

September 13, 2013

ECI Project Number: 0422-04

Ron Eaton  
C/o Linn Larson  
Larson Commercial-Industrial  
1201 Pacific Avenue, Suite 1400  
Tacoma, Washington 98402

Re: Focused Subsurface Investigation – Arsenic Sampling  
2119 Mildred Street  
Fircrest, Washington 98466

Mr. Eaton:

EcoCon, Inc. (ECI) is pleased to provide you with the following Focused Subsurface Investigation (FSI) Report detailing the site activities that included the advancement of ten borings for the collection and chemical analysis of soil samples. These activities were completed at 2119 Mildred Street, Tacoma, Washington (Subject Site / Site). Samples were taken from imported fill material and from native material underlying the fill materials.

This letter report provides a summary of site activities, field observations, soil sampling, chemical analysis, and our conclusions and recommendations.

Attached to this report are the following:

- Attachment A: Project Figures 1-4
- Attachment B: Project Table
- Attachment C: Sample Analytical results
- Attachment D: Regulatory Agency Documents

### **Background**

ECI completed a Focused Subsurface Investigation at the Subject Site in September and October 2011 to substantiate previous subsurface investigation findings, further characterize subsurface soil and groundwater conditions previously identified as impacted by Kleinfelder, Inc. in 2005. The FSI activities included sampling both soil and groundwater for a range of contaminants of concern. During these sampling activities, a total of twenty-eight samples were analyzed for arsenic (As). Six soil samples (B4:15', B16:20', B7:10', B10:15', B18:15' and B19:15') were reported with arsenic concentrations exceeding the Washington State Administrative Code (WAC) 173-340 – Model Toxics Control Act (MTCA) Method A (MTCA-A) Cleanup Level CUL for As in soil of 20 milligrams per kilogram (mg/kg). Fourteen samples were reported with arsenic concentration exceeding the laboratory method reporting limits (MRL), but below the MTCA-A CUL. The remaining samples were reported below the laboratory MRL. Refer to Attachment A: Figure 3 for the 2011 FSI sampling location map.

## Focused Subsurface Investigation

Pierce County Parcel: 4475000380  
Tacoma, Washington

September 13, 2013

According to the Washington Department of Ecology (Ecology), the Site is located within the Tacoma Asarco Smelter Plume (Smelter Plume). Arsenic contaminated soil identified during the 2011 ECI investigations was assumed to be related to the Asarco Area Wide Contamination Plume and was most likely imported onto the Site during historic infilling. ECI recommended completing additional sampling activities to delineate the extent of arsenic contaminated soil.

### SCOPE OF WORK

The scope of work for this FSI included:

- Assess the Arsenic content of the imported soil area of the Subject Site.

### **Regulatory Compliance**

Regulatory compliance for this project is based on the WAC 173-340 –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 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.

The applicable cleanup levels (CULs) for the contaminants of concern (COCs) are guided by Ecology's MTCA-173-340: Table 740-1 Method A Soil CUL for Unrestricted Land Uses.

**Table 1: Contaminants of Concern (COCs)**

Method A Cleanup Levels (MTCA-A) for Soil (MTCA Cleanup Regulation 173-340-900: Tables 740-1)	
Contaminant of Concern (COCs)	Soil Cleanup Levels (CUL) - mg/kg
Arsenic (As)	20

### SAMPLE COLLECTION

#### **Soil Borings**

ECI mobilized to the Subject Site on two days to complete the secondary arsenic sampling. On August 8, 2012, ECI advanced seven borings (AB1-AB7), and on August 23, 2012, ECI advanced three borings (AB8-AB10). Refer to Attachment A: Figure 4 for boring locations.

The fill material consists of loose to medium dense medium to fine sand, silt and vegetation debris overlying the native glacial till. The depth of fill reportedly ranges from the surface to an estimated 20 feet below ground surface (bgs). Below the fill material was observed as medium dense to very dense silty sand with some fine to coarse gravel (glacial till). The glacial till extends to at least 40 feet bgs. Soil borings were advanced from six to thirty feet bgs, with samples collected from varying elevations in each boring.

## Focused Subsurface Investigation

Pierce County Parcel: 4475000380  
Tacoma, Washington

September 13, 2013

---

### Soil Samples

Prior to advancing each soil boring and between each sampling attempt, the sampling equipment was decontaminated by washing with an aqueous detergent solution consisting of a non-phosphate detergent and potable water, and then rinsing with potable water.

Direct-push drilling techniques were utilized to advance borings AB1 through AB7. A Macro-Core® (MC) sampler was used to collect continuous subsurface soil samples. A hand auger was used to advance borings AB8 through AB10.

All soil samples were collected in accordance with industry standard sampling techniques. Soil samples were placed in new, laboratory-provided 4-ounce containers and given a unique sample identification number. Samples from borings AB1 through AB7 were delivered to an on-site mobile laboratory, recorded on an industry standard chain of custody. Samples from borings AB8 through AB10 were placed into a container maintained at 4° Celsius until delivered to the laboratory under industry standard chain of custody.

### Investigative Derived Waste

All soil cuttings were drummed and stored on site pending analytical results. Based on sample results, onsite disposal is acceptable.

### ANALYTICAL RESULTS

Thirty-two discrete soil samples were collected by ECI and analyzed by Libby Environmental, LLC, an Ecology-accredited environmental laboratory. Arsenic (As) was reported at concentrations exceeding applicable CUL of 20 mg/kg for As in soil in four of the samples analyzed. Eleven samples were reported exceeding the Laboratory's Practical Quantitation Limit (PQL), but not exceeding the MTCA-A CUL. The remaining seventeen samples were reported below the PQL and applicable CUL. Refer to Attachment B: Sample Analytical Results to reflect the analytical results, laboratory PQL and Ecology CUL.

