0 ft.
				3		Collect sample SB-02-2.0-2.5 from 2.0-2.5 ft.
						Collect sample SB-02-2.5-3.0 (MS/MSD) from 2.5-3.0.
						Collect sample SB-02-3.0-3.5 from 3.0-3.5 ft.
				4		Collect sample SB-01-3.5-4.0 from 3.5-3.8 ft. End of boring at 3.8 ft.

Notes:

Collected samples SB-02-0.0-0.5, SB-02-0.5-1.0, SB-02-0.6-1.0, SB-02-1.0-1.5, SB-02-1.5-2.0, SB-02-2.0-2.5, SB-02-2.5-3.0, SB-02-3.0-3.5 and SB-02-3.5-4.0 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-03

Drill Method: Direct Push	**Date Drilled:** 12/17/13	**Logged By:** BC
Drilling Contractor: ECDI	**Boring Dia:** 2 Inches	

Recovery (FT)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
4.0				1	TOPSOIL.	
					SAND; Brown to dark brown medium to fine sand, trace silt.	Collect sample SB-03-0.0-0.5S (SPLIT) and SB-03-0.0-0.5 from 0.0-0.5 ft.
						Collect sample SB-03-0.5-1.0 from 0.5-1.0 ft.
					FILL; Coal.	Collect sample SB-03-1.0-1.5 and SB-03-1.1-1.6 (DUP) from 1.0-1.5 ft.
				2	SAND; Brown orange medium to fine sand, trace silt, wet at 3.0' bgs.	Collect sample SB-03-1.5-2.0 from 1.5-2.0 ft.
						Collect sample SB-03-2.0-2.5 from 2.0-2.5 ft.
						Collect sample SB-03-2.5-3.0 from 2.5-3.0 ft.
				3		Collect sample SB-03-3.0-3.5 from 2.5-3.0 ft.
						Collect sample SB-03-3.5-4.0 from 3.5-4.0. End of boring at 4.0 ft.
				4		

Notes:

Collected sample SB-03-0.0-0.5S, SB-03-0.0-0.5, SB-03-0.5-1.0, SB-03-1.0-1.5, SB-03-1.1-1.6, SB-03-1.5-2.0, SB-03-2.0-2.5, SB-03-2.5-3.0, SB-03-3.0-3.5 and SB-03-3.5-4.0 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-04

Drill Method: Direct Push	**Date Drilled:** 12/17/13	**Logged By:** BC
Drilling Contractor: ECDI	**Boring Dia:** 2 Inches	

Recovery (Ft)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
3.8				1	TOPSOIL. SAND; Dark brown medium to fine sand, trace silt, trace organics. SAND; Brown medium to fine sand, dark brown sand from 1.7-1.9' bgs, trace silt, wet at 2.2' bgs.	Collect sample SB-04-2.5-3.0 from 2.5-3.0 ft. Collect sample SB-04-3.0-3.5 from 3.0-3.5 ft. Collect samples SB-04-3.5-4.0 and SB-04-3.6-4.1 (DUP) from 3.5-4.0 ft. End of boring at 3.8 ft.
				2		
				3		
				4		

Notes:
Collected samples SB-04-2.5-3.0, SB-04-3.0-3.5, SB-04-3.5-4.0 and SB-04-3.6-4.1 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-05

Drill Method: Direct Push	**Date Drilled:** 12/17/13	**Logged By:** BC
Drilling Contractor: ECDI	**Boring Dia:** 2 Inches	

Recovery (Ft)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
3.9				1	TOPSOIL.	
					SAND; Brown medium to fine sand, trace silt.	Collect samples SB-05-0.0-0.5S (SPLIT) and SB-05-0.0-0.5 from 0.0-0.5 ft.
						Collect sample SB-05-0.5-1.0 from 0.5-1.0 ft.
				2	FILL; Coal, some brown medium to fine sand.	Collect sample SB-05-1.0-1.5 from 1.0-1.5 ft.
						Collect sample SB-05-1.5-2.0 from 1.5-2.0 ft.
					SAND; Brown orange medium to fine sand, trace silt, coal fill layer from 2.3-2.4' bgs, wet at 2.5' bgs.	
						Collect sample SB-05-2.0-2.5 from 2.0-2.5 ft.
					FILL; Coal.	
				3	SAND; Brown orange medium to fine sand, trace silt, wet at 2.5' bgs.	Collect sample SB-05-2.5-3.0 from 2.5-3.0 ft.
						Collect sample SB-05-3.0-3.5 from 3.0-3.5 ft.
						Collect sample SB-05-3.5-4.0 from 3.5-3.9 ft.. End of boring at 3.9 ft.
				4		

