

May 1, 2019

ACH Homes, LLC  
9675 SE 36<sup>th</sup> St. #105  
Mercer Island, WA 98040  
Attention: Dmitriy Mayzlin

Re: **Arsenic & Lead Soil Screening**  
King County Parcel: 042104-9012

Mr. Mayzlin:

EcoCon, Inc. (ECI), per your request, completed a limited environmental screening focusing on potential arsenic and lead impacted near surface soils as a result of the Asarco Smelter Plume. This investigation was conducted as a screening and is not in accordance with the Washington State Department of Ecology (Ecology) Remedies Guidance “Sampling & Cleanup of Arsenic & Lead Contaminated Soils, Publication 12-09-086-A.

The investigation included one King County parcels (042104-9012) which comprise the proposed building site (Subject Site, Figures 1-3).

### **Soil Sampling Activities**

The goal of this project was to complete an initial “screening” assessment to evaluate the property for arsenic and lead in both the forest surface duff<sup>1</sup> or “duff” and the surface soil extending from 0 to 6 inches below ground surface (bgs).

ECI completed sampling activities at the Subject Site on April 22, 2019 collecting fourteen samples, four surface duff and ten 0-6 inches. Sample locations were chosen at random from representative locations throughout the property. Sample locations are shown in Figure 3 (Attachment A).

Each discrete soil sample was collected by a properly trained sampling technician using appropriately decontaminated sampling equipment. The sample was placed into new, laboratory provided, sampling container and labeled using a unique sample identification number. Samples were stored in a climate controlled container maintained at 4° Celsius delivered under industry standard chain of custody to an Ecology accredited laboratory for chemical analysis.

### **Regulatory Compliance**

Regulatory compliance for this project is based on the Washington Administrative Code (WAC) 173-340 – Model Toxic Control Act (MTCA) - chapter 70.105D RCW and is regulated by Ecology. Ecology has established cleanup standards and requirements for the cleanup actions. The rules establishing these

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<sup>1</sup> The forest floor surface covering is also referred to as duff or the O horizon. It mainly consists of shed vegetative parts, such as leaves, branches, bark, and stems, existing in various stages of decomposition above the soil surface.

standards and requirements were developed by Ecology in consultation with the Science Advisory Board (established under the Act) and with representatives from local government, citizen, environmental, and business groups. The rules were first published in February 1991, with amendments in January 1996, February 2001, and October 2007. In December of 2012, Ecology introduced Publication Number 12-09-086-A, "Tacoma Smelter Plume Model Remedies Guidance: Sampling and cleanup of arsenic and lead contaminated soils". This publication provides specific guidance for Properties under construction within the Asarco Tacoma Smelter Plume.

## Cleanup Levels

Under MTCA, CULs determine at what level a particular hazardous substance does not threaten human health or the environment. The CULs for soil are identified in this section.

MTCA regulations (WAC 173-340-704) indicate that:

*"Method A may be used to establish CULs at sites that have few hazardous substances and ... sites where numerical standards are available in this chapter for applicable state and federal laws for all indicator hazardous substances in the media for which the Method A cleanup level is being used."*

These soil CULs are protective of human health due to direct contact or ingestion and is also protective of groundwater (i.e., groundwater in contact with soil or receiving leachate from soil would not be contaminated above the groundwater cleanup level).

**Table 1: Contaminates of Concern - Maximum Allowable Concentrations**

| Primary Contaminant of Concern | Analytical Method | Elevated Arsenic & Lead Levels                             |                       |
|--------------------------------|-------------------|------------------------------------------------------------|-----------------------|
|                                |                   | Milligrams per kilogram (mg/kg) or parts per million (PPM) |                       |
|                                |                   | Maximum Concentration                                      | Average Concentration |
| Arsenic                        | EPA 200.8 / 6020  | >40                                                        | >20                   |
| Lead                           |                   | >500                                                       | >250                  |

## Laboratory Analysis

Soil samples were analyzed for total arsenic and total lead by EPA Method 200.8 (Attached). Each of the samples was reported below the maximum 40 mg/kg arsenic and 500 mg/kg lead cleanup levels and below the average 20 mg/kg arsenic and 250 mg/kg lead cleanup levels.