### Data Quality

Soil samples collected by ECI were submitted for analysis under industry standard chain-of-custody to Libby Environmental Laboratories for analysis. Below is a summary of the data quality.

All samples were prepared and/or analyzed within the required holding times and were properly preserved and cooled after collection. Method blanks were prepared and analyzed with the samples for all parameters. These applications were performed under Washington State Department of Ecology accreditation parameters. All appropriate Quality Assurance/Quality Control (QA/QC) method parameters have been applied. Libby stated there were no reportable sample analysis issues.

### CONCLUSION

Ten borings were advanced and thirty-two soil samples were collected as part of this secondary focused subsurface investigation. The borings were placed at selected locations within the area of the site

## Focused Subsurface Investigation

Pierce County Parcel: 4475000380  
Tacoma, Washington

September 13, 2013

containing imported soil to: determine the depth to native soil, collect soil samples from the fill material and native soil to assess the imported soil for target contaminant of concern; arsenic. Of the thirty-two samples collected, twenty-nine were collected from the fill material, and three from the native soil.

### Fill Soil

Samples collected from the fill soils, identified from the ground surface to approximately 20.0 feet bgs, reported three samples (AB2:16-17'; AB5:11-12'; and AB5: 19-20') exceeding the MTCA Method A CUL for arsenic. Eleven samples, all collected from the fill material, were reported exceeding the laboratory method practical quantitation limit (PQL), but well below the MTCA-A CUL. The remaining seventeen samples collected from the fill material were all reported non-detect, below the laboratory PQL.

### Native Soil

Samples collected from the native material, identified below 20.0 feet bgs, reported one sample (AB3: 25-25') exceeding the MTCA Method A CUL for arsenic. The remaining two samples collected from the native soil were reported below the laboratory PQL.


Based on sample results, concentrations of the COC (arsenic) was identified in samples collected from both imported soil and underlying native soil were reported exceeding the CULs in four of the thirty-two samples collected.

### QUALIFICATIONS OF THIS LETTER REPORT

Although this study has been a reasonably thorough attempt to investigate potential sources of contamination for the subject, there is always the possibility that potential sources of contamination have escaped detection due to the limitations of this Study, the inaccuracy of governmental records, and the presence of undetected and unreported environmental incidents. ECI reserves the right to alter our findings based on our review of any information obtained and reviewed after the date of this report.

Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar conditions, by reputable environmental consultants practicing in this or similar localities. No other warranty, expressed or implied, is made as to the professional information included in this report. Should you have any questions regarding this report, please contact our office at (253) 238-9270.

Respectfully Submitted,

  
Kaitlyn M. Allegretti  
Environmental Scientist

  
Stephen M. Spencer  
Sr. Environmental Scientist

## **Focused Subsurface Investigation**

Pierce County Parcel: 4475000380  
Tacoma, Washington

September 13, 2013

---

### **Enclosures:**

#### **Attachment A: Project Figures**

Figure 1: Site Map

Figure 2: Subject Site Topographic Map

Figure 3: Focused Subsurface Investigation Sample Location Map (2011)

Figure 4: Boring / Sample Location Map (2012)

