Aspect
A Geosyntec Company

MEMORANDUM

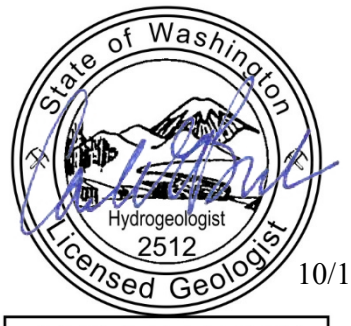
Project No. 230360-A

October 11, 2023

To: Marian Abbett, PE, Washington Ecology SWRO Toxics Cleanup Program

cc: Marisa Floyd, Reserve Silica Corporation

From:



10/11/2023

CARLA E. BROCK

Carla E. Brock, LHG
Principal Geologist
cbrock@aspectconsulting.com

Re: **Cleanup Requirements Evaluation for Former Asarco Soil**
Reserve Silica Corporation, Ravensdale, Washington

Aspect Consulting, LLC (Aspect) has prepared this technical memorandum on behalf of Reserve Silica Corporation to evaluate cleanup requirements for arsenic- and lead-contaminated soil disposed of at the Reserve Silica Corporation (Reserve) Property located at approximately 28131 SE Ravensdale Way (King County tax parcel 0121069010) in Ravensdale, Washington. The soil disposal occurred within an approximate 5.8-acre area (herein referred to as the Subject Area[1]) of the parcel that was being actively reclaimed between late 2022 and August 20, 2023 (Figure 1).

In May 2023, Prospect LLC reportedly imported 33 truckloads of arsenic- and lead-contaminated soil to the Subject Area of the Reserve Property (Figure 1). The soil was generated during property redevelopment activities at a property located at 5301 North Commercial Street in Ruston, Washington (Source Property), within the former Asarco Tacoma Smelter Facility portion of the Commencement Bay Nearshore/Tideflats Superfund site. In July 2023, the US Environmental Protection Agency (EPA) became aware of the soil excavation and disposal work completed in

[1]The Subject Area is defined herein based on the current lateral extent of fill on the parcel; however, the lateral area where the arsenic- and lead-contaminated soil was placed is estimated at 4.1-acres, based on the area undergoing active filling in May 2023, when the soil was imported (Aspect, 2023b).

conjunction with property redevelopment and notified the Washington State Department of Ecology (Ecology), King County, and Reserve.

In September 2023, Reserve performed an investigation into the nature and extent of arsenic- and lead-contaminated soil in the Subject Area; the results of which are documented in the Former Asarco Soil Nature and Extent Investigation Report (Aspect, 2023a). This memorandum provides a review of the Source Property data collected by EPA, a discussion of import soil volumes and management at the Subject Area, and an evaluation of cleanup requirements.

Source Property Data

In May 2023, EPA collected and analyzed soil samples from a stockpile on the Source Property (Appendix A). Ecology has indicated that the results of these stockpile samples are "…presumed to be representative of the soils hauled to Reserve Silica…" (Ecology, 2023).

Nineteen in-place soil samples were subsequently collected from the Source Property by the Tacoma-Pierce County Health Department on August 2, 2023, after the excavation, transport, and disposal of arsenic- and lead-contaminated soil at the Subject Area (Attachment A). The soil samples appear to have been collected as composite samples collected between 1 foot and 4 feet below ground surface (bgs) although EPA has indicated that the soil transported to the Subject Area resulted from excavation of soil to a total depth of 7 feet bgs.

The Source Property data is provided in Appendix A.

Import Volumes and Soil Management

EPA reported that Prospect LLC imported 33 truckloads of soil from the Source Property to the Reserve Property between May 3, 2023 and May 18, 2023. During that timeframe, there were 1,816 truck and trailer (T&T) loads, 329 solo loads, and 90 super solo loads of clean soil imported by others and placed in the Subject Area. To estimate relative soil volumes, we assume the following:

- 33 Prospect LLC solo loads (the arsenic- and lead-contaminated soil) x 15 cubic yards (yd^3)/load = 495 yd^3
- 1,816 T&T loads x 24 yd^3/load = 43,584 yd^3
- 329 solo loads x 15 yd^3/load = 4,935 yd^3
- 90 super solo loads x 18 yd^3/load = 1,620 yd^3

The total volume of clean fill soil imported and managed at the same time as the arsenic- and lead-contaminated soil is 50,139 yd^3. Based on these relative volume estimates, the arsenic- and lead-contaminated soil is less than 1 percent of the total volume disposed of at the Subject Area over the 16-day import time. The imported soil backup is provided in Appendix B.

Imported soil is dumped by the truck driver in a pre-dump staging area and inspected by Reserve personnel. Once accepted, the imported soil is pushed into the fill area by a Reserve dozer. In the Subject Area, soil was dumped on the north side and graded over the lateral extent of the fill pile to the southwest. A Google Earth image dated April 28, 2023, taken less than a week prior to the import and disposal of the arsenic- and lead-contaminated soil, shows the amount of filling and grading completed in the Subject Area prior to disposal of the arsenic- and lead-contaminated soil.

A later aerial photo, taken sometime between August 20, 2023 and September 6, 2023[2], shows conditions at the time of the Former Asarco Soil Nature and Extent Investigation. Both aerial photos show evidence of lateral spreading of imported soil across the active fill area. The two aerial photos are shown side-by-side on Figure 1.

The April 28, 2023 aerial photo shows soils on the western portion of the Subject Area that are darker gray in color than those on the eastern portion of the Subject Area. The soil observed in the borings consisted of silty-sand fill overlying blue-gray clay fill overlying native sand and bedrock (Aspect, 2023a). The darker gray soil observed in the April 28, 2023 aerial photo is assumed to be the blue-gray clay fill that was observed in the borings. Based on the aerial photographs, the observed subsurface conditions, and the import dates of the arsenic- and lead-contaminated fill soil, the contaminated fill soil was placed above the clay fill in the Subject Area. With two exceptions, all of the soil borings advanced for the Former Asarco Soil Nature and Extent Investigation encountered the clay fill, indicating that the full vertical extent of the soil column where the arsenic- and lead-contaminated soil was disposed of was evaluated and tested. The two exceptions are:

- Boring AB-09 was completed in silty-sand fill at 30 feet bgs. A comparison of the pre-fill ground surface elevation (approximately 942.5 feet) to the current elevation of boring AB-09 (972.77 feet) indicates a fill thickness of 30.3 feet, indicating the exploration characterized the full vertical extent of fill soil at this location.
- Boring AB-16, located in the southeastern portion of the Subject Area, was completed in silty-sand fill at 30 feet bgs. Filling in this portion of the Subject Area did not start until after disposal of the arsenic- and lead-contaminated soil (Figure 1).

Similarly, the lateral extent of the borings advanced for the investigation represent the area of filling and grading at the time of the disposal of the arsenic- and lead-contaminated soil (Figure 1).

Cleanup Requirements

Ecology has developed Model Remedies to address arsenic- and lead-contaminated soil associated with the former Asarco copper smelter (Ecology, 2019). As part of that guidance, Ecology requires averaging of soil arsenic and lead concentrations to determine if cleanup is required. If average concentrations of arsenic and lead do not exceed the MTCA Method A cleanup levels, then no cleanup is required. As documented in the Former Asarco Soil Nature and Extent Investigation report, a total of 375 soil samples were collected from the Subject Area and analyzed for arsenic and lead. The data indicates the following:

- The average arsenic concentration of the silty sand fill is 8.1 mg/kg, below the MTCA Method A cleanup level of 20 mg/kg.[3]

[2] The date of the aerial image from nearmap is unavailable, but the image depicts the same conditions observed at the time of the investigation on September 6, 2023 and would have been taken after August 20, 2023, when Reserve stopped accepting imported soil for grading and reclamation of the Subject Area.
[3] For comparison, the average arsenic concentration for all soil samples collected during the investigation, including silty sand fill, clay fill, and native soil is 8.2 mg/kg.

- The average lead concentration of the silty sand fill is 16 mg/kg, below the MTCA Method A cleanup level of 250 mg/kg.[4]

These average concentrations are consistent with natural background concentrations of arsenic (7 mg/kg) and lead (24 mg/kg) for the Puget Sound region (Ecology, 1994). Based on this data, the soil in the Subject Area does not pose a risk to human health or the environment and cleanup is not required.

To further demonstrate compliance with MTCA, we evaluate soil mixing as a completed remedy for the Subject Area. The Model Remedies guidance allows for soil mixing (mixing of arsenic- and lead-contaminated soil with clean soil) as a permanent remedy. Soil mixing achieves cleanup standards without the need for long-term maintenance and monitoring (Ecology, 2012; Ecology, 2019). The guidance specifically provides procedures for mixing as a remedy where average arsenic concentrations are less than 40 mg/kg and/or when average lead concentrations are less than 500 mg/kg. This limitation is provided because of the impracticability of diluting higher concentrations but Ecology allows for mixing as a permanent remedy on sites with higher concentrations when it is practicable to achieve cleanup levels (Ecology, 2019). Mixing achieves cleanup standards by dilution, reducing the potential risk to human health and the environment to acceptable levels (Ecology, 2012).

The arsenic- and lead-contaminated soil (~500 yd^3) was mixed with clean soil upon disposal (~50,000 yd^3), which would result in a 100x reduction of metals concentrations. The average arsenic and lead concentrations in the in-place soil samples collected from the Source Property by TPHCD in August 2023 are 251 mg/kg and 629 mg/kg, respectively. Mixing soil with these concentrations with 100 times the volume of clean soil would result in soil metals concentrations that are comparable to natural background concentrations. The results of the Former Asarco Soil Nature and Extent investigation confirm that average arsenic and lead concentrations in soil at the Reserve Silica property are below the MTCA Method A cleanup levels, that the completed mixing remedy achieves MTCA cleanup standards, and that no further actions are required.

