

PREPARED FOR

CITY OF TRENTON DEPARTMENT OF HOUSING & ECONOMIC DEVELOPMENT CITY HALL ANNEX 319 EAST STATE STREET TRENTON, NJ 08608-1866

SITE INVESTIGATION REPORT FORMER FEDERATED METALS PROPERTY ENTERPRISE AVENUE CITY OF TRENTON, MERCER COUNTY, NEW JERSEY

JUNE 25, 2008

PROJECT NUMBER 10043

PREPARED BY ENVIROSURE, INC. SUBSURFACE EVALUATOR CERTIFICATION NO. US29847

SCOTT SMITH, P.E. PRESIDENT SUBSURFACE LICENSE NO. 238533



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June 25, 2008

Project Number 10043

Ms. Leah Yasenchak City of Trenton Department of Housing and Economic Development City Hall Annex 319 East State Street Trenton, NJ 08608-1866

Reference: Site Investigation Report Former Federated Metals Enterprise Avenue City of Trenton, Mercer County, New Jersey

Dear Ms. Yasenchak:

We are pleased to present our Site Investigation Report for the referenced Site. Thank you for the opportunity to provide our professional environmental services to you. Should you require additional information or have questions regarding this report, please contact us at 610.696.8980.

Sincerely,

EnviroSure, Inc.

Scott Smith, P.E. President

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LIST OF ACRONYMS

AST	aboveground storage tank
AOC	area of concern
ASARCO	American Smelting & Refining Company
bgs	below ground surface
BNs	base neutrals
BN+15	base neutrals plus a forward library search
DRO	diesel range organics
EDR	Environmental Data Resources, Inc.
EM61	electromagnetic induction instrument
ENVIROSURE	EnviroSure, Inc.
ESA	Environmental Site Assessment
GPR	ground penetrating radar
NGVD	National Geodetic Vertical Datum
NJAC	New Jersey Administrative Code
NJDEP	New Jersey Department of Environmental Protection
NRDCSRS	Non-Residential Direct Contact Soil Remediation Standard
PA	Preliminary Assessment
PAHs	polynuclear aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PID	photo-ionization detector
PPL	Priority Pollutant List
PPL+40	Priority Pollutant List plus a forward library search
ppm	parts per million
PQL	practical quantitation limit
RDCSRS	Residential Direct Contact Soil Remediation Standard
Sanborn	Sanborn Fire Insurance Map
SCC	Soil Cleanup Criteria
SI	Site Investigation
SIR	Site Investigation Report
SRS	Soil Remediation Standard
TCE	trichloroethene
TCL	Target Compound List
TICs	tentatively identified compounds
TPH	total petroleum hydrocarbons

USGS	U. S. Geological Survey
UST	underground storage tank
VO+10 VOC	volatile organics plus a forward library search volatile organic compound

1.0 INTRODUCTION

1.1 Purpose

The City of Trenton (the Client) retained EnviroSure, Inc. (ENVIROSURE) to conduct a Site Investigation (SI) of the approximately 4.6-acre Former Federated Metals Property (Block 23004, Lot 3; Block 23101, Lot 3; and Block 23102, Lot 9) located on Enterprise Avenue in the City of Trenton, Mercer County, New Jersey (the Site). Throughout this report the Site area to the southeast of Enterprise Avenue is referred to as "Parcel A" and the Site area to the northwest of Enterprise Avenue is referred to as "Parcel B." Ransom Environmental conducted a Phase I Environmental Site Assessment (ESA) (report dated September 7, 2006) of the Site for the Client. The purpose of the SI summarized in this report was to investigate areas of concern (AOCs) identified in the September 7, 2006 Phase I ESA report.

1.2 Site Description

Site Name:	Former Federated Metals Property		
Site Address:	Enterprise Avenue		
Municipality:	City of Trenton		
County:	Mercer		
Parcel A			
Block and Lot:	Block 23102, Lot 9		
Size:	Approximately 1 Acre		
Parcel B			
Block and Lot:	Block 23004, Lot 3 Block 23101, Lot 3		
Size:	Approximately 3.6 Acres		

A Site Location Map based on USGS 7.5-minute topographical maps using DeLORME 3-D TopoQuads[®] is included as Plate 1. A map showing Parcel A and Parcel B from the September 7, 2006 Phase I ESA report is provided as Appendix A.

1.3 Current Use of the Site

No structures are located on the Site. Parcel A consists of a vacant property with a gravel/cinder surface. The southeastern portion of Parcel B is primarily wooded. Tall grasses cover the northern and northeastern portions of Parcel B.

A paved former parking lot is located on the eastern portion of Parcel B. Current Site features are shown on Plate 2A and Plate 2B.

1.4 Report Organization

This report is organized based on the general format outlined in the *New Jersey Technical Requirements for Site Remediation* (New Jersey Administrative Code, (NJAC) 7:26E) and separated into these sections:

- Section 1.0 Introduction
- Section 2.0 Historical Information
- Section 3.0 Physical Setting
- Section 4.0 Technical Overview
- Section 5.0 Findings and Recommendations
- Section 6.0 References

1.5 Scope of Services and Deviations

ENVIROSURE's August 15, 2007 proposal, based on the scope of services defined in the Client's request for proposal (RFP) and the February 8, 2008 change order letter, define the scope of services and contract provisions under which the work was performed for this SI. The Client based the scope of services in the RFP on the findings of the September 7, 2006 Phase I ESA report. Our scope of services was limited to those items specifically identified in our August 15, 2007 proposal and February 8, 2008 change order letter. Environmental issues not specifically addressed in our August 15, 2007 proposal, February 8, 2008 change order letter, or this report were beyond the scope of our evaluation. Reliance on the contents of this report by parties other than the Client is with written permission by the Client and subject to the same contract provisions as apply to the Client.

1.6 Limitations and Exceptions

ENVIROSURE's SI activities were conducted in an attempt to investigate the impact of AOCs identified in ENVIROSURE's August 15, 2007 proposal on Site soil conditions. Site Investigations are not comprehensive and are unlikely to identify all environmental problems or eliminate all risk. No warranty, expressed or implied, is made by ENVIROSURE. ENVIROSURE works with our clients to identify the level of investigation needed to provide them with an acceptable level of risk.

This report is intended for the exclusive use of the Client and those corporations, partnerships, or other entities represented by the Client that are formed to acquire or hold title to the Site discussed in this report and may not be relied upon by other parties. ENVIROSURE must be contacted by any entity other than the Client who wishes to use this report. Non-compliance with any of these requirements by the Client or any other entity will release ENVIROSURE from any liability resulting from the use of this report by any unauthorized party and

the Client agrees to defend, indemnify, and hold harmless ENVIROSURE from any claim or liability associated with such unauthorized use or non-compliance.

1.7 Special Terms and Conditions

The Site owner is solely responsible for notifications in accordance with federal, state, and local laws of the existence, release, treatment or disposal of any hazardous substances or petroleum products at the Site. ENVIROSURE assumes no responsibility or liability whatsoever for any claim, loss of property value, damage, or injury that results from pre-existing *hazardous substances* and *petroleum products* encountered or present on the Site, or from the discovery of such hazardous materials.

1.8 Limiting Conditions

The limiting conditions encountered during this SI were:

- 1) A thick concrete slab, located approximately 1-ft below ground surface (bgs), covered the Site in the areas of the former main Site building. The Geoprobe was able to penetrate the concrete slab. However, the slab prevented excavation of several test pits. Specifically, the backhoe was unable to excavate test pits in the area of an approximately 20,000-gallon oil tank, noted in the 1927 Sanborn Fire Insurance Map (Sanborn) on the central portion of Parcel A. Investigation of this 20,000-gallon oil tank was not included in ENVIROSURE's scope of services for this SI. However, ENVIROSURE agreed to attempt to investigate the area during the test pit investigation. The former 15,000-gallon oil tank (AOC 4) noted on the Parcel A facility map (copy provided in Appendix B) was investigated during this SI and located in close proximity and topographically downgradient of the former 20,000-gallon oil tank in the 1927 Sanborn.
- 2) The central and southwestern portions of Parcel B of the Site were thickly wooded and inaccessible during the test pit investigation and geophysical survey. Aerial photographs dating back to 1953 show this area as historically wooded. The September 7, 2006 Phase I ESA report by Ransom Environmental for the Site indicates that ASARCO/Federated Metals was not listed as operators of Parcel B until 1954. The more easily accessible northern and eastern portions of Parcel B that were historically used by ASARCO/Federated Metals for stockpiling waste materials were investigated during this SI.
- 3) ENVIROSURE used the limited remaining historical Site features and historical Parcel A facility map to locate Areas of Concern (AOCs) during field work. The locations of soil borings and test pits to investigate AOCs are dependent upon the accuracy and scale of the historical Parcel A facility map.

4) It is our understanding that the New Jersey Department of Environmental Protection (NJDEP) is in the process of changing the total petroleum hydrocarbon (TPH) limit. The new limit was not posted on the NJDEP's website on the date of this SI report. As a result, the laboratory analytical results were compared to the NJDEP's Total Organic Contaminant Limit.

2.0 HISTORICAL USE INFORMATION

The historical use of the Site was summarized in the September 7, 2006 Phase I ESA report. The historical use of the Site presented in the September 7, 2006 Phase I ESA report is summarized in this section. The historical locations of Site features based on Parcel A and Parcel B facility maps from the September 7, 2006 Phase I ESA report and observation of the limited remaining historical Site features (e.g., old metal fence lines, metal gates, concrete pads, etc.) during ENVIROSURE's field work in November 2007 are shown on Plates 3A and 3B. The facility maps from the September 7, 2006 Phase I ESA report are provided as Appendix B.

Parcel A of the Site was used by Federated Metals Corporation and American Smelting & Refining Company (ASARCO) from approximately 1925 to 1980 for the refining of secondary metals to produce metallic zinc dust. In 1995, buildings on Parcel A were demolished. The Client stated during this SI that solid waste roll-off containers with construction debris were observed on Parcel A by the Client in approximately 2002-2004. Parcel A was vacant with no storage of demolition debris during this SI.

Parcel B was operated by United Jersey Railroad from 1906 to 1954. ASARCO and Federated Metals were listed as operators of Parcel B from 1954 to present. During operation by ASARCO and Federated Metals, Parcel B was used, in part, for the staging of waste products from the refining operations on Parcel A. Waste products stored on Parcel B included slag, zinc skimmings, furnace brick, and zinc metal. In 1993, 580 tons of material were removed from Parcel B as hazardous waste. Parcel B was also used for employee parking until refining operations on Parcel A ceased in 1980. The Client stated during this SI that solid waste roll-off containers with construction debris were observed on Parcel B in approximately 2002-2004. Parcel B was vacant with no storage of demolition debris during this SI.

2.1 Aerial Photography Review

Aerial photographs for Parcel A and Parcel B for 1953, 1963, 1978, 1989, 1995, and 2002 are summarized below based on the September 7, 2006 Phase I ESA report.

Parcel A

From 1953 to 1995, Parcel A appeared as a developed industrial property with one large central structure and two smaller structures, along the northwestern border of Parcel A. Industrial structures, reportedly associated with the Cordey China Company, were observed on the area to the northeast and southeast of Parcel A. The structures on Parcel A had been removed by 2002.

Parcel B

In 1953, the northern portion of Parcel B appeared to be cleared and the southern portion appeared to be wooded. By 1978, Parcel B appeared completely vegetated. Parcel B appeared completely wooded by 2002 with an access road along the north-northwestern boundary that appeared to be utilized by the adjacent scrap metal yard for access to the narrow area between Parcel B and Route 1 Bypass.

2.2 Historical Maps

The September 7, 2006 Phase I ESA included historical Sanborns for the years 1890, 1905, 1927, 1949, 1955, 1965, 1968, 1977, 1982, and 1991, which are summarized below.

Parcel A

Parcel A was not shown as developed until the 1927 Sanborn. An L-shaped building owned by Federated Metals is depicted on Parcel A in Sanborns dated 1927 to 1991. Two railroad spurs were noted entering from the southern boundary of Parcel A. One of the railroad spurs was noted on the central portion of the Site from 1927 to 1965 and the other railroad spur was noted in Sanborns from 1927 to 1982 on the northwestern portion of the Site parallel to Enterprise Avenue. A scale was associated with the railroad spur on the northwestern portion of the Site. One 20,000-gallon fuel oil underground storage tank (UST) was noted in an open yard in the center of Parcel A in the 1927 Sanborn. The 20,000-gallon fuel oil UST was not noted on subsequent Sanborns.

Parcel B

Parcel B was featured as a vacant parcel in Sanborns from 1905 to 1991.

Surrounding Area

The Trenton Iron and Metal Company was observed to the northwest and northeast of the Site in Sanborns from 1949 to 1991. Sanborn maps from 1890 to 1991 show the area to the southwest of Parcel A as operated by a tile company from 1890 to 1991. Railroad lines were located adjacent to the southern Site boundary in Sanborns from 1890 to 1991 and adjacent to the northwestern Site boundary in Sanborns from 1905 to 1982. A railroad line was observed along Enterprise Avenue to the northwest of Parcel A and northeast of Parcel B in Sanborns from 1890 to 1991.

2.3 Records Review

Ransom Environmental's review of local, State, and Federal records for the Site were summarized in the September 7, 2006 Phase I ESA report. Ransom Environmental's findings that pertain to AOCs on the Site are noted below.

Parcel A

An April 14, 1981 RCRA generator inspection form documented the existence of an uncovered pile of material in an open area on Parcel A that was reportedly carried to the Assunpink Creek by way of the stormwater drains during rainfall.

During a file review of the NJDEP's files for the Site, Ransom Environmental discovered a Parcel A facility map. A copy of the Parcel A facility map is provided in Appendix B. The map featured:

- two 20,000-gallon and one 15,000-gallon USTs (reportedly removed on January 1, 1989);
- one 1,000-gallon gasoline UST (reportedly removed on January 1, 1989);
- one 500-gallon kerosene UST (reportedly removed on January 1, 1989);
- one oil tank, oil storage building, or impoundment on the eastern corner of Parcel A;
- oil pump stand and associated tank;
- electrical transformers on the northern corner of Parcel A;
- four electrical transformers, adjacent to the 15,000-gallon oil UST on the south-central portion of Parcel A; and
- railroad scale (also shown in Sanborns from 1927 to 1982).

2.4 Previous Environmental Reports

The September 7, 2006 Phase I ESA report summarizes two previous reports that involved sampling on the Site.

Parcel A

Ransom Environmental reported that during a July 1994 Phase I ESA of the former Wenczel Tile facility, Shakti Consultants, Inc. under the supervision of the NJDEP collected soil samples on Parcel A of the Site and the adjacent railroad tracks. Ransom Environmental reported that the soil sampling identified chromium, zinc, and lead in excess of the NJDEP's Soil Cleanup Criteria (SCC) at the time that the report was written. A copy of the July 1994 Phase I ESA report was not included as an appendix in the copy of Ransom Environmental's September 7, 2006 Phase I ESA report provided to ENVIROSURE.

Parcel B

Ransom Environmental included a copy of the July 2000 SIR by JMZ Geology (JMZ) in their September 7, 2006 Phase I ESA report. The July 2000 report summarized JMZ's soil investigation of Parcel B following the removal of approximately 580 tons of hazardous waste material including slag, zinc skimming, furnace brick with lesser quantities of zinc metal, rusted drums and containers, machinery parts, building rubble, domestic rubble, and automobile

parts. The findings of JMZ's SI of Parcel B indicated that concentrations of antimony, arsenic, lead, thallium, and zinc exceeded the NJDEP's Residential SCC. JMZ recommended capping the material with elevated concentrations of metals. A copy of the Parcel B facility map from JMZ's July 2000 report is provided in Appendix B.

2.5 Areas of Concern Based on Historical Site Use

ENVIROSURE's field investigation activities focused on 12 areas of concern (AOCs) identified by the Client based on the findings of the September 7, 2006 Phase I ESA report. The areas of concern are summarized in Table 2-1 below and shown on Plate 3A and Plate 3B.

AOC	Description	Location	Information Source
1	Former two 20,000-	Parcel A northern	Parcel A facility map
	gallon oil USTs	portion	
2	Former 1,000-gallon	Parcel A	Parcel A facility map
	gasoline UST	northwestern	
		portion	
3	Former 500-gallon	Parcel A	Parcel A facility map
	kerosene UST	northwestern	
		portion	
4	Former 15,000-gallon	Parcel A south-	Parcel A facility map
	oil UST	central portion	
5	Suspected oil tank	Parcel A eastern	Parcel A facility map
		corner	
6	Former oil pump	Parcel A northern	Parcel A facility map
	stand and tank	portion	
7	Former electrical	Parcel A northern	Parcel A facility map
	transformers	corner	
8	Former four electrical	Parcel A south-	Parcel A facility map
	transformers	central portion	
9	Former railroad scale	Parcel A	Parcel A facility map and
		northwestern	1927 through 1982
		portion	Sanborns
10	Stormwater outfall	Parcel A eastern	April 14, 1981 RCRA
		corner	generator inspection form
11	Historical metal	Parcel A	Ransom's September 7,
	refining activities		2006 Phase I ESA report
	(Parcel A site-wide		noting use of Parcel A for
	investigation)		historical metal refining
			activities from about 1927 to
			1980.

Table 2-1Summary of Areas of Concern

12	Historical storage of	Parcel B	Ransom's September 7,
	waste materials		2006 Phase I ESA report
	associated with		noting ASARCO and
	refining activities		Federated Metals as tenants
	(Parcel B site-wide		of Parcel B from 1954 to
	investigation)		present. Parcel B was
			primarily used for storage of
			waste materials associated
			with refining activities during
			occupancy of the Site by
			ASARCO and Federated
			Metals.

In addition to the AOCs identified by the Client as requiring investigation, three additional AOCs were evident based on Ransom Environmental's September 7, 2006 Phase I ESA report:

- elevated concentrations of metals (chromium, zinc, and lead) identified in soil samples collected from Parcel A and the adjacent railroad tracks by Shakti Environmental Consultants, Inc. under the supervision of the NJDEP in 1994;
- residual waste material with elevated concentrations of metals exceeding the NJDEP's RDCSRS on Parcel B of the Site identified during a 2000 SI of Parcel B by JMZ; and
- 3) one 20,000-gallon oil UST identified in an open yard in the center of Parcel A in the 1927 Sanborn.

The Client did not request further investigation of the elevated concentrations of metals reported during the 1994 investigation of Parcel A by Shakti Consultants, Inc. and 2000 investigation of Parcel B by JMZ. However, the site-wide investigation of metals (AOC 11 and AOC 12) was conducted, in part, with the Shakti, JMZ, and Cordey China (adjoining parcel) SI data in mind. ENVIROSURE offered to investigate the area of the 20,000-gallon oil tank shown in the 1927 Sanborn during the test pit investigation of other environmental concerns. However, the concrete former building foundation on Parcel A prevented the excavation of test pits in the area of the 20,000-gallon UST in the 1927 Sanborn. The former location of the 20,000-gallon UST in the 1927 Sanborn on Plate 3A.

3.0 PHYSICAL SETTING

A Site Location Map based on USGS 7.5-minute topographical maps using DeLORME 3-D TopoQuads[®] is included as Plate 1.

3.1 Site Characteristics

The approximately 4.6-acre Site consists of two vacant areas (Parcel A and Parcel B) separated by Enterprise Avenue. Parcel B is located to the northwest of Parcel A. No structures are located on Parcel A and Parcel B. Current Site conditions are shown on Plates 2A and 2B.

The approximately 1-acre Parcel A consists of a fenced-in triangular property. The fence surrounding Parcel A consists of older portions with several gates along Enterprise Avenue that match openings shown on the Parcel A facility map in Appendix B and newer portions adjacent to the railroad tracks to the south of the Site and along Enterprise Avenue on the western portion of the Site. The older and newer portions of the Parcel A fence are noted on Plate 2A. A fenced-in concrete pad formerly used for a transformer is located on the northern corner of Parcel A. The surface of parcel A consists primarily of gravel/cinder material. The area between the older and newer sections of fencing on the southern portion of Parcel A is overgrown. The remaining area is primarily clear of vegetation.

The approximately 3.6-acre Parcel B consists of an overgrown vacant property. The southwestern portion of Parcel B is thickly wooded and difficult to access. The central portion of Parcel B is wooded, but more accessible than the southwestern portion. The northern and eastern portions of Parcel B are covered with high grasses and shrubs. An asphalt-paved parking lot is located on the southeastern corner of Parcel B.

3.2 Adjoining Land Use

Railroad tracks border the southern Site boundary. The Site is surrounded by historically industrial properties. The area to the north and east of Parcel B is used by Trenton Iron and Metal for storage of scrap metal. An industrial/commercial facility historically used for tile manufacturing is located across the railroad tracks to the south of Parcel A. A vacant industrial parcel owned by the City of Trenton is located to the northeast of the Site. An overgrown vacant area is located between Parcel A and the Assunpink Creek.

3.3 *Physical Characteristics*

The Site is located at approximately 55 feet above National Geodetic Vertical Datum (NGVD). Based on review of the USGS 7.5-minute topographical map of the area, the Site is situated on relatively flat terrain. Ground surface elevation in the vicinity ranges from approximately 110 feet above NGVD to the northwest of the Site to 40 feet above NGVD to the southeast of the Site along the Assunpink Creek.

<u>3.3.1 Soil</u>

The Site soils consist of a gravelly and stratified substratum (NRCS, 2008). During the test pit and soil boring investigation, fill material was encountered to depths of up to 8-ft bgs. The fill-like material covering the majority of the Site overlies interbedded silts, sands, and gravels.