#### **Attachment B: Project Table**

#### **Attachment C: Sample Analytical Results**

# Attachment A

---

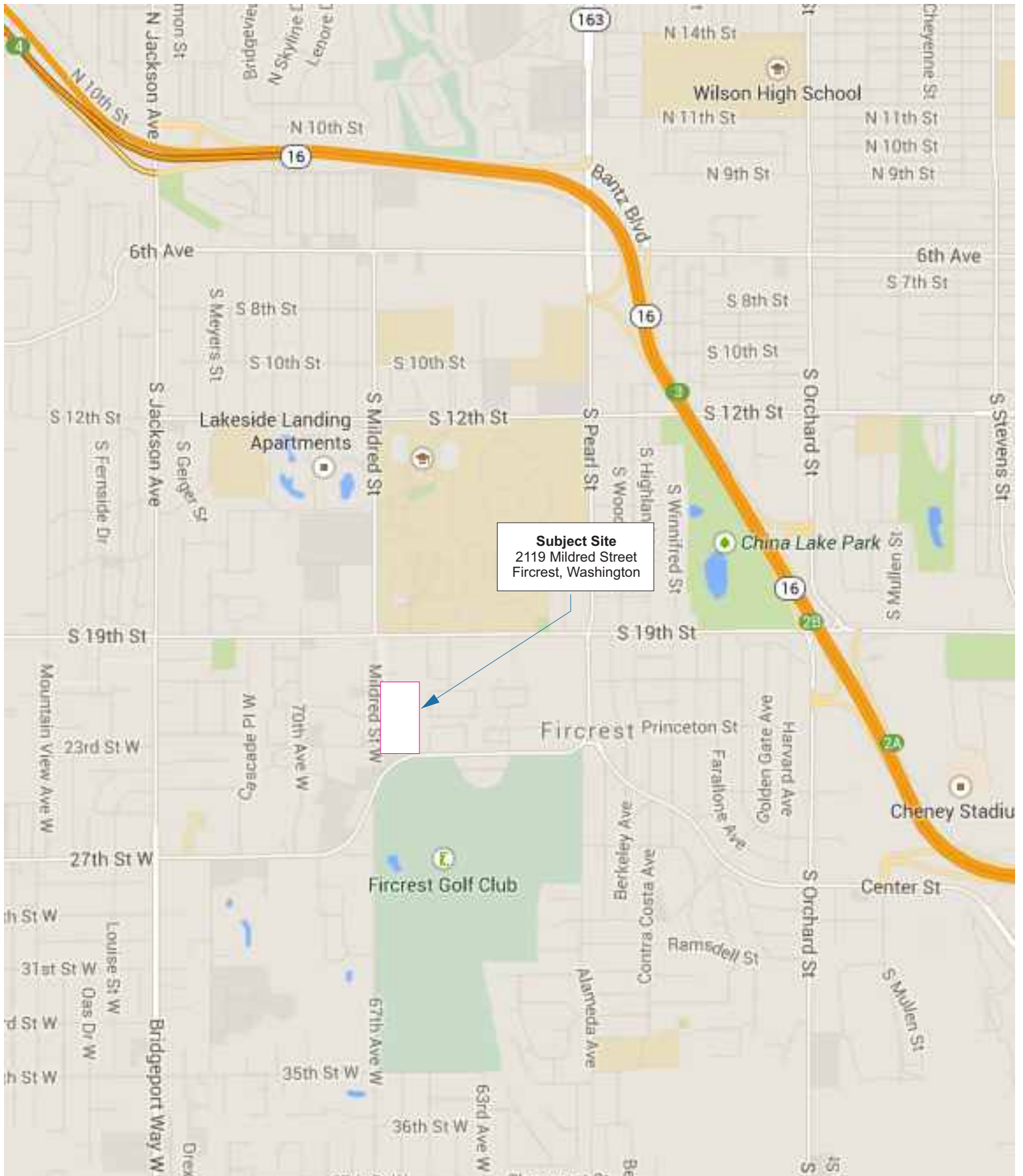
## Project Figures

Figure 1: Site Map

Figure 2: Subject Site Topographic Map

Figure 3: Focused Subsurface Investigation Sample Location Map (2011)

Figure 4: Boring / Sample Location Map (2012)



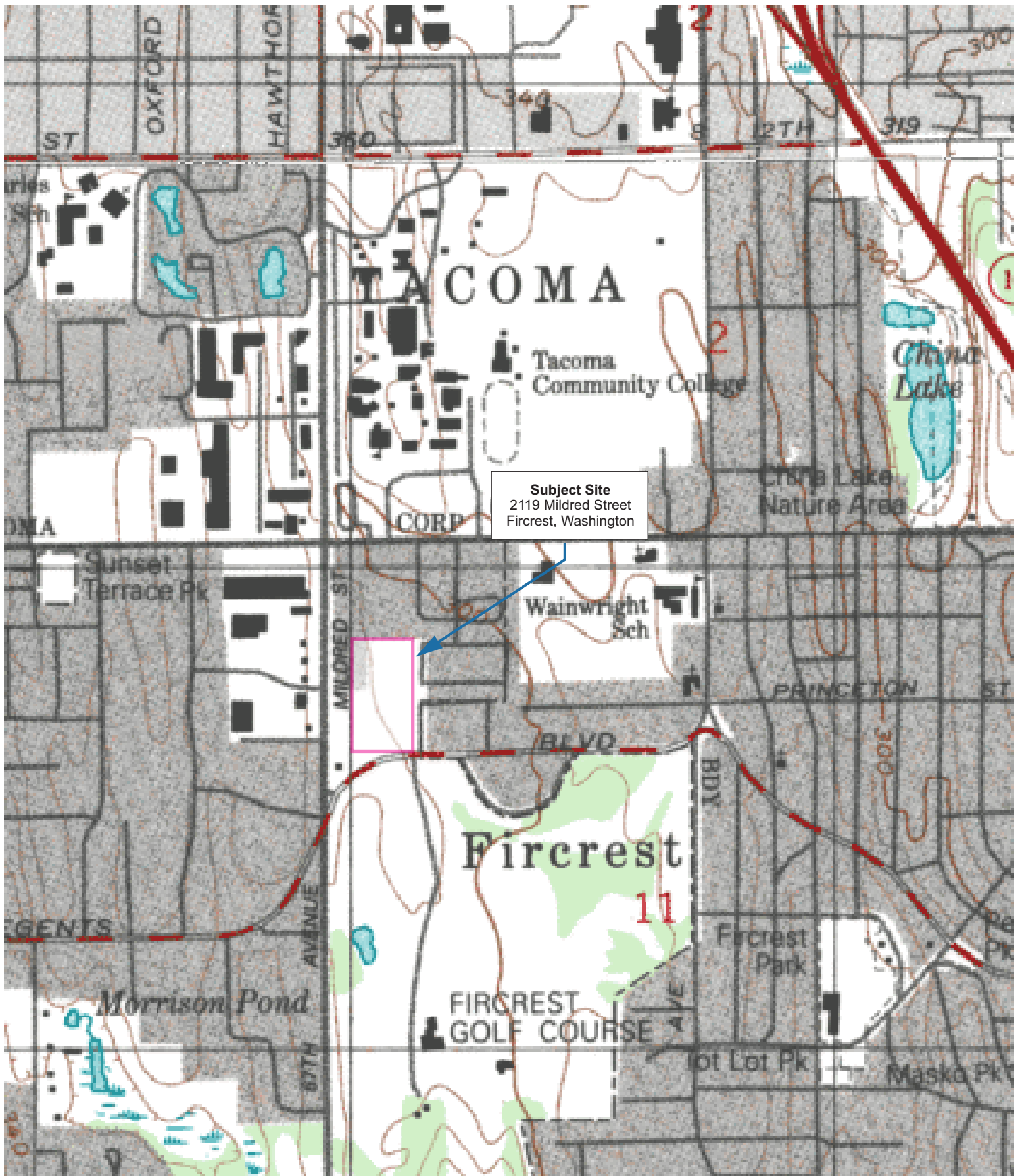
**Subject Site**  
 2119 Mildred Street  
 Fircrest, Washington