**Table 2: Average Arsenic & Lead Analytical Results**

| Sample Identification | Sample Date | Soil Sample Results (EPA 200.8 / 6020B) |              |
|-----------------------|-------------|-----------------------------------------|--------------|
|                       |             | Arsenic (mg/kg)                         | Lead (mg/kg) |
| S1-0-6"               | 04/22/2019  | 11.2                                    | 24.1         |
| S1-Duff               | 04/22/2019  | 12.3                                    | 32.1         |
| S2-0-6"               | 04/22/2019  | 3.61                                    | 6.39         |
| S3-Duff               | 04/22/2019  | 9.36                                    | 25.8         |

**Arsenic & Lead Soil Screening**

King County Parcel: 042104-9012

May 1, 2019

| Sample Identification                    | Sample Date | Soil Sample Results (EPA 200.8 / 6020B) |              |
|------------------------------------------|-------------|-----------------------------------------|--------------|
|                                          |             | Arsenic (mg/kg)                         | Lead (mg/kg) |
| S3-0-6"                                  | 04/22/2019  | 16.2                                    | 40.3         |
| S4-0-6"                                  | 04/22/2019  | 3.32                                    | 4.48         |
| S5-Duff                                  | 04/22/2019  | 7.42                                    | 74.9         |
| S5-0-6"                                  | 04/22/2019  | 3.59                                    | 6.99         |
| S6-0.6"                                  | 04/22/2019  | 12.7                                    | 29.3         |
| S7-Duff                                  | 04/22/2019  | 8.72                                    | 56.4         |
| S7-0-6"                                  | 04/22/2019  | 8.49                                    | 17.0         |
| S8-0-6"                                  | 04/22/2019  | 6.79                                    | 16.2         |
| S9-0-6"                                  | 04/22/2019  | 10.0                                    | 24.1         |
| S10-0-6"                                 | 04/22/2019  | 3.1                                     | 11.5         |
| Laboratory Practical Quantitation Limits |             | 1.0                                     | 1.0          |
| Average Concentration                    |             | 8.34                                    | 26.39        |
| Regulatory Cleanup Level                 |             | 20                                      | 250          |

According to Ecology, Publication 12-09-086-A, if arsenic or lead levels are elevated remediation is necessary. Elevated means: 1) Average arsenic greater than 20 mg/kg (ppm) or maximum (any one sample) arsenic greater than 40 mg/kg and 2) average lead greater than 250 mg/kg; or maximum lead is greater than 500 ppm.

**Summary**

ECI completed a soil sample screening assessment on King County Parcel 042104-9012. The screening assessment was conducted to provide initial data as to the potential of arsenic and lead contamination on the Property. Based on soil sample analysis, no soil impacted with arsenic or lead exceeding their applicable maximum or average cleanup levels was identified.

ECI appreciates the opportunity to provide environmental services on this project. Should you have any questions, please contact me at 253-318-6376.

Sincerely,

ECI | Environmental Consulting



Kyle A. Spencer  
Environmental Hygienist I

**List of Tables:**

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**List of Enclosures:****Attachment A – Project Figures**

- Figure 1 – Site Location Map
- Figure 2 – Site Topographic Map
- Figure 3 – Sample Location Map

**Attachment B - Laboratory Results**

- Sample Analytical Results & Chain of Custody

**STATEMENT OF REPORT LIMITATIONS & QUALITY ASSURANCE**

Some clients, design professionals and contractors may not recognize that the geoscience practices (geotechnical engineering, geology, and environmental science) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. EcoCon Inc. includes these explanatory “limitations” provisions in our reports to help reduce such risks. Please confer with EcoCon if you are unclear how these “Report Limitations and Guidelines for Use” apply to your project or Site.

**Use of this Report by Others**

Our report was prepared for the exclusive use of Mr. Jan Sucha, Porter’s/ARS, and designated agent/ensigns. This report may be provided to regulatory agencies for review if requested or required. No other party may rely on the product of our services unless we agree in advance to such reliance in writing. This is to provide our firm with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with Mr. Jan Sucha and generally accepted environmental practices in this area at the time this report was prepared.

This report has been prepared for UST decommissioning, site assessment, and remediation activities at the Subject Property. EcoCon considered a number of unique, project-specific factors when establishing the scope of services for this project and report. No one except Mr. Jan Sucha, Porter’s/ARS, and designated agent/ensigns should rely on this environmental report without first conferring with ECI. This report should not be applied for any purpose or project except the one originally contemplated.