Notes:

Collected sample SB-05-0.0-0.5S, SB-05-0.0-0.5, SB-05-0.5-1.0, SB-05-1.0-1.5, SB-05-1.5-2.0, SB-05-2.0-2.5, SB-05-2.5-3.0, SB-05-3.0-3.5 and SB-05-3.5-4.0 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-06

Drill Method: Direct Push	**Date Drilled:** 12/17/13	**Logged By:** BC
Drilling Contractor: ECDI	**Boring Dia:** 2 Inches	

Recovery (Ft)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
4.0				1	TOPSOIL.	
					SAND; Dark brown medium to fine sand, trace silt.	
					FILL; Coal, some brown medium to fine sand.	
				2	SAND; Brown medium to fine sand, trace silt, wet at 2.7' bgs.	
				3		Collect sample SB-06-2.5-3.0 from 2.5-3.0 ft.
						Collect sample SB-06-3.0-3.5 (MS/MSD) from 3.0-3.5 ft.
				4		Collect sample SB-06-3.5-4.0 from 3.5-4.0 ft. End of boring at 4.0 ft.

Notes:

Collect samples SB-06-2.5-3.0, SB-06-3.0-3.5 and SB-06-3.5-4.0 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-07

Drill Method: Direct Push	**Date Drilled:** 12/17/13	**Logged By:** BC
Drilling Contractor: ECDI	**Boring Dia:** 2 Inches	

Recovery (FT)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
3.5				1	TOPSOIL.	
					SAND; Brown to dark brown medium to fine sand, trace silt.	Collect sample SB-07-0.0-0.5 from 0.0-0.5 ft.
						Collect sample SB-07-0.5-1.0 from 0.5-1.0 ft.
					FILL; Coal.	Collect sample SB-07-1.0-1.5 and SB-07-1.1-1.6 (DUP) from 1.0-1.5 ft.
					SAND; Brown orange medium to fine sand, trace silt, wet at 3.0' bgs.	
				2		Collect sample SB-07-1.5-2.0 from 1.5-2.0 ft.
						Collect sample SB-07-2.0-2.5 (MS/MSD) from 2.0-2.5 ft.
						Collect sample SB-07-2.5-3.0 from 2.5-3.0.
				3		Collect sample SB-07-3.0-3.5 from 3.0-3.5 ft. End of boring at 3.5 ft.
				4		

Notes:

Collect samples SB-07-0.0-0.5, SB-07-0.5-1.0, SB-07-1.0-1.5, SB-07-1.1-1.6, SB-07-1.5-2.0, SB-07-2.0-2.5, SB-07-2.5-3.0 and SB-07-3.0-3.5 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-08

Drill Method: Direct Push	**Date Drilled:** 12/17/13	**Logged By:** BC
Drilling Contractor: ECDI	**Boring Dia:** 2 Inches	

Recovery (FT)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
3.4					TOPSOIL.	
					SAND; Dark Brown medium to fine sand, trace silt.	Collect sample SB-08-0.0-0.5 from 0.0-0.5 ft.
				1	SAND; Brown medium to fine sand, some dark brown medium to fine sand mottles.	Collect sample SB-08-0.5-1.0 from 0.5-1.0 ft.
						Collect sample SB-08-1.0-1.5 from 1.0-1.5 ft.
				2		Collect sample SB-08-1.5-2.0 from 1.5-2.0 ft.
					SAND; Brown medium to fine sand, trace silt, wet at 2.5' bgs.	Collect sample SB-08-2.0-2.5 from 2.0-2.5 ft.
				3		Collect sample SB-08-2.5-3.0 from 2.5-3.0 ft.
						Collect sample SB-08-3.0-3.5 from 3.0-3.5 ft. End of boring at 3.4 ft.
				4		

Notes:

Collected samples SB-08-0.0-0.5, SB-08-0.5-1.0, SB-08-1.0-1.5, SB-08-1.5-2.0, SB-08-2.0-2.5, SB-08-2.5-3.0 and SB-08-3.0-3.5 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-09

Drill Method: Direct Push	**Date Drilled:** 12/17/13	**Logged By:** BC
Drilling Contractor: ECDI	**Boring Dia:** 2 Inches	

Recovery (Ft)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
3.9				1 2 3 4	TOPSOIL. SAND; Brown medium to fine sand, trace silt, wet at 2.1' bgs.	Collect sample SB-09-0.0-0.5 from 0.0-0.5 ft. Collect sample SB-09-0.5-1.0 from 0.5-1.0 ft. Collect sample SB-09-1.0-1.5 from 1.0-1.5 ft. Collect sample SB-09-1.5-2.0 from 1.5-2.0 ft. Collect sample SB-09-2.0-2.5 from 2.0-2.5 ft. Collect sample SB-09-2.5-3.0 from 2.5-3.0 ft. Collect sample SB-09-3.0-3.5 from 3.0-3.5 ft. Collect sample SB-09-3.5-4.0 from 3.5-3.9 ft. End of boring at 3.9 ft.

Notes:

Collected samples SB-09-0.0-0.5, SB-09-0.5-1.0, SB-09-1.0-1.5, SB-09-1.5-2.0, SB-09-2.0-2.5, SB-09-2.5-3.0, SB-09-3.0-3.5 and SB-09-3.5-4.0 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-10

Drill Method: Direct Push	**Date Drilled:** 12/17/13	**Logged By:** BC
Drilling Contractor: ECDI	**Boring Dia:** 2 Inches	

Recovery (FT)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
4.0					TOPSOIL.	
					SAND; Brown medium to fine sand, some organics.	Collect sample SB-10-0.0-0.5 from 0.0-0.5 ft.
					SAND; Brown to black medium to fine sand, some coal fragments.	Collect sample SB-10-0.5-1.0 from 0.5-1.0 ft.
				1	SAND; Brown medium to fine sand, trace silt, wet at 2.2' bgs.	Collect sample SB-10-1.0-1.5 from 1.0-1.5 ft.
						Collect sample SB-10-1.5-2.0 from 1.5-2.0 ft.
				2		Collect sample SB-10-2.0-2.5 from 2.0-2.5 ft.
						Collect sample SB-10-2.5-3.0 from 2.5-3.0 ft.
				3		Collect sample SB-10-3.0-3.5 from 3.0-3.5 ft.
						Collect samples SB-10-3.5-4.0 and SB-10-3.6-4.1 (DUP) from 3.5-4.0. End of boring at 4.0 ft.
				4		

Notes:

Collected samples SB-10-0.0-0.5, SB-10-0.5-1.0, SB-10-1.0-1.5, SB-10-1.5-2.0, SB-10-2.0-2.5, SB-10-2.5-3.0, SB-10-3.0-3.5, SB-10-3.5-4.0 and SB-10-3.6-4.1 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-11

Drill Method: Direct Push	**Date Drilled:** 12/17/13	**Logged By:** BC
Drilling Contractor: ECDI	**Boring Dia:** 2 Inches	

Recovery (Ft)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
3.8					TOPSOIL.	
					GRAVEL.	Collect sample SB-11-0.0-0.5 from 0.0-0.5 ft.
					SAND; Brown medium to fine sand, some silt, wet at 2.4' bgs.	Collect sample SB-11-0.5-1.0 from 0.5-1.0 ft.
				1		Collect sample SB-11-1.0-1.5 from 1.0-1.5 ft.
						Collect sample SB-11-1.5-2.0 from 1.5-2.0 ft.
				2		Collect sample SB-11-2.0-2.5S (SPLIT) and SB-11-2.0-2.5 from 2.0-2.5 ft.
						Collect sample SB-11-2.5-3.0 and SB-11-2.6-3.1 (DUP) from 2.5-3.0 ft.
				3		Collect sample SB-11-3.0-3.5 from 3.0-3.5 ft.
						Collect sample SB-11-3.5-4.0 from 3.5-3.8 ft. End of boring ay 3.8 ft.
				4		

Notes:

Collected samples SB-11-0.0-0.5, SB-11-0.5-1.0, SB-11-1.0-1.5, SB-11-1.5-2.0, SB-11-2.0-2.5S, SB-11-2.0-2.5, SB-11-2.5-3.0, SB-11-2.6-3.1, SB-11-3.0-3.5 and SB-11-3.5-4.- for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-12

Drill Method: Direct Push	**Date Drilled:** 12/17/13	**Logged By:** BC
Drilling Contractor: ECDI	**Boring Dia:** 2 Inches	

Recovery (Ft)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
3.9				1	TOPSOIL. SAND; Brown medium to fine sand, trace silt. SAND; Dark brown medium to fine sand, some silt, coal fragments from 0.8-0.9' bgs.	
				2	SAND; Brown medium to dine sand, some silt, wet at 2.5' bgs.	
				3		Collect sample SB-12-3.0-3.5 from 3.0-3.5 ft. Collect sample SB-12-3.5-4.0 and SB-12-3.6-4.1 (DUP) from 3.5-3.9 ft. End of boring at 3.9 ft.
				4		

Notes:

Collected samples SB-12-3.0-3.5, SB-12-3.5-4.0 and SB-12-3.6-4.1 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-13

Drill Method: Direct Push	**Date Drilled:** 12/17/13	**Logged By:** BC
Drilling Contractor: ECDI	**Boring Dia:** 2 Inches	

Recovery (Ft)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
3.5				1 2 3 4	TOPSOIL. SAND; Brown medium to fine sand, trace silt, coal fragments from 0.6-0.7' bgs, dark brown to black medium to fine sand from 0.7-0.8' bgs. SAND; Brown medium to fine sand, trace silt, wet at 2.0' bgs.	Collect sample SB-13-0.0-0.5 from 0.0-0.5 ft. Collect sample SB-13-0.5-1.0 from 0.5-1.0 ft. Collect sample SB-13-1.0-1.5 from 1.0-1.5 ft. Collect sample SB-13-1.5-2.0 from 1.5-2.0 ft. Collect sample SB-13-2.0-2.5 from 2.0-2.5 ft. Collect sample SB-13-2.5-3.0 from 2.5-3.0 ft. Collect sample SB-13-3.0-3.5 from 3.0-3.5 ft. End of boring at 3.5 ft.

Notes:

Collected samples SB-13-0.0-0.5, SB-13-0.5-1.0, SB-13-1.0-1.5, SB-13-1.5-2.0, SB-13-2.0-2.5, SB-13-2.5-3.0 and SB-13-3.0-3.5 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-14

Drill Method: Direct Push	**Date Drilled:** 12/17/13	**Logged By:** BC
Drilling Contractor: ECDI	**Boring Dia:** 2.0 Inches	

Recovery (Ft)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
3.9					TOPSOIL.	
					SAND; Dark brown trending to black medium to fine sand, trace silt, trace fine rounded gravel.	Collect sample SB-14-0.0-0.5 from 0.0-0.5 ft.
					CONCRETE.	
					SAND; Brown medium to fine sand, some silt, wet at 2.0' bgs.	Collect sample SB-14-0.5-1.0S (SPLIT) and SB-14-0.5-1.0 from 0.5-1.0 ft.
				1		Collect sample SB-14-1.0-1.5 from 1.0-1.5 ft.
						Collect sample SB-14-1.5-2.0 from 1.5-2.0 ft.
				2		Collect sample SB-14-2.0-2.5 from 2.0-2.5 ft.
						Collect sample SB-14-2.5-3.0 from 2.5-3.0 ft.
				3		Collect sample SB-14-3.0-3.5 from 3.0-3.5 ft.
						Collect sample SB-14-3.5-4.0 from 3.5-3.9 ft. End of boring at 3.9 ft.
				4		

Notes:

Collected samples SB-14-0.0-0.5, SB-14-0.5-1.0S, SB-14-0.5-1.0, SB-14-1.0-1.5, SB-14-1.5-2.0, SB-14-2.0-2.5, SB-14.2.5-3.0, SB-14.3.0-3.5 and SB-14-3.5-4.0 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-15

Drill Method: Direct Push	**Date Drilled:** 12/17/13	**Logged By:** BC
Drilling Contractor: ECDI	**Boring Dia:** 2 Inches	

