

**PHASE II
ENVIRONMENTAL SITE ASSESSMENT**

for
Pittsfield Charter Township

of the
**Undeveloped Parcel (3.98 acres)
West Waters Road and Oak Valley Drive
Ann Arbor, Michigan 48103**

Detroit, Michigan

October 15, 2018

ECT No. 180469-0200

Signature(s) of Environmental Professional(s)

The dual signatory process is an integral part of Environmental Consulting & Technology, Inc.'s (ECT's) Document Review Policy No. 9.03. All ECT documents undergo technical/peer review prior to dispatching these documents to any outside entity.

The environmental assessment described herein was conducted by the undersigned employees of ECT. ECT's investigation consisted solely of the activities described in the Introduction of this report, and in accordance with the Terms and Conditions of the Standard Consulting Services Agreement signed prior to initiation of the assessment, as applicable.

We declare that, to the best of our professional knowledge and belief, we meet the definition of environmental professionals as defined in §312.10 of 40 C.F.R. 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Subject Property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 C.F.R. Part 312.

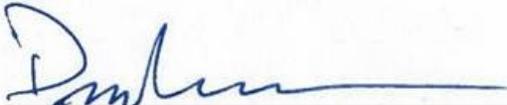
This document has been authored and reviewed by the following employees:

Maura Gibbons
Author


Signature

October 15, 2018
Date

Dirk Mammen
Peer Review


Signature

October 15, 2018
Date

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TABLES

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Appendix B—Analytical Laboratory Report

List of Acronyms

ASTM	American Society for Testing and Materials
BEA	Baseline Environmental Assessment
bgs	Below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CREC	Controlled Recognized Environmental Condition
DC	Direct Contact
DWP	Drinking Water Protection
ECT	Environmental Consulting & Technology, Inc.
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
GRCC	Generic Residential Cleanup Criteria
GSI	Groundwater Surface Water Interface
HREC	Historical Recognized Environmental Condition
MDEQ	Michigan Department of Environmental Quality
NREPA	Natural Resources and Environmental Protection Act
PID	Photoionization Detector
ppm	Part per million
REC	Recognized Environmental Condition
ug/kg	Micrograms per kilograms

1.0 Summary

Environmental Consulting & Technology, Inc. (ECT) performed a Phase I Environmental Site Assessment (ESA) in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Standard E 1527-13 for Pittsfield Charter Township (the Client) of the approximately 3.98-acre parcel located at the southwest corner of the intersection of West Waters Road and Oak Valley Drive, in Pittsfield Charter Township, Washtenaw County, Michigan (herein referred to as the Subject Property). The assessment identified one (1) Recognized Environmental Condition (REC), no Historical Recognized Environmental Conditions (HRECs), and no Controlled Recognized Environmental Conditions (CRECs) in connection with the investigated parcel:

- A geotechnical survey conducted on the Subject Property indicated that the site has been filled with compacted sand and occasional broken brick and concrete. There were no records available that provided information as to when the site was filled, the origin of the fill material, or if the fill material has been characterized for potential contaminants.

To verify the presence or absence of potential environmental impacts related to the fill material, ECT was retained by the Client to perform a Phase II ESA of the Subject Property. A Site Location Map is provided as **Figure 1**.

The Client is the prospective buyer of the Subject Property. The findings of the environmental assessment activities are summarized in the following sections and will be used by the Client to evaluate the Subject Property's status as a "facility" under Part 201 of the Natural Resources and Environmental Protection Act (NREPA), Public Act 451 of 1994, as amended. ECT has performed a Phase II ESA at the Subject Property in conformance with the scope and limitations of ASTM Practice E 1903-11. The purpose of the Phase II ESA is to evaluate the potential nature and extent of impacts to the subsurface at the Subject Property due to the historical placement of fill material.

The Phase II ESA included the completion of four (4) soil borings and the collection of four (4) soil samples, submitted to an analytical laboratory for evaluation. Using a hand auger, four (4) soil borings were advanced to the shallow subsurface to evaluate for potential contaminants in connection with the fill material. Based on the results of this Phase II ESA completed at the Subject Property, ECT provides the following conclusions:

- Concentrations of arsenic and chromium from the soil samples collected in September 2018 exceed the MDEQ Part 201 GRCC, but do not exceed the MBSS background concentrations established for the Huron-Erie Glacial Lobe Area.
- Concentrations of selenium from the soil samples collected in September 2018 exceed the MDEQ Part 201 GRCC for drinking water protection and groundwater surface interface, as well as the MBSS background concentrations established for the Huron-Erie Glacial Lobe Area. While the concentrations of selenium were detected above the MBSS background concentrations, it is possible that the presence of selenium may be representative of a localized higher background concentration and not indicative of the presence of contamination. In addition, the Township does not intend to use

groundwater on the site as a drinking water source and does not intend to create a surface water feature that will allow groundwater to vent, thus these potential exposure pathways are not relevant. Although the presence of elevated concentrations of selenium may not be indicative of the presence of contamination, its presence does allow for “*facility*” designation of the Subject Property under Part 201 of the NREPA, allowing for the preparation and submittal to the MDEQ of a Baseline Environmental Assessment (BEA), affording the Client the appropriate Part 201 environmental liability protections.

2.0 Introduction

ECT has completed a Phase II ESA of the Subject Property, situated on the southwest corner of the intersection of West Waters Road and Oak Valley Drive, in Pittsfield Charter Township, Washtenaw County, Michigan. The Subject Property is part of the Northwest ¼ of Section 7, Township 3 South, Range 6 East, in Washtenaw County, Michigan. The Site Location Map is provided as **Figure 1**.

The Subject Property is comprised of a single parcel containing approximately 3.98 acres of undeveloped land, situated at the southwest corner of the intersection of West Waters Road and Oak Valley Drive, in Pittsfield Township, Michigan.

The findings of the Phase I and II ESA activities are summarized in the following sections and will be used to evaluate the Subject Property's status as a "facility," under Part 201 of the NREPA, Public Act 451 of 1994, as amended. This Phase II ESA report is intended to follow ASTM E1903-11, *the Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process*.

The purpose of ASTM Practice E1903-11 is to conduct a Phase II ESA of a parcel of property with respect to the presence of, or the likely presence of substances, including but not limited to those required per the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA; 42 U.S.C. §9601) for documenting the assessment scope and the constraints on the conduct of the assessment process.

2.1 Phase I ESA Findings

ECT has performed a Phase I ESA in conformance with the scope and limitations of ASTM Standard E 1527-13 of the Subject Property. The assessment identified one (1) REC, no HRECs, and no CRECs in connection with the Subject Property.

- A geotechnical survey conducted on the Subject Property indicated that the site has been filled with compacted sand and occasional broken brick and concrete. There were no records available that provided information as to when the site was filled, the origin of the fill material, or if the fill material has been characterized for potential contaminants.