Unless EcoCon specifically indicates otherwise, do not rely on this report if it was:

- Not prepared for you,
- Not prepared for your project,

- Not prepared for the specific site explored, or
- Completed before important site changes were made.

If important changes are made after the date of this report, EcoCon Inc. should be given the opportunity to review our interpretations and recommendations and provide written modifications or confirmation, as appropriate.

**Uncertainty May Remain after Completion of Site Investigation and Remedial Activities**

The investigation and remediation activities completed in a portion of a site cannot wholly eliminate uncertainty regarding the potential for contamination in connection with the entire property. Our interpretation of subsurface conditions in this study is based on field observations and chemical analytical data from the locations sampled. It is always possible that contamination exists in areas that were not explored, sampled, or analyzed.

**Subsurface Conditions Can Change**

This environmental 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, by manmade events such as construction on or adjacent to the Site, by new releases of hazardous substances, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. Always contact EcoCon before applying this report to determine if it is still applicable.

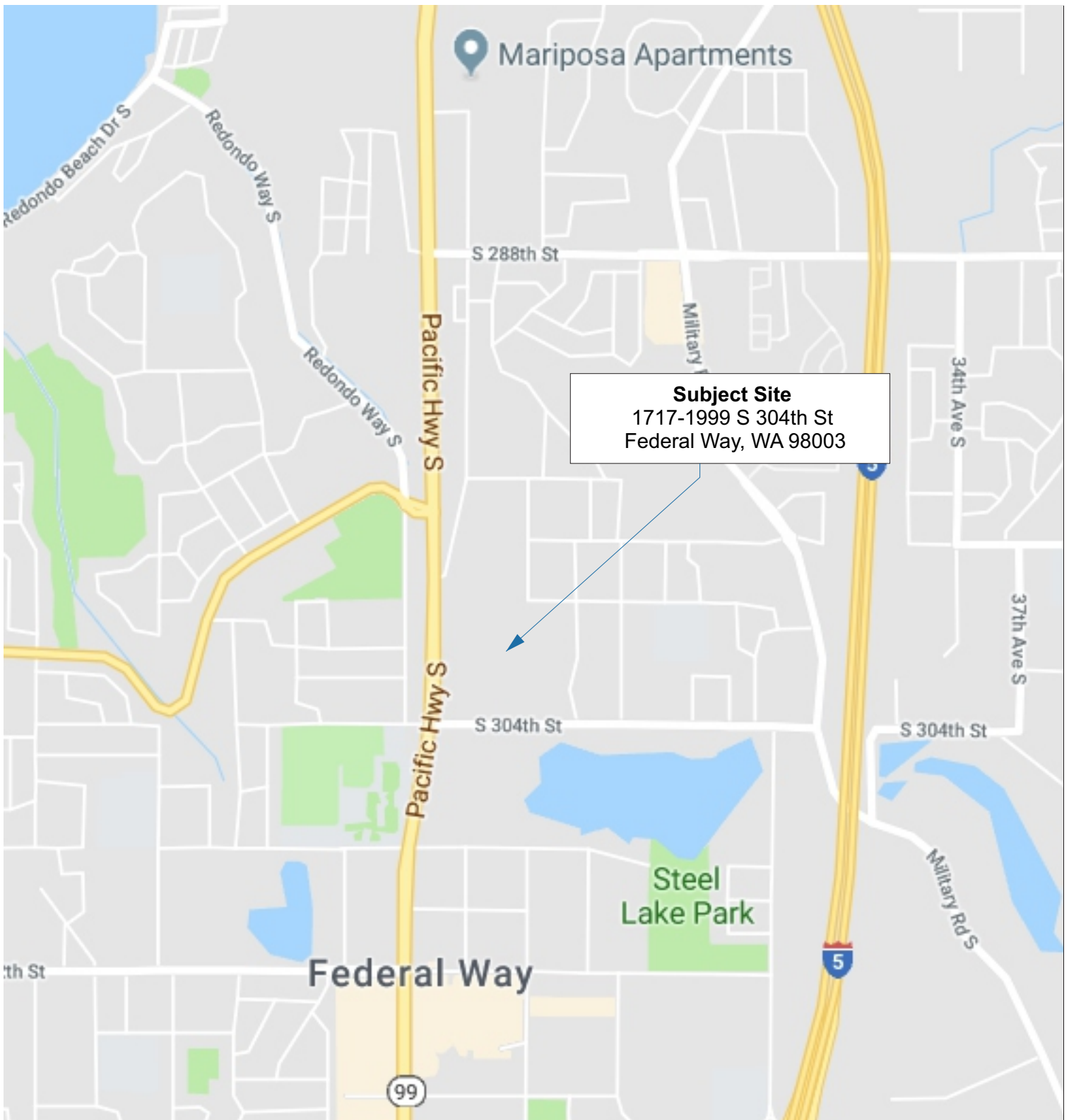
**Soil and Groundwater End Use**

The cleanup levels referenced in this report are Site- and situation-specific and could change with time due to regulatory or Site changes. The cleanup levels may not be applicable for other sites or for other on-site uses of the affected media (soil and/or groundwater).

Note that hazardous substances may be present in some of the Site soil and/or groundwater at detectable concentrations that are less than the referenced cleanup levels. Because these cleanup levels can change, EcoCon should be contacted to evaluate the potential for associated environmental liabilities prior to the export of soil or groundwater from the Subject Site or reuse of the affected media on the Site. We cannot be responsible for potential environmental liability arising out of the transfer of soil and/or groundwater from the Subject Site to another location or its reuse on the Site in instances that we were not aware of or could not control.

**Most Environmental Findings Are Professional Opinions**

Our interpretations of subsurface conditions are based on field observations and chemical analytical data from the locations sampled at the Site. Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. EcoCon Inc. reviewed field and laboratory data and then applied our professional judgment to render an opinion about subsurface conditions throughout the Site. Actual subsurface conditions may differ – sometimes significantly – from those indicated in this report. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.