3.3.2 Geology

The Site is located within the Trenton Prong of the Piedmont Physiographic Province. The Site is underlain by the Gabbro (Ygb) geologic unit consisting of medium- to coarse-grained gabbro. (Owens, et al., 1998)

<u>3.3.3 Hydrogeology</u>

The crystalline bedrock on the Site typically yields water only from fractures. Based on topography of the area surrounding the Site, the inferred direction of regional groundwater flow is to the southeast, toward the Assunpink Creek. It should be noted that site-specific groundwater flow may fluctuate based on local geology, local well use, and seasonal variations. The flow of groundwater on the Site has not been specifically characterized through a groundwater investigation. During the SI, groundwater was typically encountered at approximately 10-ft bgs on Parcel A.

3.3.4 Surface Water Hydrology

No surface water bodies were observed on the Site during the SI field work. Two surface water bodies are located within 0.5-mile of the Site based on USGS topographical maps: Assunpink Creek and Delaware and Raritan Canal. The Assunpink Creek is located approximately 100 feet to the southeast and topographically down-gradient of Parcel A. The Assunpink Creek flows to the southwest toward the Delaware River. The Delaware and Raritan Canal is located approximately 300 feet to the northwest and topographically up-gradient of Parcel B. The canal connects to the Delaware River approximately three miles to the southwest of the Site.

4.0 TECHNICAL OVERVIEW: METHODOLOGY

During the SI, ENVIROSURE conducted a geophysical survey, investigated subsurface conditions, and collected soil samples for laboratory analyses. Site activities are summarized in this section of the report.

4.1 Geophysical Survey

ENVIROSURE contracted Enviroprobe Service, Inc. of Westmont, New Jersey to conduct a geophysical survey of the Site on November 19, 2007 and November 21, 2007. The purpose of the geophysical survey was to locate possible USTs on the Site prior to the test pit investigation. An ENVIROSURE representative was onsite throughout the geophysical survey. The geophysical survey focused on Parcel A since the September 7, 2006 Phase I ESA documented the historical use of USTs on Parcel A. No records of historical USTs on Parcel B were discovered during the Phase I ESA conducted by Ransom Environmental.

An electromagnetic induction instrument (EM61) was initially used to scan the Site for metal objects. The EM61 was used to pre-screen the Site for areas that require additional investigation. The southwestern and central portions of Parcel B were thickly wooded preventing access during the geophysical survey. No areas requiring further investigation were identified on Parcel B during the survey with the EM61. Metal objects were located throughout Parcel A requiring further evaluation with ground penetrating radar (GPR). The GPR survey of Parcel A did not reveal anomalies with a UST signature.

The suspected location of the former railroad spur with the railroad scale on Parcel A was delineated and marked with spray paint during the geophysical survey. The suspected location was used to help determine soil boring locations to investigate AOC 9 (former railroad scale).

4.2 Soil Investigation

ENVIROSURE excavated test pits and advanced soil borings to investigate soil conditions on the Site.

4.2.1 Test Pits

ENVIROSURE contracted Marcor Remediation, Inc. to operate a backhoe on November 26, 2007 to investigate:

- anomalies discovered on Parcel A during the geophysical survey;
- AOC 10 (stormwater outfall area on Parcel A);
- AOC 11 (Parcel A site-wide investigation); and
- AOC 12 (Parcel B site-wide investigation).

Test pit logs are presented in Appendix C. The locations of test pits are shown on Plate 4A and Plate 4B. The test pit investigation is summarized on Table 4-1 below.

AOC	Description	Location	Test Pit Number
10	Stormwater outfall	Parcel A	TP07 through TP09
		eastern	
		corner	
11	Parcel A site-wide investigation	Parcel A	TP10 through TP12
12	Parcel B site-wide investigation	Parcel B	TP01 through TP06

Table 4-1Test Pit Investigation Summary

4.2.1.1 Investigation of Geophysical Anomalies

ENVIROSURE directed use of a backhoe to investigate several areas that were identified during the geophysical survey. One of the anomalies was determined to be an approximately 4-ft by 8-ft 1/4-inch thick metal sheet located approximately 6-inches bgs. The remaining anomalies were most likely associated with rebar in the former concrete slab building foundation on Parcel A and scattered metal objects on the surface of Parcel A. The thick concrete foundation was encountered approximately 1-ft bgs and appeared to cover the footprint of the former main Site building. The backhoe was unable to break through the thick concrete foundation of the former building. As a result, the investigation of anomalies generally did not extend below 1-ft bgs and, as a result, test pit logs were not generated. No USTs or other environmental concerns were discovered during the further investigation of geophysical anomalies. The location of anomalies investigated are shown on Plate 4A.

4.2.1.2 AOC 10 – Stormwater Outfall

Test pits TP07, TP08, and TP09 were excavated to investigate AOC 10 (stormwater outfall) on the southeastern portion of Parcel A closest to the Assunpink Creek. A concrete slab was encountered at approximately 1-ft bgs in test pits TP07 and TP08. One surface soil sample was collected from each of the three test pits excavated to investigate AOC 10. The sample from TP09 was collected slightly below the surface since the first six inches consisted primarily of gravel.

4.2.1.3 AOC 11 – Parcel A Site-Wide Investigation

Three test pits (TP10, TP11, and TP12) were excavated for the Parcel A site-wide investigation (AOC 11). As part of the investigation of AOC 11, one soil sample was collected of surface soil/fill and one soil sample was collected where native soil was first encountered. The general locations of samples for the Parcel A site-wide investigation were based on feedback from the Client during an October 24, 2007 project kickoff meeting. Groundwater was not encountered during excavation of test pits with depths to 8-ft bgs. With the exception of test pit TP11, PID readings were consistently zero.

Test pit TP10 was excavated near the location of a former railroad spur on the Site. Fill materials including cinder, gravel, concrete, and wood were encountered to depths up to 2-ft bgs in TP10. The presence of wood in the fill material may be associated with former railroad ties. One sample was collected within the fill material (TP10A) and one sample was collected immediately below the fill material (TP10B).

A terracotta drain pipe was encountered at approximately 5-ft bgs in test pit TP11. The location and orientation of the drain pipe correspond to a terracotta storm drain shown on the Parcel A facility map (see Appendix B). Fill materials consisting of fire brick, demolition debris, gravel, and asphalt were located above the terracotta pipe in test pit TP11. Elevated PID readings (up to 50 parts per million (ppm)) were encountered immediately below the terracotta pipe. A sample (TP11A) was collected within the fill material above the terracotta pipe and a sample (TP11B) was collected immediately below the fill material.

Test pit TP12 was excavated on the western portion of Parcel A, near the fence. Fill material encountered in test pit TP12 to approximately 8-ft bgs included whole bricks, whole concrete blocks, an approximately 2-ft by 3-ft by 1-ft concrete slab, metal pipe, and sheet metal. Test pit TP12 was located in the approximate area of a former office building on Parcel A. Due to the type of fill material encountered, an adequate volume of soil was not present allowing collection of a sample. Since a sample was not collected from TP12, soil boring SB11 described in Section 4.2.2.10 below was also used as the third sampling location as part of the Parcel A site-wide investigation.

4.2.1.4 AOC 12 - Parcel B Site-Wide Investigation

Test pits TP01 through TP06 were excavated on Parcel B to investigate site-wide soil conditions. The southwestern portion of Parcel B was thickly wooded limiting access with a backhoe. The purpose of the test pit investigation was to collect six soil samples representing different areas of Parcel B. With the exception of the inaccessible southwestern portion of Parcel B, Parcel B was divided into six approximately 0.5-acre areas. One test pit was excavated in each of the six areas.

One soil sample was collected from each of the six test pits. Samples were collected of soil with the highest likelihood of contamination based on field observations (e.g., soil discoloration, type of fill material, stressed vegetation, etc.). Each test pit extended to depths of approximately 8-ft bgs and into native soil.

PID readings were consistently zero throughout the test pit investigation of Parcel B. Groundwater was not encountered. Fill material was encountered in test pits TP01, TP02, TP04, and TP05. Fill material in test pit TP01 included ceramic pieces, glass debris, brick fragments, asphalt pieces, residential waste, wood, coal, and concrete debris to depths of approximately 6-ft bgs. Brick fragments were encountered in test pit TP02 to depths of approximately 4-ft bgs. Fill material in test

pit TP04 included primarily residential waste to depths of 2-ft bgs. Fill material in test pit TP05 was limited to the first foot of soil and included ash and glass.

4.2.2 Soil Borings

To investigate AOCs on the Site, ENVIROSURE advanced 42 soil borings. Table 3-1 below summarizes the soil borings associated with each AOC.

AOC	Description	Location	Soil Boring Numbers
1	Former two 20,000-	Parcel A	SB09 through SB15
	gallon oil USTs	northern	SB18 through SB26
		portion	
2	Former 1,000-gallon	Parcel A	SB01 through SB04
	gasoline UST	northwestern	
		portion	
3	Former 500-gallon	Parcel A	SB05 through SB08
	kerosene UST	northwestern	
		portion	
4	Former 15,000-gallon	Parcel A	SB32 through SB39
	oil UST	south-central	
		portion	
5	Suspected oil tank	Parcel A	SB16 through SB17
		eastern	
		corner	
6	Former oil pump	Parcel A	SB28 and SB29
	stand and tank	northern	
		portion	
7	Former electrical	Parcel A	SB27
	transformers	northern	
		corner	
8	Former four electrical	Parcel A	SB40 through SB42
	transformers	south-central	
		portion	
9	Former railroad scale	Parcel A	SB30 and SB31
		northwestern	
		portion	
11	Parcel A site-wide	Parcel A	SB11
	investigation		

Table 4-2Subsurface Soil Boring Summary

The advancement of the boreholes was logged by an ENVIROSURE field representative. The soil boring logs are included in Appendix C. Throughout the soil boring investigation, ENVIROSURE measured levels of volatile organic compounds (VOCs) using a photo-ionization detector (PID) with a 10.2

electrovolt (eV) lamp. The PID readings are shown on the soil boring logs. Borings were advanced to depths of 8-ft to 16-ft bgs.

Samples were collected of soil with the greatest likelihood of contamination based on the type of AOC, PID readings, odors, and field observations. Soil samples were collected using a factory-cleaned, disposable trowel. To reduce potential cross-contamination, a new sampling trowel was used between sampling locations. In addition, disposable latex gloves were replaced between sample locations. ENVIROSURE labeled the samples in the field and stored the samples in a cooler with ice. A courier delivered the samples under chain-of-custody to Accutest Laboratories (NJ ID #12129). Soil boring activities associated with each AOC investigated are summarized below.

4.2.2.1 AOC 1 – Former Two 20,000-Gallon Oil USTs

Sixteen soil borings were advanced to investigate the two former 20,000-gallon oil USTs. One soil sample was collected from each soil boring. The sampling plan was based on eight centerline soil borings for each of the two USTs. However, a concrete slab was encountered at approximately 11 feet bgs. The slab appeared to be the floor of a vault associated with the former 20,000-gallon USTs. Elevated PID readings and an oily odor were encountered in soil directly above the concrete slab. As a result of field observations during the initial soil borings, the sampling plan was adjusted to also characterize soil immediately next to the concrete slab to determine if a release had migrated to the surrounding soil.

The concrete slab was encountered at approximately 11 feet bgs in soil borings SB09, SB10, SB12, SB13, SB14, SB19, SB22, SB24, and SB25. Fill material above the concrete slab consisted of yellow to brown, medium to coarse sand. Samples were collected of soil with the highest PID readings or below the suspected bottom of the former USTs. Soil borings extended from 11 to 16 feet bgs. The sandy fill material above the concrete slab was wet at approximately 6-ft bgs. However, it had rained heavily earlier in the week and water was encountered at approximately 10-ft bgs, which was typical of site-wide conditions, in borings immediately outside of the area of the concrete slab. Elevated PID readings ranging from 5 to 130 ppm were measured in soil borings SB13, SB15, SB18, SB19, SB20, SB22, SB23, SB24, SB25, and SB26. An oily sheen and petroleum odor was noticed in soil borings SB15, SB18, SB22, SB23, SB25, and SB26 ranging from depths of 9-ft to 11.5-ft bgs and at or immediately above the water table.

4.2.2.2 AOC 2 – Former 1,000-Gallon Gasoline UST

Four centerline soil borings (SB01 through SB04) were advanced to 8-ft bgs in the area of the former 1,000-gallon gasoline UST. No PID readings were measured. Water was not encountered. The soil consisted primarily of silty fine to coarse sand. One soil sample was collected at about 6-ft bgs from each soil boring.

4.2.2.3 AOC 3 – Former 500-Gallon Kerosene UST

Four centerline soil borings (SB05 through SB08) were advanced to 8-ft bgs in the area of the former 500-gallon kerosene UST. No PID readings were measured. Water was not encountered. Fill material consisting of gravel, cinder, and wood was encountered up to depths of 4-ft bgs. Soil samples were collected at approximately 6-ft bgs from each of the four borings.

4.2.2.4 AOC 4 – Former 15,000-Gallon Oil UST

Eight centerline soil borings (SB32 through SB39) were advanced in the area of the former 15,000-gallon oil UST. An approximately 6-in to 1.5-ft thick concrete slab was encountered approximately 6-in to 1-ft below the gravel/cinder surface. Fill material encountered extended to depths up to 8-ft bgs. Elevated PID readings ranging from 5 to 130 ppm were measured during the soil boring investigation of AOC 4. Groundwater was encountered at approximately 10-ft to 11-ft bgs. With the exception of soil borings SB34 and SB38 that met refusal at 8-ft bgs, the soil borings SB32, SB33, SB35, SB36, SB37, SB38, and SB39. An oily odor and/or sheen were noticed in soil borings SB32, SB36, SB37, and SB39. The highest PID readings were generally observed immediately above the groundwater level. One sample was collected of soil with the highest likelihood of contamination based on field observations and PID readings.

4.2.2.5 AOC 5 – Suspected Oil Tank

Two soil borings (SB16 and SB17) were advanced in the location of the suspected oil tank on the eastern corner of Parcel A. The soil borings were advanced to 12-ft to 16-ft bgs. Fill material was encountered to approximately 7-ft bgs in soil boring SB16 and to approximately 8.5-ft bgs in soil boring SB17. PID readings were consistently zero. Groundwater was encountered at about 10-ft bgs. One soil sample was collected from each boring immediately above the groundwater level.

4.2.2.6 AOC 6 – Former Oil Pump Stand and Tank

Two soil borings (SB28 and SB29) were advanced to 12-ft bgs in the area of the former oil pump stand and tank. Elevated PID readings were measured in both borings. The highest PID readings were measured at about 10-ft bgs and immediately above the groundwater level. An oily odor and sheen were noticed in soil with elevated PID readings. Groundwater was encountered at approximately 10.5-ft bgs. Samples were collected of soil with the highest PID readings.

4.2.2.7 AOC 7 – Former Electrical Transformers

One soil boring (SB27) was advanced to 8-ft bgs topographically down-gradient (southeast) of the concrete transformer pad located on the northern corner of Parcel A. PID readings were consistently zero. Groundwater was not

encountered. One soil sample was collected immediately below the cinder/gravel surface.

4.2.2.8 AOC 8 – Former Four Electrical Transformers

Three soil borings (SB40 through SB42) were advanced in the area of the former four electrical transformers on the central portion of Parcel A. An approximately 1-ft to 1.5-ft concrete slab was encountered approximately 0.5-ft to 1-ft bgs. Elevated PID readings of 5 to 10 ppm were measured in soil boring SB41. PID readings were consistently zero in the soil borings SB40 and SB42. Soil samples were collected directly below the concrete slab in soil boring SB40 and SB42. Soil with the highest PID readings was sampled for soil boring SB41.

4.2.2.9 AOC 9 – Former Railroad Scale

One soil boring was advanced on each side of the former railroad scale. Soil boring SB31 was advanced to 8-ft bgs. Gravel/cinder extended from ground surface to approximately 3-ft bgs in soil boring SB31. One soil sample was collected in soil boring SB31 immediately below the gravel/cinder layer. Soil boring SB32 was advanced to 12-ft bgs due to elevated PID readings. A 6-in layer of concrete was encountered in soil boring SB32. Fill material consisting of gravel, cinder, coal, and silty sand extended to about 8-ft bgs in soil boring SB32. PID readings up to 50 ppm were measured in soil boring SB32. One soil sample was collected from the soil segment with the highest PID readings. Groundwater was encountered at about 11-ft bgs in soil boring SB32.

4.2.2.10 AOC 11 – Parcel A Site-Wide Investigation

The sampling plan included collection of six soil samples as part of a site-wide investigation of Parcel A. Four of the soil samples were collected during the test pit investigation as summarized in Section 4.2.1.3. The remaining two samples were collected from soil boring SB11. Soil sample SB11A from soil boring SB11 was collected within the fill material that extended from the surface to 2.5-ft bgs and soil sample SB11B was collected immediately below the fill material.

4.2.3 Soil Investigation Summary

From November 26 through 29, ENVIROSURE directed excavation of six test pits and advancement of 42 soil borings on Parcel A and excavation of six test pits on Parcel B. Groundwater was generally encountered at approximately 10-ft bgs. A concrete slab at approximately 1-ft bgs that appeared to be associated with the former main building on Parcel A was encountered throughout the soil investigation. An oily sheen and odor was noticed in several soil borings (SB15, SB18, SB22, SB23, SB25, SB26, SB28, SB29, SB32, SB36, SB37, and SB39) on Parcel A. The oily sheens and elevated PID readings were noted primarily at depths ranging from 8-ft to 11.5-ft bgs and at or immediately above the groundwater table.

5.0 FINDINGS AND RECOMMENDATIONS

5.1 Laboratory Analytical Results

A total of 56 soil samples were collected from locations throughout the Site. The laboratory results are discussed in the following sections. The laboratory methods are summarized in Table 5-1 below. The concentrations of contaminants that exceed NJDEP's RDCSRS and NRDCSRS are shown on Plate 5A and Plate 5B and discussed in this section. The laboratory results summary tables in Appendix D compare the laboratory analytical results to the NJDEP's RDCSRS and NRDCSRS. The complete laboratory analytical data package is provided as Appendix E. The chain-of-custody forms are provided as part of the laboratory analytical data package.

AOC	Description	Location	Sample	Analyses	Method
			Number		
1	Former two	Parcel A	SB09	TPH	OQA-QAM-025
	20,000-gallon	northern	through		SW846-8015
	oil USTs	portion	SB15	PAHs*	SW846 8270C
			SB18		
			through		
			SB26		
2	Former 1,000-	Parcel A	SB01	TCL VO+10	SW846 8260B
	gallon gasoline	northwestern	through		
	UST	portion	SB04	Lead	SW846 6010B
3	Former 500-	Parcel A	SB05	TCL VO+10	SW846 8260B
	gallon	northwestern	through	Naphthalene	
	kerosene UST	portion	SB08		
4	Former	Parcel A	SB32	TPH	OQA-QAM-025
	15,000-gallon	south-central	through		
	oil UST	portion	SB39	PAHs*	SW846 8270C
5	Suspected oil	Parcel A	SB16	PPL+40	SW846 8260B
	tank	eastern	and		SW846 8270C
		corner	SB17		SW846 8082
					SW846 8081A
					SW846 6010B
					SW846 7471A
					ASTM 4643-00
					EPA 160.3 M
					SW846 9012
					M/LACHAT
					SW846 9066
					M/LACHAT

Table 5-1 Laboratory Methods

6	Former oil	Parcel A	SB28	TPH	OQA-QAM-025
	pump stand	northern	and		
	and tank	portion	SB29	PAHs*	SW846 8270C
7	Former	Parcel A	SB27	PCBs	SW846 8082
	electrical	northern			
	transformers	corner			
8	Former four	Parcel A	SB40	PCBs	SW846 8082
	electrical	south-central	through		
	transformers	portion	SB42		
9	Former	Parcel A	SB30	BN+15	SW846 8270C
	railroad scale	northwestern	and		
		portion	SB31	PPL Metals	SW846 6010B
					SW 846 7471A
10	Stormwater	Parcel A	TP07	PPL	SW846 6010B
	outfall	eastern	through	Metals	SW 846 7471A
		corner	TP09		
11	Parcel A site-	Parcel A	TP10A	PPL Metals	SW846 6010B
	wide		TP10B		SW 846 7471A
	investigation		TP11A		
			TP11B		
			SB11A		
			and		
			SB11B		
12	Parcel B site-	Parcel B	TP01	PPL Metals	SW846 6010B
	wide		through		SW 846 7471A
	investigation		TP06		

*PAHs were analyzed for 25% of samples analyzed for TPH based on the highest TPH results. BN+15 – base neutrals plus a forward library search

DRO – diesel range organics

PAHs - Polynuclear aromatic hydrocarbons

PCBs – Polychlorinated biphenyls

PPL – Priority Pollutant List

PPL+40 – Priority Pollutant List plus a forward library search

TCL – Target Compound List

TPH – total petroleum hydrocarbons

VO+10 – volatile organics plus a forward library search

5.1.1 Reliability of Analytical Data

Elevated detection limits were noted in the laboratory data package for several samples. The laboratory noted low volume of sample extracted and dilution required as reasons for the elevated detection limits. The laboratory reporting limits for non-detect results exceeded the NJDEP's SRS for acrolein in sample SB17, acrylonitrile in samples SB16 and SB17, antimony in soil sample TP11A, thallium in samples TP09, TP11A, TP11B, and SB11A, benzo(a)pyrene in sample SB29, ideno(1,2,3-cd)pyrene in samples SB18, SB23, and SB26. Concentrations

of other contaminants exceeding NJDEP's SRS were detected in samples TP09, TP11A, TP11B, SB11A, SB18, SB23, SB26, and SB29.