2.2 Detailed Scope of Services

To further evaluate potential historical impacts related to the identified REC, ECT completed the following scope of services during September 2018 on the Subject Property:

- Using hand auger methods, advanced four (4) soil borings to a depth of approximately three (3) feet below ground surface (bgs). The borings were advanced into the shallow subsurface of the Subject Property to investigate the potential impacts of the fill material. One (1) soil sample was collected from each boring location and submitted to an analytical laboratory to be analyzed for PCBs and Michigan metals using the Environmental Protection Agency (EPA) Method 6020A.

2.3 User Reliance

This Phase II ESA was conducted for the use of and reliance by the Client and their assignees, including for the benefit of a Michigan Natural Resources Trust Fund grant, and may be relied upon by these parties only. No use of the information contained in this report by others is permissible without receiving prior written authorization to do so from ECT. ECT is not responsible for independent conclusions, opinions, or recommendations made by others or otherwise based on the findings presented in this report.

3.0 Background Information

3.1 Location and Legal Description

The Subject Property is comprised of a single parcel containing approximately 3.98 acres of undeveloped land, situated at the southwest corner of the intersection of West Waters Road and Oak Valley Drive, in Pittsfield Township, Michigan. The Subject Property is part of the Northwest ¼ of Section 7, Township 3 South, Range 6 East, in Washtenaw County, Michigan. The legal description of the Subject Property is below:

Parcel #L-12-07-200-003: “*OLD SID – L-12-007-019-00 PI 7-5H-1 COM AT N ¼ COR OF SEC 7, TH W 649.95 FT ON N/L OF SECTO POB, TH W 292 FT ON SAID N/L, TH DEFL 89-42-30 LFT 594 FT, TH DEFL 90-17-30 LFT 292 FT, TH DEFL 89-42-30 LFT 594 FT TO POB PART NW ¼ SEC 7 T3S R6E 3.98 AC.”

3.2 Site and Vicinity General Characteristics

The Subject Property is situated along the south side of West Waters Road and along the west side of Oak Valley Drive, in Pittsfield Charter Township, Michigan. The Subject Property has an approximate elevation of 917 feet above sea level and is topographically flat. During the site visit, the Subject Property was observed to be approximately three (3) feet higher than the sidewalk bordering to the north. The surrounding area is a mixture of residential and commercial properties.

3.3 Current Use of the Property

The Subject Property is currently undeveloped, covered by grass and densely vegetated woodland. Overhead utility lines transect through the south-central portion of the Subject Property, and a drain is located in the vegetated areas throughout the southern portion of the Subject Property. A Site and Surrounding Properties Map is provided in **Figure 2**.

3.4 Previous Site Investigations

Previous site investigations were not provided to ECT.

3.5 Descriptions of Structures, Roads, and Other Improvements on the Site

3.5.1 General Descriptions of Structures

No structures currently occupy the Subject Property.

3.5.2 Roads

The Subject Property can be accessed by West Waters Road to the north and by Oak Valley Drive to the east.

3.5.3 Potable Water Supply

The Subject Property is currently not connected to potable water supplies. However, the surrounding properties are supplied with potable water from Ypsilanti Community Utilities Authority.

3.5.4 Sewage Disposal System

The Subject Property is currently not connected to sanitary sewer service. However, the surrounding properties are supplied with sanitary sewer service from Ypsilanti Community Utilities Authority.

3.6 Current Uses of the Adjoining Properties

The Subject Property is bordered to the north by West Waters Road and to the east by Oak Valley Drive. Opposite of West Waters Road, residential properties are observed in the north direction. Opposite of Oak Valley Drive, the east adjoining property is commercially developed and occupied by a mixed retail structure, including restaurants, salons, and a grocery store. The Subject Property is bordered to the south by undeveloped land; a residential dwelling is observed further south. A residential property, occupied by a dwelling, a garage, and a shed, borders the Subject Property to the west.

4.0 Methods

4.1 Soil Sampling

On September 12, 2018, ECT collected soil samples by advancing four (4) soil borings using hand auger methods to a depth of three (3) feet bgs. Following the retrieval of each soil interval, soils were described and logged by a field technician in accordance with the Unified Soil Classification System and field screened for ionizable volatile organic compounds using a MiniRae 3000 photoionization detector (PID) equipped with a 10.6 electron volt lamp. The PID has a minimum detection limit of one part per million (ppm) and was calibrated daily prior to usage. Soil samples were collected for laboratory analysis based on soil type, sample depth, visual observations, and screening results. At the conclusion of sampling activities, all soil borings were backfilled with the original soil cuttings.

Using a hand auger, soil borings HA-1 through HA-4 were advanced to the shallow subsurface to evaluate for potential contaminants in connection with the fill material on the Subject Property. The Boring Location Map is provided as **Figure 3**. One (1) soil sample was collected from each boring, and the samples were analyzed for PCBs and Michigan metals using EPA Method 6020A. Based on low PID screening readings, the soil samples were not analyzed for volatile organic compounds and polynuclear aromatic hydrocarbons. Soil samples submitted for laboratory analyses were placed in an ice-filled cooler for storage and picked up the following day by a courier of the analytical laboratory, Pace Analytical.

4.2 Analytical Laboratory Testing Program

Samples collected during soil boring activities were submitted under chain-of-custody to Pace Analytical for quantitative analyses. The number of samples submitted for analytical laboratory testing and the parameters evaluated are summarized in the table below:

Location Code	Area of Interest	Media	PCBs Method 6020A	Michigan metals Method 6020A
HA-1 through HA-4	Fill Material	Soil	4	4

5.0 Results

The following sections discuss the results of this Phase II ESA.

5.1 Soil Lithology and Hydrogeology

Boring logs documenting soil conditions observed during ECT's September 2018 Phase II ESA investigation activities are attached as **Appendix A**.

Borings HA-1 through HA-4 were advanced on the grass of the Subject Property to approximately three (3) feet bgs. A rock refusal was encountered at HA-2 at approximately two and half (2.5) feet bgs. Soil boring HA-4 was advanced to two (2) feet bgs because the fill material appeared to end just below one and half (1.5) feet bgs.

Below the grass, dark brown sand was observed within the upper half foot in all soil borings. Below the dark brown sand, brown sand with little to some clay was encountered in all soil borings; the brown sand was observed to the bottom of soil borings HA-2 and HA-3. A brick fragment was observed in soil boring HA-3 at approximately 2.5 feet bgs. Below the brown sand layer, brown sand and gray clay was observed at 2.5 and 1.5 feet bgs in soil borings HA-1 and HA-4, respectively, until the bottom of the borings. Elevated PID readings, odors, and staining were not observed in any of the soil borings.