Site Topographic Map  
Arsenic & Lead Sampling Report  
1717-1999 S 304th St  
Federal Way, WA 98003

Date: May 10, 2019  
Completed By: K. Spencer  
Reviewed By: S. Spencer  
Version: R1-051019  
Project No.: 0717-01-01

Figure No.:

**03**

Sheet 03 of 03



Providing Practical Environmental Compliance Solutions  
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ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

May 1, 2019

Kyle Spencer, Project Manager  
EcoCon, Inc.  
P.O. Box 153  
Fox Island, WA 98333

Dear Mr Spencer:

Included are the results from the testing of material submitted on April 23, 2019 from the 0717-01-Soil Sampling, F&BI 904445 project. There are 18 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Steve Spencer  
EMS0501R.DOC

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 23, 2019 by Friedman & Bruya, Inc. from the EcoCon 0717-01-Soil Sampling, F&BI 904445 project. Samples were logged in under the laboratory ID's listed below.

| <u>Laboratory ID</u> | <u>EcoCon</u> |
|----------------------|---------------|
| 904445 -01           | S1-0-6"       |
| 904445 -02           | S1-Duff       |
| 904445 -03           | S2-0-6"       |
| 904445 -04           | S3-Duff       |
| 904445 -05           | S3-0-6"       |
| 904445 -06           | S4-0-6"       |
| 904445 -07           | S5-Duff       |
| 904445 -08           | S5-0-6"       |
| 904445 -09           | S6-0-6"       |
| 904445 -10           | S7-Duff       |
| 904445 -11           | S7-0-6"       |
| 904445 -12           | S8-0-6"       |
| 904445 -13           | S9-0-6"       |
| 904445 -14           | S10-0-6"      |

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

|                 |                        |             |                       |
|-----------------|------------------------|-------------|-----------------------|
| Client ID:      | S1-0-6"                | Client:     | EcoCon                |
| Date Received:  | 04/23/19               | Project:    | 0717-01-Soil Sampling |
| Date Extracted: | 04/25/19               | Lab ID:     | 904445-01             |
| Date Analyzed:  | 04/25/19               | Data File:  | 904445-01.102         |
| Matrix:         | Soil                   | Instrument: | ICPMS2                |
| Units:          | mg/kg (ppm) Dry Weight | Operator:   | SP                    |

| Analyte: | Concentration<br>mg/kg (ppm) |
|----------|------------------------------|
|----------|------------------------------|

