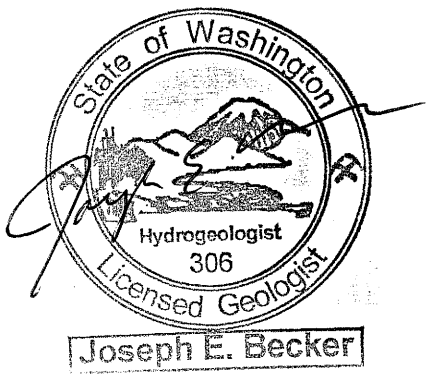
ROBINSON NOBLE

HIGHLANDS TWENTY, LLP
1400 N. HIGHLANDS PARKWAY
TACOMA, WASHINGTON
REMEDIAL ACTION COMPLETION REPORT

JUNE 2012

by

John F. Hildenbrand
Associate Environmental Scientist
Environmental Services Manager



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Highlands Twenty, LLP
1400 N. Highlands Parkway, Tacoma, Washington
Remedial Action Completion Report
June 2012

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1400 N. Highlands Parkway, Tacoma, Washington
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1.0 Introduction and Background

The subject site consists of four proposed building lots located on the Highland Hills Racquet and Golf Club located at 1400 N. Highlands Parkway, Tacoma, Washington (Figures 1 and 2). Currently, these proposed lots are located on Pierce County tax parcels 4467121270 and 4467121280.

The subject is located in the Highland Hill area of Tacoma, Washington. It is part of a golf course developed in the 1930s. Geologically, the subject consists of soils formed from glacial till underlain by glacial till that is typically 40 to 70 feet in thickness. Groundwater elevation data is sparse in this area. However, a review of well logs contained in the Washington State Department of Ecology's online database for sites located near the subject indicates groundwater is not encountered within 60 feet of the ground surface.

Prior to our involvement in this project, the owner contracted with ECI Environmental Services (ECI) to complete a site characterization and cleanup action plan (CAP) design for a series of proposed building lots. The field work documented in the ECI reports was completed predominantly in January 2011, with some additional sampling conducted in September 2011. The CAP was initially dated February 2012, with a devised CAP dated March 2012. ECI originally assessed nine potential building lots; however, the proposed development was later scaled back to include only four lots.

The information contained in the ECI reports documents that each of the four lots are impacted by arsenic-contaminated soils above the MTCA Method A cleanup limit for arsenic of 20 mg/kg. ECI initially failed to characterize each lot for lead, and they did not complete vertical profiling of the arsenic contamination. ECI reports they did collect samples for lead analysis from Lot 2A in September 2011. These samples appear to show lead below the cleanup limit of 250 mg/kg for lead at depths of approximately 24 inches. The ECI report discusses additional arsenic characterization data collected at the same time. However, the supporting laboratory data cannot be located. Client provided copies of ECI's deliverables are located in Appendix E.

Using the information contained in the ECI reports, Table 1 summarizes the mean concentration of arsenic for each building lot at a depth of 0.5 feet (6 inches).

Table 1. Mean Pre-Remedial Arsenic Concentrations by Building Lot

Lot	Mean arsenic concentration (mg/kg) at 6 inches	Reported maximum and minimum concentrations (mg/kg)
2A	116.2	245, 13.2
2B	68.0	253, 18.1
2C	78.7	182, 46.5
2D	38.4	117, 14.9

The proposed building lots have completed the preliminary platting processes. However, the City of Tacoma has mandated that, prior to the finalization of the plat and creation of the build-

ing lots, a remedial action plan be prepared by the owner and approved by the Washington State Department of Ecology (Ecology). Due to future project timing issues and a short time window allowing for economical off-site disposal of contaminated soil, the owner elected to proceed with this remedial action independent of Ecology's concurrence. Thus, once accepted by Ecology, this remedial action report will be presented to the City of Tacoma to satisfy their requirements for addressing the arsenic and lead contamination at the subject.

The preliminary legal descriptions for the building lots are lots 2A, 2B, 2C, and 2D of proposed plat of Highland's Golf & Racquet Club Plat No. 2 Plat Alteration. Additionally, the City of Tacoma has assigned addresses to the pending lots. Table 2, below shows those addresses as they apply to each building lot.

Table 2. Assigned Addresses for Proposed Building Lots

Lot	Assigned Address	Current Tax Parcel
2A	1124 Newton Street North	4467121280
2B	1130 Newton Street North	4467121280
2C	1115 Newton Street North	4467121270
2D	1211 Newton Street North	4467121270

2.0 Remedial Action Implementation

2.1 Remedial Action Plan

As noted in Section 1.0, the property owner elected to complete this remedial action with review and comment by Ecology. Although the owner is actively participating in Ecology's Voluntary Cleanup Program (VCP), previously submitted cleanup action plans proved unfeasible. An opportunity arose for the contamination to be economically excavated and disposed of at a properly permitted facility. However, the time frame of that opportunity precluded submitting a cleanup action plan to Ecology for review and comment. Thus, the owner elected to proceed with a permanent remedy using excavation and off-site disposal prior to Ecology comment on the plan.

The cleanup action plan which implements a permanent remedy, consists of excavating each lot until confirmation samples indicate that arsenic and lead concentrations are below applicable cleanup limit concentrations of 20 mg/kg and 250 mg/kg for arsenic and lead, respectively.

Design of the excavation was completed using Ecology's Tacoma Smelter Plume Model Remedies Guidance. The subject is mapped by Ecology as having arsenic concentrations between 40 mg/Kg and 100 mg/Kg. Because of the range of arsenic concentrations reported by ECI, the lack of vertical profiling, and the absence of meaningful lead characterization data, we elected to use the highest number of recommended confirmation samples prescribed in the Ecology guidance document.

Each building lot was considered a single-decision unit and was divided into ten cells for excavation and sampling purposes. The number of cells and their geometry on each lot was chosen based on the desire to evenly distribute the confirmation sampling across each lot as well as fulfilling the requirement for at least ten confirmation samples per decision unit (with arsenic and lead concentrations in the range of those identified on site). Based on our review of the existing data and past experience with similar sites, the initial target excavation depth for each lot ranged between 12 and 24 inches below the existing grade.