5.2 Soil Analytical Results

The Soil Analytical Summary is provided as **Table 1** and compares the results to applicable the MDEQ Part 201 GRCC. Although several results exceed the GRCC, the MDEQ allows comparison of these concentrations to a regionally based criteria that is more reflective of naturally occurring metals based on the local glacial geology. As such, these results are compared to the Michigan Background Soil Survey (MBSS) for topsoil within the Huron-Erie Glacial Lobe Area. A summary of the analytical soil results is presented below:

- Soil samples collected from borings HA-1 through HA-4 were analyzed for PCBs and Michigan metals to evaluate for potential contaminants from the fill material. Based on the absence of elevated PID screening readings, the soil samples were not analyzed for volatile organic compounds and polynuclear aromatic hydrocarbons.
- Arsenic was detected in all soil samples at concentrations ranging between 6,300 to 9,700 micrograms per kilograms (ug/kg). Although these concentrations exceed the GRCC for drinking water protection (DWP) (4,600 ug/kg), groundwater surface water interface (GSI) (4,600 ug/kg) criteria, and direct contact (DC) (7,600 ug/kg) criteria at locations HA-1 and HA-2, they do not exceed the MBSS background criteria (11,000 ug/kg).
- Chromium (total) was detected in all soil samples at concentrations ranging between 17,800 to 21,900 ug/kg. Although the concentrations of chromium (total) in the soil samples collected from boring HA-

2, HA-3, and HA-4 exceed the GSI (3,300 ug/kg) criteria, they do not exceed the MBSS background criteria (37,000 ug/kg).

- Selenium was detected in all soil samples at concentrations ranging between 6,000 to 7,700 ug/kg. The concentrations of selenium in all soil samples exceed the DWP (4,000 ug/kg) and GSI (400 ug/kg) criteria of the GRCC, as well as the MBSS background criteria (3,900 – 4,700 ug/kg).
- Other metals were detected in the soil samples; however, the concentrations were below their respective GRCC.
- PCBs were not detected in the soil samples.

The Analytical Laboratory Report is provided as **Appendix B**.

6.0 Opinion and Conclusions

Based on the results of the environmental site assessments completed at the Subject Property, ECT has concluded the following:

- Concentrations of arsenic and chromium from the soil samples collected in September 2018 exceed the MDEQ Part 201 GRCC, but do not exceed the MBSS background concentrations established for the Huron-Erie Glacial Lobe Area.
- Concentrations of selenium from the soil samples collected in September 2018 exceed the MDEQ Part 201 GRCC for drinking water protection and groundwater surface interface, as well as the MBSS background concentrations established for the Huron-Erie Glacial Lobe Area. While the concentrations of selenium were detected above the MBSS background concentrations, it is possible that the presence of selenium may be representative of a localized higher background concentration and not indicative of the presence of contamination. In addition, the Township does not intend to use groundwater on the site as a drinking water source and does not intend to create a surface water feature that will allow groundwater to vent, thus these potential exposure pathways are not relevant. Although the presence of elevated concentrations of selenium may not be indicative of the presence of contamination, its presence does allow for “*facility*” designation of the Subject Property under Part 201 of the NREPA, allowing for the preparation and submittal to the MDEQ of a Baseline Environmental Assessment (BEA), affording the Client the appropriate Part 201 environmental liability protections.

7.0 References

ASTM E 1527-13, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

ASTM Practice E1903-11, Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process.

Phase I Environmental Site Assessment: Undeveloped Parcel (3.98 acres), West Waters Road and Oak Valley Drive, Ann Arbor, Michigan, prepared by Environmental Consulting & Technology, Inc., August 10, 2018.

Soils Investigation: Condominium Development, Waters Road and Oak Valley Drive, prepared by McDowell and Associates, December 30, 1998.