Recoveries outside of control limits were noted for several sample batches. Probable causes noted were attributed primarily to matrix interference, sample homogeneity, and dilution. The blank spike recoveries for cyanide were noted as outside of the control limit due to possible high bias, but the associated sample was below the detection limit. The laboratory noted that the NJDEP does not offer laboratory accreditation for phenol, which excludes it from regulatory reporting use in New Jersey.

Soil samples SB18 through SB29 collected on November 28, 2008 from AOC 1 (former two 20,000-gallon oil tanks) were noted on the chain-of-custody as requiring TPH analysis by Method OQA-QAM-025. The laboratory mistakenly analyzed the samples for TPH-diesel range organics (DRO) (Method SW846-8015). Soil samples SB09 through SB15 and SB32 through SB39 collected on November 27, 2007 and on November 29, 2007 were correctly analyzed by the laboratory for TPH by Method OQA-QAM-025 within the required holding time.

For informational purposes, the laboratory also analyzed soil samples SB18 through SB29, collected on November 28, 2008, for TPH by Method OQA-QAM-025. The results for SB18 through SB29 by both TPH methods are shown on the attached Table 1. Since soil samples SB18 through SB29 were no longer within the maximum holding time when analyzed by Method OQA-QAM-025, the TPH-DRO results for soil samples SB18 through SB29, not exceeding the maximum holding time, should be relied upon. The TPH-DRO results for samples SB18 through SB29 are discussed under Section 5.1.2.

Despite using Method TPH-DRO instead of OQA-QAM-025 for the samples collected on November 28, 2008, the TPH-DRO results exceeded 10,000 mg/Kg in six of the 11 soil samples analyzed. ENVIROSURE's conclusions and recommendations have not been affected by using Method TPH-DRO to analyze several of the samples.

5.1.2 AOC 1 – Former Two 20,000-Gallon Oil USTs

Sixteen soil samples were collected to investigate AOC 1. Soil samples SB09 through SB29 and SB32 through SB39 were analyzed for TPH. Soil samples SB15, SB18, SB23, and SB26 (25% of the total 16 samples) were also analyzed for PAHs. The TPH concentrations exceeded the NJDEP's Total Organic Contaminant Limit for soil samples SB15, SB18, SB19, SB20, SB22, SB23, and SB26. The TPH concentration (73,300 mg/Kg) was highest in Sample SB15. Concentrations of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenz(a,h)anthracene detected or the reporting limit exceeded the RDCSRS and NRDCSRS in soil samples SB15, SB18, SB23, and SB26. The detection limits of benzo(a)pyrene, dibenzo(a,h)anthracene, and ideno(1,2,3-cd)pyrene in soil sample SB29 exceeded the RDCSRS and/or NRDCSRS. The concentration

of ideno(1,2,3-cd)pyrene detected in soil sample SB15 exceeded the RDCSRS and the detection limits of ideno(1,2,3-cd)pyrene exceeded the both the RDCSRS and NRDCSRS in soil samples SB18, SB23, and SB26. Based on the observation of sheen, elevated PID readings, and elevated concentrations of TPH and PAHs at or immediately above the groundwater table, groundwater on the Site in the vicinity of AOC 1 is suspected to be impacted.

5.1.3 AOC 2 – Former 1,000-Gallon Gasoline UST

Four soil samples (SB01 through SB04) were collected to investigate AOC 2. The samples were analyzed for Target Compound List (TCL) volatile organics plus a forward library search (VO+10) and lead. VOCs and tentatively identified compounds (TICs) were not detected in the samples analyzed. The concentrations of lead detected in samples SB01 through SB04 were below the NJDEP's NRDCSRS and RDCSRS.

5.1.4 AOC 3 – Former 500-Gallon Kerosene UST

Soil samples SB05 through SB08 were collected to investigate AOC 3. Soil samples were analyzed for TCL VO+10 and naphthalene. The concentrations of the parameters analyzed and TICs were not detected by the laboratory.

5.1.5 AOC 4 – Former 15,000-Gallon Oil UST

Eight soil samples (SB32 through SB39) were collected to investigate AOC 4. TPH was detected with concentrations ranging from 0.54 mg/Kg to 22,300 mg/Kg. The concentrations of TPH detected in soil samples SB33, SB35, SB36, SB37, and SB39 exceeded NJDEP's Total Organic Contaminant Limit of 10,000 mg/Kg. The two soil samples (SB33 and SB39) with the highest TPH concentrations were also analyzed for PAHs. The concentrations of benzo(a)pyrene in soil samples SB33 (0.333 J mg/Kg) and SB39 (1.72 mg/Kg), exceeded the NJDEP's NRDCSRS and RDCSRS. The concentrations of benzo(a)anthracene (1.97 mg/Kg) and benzo(b)fluoranthene (0.832 mg/Kg) exceeded the RDCSRS in soil sample SB39.

5.1.6 AOC 5 – Suspected Oil Tank

Soil samples SB16 and SB17 were collected during the investigation of AOC 5. The soil samples collected were analyzed for Priority Pollutant List plus a forward library search (PPL+40). VOCs were either not detected or detected below the RDCSRS and NRDCSRS in soil samples SB16 and SB17. The detection limit of acrolein in soil sample SB17 and acrylonitrile in soil samples SB16 and SB17 were slightly above the RDCSRS. No concentrations of Base/Neutrals (BNs) were detected in soil samples SB16 and SB17. The concentrations of metals in samples SB16 and SB17 were below the NJDEP's NRDCSRS and RDCSRS. Concentrations of TICs identified were reported by the laboratory as system artifacts.

5.1.7 AOC 6 – Former Oil Pump Stand and Tank

The concentrations of TPH in soil samples SB28 and SB29 collected from AOC 6 exceeded the NJDEP's Total Organic Contaminant Limit. Since sample SB29 exhibited the highest TPH concentration (18,300 mg/Kg) of the two samples, it was also analyzed for PAHs. The concentration of benzo(a)anthracene detected in soil sample SB29 exceeded the NJDEP's RDCSRS.

5.1.8 AOC 7 – Former Electrical Transformers

One soil sample (SB27) was collected to characterize soil conditions associated with AOC 7 and analyzed for polychlorinated biphenyls (PCBs). The total concentration of PCBs in soil sample SB27 exceeded the NJDEP's NRDCSRS and RDCSRS.

5.1.9 AOC 8 – Former Four Electrical Transformers

Soil samples SB40 through SB42 were collected to characterize soil conditions associated with AOC 8. PCBs were not detected in soil sample SB41. The total concentration of PCBs in soil sample SB40 was below the NJDEP's NRDCSRS and RDSCRS. The total concentrations of PCBs in soil sample SB42 exceeded the NJDEP's RDCSRS.

5.1.10 AOC 9 – Former Railroad Scale

Two soil samples (SB30 and SB31) were collected to characterize soil conditions associated with AOC 9. Soil samples SB30 and SB31 were analyzed for base neutrals plus a forward library search (BN+15) and Priority Pollutant List (PPL) metals. Concentrations of BN+15 were not detected in soil samples SB30 and SB31. Concentrations of base neutral (BN) TICs were noted by the laboratory as system artifacts. The metals detected in soil samples SB30 and SB31 did not exceed the NJDEP's NRDCSRS and RDCSRS.

5.1.11 AOC 10 – Stormwater Outfall

Three soil samples (TP07 through TP09) were collected to characterize soil conditions associated with AOC 10. Soil samples TP07 through TP09 were analyzed for PPL metals. Concentrations of metals detected in samples TP07 and TP08 were below the NJDEP's NRDCSRS and RDCSRS. The concentration of lead (987 mg/Kg) detected in soil sample TP09 exceeded the NJDEP's NRDCSRS and RDCSRS. Thallium was not detected in soil sample TP09. However, the reporting limit of thallium (5.6 mg/Kg) exceeded the NJDEP's RDCSRS.

5.1.12 AOC 11 – Parcel A Site-Wide Investigation

Six soil samples (TP10A, TP10B, TP11A, TP11B, SB11A, and SB11B) were collected as part of the site-wide investigation of Parcel A. Soil samples TP10A, TP11A, and SB11A were collected within fill material. Soil samples TP10B, TP11B, and SB11B were collected directly below fill material.

The lead concentration (707 mg/Kg) detected in soil sample TP10A, collected within the fill material exceeded the RDCSRS. The concentrations of metals detected in soil sample TP10B, directly below the fill material and below soil sample TP10A, did not exceed the NJDEP's NRDCSRS and RDCSRS.

The concentrations of metals detected in soil sample TP11A, collected within the fill material, that exceeded the RDCSRS are: 3,180 mg/Kg for copper, 39,600 mg/Kg for lead, and 115,000 mg/Kg for zinc. The lead and zinc concentrations in soil sample TP11A also exceeded the NRDCSRS. The concentration of lead (1,940 mg/Kg) collected in soil sample TP11B, directly below the fill material and below soil sample TP11A, exceeded the NJDEP's NRDCSRS and RDCSRS.

The concentrations of antimony (37.3 mg/Kg), lead (30,400 mg/Kg), mercury (85.8 mg/Kg), and zinc (96,000 mg/Kg) exceeded the NJDEP's RDCSRS in soil sample SB11A, collected within the fill material. The concentrations of lead and mercury also exceeded the NJDEP's NRDCSRS. Concentrations of metals were not detected above the NJDEP's NRDCSRS and RDCSRS in soil sample SB11B collected immediately below the fill material in the same boring as sample SB11A.

Additionally, the total chromium concentrations in soil samples TP10A, TP11A, and SB11A exceeded the NJDEP's NRDCSRS and RDCSRS for hexavalent chromium. However, since the samples were analyzed for total chromium, the hexavalent chromium concentrations in these samples are unknown. Although concentrations were not detected, the reporting limits for thallium in soil samples TP11A, TP11B, and SB11A and antimony in soil sample TP11A exceeded the NJDEP's RDCSRS of 5 mg/Kg and 31 mg/Kg, respectively.

5.1.13 AOC 12 – Parcel B Site-Wide Investigation

Six soil samples (TP01 through TP06) were collected as part of a site-wide investigation of Parcel B. The samples were analyzed for PPL metals. The concentrations of metals detected in samples TP02, TP04, TP05, and TP06 were below the NJDEP's NRDCSRS and RDCSRS. The concentration of arsenic (38.8 mg/Kg) detected in soil sample TP03 exceeded the NJDEP's NRDCSRS and RDCSRS of 19 mg/Kg. The total chromium concentrations in soil samples TP01 (22.1 mg/Kg) and TP03 (78.9 mg/Kg) exceeded the NJDEP's NRDCSRS for hexavalent chromium. However, since the samples were analyzed for total chromium, the hexavalent chromium concentrations in these samples are unknown.

5.2 Summary of Overall Nature of Contamination

5.2.1 AOC 1 – Former Two 20,000-Gallon Oil USTs

Signs of oil contamination (e.g., elevated PID readings, oily sheen, and oily odor) were identified in soil borings associated with AOC 1. The laboratory analytical results for samples collected from AOC 1 confirmed the presence of petroleum-

impacted soil; concentrations of TPH exceeded the NJDEP's Total Organic Contaminant Limit and concentrations of PAHs exceeded the NJDEP's NRDCSRS and RDCSRS. Based on field observations and laboratory data, petroleum-impacted soil was also associated with AOC 6 located approximately 40 feet to the southeast and topographically down-gradient of AOC 1. Further investigation is needed to determine whether the contamination identified in AOC 1 and AOC 6 are connected. Based on the observation of sheen, elevated PID readings, and elevated concentrations of TPH at or immediately above the groundwater table, groundwater on the Site is suspected to be impacted in AOC 1.

5.2.2 AOC 2 – Former 1,000-Gallon Gasoline UST

Concentrations of contaminants analyzed in samples collected from AOC 2 were either not detected or detected below the NJDEP's NRDCSRS and RDCSRS. Additionally, no TICs were detected in the four samples analyzed. Based on the laboratory analytical results and observations during field work, additional investigation of AOC 2 does not appear warranted at this time.

5.2.3 AOC 3 – Former 500-Gallon Kerosene UST

Concentrations of contaminants analyzed and TICs in samples collected from AOC 3 were not detected. Based on the laboratory analytical results and observations during field work, additional investigation of AOC 3 does not appear warranted at this time.

5.2.4 AOC 4 – Former 15,000-Gallon Oil UST

Signs of oil contamination (e.g., elevated PID readings, oily sheen, and oily odor) were identified in soil borings associated with AOC 4. The laboratory analytical results for samples collected from AOC 4 confirmed the presence of petroleum-impacted soil; concentrations of TPH exceeded the NJDEP's Total Organic Contaminant Limit and concentrations of PAHs exceeded the NJDEP's NRDCSRS and RDCSRS. The greatest signs of contamination were observed primarily in soil immediately above the groundwater level. Petroleum-impacted soil was also observed immediately above the groundwater level in AOC 1 and AOC 6. AOC 1 and AOC 6 were located to determine whether the contamination discovered in AOC 1, AOC 4, and AOC 6 are connected. Groundwater contamination is suspected based on the presence of petroleum-impacted soil immediately above the groundwater table in AOC 4.

5.2.5 AOC 5 – Suspected Oil Tank

PID readings were consistently zero in the two soil borings (SB16 and SB17) associated with AOC 5. Concentrations of contaminants analyzed were either not detected or detected below the NJDEP's NRDCSRS and RDCSRS.

5.2.6 AOC 6 – Former Oil Pump Stand and Tank

Signs of oil contamination (e.g., elevated PID readings, oily sheen, and oily odor) were identified in soil borings associated with AOC 6. The laboratory analytical results for the two samples collected from AOC 6 confirmed the presence of petroleum-impacted soil; concentrations of TPH exceeded the NJDEP's Total Organic Contaminant Limit and the concentration of benzo(a)anthracene detected in one of the soil samples exceeded the NJDEP's RDCSRS. The greatest signs of contamination were observed primarily in soil immediately above the groundwater level. Groundwater contamination is suspected in AOC 6 based on the presence of petroleum-impacted soil at and immediately above the groundwater level. Petroleum-impacted soil was also observed immediately above the groundwater level in AOC 1, located up-gradient of AOC 6. Further investigation would be needed to determine whether AOC 1 and AOC 6 are connected.

5.2.7 AOC 7 – Former Electrical Transformers

The total concentration of PCBs in the one sample collected adjacent and topographically down-gradient of the concrete pad associated with the former electrical transformers exceeded the NJDEP's NRDCSRS and RDCSRS. The *Technical Requirements for Site Remediation* (NJAC 7:26E) requires one sample per side of a concrete pad adjacent to exposed soil. The NJDEP may require at a later date additional samples to complete the SI of AOC 7.

5.2.8 AOC 8 – Former Four Electrical Transformers

The total concentrations of PCBs in one of the soil samples associated with AOC 8 exceeded the NJDEP's RDCSRS. The laboratory analytical results indicate a likely release from the former electrical transformers.

5.2.9 AOC 9 – Former Railroad Scale

Concentrations of contaminants analyzed did not exceed the NJDEP's NRDCSRS and RDCSRS.

5.2.10 AOC 10 – Stormwater Outfall

The concentration of lead detected in one of the three samples from AOC 10 exceeded the NJDEP's NRDCSRS and RDCSRS. It is possible that the elevated concentration of lead was associated with AOC 10. However, metals were detected in fill material throughout the Site. The elevated concentration of lead exceeding the NJDEP's NRDCSRS and RDCSRS in one of the three samples from AOC 10 is most likely related to elevated concentrations of metals in fill material throughout Parcel A and not specifically related to AOC 10. However, due to the close proximity of AOC 10 to the Assunpink Creek, it is possible that the Assunpink Creek has been impacted by the historical discharge of stormwater from the Site.

5.2.11 AOC 11 – Parcel A Site-Wide Investigation

Lead, zinc, copper, and antimony concentrations detected in fill material during the Parcel A site-wide investigation exceeded the NJDEP's NRDCSRS and/or RDCSRS. The total chromium concentrations detected also exceeded the NJDEP's NRDCSRS and RDCSRS for hexavalent chromium in samples collected within the fill material. However, since the samples were analyzed for total chromium, the actual hexavalent chromium concentrations in these samples are unknown. The concentrations of samples collected immediately below the fill material were either below the NJDEP's NRDCSRS or significantly lower than the associated sample collected within the overlying fill material. The samples collected confirm the presence of elevated concentrations of metals in fill material throughout Parcel A. Concentrations of metals exceeding the NJDEP's NRDCSRS and RDCSRS appear to be primarily limited to the fill material, but may have leached into the uppermost layer of underlying soil.

5.2.12 AOC 12 – Parcel B Site-Wide Investigation

The concentration of arsenic in soil sample TP03 exceeded the NJDEP's NRDCSRS and RDCSRS. Additionally, the total chromium concentrations detected in samples TP01 and TP03 also exceeded the NJDEP's NRDCSRS and RDCSRS for hexavalent chromium. However, since the samples were analyzed for total chromium, the hexavalent chromium concentrations in these samples are unknown. Additionally, the 2000 SI of Parcel B by JMZ identified residual waste material with elevated concentrations of metals exceeding the NJDEP's limits on Parcel B.

5.3 Recommendations

Based on the findings of this SI, ENVIROSURE does not recommend additional investigation of AOC 2 (former 1,000-gallon gasoline UST), AOC 3 (former 500-gallon kerosene UST), AOC 5 (Suspected Oil Tank), and AOC 9 (former railroad scale). ENVIROSURE's recommendations are provided below for each AOC.

5.3.1 AOC 1 – Former Two 20,000-Gallon Oil USTs

ENVIROSURE recommends delineation of the extent of petroleum-impacted soil exceeding the NJDEP's SRS. ENVIROSURE recommends a groundwater investigation of AOC 1 based on field observations and laboratory analytical results showing petroleum-impacted soil at and immediately above the groundwater level. In planning the groundwater investigation and soil contamination delineation work, the location of similar contamination at and immediately above groundwater levels in AOC 4 and AOC 6 should be considered.

5.3.2 AOC 2 – Former 1,000-Gallon Gasoline UST

Based on the laboratory analytical results, ENVIROSURE does not recommend further investigation of AOC 2 at this time.

5.3.3 AOC 3 – Former 500-Gallon Kerosene UST

Based on the laboratory analytical results, ENVIROSURE does not recommend further investigation of AOC 3 at this time.

5.3.4 AOC 4 – Former 15,000-Gallon Oil UST

ENVIROSURE recommends delineation of the extent of petroleum-impacted soil exceeding the NJDEP's SRS. In addition to further investigation of soil contamination, ENVIROSURE recommends a groundwater investigation of AOC 4 based on field observations and laboratory analytical results showing petroleum-impacted soil immediately above the groundwater level. In planning the groundwater investigation and soil contamination delineation work, the location of similar contamination immediately above groundwater levels in AOC 1 and AOC 6 should be considered.

As shown on Plate 3A, a former 20,000-gallon oil UST was located in close proximity and up-gradient of the former 15,000-gallon oil UST. This 20,000-gallon oil UST was noted on a 1927 Sanborn of the Site. A soil boring investigation of this 20,000-gallon oil UST was not included in ENVIROSURE's scope of services. ENVIROSURE recommends the advancement of soil borings in the area of this 20,000-gallon oil UST during the delineation of soil contamination surrounding AOC 4.

5.3.5 AOC 5 – Suspected Oil Tank

Based on the laboratory analytical results, ENVIROSURE does not recommend further investigation of AOC 5 at this time.

5.3.6 AOC 6 – Former Oil Pump Stand and Tank

ENVIROSURE recommends delineation of the extent of petroleum-impacted soil exceeding the NJDEP's SRS. In addition to further investigation of soil contamination, ENVIROSURE recommends a groundwater investigation of AOC 6 based on field observations and laboratory analytical results showing petroleum-impacted soil at and immediately above the groundwater level. In planning the groundwater investigation and soil contamination delineation work, the location of similar contamination immediately above groundwater levels in AOC 1 and AOC 4 should be considered.

5.3.7 AOC 7 – Former Electrical Transformers

ENVIROSURE recommends delineation of the extent of PCBs exceeding the NJDEP's SRS in AOC 7. During the delineation of contamination, at least one sample should be collected on the three sides of the concrete pad not sampled during this SI.

5.3.8 AOC 8 – Former Four Electrical Transformers

Based on the laboratory analytical results, ENVIROSURE recommends delineation of the extent of elevated PCB concentrations exceeding NJDEP's RDCSRS.

5.3.9 AOC 9 – Former Railroad Scale

Based on the laboratory analytical results, ENVIROSURE does not recommend further investigation of AOC 9 at this time.

5.3.10 AOC 10 – Stormwater Outfall

The elevated concentration of lead exceeding the NJDEP's NRDCSRS and RDCSRS in one of the three samples from AOC 10 is most likely associated with the Parcel A site-wide elevated metals concentrations in fill material (AOC 11). ENVIROSURE's recommendations under AOC 11 apply to the elevated concentration of lead detected in AOC 10, as well. However, the Client should consider the close proximity of historical fill material on the Site in relation to the Assunpink Creek and further evaluate whether elevated concentrations of metals
in fill material have migrated down-gradient of the Site due to the down-gradient discharge of stormwater from the Site.

5.3.11 AOC 11 – Parcel A Site-Wide Investigation

The investigation of AOC 11 confirmed the presence of elevated concentrations of metals in fill material throughout Parcel A. ENVIROSURE recommends capping the elevated concentrations of metals during Site development. Upon completion of a redevelopment plan for the Site, a deed notice should be prepared for Parcel A.