|         |      |
|---------|------|
| Arsenic | 11.2 |
| Lead    | 24.1 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

|                 |                        |             |                       |
|-----------------|------------------------|-------------|-----------------------|
| Client ID:      | S1-Duff                | Client:     | EcoCon                |
| Date Received:  | 04/23/19               | Project:    | 0717-01-Soil Sampling |
| Date Extracted: | 04/25/19               | Lab ID:     | 904445-02             |
| Date Analyzed:  | 04/25/19               | Data File:  | 904445-02.103         |
| Matrix:         | Soil                   | Instrument: | ICPMS2                |
| Units:          | mg/kg (ppm) Dry Weight | Operator:   | SP                    |

| Analyte: | Concentration<br>mg/kg (ppm) |
|----------|------------------------------|
|----------|------------------------------|

|         |      |
|---------|------|
| Arsenic | 12.3 |
| Lead    | 32.1 |

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Total Metals By EPA Method 6020B

|                 |                        |             |                       |
|-----------------|------------------------|-------------|-----------------------|
| Client ID:      | S2-0-6"                | Client:     | EcoCon                |
| Date Received:  | 04/23/19               | Project:    | 0717-01-Soil Sampling |
| Date Extracted: | 04/25/19               | Lab ID:     | 904445-03             |
| Date Analyzed:  | 04/25/19               | Data File:  | 904445-03.104         |
| Matrix:         | Soil                   | Instrument: | ICPMS2                |
| Units:          | mg/kg (ppm) Dry Weight | Operator:   | SP                    |

| Analyte: | Concentration<br>mg/kg (ppm) |
|----------|------------------------------|
|----------|------------------------------|

|         |      |
|---------|------|
| Arsenic | 3.61 |
| Lead    | 6.39 |

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Total Metals By EPA Method 6020B

|                 |                        |             |                       |
|-----------------|------------------------|-------------|-----------------------|
| Client ID:      | S3-Duff                | Client:     | EcoCon                |
| Date Received:  | 04/23/19               | Project:    | 0717-01-Soil Sampling |
| Date Extracted: | 04/25/19               | Lab ID:     | 904445-04             |
| Date Analyzed:  | 04/25/19               | Data File:  | 904445-04.107         |
| Matrix:         | Soil                   | Instrument: | ICPMS2                |
| Units:          | mg/kg (ppm) Dry Weight | Operator:   | SP                    |

| Analyte: | Concentration<br>mg/kg (ppm) |
|----------|------------------------------|
|----------|------------------------------|

|         |      |
|---------|------|
| Arsenic | 9.36 |
| Lead    | 25.8 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

|                 |                        |             |                       |
|-----------------|------------------------|-------------|-----------------------|
| Client ID:      | S3-0-6"                | Client:     | EcoCon                |
| Date Received:  | 04/23/19               | Project:    | 0717-01-Soil Sampling |
| Date Extracted: | 04/25/19               | Lab ID:     | 904445-05             |
| Date Analyzed:  | 04/25/19               | Data File:  | 904445-05.108         |
| Matrix:         | Soil                   | Instrument: | ICPMS2                |
| Units:          | mg/kg (ppm) Dry Weight | Operator:   | SP                    |

| Analyte: | Concentration<br>mg/kg (ppm) |
|----------|------------------------------|
|----------|------------------------------|

|         |      |
|---------|------|
| Arsenic | 16.2 |
| Lead    | 40.3 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

|                 |                        |             |                       |
|-----------------|------------------------|-------------|-----------------------|
| Client ID:      | S4-0-6"                | Client:     | EcoCon                |
| Date Received:  | 04/23/19               | Project:    | 0717-01-Soil Sampling |
| Date Extracted: | 04/25/19               | Lab ID:     | 904445-06             |
| Date Analyzed:  | 04/25/19               | Data File:  | 904445-06.109         |
| Matrix:         | Soil                   | Instrument: | ICPMS2                |
| Units:          | mg/kg (ppm) Dry Weight | Operator:   | SP                    |

| Analyte: | Concentration<br>mg/kg (ppm) |
|----------|------------------------------|
|----------|------------------------------|

|         |      |
|---------|------|
| Arsenic | 3.32 |
| Lead    | 4.48 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