2.2 Contaminated Soil Excavation and Removal Confirmation Sampling

Cells were numbered starting in a corner of each lot and progressed across the lots as shown in Figures 3 through 6. The cells were identified with individual cell numbers and sampling depths to provide a labeling system for the confirmation soil sampling. Within each cell, sampling locations were selected to ensure approximate equidistant sample distribution. Where possible, samples were collected from areas where soils were likely to be left uncovered as open space, walkways, or yards.

Soil excavation activities were directed by the owner's contractor. Soil excavation started at cell 1 and progressed across each lot as needed for site development efficiencies. After each cell was cleared to the planned depth, confirmation soil samples were collected to verify impacted soils had been successfully removed.

We collected shallow soil samples using pre-cleaned, stainless-steel sampling spoons. We placed all samples into laboratory-supplied, manufacturer-cleaned four ounce glass jars with Teflon®-lined plastic lids for delivery to a laboratory. Samples were logged into a chain-of-custody form with a unique sampling identifier as reported on the laboratory result sheets.

Confirmation samples were analyzed for lead and arsenic using laboratory test method EPA Method 7010 series. Cells were considered "impacted" until sampling results were received from the laboratory. Following a review of the data, the excavation contractor was notified of the cell's final disposition. Cells identified as exceeding the planned cleanup limits for any of the target analytes were flagged, and additional soil was removed. The depth of additional excavation was determined after considering the soil contaminant concentrations, field observations of soil/sediment type, and site logistics. Following the removal of additional soil, a second soil sample was taken from the same location as the initial sample for those cells which required additional excavation. Additional sampling was conducted from cells 4 and 5 on Lot 2A and cells 8 and 9 on Lot 2C due to the presence of tree roots from trees on neighboring properties. The soil was carefully excavated, and any trees located on the lots were removed.

3.0 Chemical Analyses and Analytical Data

3.1 Analytes of Concern and Analytical Method

As outlined above, the analytes of concern are arsenic and lead. Analysis for these elements was completed using EPA Method 7010 series utilizing graphite furnace atomic absorption spectrophotometry.

3.2 Detection Limits

The detection limits of all analytical procedures coincided with the practical quantitation limits (PQL) for each element analyzed to allow comparison of the data with cleanup levels as established by the Model Toxics Control Act (MTCA). The PQL for both lead and arsenic is 5.0 mg/kg.

3.3 Initial Confirmation/Performance Analytical Results

As discussed in Section 2.2, initial confirmation sampling was completed for each cell once the planned excavation depth was reached. In some instances, those samples indicated that soils within that particular cell still exceeded the project cleanup limit. These samples represent performance samples that establish the accuracy of the site characterization data and the estimated target remediation depth.

Twelve initial confirmation samples exceeded the projected cleanup limit for one or more of the target compounds. The following table presents the building lot, cell locations, sampling depths, and reported analyte concentrations for each of these samples.

Table 3. Initial Confirmation/Performance Sampling Results Exceeding Method A cleanup limit

Lot	Sample ID	Depth (inches)	Lead	Arsenic
2B	L2B-2-24	24	917	189
	L2B-3-24	24	219	25.4
2C	Lot 2C-12*	12	832	50.4
	L2C-2-24	24	397	<5.0
	L2C-3-24	24	474	<5.0
	L2C-6-24	24	499	<5.0
	L2C-7-18	18	997	<5.0
	L2C-8-24	24	495	<5.0
2D	Lot 2D *	12	501	9.3
	L2D-2-12	12	454	6.3
	L2D-2-24	24	499	10.7
	L2D-3-12	12	384	<5.0
Mean exceedances for all lots			***557***	***25.5***
MTCA Method A			**250**	**20**

Bold denotes reported concentrations above the MTCA Method A cleanup level.

* denotes a sample collected prior to excavation and establishment of cells. These samples were was collected at the request of the owner.

** Mean concentrations were calculated by inserting a value (2.5 mg/Kg) equal to ½ of the PQL for all results reported with < values.

3.4 Final Confirmation Analytical Results

The table below presents the location, depth, and analyte concentration for each cell showing the confirmation of impacted soil removal. In the case of the cells identified in Table 3, above, the following table represents the reported concentrations for target analytes collected after additional excavation.

Table 4. Final Confirmation Sampling Results

Lot	Sample ID	Depth (inches)	Lead (mg/kg)	Arsenic (mg/kg)
2A	L2A-1-24	24	63.6	7.4
	L2A-2-24	24	<5.0	7.2
	L2A-3-24	24	<5.0	5.0
	L2A-4-24	24	<5.0	11.2
	L2A-4-24-1	24	<5.0	10.0
	L2A-4-24-2	24	<5.0	10.0
	L2A-4-18-3	18	<5.0	9.8
	L2A-5-24	24	<5.0	8.7
	L2A-5-24-1	24	<5.0	6.4
	L2A-5-18-2	18	<5.0	9.6
	L2A-5-24-3	24	<5.0	8.5
	L2A-6-24	24	7.7	<5.0
	L2A-7-24	24	<5.0	<5.0
	L2A-8-24	24	<5.0	<5.0
	L2A-9-24	24	<5.0	<5.0
	L2A-10-24	24	<5.0	<5.0
Lot 2A Mean Post Excavation Concentration			***6.6***	***6.6***

Lot	Sample ID	Depth (inches)	Lead (mg/kg)	Arsenic (mg/kg)
2B	L2B-1-24	24	44.2	8.4
	L2B-2-36	36	11.8	<5.0
	L2B-3-42	42	12.6	<5.0
	L2B-4-24	24	<5.0	<5.0
	L2B-5-24	24	<5.0	5.0
	L2B-6-24	24	91.8	7.6
	L2B-7-24	24	5.6	6.2
	L2B-8-24	24	<5.0	<5.0
	L2B-9-24	24	<5.0	<5.0
	L2B-10-24	24	<5.0	<5.0
Lot 2B Mean Post Excavation Concentration			*33.2*	*6.8*
2C	L2C-1-24	24	14.9	<5.0
	L2C-2-42	42	<5.0	<5.0
	L2C-3-42	42	49.8	<5.0
	L2C-4-18	18	215	6.5
	L2C-5-24	24	53.6	<5.0
	L2C-6-42	42	<5.0	<5.0
	L2C-7-36	36	<5.0	<5.0
	L2C-8-42	42	<5.0	<5.0
	L2C-8-18-1	18	<5.0	<5.0
	L2C-9-24	24	9.3	<5.0
	L2C-9-18-1	18	<5.0	<5.0
	L2C-10-24	24	<5.0	<5.0
Lot 2C Mean Post Excavation Concentration			*30.0*	*2.8*
2D	L2D-1-12	12	<5.0	<5.0
	L2D-2-40	40	50	<5.0
	L2D-2-40-1	40	40	<5.0
	L2D-3-24	24	5.8	<5.0
	L2D-4-12	12	<5.0	<5.0
	L2D-5-12	12	<5.0	<5.0
	L2D-6-12	12	42.7	<5.0
	L2D-7-12	12	<5.0	<5.0
	L2D-8-12	12	<5.0	<5.0
	L2D-9-12	12	<5.0	<5.0
	L2D-10-24	24	161	6.3
Lot 2D Mean Post Excavation Concentration			*28.6*	—
	MTCA Method A		250.0	20.0