Site Location Map  
 Arsenic Sampling Project  
 2119 Mildred Street  
 Fircrest, Washington

Date: April 2, 2012  
 Completed By: S.Spencer  
 Reviewed By: S.Spencer  
 Version: ECI-001  
 Project No.: 0377-04

Figure No.:  
**01**  
 Sheet 01 of 04

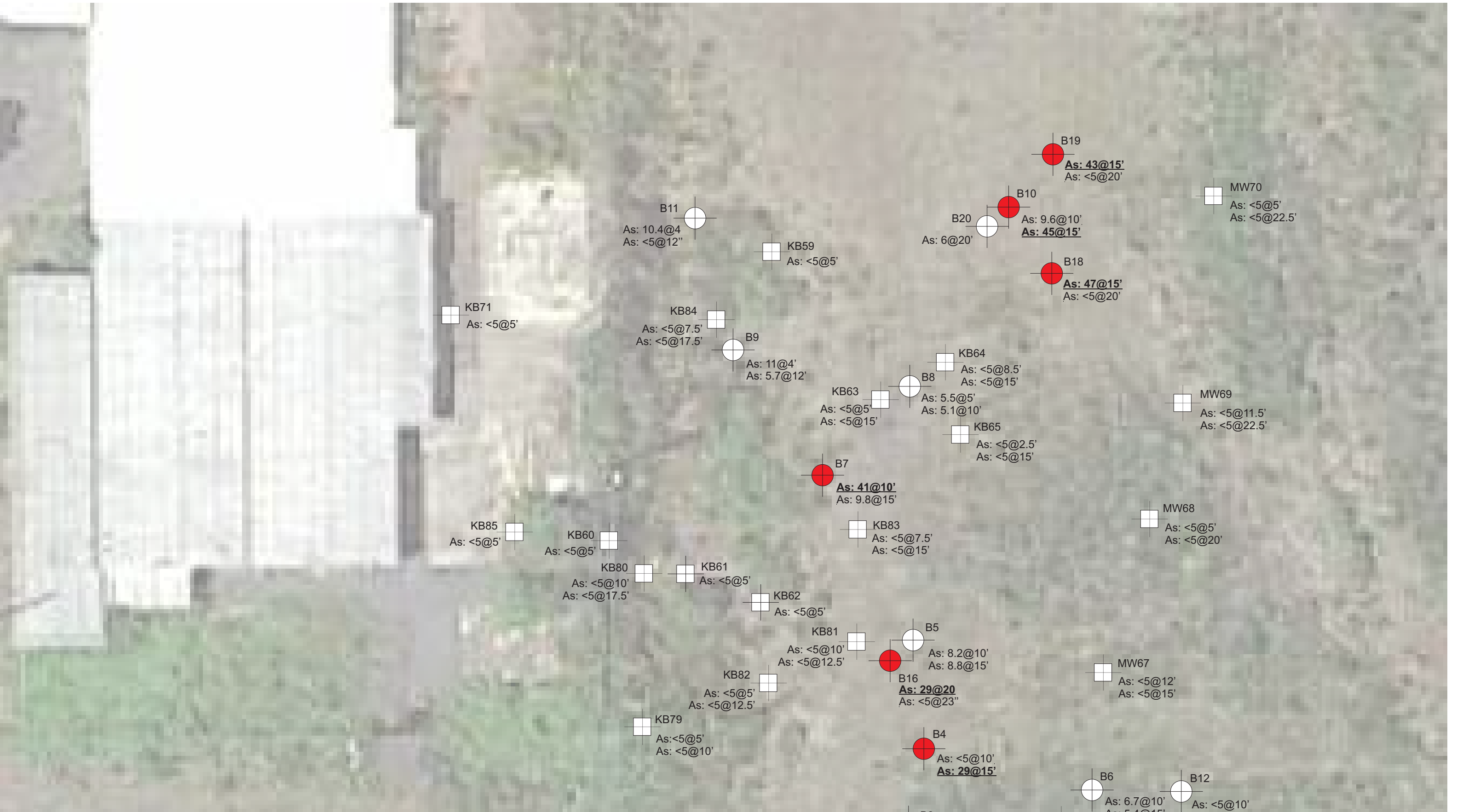


Site Topographic Map  
 Focused Subsurface Investigation  
 2119 Mildred Street  
 Fircrest, Washington

Date:	April 2, 2012	Figure No.:
Completed By:	S.Spencer	<b>01</b>
Reviewed By:	S.Spencer	
Version:	ECI-001	Sheet 02 of 04
Project No.:	0377-04	