5.3.12 AOC 12 – Parcel B Site-Wide Investigation

The investigation of AOC 12 confirmed the presence of elevated concentrations of metals in fill material in Parcel B. Additionally, the 2000 SI of Parcel B by JMZ identified residual waste material with elevated concentrations of metals exceeding the NJDEP's RDCSRS on Parcel B. ENVIROSURE recommends capping the elevated concentrations of metals during Site development. Upon completion of a redevelopment plan for the Site, a deed notice should be prepared for Parcel B.

6.0 **REFERENCES**

- Ransom Environmental. (September 7, 2006). Phase I Environmental Site Assessment, Former Federated Metals Facility, 300 & 301 Enterprise Avenue, Block 23102, Lot 9; Block 23101, Lot 3; Block 23004, Lot 3, Trenton, Mercer County, New Jersey.
- NJDEP. (Last amended June 2, 2008). *Technical Requirements for Site Remediation* (NJAC 7:26E).
- Owens, J.P., Sugarman, P.J., Sohl, N.F., Parker, R.A., Houghton, H.F., Volkert, R.A., Drake, A.A., Jr., and Orndorff, R.C. (1998). *Bedrock geologic map of central and southern New Jersey:* U.S. Geological Survey, Miscellaneous Investigations Series Map I-2540-B, scale 1:100,000.
- USGS 7.5-minute topographical maps through use of DeLorme 3-D TopoQuads[®].
- U.S. Department of Agriculture, Soil Conservation Service. Web Soil Survey 2.0 of the Site retrieved on April 9, 2008, from the World Wide Web: <u>http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx</u>.

EnviroSure, Inc.

PLATES





VACANT PROPERTY OWNED BY THE CITY OF TRENTON (356 ENTERPRISE AVE.)

TRENTON IRON & METAL (301 ENTERPRISE AVE.)

GRAPHIC SCALE

30 60 (IN FEET) 1 inch = 30 ft.

EnviroSure Inc, Quality, Integrity, Reliability, P. O. Box 731, West Chester, PA	PLATE 2A - SITE FEATURES PLAN PARCEL A FORMER FEDERATED METALS					
19381-0731	ENIERFRISE AVENUE					
APPROVED BY S. SMITH, P.E.	IKENILIN, NEW	JEKSEY				
DRAWN BY MAW	SCALE DATE	DRAWING NO.				
project no. 10043	(SEE BAR SCALE) 3/23/08	10043-2A				



LEGEND	
-00	OLDER SECTION OF METAL FENCE
-00	NEWER SECTION OF METAL FENCE
+++++++++++-	RAILROAD TRACKS
· · · · · · · · · · · · · · · · · · ·	OVERGROWN VEGETATION
	OVERHEAD TELEPHONE AND ELECTRIC WIRES
	CONCRETE PAD
	CONCRETE SLAB ENCOUNTERED AT APPROXIMATELY 11-FT BGS





NOTE:

-

Approximate location of historical site features based on Parcel A Facility Map from September 7, 2006 Ransom Environmental Phase I ESA Report and observations during November 2007 field work.

KNOWN OIL UST (AOC 5)				
FURNACES / CONDENSERS / HOPPERS DISTILLERS & 2	DRMERS (AOC 8) 15,000-GALLON OIL UST	ST (AOC 4)		
DROSS STORAGE	DUST PACKING & STORAGE			
AR MA	EA-WIDE FILL TERIAL (AOC 11)	SHOP AREA		
GALLON OIL USTS (AOC 1)	(AOC 9) AILROAD SCALE ++++++ 500-GALLON KE OFFICE / STORAGE	Image: Construction of the second state of the second s	++++++++++++++++++++++++++++++++++++++	
+++++++++++++++++++++++++++++++++++++++			+++++++++++++++++++++++++++++++++++++++	++++++++++++ <u>+++++++++++++++++++++++++</u>

FORMER FEDERATED ME	ΞT
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GRAPHIC	SCALE



	TITLE				
EnviroSure Inc.	PLATE 3A - HISTORICAL	FEATURES MAP			
Quality, Integrity, Reliability,	PARCEL A	ì			
, ₍ , , , , , , , , , , , , , , , , , , ,	FORMER FEDERATED METALS				
P. O. Box 731, West Chester, PA 19381-0731	ENTERPRISE AVENUE				
APPROVED BY S. SMITH, P.E.	IRENIUN, NEW	JERSEY			
DRAWN BY MAW		NRAWING ND.			
project no. 10043	(SEE BAR SCALE) 3/23/08	10043-3A			



LEGEND



RAILROAD TRACKS

METAL FENCE

OVERHEAD TELEPHONE AND ELECTRIC WIRES



TALS (PARCEL B)



VACANT PROPERTY OWNED BY THE CITY OF TRENTON (356 ENTERPRISE AVE.)





EnviroSure Quality. Integrity. P. O. Box 731, West Che 19381-0731 APPROVED BY S. SMJ DRAWN BY MAW PROJECT NO. 1004(



LEGEND

-00	OLDER SECTION OF METAL FENCE
-00	NEWER SECTION OF METAL FENCE
+++++++++++++++++++++++++++++++++++++++	RAILROAD TRACKS
* * * * * * * * * * * * * * * * * * *	OVERGROWN VEGETATION
	OVERHEAD TELEPHONE AND ELECTRIC WIRES
	CONCRETE PAD
TP02	TEST PIT LOCATION
SB40	SOIL BORING LOCATION
\bigotimes	AREA OF ANOMALY INVESTIGATED DURING TEST PIT INVESTIGATION
[]]	METAL SHEET (APPROXIMATELY 1/4-INCH THICK)

'+++

	TITLE		
> Inc	PLATE 4	A – SAMPLE L	CATION PLAN
Reliability.		PARCEL A	\mathbf{h}
-	F DRM	ER FEDERATE	ID METALS
ester, PA	E	NTERPRISE A	VENUE
		FNITON NEV/	IFRSFY
IIIH, P.E.			
	SCALE	ΠΑΤΕ	
3	(SEE BAR SCALE)	3/23/08	10043-4A



BY THE CITY OF TRENTON (356 ENTERPRISE AVE.)

AOC #	10	11	11	11	11	1	5	5	1	1	1	1	1	1	7	6	4
Sample	TP09	TP10A	TP11A	TP11B	SB11A	SB15	SB16	SB17	SB18	SB19	SB20	SB22	SB23	SB26	SB27	SB29	SB33
Depth (ft bgs)	0.5-1	0-0.5	1-1.5	6-6.5	0.5-1	9.5-10	9-905	10-10.5	10.5-11	11-11.5	8.5-9	11-11.5	9-9.5	9-9.5	1-1.5	9.5-10	10.5-11
TPH		and the second	and the she do to			73300			22000	12900	13100	14400	38400	28000			22300
Benzo(a)anthracene						8.43			17.8				18.4	6.7		0.762 J	
Benzo(a)pyrene						6.36			10.6				11.7	6.17		0.550 U	0.333 J
Benzo(b)fluoranthene						3.07			6.63				6.56	3.10 J			
Dibenz(a,h)anthracene	,					1.42 J			0.700 U				0.680 U	0.680 U		0.290 U	
Ideno(1,2,3-cd)pyrene						1.00 J			2.50 U				2.50 U	2.50 U		1.00 U	
Acrylonitrile						1.10 U											
Acrolein								0.510 U									
Antimony			60 U		37.3		1.10 U	1.10 U									
Chromium		321	22.3		22.2												
Copper	ad an inclusion	1	3180														
Lead	987	707	39600	1940	30400												
Mercury	THE REPORT OF		The second second		85.8												
Thallium	5.6 U		6.0 U	5.6 U	11 U												
Zinc	1. 19-1-1		115000		96000												
PCBs (total)			P DE MARY												1.07		
Notes																	
1	1 Results above NJDEP's Residential Direct Contact Soil Remediation Standard (RDCSRS) are italicized					cized											
2	Results above NJDEP's Non-Residential Direct Contact Soil Remediation Standard (NRDCSRS) are bold							are bold									
3	Units in mg/Kg																
4	U - Not detected at the associated value																
5	J - Estim	ated resul	t														
6	ft bgs - fe	et below	ground su	rface													

LEGEND

-0-----0------

 $-\Delta$

ТР02

sB40

OLDER SECTION OF METAL FENCE _0____

NEWER SECTION OF METAL FENCE

++++++++++++-RAILROAD TRACKS

OVERGROWN VEGETATION

> OVERHEAD TELEPHONE AND ELECTRIC WIRES

CONCRETE PAD

TEST PIT LOCATION

SOIL BORING LOCATION (BOLD - EXCEED'S NJDEP'S RDCSRS AND/OR NRDCSRS)





Enviros Quality. Int P. O. Box 731, 193	SUME egrity, f West Che 81-0731
APPROVED BY	S, SM
DRAWN BY	MAW
PROJECT NO.	10043



Sample	TP01	TP03
Depth (ft bgs)	3.5-4	0.5-1
Arsenic		38.8
Total Chromium	22.1	78.9
Zinc	6140	

Notes

- 1 Results above NJDEP's Non-Residential Soil Cleanup Criteria are depicted
- 2 Units in mg/Kg
- 3 U Not detected at the associated value
- 4 J Estimated result

HHHHHHHH

- 5 Total chromium results exceed NJDEP's hexavalent chromium NRDCSCC
- 6 ft bgs Feet below ground surface

THICKLY WOODED

SALVATION ARMY (103 ENTERPRISE AVENUE)

DITCH



EnviroSure, Inc.

APPENDIX A

SITE MAP FROM SEPTEMBER 7, 2006 PHASE I ESA REPORT



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EnviroSure, Inc.

APPENDIX B

PARCEL A AND PARCEL B FACILITY MAPS FROM SEPTEMBER 7, 2006 PHASE I ESA REPORT





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APPENDIX C

SOIL BORING AND TEST PIT LOGS

Log of Borehole: SB01

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/27/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0-	80026	Ground Surface		
1		Fill - Gravel/Asphalt		0
2		Reddish Yellow (7.5YR 6/6) Silty Fine SAND		ė.
3				0
5	2 00	014577		
6		QUARTZ	SB01	1
7-		Brown (7.5YR 4/4) Silty Coarse SAND		0
9				
10				
11				
12-				
14-				
15-				
16-				
1/-				
19-				
20-				
21-				
23-				
24				
25-				
27-				
28-				
				0.5
			EnviroSure,	Inc.

142 W. Market Street West Chester, PA 19382

Project: Federated Metals Site Investigation

Log of Borehole: SB02

Client: City of Trenton

Drill Date: 11/27/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0-	20029	Ground Surface	_	
1	000	Fill - Gravel/Asphalt		0
2	5 - 25	Brownish Yellow (10YR 6/6) Silty Medium SAND	1	
4		Very Dark Gray (7.5YR 3/1) Silty Fine SAND	//	
6		Quartz	SB02	•
7		Strong Brown (7.5YR 5/6) Silty Fine SAND		0
9-		Strong Brown (7.5YR 5/6) Silty Fine SAND w/ Gravel	//	
11-		Strong Brown (7.5YR 5/6) Silty Coarse SAND	/	
12				
13-				
15-				
16-				
18				
19-				
20-				Î
22-				-
23-				
24-				
26-				
27-				
20-				

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB03 Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/27/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

SUBSURFACE PROFILE			SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
1-	2000	Gravel/Asphalt		
2		Brownish Yellow (10YR 6/6) Silty Medium SAND	1	0 é
4 5		Very Dark Gray (7.5YR 3/1) Silty Fine SAND	/	0 ¢
6		Strong Brown (7.5YR 5/6) Silty Fine SAND	SB03	0 + -
8		Strong Brown (7.5YR 5/6) Silty Fine SAND w/ Gravel	1	o e
9-		Strong Brown (7.5YR 5/6) Silty Coarse SAND		
11- 12-				
13- 14-				
15- 16-				_
17- 18-				
19- 20-				
21- 22-				
23- 24-				
25- 26-				
27-				
				1

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB04

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/27/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

	SUBSURFACE PROFILE			
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
1-	0000	Fill - Gravel/Asphalt		
2		Brownish Yellow (10YR 6/6) Silty Medium SAND	A	0
4		Very Dark Gray (7.5YR 3/1) Silty Fine SAND		0
6		Strong Brown (7.5YR 5/6) Silty Fine SAND	SB04	0
8		Strong Brown (7.5YR 5/6) Silty Fine SAND w/ Gravel	\bigwedge	0
9-		Strong Brown (7.5YR 5/6) Silty Coarse SAND		
11-				
12-				
13-				
15-				
16-				
1/-				
19-				
20-				
21-				
23-				
24-				
25-				
27-				
28-	1			

Project: Federated Metals Site Investigation

Log of Borehole: SB05

Client: City of Trenton

Drill Date: 11/27/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
1	2000	Fill - Gravel/Asphalt		
2		Brownish Yellow (10YR 6/6) Silty Medium SAND	1	0 ¢
4		Very Dark Gray (7.5YR 3/1) Silty Fine SAND	/	0
6		Strong Brown (7.5YR 5/6) Silty Fine SAND	SB05	
7-		Strong Brown (7.5YR 5/6) Silty Fine SAND w/ Gravel	1	0
9-		Strong Brown (7.5YR 5/6) Silty Coarse SAND		
10-				1
12-				
13-				
14-				
15-				
17-				
18-				
20-				
21-				
22-				
23-				
25-				
26-				
27-				
-	1			1

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB06

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/27/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
	0000	Fill - Gravel		
2	0000			0
2		Fill - Cinder		
1		Strong Brown (7 5YR 5/6) Silty Fine SAND		0
5-				
6-			SB06	0 -+
7-		Strong Brown (7.5YR 5/6) Silty Coarse SAND w/ Gravel	0000	T
8				¢.
9-				
10-				
11				
12-				
13-				
14-				
15-				
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19-				
20-				
21-				
22				
24				
25-				
26-				
27-				
28-				
	1			1

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB07

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/27/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

SUBSURFACE PROFILE			SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
1	0000	Fill - Gravel and Cinder		0
2	2000	Fill - Strong Brown (7.5YR 5/6) Silty Fine SAND		Ê.
4		Fill - Gravel and Cinder	λ	e
6		Strong Brown (7.5YR 5/6) Silty Fine SAND	SB07	_0
7-		Strong Brown (7.5YR 5/6) Silty Medium SAND		0
9-		Strong Brown (7.5YR 5/6) Silty Coarse SAND w/ Gravel		
11-				
13-				
14- 15-				
16- 17-				
18-				
20-				
21- 22-				
23- 24-				
25-				
20-				
28-	1			

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Project: Federated Metals Site Investigation

Client: City of Trenton

Log of Borehole: SB08

Drill Date: 11/27/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

SUBSURFACE PROFILE			
Depth Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 21 10 11 12 13 14 15 16 17 18 19 20 20 20 20 20 20 20 20 20 20	Ground Surface Fill - Gravel and Cinder Fill - Wood Strong Brown (7.5YR 5/6) Silty Medium SAND Strong Brown (7.5YR 5/6) Silty Coarse SAND w/ Gravel	SB08	

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB09

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/27/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0-	2000	Ground Surface		
1-2-		Fill - Yellow (2 5Y 8/8) Medium SAND w/ Trace Silt		0
3-				0
5-			_	0 ¢
7-		Fill - Yellow (2.5Y 8/8) Medium SAND w/ Trace Silt (Wet)		0 †
9-				
11-		Fill - Brown (10YR 4/3) Silty Coarse SAND w/ Gravel (Wet)	SB09	_
12-		Concrete	1	
14-				
16-				
17-				
19- 20-				
21-				
23-	111111			
24-	and the second sec			
26- 27-	IIIII			
28				

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB10

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/27/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 23 24 25 26 27 23 24 25 26 27 23 24 25 26 27 28 27 28	9710 ¹⁰	Ground Surface Fill - Gravel and Cinder Fill - Yellow (2.5YR 8/8) Medium SAND w/ Trace Silt Fill - Yellow (2.5YR 8/8) Medium SAND w/ Trace Silt (Wet) Concrete	SB10	
		E/ 14 W	nviroSure, l 12 W. Marke 'est Cheste	nc. et Street r, PA 19382

Log of Borehole: SB11

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/27/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

SUBSURFACE PROFILE			SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800
0	2000	Ground Surface Fill - Gravel and Cinder	CD11 A	
1			SBITA	0
3		Fill- Dark Brown (7.5YR 3/2) Silty Medium SAND w/ Gravel	SB11 B	
4		Strong Brown (7.5YR 5/8) Silty Fine SAND		é
6		Strong Brown (7.5YR 5/8) Medium SAND		0 †
7		Brown (10YR 5/3) Silty Coarse SAND w/ Gravel		0
9				
10-			SB11	-
12		Brown (10YR 5/3) Silty Coarse SAND w/ Gravel (Wet)	-	
13-				
14				
16-				
1/-				
19-				
20-				1
22				
23-				
25-				
26-				
28-				

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB12

Project: Federated Metals Site Investigation

Client: City of Trenton

Location: Enterprise Avenue

Drill Date: 11/27/07

Technician: Scott Smith, P.E.

	SUBSURFACE PROFILE			
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
-		Ground Surface		
0 III	9000°	Fill - Cinder		
				0
2 3 4 5		Fill- Yellow (2.5YR 8/8) Medium SAND w/ Trace Silt		0
6-		Fill- Yellow (2 5YR 8/8) Medium SAND w/ Trace Silt (Wet)		†
7-				0
8-				ė.
9-				10
10-			SB12	
11-		Fill: Brown (10YR 4/3) Silty Coarse SAND w/ Gravel (vvet)		7
12-	///	Conservation		0 +
12		Concrete		
14				
14-				
10-				
10-				
1/-				
18-				
19-				
20-				
21-				
22-				
23-				
24-				
25-				
26-				
27-				
28-	TT			
	1			

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB13

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/27/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

	SUBSURFACE PROFILE			
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0 - 1 1 - 1 2 - 1 3 - 1 4 - 1 5 - 1 10 - 1 12 - 1 13 - 1 14 - 1 15 - 1 16 - 1 17 - 1 18 - 1 19 - 20 - 2 21 - 2 22 - 2 24 - 25 - 26 - 27 - 28 27 - 28 - 28 - 28 - 28 - 28 - 28 - 28 -	2005	Ground Surface Fill - Cinder Fill- Yellow (2.5YR 8/8) Medium SAND w/ Trace Silt Fill- Yellow (2.5YR 8/8) Medium SAND w/ Trace Silt (Wet) Fill: Brown (10YR 4/3) Silty Coarse SAND w/ Gravel (Wet) Concrete	SB13	
		E	nviroSure, 12 W Marke	Inc. et Street

142 W. Market Street West Chester, PA 19382

Log of Borehole: SB14

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/27/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

SUBSURFACE PROFILE			SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1
0-	20020	Ground Surface		
1		Fill - Cinder	1	0
2-		Fill- Yellow (2.5YR 8/8) Medium SAND w/ Trace Silt		
3-				0
4-				
6		Fill Vellow (2.5XR 8/8) Medium SAND w/ Trace Silt (Wet)		e l
7-				0
8-				0
10-			_	
11-		Fill: Brown (10YR 4/3) Silty Coarse SAND w/ Gravel (Wet)	SB14	0
12-	22	Concrete		¢ 0
13-				Ť
14-				
16-				
17-				
18-				
19-				
21-				
22-				
23-				
24-				
26-				
27-	1111			
28-	Ē			

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB15

Project: Federated Metals Site Investigation

Client: City of Trenton

Location: Enterprise Avenue

Drill Date: 11/27/07

Technician: Scott Smith, P.E.