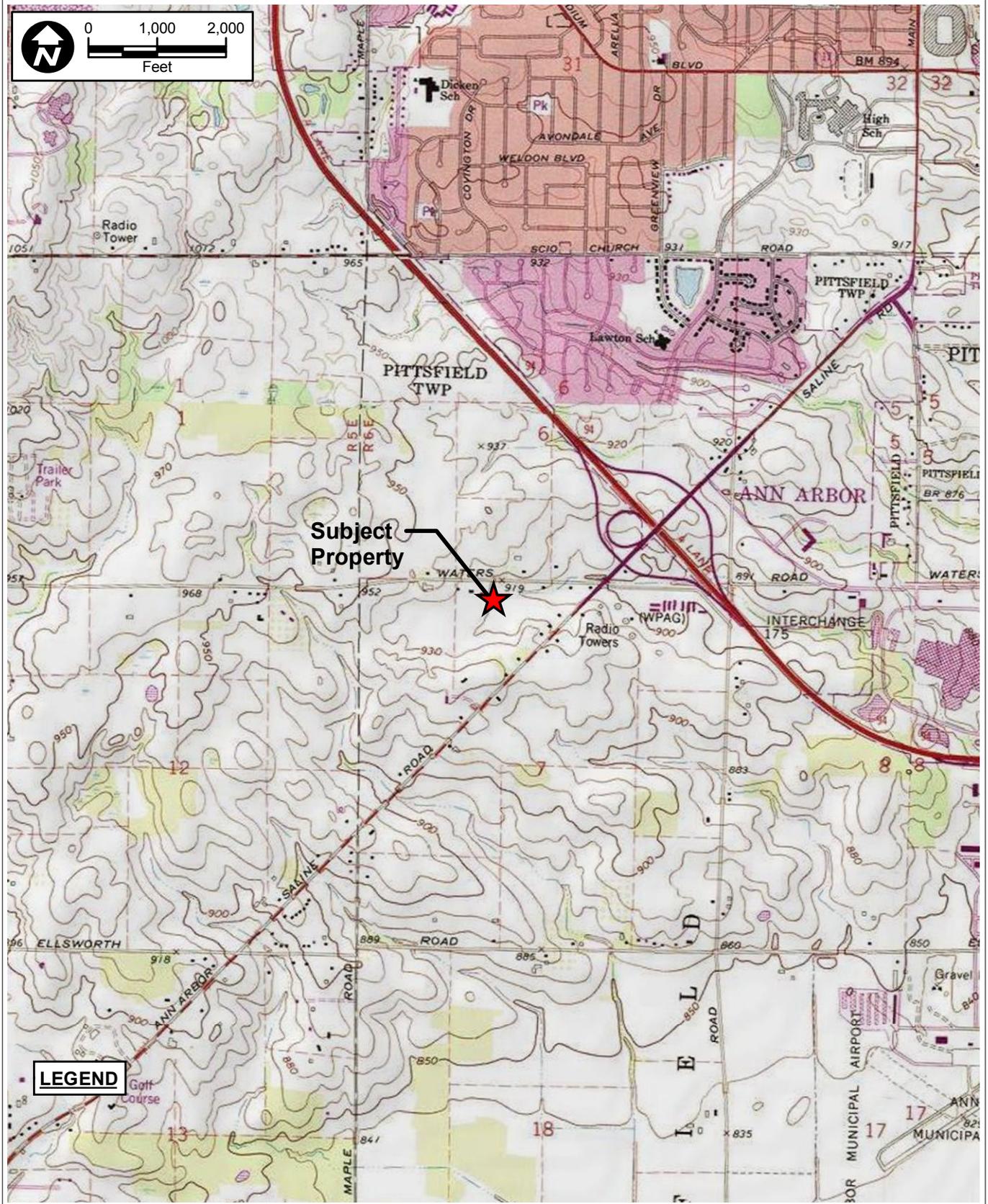


FIGURE 1.
SITE LOCATION MAP
WATERS ROAD/OAK VALLEY DRIVE PROPERTY
PITTSFIELD TOWNSHIP, MI. 48108

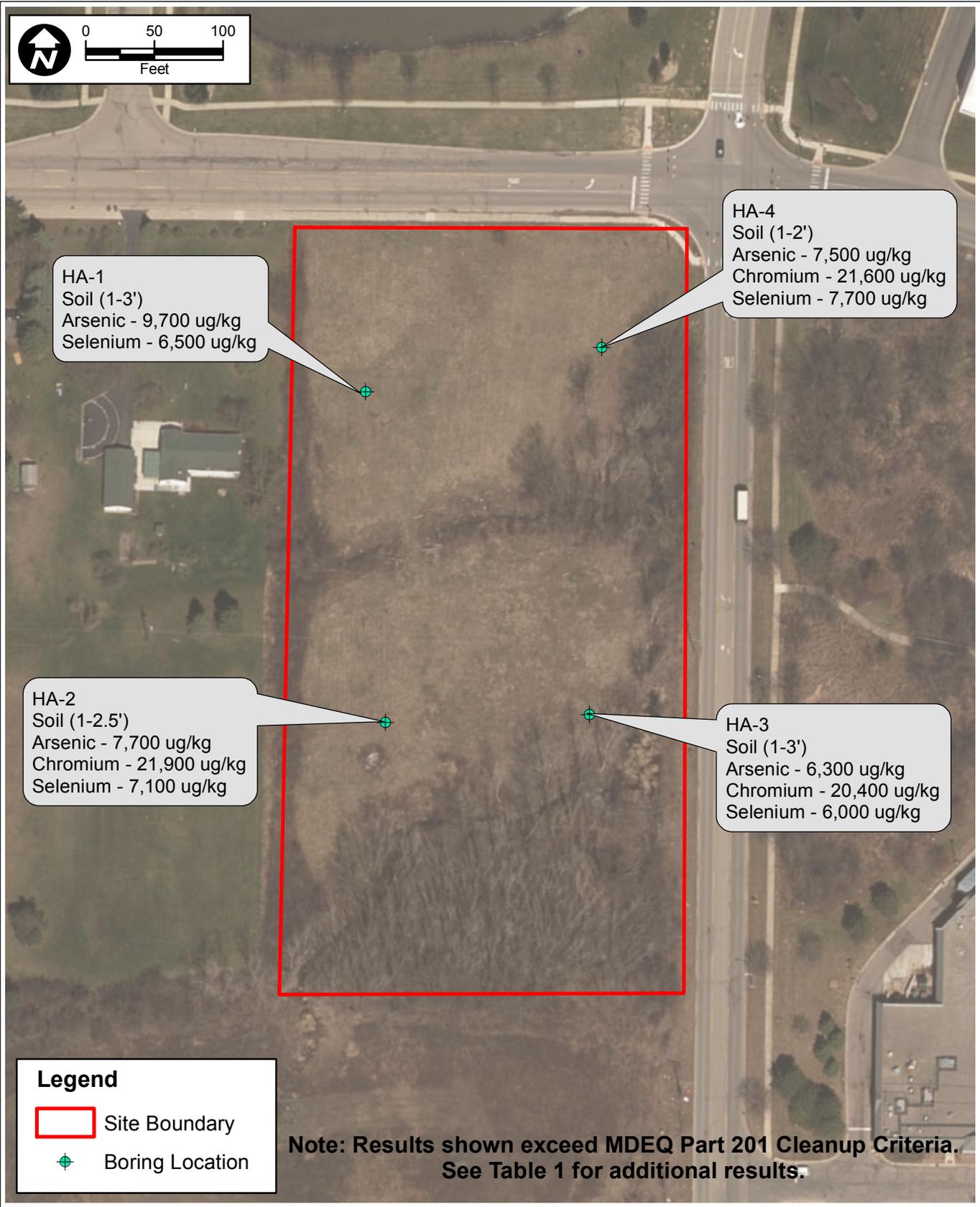
Sources: ECT, 2018.





FIGURE 2.
SITE AND SURROUNDING PROPERTIES MAP
WATERS ROAD/OAK VALLEY DRIVE PROPERTY
PITTSFIELD TOWNSHIP, MI. 48108

Sources: ECT, 2018.



**FIGURE 3.
BORING LOCATION MAP
WATERS ROAD/OAK VALLEY DRIVE PROPERTY
PITTSFIELD TOWNSHIP, MI. 48108**

Sources: ECT, 2018.



**Table 1. Soil Analytical Summary
West Waters Road and Oak Valley Drive**

Matrix: Soil
Cleanup Criteria: Residential
Page 1 of 1

	Chemical Abstract Service #	MBSS (2015)			Part 201 Cleanup Criteria (December 2013)							Sample Location			
		Huron-Erie Lobe			Residential Criteria							HA-1 (1-3')	HA-2 (1-2.5')	HA-3 (1-3')	HA-4 (1-2')
		Topsoil (2 SD)	Sand (2 SD)	Clay (2 SD)	Statewide Default Background	Drinking Water Protection	Groundwater Surface Water Interface	Soil Volatilization to Indoor Air	Infinite Source Volatile Soil Inhalation	Direct Contact	Soil Saturation Concentration Screening Levels	9/12/18	9/12/18	9/12/18	9/12/18
Metals, ug/kg - Method 6020															
Arsenic	7440382	14,900	26,300	31,400	5,800	4,600	4,600	NLV	NLV	7,600	NA	9,700	7,700	6,300	7,500
Barium	7440393	261,000	199,000	227,000	75,000	1,300,000	440,000	NLV	NLV	37,000,000	NA	60,000	79,200	69,800	91,300
Cadmium	7440439	2,000	2,000	3,100	1,200	6,000	3,000	NLV	NLV	550,000	NA	270	400	310	350
Chromium (Total)	Varies	37,000	30,400	77,000	18,000	30,000	3,300	NLV	NLV	2,500,000	NA	17,800	21,900	20,400	21,600
Copper	7440508	52,500	23,500	46,900	32,000	5,800,000	75,000	NLV	NLV	20,000,000	NA	18,100	15,800	12,700	17,500
Lead	7439921	43,900	24,100	26,200	21,000	700,000	2,500,000	NLV	NLV	400,000	NA	10,600	16,700	15,600	8,700
Mercury	Varies	160	120	580	130	1,700	50	48,000	52,000	160,000	NA	nd	nd	nd	nd
Selenium	7782492	4,700	3,900	1,200	410	4,000	400	NLV	NLV	2,600,000	NA	6,500	7,100	6,000	7,700
Silver	7440224	1,600	1,200	6,000	1,000	4,500	100	NLV	NLV	2,500,000	NA	nd	nd	nd	nd
Zinc	7440666	122,000	85,800	102,000	47,000	2,400,000	170,000	NLV	NLV	170,000,000	NA	65,800	63,600	64,500	56,700
PCBs, ug/kg - Method 6020															
Polychlorinated biphenyls (PCBs)	1336363					NLL	NLL	3,000,000	240,000	4,000	NA	nd	nd	nd	nd