[4] For comparison, the average arsenic concentration for all soil samples collected during the investigation, including silty sand fill, clay fill, and native soil is 14 mg/kg.

References

Aspect Consulting, LLC, 2023a, Former Asarco Soil Nature and Extent Investigation Report, Reserve Silica Corporation, Ravensdale, Washington, October 3, 2023.

Aspect Consulting, LLC, 2023b, Former Asarco Soil Nature & Extent Investigation, Reserve Silica Inert Waste Landfill, Ravensdale, Washington, August 22, 2023.

Washington State Department of Ecology, 1994, Natural Background Soil Metals Concentrations in Washington State, Publication Number 94-115, October 1994.

Washington State Department of Ecology, 2012, Final Interim Action Plan for the Tacoma Smelter Plume, Tacoma Smelter Plume Team, Washington State Department of Ecology, Publication Number 12-09-086, June 2012.

Washington State Department of Ecology, 2019, Tacoma Smelter Plume Model Remedies Guidance, Toxics Cleanup Program, Washington State Department of Ecology, Publication Number 19-09-101.

Washington State Department of Ecology, 2023, Permit Compliance Inspection Report for NPDES Permit #WAG503029, inspection date July 21, 2023, report date August 9, 2023.

Limitations

Work for this project was performed for Reserve Silica Corporation (Client), and this memorandum was prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This memorandum does not represent a legal opinion. No other warranty, expressed or implied, is made.

All reports prepared by Aspect Consulting for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

Please refer to Appendix C titled "Report Limitations and Guidelines for Use" for additional information governing the use of this report.

Attachments: Figure 1 – Aerial Review of Subject Area
Appendix A – Source Property Data
Appendix B – Import Truck Count Records
Appendix C – Report Limitations and Guidelines for Use

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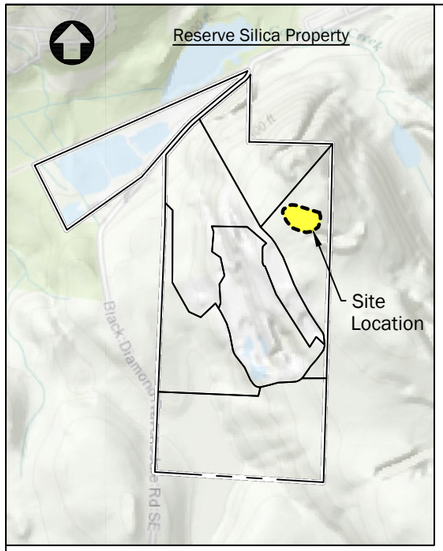
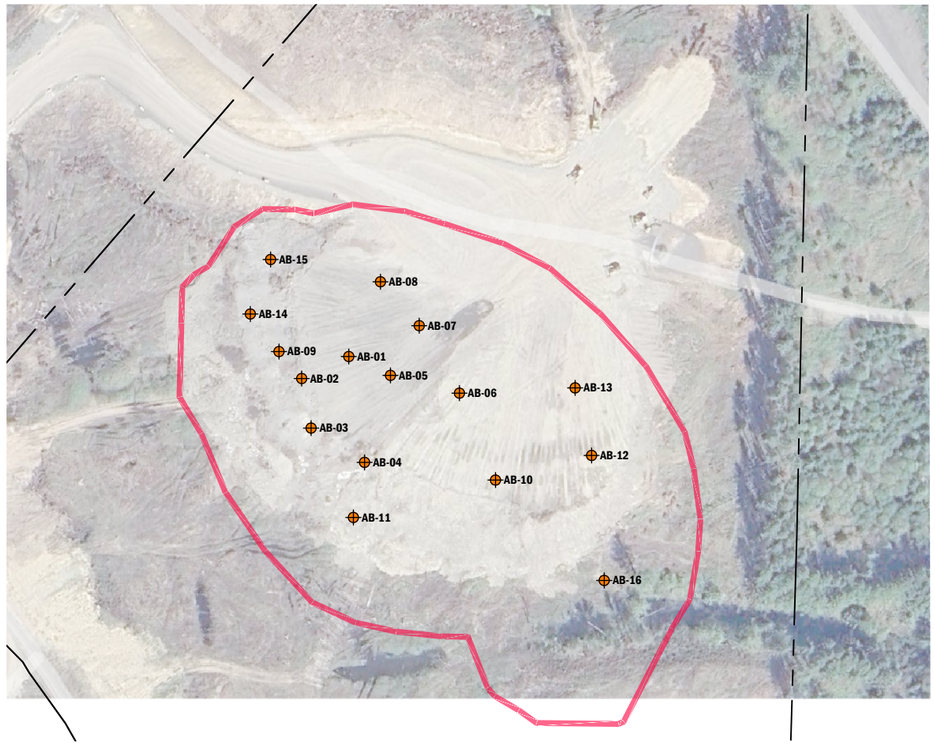
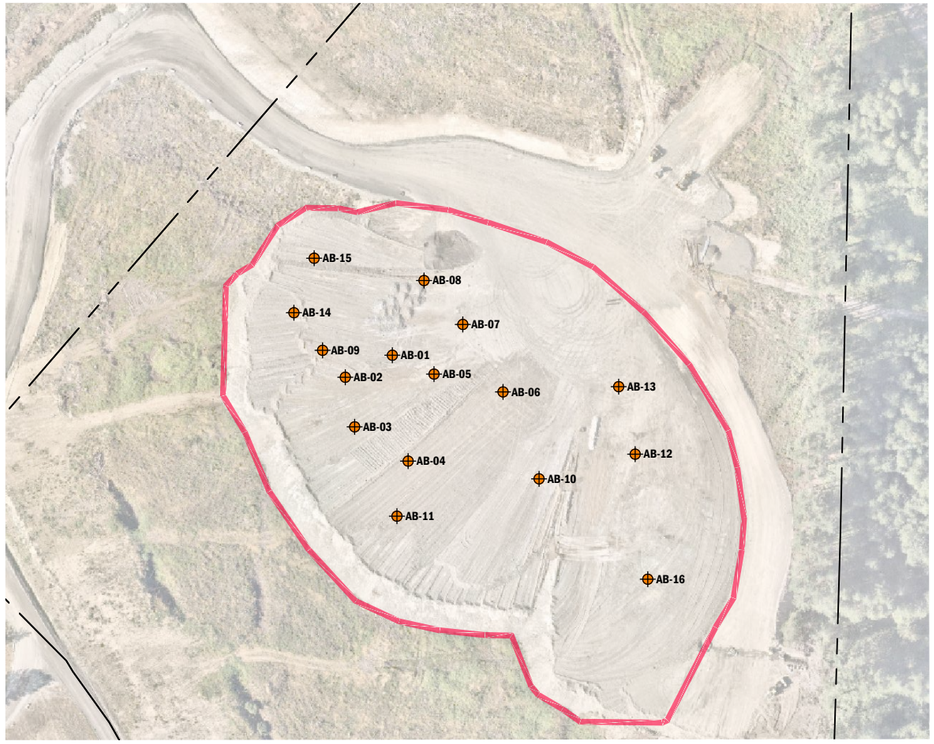
FIGURE





CONDITIONS (APRIL 28, 2023)

SCALE: 1" = 180'



CONDITIONS (CURRENT)

SCALE: 1" = 180'

Legend

- Boring Location
- Subject Area

This figure is based on the following:

1. Boring locations surveyed by Encompass Engineering & Surveying dates 9/25/2023.
2. Imagery provided by: Map data, ©2023 Google.