SUBSURFACE PROFILE			
Depth Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1
0	Ground Surface		
1	Fill - Gravel and Cinder		0
2	Fill- Yellow (2.5YR 8/8) Medium SAND w/ Trace Silt	1	¢
4 5 6 7 7 8	Brownish Yellow (10YR 6/6) Silty Medium SAND w/ Gravel		2
9 10 11	Brownish Yellow (10YR 6/6) Silty Medium SAND w/ Gravel (Wet; Oily Sheen and Odor)	SB15	
12 13 14	Pale Brown (10YR 6/3) Silty Medium SAND w/ Gravel (Wet; Oily Sheen and Odor)		30 • 10 5
15 16 17 18 19 20 21 22 23 24 25 26 27 28	Pale Brown (10YR 6/3) Silty Medium SAND w/ Gravel (Wet)		5

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Project: Federated Metals Site Investigation

Log of Borehole: SB16

Client: City of Trenton

Drill Date: 11/28/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

SUBSURFACE PROFILE			SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
	0000	Fill - Gravel and Cinder		0
				0
2 3 4		Fill - Greenish Black (GLEY 1 10GY) Sandy SILT w/ Cinder		0
5		Fill - Pink (7.5YR 7/4) Silty CLAY w/ Gravel		0
8		Strong Brown (7.5YR 5/6) Sandy SILT	0040	0
10 11 12		Strong Brown (7.5YR 5/6) Sandy SILT (Wet)	3010	0
13 14 15				
16				-
17				
18-				
19-				
20-				
21-				
22-				
20-				
25-				
26-				
27-				
28-				

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB17

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/28/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

SUBSURFACE PROFILE			SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1
0		Ground Surface		
Ulin	2000	Fill - Gravel and Cinder		0
Tur				0
2 3 4 5 6 7 8		Fill - Greenish Black (GLEY 1 10GY) Sandy SILT w/ Cinder		0
9		SHALE		•
10-			SB17	
11		Strong Brown (7.5YR 5/6) Sandy SILT		*
12-				
13-		Strong Brown (7.51R 5/6) Sandy SILT (Wet)		*
13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28		Strong Brown (7.5YR 5/6) Silty Coarse SAND w/ Gravel (Wet)		

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Project: Federated Metals Site Investigation

Log of Borehole: SB18

Client: City of Trenton

Drill Date: 11/28/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

SUBSURFACE PROFILE			SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
	2000	Fill - Gravel and Cinder		0
1-			1	0
2-1		Fill - Yellow (2.5YR 8/8) Medium SAND w/ Trace Silt	1	
4		Brownish Yellow (10YR 6/6) Silty Medium SAND w/ Gravel		0
5				ř
6-				0
7-				Ť
8				
9-			-	1
10-		Pale Brown (10YR 6/3) Silty Medium SAND W/ Gravel (Olly Odor and Sheen)		
11-			SB18	130
12-		Pale Brown (10YR 6/3) Silty Medium SAND w/ Gravel (Wet)		30
13-				20
14-				10
15-				5
16-				1
17-				
18-				
19-				
20-				
21-				
22-				
23-				
24-				
25-				
26-				
27-				
28				
20-				

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382
Project: Federated Metals Site Investigation

Log of Borehole: SB19

Client: City of Trenton

Drill Date: 11/28/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
1	<u> 2007</u>	Fill - Cinder		0
2		ETH MUH (0.5MD 0/0) Multime CAND of Trees City		0
4 111		Fill - Yellow (2.5YR 8/8) Medium SAND W/ Trace Silt		
4				
5				0
6-		Fill - Yellow (2.5YR 8/8) Medium SAND w/ Trace Silt (Wet)		
7				0
8-				0
9				10
10-		Prover (40VP 4/2) Silty Coorce SAND w/ Crovel (Mot)		
11-		Brown (101R 4/3) Silly Coarse SAND W/ Gravel (Wet)	SB19	•
12-	12	Concrete		
13-				
14-				
15-				
16-				
17-				
18-				
19-				
20-				
21-				
22-				
20				
25-				
26-				
27-				
28-				

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB20

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/28/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
1		Fill - Cinder and Gravel		0
2				0
4		Fill - Yellow (2.5Y 8/8) Medium SAND w/ Trace Silt		
5				0
6				
7		Brownish Yellow (10YR 6/6) Silty Medium SAND w/ Gravel		0
8				
g		Reddish Black (10R 2.5/1) Silty Medium SAND w/ Gravel	SB20	15
10-		(Stained)	1	20
11-		Reddish Black (10R 2.5/1) Silty Medium SAND w/ Gravel		
12-		(Wet)		10
13-				8
14-				5
15-				3
16-				
17-				
18-				
19-				
20-				
21-				
22-				
23-				
24-				
25-				
26-				
27				
28-				

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB21

Project: Federated Metals Site Investigation

Client: City of Trenton

Technician: Scott Smith, P.E.

Drill Date: 11/28/07

Location: Enterprise Avenue

	SUBSURFACE PROFILE			
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
1-	0000	Fill - Cinder and Gravel		•
2		Fill - Yellow (2.5Y 8/8) Medium SAND w/ Trace Silt		
5		Fill - Yellow (2.5Y 8/8) Medium SAND w/ Trace Silt (Wet)		0
7-8-		Fill - Light Brownish Gray (10YR 6/2) Coarse SAND w/ Trace Silt	SB21	0
10-				-0. ¢
11- 12- 13-		Refusal - Metal Object		0 ¢
14- 15-				
16- 17-				
18- 19-				
20-21-				
22-				
25-				
20-				

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Project: Federated Metals Site Investigation

Log of Borehole: SB22

Client: City of Trenton

Drill Date: 11/28/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

	SUBSURFACE PROFILE			
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0 1	97009	Fill - Cinder and Gravel		0
2 3 4 5 6		Fill - Yellow (2.5YR 8/8) Medium SAND w/ Trace Silt		0
7 8 9 10		Brown (10YR 4/3) Silty Coarse SAND w/ Gravel (Oily Sheen and Odor)		10 20 40
11-			SB22	-30
12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28		Concrete		

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB23

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/28/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

gag Description gag VOCs (PID Field Readings) ppm 20 400 600 800 0 Ground Surface 21 400 60 800 800 12 Fill - Cinder and Gravel Fill - Cinder and Gravel 0 Fill - Yellow (2.5Y 8/8) Medium SAND w/ Trace Silt 0 0 Brownish Yellow (10YR 6/6) Silty Medium SAND w/ Gravel 0 0 Yellowish Red (5YR 5/6) Silty Fine SAND 0 0 Dark Brown (7.5YR 3/2) Silty Medium SAND w/ Gravel 0 0 Silty Coarse SAND (Saturated w/ Oil and Stained) 5823 0 Silty Coarse SAND (Wet; Oily Sheen and Odor) 0 0 11 Silty Coarse SAND 0 12 14 14 14 13 14 14 14 14 15 14 14 15 14 14 14 16 14 14 14 17 14 14 14 18 14 14 14 19 14 14 14 10 14 14 14 10 14 14 14 11 14 14 14 12 14 14 14 14 <th></th> <th colspan="3">SUBSURFACE PROFILE</th> <th></th>		SUBSURFACE PROFILE			
O Ciround Surface Pill - Yellow (2.5Y 8/8) Medium SAND w/ Trace Silt Brownish Yellow (10YR 6/6) Silty Medium SAND w/ Gravel Yellowish Red (5YR 5/6) Silty Fine SAND Dark Brown (7.5YR 3/2) Silty Medium SAND w/ Gravel Silty Coarse SAND (Saturated w/ Oil and Stained) Silty Coarse SAND (Wet; Oily Sheen and Odor) Silty Coarse SAND Silty Coarse SAND	Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
Fill - Cinder and Gravel Fill - Yellow (2.5Y 8/8) Medium SAND w/ Trace Silt Brownish Yellow (10YR 6/6) Silty Medium SAND w/ Gravel Yellowish Red (5YR 5/6) Silty Fine SAND Dark Brown (7.5YR 3/2) Silty Medium SAND w/ Gravel Silty Coarse SAND (Saturated w/ Oil and Stained) Silty Coarse SAND (Wet: Oily Sheen and Odor) Silty Coarse SAND Silty Coarse SAND Silty Coarse SAND	0-		Ground Surface	1	
Fill - Yellow (2.5Y 8/8) Medium SAND w/ Trace Silt Brownish Yellow (10YR 6/6) Silty Medium SAND w/ Gravel Yellowish Red (5YR 5/6) Silty Fine SAND Dark Brown (7.5YR 3/2) Silty Medium SAND w/ Gravel Silty Coarse SAND (Saturated w/ Oil and Stained) Silty Coarse SAND (Wet; Oily Sheen and Odor) Silty Coarse SAND (Wet; Oily Sheen and Odor) Silty Coarse SAND	1	2000	Fill - Cinder and Gravel		0
Brownish Yellow (10YR 6/6) Silty Medium SAND w/ Gravel Yellowish Red (5YR 5/6) Silty Fine SAND Dark Brown (7.5YR 3/2) Silty Medium SAND w/ Gravel Silty Coarse SAND (Saturated w/ Oil and Stained) Silty Coarse SAND (Wet; Oily Sheen and Odor) Silty Coarse SAND (Wet; Oily Sheen and Odor) Silty Coarse SAND	2		Fill - Yellow (2.5Y 8/8) Medium SAND w/ Trace Silt		0 ė
Yellowish Red (5YR 5/6) Silty Fine SAND Dark Brown (7.5YR 3/2) Silty Medium SAND w/ Gravel Silty Coarse SAND (Saturated w/ Oil and Stained) Silty Coarse SAND (Wet; Oily Sheen and Odor) Silty Coarse SAND Silty Coarse SAND Silty Coarse SAND	4		Brownish Yellow (10YR 6/6) Silty Medium SAND w/ Gravel		0
7 Dark Brown (7.5YR 3/2) Silty Medium SAND w/ Gravel 0 9 Silty Coarse SAND (Saturated w/ Oil and Stained) SB23 10 Silty Coarse SAND (Wet: Oily Sheen and Odor) 3 12 Silty Coarse SAND 0 13 Silty Coarse SAND 0 14 Silty Coarse SAND 0 15 Silty Coarse SAND 0 16 0 0 17 18 0 19 20 1 21 22 23 24 25 26 27 28 1	6		Yellowish Red (5YR 5/6) Silty Fine SAND		0
9 Silty Coarse SAND (Saturated w/ Oil and Stained) SB23 11 Silty Coarse SAND (Wet; Oily Sheen and Odor) 12 13 Silty Coarse SAND 0 14 Silty Coarse SAND 0 15 Silty Coarse SAND 0 16 17 18 19 20 11 21 22 23 24 25 26 27 28 1	8		Dark Brown (7.5YR 3/2) Silty Medium SAND w/ Gravel		0 5
11 Silty Coarse SAND (Wet; Oily Sheen and Odor) 12 13 14 15 16 17 18 19 20 21 21 22 23 24 25 26 27 28	9- 10-		Silty Coarse SAND (Saturated w/ Oil and Stained)	SB23	+4 +3
14 Silty Coarse SAND 15 0 16 0 17 18 19 0 20 0 21 0 22 0 23 0 24 0 25 0 26 0 27 0 28 0	11- 12- 13-		Silty Coarse SAND (Wet; Oily Sheen and Odor)		2 4 1
17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- 28-	14- 15-		Silty Coarse SAND		¢ 0
19 19 20 21 22 23 24 25 26 27 28	17-				
20 21 22 23 24 25 26 27 28	19-				
22 23 24 25 26 27 28	21-				
23 24 25 26 27 28	22-				
24 25 26 27 27 28	23-				
25-1 26-1 27-1 28-1	24				
26- 27- 28-	25-				
27-1228-1228-1228-1228-1228-1228-1228-12	26-				
	27-				

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB24

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/28/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
	0000	Fill - Cinder and Gravel		0
- 11				0
2 2		Fill - Yellow (2.5YR 8/8) Medium SAND w/ Trace Silt		
Shin				
4 1				0
6				
7		Fill - Yellow (2.5YR 8/8) Medium SAND w/ Trace Silt (Wet)		0
8-				0 ¢
9-		Pink (7.5YR 8/4) SILT w/ Trace Clay (Wet)	SB24	2
10-		Prover (7 EVP E/2) Copress SAND w/ Trace Silt (Met)	0024	6 ¢
11-		Brown (1.51R 5/2) Coarse SAND w/ Trace Sin (Wer)		4
12-	1	Concrete		
13-				
14-				
15-				
16-				
17-				
18-				
19-				
20-				
21-				
22-				-
23-				
24-				
25-				
26-				
27-				
28-	111			
-	-		1	-

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB25

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/28/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
	2000	Fill - Cinder		0
111				0
27		Fill - Yellow (2.5YR 8/8) Medium SAND w/ Trace Silt		1
3-				
4				
5-				+
6				2
7		Fill - Yellow (2.5YR 8/8) Medium SAND w/ Trace Silt (Wet)		10
0				30
0		Fill - Yellow (2.5YR 8/8) Medium SAND w/ Trace Silt (Wet;	SB25	-15
91		Slight Oily Odor)		10
10-				ſ
11-	1	Fill - Brown (10YR 4/3) Silty Coarse SAND w/ Gravel (Wet)		
12=				+
13-		Concrete		
14 -				
15-				
16-				
17-				
10				
10				
19				
20-				
21-				
22-				
23-				
24-				
25-				
26-				
27				
20				
20-				

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB26

Project: Federated Metals Site Investigation

Client: City of Trenton

Location: Enterprise Avenue

Drill Date: 11/28/07

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
1	2000	Fill - Cinder and Gravel		0
2-		Yellow (2.5YR 8/8) Medium SAND w/ Trace Silt		
4-		Brownish Yellow (10YR 6/6) Silty Medium SAND w/ Gravel		0
6- 7- 8-		Brown (7.5YR 5/2) Silty Medium SAND w/ Gravel		¢ 0 ¢
9- 10- 11-		Brown (7.5YR 5/2) Silty Medium SAND w/ Gravel (Oily Odor and Stained)	SB26	10 10 8
12- 13-		Brown (7.5YR 5/2) Silty Medium SAND w/ Gravel (Oily Odor and Stained; Wet)		0 11 4 4 4 4
15- 16-		GRAVEL w/ Coarse Sand		0
17- 18-				-
20-				
22-				
23-				
25-	IIIIII			
27- 28-	11111			

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB27

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/28/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
11	0000	Fill - Cinder and Gravel	CP07	0
2 3 4		Strong Brown (7.5YR 5/8) Silty Fine SAND w/ Trace Clay and (Slight Staining)	3627	0 ¢
5 6 7 8		Light Brown (7.5YR 6/4) Silty Medium SAND w/ Gravel		
9				Ĭ
10-				0
11				
12-				
13-				
15				
16				+
17-				
18-				
20-				
21-				
22				
23-				
25-				
26-				
27-				
28-	1			

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB28

Project: Federated Metals Site Investigation

Client: City of Trenton

Location: Enterprise Avenue

Drill Date: 11/28/07

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1
0		Ground Surface		
1-	000	Cinder and Gravel		0
2-		Concrete		
4 5 6 7 8		Strong Brown (7.5YR 5/6) Silty Fine SAND		0
9- 10- 11- 12- 13- 14-		Brown (7.5YR 5/3) Silty Coarse SAND w/ Gravel (Oily Odor and Sheen) Brown (7.5YR 5/3) Silty Coarse SAND w/ Gravel (Oily Odor and Sheen; Wet) Brown (7.5YR 5/3) Silty Coarse SAND w/ Gravel (Wet)	SB28	50 = 100 80
15- 16- 17- 18- 19- 20- 21- 22- 22- 23-				
24- 25- 26- 27- 28-				

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Project: Federated Metals Site Investigation

Log of Borehole: SB29

Project. Federaled Welas Sile Invest

Client: City of Trenton

Drill Date: 11/28/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
1 2 3	20°20	Fill - Cinder and Gravel Concrete		0
3 4 5 6 7 g		Strong Brown (7.5YR 5/6) Silty Fine SAND		0 ¢ 2
8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23		Brown (7.5YR 5/3) Silty Coarse SAND w/ Gravel (Oily Odor and Sheen) Brown (7.5YR 5/3) Silty Coarse SAND w/ Gravel (Oily Odor and Sheen; Wet) Brown (7.5YR 5/3) Silty Coarse SAND w/ Gravel	SB29	20 70 20 0
24 25 26 27 28-				

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB30

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/29/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
0 1 1	2000 2000 2000	Fill - Gravel/Cinder		0
3 4 5		Dark Yellowish Brown (10YR 4/4) Silty Fine SAND	SB30	
6 7 8		Silty Coarse SAND w/ Gravel		¢
9- 10- 11-				
12- 13-				
14- 15- 16-				
17- 18-				
19- 20- 21-				
22- 23- 24-				
25- 26- 27-				
28-				

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB31

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/29/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
		Ground Surface		
0- 1- 2- 3-	2000 0000 0000 0000 0000	Fill - Gravel/Cinder	SB31	
4- 5- 6-		Dark Yellowish Brown Silty Coarse SAND w/ Gravel	_	
7- 8- 9-		Dark Tellowish Blown only Course of the in State.	_	
10- 11- 12-				
13- 14- 15- 16-				
17- 18- 19-				
20- 21- 22- 23-				
24- 25- 26- 27-				
28	<u> </u>		EnviroSure	Inc

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB32

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/29/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

	SUBSURFACE PROFILE			
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 11 12 13 14 15 16 17 10 10 11 12 10 10 10 10 10 10 10 10 10 10	Doc Doc No Syn Doc Doc No Syn Doc Doc No Syn	Ground Surface Fill - Gravel/Cinder Concrete Fill - Gravel/Cinder/Coal Fill - Yellowish Brown (10YR 5/4) Silty Medium SAND w/ Gravel Fill - Gravel/Cinder/Coal Fill: Strong Brown (7.5YR 5/3) Silty Fine SAND w/ Gravel Brown (7.5YR 5/3) Silty Medium SAND w/ Gravel (Oily Odor; Staining) Brown (7.5YR 5/3) Silty Medium SAND w/ Gravel (Wet)	SB32	200 400 600 800 1 1 1 1 0 0 10 50 -24
23 24 25 26 27 28				

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB33

Project: Federated Metals Site Investigation

Client: City of Trenton

Location: Enterprise Avenue

Drill Date: 11/29/07

Technician: Scott Smith, P.E.

SUBSURFACE PROFILE			SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0-	Roobe	Ground Surface		
1	000	Fill - Gravel/Cinder		1
2	2000	Concrete		
4	2000	Fill - Gravel/Cinder/Coal		
6		Strong Brown (7.5YR 5/8) Silty Fine SAND w/ Gravel		10
8 9 10-		Brown (5/3) Silty Meduim SAND w/ Gravel		15 9 50 •
11- 12-		Brown (5/3) Silty Meduim SAND w/ Gravel (Wet)	SB33	
13- 14-				
15-				
17-				
18-				
20-				
22-				
23-				
25- 26-				
27-				
20				
			EnviroSure,	Inc.

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB34

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/29/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

SUBSURFACE PROFILE			SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
Olim	20000	Fill - Gravel/Cinder		0
Titt	1			
2111	0000	Concrete	Λ	
3111	00000	Fill Cinder/Priek/Cravel		0
411	2000	Fill - Cindenblick/Graver	Δ	
o c		Fill -Coal/Cinder/Gravel	$-\Lambda$	
7				0
8		Strong Brown (7.5YR 5/8) Silty Medium SAND	SB34	1
91		Potucal		0
10-		Reiusai		
11=				
12				
13-				
14-				
15-				
16-				
17-				
18-				
19-				
20-				
21-				
22-				
23-				
24-				
20-				
20-				
21				
20-				

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB35

Project: Federated Metals Site Investigation

Client: City of Trenton

Location: Enterprise Avenue

Drill Date: 11/29/07

Technician: Scott Smith, P.E.

	SUBSURFACE PROFILE	SAMPLE		
Depth Svmbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1	
0 970 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 28 28 28 28 28 28 28 28 28	Ground Surface Fill - Gravel/Cinder Concrete Strong Brown (7.5YR 5/8) Silty Fine SAND w/ Gravel Brown (5/3) Silty Medium SAND w/ Gravel Brown (5/3) Silty Medium SAND w/ Gravel (Wet)	SB35	0 40 100 130 75 •	
	E 1	nviroSure, 12 W Mark	Inc. et Street	

142 W. Market Street West Chester, PA 19382

Log of Borehole: SB36

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/29/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

SUBSURFACE PROFILE			SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
1-	0000	Fill - Gravel/Cinder		0
2	2	Concrete		
4		Fill -Brown (7.5YR 5/3) Silty Medium SAND w/ Cinder, Coal, and Gravel	1	10
6-		Strong Brown (7.5YR 5/8) Silty Fine SAND w/ Gravel		15
8		Brown (7.5YR 5/3) Silty Medium SAND w/ Gravel		20
10 11 12 13 14 15 16 17 18 19 20 20 21		Brown (7.5YR 5/3) Silty Medium SAND w/ Gravel (Oily Odor and Sheen; Wet)		30 * 20 *
22- 23- 24- 25- 26- 27- 28-				

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB37

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/29/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

SUBSURFACE PROFILE			SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0 1 2 3 4	2000	Fill - Gravel/Cinder Concrete Yellowish Brown (10YR 5/8) Silty Medium SAND w/ Gravel		0 0 ¢ 5
5 6 7 8 9		Strong Brown (7.5YR 5/8) Silty Fine SAND w/ Gravel Brown (10YR 5/3) Silty Medium SAND w/ Gravel (Staining; Oily Odor)		20 8 6 10 25 40
11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28		Brown (10YR 5/3) Silty Medium SAND w/ Gravel (Wet)	SB37	25

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB38

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/29/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

	SUBSURFACE PROFILE	SAMPLE	
Depth Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 12 23 14 15 16 17 18 19 20 20 20 20 20 20 20 20 20 20	Ground Surface Fill - Gravel/Cinder Concrete Fill - Strong Brown (7.5YR 5/8) Silty SAND w/ Cinder/Gravel Fill - Coal Dust and Pieces Fill - Strong Brown (7.5YR 5/8) Silty Medium SAND w/ Coal Pieces Strong Brown (7.5YR 5/8) Silty Medium SAND Refusal Greenish Rock	SB38	

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB39

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/29/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0-	2000	Ground Surface		0
1111	1	- Graver Ginder		t l
2111	0000	Concrete		
4	0000	Fill - Coal Dust and Pieces		ė į
5	00000			0
7		Fill: Strong Brown (7.5YR 5/8) Silty Fine SAND w/ Gravel		
8		Brown (10YR 5/3) Silty Medium SAND w/ Gravel (Oily Odor)	SB39	10
9-				0
11-				
12				¢
13-				
15-				
16-				
17-				
19-				
20-				
21-				
23-				
24				
25-				
27-				
28-	1			

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB40

Project: Federated Metals Site Investigation

Client: City of Trenton

Location: Enterprise Avenue

Drill Date: 11/29/07

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
11	2020	Fill - Gravel/Cinder		0
2 31	\sim	Concrete	SB40	
4		Strong Brown (7.5YR 5/8) Silty Fine SAND w/ Gravel		¢
5 6 7		Brown (10YR 5/3) Silty Medium SAND w/ Gravel		0 ¢
8				0
9				
11				
12-				
13-				
14-				
15				
16-				
17-				
18-				
20-				
21-				
22-				
23-				
24				
25-				
26-				
27-				
28-	1			

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Borehole: SB41

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/29/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0-		Ground Surface		
1	9009	Gravel/Cinder		0 †
2	1	Concrete		10
3			SB41	
4		Fill - Brown (10YR 5/3) Silty Medium SAND w/ Gravel		5
5				5
6-				4
/		Fill Brown (10XP 5/3) Silty Medium Sand w/ GRAVEL	_	5
9		(Staining; Wet)	Λ	
10-				
11-				
12-				
13-				
14-				
15-				
16-				
1/-				
19-				
20-				
21-				
22-				
23-				
24-				
25-				
26-				
21-				
20-	1			
			invire Cure	Inc

Log of Borehole: SB42

Project: Federated Metals Site Investigation

Client: City of Trenton

Drill Date: 11/29/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1
0		Ground Surface		
1	2000	Fill - Gravel/Asphalt		0
2	1		6042	
3		Concrete	5642	-0
4		Fill - Brown (10YR 5/3) Silty Medium SAND w/ Gravel		
5				0
6				
7				
8-		Fill - Brown (10YR 5/3) Silty Medium Sand w/ GRAVEL		0
9		(Staining; Wet)		
10-				
11-				
12-				
13-				
14-				
15-				
16-				
17				
18-				
19-				
20-				
21				
22				
22				
20				
24				
26				
27				
28				
20				

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Project: Federated Metals Site Investigation

Log of Test Pit: TP01

Client: City of Trenton

Excavation Date: 11/26/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800
0-		Ground Surface		
-		Top Soil		
1-1-1		Fill - Ceramic, Glass Debris, Brick, Very Dark Brown (10YR 2/2) Silty Coarse SAND		0
2				0
3-				0
			TP01	0
5		Fill - Rocks, Asphalt Pieces, Slag, Residential Waste, Wood, Coal, Concrete Debris, Yellowish Brown (10YR 5/6) Silty Medium SAND		0
6				0
7-1		Yellowish Brown (10YR 5/6) Silty Medium SAND		0
9-				
-				
10-				
11-				
12-				
		En	viroSure, Ir	nc.