< denotes that the target analyte was not detected above the corresponding PQL. Mean concentrations were calculated by inserting a value (2.5 mg/kg) equal to ½ of the PQL for all results reported with < values.

4.0 Quality Assurance/Quality Control

All samples were analyzed by Libby Environmental, Inc. of Olympia, Washington. Laboratory QA/QC data was reviewed; and no concerns were noted. The laboratory QA/QC data is contained in the laboratory analytical reports located in Appendix B.

5.0 Conclusions

A total of 1,534 cubic yards of arsenic and lead contaminated soil were excavated from four proposed building lots. The impacted soil was disposed of at the City of Tacoma landfill. This remedial action has reduced the residual concentrations of arsenic and lead contamination to

levels below their respective MTCA Method A standards for residential land use. Based on soil confirmation sample data and as presented in Table 4 above, residual levels of arsenic and lead in the remediated area have been reduced to mean concentrations well below Method A cleanup limits. Disposal and trucking receipt documents are located in Appendix D of this report.

6.0 References

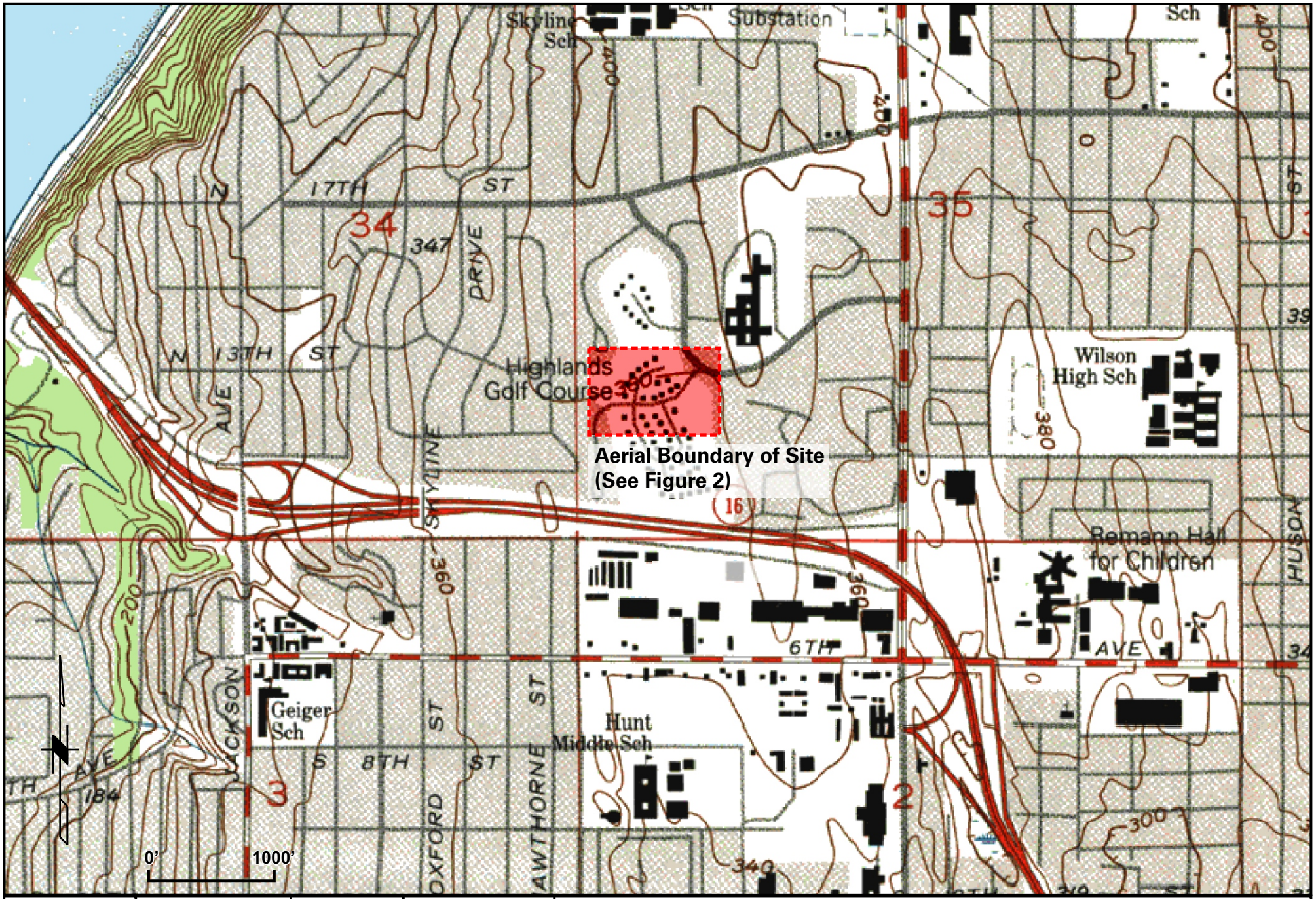
ECI Environmental Consulting, Arsenic contaminated soil corrective action plan, 1400 Highland Parkway Tacoma, Washington, February 16, 2012

ECI Environmental Consulting, Arsenic contaminated soil corrective action plan (Revised), 1400 Highland Parkway Tacoma, Washington, March 26, 2012

State of Washington, Department of Ecology, Asarco Tacoma Smelter Site, Draft interim action plan for the Tacoma Smelter Plume, October 2011