**Explanation**

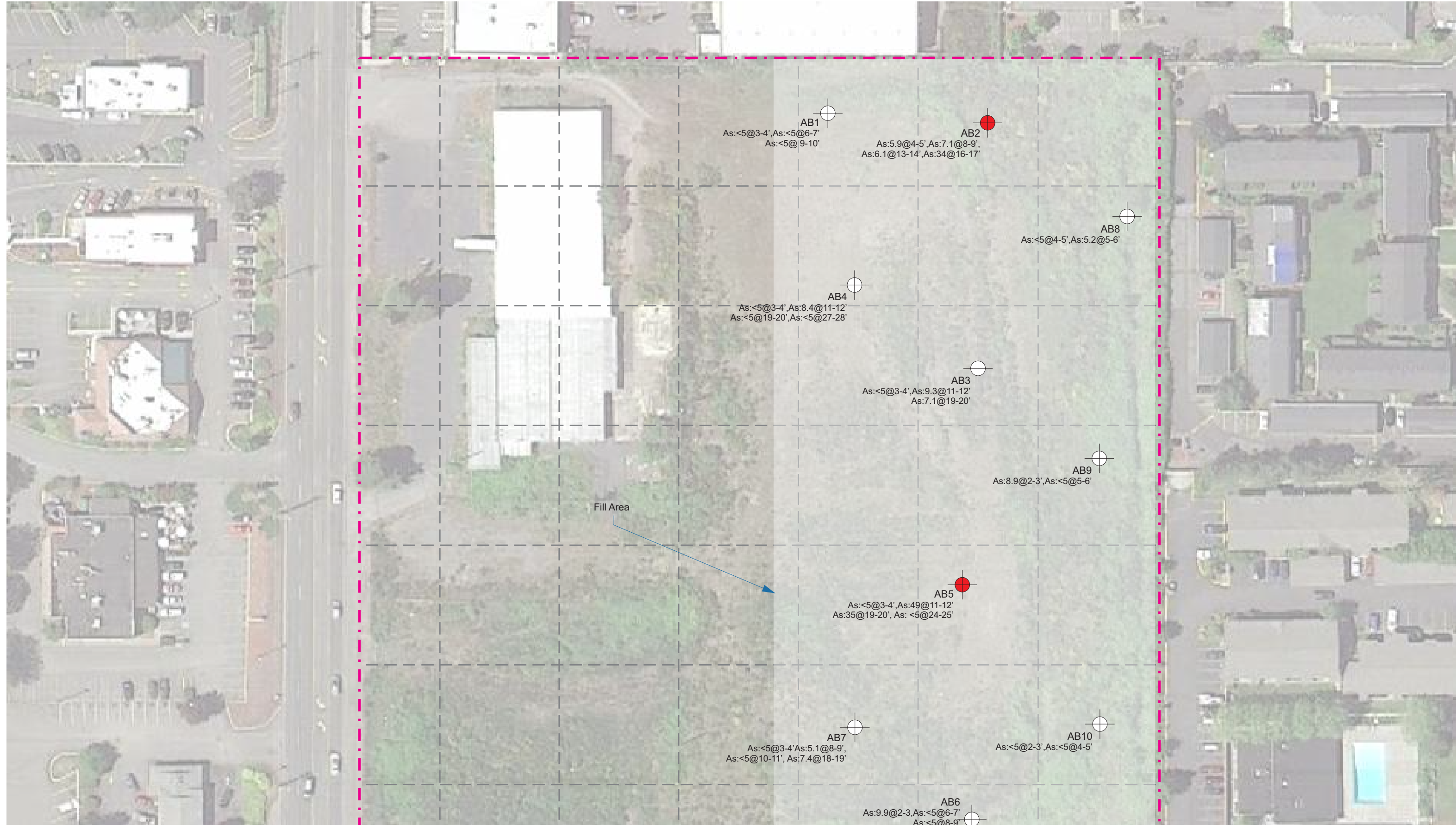
- ECI 2011 Boring Locations
- ECI 2011 Boring Locations Exceeding MTCA-A CULs
- Kleinfelder 2005 Boring Locations
- Kleinfelder 2005 Boring Locations Exceeding MTCA-A CULs

**Arsenic Soil Sample Location Map**  
**Drainage Area**  
**2119 Mildred Street**  
**Fircrest, Washington**

Date: April 2, 2012  
 Completed By: S. Spencer  
 Reviewed By.: S. Spencer  
 Version: ECI-001  
 Project No.: 0377-04

Figure No.: **03**  
 Sheet 03 of 04

**ECI** environmental consulting  
 www.eciconline.com



AB1  
As:<5@3-4',As:<5@6-7'  
As:<5@9-10'

AB2  
As:5.9@4-5',As:7.1@8-9',  
As:6.1@13-14',As:34@16-17'

AB8  
As:<5@4-5',As:5.2@5-6'

AB4  
As:<5@3-4',As:8.4@11-12'  
As:<5@19-20',As:<5@27-28'

AB3  
As:<5@3-4',As:9.3@11-12'  
As:7.1@19-20'

AB9  
As:8.9@2-3',As:<5@5-6'

Fill Area



AB5  
As:<5@3-4',As:49@11-12'  
As:35@19-20', As: <5@24-25'

AB7  
As:<5@3-4',As:5.1@8-9',  
As:<5@10-11', As:7.4@18-19'

AB10  
As:<5@2-3',As:<5@4-5'

AB6  
As:9.9@2-3,As:<5@6-7'  
As:<5@8-9'

**Explanation**

-  ECI 2011 Boring Locations
-  ECI 2011 Boring Locations Exceeding MTCA-A-CULs

**Arsenic Soil Sample Location Map**  
**Fill Area**  
 2119 Mildred Street  
 Fircrest, Washington

Date:	April 2, 2012	Figure No.:
Completed By:	S. Spencer	<b>04</b>
Reviewed By:	S. Spencer	
Version:	ECI-001	Sheet 04 of 04
Project No.:	0377-04	