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Test Pit: TP02

West Chester, PA 19382

Project: Federated Metals Site Investigation

Client: City of Trenton

Excavation Date: 11/27/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800
0-		Ground Surface		
		Top Soil		
1-		Fill - White (2.5YR 8/1) Silty CLAY		0
-			TP02	
2		Fill - Yellowish Brown (10YR 5/6) SAND w/ Brick Fragments		0
3		Fill - Light Yellowish Brown (10YR 5/6) Silty SAND w/ Trace Clay and Brick Fragments		0
-				0
4 		Yellowish Brown (10YR 5/6) SAND w/ Trace Clay		0
6				0
7				0
9-				
-				
10-				
-				
11-				
12-				
		En 14.	viroSure, lı 2 W. Marke	nc. t Street

Log of Test Pit: TP03

Project: Federated Metals Site Investigation

Client: City of Trenton

Excavation Date: 11/26/07

Location: Enterprise Avenue

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0-		Ground Surface		
-		Top Soil		
1		Yellowish Brown (10YR 5/6) Clayey Medium SAND w/ Cobbles	TP03	0
2				0
3-				¢ 0
4		Yellowish Brown Silty Coarse SAND		0
5-				0
6-				
7-				*
8-			-	
9-				
10-				
11-				
12-				
s	heet: 1	Ei 14 W	nviroSure, l 12 W. Marke 'est Cheste	nc. et Street r, PA 19382

Log of Test Pit: TP04

Project: Federated Metals Site Investigation

Client: City of Trenton

Excavation Date: 11/26/07

Location: Enterprise Avenue

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0-		Ground Surface		
-		Top Soil		
1-		Fill - Ash, Ceramic Waste, Residential Waste (Bottles, Door Knobs)		0
2			TP04	0
3-		Yellowish Brown (10YR 5/6) Silty Medium SAND w/ Coarse Gravel		0
4-				0
5-				0
6-	-			
7-				*
8-			1	
9-				
10-				
11-				
12-	-			
	Sheet: 1	E 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1-	nviroSure, 42 W. Marko /est Cheste	Inc. et Street er, PA 19382

Log of Test Pit: TP05

Project: Federated Metals Site Investigation

Client: City of Trenton

Excavation Date: 11/26/07

Location: Enterprise Avenue

	SUBSURFACE PROFILE	SAMPLE	
Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
	Ground Surface		
	Fill - Ash Layer, White Milky Glass		
		TP05	0
	Yellowish Brown (10YR 5/6) Silty Medium SAND w/ Coarse		1
	Gravel		0
			ě
			•
			0
	Yellowish Red (5YR 5/8) and White (10YR 8/1) (Mottled)		
	SAND w/ Trace Clay		0
			Ť
			0
			ě
			0
-			
3			
-			
-			
-			
-			
-			
1			
-			
		EnviroSure, 142 W. Mark West Cheste	Inc. et Street er, PA 19382
	Symbol	SUBSURFACE PROFILE Ope Description Ground Surface Fill - Ash Layer, White Milky Glass Vellowish Brown (10YR 5/6) Silty Medium SAND w/ Coarse Gravel Yellowish Red (5YR 5/6) and White (10YR 8/1) (Mottled) SAND w/ Trace Clay Vellowish Red (5YR 5/8) and White (10YR 8/1) (Mottled) SAND w/ Trace Clay	SUBSURFACE PROFILE SAMPLE Image: Description Image: Optimize and the second surface Image: Optimize and the second surface Fill - Ash Layer, White Milky Glass Image: Optimize and the second surface Image: Optimize and the second surface Yellowish Brown (10YR 5/6) Silty Medium SAND w/ Coarse Gravel Yellowish Red (5YR 5/8) and White (10YR 8/1) (Mottled) SAND w/ Trace Clay Yellowish Red (5YR 5/8) and White (10YR 8/1) (Mottled) SAND w/ Trace Clay Image: Optimize and the second surface and the sec

Log of Test Pit: TP06

Project: Federated Metals Site Investigation

Client: City of Trenton

Excavation Date: 11/26/07

Location: Enterprise Avenue

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
		Top Soil		0
1		Dark Brown (10YR 3/3) Silty Fine SAND w/ Trace Clay	TP06	0
2		Yellow (10YR 7/6) Silty Fine SAND w/ Trace Clay		0
4-				0
5-				0
6-				0
7-				0
8-			-	
9-				
10-				
11-				
12-				
	Sheet: 1	of 1	EnviroSure, 142 W. Mark West Cheste	Inc. et Street er, PA 19382

Log of Test Pit: TP07

Project: Federated Metals Site Investigation

Client: City of Trenton

Excavation Date: 11/26/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0_		Ground Surface		
-		Fill - Gravel/Cinder/Silty SAND	TP07	
1-				0
-	1	Concrete		
2-	1			0
-				
3-				
4-				
5-]			
	-			
6-				
7-	-			
	-			
8-	-			
	-			
9-	-			
	-			
10-	-			
	-			
11-	-			
12.	-			
	1			
			EnviroSure,	Inc.

142 W. Market Street West Chester, PA 19382

Log of Test Pit: TP08

Project: Federated Metals Site Investigation

Client: City of Trenton

Excavation Date: 11/26/07

Location: Enterprise Avenue

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
1-		Fill - Gravel/Cinder/Silty SAND Concrete	TP08	0 *
2-				0
3-				
5-				
6-				
7-				
9-				
10-				
11-				
	Sheet: 1	of 1	EnviroSure, 142 W. Marko West Cheste	Inc. et Street r, PA 19382

Log of Test Pit: TP09

Project: Federated Metals Site Investigation

Client: City of Trenton

Excavation Date: 11/26/07

Location: Enterprise Avenue

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0-	Alterational	Ground Surface		
-		Fill - Gravel/Cinder/Silty SAND		
1-			TP09	0
2-				0
-				
3-				•
-				
4-				
-				
5-				
-				
6-				
-				
7-				
-				
8-				
-				
9-				
10-				
-				
11-				
12-				
	heet: 1	of 1	EnviroSure, I 142 W. Marke West Cheste	nc. et Street r, PA 19382

Log of Test Pit: TP10

Project: Federated Metals Site Investigation

Client: City of Trenton

Excavation Date: 11/26/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0		Ground Surface		
0-		Fill - Brown (7.5YR 4/4) Silty Medium SAND w/ Gravel	TP10A	
1-		Fill - Cinder and Asphalt		
2-		Concrete	/	•
-		Fill - Wood Timber	/ TP10B	
1			/	0
3-		Reddish Yellow (7.5YR 6/6) Silty CLAY w/ Trace Sand		T
1				0
4-			-	é
-				
5				
5-	-			
6-				
7-	1			
	1			
	1			
8-	1			
2	-			
9-	-			
	-			
10.	-			
10	-			
	-			
11-	-			
	-			
12	-			

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

Log of Test Pit: TP11

Project: Federated Metals Site Investigation

Client: City of Trenton

Excavation Date: 11/26/07

Location: Enterprise Avenue

Technician: Scott Smith, P.E.

		SUBSURFACE PROFILE	SAMPLE	
Depth	Symbol	Description	Sample ID	VOCs (PID Field Readings) ppm 200 400 600 800 1 1 1 1
0-		Ground Surface		
	0000	Fill - Gravel and Asphalt		0
1-	A A A	Fill - Fire Brick, Demolition Debris, Yellowish Brown (10YR	TP11A	
2- 2- 3- 4-		5/4) Silty Medium SAND		
-				
5-		Terracota Drain Pipe	-	*
6 7 8 9 10 11		Yellowish Brown (10YR 5/4) Silty Medium SAND w/ Slight Petroleum Odor	TP11B	50 20 0
12-				

EnviroSure, Inc. 142 W. Market Street West Chester, PA 19382

EnviroSure, Inc.

APPENDIX D

LABORATORY ANALYTICAL RESULT SUMMARY TABLES
Table 1 Laboratory Analytical Results Summary

TPH

	44107107	44107107	44/07/07	44/07/07	44/07/07	44/07/07	11/27/07	11/28/07	11/28/07	11/28/07	Total Organic
Date	11/27/07	11/2//07	11/2//07	11/2//07	11/2//0/	11/2//07	11/2//0/	11/20/07	11/20/07	11120101	Total organic
Sample ID	SB09	SB10	SB11	SB12	SB13	SB14	SB15	SB18	SB19	SB20	Contaminant
Denth (feet has)	11-11.5	10.5-11	10.5-11	10-10.5	11-11.5	11-11.5	9.5-10	10.5-11	11-11.5	8.5-9	Limit
TPH (OOA-OAM-025)	9.36	13.8	149	4900	2110	1660	73300	35900	5210	20500	10000
TPH-DRO	NA	22000	12900	13100	10000						

Date	11/28/07	11/28/07	11/28/07	11/28/07	11/28/07	11/28/07	11/28/07	11/28/07	11/29/07	11/29/07	Total Organic
Sample ID	SB21	SB22	SB23	SB24	SB25	SB26	SB28	SB29	SB32	SB33	Contaminant
Donth (feet bas)	9-9.5	11-11.5	9-9.5	9-9.5	8-8.5	9-9.5	10-10.5	9.5-10	10.5-11	10.5-11	Limit
TPH (OOA-OAM-025)	33.9	21200	38700	216	416	28200	15100	18300	7050	22300	10000
TPH-DRO	12.7	14400	38400	110	733	28000	771	8670	NA	NA	10000

Date	11/29/07	11/29/07	11/29/07	11/29/07	11/29/07	11/29/07	Total Organic
Sample ID	SB34	SB35	SB36	SB37	SB38	SB39	Contaminant
Depth (feet bgs)	7.5-8	10.5-11	9.5-10	10.5-11	5-5.5	8-8.5	Limit
TPH (OQA-QAM-025)	0.54	15800	16200	14200	9390	16300	10000
TPH-DRO	NA	NA	NA	NA	NA	NA	10000

Notes

bgs - below ground surface

J - estimated result, the reported value is greater than the method detection limit, but below the reporting limit

mg/Kg - milligrams per Kilogram

NA - not analyzed

Results and non-detect reporting limits in bold and highlighted exceed regulatory limits

U - not detected at the associated value

units in mg/Kg

Total organic limit based on NJDEP's Soil Cleanup Criteria Table (last revised - 5/12/99). The NJDEP's new TPH standard was not posted by the date of final report submittal.

Table 2 Laboratory Analytical Results Summary

PAHs

	Date	11/27/07	11/28/07	11/28/07	11/28/07	11/28/07	11/29/07	11/29/07		1
CAS #	Sample ID	SB15	SB18	SB23	SB26	SB29	SB33	SB39	RDCSRS	NRDCSRS
	Depth (feet bgs)	9.5-10	10.5-11	9-9.5	9-9.5	9.5-10	10.5-11	8-8.5		
83-32-9	Acenaphthene	1.96 J	3.47 J	3.12 J	3.37 J	3.25	2.87	4.26	3400	37000
208-96-8	Acenaphthylene	0.220 U	0.550 U	0.540 U	0.540 U	0.230 U	0.120 U	0.110 U	NS	300000
120-12-7	Anthracene	2.91	5.87	6.48	2.85 J	1.27 J	0.738 J	1.50	17000	30000
56-55-3	Benzo(a)anthracene	8.43	17.8	18.4	6.70	0.762 J	0.406 J	1.97	0.6	2
50-32-8	Benzo(a)pyrene	6.36	10.6	11.7	6.17	0.550 U	0.333 J	1.72	0.2	0.2
205-99-2	Benzo(b)fluoranthene	3.07	6.63	6.56	3.10 J	0.370 U	0.190 U	0.832 J	0.6	2
191-24-2	Benzo(g,h,i)pervlene	4.43	7.11	6.66	3.10 J	0.450 U	0.230 U	1.28	380000	30000
207-08-9	Benzo(k)fluoranthene	0.793 J	1.20 U	1.10 U	1.10 U	0.480 U	0.250 U	0.230 U	6	23
218-01-9	Chrysene	11.7	26.7	30.1	12.1	1.38 J	0.638 J	2.88	62	230
53-70-3	Dibenzo(a,h)anthracene	1.42 J	0.700 U	0.680 U	0.680 U	0.290 U	0.150 U	0.140 U	0.2	0.2
206-44-0	Fluoranthene	2.76	5.74	6.17	1.95 J	0.210 U	0.292 J	0.727 J	2300	24000
86-73-7	Fluorene	5.28	6.23	5.81	8.02	6.66	5.23	7.41	2300	24000
193-39-5	Indeno(1.2.3-cd)pyrene	1.00 J	2.50 U	2.50 U	2.50 U	1.00 U	0.530 U	0.510 U	0.6	2
91-20-3	Naphthalene	1.10 J	0.620 U	0.600 U	0.600 U	0.250 U	0.130 U	0.120 U	6	17
85-01-8	Phenanthrene	25.8	45.0	45.9	23.5	14.2	7.14	20.3	NS	300000
129-00-0	Pyrene	17.0	34.8	39.0	12.7	3.61	1.68	5.77	1700	18000

Notes

bgs - below ground surface

Impact to groundwater pathway must be evaluated on a site by site basis using guidance developed by the NJDEP.

J - estimated result, the reported value is greater than the method detection limit, but below the reporting limit