Note:
 MBSS = Michigan Background Soil Survey
 NA = insufficient data to develop criterion
 nd = not detected
 NLV = not likely to volatilize
 SD = arithmetic or geometric standard deviation, not applicable for nonparametric
 shaded background or criterion indicates that a sample of higher concentration was detected
 shaded result indicates that the sample exceeds BOTH the MBSS background AND at least one criterion

Assumptions:
 hardness estimate for receiving waters = 150 mg/L
 protective for surface water that is used as a drinking water source



LOG OF BORING HA-1

Pittsfield Charter Township
Project #180469-0200

Date Completed : 9/12/18
Hole Diameter : 2 inches
Drilling Company : ECT
Drilling Method : Hand Auger
Company Rep. : Maura Gibbons

Boring Location :
West Waters Road and Oak Valley Drive
Pittsfield Charter Township, Michigan

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (in feet)	Sample ID	DESCRIPTION	REMARKS	Water Level
0.0						dark brown, medium to coarse grained, moist SAND, with organic material		
0.5	SW		0.5			brown, fine to coarse grained, moist SAND, some gray CLAY, trace GRAVEL		
1.0								
1.5	SW		N/A					
2.0					HA-1(1-3')			
2.5						brown, fine to coarse grained, moist SAND and gray CLAY, trace GRAVEL		
3.0	SC		1.2					
End of Boring at 3' bgs								



LOG OF BORING HA-2

Pittsfield Charter Township
Project #180469-0200

Date Completed : 9/12/18
Hole Diameter : 2 inches
Drilling Company : ECT
Drilling Method : Hand Auger
Company Rep. : Maura Gibbons

Boring Location :
West Waters Road and Oak Valley Drive
Pittsfield Charter Township, Michigan

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (in feet)	Sample ID	DESCRIPTION	REMARKS	Water Level
0.0						dark brown, medium to coarse grained, moist SAND, with organic material		
0.5	SW		0.6			brown, fine to coarse grained, moist SAND, some GRAVEL, little brown CLAY, with organic material	Rock encountered at 0.5' bgs. The remainder of the boring was slightly slanted towards the west to bypass the rock.	
1.0			0.4					
1.5	SW		0.2	N/A				
2.0			0.5		HA-2(1-2.5')			
2.5			1.2					
3.0						Rock Refusal: End of Boring at 2.5' bgs		



LOG OF BORING HA-3

Pittsfield Charter Township
Project #180469-0200

Date Completed : 9/12/18
Hole Diameter : 2 inches
Drilling Company : ECT
Drilling Method : Hand Auger
Company Rep. : Maura Gibbons

Boring Location :
West Waters Road and Oak Valley Drive
Pittsfield Charter Township, Michigan

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (in feet)	Sample ID	DESCRIPTION	REMARKS	Water Level
0.0						dark brown, medium to coarse grained, moist SAND, with organic material		
0.5	SW		0.0					
1.0						brown, fine to coarse grained, moist SAND, little GRAVEL, little brown CLAY, with organic material		
1.5				N/A				
2.0	SW		0.4		HA-3(1-3')			
2.5							Brick fragment observed at 2.5' bgs.	
3.0			0.4			End of Boring at 3' bgs		

September 26, 2018

Ryan Higuchi
Environmental Consulting & Technology, Inc.
2200 Commonwealth
Ann Arbor, MI 48105

RE: Project: Pittsfield Twp; 180469-0200
Pace Project No.: 4617639

Dear Ryan Higuchi:

Enclosed are the analytical results for sample(s) received by the laboratory on September 13, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Brian Hall
brian.hall@pacelabs.com
(616)975-4500
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: Pittsfield Twp; 180469-0200

Pace Project No.: 4617639

Grand Rapids Certification ID's

5560 Corporate Exchange Ct SE, Grand Rapids, MI 49512

Minnesota Department of Health, Certificate #1385941

Arkansas Department of Environmental Quality, Certificate
#18-046-0

Georgia Environmental Protection Division, Stipulation

Illinois Environmental Protection Agency, Certificate

#004325

Michigan Department of Environmental Quality, Laboratory

#0034

New York State Department of Health, Serial #57971 and
57972

North Carolina Division of Water Resources, Certificate
#659

Virginia Department of General Services, Certificate #9780

Wisconsin Department of Natural Resources, Laboratory
#999472650

U.S. Department of Agriculture Permit to Receive Soil,
Permit #P330-17-00278

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Pittsfield Twp; 180469-0200

Pace Project No.: 4617639

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4617639001	HA-1 (1-3')	Solid	09/12/18 09:40	09/13/18 18:15
4617639002	HA-2 (1-2.5')	Solid	09/12/18 10:20	09/13/18 18:15
4617639003	HA-3 (1-3')	Solid	09/12/18 10:45	09/13/18 18:15
4617639004	HA-4 (1-2')	Solid	09/12/18 11:20	09/13/18 18:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Pittsfield Twp; 180469-0200

Pace Project No.: 4617639

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4617639001	HA-1 (1-3')	EPA 8082A	JLB	9
		EPA 6020A	NHAM	9
		EPA 7471B	KLV	1
		SM 2540 G-11/3550	NS1	1
4617639002	HA-2 (1-2.5')	EPA 8082A	JLB	9
		EPA 6020A	NHAM	9
		EPA 7471B	KLV	1
		SM 2540 G-11/3550	NS1	1
4617639003	HA-3 (1-3')	EPA 8082A	JLB	9
		EPA 6020A	NHAM	9
		EPA 7471B	KLV	1
		SM 2540 G-11/3550	NS1	1
4617639004	HA-4 (1-2')	EPA 8082A	JLB	9
		EPA 6020A	NHAM	9
		EPA 7471B	KLV	1
		SM 2540 G-11/3550	NS1	1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Pittsfield Twp; 180469-0200
Pace Project No.: 4617639