# Attachment B

---

Project Table

Table 1: Soil Sample Analytical Results  
MTCA Method A Cleanup Levels

Sample Number	Sample Date	Sample Depth	EPA 200.8
			Arsenic (As)
			mg/kg
B-3:12	9/27/2011	12'	<b>6.5</b>
B-3:15	9/27/2011	15'	<b>13</b>
B-4:10	9/27/2011	10'	<5
B-4:15	9/27/2011	15'	<b>29</b>
B-17:20 (B-4)	10/3/2011	20'	<5
B-5:10	9/27/2011	10'	<b>8.2</b>
B-5:15	9/27/2011	15'	<b>8.8</b>
B-6:10	9/27/2011	10'	<b>6.7</b>
B-6:15	9/27/2011	15'	<b>5.4</b>
B-7:10	9/27/2011	10'	<b>41</b>
B-7:15	9/27/2011	15'	<b>9.8</b>
B-8:5	9/27/2011	5'	<b>5.5</b>
B-8:10	9/27/2011	10'	<b>5.1</b>
B-8:15	9/27/2011	15'	<b>47</b>
B-9:4	9/27/2011	4'	<b>11</b>
B-9:12	9/27/2011	12'	<b>5.7</b>
B-10:10	9/27/2011	10'	<b>9.6</b>
B-10:15	9/27/2011	15'	<b>45</b>
B-11:4	9/27/2011	4'	<b>10.4</b>
B-11:12	9/27/2011	12'	<5
B-12:10	9/27/2011	10'	<5
B-12:15	9/27/2011	15'	<5
B-16:20 (B-5)	10/3/2011	20'	<b>29</b>
B-16:23 (B-5)	10/3/2011	23'	<5
B-18:15	10/3/2011	15'	<b>47</b>
B-18:20	10/3/2011	20'	<5
B-19:15	10/3/2011	15'	<b>43</b>
B-19:20	10/3/2011	20'	<5
B-20:20 (B-10)	10/3/2011	20'	<b>6</b>
AB1-3-4	8/8/2012	3-4'	<5
AB1-6-7	8/8/2012	6-7'	<5
AB1-9-10	8/8/2012	9-10'	<5
AB2-4-5	8/8/2012	3-4'	<b>5.90</b>
AB2-8-9	8/8/2012	6-9'	<b>7.10</b>
AB2-13-14	8/8/2012	13-14'	<b>6.10</b>
AB2-16-17	8/8/2012	16-17'	<b>34.00</b>
AB3-3-4	8/8/2012	3-4'	<5
AB3-11-12	8/8/2012	11-14'	<b>9.3</b>
AB3-19-20	8/8/2012	19-20'	<b>7.1</b>
AB3-19-20 Dup	8/8/2012	19-20'	<b>6.6</b>
AB3-25-26	8/8/2012	25-26'	<b>37.0</b>
AB4-3-4	8/8/2012	3-4'	<5

Sample Number	Sample Date	Sample Depth	EPA 200.8
			Arsenic (As)
			mg/kg
AB4-11-12	8/8/2012	11-12'	<b>8.4</b>
AB4-19-20	8/8/2012	19-20'	<5
AB4-27-28	8/8/2012	27-28'	<5
AB5-3-4	8/8/2012	3-4'	<5
AB5-11-12	8/8/2012	11-12'	<b>49.00</b>
AB5-19-20	8/8/2012	19-20'	<b>35.00</b>
AB5-24-25	8/8/2012	24-25'	<5
AB-24-25 Dup	8/8/2012	24-25'	<5
AB6-2-3	8/8/2012	2-3'	<b>9.90</b>
AB6-6-7	8/8/2012	6-7'	<5
AB6-8-9	8/8/2012	8-9'	<5
AB7-3-4	8/8/2012	3-4'	<5
AB7-8-9	8/8/2012	8-9'	<b>5.1</b>
AB7-10-11	8/8/2012	10-11'	<5
AB7-18-19	8/8/2012	18-19'	<b>7.4</b>
AB8-2-3	8/23/2012	2-3'	<5
AB8-5-6	8/23/2012	5-6'	<b>5.20</b>
AB9-2-3	8/23/2012	2-3'	<b>8.90</b>
AB9-5-6	8/23/2012	5-6'	<5
AB10-2-3	8/23/2012	2-3'	<5
AB10-4-5	8/23/2012	4-5'	<5
AB10-4-5 Dup	8/23/2012	4-5'	<5
Laboratory Detection or Practical Quantitation Limit Soil			<5
MTCA Method A Cleanup Levels For Soil			20

BOLD/Underlined = Analyte above MTCA 2001 Method A Cleanup levels for arsenic & lead in soil.

Values are reported in milligrams per kilograms (mg/kg).

< # (ND) = Analyte not detected above the analytical method detection limit cited - Reported as 1/2 the MDL

MTCA 2007 Method A Cleanup Levels for Unrestricted Residential Land Use - (MTCA) WAC 173-340-900 bgs=below ground surface=Not Applicable

# Attachment C

---

Project Chemical Analysis

Laboratory Analytical Results  
Sample Chain Of Custody

**Attachment C**  
Project Analytical Results

# Libby Environmental, Inc.

# Chain of Custody Record

4139 Libby Road NE

Ph: 360-352-2110

Olympia, WA 98506

Fax: 360-352-4154

Client: **ECI**Date: **8/8/12**Page: **1** of **2**Project Manager: **STEPHEN SPENCER**Address: **PO Box 153 Fox Island, WA**Project Name: **0404-02 ARSENIC SAMPLING**Phone: **253-921-7059** Fax: **253-369-6228**Location: **2119 WILDRED** City: **FIRECREST, WA**Client Project # **0404-02**Collector: **K. SPENCER** Date of Collection: **8/7/12**