Recovery (Ft)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
3.6					TOPSOIL.	
					SAND; Dark brown medium to fine sand, trace silt.	
				1	SAND; Black medium to fine sand, coal fragments at 1.1' bgs.	
					SAND; Brown medium to fine sand, some silt.	
					FILL; Coal.	
					SAND; Brown medium to fine sand, trace silt, wet at 2.1' bgs.	
				2		
				3		Collect sample SB-15-2.5-3.0 from 2.5-3.0.
						Collect sample SB-15-3.0-3.5 and SB-15-3.1-3.6 (DUP) from 3.0-3.5. End of boring at 3.6 ft.
				4		

Notes:

Collected samples SB-15-2.5-3.0, SB-15-3.0-3.5 and SB-15-3.1-3.6 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

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PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-16

Drill Method: Direct Push	**Date Drilled:** 12/17/13	**Logged By:** BC
Drilling Contractor: ECDI	**Boring Dia:** 2 Inches	

Recovery (Ft)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
4.0					TOPSOIL.	
					SAND; Dark brown medium to fine sand, some fine round gravel, coal fragments.	Collect sample SB-16-0.0-0.5 from 0.0-0.5 ft.
						Collect sample SB-16-0.5-1.0 from 0.5-1.0 ft.
				1	SAND; Brown medium to fine sand, trace silt, wet at 2.4' bgs.	Collect sample SB-16-1.0-1.5 (MS/MSD) from 1.0-1.5 ft.
						Collect sample SB-16-1.5-2.0 from 1.5-2.0 ft.
				2		Collect sample SB-16-2.0-2.5 from 2.0-2.5 ft.
						Collect sample SB-16-2.5-3.0 from 2.5-3.0 ft.
				3		Collect sample SB-16-3.0-3.5 from 3.0-3.5 ft.
						Collect sample SB-16-3.5-4.0 from 3.5-4.0 ft. End of boring at 4.0 ft.
				4		

Notes:

Collected samples SB-16-0.0-0.5, SB-16-0.5-1.0, SB-16-1.0-1.5, SB-16-1.5-2.0, SB-16-2.0-2.5, SB-16-2.5-3.0, SB-16-3.0-3.5 and SB-16-3.5-4.0 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-17

Drill Method: Direct Push	**Date Drilled:** 12/17/13	**Logged By:** BC
Drilling Contractor: ECDI	**Boring Dia:** 2 Inches	

Recovery (Ft)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
3.8					TOPSOIL.	
					SAND; Brown medium to fine sand, some silt.	Collect sample SB-17-0.0-0.5 and SB-17-0.1-0.6 (DUP) from 0.0-0.5 ft.
				1	SAND; Brown medium to fine sand, trace silt, coal fragments.	Collect sample SB-17-0.5-1.0 from 0.5-1.0 ft.
						Collect sample SB-17-1.0-1.5 from 1.0-1.5 ft.
				2	SAND; Brown trending to gray medium to fine sand, some fine angular gravel.	Collect sample SB-17-1.5-2.0 from 1.5-2.0 ft.
					SAND; Brown medium to fine sand, some silt.	Collect sample SB-17-2.0-2.5 from 2.0-2.5 ft.
				3		Collect sample SB-17-2.5-3.0 from 2.5-3.0 ft.
						Collect sample SB-17-3.0-3.5 from 3.0-3.5 ft.
						Collect sample SB-17-3.5-4.0 from 3.5-3.8 ft. End of boring at 3.8 ft.
				4		

Notes:

Collected samples SB-17-0.0-0.5, SB-17-0.1-0.6, SB-17-0.5-1.0, SB-17-1.0-1.5, SB-17-1.5-2.0, SB-17-2.0-2.5., SB-17-2.5-3.0, SB-17-3.0-3.5 and SB-17-3.5-4.0 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-18

Drill Method: Direct Push	**Date Drilled:** 6/23/14	**Logged By:** BC
Drilling Contractor: EPI	**Boring Dia:** 2 Inches	