0 180 320 Feet

Aerial Review of Subject Area

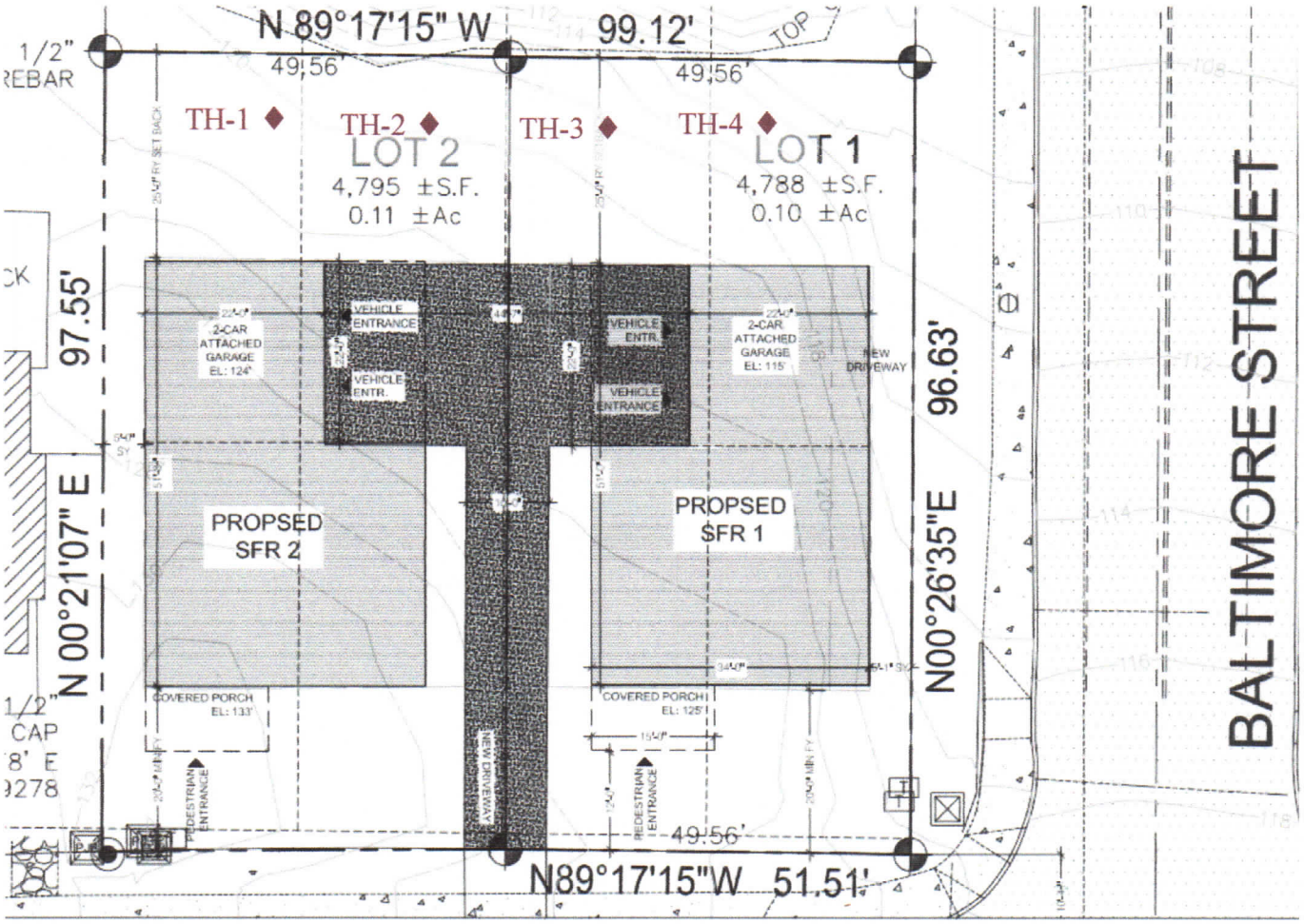
Cleanup Requirements Evaluation
Reserve Silica Inert Waste Landfill
Ravensdale, Washington

Aspect CONSULTING	Oct-2023	BY: CEB/JPR	FIGURE NO. 1
	PROJECT NO. 230630	REVISED BY: BMG/CMV	

CAD Path: Q:\Reserve Asarco\230360 Soil Litigation\230360-Aerial Comparison.dwg Layout: F1 || Date Saved: 10/2/2023 5:50:01 PM || User: cvanslyke

APPENDIX A

Source Property Data



KEY:

APPROXIMATE LOCATION OF SOIL TEST TH-1 ◆

Ages Engineering
P. O. Box 935
Puyallup, WA. 98371

Main (253) 845-7000
www.agesengineering.com

Soil Test Location Plan
N. Commercial Street Residential
5301 N. Commercial St.
Ruston, Washington

Project No.: A-1576	June 2023	**Figure 2**

LabTest

201 East D Street, Yakima, WA 98908 (509) 469-TEST

Lead & Arsenic

Lab/Sample No: Below	Date Collected: 05/26/23	
Date Received: 06/05/23	Date Reported: 06/08/23	Supervisor: BKO
	Sampled By: Bernie	
Sample Location: 4-E		Invoice#: 19256

Send Report To:	Sample Information	Matrix: Soil
Ages Enginerring 303 Dalton Lane Zillah, WA 98953	4-E	

Lead & Arsenic

LAB Sample Number:		23015607	23015608	23015609	23015610				
Sample ID/Location:		1-W	2-CW	3-CE	4-E				
Analyte	Units	Results	Results	Results	Results		Method	Date Analyzed	Analyst
Lead	ppm	742.00	539.00	54.60	216.00		SM 3113B	06/08/23	DBA
Arsenic	ppm	317.00	256.00	113.00	479.00		SM 3113B	06/07/23	DBA

MRL (Method Reporting Level): Indicates the minimum reporting level required and obtained by the laboratory (always >MDL).

Trigger: DOH Drinking Water response level.

MCL (maximum contaminant level): Highest level recommended by the federal government for public water systems.

ND (Not Detected): Indicates this compound was analyzed and not detected at a level greater than or equal to the MRL.

Approved By:

15607-pbas

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

August 15, 2023

Chris Matter
Tacoma-Pierce County Health Department
3629 South "D" Street
Tacoma, WA 98418-6813

Re: Analytical Data for Yard Program - Task 3
Laboratory Reference No. 2308-071

Dear Chris:

Enclosed are the analytical results and associated quality control data for samples submitted on August 4, 2023.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: August 15, 2023
Samples Submitted: August 4, 2023
Laboratory Reference: 2308-071
Project: Yard Program - Task 3

Case Narrative

Samples were collected on August 2, 2023 and received by the laboratory on August 4, 2023. They were maintained at the laboratory at a temperature of 2°C to 6°C.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Total Metals EPA 6020B Analysis

Samples were sieved through a 2mm sieve prior to digestion and percent moisture determination.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: August 15, 2023
Samples Submitted: August 4, 2023
Laboratory Reference: 2308-071
Project: Yard Program - Task 3

TOTAL METALS
EPA 6020B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**27-HF02-Y1-1-4**					
Laboratory ID:	08-071-01					
Arsenic	**3.2**	0.67	EPA 6020B	8-14-23	8-14-23	
Lead	**2.6**	0.67	EPA 6020B	8-14-23	8-14-23	
Client ID:	**27-HF02-Y2-1-4**					
Laboratory ID:	08-071-02					
Arsenic	**24**	0.66	EPA 6020B	8-14-23	8-14-23	
Lead	**15**	0.66	EPA 6020B	8-14-23	8-14-23	
Client ID:	**27-HF02-Y3-1-4**					
Laboratory ID:	08-071-03					
Arsenic	**580**	5.5	EPA 6020B	8-14-23	8-14-23	
Lead	**650**	5.5	EPA 6020B	8-14-23	8-14-23	
Client ID:	**27-HF02-Y4-1-4**					
Laboratory ID:	08-071-04					
Arsenic	**41**	0.65	EPA 6020B	8-14-23	8-14-23	
Lead	**40**	0.65	EPA 6020B	8-14-23	8-14-23	
Client ID:	**27-HF02-Y5-1-4**					
Laboratory ID:	08-071-05					
Arsenic	**3.2**	0.65	EPA 6020B	8-14-23	8-14-23	
Lead	**3.1**	0.65	EPA 6020B	8-14-23	8-14-23	
Client ID:	**27-HF02-Y5-1-5**					
Laboratory ID:	08-071-06					
Arsenic	**3.0**	0.65	EPA 6020B	8-14-23	8-14-23	
Lead	**3.0**	0.65	EPA 6020B	8-14-23	8-14-23	
Client ID:	**27-HF02-Y6-1-4**					
Laboratory ID:	08-071-07					
Arsenic	**3.5**	0.65	EPA 6020B	8-14-23	8-14-23	
Lead	**3.1**	0.65	EPA 6020B	8-14-23	8-14-23	

Date of Report: August 15, 2023
Samples Submitted: August 4, 2023
Laboratory Reference: 2308-071
Project: Yard Program - Task 3

TOTAL METALS
EPA 6020B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**27-HF02-Y7-1-4**					
Laboratory ID:	08-071-08					
Arsenic	**5.3**	0.66	EPA 6020B	8-14-23	8-14-23	
Lead	**3.7**	0.66	EPA 6020B	8-14-23	8-14-23	
Client ID:	**27-HF02-Y8-1-4**					
Laboratory ID:	08-071-09					
Arsenic	**40**	0.65	EPA 6020B	8-14-23	8-14-23	
Lead	**16**	0.65	EPA 6020B	8-14-23	8-14-23	
Client ID:	**27-HF02-Y9-1-4**					
Laboratory ID:	08-071-10					
Arsenic	**96**	0.67	EPA 6020B	8-14-23	8-14-23	
Lead	**100**	0.67	EPA 6020B	8-14-23	8-14-23	
Client ID:	**27-HF02-Y10-1-4**					
Laboratory ID:	08-071-11					
Arsenic	**340**	5.2	EPA 6020B	8-14-23	8-14-23	
Lead	**580**	5.2	EPA 6020B	8-14-23	8-14-23	
Client ID:	**27-HF02-Y11-1-4**					
Laboratory ID:	08-071-12					
Arsenic	**130**	1.4	EPA 6020B	8-14-23	8-14-23	
Lead	**200**	1.4	EPA 6020B	8-14-23	8-14-23	
Client ID:	**27-HF02-Y12-1-4**					
Laboratory ID:	08-071-13					
Arsenic	**320**	27	EPA 6020B	8-14-23	8-14-23	
Lead	**5000**	27	EPA 6020B	8-14-23	8-14-23	
Client ID:	**27-HF02-Y13-1-4**					
Laboratory ID:	08-071-14					
Arsenic	**350**	5.3	EPA 6020B	8-14-23	8-14-23	
Lead	**580**	5.3	EPA 6020B	8-14-23	8-14-23	

Date of Report: August 15, 2023
Samples Submitted: August 4, 2023
Laboratory Reference: 2308-071
Project: Yard Program - Task 3