Sample: HA-1 (1-3) **Lab ID: 4617639001** Collected: 09/12/18 09:40 Received: 09/13/18 18:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE		Analytical Method: EPA 8082A Preparation Method: EPA 3545A						
PCB-1016 (Aroclor 1016)	<0.036	mg/kg	0.036	1	09/17/18 08:35	09/19/18 21:43	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.036	mg/kg	0.036	1	09/17/18 08:35	09/19/18 21:43	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.036	mg/kg	0.036	1	09/17/18 08:35	09/19/18 21:43	11141-16-5	
PCB-1242 (Aroclor 1242)	<0.036	mg/kg	0.036	1	09/17/18 08:35	09/19/18 21:43	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.036	mg/kg	0.036	1	09/17/18 08:35	09/19/18 21:43	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.036	mg/kg	0.036	1	09/17/18 08:35	09/19/18 21:43	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.036	mg/kg	0.036	1	09/17/18 08:35	09/19/18 21:43	11096-82-5	
Surrogates								
Decachlorobiphenyl (S)	74	%	45-135	1	09/17/18 08:35	09/19/18 21:43	2051-24-3	
Tetrachloro-m-xylene (S)	70	%	56-123	1	09/17/18 08:35	09/19/18 21:43	877-09-8	
6020A MET ICPMS		Analytical Method: EPA 6020A Preparation Method: EPA 3050B						
Arsenic	9.7	mg/kg	0.54	5	09/18/18 06:37	09/21/18 11:32	7440-38-2	
Barium	60.0	mg/kg	5.4	50	09/18/18 06:37	09/21/18 11:30	7440-39-3	
Cadmium	0.27	mg/kg	0.054	1	09/18/18 06:37	09/21/18 10:02	7440-43-9	
Chromium	17.8	mg/kg	0.54	5	09/18/18 06:37	09/21/18 11:32	7440-47-3	
Copper	18.1	mg/kg	0.54	5	09/18/18 06:37	09/21/18 11:32	7440-50-8	
Lead	10.6	mg/kg	0.54	5	09/18/18 06:37	09/21/18 11:32	7439-92-1	
Selenium	6.5	mg/kg	0.54	5	09/18/18 06:37	09/21/18 11:32	7782-49-2	
Silver	<0.054	mg/kg	0.054	1	09/18/18 06:37	09/21/18 10:02	7440-22-4	
Zinc	65.8	mg/kg	54.0	50	09/18/18 06:37	09/21/18 11:30	7440-66-6	
7471 Mercury		Analytical Method: EPA 7471B Preparation Method: EPA 7471B						
Mercury	<0.056	mg/kg	0.056	1	09/24/18 11:04	09/25/18 10:11	7439-97-6	
Percent Moisture		Analytical Method: SM 2540 G-11/3550						
Percent Moisture	12.0	%	0.10	1		09/17/18 15:10		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Pittsfield Twp; 180469-0200
Pace Project No.: 4617639

Sample: HA-2 (1-2.5') **Lab ID: 4617639002** Collected: 09/12/18 10:20 Received: 09/13/18 18:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE		Analytical Method: EPA 8082A Preparation Method: EPA 3545A						
PCB-1016 (Aroclor 1016)	<0.038	mg/kg	0.038	1	09/17/18 08:35	09/19/18 21:55	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.038	mg/kg	0.038	1	09/17/18 08:35	09/19/18 21:55	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.038	mg/kg	0.038	1	09/17/18 08:35	09/19/18 21:55	11141-16-5	
PCB-1242 (Aroclor 1242)	<0.038	mg/kg	0.038	1	09/17/18 08:35	09/19/18 21:55	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.038	mg/kg	0.038	1	09/17/18 08:35	09/19/18 21:55	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.038	mg/kg	0.038	1	09/17/18 08:35	09/19/18 21:55	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.038	mg/kg	0.038	1	09/17/18 08:35	09/19/18 21:55	11096-82-5	
Surrogates								
Decachlorobiphenyl (S)	75	%	45-135	1	09/17/18 08:35	09/19/18 21:55	2051-24-3	
Tetrachloro-m-xylene (S)	79	%	56-123	1	09/17/18 08:35	09/19/18 21:55	877-09-8	
6020A MET ICPMS		Analytical Method: EPA 6020A Preparation Method: EPA 3050B						
Arsenic	7.7	mg/kg	0.58	5	09/18/18 06:37	09/21/18 11:37	7440-38-2	
Barium	79.2	mg/kg	5.8	50	09/18/18 06:37	09/21/18 11:35	7440-39-3	
Cadmium	0.40	mg/kg	0.058	1	09/18/18 06:37	09/21/18 10:08	7440-43-9	
Chromium	21.9	mg/kg	0.58	5	09/18/18 06:37	09/21/18 11:37	7440-47-3	
Copper	15.8	mg/kg	0.58	5	09/18/18 06:37	09/21/18 11:37	7440-50-8	
Lead	16.7	mg/kg	0.58	5	09/18/18 06:37	09/21/18 11:37	7439-92-1	
Selenium	7.1	mg/kg	0.58	5	09/18/18 06:37	09/21/18 11:37	7782-49-2	
Silver	<0.058	mg/kg	0.058	1	09/18/18 06:37	09/21/18 10:08	7440-22-4	
Zinc	63.6	mg/kg	57.7	50	09/18/18 06:37	09/21/18 11:35	7440-66-6	
7471 Mercury		Analytical Method: EPA 7471B Preparation Method: EPA 7471B						
Mercury	<0.056	mg/kg	0.056	1	09/24/18 11:04	09/25/18 10:41	7439-97-6	
Percent Moisture		Analytical Method: SM 2540 G-11/3550						
Percent Moisture	14.0	%	0.10	1		09/17/18 15:12		