United States Department of the Interior, U.S. Geological Survey, Hydrogeologic framework, groundwater movement, and water budget in the Chambers-Clover Creek watershed and vicinity, Pierce County, Washington, Scientific Investigations Report 2010-5055

APPENDIX A



ROBINSON NOBLE	Note: Basemap taken from USGS Gig Harbor Quadrangle	PM: JFH June 2012 2727-001A	Pierce County T 21 N/R 02 E - 35 Scale 1" = 1000'	Figure 1 Vicinity Map Highlands Twenty, LLP: Arsenic and Lead Clean up

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Note:
Image from Tacoma govME database

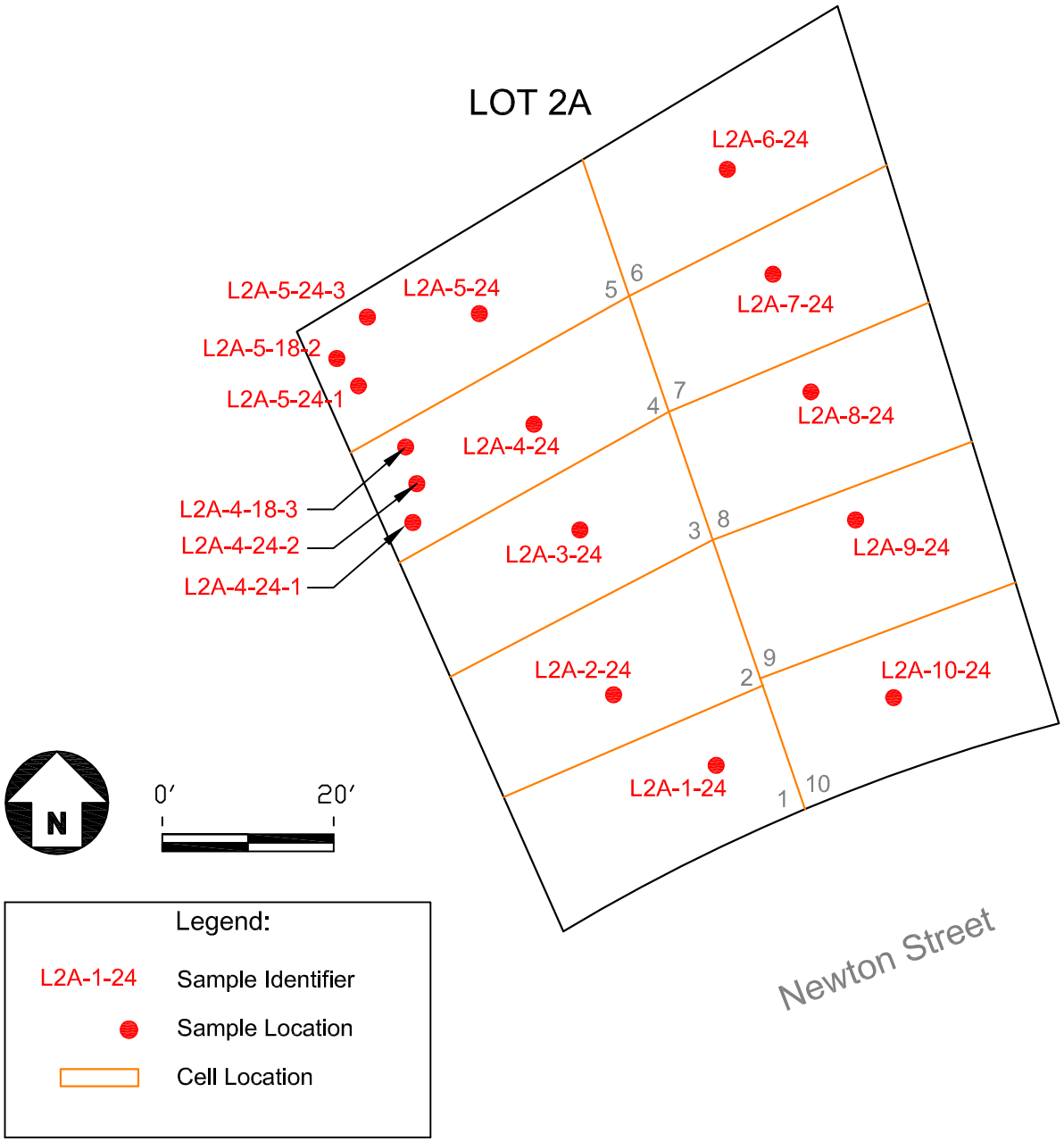
PM: JFH
June 2012
2727-001A

Pierce County
T 21 N/R 02 E - 35
Scale 1" = ~100'