TOTAL METALS
EPA 6020B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**27-HF02-Y14-1-4**					
Laboratory ID:	08-071-15					
Arsenic	**130**	0.67	EPA 6020B	8-14-23	8-14-23	
Lead	**130**	0.67	EPA 6020B	8-14-23	8-14-23	
Client ID:	**27-HF02-Y15-1-4**					
Laboratory ID:	08-071-16					
Arsenic	**530**	13	EPA 6020B	8-14-23	8-14-23	
Lead	**1400**	13	EPA 6020B	8-14-23	8-14-23	
Client ID:	**27-HF02-Y16-1-4**					
Laboratory ID:	08-071-17					
Arsenic	**1700**	14	EPA 6020B	8-14-23	8-14-23	
Lead	**2600**	14	EPA 6020B	8-14-23	8-14-23	
Client ID:	**27-HF02-Y17-1-4**					
Laboratory ID:	08-071-18					
Arsenic	**240**	2.6	EPA 6020B	8-14-23	8-14-23	
Lead	**340**	2.6	EPA 6020B	8-14-23	8-14-23	
Client ID:	**27-HF02-Y17-1-5**					
Laboratory ID:	08-071-19					
Arsenic	**230**	2.6	EPA 6020B	8-14-23	8-14-23	
Lead	**290**	2.6	EPA 6020B	8-14-23	8-14-23	

Date of Report: August 15, 2023
Samples Submitted: August 4, 2023
Laboratory Reference: 2308-071
Project: Yard Program - Task 3

TOTAL METALS
EPA 6020B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0814SHNO2					
Arsenic	**ND**	0.25	EPA 6020B	8-14-23	8-14-23	
Lead	**ND**	0.25	EPA 6020B	8-14-23	8-14-23	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-071-01										
	ORIG	DUP									
Arsenic	**2.99**	**2.85**	NA	NA		NA		NA	5	20	
Lead	**2.44**	**2.78**	NA	NA		NA		NA	13	20	
MATRIX SPIKES											
Laboratory ID:	08-071-01										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**97.0**	**102**	100	100	2.99	**94**	**99**	75-125	5	20	
Lead	**244**	**262**	250	250	2.44	**97**	**104**	75-125	7	20	

Date of Report: August 15, 2023
Samples Submitted: August 4, 2023
Laboratory Reference: 2308-071
Project: Yard Program - Task 3

TCLP METALS
EPA 1311/6010D

Matrix: TCLP Extract
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**27-HF02-SP**					
Laboratory ID:	08-071-20					
Arsenic	**ND**	0.40	EPA 6010D	8-11-23	8-11-23	
Lead	**0.20**	0.20	EPA 6010D	8-11-23	8-11-23	

Date of Report: August 15, 2023
Samples Submitted: August 4, 2023
Laboratory Reference: 2308-071
Project: Yard Program - Task 3

TCLP METALS
EPA 1311/6010D
QUALITY CONTROL

Matrix: TCLP Extract
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0811TM1					
Arsenic	**ND**	0.40	EPA 6010D	8-11-23	8-11-23	
Lead	**ND**	0.20	EPA 6010D	8-11-23	8-11-23	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-071-20										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Lead	**0.202**	**0.210**	NA	NA		NA		NA	4	20	
MATRIX SPIKES											
Laboratory ID:	08-071-20										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**3.60**	**3.49**	4.00	4.00	ND	**90**	**87**	75-125	3	20	
Lead	**9.44**	**9.39**	10.0	10.0	0.202	**92**	**92**	75-125	1	20	

Date of Report: August 15, 2023
Samples Submitted: August 4, 2023
Laboratory Reference: 2308-071
Project: Yard Program - Task 3

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
27-HF02-Y1-1-4	08-071-01	**7**	8-10-23
27-HF02-Y2-1-4	08-071-02	**5**	8-10-23
27-HF02-Y3-1-4	08-071-03	**10**	8-10-23
27-HF02-Y4-1-4	08-071-04	**4**	8-10-23
27-HF02-Y5-1-4	08-071-05	**3**	8-10-23
27-HF02-Y5-1-5	08-071-06	**3**	8-10-23
27-HF02-Y6-1-4	08-071-07	**4**	8-10-23
27-HF02-Y7-1-4	08-071-08	**5**	8-10-23
27-HF02-Y8-1-4	08-071-09	**4**	8-10-23
27-HF02-Y9-1-4	08-071-10	**7**	8-10-23
27-HF02-Y10-1-4	08-071-11	**5**	8-10-23
27-HF02-Y11-1-4	08-071-12	**9**	8-10-23
27-HF02-Y12-1-4	08-071-13	**6**	8-10-23
27-HF02-Y13-1-4	08-071-14	**5**	8-10-23
27-HF02-Y14-1-4	08-071-15	**7**	8-10-23
27-HF02-Y15-1-4	08-071-16	**4**	8-10-23
27-HF02-Y16-1-4	08-071-17	**9**	8-10-23
27-HF02-Y17-1-4	08-071-18	**4**	8-10-23
27-HF02-Y17-1-5	08-071-19	**4**	8-10-23

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

X2 - Sample extract treated with a silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: TPCHD
Project Number:
Project Name: Task 3 - EPA
Project Manager:
Sampled by: Chris Matter + Marian Abbett

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 08-071

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up☐)	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664	Arsenic	Lead			% Moisture
1	27-HF02-Y1-1-4	8/2/23	11Am	soil	1																		X	X			X
2	27-HF02-Y2-1-4																										
3	27-HF02-Y3-1-4																										
4	27-HF02-Y4-1-4																										
5	27-HF02-Y5-1-4																										
6	27-HF02-Y5-1-5																										
7	27-HF02-Y6-1-4																										
8	27-HF02-Y7-1-4																										
9	27-HF02-Y8-1-4																										
10	27-HF02-Y9-1-4																										

	Signature	Company	Date	Time	Comments/Special Instructions
Relinquished	Christine Matter	TPCHD	8/4/23	1030Am	
Received	Van	Spdy	8/4/23	1030	
Relinquished	Van	Spdy	8/4/23	1300	
Received	Nichelle Bolin	OSE	8/4/23	1300	
Relinquished					
Received					Data Package: Standard ☐ Level III ☐ Level IV ☐
Reviewed/Date		Reviewed/Date			Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Chain of Custody

OnSite Environmental Inc.
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Phone: (425) 883-3881 • www.onsite-env.com

Company: TPCHD
Project Number:
Project Name: Task 3 - EPA
Project Manager:
Sampled by: Chris Matter + Marian Abbett

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 08-071

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up☐)	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	TCLP Metals As + Pb	HEM (oil and grease) 1664	Arsenic	Lead			% Moisture
11	27-HF02-Y10-1-4	8/2/23	11Am	Soil	1																		X	X			X
12	27-HF02-Y11-1-4	"	"	"	"																		"	"			"
13	27-HF02-Y12-1-4	"	"	"	"																		"	"			"
14	27-HF02-Y13-1-4	"	"	"	"																		"	"			"
15	27-HF02-Y14-1-4	"	"	"	"																		"	"			"
16	27-HF02-Y15-1-4	"	"	"	"																		"	"			"
17	27-HF02-Y16-1-4	"	"	"	"																		"	"			"
18	27-HF02-Y17-1-4	"	"	"	"																		"	"			"
19	27-HF02-Y17-1-5	"	"	"	"																		"	"			"
20	27-HF02-SP	"	"	"	"																	X					

	Signature	Company	Date	Time
Relinquished	Christine Matter	TPCHD	8/4/23	1030Am
Received	Van	Spok	8/4/23	1030
Relinquished	Van	Spok	8/4/23	1300
Received	Nichelle Raffin	OSE	8/4/23	1300
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Sample/Cooler Receipt and Acceptance Checklist

Client: TPCH

Client Project Name/Number: Task 3 - EPA

OnSite Project Number: 08-071

Initiated by: NB

Date Initiated: 8/4/23

1.0 Cooler Verification

1.1 Were there custody seals on the outside of the cooler?	**Yes**	No	N/A	1 2 3 4	
1.2 Were the custody seals intact?	**Yes**	No	N/A	1 2 3 4	
1.3 Were the custody seals signed and dated by last custodian?	**Yes**	No	N/A	1 2 3 4	
1.4 Were the samples delivered on ice or blue ice?	**Yes**	No	**N/A**	1 2 3 4	
1.5 Were samples received between 0-6 degrees Celsius?	**Yes**	No	**N/A**	Temperature:	23.3
1.6 Have shipping bills (if any) been attached to the back of this form?	**Yes**	N/A			
1.7 How were the samples delivered?	**Client**	Courier	**UPS/FedEx**	**OSE Pickup**	**Other**

2.0 Chain of Custody Verification

2.1 Was a Chain of Custody submitted with the samples?	Yes	No	1 2 3 4
2.2 Was the COC legible and written in permanent ink?	Yes	No	1 2 3 4
2.3 Have samples been relinquished and accepted by each custodian?	Yes	No	1 2 3 4
2.4 Did the sample labels (ID, date, time, preservative) agree with COC?	Yes	No	1 2 3 4
2.5 Were all of the samples listed on the COC submitted?	Yes	No	1 2 3 4
2.6 Were any of the samples submitted omitted from the COC?	Yes	No	1 2 3 4

3.0 Sample Verification

3.1 Were any sample containers broken or compromised?	Yes	No		1 2 3 4
3.2 Were any sample labels missing or illegible?	Yes	No		1 2 3 4
3.3 Have the correct containers been used for each analysis requested?	Yes	No		1 2 3 4
3.4 Have the samples been correctly preserved?	Yes	No	N/A	1 2 3 4
3.5 Are volatiles samples free from headspace and bubbles greater than 6mm?	Yes	No	N/A	1 2 3 4
3.6 Is there sufficient sample submitted to perform requested analyses?	Yes	No		1 2 3 4
3.7 Have any holding times already expired or will expire in 24 hours?	Yes	No		1 2 3 4
3.8 Was method 5035A used?	Yes	No	N/A	1 2 3 4
3.9 If 5035A was used, which sampling option was used (#1, 2, or 3).	#		N/A	1 2 3 4