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ANALYTICAL RESULTS

Project: Pittsfield Twp; 180469-0200
Pace Project No.: 4617639

Sample: HA-3 (1-3) **Lab ID: 4617639003** Collected: 09/12/18 10:45 Received: 09/13/18 18:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE		Analytical Method: EPA 8082A Preparation Method: EPA 3545A						
PCB-1016 (Aroclor 1016)	<0.039	mg/kg	0.039	1	09/17/18 08:35	09/19/18 22:06	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.039	mg/kg	0.039	1	09/17/18 08:35	09/19/18 22:06	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.039	mg/kg	0.039	1	09/17/18 08:35	09/19/18 22:06	11141-16-5	
PCB-1242 (Aroclor 1242)	<0.039	mg/kg	0.039	1	09/17/18 08:35	09/19/18 22:06	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.039	mg/kg	0.039	1	09/17/18 08:35	09/19/18 22:06	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.039	mg/kg	0.039	1	09/17/18 08:35	09/19/18 22:06	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.039	mg/kg	0.039	1	09/17/18 08:35	09/19/18 22:06	11096-82-5	
Surrogates								
Decachlorobiphenyl (S)	76	%	45-135	1	09/17/18 08:35	09/19/18 22:06	2051-24-3	
Tetrachloro-m-xylene (S)	79	%	56-123	1	09/17/18 08:35	09/19/18 22:06	877-09-8	
6020A MET ICPMS		Analytical Method: EPA 6020A Preparation Method: EPA 3050B						
Arsenic	6.3	mg/kg	0.56	5	09/18/18 06:37	09/21/18 11:41	7440-38-2	
Barium	69.8	mg/kg	5.6	50	09/18/18 06:37	09/21/18 11:39	7440-39-3	
Cadmium	0.31	mg/kg	0.056	1	09/18/18 06:37	09/21/18 10:10	7440-43-9	
Chromium	20.4	mg/kg	0.56	5	09/18/18 06:37	09/21/18 11:41	7440-47-3	
Copper	12.7	mg/kg	0.56	5	09/18/18 06:37	09/21/18 11:41	7440-50-8	
Lead	15.6	mg/kg	0.56	5	09/18/18 06:37	09/21/18 11:41	7439-92-1	
Selenium	6.0	mg/kg	0.56	5	09/18/18 06:37	09/21/18 11:41	7782-49-2	
Silver	<0.056	mg/kg	0.056	1	09/18/18 06:37	09/21/18 10:10	7440-22-4	
Zinc	64.5	mg/kg	55.8	50	09/18/18 06:37	09/21/18 11:39	7440-66-6	
7471 Mercury		Analytical Method: EPA 7471B Preparation Method: EPA 7471B						
Mercury	<0.058	mg/kg	0.058	1	09/24/18 11:04	09/25/18 10:46	7439-97-6	
Percent Moisture		Analytical Method: SM 2540 G-11/3550						
Percent Moisture	17.1	%	0.10	1		09/17/18 15:13		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Pittsfield Twp; 180469-0200
Pace Project No.: 4617639

Sample: HA-4 (1-2) **Lab ID: 4617639004** Collected: 09/12/18 11:20 Received: 09/13/18 18:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE		Analytical Method: EPA 8082A Preparation Method: EPA 3545A						
PCB-1016 (Aroclor 1016)	<0.038	mg/kg	0.038	1	09/17/18 08:35	09/19/18 22:18	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.038	mg/kg	0.038	1	09/17/18 08:35	09/19/18 22:18	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.038	mg/kg	0.038	1	09/17/18 08:35	09/19/18 22:18	11141-16-5	
PCB-1242 (Aroclor 1242)	<0.038	mg/kg	0.038	1	09/17/18 08:35	09/19/18 22:18	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.038	mg/kg	0.038	1	09/17/18 08:35	09/19/18 22:18	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.038	mg/kg	0.038	1	09/17/18 08:35	09/19/18 22:18	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.038	mg/kg	0.038	1	09/17/18 08:35	09/19/18 22:18	11096-82-5	
Surrogates								
Decachlorobiphenyl (S)	83	%	45-135	1	09/17/18 08:35	09/19/18 22:18	2051-24-3	
Tetrachloro-m-xylene (S)	85	%	56-123	1	09/17/18 08:35	09/19/18 22:18	877-09-8	
6020A MET ICPMS		Analytical Method: EPA 6020A Preparation Method: EPA 3050B						
Arsenic	7.5	mg/kg	0.55	5	09/18/18 06:37	09/21/18 11:47	7440-38-2	
Barium	91.3	mg/kg	5.5	50	09/18/18 06:37	09/21/18 11:43	7440-39-3	
Cadmium	0.35	mg/kg	0.055	1	09/18/18 06:37	09/21/18 10:12	7440-43-9	
Chromium	21.6	mg/kg	0.55	5	09/18/18 06:37	09/21/18 11:47	7440-47-3	
Copper	17.5	mg/kg	0.55	5	09/18/18 06:37	09/21/18 11:47	7440-50-8	
Lead	8.7	mg/kg	0.55	5	09/18/18 06:37	09/21/18 11:47	7439-92-1	
Selenium	7.7	mg/kg	0.55	5	09/18/18 06:37	09/21/18 11:47	7782-49-2	
Silver	<0.055	mg/kg	0.055	1	09/18/18 06:37	09/21/18 10:12	7440-22-4	
Zinc	56.7	mg/kg	54.8	50	09/18/18 06:37	09/21/18 11:43	7440-66-6	
7471 Mercury		Analytical Method: EPA 7471B Preparation Method: EPA 7471B						
Mercury	<0.056	mg/kg	0.056	1	09/24/18 11:04	09/25/18 10:51	7439-97-6	
Percent Moisture		Analytical Method: SM 2540 G-11/3550						
Percent Moisture	14.0	%	0.10	1		09/17/18 15:14		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Pittsfield Twp; 180469-0200

Pace Project No.: 4617639

QC Batch: 33897 Analysis Method: EPA 7471B
QC Batch Method: EPA 7471B Analysis Description: 7471 Mercury
Associated Lab Samples: 4617639001, 4617639002, 4617639003, 4617639004

METHOD BLANK: 137016 Matrix: Solid
Associated Lab Samples: 4617639001, 4617639002, 4617639003, 4617639004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	<0.047	0.047	09/25/18 10:01	

LABORATORY CONTROL SAMPLE: 137017

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.32	0.30	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 137018 137019

Parameter	Units	137018		137019		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		4617639001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Mercury	mg/kg	<0.056	.35	.38	0.38	0.39	108	105	80-120	1	20

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Pittsfield Twp; 180469-0200

Pace Project No.: 4617639

QC Batch: 33349 Analysis Method: EPA 6020A
QC Batch Method: EPA 3050B Analysis Description: 6020A MET
Associated Lab Samples: 4617639001, 4617639002, 4617639003, 4617639004

METHOD BLANK: 134644 Matrix: Solid
Associated Lab Samples: 4617639001, 4617639002, 4617639003, 4617639004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	<0.096	0.096	09/21/18 09:58	
Barium	mg/kg	<0.096	0.096	09/21/18 09:58	
Cadmium	mg/kg	<0.048	0.048	09/21/18 09:58	
Chromium	mg/kg	<0.096	0.096	09/21/18 09:58	
Copper	mg/kg	<0.096	0.096	09/21/18 09:58	
Lead	mg/kg	<0.096	0.096	09/21/18 09:58	
Selenium	mg/kg	<0.096	0.096	09/21/18 09:58	
Silver	mg/kg	<0.048	0.048	09/21/18 09:58	
Zinc	mg/kg	<0.96	0.96	09/21/18 09:58	

LABORATORY CONTROL SAMPLE: 134645

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	1.9	1.9	97	80-120	
Barium	mg/kg	1.9	2.0	102	80-120	
Cadmium	mg/kg	1.9	1.9	97	80-120	
Chromium	mg/kg	1.9	2.0	105	80-120	
Copper	mg/kg	1.9	2.0	104	80-120	
Lead	mg/kg	1.9	2.0	104	80-120	
Selenium	mg/kg	1.9	1.7	90	80-120	
Silver	mg/kg	1.9	1.9	101	80-120	
Zinc	mg/kg	1.9	1.9	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 134646 134647