Figure 2

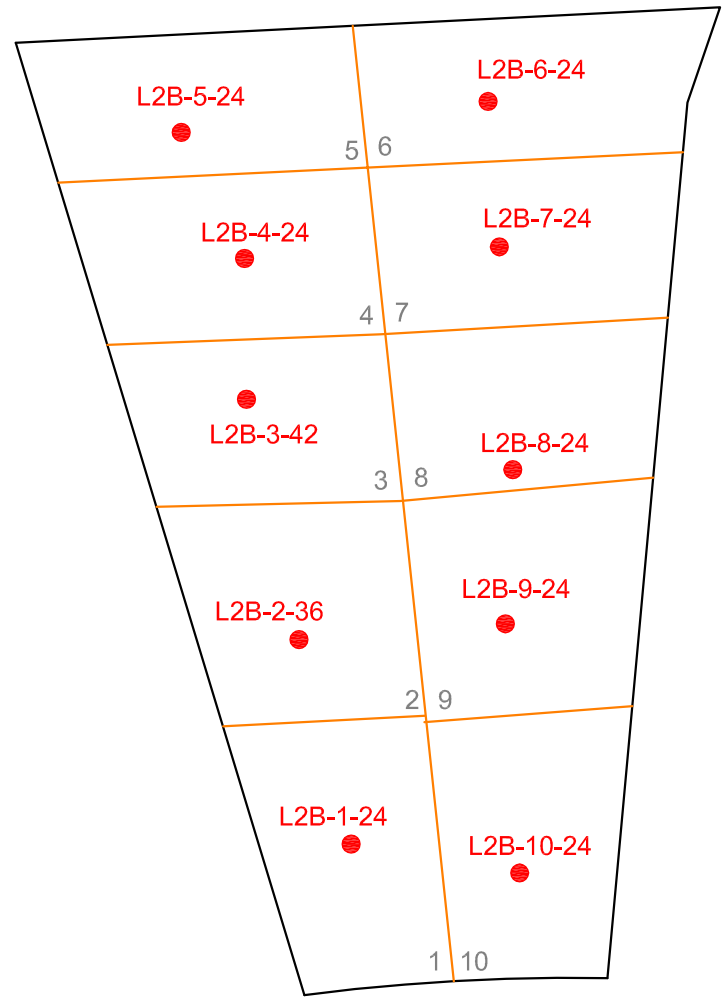
Aerial Map of Lot Locations

Highlands Twenty, LLP: Arsenic and Lead Clean up



ROBINSON NOBLE	PM: JFH June 2012 2727-001A	Pierce County T 21 N/R 02 E - 35 Scale 1" = 15'	Figure 3 Lot 2A Sample Diagram Highlands Twenty, LLP: Arsenic and Lead Clean up