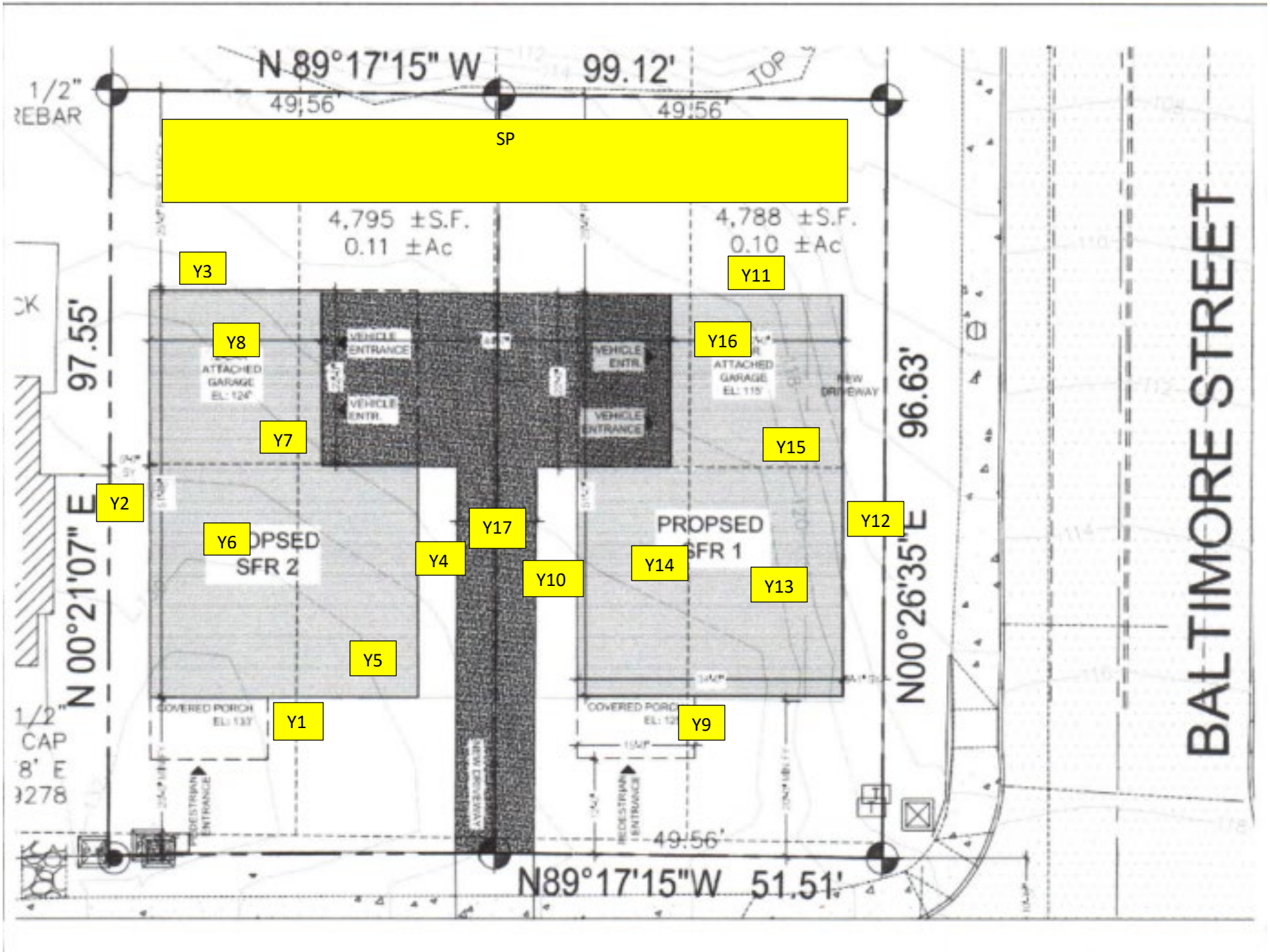
Explain any discrepancies:

1 - Discuss issue in Case Narrative

2 - Process Sample As-is

3 - Client contacted to discuss problem

4 - Sample cannot be analyzed or client does not wish to proceed


N 89°17'15" W
99.12'
49.56'
49.56'
TOP
1/2" REBAR
SP
4,795 ±S.F.
0.11 ±Ac
4,788 ±S.F.
0.10 ±Ac
Y3
Y11
Y8
Y16
Y7
Y15
Y2
Y12
Y6
Y17
Y4
Y10
Y14
Y13
Y5
Y1
Y9
97.55'
N 00°21'07" E
96.63'
N00°26'35"E
BALTIMORE STREET
VEHICLE ENTRANCE
ATTACHED GARAGE
NEW DRIVEWAY
PROPSED SFR 2
PROPSED SFR 1
COVERED PORCH
PEDESTRIAN ENTRANCE
N89°17'15"W 51.51'

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

August 31, 2023

Chris Matter
Tacoma-Pierce County Health Department
3629 South "D" Street
Tacoma, WA 98418-6813

Re: Analytical Data for Yard Program - Task 3
Laboratory Reference No. 2308-071B

Dear Chris:

Enclosed are the analytical results and associated quality control data for samples submitted on August 4, 2023.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: August 31, 2023
Samples Submitted: August 4, 2023
Laboratory Reference: 2308-071B
Project: Yard Program - Task 3

Case Narrative

Samples were collected on August 2, 2023 and received by the laboratory on August 4, 2023. They were maintained at the laboratory at a temperature of 2°C to 6°C.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

TCLP Metals EPA 1311/6010D Analysis

Due to a limited amount of sample, less than the required 100g was tumbled for TCLP analysis. The amount of sample used was: (75 g).

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: August 31, 2023
Samples Submitted: August 4, 2023
Laboratory Reference: 2308-071B
Project: Yard Program - Task 3

TCLP METALS
EPA 1311/6010D

Matrix: TCLP Extract
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**27-HF02-Y3-1-4**					
Laboratory ID:	08-071-03					
Arsenic	**0.96**	0.40	EPA 6010D	8-30-23	8-30-23	
Client ID:	**27-HF02-Y12-1-4**					
Laboratory ID:	08-071-13					
Lead	**6.5**	0.20	EPA 6010D	8-30-23	8-30-23	
Client ID:	**27-HF02-Y15-1-4**					
Laboratory ID:	08-071-16					
Arsenic	**0.81**	0.40	EPA 6010D	8-30-23	8-30-23	
Lead	**22**	0.20	EPA 6010D	8-30-23	8-30-23	
Client ID:	**27-HF02-Y16-1-4**					
Laboratory ID:	08-071-17					
Arsenic	**2.5**	0.40	EPA 6010D	8-30-23	8-30-23	
Lead	**18**	0.20	EPA 6010D	8-30-23	8-30-23	

Date of Report: August 31, 2023
Samples Submitted: August 4, 2023
Laboratory Reference: 2308-071B
Project: Yard Program - Task 3

TCLP METALS
EPA 1311/6010D
QUALITY CONTROL

Matrix: TCLP Extract
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0830TM1					
Arsenic	**ND**	0.40	EPA 6010D	8-30-23	8-30-23	
Lead	**ND**	0.20	EPA 6010D	8-30-23	8-30-23	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	08-071-13										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Lead	**6.46**	**6.43**	NA	NA		NA		NA	1	20	
MATRIX SPIKES											
Laboratory ID:	08-071-13										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**4.06**	**4.08**	4.00	4.00	ND	**102**	**102**	75-125	1	20	
Lead	**16.1**	**15.9**	10.0	10.0	6.46	**96**	**94**	75-125	1	20	

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

X2 - Sample extract treated with a silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: TPCHD
Project Number:
Project Name: Task 3 - EPA
Project Manager:
Sampled by: Chris Matter + Marian Abbett

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 08-071

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up☐)	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664	Arsenic	lead	TCLP ARSENIC	TCLP LEAD	% Moisture
1	27-HF02-Y1-1-4	8/2/23	11Am	soil	1																		X	X			X
2	27-HF02-Y2-1-4																										
3	27-HF02-Y3-1-4																								(X)		
4	27-HF02-Y4-1-4																										
5	27-HF02-Y5-1-4																										
6	27-HF02-Y5-1-5																										
7	27-HF02-Y6-1-4																										
8	27-HF02-Y7-1-4																										
9	27-HF02-Y8-1-4																										
10	27-HF02-Y9-1-4																										

	Signature	Company	Date	Time
Relinquished	Christine Matter	TPCHD	8/4/23	1030 Am
Received	Van	Spdy	8/4/23	1030
Relinquished	Van	Spdy	8/4/23	1300
Received	Nicholle Bolin	OSE	8/4/23	1300
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
(X) Added 8/23/23. DB (STA)

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Chain of Custody

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Company: TPCHD
Project Number:
Project Name: Task 3 - EPA
Project Manager:
Sampled by: Chris Matter + Marian Abbett

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 08-071

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up ☐)	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	TCLP Metals As + Pb	HEM (oil and grease) 1664	Arsenic	Lead	TCLP Arsenic	TCLP Lead	% Moisture
11	27-HF02-Y10-1-4	8/2/23	11Am	Soil	1																	X	X			X
12	27-HF02-Y11-1-4																									
13	27-HF02-Y12-1-4																								X	
14	27-HF02-Y13-1-4																									
15	27-HF02-Y14-1-4																									
16	27-HF02-Y15-1-4																							X	X	
17	27-HF02-Y16-1-4																							X	X	
18	27-HF02-Y17-1-4																									
19	27-HF02-Y17-1-5																									
20	27-HF02-SP																				X					

	Signature	Company	Date	Time
Relinquished	Christine Matter	TPCHD	8/4/23	1030Am
Received	Van	Spry	8/4/23	1030
Relinquished	Van	Spry	8/4/23	1300
Received	Nichelle Bafus	OSE	8/4/23	1300
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Sample/Cooler Receipt and Acceptance Checklist