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		4617652001 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
Arsenic	mg/kg	11.6	2.2	2.1	12.7	13.9	52	107	75-125	9	20	M1
Barium	mg/kg	19.2	2.2	2.1	19.9	20.3	29	50	75-125	2	20	M1
Cadmium	mg/kg	<0.058	2.2	2.1	2.2	2.2	98	101	75-125	0	20	
Chromium	mg/kg	13.0	2.2	2.1	13.3	15.0	16	95	75-125	12	20	M1
Copper	mg/kg	22.6	2.2	2.1	16.9	17.2	-258	-252	75-125	2	20	M1
Lead	mg/kg	2.2	2.2	2.1	4.3	4.2	93	93	75-125	1	20	
Selenium	mg/kg	4.3	2.2	2.1	4.7	4.6	19	15	75-125	2	20	M1
Silver	mg/kg	<0.058	2.2	2.1	2.2	2.1	96	97	75-125	2	20	
Zinc	mg/kg	17.4	2.2	2.1	14.8	16.2	-115	-57	75-125	9	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Pittsfield Twp; 180469-0200

Pace Project No.: 4617639

QC Batch: 33296

Analysis Method: EPA 8082A

QC Batch Method: EPA 3545A

Analysis Description: 8082A GCS PCB

Associated Lab Samples: 4617639001, 4617639002, 4617639003, 4617639004

METHOD BLANK: 134504

Matrix: Solid

Associated Lab Samples: 4617639001, 4617639002, 4617639003, 4617639004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	mg/kg	<0.033	0.033	09/19/18 20:22	
PCB-1221 (Aroclor 1221)	mg/kg	<0.033	0.033	09/19/18 20:22	
PCB-1232 (Aroclor 1232)	mg/kg	<0.033	0.033	09/19/18 20:22	
PCB-1242 (Aroclor 1242)	mg/kg	<0.033	0.033	09/19/18 20:22	
PCB-1248 (Aroclor 1248)	mg/kg	<0.033	0.033	09/19/18 20:22	
PCB-1254 (Aroclor 1254)	mg/kg	<0.033	0.033	09/19/18 20:22	
PCB-1260 (Aroclor 1260)	mg/kg	<0.033	0.033	09/19/18 20:22	
Decachlorobiphenyl (S)	%	83	45-135	09/19/18 20:22	
Tetrachloro-m-xylene (S)	%	84	56-123	09/19/18 20:22	

LABORATORY CONTROL SAMPLE: 134505

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	mg/kg	.2	0.17	84	68-129	
PCB-1260 (Aroclor 1260)	mg/kg	.2	0.18	89	60-140	
Decachlorobiphenyl (S)	%			86	45-135	
Tetrachloro-m-xylene (S)	%			86	56-123	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 134506 134507

Parameter	Units	134506		134507		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
PCB-1016 (Aroclor 1016)	mg/kg	<0.033	.2	.2	0.12	0.14	61	71	49-128	14	30	
PCB-1260 (Aroclor 1260)	mg/kg	<0.033	.2	.2	0.13	0.15	66	75	48-138	14	30	
Decachlorobiphenyl (S)	%						62	73	45-135			
Tetrachloro-m-xylene (S)	%						62	72	56-123			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Pittsfield Twp; 180469-0200
Pace Project No.: 4617639

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H1 Analysis conducted outside the EPA method holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Pittsfield Twp; 180469-0200

Pace Project No.: 4617639

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4617639001	HA-1 (1-3')	EPA 3545A	33296	EPA 8082A	33392
4617639002	HA-2 (1-2.5')	EPA 3545A	33296	EPA 8082A	33392
4617639003	HA-3 (1-3')	EPA 3545A	33296	EPA 8082A	33392
4617639004	HA-4 (1-2')	EPA 3545A	33296	EPA 8082A	33392
4617639001	HA-1 (1-3')	EPA 3050B	33349	EPA 6020A	33762
4617639002	HA-2 (1-2.5')	EPA 3050B	33349	EPA 6020A	33762
4617639003	HA-3 (1-3')	EPA 3050B	33349	EPA 6020A	33762
4617639004	HA-4 (1-2')	EPA 3050B	33349	EPA 6020A	33762
4617639001	HA-1 (1-3')	EPA 7471B	33897	EPA 7471B	34048
4617639002	HA-2 (1-2.5')	EPA 7471B	33897	EPA 7471B	34048
4617639003	HA-3 (1-3')	EPA 7471B	33897	EPA 7471B	34048
4617639004	HA-4 (1-2')	EPA 7471B	33897	EPA 7471B	34048
4617639001	HA-1 (1-3')	SM 2540 G-11/3550	33319		
4617639002	HA-2 (1-2.5')	SM 2540 G-11/3550	33319		
4617639003	HA-3 (1-3')	SM 2540 G-11/3550	33319		
4617639004	HA-4 (1-2')	SM 2540 G-11/3550	33319		

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Sample Conditions Upon Receipt

WO#: 4617639

Date: 09/13/18	Evaluated by: aw	PM: BJH	Due Date: 09/25/18
Client: Pittsfield		CLIENT: ECT	
Profile ID: 4-43	Project Manager: BJH		
Sample Receiving Non Conformance Form Required: YES NO		Rush Turn Around Time Requested: YES NO	Due Date:
Page Of		Lab Notified of Rush or Short Holds:	YES NO

Lab Sample Receipt Checklist:

Samples Received Via:	FEDEX	UPS	CLIENT	PACE COURIER
Custody Seals Present and Intact:	YES	NO	NA	
USDA Regulated Soils:	YES	NO	NA	
Short Holds Present (< 72 Hours):	YES	NO	NA	
Samples Received in Hold:	YES	NO	NA	
Custody Signatures Present:	YES	NO	NA	
Collector Signature Present:	YES	NO	NA	
Samples Received On Ice:	YES	NO	NA	
Type of Ice: WET BLUE DRY NONE				
Packing Material Used:	YES	NO	NA	
IR Gun #: 202 402 Temp should be 0-6°C				Cooler Temp Upon Receipt: 1.7 °C
Temp Blank Received:	YES	NO	NA	
Trip Blank Received: Type: HCL MeOH TSP OTHER	YES	NO	NA	
Bottles Intact:	YES	NO	NA	
Correct Bottles:	YES	NO	NA	
Sufficient Volume:	YES	NO	NA	
Sample pH Acceptable: All containers needing preservation are found to be in compliance with EPA recommendation Exceptions are VOA, coliform, TOC, O & G, HEM, DRO	YES	NO	NA	pH Strip Lot Number:
VOA Headspace Acceptable (<6mm):	YES	NO	NA	
Comments:				