Sample Number	Depth	Time	Sample Type	Container Type	Analytes											Field Notes		
					VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-GX	NWTPH-DX	PAH 8270	PCB's 8082	MTCA 5 Metals	ARSENIC			
1 AB1-3-4	3-4		Soil	4oz													X	
2 AB1-6-7	6-7																	
3 AB1-9-10	9-10																	
4 AB2-4-5	4-5																	
5 AB2-8-9	8-9																	
6 AB2-13-14	13-14																	
7 AB2-16-17	16-17																	
8 AB3-3-4	3-4																	
9 AB3-11-12	11-12																	
10 AB3-19-20	19-20																	
11 AB3-25-26	25-26																	
12 AB4-3-4	3-4																	
13 AB4-11-12	11-12																	
14 AB4-19-20	19-20																	
15 AB4-27-28	27-28																	
16 AB5-3-4	3-4																	
17 AB5-11-12	11-12																	
18 AB5-19-20	19-20																	

Relinquished by: **[Signature]** Date / Time: **8/8/12 9:45** Received by: **[Signature]** Date / Time: **8/8/12 9:45**

Relinquished by: \_\_\_\_\_ Date / Time: \_\_\_\_\_ Received by: \_\_\_\_\_ Date / Time: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date / Time: \_\_\_\_\_ Received by: \_\_\_\_\_ Date / Time: \_\_\_\_\_

Sample Receipt:

Good Condition?	<input type="checkbox"/>
Cold?	<input type="checkbox"/>
Seals Intact?	<input type="checkbox"/>
Total Number of Containers	<input type="text"/>

Remarks: **ETM PLEASE !!**  
**STD**

# Libby Environmental, Inc.

# Chain of Custody Record

4139 Libby Road NE  
Olympia, WA 98506

Ph: 360-352-2110  
Fax: 360-352-4154

Date: 8/8/12

Page: 2 of 2

Client: ECI

Project Manager: STEPHEN SPENCER

Address: PO BOX 153, FOX ISLAND, WA

Project Name: 040402 ARSENIC SAMPLING

Phone: 253-921-7059 Fax: 253-369-6228

Location: 2119 MIDRED City: FIRECREST

Client Project # 0404-02

Collector: K. SPENCER Date of Collection: 8/7/12



Sample Number	Depth	Time	Sample Type	Container Type	ANALYTES											Field Notes						
					VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	PAH 8270	PCB's 8082	MTCA 5 Metals	ARSENIC							
1 AB5-24-25	24-25		SOIL	4oz																		
2 AB6-2-3	2-3		↓	↓																		
3 AB6-6-7	6-7		↓	↓																		
4 AB6-8-9	8-9		↓	↓																		
5 AB7-3-4	3-4		↓	↓																		
6 AB7-8-9	8-9		↓	↓																		
7 AB7-10-11	10-11		↓	↓																		
8 AB7-18-19	18-19		↓	↓																		
9																						
10																						
11																						
12																						
13																						
14																						
15																						
16																						
17																						
18																						

Relinquished by: <i>[Signature]</i>	Date / Time: 8/8/12 4:45	Received by: <i>[Signature]</i>	Date / Time: 8/8/12 4:45	Sample Receipt: Good Condition? <input type="checkbox"/> Cold? <input type="checkbox"/> Seals Intact? <input type="checkbox"/> Total Number of Containers: <input type="text"/>	Remarks: EIM PLEASE!! STA
Relinquished by:	Date / Time:	Received by:	Date / Time:		
Relinquished by:	Date / Time:	Received by:	Date / Time:		
Relinquished by:	Date / Time:	Received by:	Date / Time:		



# Libby Environmental, Inc.

4139 Libby Road NE

Olympia, WA 98506

Phone: (360) 352-2110

FAX: (360) 352-4154

Email: libbyenv@aol.com

0404-02 ARSENIC SAMPLING PROJECT

ECI

Fircrest, Washington

Libby Project # L120809-3

Client Project # 0404-02

## Analyses of Metals in Soil by EPA Method 7010 Series

Sample Number	Date Analyzed	Arsenic (mg/kg)
Method Blank	8/13/12	nd
AB1-3-4	8/13/12	nd
AB1-6-7	8/13/12	nd
AB1-9-10	8/13/12	nd
AB2-4-5	8/13/12	5.9
AB2-8-9	8/13/12	7.1
AB2-13-14	8/13/12	6.1
AB2-16-17	8/13/12	34
AB3-3-4	8/13/12	nd
AB3-11-12	8/13/12	9.3
AB3-19-20	8/13/12	7.1
AB3-19-20 Dup	8/13/12	6.6
AB3-25-26	8/13/12	37
AB4-3-4	8/13/12	nd
AB4-11-12	8/13/12	8.4
AB4-19-20	8/13/12	nd
AB4-27-28	8/13/12	nd
Practical Quantitation Limit		5.0

"nd" Indicates not detected at the listed detection limits.