|                 |                        |             |                       |
|-----------------|------------------------|-------------|-----------------------|
| Client ID:      | S5-Duff                | Client:     | EcoCon                |
| Date Received:  | 04/23/19               | Project:    | 0717-01-Soil Sampling |
| Date Extracted: | 04/25/19               | Lab ID:     | 904445-07             |
| Date Analyzed:  | 04/25/19               | Data File:  | 904445-07.110         |
| Matrix:         | Soil                   | Instrument: | ICPMS2                |
| Units:          | mg/kg (ppm) Dry Weight | Operator:   | SP                    |

| Analyte: | Concentration<br>mg/kg (ppm) |
|----------|------------------------------|
|----------|------------------------------|

|         |      |
|---------|------|
| Arsenic | 7.42 |
| Lead    | 74.9 |

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ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

|                 |                        |             |                       |
|-----------------|------------------------|-------------|-----------------------|
| Client ID:      | S5-0-6"                | Client:     | EcoCon                |
| Date Received:  | 04/23/19               | Project:    | 0717-01-Soil Sampling |
| Date Extracted: | 04/25/19               | Lab ID:     | 904445-08             |
| Date Analyzed:  | 04/25/19               | Data File:  | 904445-08.113         |
| Matrix:         | Soil                   | Instrument: | ICPMS2                |
| Units:          | mg/kg (ppm) Dry Weight | Operator:   | SP                    |

| Analyte: | Concentration<br>mg/kg (ppm) |
|----------|------------------------------|
|----------|------------------------------|

|         |      |
|---------|------|
| Arsenic | 3.59 |
| Lead    | 6.99 |

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## ENVIRONMENTAL CHEMISTS

### Analysis For Total Metals By EPA Method 6020B

|                 |                        |             |                       |
|-----------------|------------------------|-------------|-----------------------|
| Client ID:      | S6-0-6"                | Client:     | EcoCon                |
| Date Received:  | 04/23/19               | Project:    | 0717-01-Soil Sampling |
| Date Extracted: | 04/25/19               | Lab ID:     | 904445-09             |
| Date Analyzed:  | 04/25/19               | Data File:  | 904445-09.114         |
| Matrix:         | Soil                   | Instrument: | ICPMS2                |
| Units:          | mg/kg (ppm) Dry Weight | Operator:   | SP                    |

| Analyte: | Concentration<br>mg/kg (ppm) |
|----------|------------------------------|
|----------|------------------------------|

|         |      |
|---------|------|
| Arsenic | 12.7 |
| Lead    | 29.3 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

|                 |                        |             |                       |
|-----------------|------------------------|-------------|-----------------------|
| Client ID:      | S7-Duff                | Client:     | EcoCon                |
| Date Received:  | 04/23/19               | Project:    | 0717-01-Soil Sampling |
| Date Extracted: | 04/25/19               | Lab ID:     | 904445-10             |
| Date Analyzed:  | 04/25/19               | Data File:  | 904445-10.115         |
| Matrix:         | Soil                   | Instrument: | ICPMS2                |
| Units:          | mg/kg (ppm) Dry Weight | Operator:   | SP                    |

| Analyte: | Concentration<br>mg/kg (ppm) |
|----------|------------------------------|
|----------|------------------------------|

|         |      |
|---------|------|
| Arsenic | 8.72 |
| Lead    | 56.4 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

|                 |                        |             |                       |
|-----------------|------------------------|-------------|-----------------------|
| Client ID:      | S7-0-6"                | Client:     | EcoCon                |
| Date Received:  | 04/23/19               | Project:    | 0717-01-Soil Sampling |
| Date Extracted: | 04/25/19               | Lab ID:     | 904445-11             |
| Date Analyzed:  | 04/25/19               | Data File:  | 904445-11.116         |
| Matrix:         | Soil                   | Instrument: | ICPMS2                |
| Units:          | mg/kg (ppm) Dry Weight | Operator:   | SP                    |

| Analyte: | Concentration<br>mg/kg (ppm) |
|----------|------------------------------|
|----------|------------------------------|

|         |      |
|---------|------|
| Arsenic | 8.49 |
| Lead    | 17.0 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