Client: TPCH

Client Project Name/Number: Task 3 - EPA

OnSite Project Number: 08-071

Initiated by: NB

Date Initiated: 8/4/23

1.0 Cooler Verification

1.1 Were there custody seals on the outside of the cooler?	**Yes**	No	N/A	1 2 3 4	
1.2 Were the custody seals intact?	**Yes**	No	N/A	1 2 3 4	
1.3 Were the custody seals signed and dated by last custodian?	**Yes**	No	N/A	1 2 3 4	
1.4 Were the samples delivered on ice or blue ice?	**Yes**	No	**N/A**	1 2 3 4	
1.5 Were samples received between 0-6 degrees Celsius?	**Yes**	No	**N/A**	Temperature: 23.3	
1.6 Have shipping bills (if any) been attached to the back of this form?	**Yes**	N/A			
1.7 How were the samples delivered?	**Client**	Courier	**UPS/FedEx**	**OSE Pickup**	**Other**

2.0 Chain of Custody Verification

2.1 Was a Chain of Custody submitted with the samples?	Yes	No		1 2 3 4
2.2 Was the COC legible and written in permanent ink?	Yes	No		1 2 3 4
2.3 Have samples been relinquished and accepted by each custodian?	Yes	No		1 2 3 4
2.4 Did the sample labels (ID, date, time, preservative) agree with COC?	Yes	No		1 2 3 4
2.5 Were all of the samples listed on the COC submitted?	Yes	No		1 2 3 4
2.6 Were any of the samples submitted omitted from the COC?	Yes	No		1 2 3 4

3.0 Sample Verification

3.1 Were any sample containers broken or compromised?	Yes	No		1 2 3 4
3.2 Were any sample labels missing or illegible?	Yes	No		1 2 3 4
3.3 Have the correct containers been used for each analysis requested?	Yes	No		1 2 3 4
3.4 Have the samples been correctly preserved?	**Yes**	No	N/A	1 2 3 4
3.5 Are volatiles samples free from headspace and bubbles greater than 6mm?	**Yes**	No	N/A	1 2 3 4
3.6 Is there sufficient sample submitted to perform requested analyses?	Yes	No		1 2 3 4
3.7 Have any holding times already expired or will expire in 24 hours?	Yes	No		1 2 3 4
3.8 Was method 5035A used?	**Yes**	No	N/A	1 2 3 4
3.9 If 5035A was used, which sampling option was used (#1, 2, or 3).	#		N/A	1 2 3 4

Explain any discrepancies:

1 - Discuss issue in Case Narrative

2 - Process Sample As-is

3 - Client contacted to discuss problem

4 - Sample cannot be analyzed or client does not wish to proceed

Table A1. Soil Data Summary for 5301 N Commercial St
Project No. 230360, Reserve Silica, Ravensdale, WA

Sample Location	Sample ID	Sample Date	Collected by	Arsenic	Lead
				mg/kg	
SP	1-W	5/26/2023	Ages Engineering	**317**	**742**
SP	2-CW	5/26/2023	Ages Engineering	**256**	**539**
SP	3-CE	5/26/2023	Ages Engineering	**113**	54.6
SP	4-E	5/26/2023	Ages Engineering	**479**	216
West Half of 5301 N Commercial St Property					
Y1	27-HF02-Y1-1-4	8/2/2023	TPHCD	3.2	2.6
Y2	27-HG02-Y2-1-4	8/2/2023	TPHCD	**24**	15
Y3	27-HF02-Y3-1-4	8/2/2023	TPHCD	**580**	**650**
Y4	27-HF02-Y4-1-4	8/2/2023	TPHCD	**41**	40
Y5	27-HF02-Y5-1-4	8/2/2023	TPHCD	3.2	3.1
Y5	27-HF02-Y5-1-5	8/2/2023	TPHCD	3	3
Y6	27-HF02-Y6-1-4	8/2/2023	TPHCD	3.5	3.1
Y7	27-HF02-Y7-1-4	8/2/2023	TPHCD	5.3	3.7
Y8	27-HF02-Y8-1-4	8/2/2023	TPHCD	**40**	16
East Half of 5301 N Commercial St Property					
Y9	27-HF02-Y9-1-4	8/2/2023	TPHCD	**96**	100
Y10	27-HF02-Y10-1-4	8/2/2023	TPHCD	**340**	**580**
Y11	27-HF02-Y11-1-4	8/2/2023	TPHCD	**130**	200
Y12	27-HF02-Y12-1-4	8/2/2023	TPHCD	**320**	**5000**
Y13	27-HF02-Y13-1-4	8/2/2023	TPHCD	**350**	**580**
Y14	27-HF02-Y14-1-4	8/2/2023	TPHCD	**130**	130
Y15	27-HF02-Y15-1-4	8/2/2023	TPHCD	**530**	**1400**
Y16	27-HF02-Y16-1-4	8/2/2023	TPHCD	**1700**	**2600**
Y17	27-HF02-Y17-1-4	8/2/2023	TPHCD	**240**	**340**
Y17	27-HF02-Y17-1-4	8/2/2023	TPHCD	**230**	**290**
Average Concentration of TPHCD Samples				**251**	**629**
MTCA Method A Cleanup Level				**20**	**250**

mg/kg - milligrams per kilogram
TPHCD - Tacoma-Pierce County Health Department
Bold - identifies a detected result above the MTCA Method A cleanup level

APPENDIX B

Import Truck Count Records

Table B1. Truck Count Summary
Project No. 230360, Reserve Silica, Ravensdale, WA

Import Date	Reserve Truck Count Summary		
	Truck & Trailer (T&T)	Solo	Super Solo
5/3/2023	109	31	25
5/4/2023	94	39	19
5/5/2023	104	26	12
5/6/2023	115	0	0
5/7/2023	0	0	0
5/8/2023	149	21	0
5/9/2023	163	35	9
5/10/2023	63	35	12
5/11/2023	126	23	1
5/12/2023	130	20	8
5/13/2023	0	0	0
5/14/2023	0	0	0
5/15/2023	181	25	4
5/16/2023	191	16	1
5/17/2023	215	21	0
5/18/2023	176	37	0
Subtotal	**1816**	**329**	**91**
Volume Assumption (cubic yards per load)	**24**	**15**	**18**
Total cubic yards	**43584**	**4935**	**1638**

DAILY REPORT MAY 3 2023

COMPANY	T&T DRY	SOLO DRY	SUPER SOLO	T&T WET	T&T CONCRETE	BRUSH	SOLO CONCRETE	TOTAL	AMOUNT
ACES FOUR		1						1	$ 75.00
ACTIVE	3							3	$ 450.00
BETTER IMAGE		1						1	$ 75.00
BINFORD		15						15	$ 1,125.00
BINFORD			4					4	$ 400.00
BREEZEE		4						4	$ 300.00
BUCKLEY	4							4	$ 600.00
DEENY		1						1	$ 75.00
DM RECYCLE							**3**	3	$ 300.00
DM RECYCLE						**3**		3	$ 300.00
FURY			1					1	$ 100.00
HOBART		2						2	$ 150.00
KAR VEL	3							3	$ 450.00
KAR VEL		1						1	$ 75.00
KLEENBLAST	2							2	$ 300.00
NEW X	2							2	$ 300.00
NEW X						1		1	$ 100.00
NW CONST							1	1	$ 100.00
PROSPECT LLC		2						2	$ 150.00
SILVER STREAK	95							95	$ 14,250.00
SILVER STREAK			20						$ 2,000.00
TEAM NELSON		3						3	$ 225.00
THOMPSON		2						2	$ 150.00
WESTERN STAR		1						1	$ 75.00
	109	33	25		0	4	4	175	$ 22,125.00

DAILY REPORT MAY 4 2023

COMPANY	T&T DRY	SOLO DRY	SUPER SOLO	T&T WET	T&T CONCRETE	BRUSH	SOLO CONCRETE	TOTAL	AMOUNT
ACTIVE	1							1	$ 150.00
BINFORD		15						15	$ 1,125.00
BINFORD			4					4	$ 400.00
BUCKLEY	10							10	$ 1,500.00
CL GREENE		2						2	$ 150.00
DEENY		1						1	$ 75.00
DB WALKER		2						2	$ 150.00
DM RECYCLE							**8**	8	$ 800.00
CEDAR COUNTY		1						1	$ 75.00
HOBART		2						2	$ 150.00
JOHANSEN	1							1	$ 150.00
KAR VEL	3							3	$ 450.00
MAY VALLEY		2						2	$ 150.00
NEW X	10							10	$ 1,500.00
PROSPECT LLC		4						4	$ 300.00
PRECISION		8						8	$ 600.00
SIERRA PACIFIC		1						1	$ 75.00
SILVER STREAK	69							69	$ 10,350.00
SILVER STREAK			15					15	$ 1,500.00
TITAN		1						1	$ 75.00
WESTERN STAR		4						4	$ 300.00
	94	43	19		0	0	8	164	$ 20,025.00

DAILY REPORT MAY 5 2023

COMPANY	T&T DRY	SOLO DRY	SUPER SOLO	T&T WET	T&T CONCRETE	BRUSH	SOLO CONCRETE	TOTAL	AMOUNT
BETTER IMAGE		1						1	$ 75.00
BINFORD		15						15	$ 1,125.00
BINFORD			4					4	$ 400.00
BREEZEE		1						1	$ 75.00
CEDAR COUNTY							**1**	1	$ 100.00
DEENY		2						2	$ 150.00
DB WALKER		2						2	$ 150.00
DM RECYCLE							**4**	4	$ 400.00
GEO LOOP			6					6	$ 600.00
HOBART		1						1	$ 75.00
JOHANSEN			1					1	$ 100.00
JOHANSEN		1						1	$ 75.00
JOHANSEN	2							2	$ 300.00
KAR VEL	3							3	$ 450.00
MAY VALLEY		2						2	$ 150.00
PGH			1					1	$ 100.00
PROSPECT LLC		2						2	$ 150.00
SILVER STREAK	99							99	$ 14,850.00
TERRA DYNAMICS		1						1	$ 75.00
	104	28	12		0	0	5	149	$ 19,400.00