LOT 2B

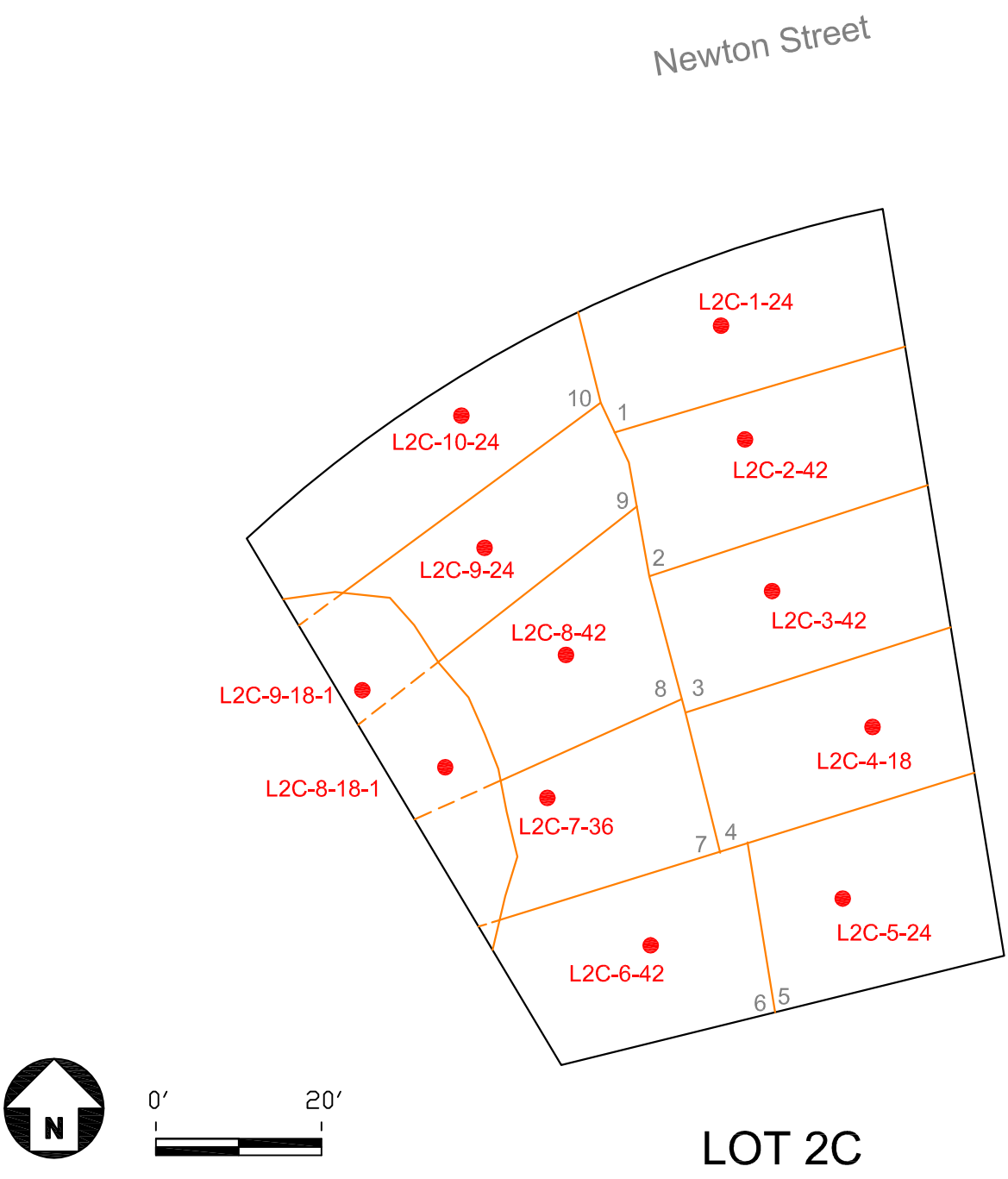


Newton Street

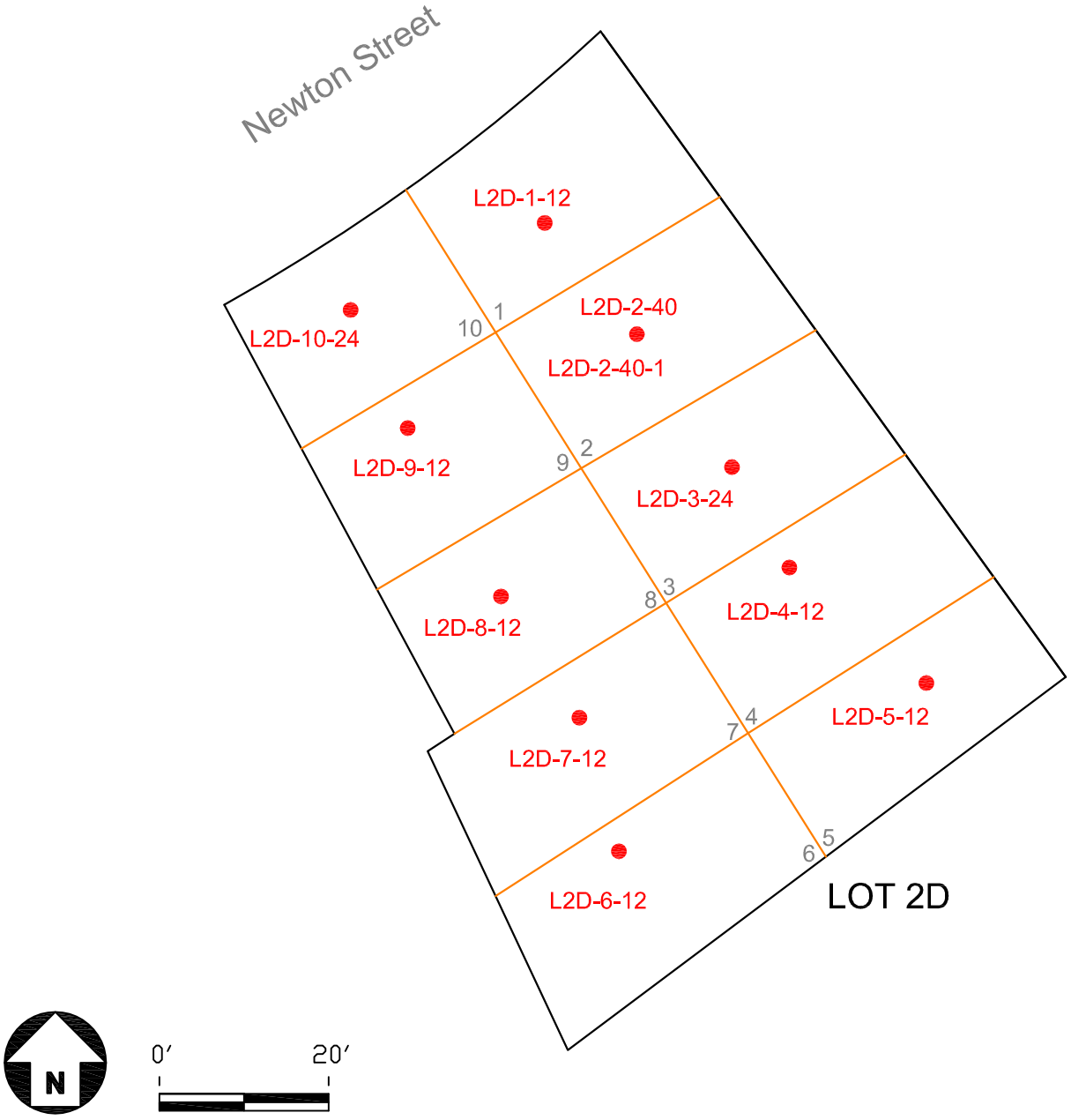
Legend:

L2B-4-24	Sample Identifier
●	Sample Location
▭	Cell Location

ROBINSON NOBLE	PM: JFH June 2012 2727-001A	Pierce County T 21 N/R 02 E - 35 Scale 1" = 20'	Figure 4 Lot 2B Sample Diagram Highlands Twenty, LLP: Arsenic and Lead Clean up



ROBINSON NOBLE	PM: JFH June 2012 2727-001A	Pierce County T 21 N/R 02 E - 35 Scale 1" = 20'	Figure 5 Lot 2C Sample Diagram Highlands Twenty, LLP: Arsenic and Lead Clean up



ROBINSON NOBLE	PM: JFH June 2012 2727-001A	Pierce County T 21 N/R 02 E - 35 Scale 1" = 20'	Figure 6 Lot 2D Sample Diagram Highlands Twenty, LLP: Arsenic and Lead Clean up

APPENDIX B

Libby Environmental, Inc.

4139 Libby Road NE • Olympia, WA 98506-2518

May 31, 2012

John Hildenbrand
Robinson Noble
3011 Huson Street South
Suite A
Tacoma, WA 98409

Dear Mr. Hildenbrand:

Please find enclosed the analytical data report for the Highlands Arsenic Remediation Project located in Tacoma, Washington. Soil samples were analyzed for Metals Arsenic and Lead by EPA Method 7010 Series on May 25, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work has been sent to Joe Foss at Highlands Twenty, LLP.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Jamie L. Deyman
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com

Libby Environmental, Inc.

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Olympia, WA 98506
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FAX: (360) 352-4154
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HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120524-6
Client Project # 2727-001A

Analyses of Arsenic in Soil by EPA Method 7010 Series

Sample Number	Date Analyzed	Arsenic (mg/kg)
Method Blank	5/25/12	nd
L2B-6-24	5/25/12	7.6
L2B-7-24	5/25/12	6.2
L2A-6-24	5/25/12	nd
L2A-7-24	5/25/12	nd
L2A-8-24	5/25/12	nd
L2A-9-24	5/25/12	nd
L2A-10-24	5/25/12	nd
Practical Quantitation Limit		5.0

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

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

Libby Environmental, Inc.

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Olympia, WA 98506
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HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120524-6
Client Project # 2727-001A

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

Sample Number	Date Analyzed	Arsenic (% Recovery)
LCS	5/25/12	96%
L120518-5 MS	5/25/12	105%
L120518-5 MSD	5/25/12	109%
RPD	5/25/12	4%

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 65%-135%
ACCEPTABLE RPD IS 35%

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

Libby Environmental, Inc.

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HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120524-6
Client Project # 2727-001A

Analyses of Lead in Soil by EPA Method 7421

Sample Number	Date Analyzed	Lead (mg/kg)
Method Blank	5/24/12	nd
L2B-6-24	5/24/12	91.8
L2B-7-24	5/24/12	5.6
L2A-6-24	5/24/12	7.7
L2A-7-24	5/24/12	nd
L2A-8-24	5/24/12	nd
L2A-9-24	5/24/12	nd
L2A-10-24	5/24/12	nd
Practical Quantitation Limit		5.0

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

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

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HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120524-6
Client Project # 2727-001A

QA/QC for Lead in Soil by EPA Method 7421

Sample Number	Date Analyzed	Lead (% Recovery)
LCS	5/24/12	100%
L120518-5 MS	5/24/12	int
L120518-5 MSD	5/24/12	int
RPD	5/24/12	int

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 65%-135%
ACCEPTABLE RPD IS 35%

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
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Date: 5-24-2012 Page: 1 of 1