|                 |                        |             |                       |
|-----------------|------------------------|-------------|-----------------------|
| Client ID:      | S8-0-6"                | Client:     | EcoCon                |
| Date Received:  | 04/23/19               | Project:    | 0717-01-Soil Sampling |
| Date Extracted: | 04/25/19               | Lab ID:     | 904445-12             |
| Date Analyzed:  | 04/25/19               | Data File:  | 904445-12.117         |
| Matrix:         | Soil                   | Instrument: | ICPMS2                |
| Units:          | mg/kg (ppm) Dry Weight | Operator:   | SP                    |

| Analyte: | Concentration<br>mg/kg (ppm) |
|----------|------------------------------|
|----------|------------------------------|

|         |      |
|---------|------|
| Arsenic | 6.79 |
| Lead    | 16.2 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

|                 |                        |             |                       |
|-----------------|------------------------|-------------|-----------------------|
| Client ID:      | S9-0-6"                | Client:     | EcoCon                |
| Date Received:  | 04/23/19               | Project:    | 0717-01-Soil Sampling |
| Date Extracted: | 04/25/19               | Lab ID:     | 904445-13             |
| Date Analyzed:  | 04/25/19               | Data File:  | 904445-13.118         |
| Matrix:         | Soil                   | Instrument: | ICPMS2                |
| Units:          | mg/kg (ppm) Dry Weight | Operator:   | SP                    |

| Analyte: | Concentration<br>mg/kg (ppm) |
|----------|------------------------------|
|----------|------------------------------|

|         |      |
|---------|------|
| Arsenic | 10.0 |
| Lead    | 24.1 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

|                 |                        |             |                       |
|-----------------|------------------------|-------------|-----------------------|
| Client ID:      | S10-0-6"               | Client:     | EcoCon                |
| Date Received:  | 04/23/19               | Project:    | 0717-01-Soil Sampling |
| Date Extracted: | 04/25/19               | Lab ID:     | 904445-14             |
| Date Analyzed:  | 04/25/19               | Data File:  | 904445-14.119         |
| Matrix:         | Soil                   | Instrument: | ICPMS2                |
| Units:          | mg/kg (ppm) Dry Weight | Operator:   | SP                    |

| Analyte: | Concentration<br>mg/kg (ppm) |
|----------|------------------------------|
|----------|------------------------------|

|         |      |
|---------|------|
| Arsenic | 3.10 |
| Lead    | 11.5 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

|                 |                        |             |                       |
|-----------------|------------------------|-------------|-----------------------|
| Client ID:      | Method Blank           | Client:     | EcoCon                |
| Date Received:  | Not Applicable         | Project:    | 0717-01-Soil Sampling |
| Date Extracted: | 04/25/19               | Lab ID:     | I9-271 mb             |
| Date Analyzed:  | 04/25/19               | Data File:  | I9-271 mb.097         |
| Matrix:         | Soil                   | Instrument: | ICPMS2                |
| Units:          | mg/kg (ppm) Dry Weight | Operator:   | SP                    |

| Analyte: | Concentration<br>mg/kg (ppm) |
|----------|------------------------------|
|----------|------------------------------|

|         |    |
|---------|----|
| Arsenic | <1 |
| Lead    | <1 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/01/19

Date Received: 04/23/19

Project: 0717-01-Soil Sampling, F&BI 904445

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 904445-03 (Matrix Spike)

| Analyte | Reporting<br>Units | Spike<br>Level | Sample<br>Result<br>(Wet wt) | Percent<br>Recovery<br>MS | Percent<br>Recovery<br>MSD | Acceptance<br>Criteria | RPD<br>(Limit 20) |
|---------|--------------------|----------------|------------------------------|---------------------------|----------------------------|------------------------|-------------------|
| Arsenic | mg/kg (ppm)        | 10             | 3.07                         | 75                        | 88                         | 75-125                 | 16                |
| Lead    | mg/kg (ppm)        | 50             | 5.43                         | 94                        | 104                        | 75-125                 | 10                |

Laboratory Code: Laboratory Control Sample

| Analyte | Reporting<br>Units | Spike<br>Level | Percent<br>Recovery<br>LCS | Acceptance<br>Criteria |
|---------|--------------------|----------------|----------------------------|------------------------|
| Arsenic | mg/kg (ppm)        | 10             | 85                         | 80-120                 |
| Lead    | mg/kg (ppm)        | 50             | 107                        | 80-120                 |