DAILY REPORT MAY 6 2023

SATURDAY

COMPANY	T&T DRY	SOLO DR	SUPER SOLO	T&T WET	T&T CONCRETE	BRUSH	SOLO CONCRE	TOTAL	AMOUNT
SILVER STREAK	115							115	$ 17,250.00
	115	0	0		0	0	0	115	$ 17,250.00

DAILY REPORT MAY 8 2023

COMPANY	T&T DRY	SOLO DRY	SUPER SOLO	T&T WET	T&T CONCRETE	BRUSH	SOLO CONCRETE	TOTAL	AMOUNT
BETTER IMAGE							**1**	1	$ 100.00
BREEZEE		8						8	$ 600.00
DB WALKER		1						1	$ 75.00
DM RECYCLE							**4**	4	$ 400.00
ELK HEIGHTS	5							5	$ 750.00
KAR VEL	2							2	$ 300.00
KLEENBLAST	1							1	$ 150.00
LASER	1							1	$ 150.00
MAY VALLEY		1						1	$ 75.00
NEW X	5							5	$ 750.00
PCI	2							2	$ 300.00
SIERRA PACIFIC		1						1	$ 75.00
SILVER STREAK	133							133	$ 19,950.00
TERRA DYNAMICS		3						3	$ 225.00
WESTERN STAR		7						7	$ 525.00
	149	21	0		0	0	5	175	$ 24,425.00

DAILY REPORT MAY 9 2023

COMPANY	T&T DRY	SOLO DRY	SUPER SOLO	T&T WET	T&T CONCRETE	BRUSH	SOLO CONCRETE	TOTAL	AMOUNT
ACTIVE		5						5	$ 375.00
ARCHER		1						1	$ 75.00
BETTER IMAGE		1						1	$ 75.00
BREEZEE		9						9	$ 675.00
BUCKLEY	2							2	$ 300.00
DEENY		2						2	$ 150.00
DB WALKER		2						2	$ 150.00
DM RECYCLE							**4**	4	$ 400.00
GARY THAYER		1						1	$ 75.00
GEO LOOP			6					6	$ 600.00
HIGHMARK	1							1	$ 150.00
JOHANSEN			3					3	$ 300.00
KAR VEL	1							1	$ 150.00
KAR VEL		5						5	$ 375.00
KLEEN BLAST	3							3	$ 450.00
MAY VALLEY		2						2	$ 150.00
NO LIMIT		1						1	$ 75.00
NEW X	2							2	$ 300.00
PRIME CORE		2						2	$ 300.00
PERRY		1						1	$ 75.00
SIERRA PACIFIC		1						1	$ 75.00
SILVER STREAK	154							154	$ 23,100.00
TITAN		2						2	$ 150.00
	163	35	9		0	0	4	211	$ 28,525.00

DAILY REPORT MAY 10 2023

COMPANY	T&T DRY	SOLO DRY	SUPER SOLO	T&T WET	T&T CONCRETE	BRUSH	SOLO CONCRETE	TOTAL	AMOUNT
ACES FOUR		1						1	$ 75.00
ACTIVE		2						2	$ 150.00
BREEZEE		14						14	$ 1,050.00
BUCKLEY	3							3	$ 450.00
CEDAR COUNTY		1						1	$ 75.00
DEENY		2						2	$ 150.00
DB WALKER		1						1	$ 75.00
DM RECYCLE							**2**	2	$ 200.00
GEO LOOP			11					11	$ 1,100.00
HOBART		1						1	$ 75.00
JOHANSEN			1					1	$ 100.00
JOHANSEN		2						2	$ 150.00
KLEENBLAST	1							1	$ 150.00
KAR VEL	4							4	$ 600.00
LASER	2							2	$ 300.00
NEW X	4							4	$ 600.00
NEWELL	4							4	$ 600.00
PERRY		1						1	$ 75.00
SILVER STREAK	26						$160	26	$ 4,160.00
SILVER STREAK	19						$150	19	$ 2,850.00
THOMPSON		5						5	$ 375.00
TERRA DYNAMICS		2						2	$ 150.00
TITAN		1						1	$ 75.00
WESTERN STAR		2						2	$ 150.00
	63	35	12		0	0	2	112	$ 13,735.00

DAILY REPORT MAY 11 2023

COMPANY	T&T DRY	SOLO DRY	SUPER SOLO	T&T WET	T&T CONCRETE	BRUSH	SOLO CONCRETE	TOTAL	AMOUNT
ACES FOUR		1						1	$ 75.00
BETTER IMAGE		1						1	$ 75.00
BLOCK SVC		2						2	$ 150.00
BREEZEE		8						8	$ 600.00
CEDAR COUNTY		1						1	$ 75.00
CL GREENE		1						1	$ 75.00
DB WALKER		1						1	$ 75.00
DM RECYCLE							**3**	3	$ 300.00
DM RECYCLE						**2**		2	$ 200.00
JOHANSEN			1					1	$ 100.00
JOHANSEN		1						1	$ 75.00
KAR VEL	3							3	$ 450.00
NEWELL	4							4	$ 600.00
NEW X	8							8	$ 1,200.00
PACIFIC CIVIL	3							3	$ 450.00
PRO GRADE	2							2	$ 300.00
PROSPECT LLC		6						6	$ 450.00
PERRY		1						1	$ 75.00
SILVER STREAK	106							106	$ 15,900.00
TERRA DYNAMICS		2						2	$ 150.00
WESTERN STAR		4						4	$ 300.00
	126	29	1		0	2	2	160	$ 21,675.00

DAILY REPORT MAY 12 2023

COMPANY	T&T DRY	SOLO DRY	SUPER SOLO	T&T WET	T&T CONCRETE	BRUSH	SOLO CONCRETE	TOTAL	AMOUNT
BREEZEE		4						4	$ 300.00
CEDAR COUNTY							**1**	1	$ 100.00
DB WALKER		1						1	$ 75.00
DEENY		1						1	$ 75.00
DM RECYCLE							**4**	4	$ 400.00
GEO LOOP			7					7	$ 700.00
HOBART		2						2	$ 150.00
JOHANSEN			1					1	$ 100.00
JOHANSEN		1						1	$ 75.00
KLEENBLAST	2							2	$ 300.00
KAR VEL	4							4	$ 600.00
MAKS		1						1	$ 75.00
NEW X	4							4	$ 600.00
PROSPECT LLC		3						3	$ 225.00
SILVER STREAK	120							120	$ 18,000.00
SECREST		4						4	$ 300.00
THOMPSON		1						1	$ 75.00
WESTERN STAR		5						5	$ 375.00
	130	23	8		0	0	5	166	$ 22,525.00

DAILY REPORT MAY 15 2023

COMPANY	T&T DRY	SOLO DRY	SUPER SOLO	T&T WET	T&T CONCRETE	BRUSH	SOLO CONCRETE	TOTAL	AMOUNT
ACTIVE	3							3	$ 450.00
ACE CONST		1						1	$ 75.00
BREEZEE		2						2	$ 150.00
BUCKLEY	2							2	$ 300.00
DEENY		1						1	$ 75.00
DB WALKER		2						2	$ 150.00
DM RECYCLE							**5**	5	$ 500.00
ELK HEIGHTS	3							3	$ 450.00
HIGHMARK	16							16	$ 2,400.00
HIGHMARK			2					2	$ 200.00
ILLIAD		1						1	$ 75.00
JOHANSEN			1					1	$ 100.00
KLEENBLAST	2							2	$ 300.00
KAR VEL	4							4	$ 600.00
KAR VEL		1						1	$ 75.00
MCCANN			1					1	$ 100.00
MCCANN		2						2	$ 150.00
NEW X	5							5	$ 750.00
NO LIMIT		1						1	$ 75.00
PROSPECT LLC		5						5	$ 375.00
PRO GRADE	7							7	$ 1,050.00
RIDGELINE		2						2	$ 150.00
SILVER STREAK	132						$160.00	132	$ 21,120.00
SILVER STREAK	7						$150.00	7	$ 1,050.00
SECREST		1						1	$ 75.00
THOMPSON		5						5	$ 375.00
TERRA DYNAMICS		1						1	$ 75.00
WESTERN STAR		5						5	$ 375.00
	181	30	4		0	0	5	220	$ 31,620.00

DAILY REPORT MAY 15 2023

COMPANY	T&T DRY	SOLO DRY	SUPER SOLO	T&T WET	T&T CONCRETE	BRUSH	SOLO CONCRETE	TOTAL	AMOUNT
ACTIVE	3							3	$ 450.00
ACE CONST		1						1	$ 75.00
BREEZEE		2						2	$ 150.00
BUCKLEY	2							2	$ 300.00
DEENY		1						1	$ 75.00
DB WALKER		2						2	$ 150.00
DM RECYCLE							**5**	5	$ 500.00
ELK HEIGHTS	3							3	$ 450.00
HIGHMARK	16							16	$ 2,400.00
HIGHMARK			2					2	$ 200.00
ILLIAD		1						1	$ 75.00
JOHANSEN			1					1	$ 100.00
KLEENBLAST	2							2	$ 300.00
KAR VEL	4							4	$ 600.00
KAR VEL		1						1	$ 75.00
MCCANN			1					1	$ 100.00
MCCANN		2						2	$ 150.00
NEW X	5							5	$ 750.00
NO LIMIT		1						1	$ 75.00
PROSPECT LLC		5						5	$ 375.00
PRO GRADE	7							7	$ 1,050.00
RIDGELINE		2						2	$ 150.00
SILVER STREAK	132						$160.00	132	$ 21,120.00
SILVER STREAK	7						$150.00	7	$ 1,050.00
SECREST		1						1	$ 75.00
THOMPSON		5						5	$ 375.00
TERRA DYNAMICS		1						1	$ 75.00
WESTERN STAR		5						5	$ 375.00
	181	30	4		0	0	5	220	$ 31,620.00