mg/Kg - milligrams per Kilogram

NA - not analyzed

NRDCSRS - non-residential direct contact soil remediation standard

NS - no standard listed on NJDEP's Soil Remediation Standards Tables

PAHs - Polynuclear Aromatic Hydrocarbons

RDCSRS - residential direct contact soil remediation standard

Results in bold exceed RDCSRS

Results highlighted exceed NRDCSRS

U - not detected at the associated value

units in mg/Kg

Table 3 Laboratory Analytical Results Summary TCL and PPL VOCs

CAS # Sample ID SB01 SB02 SB03 SB04 SB05 SB06 SB07 SB08 SB16 SB17 RDCSRS NRDC Crede Acetone 0.480 U 0.470 U 0.450 U 0.430 U 0.640 U 0.470 U 0.450 U 0.470 U	1	Date	11/27/07	11/27/07	11/27/07	11/27/07	11/27/07	11/27/07	11/27/07	11/27/07	11/28/07	11/28/07		
Depth (feet bgs) 6-6.5 6-6.5 6-6.5 5-5.6 6.5.7 9-9.5 10-10.5 67-64-1 Acetolein 0.490 U 0.470 U 0.430 U 0.640 U 0.510 U 0.470 U 0.530 U NA	CAS#	Sample ID	SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB16	SB17	RDCSRS	NRDCSRS
Gr-84-1 Acetone 0.480 U 0.470 U 0.480 U 0.470 U 0.470 U 0.470 U 0.530 U NA TA 107-02-8 Acrolein NA	CAS #	Depth (feet bas)	6-6.5	6-6.5	6-6.5	6-6.5	6-6.5	6-6.5	5.5-6	6.5-7	9-9.5	10-10.5		
Acrolein NA <	67-64-1	Acetone	0.480 U	0.470 U	0.450 U	0.490 U	0.430 U	0.640 U	0.510 U	0.470 U	0.530 U	NA	70000	NA
NA NA<	107-02-8	Acrolein	NA	0.510 U	0.5	1								
137-132-2 Benzene 0.086 U 0.084 U 0.077 U 0.100 U 0.080 U 0.030 U 1 33 75-27-4 Bromodichloromethane 0.029 U 0.029 U 0.030 U 0.130 U 0.100 U 0.090 U 0.030 U 1 33 75-25-2 Bromodichloromethane 0.058 U 0.056 U 0.053 U 0.030 U 0.100 U 0.090 U 0.090 U 0.050 U 0.05	107-13-1	Acrylonitrile	NA	1.10 U	1.10 U	0.9	3							
15-22 Bromodichloromethane 0.029 U 0.029 U 0.028 U 0.031 U 0.030 U 0.031 U 0.030 U 0.031 U 0.030 U 0.031 U 0.030 U 0.097 U 0.095 U 0.098 U 0.098 U 0.036 U 0.090 U 0.096 U 0.036 U 0.026 U 0.036 U	71-43-2	Benzene	0.086 U	0.084 U	0.079 U	0.088 U	0.076 U	0.110 U	0.090 U	0.084 U	0.090 U	0.086 U	2	5
132-10 Bromoform 0.097 U 0.095 U 0.096 U 0.086 U 0.100 U 0.097 U 8.1 28 74-83-9 Bromomethane 0.056 U 0.056 U 0.053 U 0.051 U 0.076 U 0.060 U 0.050 U 0.030 U 0.440 U 0.030 U 0.440 U 0.030 U 0.030 U 0.045 U 0.030 U 0.031 U 0.031 U 0.030 U 0.045 U 0.030 U 0.040 U 0.030 U 0.060 U 0.066 U 0.061 U 0.060 U 0.061 U 0.062 U 0.041 U 0.046 U 0.049 U 0.049 U 0.044 U 0.045 U 0.049 U 0.044 U 0.045 U 0.049 U 0.044 U 0.030 U	75-27-4	Bromodichloromethane	0.029 U	0.029 U	0.027 U	0.030 U	0.026 U	0.039 U	0.031 U	0.029 U	0.031 U	0.030 U	1	3
1925_2 Distribution 0.058 U 2.5 555 78-93-3 2-Butanone (MEK) 0.330 U 0.330 U 0.310 U 0.310 U 0.300 U 0.440 U 0.330 U 0.330 U 0.310 U 0.330 U 0.034 U 0.032 U 0.035 U 0.036 U 0.034 U 0.032 U 0.035 U 0.034 U 0.032 U 0.032 U 0.034 U 0.032 U 0.030 U 0.044 U 0.031 U 0.024 U 0.031 U 0.024 U 0.031 U 0.024 U 0.031 U 0.026 U 0.031 U 0.026 U 0.031 U 0.060 U 0.051 U 0.061 U 0.066 U 0.061 U 0.061 U 0.062 U 0.061 U 0.062 U 0.061 U 0.061 U 0.062 U 0.061 U 0.061 U 0.062 U 0.061 U <td< td=""><td>75-25-2</td><td>Bromoform</td><td>0.097 U</td><td>0.095 U</td><td>0.089 U</td><td>0.099 U</td><td>0.086 U</td><td>0.130 U</td><td>0.100 U</td><td>0.095 U</td><td>0.100 U</td><td>0.097 U</td><td>81</td><td>280</td></td<>	75-25-2	Bromoform	0.097 U	0.095 U	0.089 U	0.099 U	0.086 U	0.130 U	0.100 U	0.095 U	0.100 U	0.097 U	81	280
Process 2-Butanone (MEK) 0.330 U 0.330 U 0.310 U 0.310 U 0.340 U 0.340 U 0.340 U 0.340 U 0.330 U 0.440 U 0.330 U 0.330 U NA NA NA 3100 4400 75-15-0 Carbon disulfide 0.034 U 0.034 U 0.032 U 0.032 U 0.032 U 0.028 U 0.030 U 0.045 U 0.036 U 0.030 U 0.028 U 0.029 U 0.027 U 0.030 U 0.028 U 0.029 U 0.027 U 0.030 U 0.065 U 0.066 U 0.066 U 0.066 U 0.061 U 0.062 U 0.041 U 0.062 U 0.046 U 0.040 U 0.046 U 0.041 U 0.062 U 0.046 U 0.041 U 0.062 U 0.046 U 0.042 U 0.025 U	74-83-9	Bromomethane	0.058 U	0.056 U	0.053 U	0.059 U	0.051 U	0.076 U	0.060 U	0.056 U	0.060 U	0.058 U	25	59
10:50:0 Carbon disulfide 0.034 U 0.034 U 0.032 U 0.035 U 0.036 U 0.034 U 0.034 U NA NA NA 7800 1100 56:23:5 Carbon disulfide 0.029 U 0.029 U 0.030 U 0.068 U 0.068 U 0.068 U 0.068 U 0.068 U 0.068 U 0.066 U 0.066 U 0.066 U 0.068 U 0.068 U 0.064 U 0.064 U 0.060 U 0.062 U 220 110 75:0-3 Chioroethane 0.061 U 0.064 U 0.062 U 220 110 75:0-3 Chioroethane 0.061 U 0.046 U 0.041 U 0.062 U 0.062 U 0.064 U 0.046 U 0.046 U 0.045 U 0.062 U 0.062 U 0.061 U 0.062 U 0.022 U 0.033 U 0.024 U 0.022 U 0.033 U 0.024 U 0.025 U 0.022 U 0.033 U 0.024 U 0.025 U 0.024 U 0.025 U 0.024 U 0.025 U 0.	78-03-3	2-Butanone (MEK)	0.330 U	0.330 U	0.310 U	0.340 U	0.300 U	0.440 U	0.350 U	0.330 U	NA	NA	3100	44000
10:103 Carbon tetrachloride 0.029 U 0.029 U 0.027 U 0.030 U 0.026 U 0.031 U 0.031 U 0.030 U 0.060 U <td>75-15-0</td> <td>Carbon disulfide</td> <td>0.034 U</td> <td>0.034 U</td> <td>0.032 U</td> <td>0.035 U</td> <td>0.030 U</td> <td>0.045 U</td> <td>0.036 U</td> <td>0.0340 U</td> <td>NA</td> <td>NA</td> <td>7800</td> <td>110000</td>	75-15-0	Carbon disulfide	0.034 U	0.034 U	0.032 U	0.035 U	0.030 U	0.045 U	0.036 U	0.0340 U	NA	NA	7800	110000
0.04303 Disorder 0.066 U 0.065 U 0.061 U 0.068 U 0.068 U 0.087 U 0.069 U 0.069 U 0.066 U 510 740 75-00-3 Chloroethane 0.061 U 0.060 U 0.057 U 0.063 U 0.054 U 0.061 U 0.060 U 0.062 U 220 110 110-75-8 2-Chloroethyl vinjl ether NA NA NA NA NA NA NA 0.047 U 0.062 U 0.041 U 0.062 U 0.049 U 0.045 U 0.043 U 0.048 U 0.045 U 0.065 U 0.061 U 0.047 U 0.66 22 7487-3 Chloromethane 0.025 U 0.024 U 0.025 U 0.022 U 0.033 U 0.026 U 0.026 U 0.026 U 0.026 U 0.025 U 0.024 U 0.025 U 0.022 U 0.033 U 0.030 U 0.036 U 0.026 U 0.028 U 0.028 U 0.028 U 0.028 U	56-23-5	Carbon tetrachloride	0.029 U	0.029 U	0.027 U	0.030 U	0.026 U	0.039 U	0.031 U	0.029 U	0.031 U	0.030 U	0.6	2
Norschlaften O.061 U O.060 U O.057 U O.054 U O.081 U O.064 U O.065 U O.062 U O.043 U O.061 U O.062 U O.061 U O.062 U O.061 U O.062 U O.061 U O.062 U O.051 U O.062 U O.062 U O.062 U O.062 U O.026 U	108-90-7	Chlorobenzene	0.066 U	0.065 U	0.061 U	0.068 U	0.058 U	0.087 U	0.069 U	0.065 U	0.069 U	0.066 U	510	7400
NA NA<	75-00-3	Chloroethane	0.061 U	0.060 U	0.057 U	0.063 U	0.054 U	0.081 U	0.064 U	0.060 U	0.064 U	0.062 U	220	1100
110-100 2.0100000000000000000000000000000000000	110.75.8	2-Chloroethyl vinyl ether	NA	0.410 U	0.390 U	NS	NS							
Orbotod Ondotod Ondotod <t< td=""><td>67.66.3</td><td>Chloroform</td><td>0.047 U</td><td>0.046 U</td><td>0.043 U</td><td>0.048 U</td><td>0.041 U</td><td>0.062 U</td><td>0.049 U</td><td>0.046 U</td><td>0.049 U</td><td>0.047 U</td><td>0.6</td><td>2</td></t<>	67.66.3	Chloroform	0.047 U	0.046 U	0.043 U	0.048 U	0.041 U	0.062 U	0.049 U	0.046 U	0.049 U	0.047 U	0.6	2
14-07-3 Dinformation 0.025 U 0.024 U 0.025 U 0.025 U 0.022 U 0.033 U 0.026 U 0.024 U 0.025 U 3 8 124-48-1 Dibromochloromethane NA <td>74.97-3</td> <td>Chloromethane</td> <td>0.062 U</td> <td>0.061 U</td> <td>0.057 U</td> <td>0.064 U</td> <td>0.055 U</td> <td>0.082 U</td> <td>0.065 U</td> <td>0.061 U</td> <td>0.065 U</td> <td>0.062 U</td> <td>4</td> <td>12</td>	74.97-3	Chloromethane	0.062 U	0.061 U	0.057 U	0.064 U	0.055 U	0.082 U	0.065 U	0.061 U	0.065 U	0.062 U	4	12
Izber Distribution	124.48-1	Dibromochloromethane	0.025 U	0.024 U	0.023 U	0.025 U	0.022 U	0.033 U	0.026 U	0.024 U	0.026 U	0.025 U	3	8
363-01 1,2-Dishlorobenzene NA	124-40-1	1.2-Dichlorobenzene	NA	0.034 U	0.033 U	5300	59000							
341-73-1 1,3-Dichlorobenzene NA	90-00-1	1.3-Dichlorobenzene	NA	0.046 U	0.044 U	5300	59000							
10646/7 1,4-Dicklorodentation NA NA <th< td=""><td>106 46 7</td><td>1 4-Dichlorobenzene</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>0.037 U</td><td>0.036 U</td><td>5</td><td>13</td></th<>	106 46 7	1 4-Dichlorobenzene	NA	0.037 U	0.036 U	5	13							
13-11-6 Dictionandormation 1.03 0 0.08 0 0.072 0 110 0.086 0.080 0.086 0.082 8 24 75-34-3 1,1-Dichloroethane 0.082 0.027 0.026 0.029 0.027 0.027 0.026 0.029 0.027 0.027 0.026 0.029 0.027 0.027 0.026 0.029 0.027 0.029 0.027 0.029 0.027 0.029 0.027 0.029 0.027 0.029 0.027 0.029 0.027 0.029 0.027 0.029 0.027 0.029 0.027 0.029 0.027 0.029 0.027 0.029 0.027 0.029 0.027 0.029 0.027 0.028 0.027 0.028 0.027 0.028 0.027 0.028 0.027 0.028 0.027 0.028 0.027 0.028 0.027 0.028 0.027 0.028 0.027 0.028 0.027 0.024 0.024 0.024 0.023 0.230	75 71 9	Dichlorodifluoromethane	NA	0.051 U	0.048 U	490	230000							
1/15-34-3 1/15-10-Information 0.0021 0.027 0.029 0.027 0.029 0.027 0.029 0.029 0.027 0.029 0.028 0.029 0.021 0.029 0.027 0.029 0.029 0.027 0.029 0.029 0.027 0.029 0.029 0.027 0.029 0.028 0.029 0.021 0.029 0.025 0.027 0.029 0.021 0.029 0.021 0.029 0.021 0.022 0.024 0.024 0.024 0.024 0.023 0.023 0.023 0.023 0.023 0.023 0.021 0.023 0.021 0.021 0.021 0.022 0.024 0.024 0.024 0.023 0.023 0.023 0	75-71-0	1 1-Dichloroethane	0.082 U	0.080 U	0.076 U	0.084 U	0.072 U	0.110 U	0.086 U	0.080 U	0.086 U	0.082 U	8	24
107-06-2 1,2-Dichloroethane 0.055 U 0.054 U 0.051 U 0.056 U 0.049 U 0.072 U 0.058 U 0.054 U 0.055 U 11 15 75-35-4 1,1-Dichloroethene 0.023 U 0.022 U 0.021 U 0.023 U 0.020 U 0.021 U 0.020 U 0.030 U 0.024 U 0.022 U 0.023 U 230 56 156-59-2 cis-1,2-Dichloroethene 0.066 U 0.064 U 0.061 U 0.067 U 0.058 U 0.064 U 0.066 U 300 72 156-60-5 trans-1,2-Dichloroethene 0.066 U 0.064 U 0.061 U 0.067 U 0.058 U 0.069 U 0.064 U 0.066 U 300 72 78-87-5 1,2-Dichloropropane 0.049 U 0.048 U 0.045 U 0.050 U 0.043 U 0.064 U 0.051 U 0.048 U 0.049 U 2 55 10061-01-5 & 1,3-Dichloropropane 0.154 U 0.151 U 0.143 U 0.158 U 0.136 U 0.208 U 0.162 U 0.151 U 0.155 U 2	107.06.2	1.2-Dichloroethane	0.028 U	0.027 U	0.026 U	0.029 U	0.025 U	0.037 U	0.029 U	0.027 U	0.029 U	0.028 U	0.9	3
175-35-4 1,1-bickhoodethend 0.000 U 0.	75 25 4	1 1-Dichloroethene	0.055 U	0.054 U	0.051 U	0.056 U	0.049 U	0.072 U	0.058 U	0.054 U	0.058 U	0.055 U	11	150
136-39-2 Cls-1,2-Dichloroethene 0.020 U 0.064 U 0.061 U 0.067 U 0.058 U 0.086 U 0.064 U 0.066 U 300 72 156-60-5 trans-1,2-Dichloroethene 0.066 U 0.064 U 0.061 U 0.067 U 0.058 U 0.069 U 0.064 U 0.069 U 2.064 U 0.069 U 2.064 U 2.069 U 2.051 U 0.069 U 0.064 U 0.049 U 2 5 78-87-5 1,2-Dichloropropane 0.049 U 0.048 U 0.045 U 0.050 U 0.043 U 0.064 U 0.051 U 0.048 U 0.049 U 2 5 10061-01-5 & 1,3-Dichloropropene (cis & 0.154 U 0.151 U 0.143 U 0.158 U 0.136 U 0.208 U 0.162 U 0.152 U 0.155 U 2 7 100-41-4 Ethylbenzene 0.057 U 0.056 U 0.058 U 0.051 U 0.075 U 0.060 U 0.057 U 7800 110 591-78-6 2-Hexanone 0.200 U 0.200 U 0.210 U 0.210 U 0.210 U	10-30-4	cis_1 2-Dichloroethene	0.023 U	0.022 U	0.021 U	0.023 U	0.020 U	0.030 U	0.024 U	0.022 U	0.024 U	0.023 U	230	560
136-00-5 Italis*1,2-Dichloroptionente 0.000 0 0	150-59-2	trans_1.2-Dichloroethene	0.066 U	0.064 U	0.061 U	0.067 U	0.058 U	0.086 U	0.069 U	0.064 U	0.069 U	0.066 U	300	720
178-87-5 1,2-Dichloropropanic 0.010 C 0.010 C </td <td>100-00-0</td> <td>1.2 Dichloropropage</td> <td>0.049 U</td> <td>0.048 U</td> <td>0.045 U</td> <td>0.050 U</td> <td>0.043 U</td> <td>0.064 U</td> <td>0.051 U</td> <td>0.048 U</td> <td>0.051 U</td> <td>0.049 U</td> <td>2</td> <td>5</td>	100-00-0	1.2 Dichloropropage	0.049 U	0.048 U	0.045 U	0.050 U	0.043 U	0.064 U	0.051 U	0.048 U	0.051 U	0.049 U	2	5
10001-01-5 & trans) 0.154 U 0.151 U 0.143 U 0.158 U 0.136 U 0.208 U 0.162 U 0.151 U 0.162 U 0.155 U 2 7 100-41-4 Ethylbenzene 0.057 U 0.056 U 0.053 U 0.058 U 0.051 U 0.075 U 0.060 U 0.060 U 0.060 U 0.067 U 7800 110 591-78-6 2-Hexanone 0.200 U 0.200 U 0.190 U 0.210 U 0.180 U 0.270 U 0.200 U NA NA NS N 108-10-1 4-Methyl-2-pentanone (MIBK) 0.230 U 0.230 U 0.220 U 0.240 U 0.210 U 0.310 U 0.230 U 0.230 U 0.230 U 0.240 U 0.210 U 0.310 U 0.230 U NA NA NS N	10-01-0	1.2 Dichloropropene (cis &	0.0100	0.0.00										
02-6 Italisy 0.0057 U 0.057 U 0.053 U 0.058 U 0.051 U 0.075 U 0.060 U 0.056 U 0.057 U 7800 110 100-41-4 Ethylbenzene 0.057 U 0.056 U 0.053 U 0.058 U 0.051 U 0.075 U 0.060 U 0.060 U 0.057 U 7800 110 591-78-6 2-Hexanone 0.200 U 0.200 U 0.190 U 0.210 U 0.180 U 0.270 U 0.200 U NA NA NS N 108-10-1 4-Methyl-2-pentanone (MIBK) 0.230 U 0.230 U 0.220 U 0.240 U 0.210 U 0.310 U 0.230 U NA NA NS N	10061-01-5 a	(trane)	0 154 U	0.151 U	0.143 U	0.158 U	0.136 U	0.208 U	0.162 U	0.151 U	0.162 U	0.155 U	2	7
100-41-4 Entrybenzene 0.001 U 0.000 U 0.190 U 0.210 U 0.180 U 0.270 U 0.210 U 0.200 U NA NA NS N 591-78-6 2-Hexanone 0.200 U 0.200 U 0.190 U 0.210 U 0.180 U 0.270 U 0.210 U 0.200 U NA NA NS N 108-10-1 4-Methyl-2-pentanone (MIBK) 0.230 U 0.230 U 0.220 U 0.240 U 0.210 U 0.310 U 0.230 U NA NA NS N	02-0	Ethylbenzene	0.057 U	0.056 U	0.053 U	0.058 U	0.051 U	0.075 U	0.060 U	0.056 U	0.060 U	0.057 U	7800	110000
S91-76-6 2-Hexatorie 0.200 U 0.200 U 0.240 U 0.210 U 0.310 U 0.230 U NA NA NS N	100-41-4	2 Hevenone	0 200 U	0.200 U	0.190 U	0.210 U	0.180 U	0.270 U	0.210 U	0.200 U	NA	NA	NS	NS
	591-78-0	4 Methyl_2-pentanone (MIBK)	0.230 U	0.230 U	0.220 U	0.240 U	0.210 U	0.310 U	0.250 U	0.230 U	NA	NA	NS	NS
10 10 10 10 10 10 10 10 10 10 10 10 10 1	108-10-1	Methylona chlorida	0.056 11	0.054 1	0.051 U	0.057 U	0.049 U	0.073 U	0.058 U	0.055 U	0.058 U	0.056 U	34	97
75-09-2 Meditylene Cholde 0.000 0.000 0.000 0.000 0.000 0.000 0.00000 0.000000	75-09-2	Nephthalana	NA	NA	NA	NA	0.036 U	0.054 U	0.043 U	0.040 U	0.0096 L	0.0093 L	6	17
91-20-3 Naphthalene 0.027 U 0.026 U 0.025 U 0.028 U 0.036 U 0.035 U 0.028 U 0.026 U NA NA 90 26	91-20-3	Churono	0.02711	0.026.11	0.025 U	0.028 U	0.036 U	0.035 U	0.028 U	0.026 U	NA	NA	90	260
100-42-5 Stylene 0.021 U 0.034 U 0.032 U 0.035 U 0.024 U 0.036 U 0.036 U 0.036 U 0.035 U 1 3	100-42-5	1 1 2 2 Totrachlomothana	0.027 0	0.03411	0.03211	0.035 1	0.024 U	0.046 U	0.036 U	0.034 U	0.036 U	0.035 U	1	3
19-34-5 1,1,2,2-1 etrachloroethane 0.039 U 0.039 U 0.036 U 0.040 U 0.031 U 0.052 U 0.041 U 0.039 U 0.041 U 0.040 U 2	19-34-5	Totrachloroothone	0.03911	0.03911	0.036 U	0.040 U	0.031 U	0.052 U	0.041 U	0.039 U	0.041 U	0.040 U	2	5
12/-10-4 Teluane 0.050 U 0.049 U 0.049 U 0.051 U 0.035 U 0.065 U 0.052 U 0.049 U 0.050 U 6300 910	12/-18-4	Toluono	0.050 11	0.04911	0.046 11	0.051 U	0.035 U	0.065 U	0.052 U	0.049 U	0.052 U	0.050 U	6300	91000

Table 3 Laboratory Analytical Results Summary TCL and PPL VOCs

-	Date	11/27/07	11/27/07	11/27/07	11/27/07	11/27/07	11/27/07	11/27/07	11/27/07	11/28/07	11/28/07		
CAS #	Sample ID	SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB16	SB17	RDCSRS	NRDCSRS
CAS#	Depth (feet bas)	6-6.5	6-6.5	6-6.5	6-6.5	6-6.5	6-6.5	5.5-6	6.5-7	9-9.5	10-10.5		
71 55 6	1 1 1-Trichloroethane	0.045 U	0.044 U	0.041 U	0.046 U	0.044 U	0.059 U	0.047 U	0.044 U	0.047 U	0.045 U	290	4,200
71-55-6	1 1 2-Trichloroethane	0.035 U	0.034 U	0.032 U	0.035 U	0.031 U	0.046 U	0.036 U	0.034 U	0.036 U	0.035 U	2	6
79-00-5	Trichloroethene	0.038 U	0.038 U	0.035 U	0.039 U	0.034 U	0.051 U	0.040 U	0.038 U	0.040 U	0.241 J	7	20
79-01-0	Trichlorofluoromethane	NA	0.058 U	0.056 U	23000	340000							
75-69-4	Viewl chloride	0.066.11	0.064 11	0.061 U	0.067 U	0.058 U	0.087 U	0.069 U	0.064 U	0.069 U	0.066 U	0.7	2
/5-01-4	Viriyi chionde	0.000 0	0.030 U	0.028 U	0.031 U	0.027 U	0.040 U	0.032 U	0.030 U	0.032 U	0.031 U	12000	170000
1330-20-/	Aylette (total)	0.0010	0.000 0	0.0200	0.0010	0.021 0				1			

Notes

bgs - below ground surface

Impact to groundwater pathway must be evaluated on as site by site basis using guidance developed by the NJDEP.