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

# SAMPLE CHAIN OF CUSTODY

ME 04-23-19 1 of 2 BL3

SAMPLERS (signature)

PROJECT NAME

PO #

REMARKS

INVOICE TO

Page # 1 of 2  
TURNAROUND TIME

☒ Standard Turnaround

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days

☐ Archive Samples

☐ Other

Report To Kyle Spencer

Company ECT

Address PO Box 153

City, State, ZIP Tex Island, WA, 98333

Phone 253-279-2003 Email kyle@allec.com

| Sample ID | Lab ID | Date Sampled | Time Sampled | Sample Type | # of Jars | ANALYSES REQUESTED |            |              |               |               |                |                |                  |  |  | Notes |
|-----------|--------|--------------|--------------|-------------|-----------|--------------------|------------|--------------|---------------|---------------|----------------|----------------|------------------|--|--|-------|
|           |        |              |              |             |           | TPH-HCID           | TPH-Diesel | TPH-Gasoline | BTEX by 8021B | VOCs by 8260C | SVOCs by 8270D | PAHs 8270D SIM | Lead and Arsenic |  |  |       |
| S1-O-6"   | 01     | 4-22-19      |              | Soil        | 1         |                    |            |              |               |               |                |                | X                |  |  |       |
| S1-Duff   | 02     |              |              |             |           |                    |            |              |               |               |                |                |                  |  |  |       |
| S2-O-6"   | 03     |              |              |             |           |                    |            |              |               |               |                |                |                  |  |  |       |
| S3-Duff   | 04     |              |              |             |           |                    |            |              |               |               |                |                |                  |  |  |       |
| S3-O-6"   | 05     |              |              |             |           |                    |            |              |               |               |                |                |                  |  |  |       |
| S4-O-6"   | 06     |              |              |             |           |                    |            |              |               |               |                |                |                  |  |  |       |
| S5-Duff   | 07     |              |              |             |           |                    |            |              |               |               |                |                |                  |  |  |       |
| S5-O-6"   | 08     |              |              |             |           |                    |            |              |               |               |                |                |                  |  |  |       |
| S6-O-6"   | 09     |              |              |             |           |                    |            |              |               |               |                |                |                  |  |  |       |
| S7-Duff   | 10     | X            |              | X           | X         |                    |            |              |               |               |                |                |                  |  |  |       |

°C

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

| SIGNATURE          |  | PRINT NAME            |  | COMPANY    | DATE           | TIME         |
|--------------------|--|-----------------------|--|------------|----------------|--------------|
| Relinquished by:   |  |                       |  |            |                |              |
| <u>[Signature]</u> |  | <u>Kyle Spencer</u>   |  | <u>ECT</u> | <u>4-22-19</u> | <u>3:09</u>  |
| Received by:       |  |                       |  |            |                |              |
| <u>[Signature]</u> |  | <u>Melissa Crabbe</u> |  | <u>ECT</u> | <u>4/23/19</u> | <u>10:47</u> |
| Relinquished by:   |  |                       |  |            |                |              |
| <u>[Signature]</u> |  | <u>Adam Phan</u>      |  | <u>ECT</u> | <u>4/23/19</u> | <u>11:55</u> |

ME 04-23-19 2 2 BI3

904445

1005

$\chi^2 = 0.86$ ,  $\text{d.f.} = 1$ ,  $p = 0.35$

**\*\*\*\*\***

100

Page # of

PO#

SAMPLE DISPOSAL

Samples Received at \_\_\_\_\_ °C

[illegible]

*Friedman & Bruya, Inc.*  
3012 16th Avenue West  
Seattle, WA 98119-2029  
Ph. (206) 285-8282  
Fax (206) 283-5044  
FORMS\COC\COC.DOC

| SIGNATURE                           | PRINT NAME         | COMPANY    | DATE           | TIME        |
|-------------------------------------|--------------------|------------|----------------|-------------|
| Relinquished by: <i>[Signature]</i> |                    |            |                |             |
| Received by: <i>[Signature]</i>     | <i>Nikun Patan</i> | <i>FBI</i> | <i>4/23/14</i> | <i>1155</i> |
| Relinquished by:                    |                    |            |                |             |
| Received by:                        |                    |            |                |             |