ANALYSES PERFORMED BY: Dirk Peterson

# Libby Environmental, Inc.

4139 Libby Road NE

Olympia, WA 98506

Phone: (360) 352-2110

FAX: (360) 352-4154

Email: libbyenv@aol.com

0404-02 ARSENIC SAMPLING PROJECT

ECI

Fircrest, Washington

Libby Project # L120809-3

Client Project # 0404-02

## Analyses of Metals in Soil by EPA Method 7010 Series

Sample Number	Date Analyzed	Arsenic (mg/kg)
Method Blank	8/13/12	nd
AB5-3-4	8/13/12	nd
AB5-11-12	8/13/12	49
AB5-19-20	8/13/12	35
AB5-24-25	8/13/12	nd
AB5-24-25 Dup	8/13/12	nd
AB6-2-3	8/13/12	9.9
AB6-6-7	8/13/12	nd
AB6-8-9	8/13/12	nd
AB7-3-4	8/13/12	nd
AB7-8-9	8/13/12	5.1
AB7-10-11	8/13/12	nd
AB7-18-19	8/13/12	7.4
Practical Quantitation Limit		5.0

"nd" Indicates not detected at the listed detection limits.

ANALYSES PERFORMED BY: Dirk Peterson

# Libby Environmental, Inc.

4139 Libby Road NE

Olympia, WA 98506

Phone: (360) 352-2110

FAX: (360) 352-4154

Email: libbyenv@aol.com

0404-02 ARSENIC SAMPLING PROJECT

ECI

Fircrest, Washington

Libby Project # L120809-3

Client Project # 0404-02

## QA/QC for Metals in Soil by EPA Method 7010 Series

Sample Number	Date Analyzed	Arsenic (% Recovery)
LCS	8/13/12	110%
AB3-19-20 MS	8/13/12	96%
AB3-19-20 MSD	8/13/12	int
RPD	8/13/12	int
LCS	8/13/12	88%
AB5-24-25 MS	8/13/12	int
AB5-24-25 MSD	8/13/12	int
RPD	8/13/12	int

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 65%-135%

ACCEPTABLE RPD IS 35%

ANALYSES PERFORMED BY: Dirk Peterson

**Libby Environmental, Inc.**

**Chain of Custody Record**

4139 Libby Road NE  
 Olympia, WA 98506  
 Ph: 360-352-2110  
 Fax: 360-352-4154

Date: 8/23/12 Page: 1 of 1  
 Project Manager: Stephen Spencer  
 Project Name: ERTM  
 Location: 2119 Mildred City: FIRECAST  
 Collector: K. SPENCER Date of Collection: 8/23/12

Client: ECT  
 Address: PO Box 153 Fox Island, WA 98333  
 Phone: 253-921-7059 Fax: 253-569-6228  
 Client Project #: 0404-02

Sample Number	Depth	Time	Sample Type	Container Type	Analytes											Field Notes		
					VOA 827B	VOA 827A-BTEX Only	VOA 827C	SEM VOL 827D	NWTPPH4D	NWTPPH5X	NWTPPH6X	NWTPPH7X Ext.	PAM 827B	PCB 8892	MTCA Metals		Other	
1 ABB-2-3'	2-3		Soil	4oz														
2 ABB-5-6'	5-6		Soil															
3 AB9-2-3'	2-3		Soil															
4 AB9-5-6'	5-6		Soil															
5 AB10-2-3'	2-3		Soil															
6 AB10-4-5'	4-5		Soil															
7																		
8 CSP-1	SP		Soil	40 Mil	X													SecRPile - 6-12"
9 CSP-2					X													
10 CSP-3					X													
11 CSP-4					X													
12 CSP-5					X													
13 CSP-6					X													
14 CSP-7					X													
15 CSP-8					X													
16 CSP-9					X													
17 CSP-10					X													
18																		

Relinquished by: <u>K. Spencer</u>	Date / Time: <u>8-23-12 1:49</u>	Received by: <u>Er D</u>	Date / Time: <u>8-23-12 1:49</u>	Sample Receipt:	Remarks: <u>NORMAL T/A</u>
Relinquished by:	Date / Time:	Received by:	Date / Time:	Good Condition?	
				Cold?	
				Seals intact?	
				Total Number of Containers	

Distribution: White - Lab, Yellow - File, Pink - Originator

# Libby Environmental, Inc.

4139 Libby Road NE  
Olympia, WA 98506  
Phone: (360) 352-2110  
FAX: (360) 352-4154  
Email: libbyenv@aol.com

EATON PROJECT  
ECI  
Fircrest, Washington  
Libby Project # L120823-5  
Client Project # 0404-02

## Analyses of Total Arsenic in Soil by EPA Method 7010 Series

Sample Number	Date Analyzed	Arsenic mg/kg
Method Blank	8/24/12	nd
AB8-2-3'	8/24/12	nd
AB8-5-6'	8/24/12	5.2
AB9-2-3'	8/24/12	8.9
AB9-5-6'	8/24/12	nd
AB10-2-3'	8/24/12	nd
AB10-4-5'	8/24/12	nd
AB10-4-5' Dup	8/24/12	nd
Practical Quantitation Limit		5.0

"nd" Indicates not detected at the listed detection limits.

ANALYSES PERFORMED BY: Sherry Chilcutt

# Libby Environmental, Inc.

4139 Libby Road NE  
Olympia, WA 98506  
Phone: (360) 352-2110  
FAX: (360) 352-4154  
Email: libbyenv@aol.com

EATON PROJECT  
ECI  
Fircrest, Washington  
Libby Project # L120823-5  
Client Project # 0404-02

## QA/QC for Arsenic in Soil by EPA Method 7010 Series

Sample Number	Date Analyzed	Arsenic (% Recovery)
LCS	8/24/12	115%
L120824-1 MS	8/24/12	108%
L120824-1 MSD	8/24/12	109%
RPD	8/24/12	1%

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 75%-125%  
ACCEPTABLE RPD IS 20%

ANALYSES PERFORMED BY: Sherry Chilcutt