Recovery (Ft)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
4.0				0	TOPSOIL.	Collect sample SB-18-0.0-0.5 from 0.0-0.5 ft.
					SAND; Dark brown medium to fine sand, trace angular gravel.	Collect sample SB-18-0.5-1.0 from 0.5-1.0 ft.
				1	SAND; Brown medium to fine sand.	Collect samples SB-18-1.0-1.5 and SB-18-1.0-1.5S (SPLIT) from 1.0-1.5 ft.
						Collect sample SB-18-1.5-2.0 from 1.5-2.0 ft.
				2		Collect sample SB-18-2.0-2.5 from 2.0-2.5 ft.
						Collect sample SB-18-2.5-3.0 from 2.5-3.0 ft.
				3		Collect sample SB-18-3.0-3.5 from 3.0-3.5 ft.
						Collect samples SB-18-3.5-4.0 and SB-18-4.0-4.5 (DUP) from 3.5-4.0 ft. End of boring at 4.0 ft.
				4		

Notes:

Collected samples SB-18-0.0-0.5, SB-18-0.5-1.0, SB-18-1.0-1.5, SB-18-1.0-1.5S, SB-18-1.5-2.0, SB-18-2.0-2.5., SB-18-2.5-3.0, SB-18-3.0-3.5, SB-18-3.5-4.0 and SB-18-4.0-4.5 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-19

Drill Method: Direct Push	**Date Drilled:** 6/23/14	**Logged By:** BC
Drilling Contractor: EPI	**Boring Dia:** 2 Inches	

Recovery (Ft)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
4.0					TOPSOIL.	Collect samples SB-19-0.0-0.5 and SB-19-0.3-0.8 (DUP) from 0.0-0.5 ft.
					SAND; Dark brown medium to fine sand, trace round and angular gravel.	Collect sample SB-19-0.5-1.0 from 0.5-1.0 ft.
				1	SAND; Brown medium to fine sand, trace silt.	Collect sample SB-19-1.0-1.5 (MS/MSD) from 1.0-1.5 ft.
						Collect sample SB-19-1.5-2.0 from 1.5-2.0 ft.
				2		Collect sample SB-19-2.0-2.5 from 2.0-2.5 ft.
						Collect sample SB-19-2.5-3.0 from 2.5-3.0 ft.
				3		Collect sample SB-19-3.0-3.5 from 3.0-3.5 ft.
						Collect samples SB-19-3.5-4.0 from 3.5-4.0 ft. End of boring at 4.0 ft.
				4		

Notes:

Collected samples SB-19-0.0-0.5, SB-19-0.3-0.8, SB-19-0.5-1.0, SB-19-1.0-1.5, SB-19-1.5-2.0, SB-19-2.0-2.5., SB-19-2.5-3.0, SB-19-3.0-3.5 and SB-19-3.5-4.0 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-20

Drill Method: Direct Push	**Date Drilled:** 6/23/14	**Logged By:** BC
Drilling Contractor: EPI	**Boring Dia:** 2 Inches	

Recovery (Ft)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
4.0				1 2 3 4	TOPSOIL. SAND; Dark brown medium to fine sand, trace round and angular gravel. SAND; Brown medium to fine sand, trace silt.	Collect samples SB-19-0.0-0.5 and SB-19-0.3-0.8 (DUP) from 0.0-0.5 ft. Collect sample SB-19-0.5-1.0 from 0.5-1.0 ft. Collect sample SB-19-1.0-1.5 (MS/MSD) from 1.0-1.5 ft. Collect sample SB-19-1.5-2.0 from 1.5-2.0 ft. Collect sample SB-19-2.0-2.5 from 2.0-2.5 ft. Collect sample SB-19-2.5-3.0 from 2.5-3.0 ft. Collect sample SB-19-3.0-3.5 from 3.0-3.5 ft. Collect samples SB-19-3.5-4.0 from 3.5-4.0 ft. End of boring at 4.0 ft.

Notes:

Collected samples SB-19-0.0-0.5, SB-19-0.3-0.8, SB-19-0.5-1.0, SB-19-1.0-1.5, SB-19-1.5-2.0, SB-19-2.0-2.5., SB-19-2.5-3.0, SB-19-3.0-3.5 and SB-19-3.5-4.0 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-21

Drill Method: Direct Push	**Date Drilled:** 6/23/14	**Logged By:** BC
Drilling Contractor: EPI	**Boring Dia:** 2 Inches	