Client: Robinson Noble

Project Manager: JFH

Address: 3011 South Huson Street, Suite A Tac WA

Project Name: Highlands Arsenic remediation

Phone: 253-475-7711 Fax:

Location: Tacoma WA

Client Project # 2727-001A

Collector: ACY Date of Collection: 5-24-2012

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals	As, Pb	Field Note/# Containers
1 L2B-6-24	24"	15:18	soil	4oz											X		
2 L2B-7-24	24"	15:21	"	"											X		
3 L2A-6-24	24"	1552	"	"											X		
4 L2A-7-24	24"	1555	"	"											X		
5 L2A-8-24	24"	1558	"	"											X		
6 L2A-9-24	24"	1604	"	"											X		
7 L2A-10-24	24"	1609	"	"											X		
8																	
9																	
10																	
11																	
12																	
13																	
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Relinquished by:	Date / Time	Received by	Date / Time
Aaron Young	5-24-12 1650	[signature]	5/24/12 1655
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR 5-Day

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

Libby Environmental, Inc.

4139 Libby Road NE • Olympia, WA 98506-2518

May 31, 2012

John Hildenbrand
Robinson Noble
3011 Huson Street South
Suite A
Tacoma, WA 98409

Dear Mr. Hildenbrand:

Please find enclosed the analytical data report for the Highlands Arsenic Remediation Project located in Tacoma, Washington. Soil samples were analyzed for Metals Arsenic and Lead by EPA Method 7010 Series on May 28, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work has been sent to Joe Foss at Highlands Twenty, LLP.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

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President
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HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120527-1
Client Project # 2727-001A

Analyses of Metals in Soil by EPA Method 7010 Series

Sample Number	Date Analyzed	Lead (mg/kg)	Arsenic (mg/kg)
Method Blank	5/28/12	nd	nd
L2B-10-24	5/28/12	nd	nd
L2B-9-24	5/28/12	nd	nd
L2B-8-24	5/28/12	nd	nd
L2B-1-24	5/28/12	44.2	8.4
L2B-2-24	5/28/12	917	189
L2B-3-24	5/28/12	219	25.4
L2B-4-24	5/28/12	nd	nd
L2B-5-24	5/28/12	nd	5.0
L2A-1-24	5/28/12	63.6	7.4
L2A-2-24	5/28/12	nd	7.2
L2A-3-24	5/28/12	nd	5.0
L2A-4-24	5/28/12	nd	11.2
L2A-5-24	5/28/12	nd	8.7
L2A-4-24-1	5/28/12	nd	10.0
L2A-4-24-2	5/28/12	nd	10.0
L2A-4-18-3	5/28/12	nd	9.8
L2A-5-24-1	5/28/12	nd	6.4
L2A-5-18-2	5/28/12	nd	9.6
L2A-5-24-3	5/28/12	nd	8.5
L2A-5-24-3 Dup	5/28/12	nd	8.4
Practical Quantitation Limit		5.0	5.0

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

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

Libby Environmental, Inc.

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

HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120527-1
Client Project # 2727-001A

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

Sample Number	Date Analyzed	Lead (% Recovery)	Arsenic (% Recovery)
LCS	5/28/12	107%	102%
L2A-5-24-3 MS	5/28/12	int	int
L2A-5-24-3 MSD	5/28/12	int	int
RPD	5/28/12	int	int

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 65%-135%
ACCEPTABLE RPD IS 35%

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

Libby Environmental, Inc.

Chain of Custody Record

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

Date: 5-27-12 Page: 1 of 2

Client: Robinson Noble (Please Bill Inc Ross)
Project Manager: JFH

Address: 3011 South Huson Street, Suite A Tac WA
Project Name: Highlands Arsenic Remediation

Phone: 253-475-7711 Fax:
Location: Tacoma WA

Client Project # 2727-001A
Collector: ACY Date of Collection: 5-25-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals	As, Pb	Field Note/# Containers
1 L2B-10-24	24"	1527	soil	402											X		
2 L2B-9-24	24"	1533													X		
3 L2B-8-24	24"	1545													X		
4 L2B-1-24	24"	1552													X		
5 L2B-2-24	24"	1558													X		
6 L2B-3-24	24"	1607													X		
7 L2B-4-24	24"	1612													X		
8 L2B-5-24	24"	1616													X		
9 L2A-1-24	24"	1704													X		
10 L2A-2-24	24"	1709													X		
11 L2A-3-24	24"	1713													X		
12 L2A-4-24	24"	1720													X		
13 L2A-5-24	24"	1724													X		
14 L2A-4-24-1	24"	1737													X		
15 L2A-4-24-2	24"	1741													X		
16 L2A-4-18-3	18"	1749													X		
17 L2A-5-24-1	24"	1754													X		
18 L2A-5-18-2	18"	1759	V	V											X		

Relinquished by:	Date / Time	Received by	Date / Time
[signature]	5-27-12 1:20	[signature]	5-27-12 1:20
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR 5-Day

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

Libby Environmental, Inc.

Chain of Custody Record

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

Date: 5-27-12 Page: 2 of 2

Client: Robinson Noble (Please Bill Joe Foss)
Project Manager: JFH

Address: 3011 south Huson Street, Suite A Tac WA
Project Name: Highlands Arsenic Remediation

Phone: 253-475-7711 Fax:
Location: Tacoma WA

Client Project # 2727-001A
Collector: ACY Date of Collection: 5-25-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals	As / Pb		Field Note/# Containers
1 L2A-5-24-3	24"	1803	Soil	402											X			
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
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17																		
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Relinquished by:	Date / Time	Received by	Date / Time
Aaron Jones	5-27-12 1120	ESR	5-27-12 1120
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR 5-Day

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

Libby Environmental, Inc.

4139 Libby Road NE • Olympia, WA 98506-2518

May 31, 2012

John Hildenbrand
Robinson Noble
3011 Huson Street South
Suite A
Tacoma, WA 98409

Dear Mr. Hildenbrand:

Please find enclosed the analytical data report for the Highlands Arsenic Remediation Project located in Tacoma, Washington. A soil sample was analyzed for Metals Arsenic and Lead by EPA Method 7010 Series on May 28, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work has been sent to Joe Foss at Highlands Twenty, LLP.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Jamie L. Deyman
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com

Libby Environmental, Inc.