J - estimated result, the reported value is greater than the method detection limit, but below the reporting limit

mg/Kg - milligrams per Kilogram

NA - not analyzed

NRDCSRS - non-residential direct contact soil remediation standard

NS - no standard listed on NJDEP's Soil Remediation Standard Tables

PPL - Priority pollutant list

RDCSRS - residential direct contact soil remediation standard

Results in bold exceed RDCSRS

Results highlighted exceed NRDCSRS

TCL - Target compound list

U - not detected at the associated value

units in mg/Kg

VOCs - Volatile organic compunds

Soil samples SB01 through SB08 were analyzed for TCL VOCs

Soil samples SB16 and SB17 were analyzed for PPL VOCs

Table 4 Laboratory Analytical Results Summary TCL and PPL BNs

	Date	11/28/07	11/28/07	11/29/07	11/29/07		
CAS #	Sample ID	SB16	SB17	SB30	SB31	RDCSRS	NRDCSRS
	Depth (feet bgs)	9-9.5	10-10.5	3-3.5	3-3.5		
83-32-9	Acenaphthene	0.013 U	0.013 U	0.012 U	0.012 U	3400	37000
208-96-8	Acenaphthylene	0.0086 U	0.0083 U	0.0078 U	0.0079 U	NS	300000
120-12-7	Anthracene	0.039 U	0.038 U	0.035 U	0.036 U	17000	30000
92-87-5	Benzidine	0.0067 U	0.0065 U	NA	NA	0.7	0.7
56-55-3	Benzo(a)anthracene	0.0088 U	0.0085 U	0.0079 U	0.0081 U	0.6	2
50-32-8	Benzo(a)pyrene	0.021 U	0.020 U	0.019 U	0.019 U	0.2	0.2
205-99-2	Benzo(b)fluoranthene	0.014 U	0.013 U	0.013 U	0.013 U	0.6	2
191-24-2	Benzo(g,h,i)perylene	0.017 U	0.016 U	0.015 U	0.016 U	380000	30000
207-08-9	Benzo(k)fluoranthene	0.018 U	0.018 U	0.017 U	0.017 U	6	23
101-55-3	4-Bromophenyl phenyl ether	0.019 U	0.018 U	0.017 U	0.017 U	NS	NS
85-68-7	Butyl benzyl phthalate	0.015 U	0.015 U	0.014 U	0.014 U	1200	14000
91-58-7	2-Chloronaphthalene	0.013 U	0.012 U	0.012 U	0.012 U	NS	NS
106-47-8	4-Chloroaniline	0.015 U	0.015 U	0.014 U	0.014 U	NS	NS
86-74-8	Carbazole	NA	NA	0.013 U	0.013 U	24	96
218-01-9	Chrysene	0.017 U	0.017 U	0.016 U	0.016 U	62	230
111-91-1	bis(2-Chloroethoxy)methane	0.016 U	0.016 U	0.015 U	0.015 U	NS	NS
111-44-4	bis(2-Chloroethyl)ether	0.019 U	0.019 U	0.018 U	0.018 U	0.4	2
108-60-1	bis(2-Chloroisopropyl)ether	0.025 U	0.024 U	0.022 U	0.023U	23	67
7005-72-3	4-Chlorophenyl phenyl ether	0.012 U	0.012 U	0.011 U	0.011 U	NS	NS
95-50-1	1.2-Dichlorobenzene	0.014 U	0.014 U	0.013 U	0.013 U	5300	59000
122-66-7	1,2-Diphenylhydrazine	0.014 U	0.013 U	NA	NA	0.7	2
541-73-1	1,3-Dichlorobenzene	0.013 U	0.012 U	0.012 U	0.012 U	5300	59000
106-46-7	1,4-Dichlorobenzene	0.011 U	0.011 U	0.010 U	0.010 U	5	13
121-14-2	2,4-Dinitrotoluene	0.014 U	0.013 U	0.012 U	0.013 U	0.7	3
606-20-2	2.6-Dinitrotoluene	0.017 U	0.016 U	0.015 U	0.016 U	0.7	3
91-94-1	3,3'-Dichlorobenzidine	0.031 U	0.030 U	0.028 U	0.028 U	1	4
53-70-3	Dibenzo(a,h)anthracene	0.011 U	0.011 U	0.0098 U	0.010 U	0.2	0.2
132-64-9	Dibenzofuran	NA	NA	0.0075 U	0.0077 U	NS	NS
84-74-2	Di-n-butyl phthalate	0.012 U	0.011 U	0.011 U	0.011 U	6100	68000
117-84-0	Di-n-octyl phthalate	0.017 U	0.017 U	0.016 U	0.016 U	2400	27000
84-66-2	Diethyl phthalate	0.015 U	0.014 U	0.013 U	0.014 U	49000	550000
131-11-3	Dimethyl phthalate	0.011 U	0.011 U	0.010 U	0.011 U	NS	NS
117-81-7	bis(2-Ethylhexyl)phthalate	0.025 U	0.025 U	0.023 U	0.024 U	35	140
206-44-0	Fluoranthene	0.0079 U	0.0076 U	0.0071 U	0.0073 U	2300	24000
86-73-7	Fluorene	0.0086 U	0.0083 U	0.0077 U	0.0079 U	2300	24000
118-74-1	Hexachlorobenzene	0.021 U	0.020 U	0.019 U	0.019 U	0.3	1
87-68-3	Hexachlorobutadiene	0.020 U	0.019 U	0.018 U	0.018 U	6	25

Table 4 Laboratory Analytical Results Summary TCL and PPL BNs

	Date	11/28/07	11/28/07	11/29/07	11/29/07		
CAS #	Sample ID	SB16	SB17	SB30	SB31	RDCSRS	NRDCSRS
	Depth (feet bgs)	9-9.5	10-10.5	3-3.5	3-3.5		
77-47-4	Hexachlorocyclopentadiene	0.020 U	0.019 U	0.018 U	0.018 U	45	110
67-72-1	Hexachloroethane	0.018 U	0.017 U	0.016 U	0.016 U	35	140
193-39-5	Indeno(1,2,3-cd)pyrene	0.040 U	0.038 U	0.036 U	0.036 U	0.6	2
78-59-1	Isophorone	0.014 U	0.013 U	0.012 U	0.013 U	510	2000
91-57-6	2-Methylnaphthalene	NA	NA	0.034 U	0.035 U	230	2400
88-74-4	2-Nitroaniline	NA	NA	0.024 U	0.025 U	39	23000
99-09-2	3-Nitroaniline	NA	NA	0.026 U	0.026 U	NS	NS
100-01-6	4-Nitroaniline	NA	NA	0.022 U	0.022 U	NS	NS
91-20-3	Naphthalene	0.0096 U	0.093 U	0.0087 U	0.0088 U	6	17
98-95-3	Nitrobenzene	0.014 U	0.014 U	0.013 U	0.013 U	31	340
62-75-9	n-Nitrosodimethylamine	0.019 U	0.009 U	NA	NA	0.7	0.7
621-64-7	N-Nitroso-di-n-propylamine	0.014 U	0.014 U	0.013 U	0.013 U	0.2	0.3
86-30-6	N-Nitrosodiphenylamine	0.0093 U	0.009 U	0.0084 U	0.0086 U	99	390
85-01-8	Phenanthrene	0.011 U	0.010 U	0.0096 U	0.0098 U	NS	300000
129-00-0	Pyrene	0.015 U	0.014 U	0.013 U	0.014 U	1700	18000
120-82-1	1.2.4-Trichlorobenzene	0.013 U	0.013 U	0.012 U	0.012 U	73	820

Notes

bgs - below ground surface

BNs - Base/Neutrals

Impact to groundwater pathway must be evaluated on a site by site basis using guidance developed by the NJDEP

J - estimated result, the reported value is greater than the method detection limit, but below the reporting limit

mg/Kg - milligrams per Kilogram

NA - not analyzed

NRDCSRS - non-residential direct contact soil remediation standard

NS - no standard listed on NJDEP's Soil Remediation Standard Tables

PPL - Priority Pollutant List

RDCSRS - residential direct contact soil remediation standard

Results highlighted exceed NRDCSRS

Results in bold exceed RDCSRS

TCL - Target compound list.

U - not detected at the associated value

units in mg/Kg

Soil samples SB16 and SB17 were analyzed for PPL BNs

Soil samples SB30 and SB31 were analyzed for TCL BNs

Table 5 Laboratory Analytical Results Summary

Metals

1.00	Date	11/26/07	11/26/07	11/26/07	11/26/07	11/26/07	11/26/07	11/26/07	11/26/07		
CAS #	Sample ID	TP01	TP02	TP03	TP04	TP05	TP06	TP07	TP08	RDCSRS	NRDCSRS
	Depth (feet bgs)	3.5-4	1-1.5	0.5-1	1.5-2	0.5-1	1.5-2	0-0.5	0-0.5		
7440-36-0	Antimony	2.2 U	2.4 U	12 U	2.5 U	2.6 U	2.3 U	2.2 U	2.2 U	31	450
7440-38-2	Arsenic	11.9	2.4 U	38.8	6.6	11.6	4.1	3.5	2.6	19	19
7440-41-7	Beryllium	0.55 U	0.61 U	0.62	0.63 U	0.8	0.59 U	0.54 U	0.54 U	16	140
7440-43-9	Cadmium	8.6	0.61 U	34.8	1.1	0.75	0.59 U	0.54 U	0.54 U	78	78
18540-29-9	Chromium (total)	22.1	17.3	78.9	12.8	14.4	11.2	17.5	13	20*	20*
7440-50-8	Copper	132	5.4	1770	30.1	39.3	22.2	88.8	56.7	3100	45000
7439-92-1	Lead	508	6.7	12.9	79.3	130	30.3	12.5	17.7	400	800
7439-97-6	Mercury	0.27	0.040	3.8	0.12	0.20	0.039	0.031 U	0.034 U	23	65
7440-02-0	Nickel	26.9	4.9 U	195	11.7	20.3	12.8	17.6	17.4	1600	23000
7782-49-2	Selenium	2.2 U	2.4 U	12 U	2.5 U	2.6 U	2.3 U	2.2 U	2.2 U	390	5700
7440-22-4	Silver	1.1 U	1.2 U	6.1 U	1.3 U	1.3 U	1.2 U	1.1 U	1.1 U	390	5700
7440-28-0	Thallium	1.1 U	1.2 U	6.1 U	1.3 U	1.3 U	1.2 U	1.1 U	1.1 U	5	79
7440-66-6	Zinc	6,140	127	144	879	249	175	173	89.4	23000	110000

Notes

bgs - below ground surface

Impact to groundwater pathway must be evaluated on a site by site basis using guidance developed by the NJDEP

J - estimated result, the reported value is greater than the method detection limit, but below the reporting limit

mg/Kg - milligrams per Kilogram

NA - not analyzed

NRDCSRS - non-residential direct contact soil remediation standard

NS - no standard listed on NJDEP's Soil Remediation Standards Tables

RDCSRS - residential direct contact soil remediation standard

Results highlighted exceed NRDCSRS

Results in bold exceed RDCSRS

U - not detected at the associated value

units in mg/Kg

NJDEP's limits based on Appendix 1 Soil Remediation Standards Tables

* 20 ppm chromium limit based on February 8, 2007 NJDEP Chromium Moratorium Memorandum for hexavalent chromium.

Samples were analyzed for total chromium.

Table 5 Laboratory Analytical Results Summary

Metals

	Date	11/26/07	11/26/07	11/26/07	11/26/07	11/26/07	11/27/07	11/27/07	11/27/07	11/27/07	11/27/07		
CAS #	Sample ID	TP09	TP10A	TP10B	TP11A	TP11B	SB01	SB02	SB03	SB04	SB11A	RDCSRS	NRDCSRS
	Depth (feet bgs)	0.5-1	0.5-1	2-2.5	1-1.5	6-6.5	6-6.5	6-6.5	6-6.5	6-6.5	0.5-1		
7440-36-0	Antimony	11.1	2.9	2.4 U	60 U	11 U	NA	NA	NA	NA	37.3	31	450
7440-38-2	Arsenic	8.5	8.1	6.1	5.4	5.1	NA	NA	NA	NA	18.8	19	19
7440-41-7	Bervllium	0.56	0.73	0.61 U	0.60 U	0.56 U	NA	NA	NA	NA	0.57 U	16	140
7440-43-9	Cadmium	40.8	3.4	6	20.2	2	NA	NA	NA	NA	62	78	78
18540-29-9	Chromium (total)	12.7	321	14.2	22.3	9.8	NA	NA	NA	NA	22.2	20*	20*
7440-50-8	Copper	152	247	10.2	3,180	182	NA	NA	NA	NA	2,610	3100	45000
7430-02-1	Lead	987	707	13.4	39600	1940	6.3	8.6	6.4	6.6	30400	400	800
7430-07-6	Mercury	0.16	1.2	0.034 U	0.47	0.07	NA	NA	NA	NA	85.8	23	65
7439-97-0	Nickel	30.2	212	12.4	223	25.7	NA	NA	NA	NA	122	1600	23000
7782_40-2	Selenium	11 U	2.1 U	2.4 U	12 U	11 U	NA	NA	NA	NA	23 U	390	5700
7440 22 4	Silver	560	37	1.2 U	6.7	5.6 U	NA	NA	NA	NA	11 U	390	5700
7440-22-4	Thallium	560	1011	120	6.0 U	5.6 U	NA	NA	NA	NA	11 U	5	79
7440-28-0	Zinc	14000	1100	955	115000	8240	NA	67.4	NA	78.7	96000	23000	110000

Notes

(a) Criterion based on the inhilation exposure pathway for hexavalent chromium

(b) Site-specific determination required for SCC for the alergic contact dermitis exposure pathway for hexavalent chromium

bgs - below ground surface

Impact to groundwater pathway must be evaluated on a site by site basis using guidance developed by the NJDEP

J - estimated result, the reported value is greater than the method detection limit, but below the reporting limit

mg/Kg - milligrams per Kilogram

NA - not analyzed

NRDCSRS - non-residential direct contact soil remediation standard

NS - no standard listed on NJDEP's Soil Remediation Standards Tables

RDCSRS - residential direct contact soil remediation standard

Results highlighted exceed NRDCSRS

Results in bold exceed RDCSRS

U - not detected at the associated value

units in mg/Kg

NJDEP's limits based on Appendix 1 Soil Remediation Standards Tables

* 20 ppm chromium limit based on February 8, 2007 NJDEP Chromium Moratorium Memorandum for hexavalent chromium.

Samples were analyzed for total chromium.

Table 5 Laboratory Analytical Results Summary

Metals

	Date	11/27/07	11/28/07	11/28/07	11/29/07	11/29/07		
CAS #	Sample ID	SB11B	SB16	SB17	SB30	SB31	RDCSRS	NRDCSRS
	Depth (feet bgs)	2.5-3	9-9.5	10-10.5	3-3.5	3-3.5		
7440-36-0	Antimony	2.2 U	2.4 U	2.5 U	2.4 U	2.4 U	31	450
7440-38-2	Arsenic	4.2	2.6	3.2	3.7	4.7	19	19
7440-41-7	Beryllium	0.55 U	0.61 U	0.62 U	0.61 U	0.60 U	16	140
7440-43-9	Cadmium	3.0	1.1	0.62 U	0.87	2.8	78	78
18540-29-9	Chromium (total)	12.8	10.1	10.9	9.6	13.1	20*	20*
7440-50-8	Copper	11.1	7.1	6.0	9.7	11.2	3100	45000
7439-92-1	Lead	28.1	5.9	7.1	7.3	67.7	400	800
7439-97-6	Mercury	0.18	0.45	0.044	0.037 U	0.037 U	23	65
7440-02-0	Nickel	13.2	11.4	10.7	15.1	15.0	1600	23000
7782-49-2	Selenium	2.2 U	2.4 U	2.5 U	2.4 U	2.4 U	390	5700
7440-22-4	Silver	1.1 U	1.2 U	1.2 U	1.2 U	1.2 U	390	5700
7440-28-0	Thallium	1.1 U	1.2 U	1.2 U	1.2 U	1.2 U	5	79
7440-66-6	Zinc	727	1040	147	704	1920	23000	110000

Notes

(a) Criterion based on the inhilation exposure pathway for hexavalent chromium

(b) Site-specific determination required for SCC for the alergic contact dermitis exposure pathway for hexavalent chromium bgs - below ground surface

Impact to groundwater pathway must be evaluated on a site by site basis using guidance developed by the NJDEP

J - estimated result, the reported value is greater than the method detection limit, but below the reporting limit

mg/Kg - milligrams per Kilogram

NA - not analyzed

NRDCSRS - non-residential direct contact soil remediation standard

NS - no standard listed on NJDEP's Soil Remediation Standards Tables

RDCSRS - residential direct contact soil remediation standard

Results highlighted exceed NRDCSRS

Results in bold exceed RDCSRS

U - not detected at the associated value

units in mg/Kg

NJDEP's limits based on Appendix 1 Soil Remediation Standards Tables

* 20 ppm chromium limit based on February 8, 2007 NJDEP Chromium Moratorium Memorandum for hexavalent chromium.

Samples were analyzed for total chromium.

Table 6 Laboratory Analytical Results Summary PCBs

	Date	11/28/07	11/28/07	11/28/07	11/29/07	11/29/07	11/29/07		
CAS #	Sample ID	SB16	SB17	SB27	SB40	SB41	SB42	RDCSRS	NRDCSRS
	Depth (feet bgs)	9-9.5	10-10.5	1-1.5	2-2.5	3-3.5	2-2.5		1.000
12674-11-2	Aroclor 1016	0.008 U	0.0078 U	0.0073 U	0.0069 U	0.007 U	0.0073 U	NS	NS
11104-28-2	Aroclor 1221	0.025 U	0.025 U	0.023 U	0.022 U	0.022 U	0.023 U	NS	NS
11141-16-5	Aroclor 1232	0.023 U	0.022 U	0.021 U	0.02 U	0.020 U	0.021 U	NS	NS
53469-21-9	Aroclor 1242	0.013 U	0.013 U	0.012 U	0.011 U	0.012 U	0.012 U	NS	NS
12672-29-6	Aroclor 1248	0.015 U	0.014 U	0.013 U	0.013 U	0.013 U	0.013 U	NS	NS
11097-69-1	Aroclor 1254	0.02 U	0.019 U	0.018 U	0.0556	0.017 U	0.72	NS	NS
11096-82-5	Aroclor 1260	0.0085 U	0.0082 U	0.976	0.0073 U	0.0074 U	0.0077 U	NS	NS
1336-36-3	PCBs (total)	0.1125	0.1090	1.0703	0.1358	0.0984	0.8040	0.20	1

Notes

bgs - below ground surface

Impact to groundwater pathway must be evaluated on a site by site basis using guidance developed by the NJDEP

J - estimated result, the reported value is greater than the method detection limit, but below the reporting limit

mg/Kg - milligrams per Kilogram

NA - not analyzed

NRDCSRS - non-residential direct contact soil remediation standard

NS - no standard listed on NJDEP's Soil Remediaiton Standards Tables

PCBs - Polychlorinated biphenyls

RDCSRS - residential direct contact soil remediation standard

Results highlighted exceed NRDCSRS

Results in bold exceed RDCSRS

Total PCBs are based on the sum of detection limits for non-detect results and detected concentrations

U - not detected at the associated value

units in mg/Kg

Table 7 Laboratory Analytical Results Summary Pesticides

CAS #	Date	11/28/07	11/28/07	RDCSRS	NRDCSRS
	Sample ID	SB16	SB17		
	Depth (feet bgs)	9-9.5	10-10.5	1	
309-00-2	Aldrin	0.00037 U	0.00036 U	0.04	0.2
319-84-6	alpha-BHC	0.00031 U	0.00030 U	0.1	0.5
319-85-7	beta-BHC	0.00037 U	0.00035 U	0.4	2
319-86-8	delta-BHC	0.00062 U	0.00060 U	NS	NS
58-89-9	gamma-BHC (Lindane)	0.00034 U	0.00033 U	0.4	2
12789-03-6	Chlordane	0.011 U	0.011 U	0.2	1
60-57-1	Dieldrin	0.00043 U	0.00041 U	0.04	0.2
72-54-8	4,4'-DDD	0.00041 U	0.00039 U	3	13
72-55-9	4,4'-DDE	0.00042 U	0.00041 U	2	9
50-29-3	4,4'-DDT	0.00052 U	0.00050 U	2	8
72-20-8	Endrin	0.00042 U	0.00041 U	23	340
1031-07-8	Endosulfan sulfate	0.00046 U	0.00044 U	470	6800
7421-93-4	Endrin aldehyde	0.00040 U	0.00038 U	NS	NS
115-29-7	Endosulfan-I and -II	0.00090 U	0.00087 U	470	6800
76-44-8	Heptachlor	0.00044 U	0.00042 U	0.1	0.7
1024-57-3	Heptachlor epoxide	0.00047 U	0.00045 U	0.07	0.3
72-43-5	Methoxychlor	0.00056 U	0.00054 U	390	5700
8001-35-2	Toxaphene	0.008 U	0.0078 U	0.6	3

Notes

units in mg/Kg

bgs - below ground surface

Impact to groundwater pathway must be evaluated on a site by site basis using guidance developed by the NJDEP J - estimated result, the reported value is greater than the method detection limit, but below the reporting limit

mg/Kg - milligrams per Kilogram

NA - not analyzed

NRDCSRS - non-residential direct contact soil remediation standard

NS - no standard listed on NJDEP's Soil Remediation Standards Tables

RDCSRS - residential direct contact soil remediation standard

Results highlighted exceed NRDCSRS

Results in bold exceed RDCSRS

U - not detected at the associated value

Table 8 Laboratory Analytical Results Summary General Chemistry

CAS #	Date	11/28/07	11/28/07		NRDCSRS
	Sample ID	SB16	SB17	RDCSRS	
	Depth (feet bgs)	9-9.5	10-10.5		
57-12-5	Cyanide	0.25 U	0.28 U	1600	23000
	Phenols (a)	2.9 U	3.3	NS	NS

Notes

(a) - NJDEP does not offer laboratory accredition for this compound which excludes it from regulatory reporting use in New Jersey bgs - below ground surface

Impact to groundwater pathway must be evaluated on a site by site basis using guidance developed by the NJDEP

J - estimated result, the reported value is greater than the method detection limit, but below the reporting limit

mg/Kg - milligrams per Kilogram

NA - not analyzed

NRDCSRS - non-residential direct contact soil remediation standard

NS - no standard listed on NJDEP's Soil Remediation Standards Tables

RDCSRS - residential direct contact soil remediation standard

Results highlighted exceed NRDCSRS

Results in bold exceed RDCSRS

U - not detected at the associated value

units in mg/Kg

Table 9 Laboratory Analytical Results Summary PPL Acid Extractables

CAS #	Date	11/28/07	11/28/07	RDCSRS	NRDCSRS
	Sample ID Depth (feet bgs)	SB16 9-9.5	SB17 10-10.5		
59-50-7	4-Chloro-3-methyl phenol	0.058 U	0.056 U	NS	NS
120-83-2	2,4-Dichlorophenol	0.044 U	0.043 U	180	2100
105-67-9	2,4-Dimethylphenol	0.052 U	0.005 U	1200	14000
51-28-5	2,4-Dinitrophenol	0.047 U	0.045 U	120	1400
534-52-1	4,6-Dinitro-o-cresol	0.078 U	0.075 U	6	68
88-75-5	2-Nitrophenol	0.049 U	0.048 U	NS	NS
100-02-7	4-Nitrophenol	0.075 U	0.072 U	NS	NS
87-86-5	Pentachlorophenol	0.044 U	0.043 U	3	10
108-95-2	Phenol	0.004 U	0.038 U	18000	210000
88-06-2	2,4,6-Trichlorophenol	0.086 U	0.083 U	19	74

Notes

bgs - below ground surface

Impact to groundwater pathway must be evaluated on a site by site basis using guidance developed by the NJDEP J - estimated result, the reported value is greater than the method detection limit, but below the reporting limit mg/Kg - milligrams per Kilogram

NA - not analyzed

NRDCSRS - non-residential direct contact soil remediation standard

NS - no standard listed on NJDEP's Soil Remediation Standards Tables

PPL - Priority Pollutant List

RDCSRS - residential direct contact soil remediation standard

Results highlighted exceed NRDCSRS

Results in bold exceed RDCSRS

U - not detected at the associated value

units in mg/Kg

EnviroSure, Inc.

APPENDIX E

LABORATORY ANALYTICAL RESULT PACKAGE