Recovery (Ft)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
3.5				1	TOPSOIL.	Collect samples SB-21-0.0-0.5 (MS/MSD) from 0.0-0.5 ft.
					SAND; Dark brown medium to fine sand, trace round gravel.	Collect sample SB-21-0.5-1.0 from 0.5-1.0 ft.
				2	SAND; Light brown medium to fine sand, some fine angular gravel.	Collect sample SB-21-1.0-1.5 and SB-21-4.0-4.5 (DUP) from 1.0-1.5 ft.
				3	SAND; Dark brown medium to fine sand, some fine round gravel.	Collect sample SB-21-1.5-2.0 from 1.5-2.0 ft.
						Collect sample SB-21-2.0-2.5 from 2.0-2.5 ft.
						Collect sample SB-21-2.5-3.0 from 2.5-3.0 ft.
						Collect sample SB-21-3.0-3.5 from 3.0-3.5 ft.
				4		End of boring at 3.5 ft.

Notes:

Collected samples SB-21-0.0-0.5, SB-21-0.5-1.0, SB-21-1.0-1.5, SB-21-4.0-4.5, SB-21-1.5-2.0, SB-21-2.0-2.5, SB-21-2.5-3.0 and SB-21-3.0-3.5 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

PARS ENVIRONMENTAL INC.

LOG OF BORING
SB-22

Drill Method: Direct Push	**Date Drilled:** 6/23/14	**Logged By:** BC
Drilling Contractor: EPI	**Boring Dia:** 2 Inches	

Recovery (Ft)	PID Response (ppm)	Recovery (Graphic)	Lithology	Depth Feet	Description	Remarks
4.0				1	TOPSOIL.	Collect samples SB-22-0.0-0.5 and SB-22-0.0-0.5S (SPLIT) from 0.0-0.5 ft.
					SAND; Dark brown medium to fine sand, some fine round gravel.	Collect sample SB-22-0.5-1.0 from 0.5-1.0 ft.
				2	SAND; Brown medium to fine sand, trace silt.	Collect sample SB-22-1.0-1.5 (MS/MSD) from 1.0-1.5 ft.
						Collect sample SB-22-1.5-2.0 from 1.5-2.0 ft.
				3		Collect sample SB-22-2.0-2.5 from 2.0-2.5 ft.
						Collect sample SB-22-2.5-3.0 and SB-22-4.0-4.5 (DUP) from 2.5-3.0 ft.
				4		Collect sample SB-22-3.0-3.5 from 3.0-3.5 ft.
						Collect sample SB-22-3.5-4.0 from 3.5-4.0 ft. End of boring at 4.0 ft.

Notes:

Collected samples SB-22-0.0-0.5, SB-22-0.0-0.5S, SB-22-0.5-1.0, SB-22-1.0-1.5, SB-22-1.5-2.0, SB-22-2.0-2.5, SB-22-2.5-3.0, SB-22-4.0-4.5, SB-22-3.0-3.5 and SB-22-3.5-4.0 for arsenic.

Site: Focused Investigation
Sievers Sandberg USARC
Pedricktown, NJ

Project No: 895-06

APPENDIX B

Relative Percent Difference Values

Relative Percent Difference - Field Blanks			
Sample Location	X1	X2	RPD
SB-02	5.6	7.2	25
SB-03	210	210	0
SB-04	3.5	3.9	11
SB-07	76	82	8
SB-08	94	97	3
SB-09	420	420	0
SB-10	3	3	0
SB-11	3.7	3.7	0
SB-12	7.2	5.0	36
SB-15	35	35	0
SB-17	10	9.2	8
SB-18	3.5	3.8	8
SB-19	14	15	7
SB-20	43	48	11
SB-21	65	62	5
SB-22	85	97	13

Relative Percent Difference - Split Samples			
Sample Location	X1	X2	RPD
SB-03	19	29.1	42
SB-05	18	16.9	6
SB-08	57	51.3	11
SB-11	4	2.9	32
SB-14	66	70.3	6
SB-18	6.7	7.1	6
SB-20	46	50.6	10
SB-22	11	10.7	3

Matrix Spike/Matrix Spike Duplicate Samples			
Sample Location	MS (X1)	MSD (X2)	RPD
SB-02	103	118	14
SB-06	105	114	8
SB-07	172	181	5
SB-10	120	117	3
BS-14	104	114	9
SB-16	209	194	7
SB-19	153	146	5
SB-21	101	108	7
SB-22	131	115	13