DAILY REPORT MAY 16 2023

COMPANY	T&T DRY	SOLO DRY	SUPER SOLO	T&T WET	T&T CONCRETE	BRUSH	SOLO CONCRETE	TOTAL	AMOUNT
ACTIVE	6							6	$ 900.00
ACE CONST		1						1	$ 75.00
BUCKLEY	6							6	$ 900.00
BREEZEE		3						3	$ 225.00
DB WALKER		1						1	$ 75.00
DM RECYCLE							**5**	5	$ 500.00
DM RECYCLE						**2**		2	$ 200.00
HIGHMARK	22							22	$ 3,300.00
JOHANSEN	1							1	$ 150.00
JOHANSEN			1					1	$ 100.00
KAR VEL	4							4	$ 600.00
KLEENBLAST	2							2	$ 300.00
NEW X	3							3	$ 450.00
PRIMECORE		1						1	$ 75.00
PRO GRADE	2							2	$ 300.00
PROSPECT LLC		2						2	$ 150.00
PCI	4							4	$ 600.00
SECREST		4						4	$ 300.00
SILVER STREAK	15						$150.00	15	$ 2,250.00
SILVER STREAK	126						$160.00	126	$ 20,160.00
TERRA DYNAMICS		1						1	$ 75.00
WESTERN STAR		5						5	$ 375.00
	191	18	1		0	2	5	217	$ 32,060.00

DAILY REPORT MAY 17 2023

COMPANY	T&T DRY	SOLO DRY	SUPER SOLO	T&T WET	T&T CONCRETE	BRUSH	SOLO CONCRETE	TOTAL	AMOUNT
ACTIVE	8							8	$ 1,200.00
BLUE LAM		1						1	$ 75.00
BUCKLEY	8							8	$ 1,200.00
BREEZEE		4						4	$ 300.00
CORNERSTONE		1						1	$ 75.00
CEDAR COUNTY		1						1	$ 75.00
DEENY		1						1	$ 75.00
DB WALKER		2						2	$ 150.00
DM RECYCLE							**3**	3	$ 300.00
ICON	1							1	$ 150.00
HIGHMARK		2						2	$ 150.00
JOHANSEN	2							2	$ 300.00
KAR VEL	3							3	$ 450.00
KLEENBLAST	2							2	$ 300.00
NEW X	5							5	$ 750.00
PRIMECORE		1						1	$ 75.00
PERRY		1						1	$ 75.00
PCI	3							3	$ 450.00
PROSPECT LLC		2						2	$ 150.00
SECREST		1						1	$ 75.00
SILVER STREAK	13						$150	13	$ 1,950.00
SILVER STREAK	170						$160.00	170	$ 27,200.00
TERRA DYNAMICS		1						1	$ 75.00
TITAN		1						1	$ 75.00
WESTERN STAR		4						4	$ 300.00
	215	23	0		0	0	3	241	$ 35,975.00

DAILY REPORT MAY 18 2023

COMPANY	T&T DRY	SOLO DRY	SUPER SOLO	T&T WET	T&T CONCRETE	BRUSH	SOLO CONCRETE	TOTAL	AMOUNT
ACTIVE		8						8	$ 1,200.00
ACTIVE		3						3	$ 225.00
BREEZEE		4						4	$ 300.00
BUCKLEY	2							2	$ 300.00
CORNERSTONE		1						1	$ 75.00
CL GREENE		1						1	$ 75.00
DM RECYCLE							**6**	6	$ 600.00
JOHANSEN	2							2	$ 300.00
JOHANSEN		1						1	$ 75.00
KAR VEL		1						1	$ 75.00
KAR VEL	2							2	$ 300.00
NEW X	5							5	$ 750.00
PRIMECORE		4						4	$ 300.00
PROSPECT LLC		4						4	$ 300.00
RAINIER ROCKERIES		1						1	$ 75.00
RIDGELINE		2						2	$ 150.00
SILVER STREAK	161						$160.00	161	$ 25,760.00
SILVER STREAK	4						$150.00	4	$ 600.00
TEAM NELSON		7						7	$ 525.00
TERRA DYNAMICS		1						1	$ 75.00
WESTERN STAR		3						3	$ 225.00
	176	41	0		0	0	6	223	$ 32,285.00

APPENDIX C

Report Limitations and Guidelines for Use

REPORT LIMITATIONS AND USE GUIDELINES

Reliance Conditions for Third Parties

This report was prepared for the exclusive use of the Client. No other party may rely on this report or the product of our services without the express written consent of Aspect Consulting, LLC (Aspect). This limitation is to provide our firm with reasonable protection against liability claims by third parties with whom there would otherwise be no contractual conditions or limitations and guidelines governing their use of the report. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with the Client and recognized standards of professionals in the same locality and involving similar conditions.

Services for Specific Purposes, Persons and Projects

Aspect has performed the services in general accordance with the scope and limitations of our Agreement. This report has been prepared for the exclusive use of the Client and their authorized third parties, approved in writing by Aspect. This report is not intended for use by others, and the information contained herein is not applicable to other properties.

This report is not, and should not, be construed as a warranty or guarantee regarding the presence or absence of hazardous substances or petroleum products that may affect the subject property. The report is not intended to make any representation concerning title or ownership to the subject property. If real property records were reviewed, they were reviewed for the sole purpose of determining the subject property's historical uses. All findings, conclusions, and recommendations stated in this report are based on the data and information provided to Aspect, current use of the subject property, and observations and conditions that existed on the date and time of the report.

Aspect structures its services to meet the specific needs of our clients. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and subject property. This report should not be applied for any purpose or project except the purpose described in the Agreement.

This Report Is Project-Specific

Aspect considered a number of unique, project-specific factors when establishing the Scope of Work for this project and report. You should not rely on this report if it was:

- Not prepared for you
- Not prepared for the specific purpose identified in the Agreement
- Not prepared for the specific real property assessed
- Completed before important changes occurred concerning the subject property, project or governmental regulatory actions

If changes are made to the project or subject property after the date of this report, Aspect should be retained to assess the impact of the changes with respect to the conclusions contained in the report.

Geoscience Interpretations

The geoscience practices (geotechnical engineering, geology, and environmental science) require interpretation of spatial information that can make them less exact than other engineering and natural science disciplines. It is important to recognize this limitation in evaluating the content of the report. If you are unclear how these "Report Limitations and Use Guidelines" apply to your project or site, you should contact Aspect.

Discipline-Specific Reports Are Not Interchangeable

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually address any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding the subject property.

Environmental Regulations Are Not Static

Some hazardous substances or petroleum products may be present near the subject property in quantities or under conditions that may have led, or may lead, to contamination of the subject property, but are not included in current local, state or federal regulatory definitions of hazardous substances or petroleum products or do not otherwise present potential liability. Changes may occur in the standards for appropriate inquiry or regulatory definitions of hazardous substance and petroleum products; therefore, this report has a limited useful life.

Property Conditions Change Over Time

This report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time (for example, Phase I ESA reports are applicable for 180 days), by events such as a change in property use or occupancy, or by natural events, such as floods, earthquakes, slope failure or groundwater fluctuations. If more than six months have passed since issuance of our report, or if any of the described events may have occurred following the issuance of the report, you should contact Aspect so that we may evaluate whether changed conditions affect the continued reliability or applicability of our conclusions and recommendations.

Phase I ESAs – Uncertainty Remains After Completion

Aspect has performed the services in general accordance with the scope and limitations of our Agreement and the current version of the “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process”, ASTM E1527, and U.S. Environmental Protection Agency (EPA)'s Federal Standard 40 CFR Part 312 "Innocent Landowners, Standards for Conducting All Appropriate Inquiries".

No ESA can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with subject property. Performance of an ESA study is intended to reduce, but not eliminate, uncertainty regarding the potential for environmental conditions affecting the subject property. There is always a potential that areas with contamination that were not identified during this ESA exist at the subject property or in the study area. Further evaluation of such potential would require additional research, subsurface exploration, sampling and/or testing.

Historical Information Provided by Others

Aspect has relied upon information provided by others in our description of historical conditions and in our review of regulatory databases and files. The available data does not provide definitive information with regard to all past uses, operations or incidents affecting the subject property or adjacent properties. Aspect makes no warranties or guarantees regarding the accuracy or completeness of information provided or compiled by others.

Exclusion of Mold, Fungus, Radon, Lead, and HBM

Aspect’s services do not include the investigation, detection, prevention or assessment of the presence of molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts. Accordingly, this report does not include any interpretations, recommendations, findings, or conclusions regarding the detection, assessment, prevention or abatement of molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts. Aspect’s services also do not include the investigation or assessment of hazardous building materials (HBM) such as asbestos, polychlorinated biphenyls (PCBs) in light ballasts, lead based paint, asbestos-containing building materials, urea-formaldehyde insulation in on-site structures or debris or any other HBMs. Aspect’s services do not include an evaluation of radon or lead in drinking water, unless specifically requested.