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Olympia, WA 98506
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Email: libbyenv@aol.com

HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120527-2
Client Project # 2727-001A

Analyses of Metals in Soil by EPA Method 7010 Series

Sample Number	Date Analyzed	Lead (mg/kg)	Arsenic (mg/kg)
Method Blank	5/28/12	nd	nd
Lot 2C-12	5/28/12	832	50.4
Practical Quantitation Limit		5.0	5.0

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

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Phone: (360) 352-2110
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HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120527-2
Client Project # 2727-001A

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

Sample Number	Date Analyzed	Lead (% Recovery)	Arsenic (% Recovery)
LCS	5/28/12	107%	102%
L120527-1 MS	5/28/12	int	int
L120527-1 MSD	5/28/12	int	int
RPD	5/28/12	int	int

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 65%-135%
ACCEPTABLE RPD IS 35%

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
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Ph: 360-352-2110
Fax: 360-352-4154

Date: 5-27-12 Page: 1 of 1

Client: Robinson Noble (Please Bill Joe Foss)
Project Manager: JFH

Address: 3011 South Husson Street, Suite A Tac WA
Project Name: Highlands Arsenic Remediation

Phone: 253-475-7711 Fax:
Location: Tacoma WA

Client Project # 2727-001A
Collector: ACY Date of Collection: 5-25-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals	As / Pb		Field Note/# Containers
1 Lot 2C-12	12"	1634	Soil	402											X			
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
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14																		
15																		
16																		
17																		
18																		

Relinquished by:	Date / Time	Received by	Date / Time
Aaron Young	5-27-12 1:15	[signature]	5-27-12 1:15
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR 5-Day

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

Libby Environmental, Inc.

4139 Libby Road NE • Olympia, WA 98506-2518

May 31, 2012

John Hildenbrand
Robinson Noble
3011 Huson Street South
Suite A
Tacoma, WA 98409

Dear Mr. Hildenbrand:

Please find enclosed the analytical data report for the Highlands Arsenic Remediation Project located in Tacoma, Washington. Soil samples were analyzed for Metals Arsenic and Lead by EPA Method 7010 Series on May 30, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work has been sent to Joe Foss at Highlands Twenty, LLP.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Jamie L. Deyman
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com

Libby Environmental, Inc.

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Olympia, WA 98506
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HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120529-5
Client Project # 2727-001A

Analyses of Metals in Soil by EPA Method 7010 Series

Sample Number	Date Analyzed	Lead (mg/kg)	Arsenic (mg/kg)
Method Blank	5/30/12	nd	nd
L2B-2-36	5/30/12	11.8	nd
L2B-3-42	5/30/12	12.6	nd
L2C-1-24	5/30/12	14.9	nd
L2C-2-24	5/30/12	397	nd
L2C-3-24	5/30/12	474	nd
L2C-4-18	5/30/12	215	6.5
L2C-5-24	5/30/12	53.6	nd
L2C-6-24	5/30/12	499	nd
L2C-7-18	5/30/12	997	nd
L2C-8-24	5/30/12	495	nd
L2C-9-24	5/30/12	9.3	nd
L2C-10-24	5/30/12	nd	nd
Practical Quantitation Limit		5.0	5.0

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

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

Libby Environmental, Inc.

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Email: libbyenv@aol.com

HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120529-5
Client Project # 2727-001A

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

Sample Number	Date Analyzed	Lead (% Recovery)	Arsenic (% Recovery)
LCS	5/30/12	96%	102%
L120518-4 MS	5/30/12	int	int
L120518-4 MSD	5/30/12	int	int
RPD	5/30/12	int	int

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 65%-135%
ACCEPTABLE RPD IS 35%

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

Libby Environmental, Inc.

Chain of Custody Record

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

Date: 5-29-12 Page: 1 of 1

Client: Robinson Noble (Please Bill Joe Foss)

Project Manager: JFH

Address: 3011 South Huson Street, Suite A Tac WA

Project Name: Highlands Arsenic Remediation

Phone: 253-475-7711 Fax:

Location: Tacoma WA

Client Project # 2727-001A

Collector: ACY Date of Collection: 5-29-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals As, Pb			Field Note/# Containers
1 L2B-2-36	36"	1600	soil	4oz											X			
2 L2B-3-42	42"	1604													X			
3 L2C-1-24	24"	1555													X			
4 L2C-2-24	24"	1559													X			
5 L2C-3-24	24"	1603													X			
6 L2C-4-18	18"	1606													X			
7 L2C-5-24	24"	1610													X			
8 L2C-6-24	24"	1620													X			
9 L2C-7-18	18"	1624													X			
10 L2C-8-24	24"	1628													X			
11 L2C-9-24	24"	1631													X			
12 L2C-10-24	24"	1635													X			
13																		
14																		
15																		
16																		
17																		
18																		

Relinquished by:	Date / Time	Received by	Date / Time
Aaron Young	5-29-12 17:45	Eg Zt	5 29 12 6'45
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT (24HR) 48HR 5-Day

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

Libby Environmental, Inc.

4139 Libby Road NE • Olympia, WA 98506-2518

May 31, 2012

John Hildenbrand
Robinson Noble
3011 Huson Street South
Suite A
Tacoma, WA 98409

Dear Mr. Hildenbrand:

Please find enclosed the analytical data report for the Highlands Arsenic Remediation Project located in Tacoma, Washington. A soil sample was analyzed for Metals Arsenic and Lead by EPA Method 7010 Series on May 30, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work has been sent to Joe Foss at Highlands Twenty, LLP.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Jamie L. Deyman
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com

Libby Environmental, Inc.

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

HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120529-2
Client Project # 2727-001A

Analyses of Metals in Soil by EPA Method 7010 Series

Sample Number	Date Analyzed	Lead (mg/kg)	Arsenic (mg/kg)
Method Blank	5/30/12	nd	nd
Lot 2D	5/30/12	501	9.3
Practical Quantitation Limit		5.0	5.0

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

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

Libby Environmental, Inc.

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

HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120529-2
Client Project # 2727-001A

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

Sample Number	Date Analyzed	Lead (% Recovery)	Arsenic (% Recovery)
LCS	5/30/12	96%	102%
L120518-4 MS	5/30/12	int	int
L120518-4 MSD	5/30/12	int	int
RPD	5/30/12	int	int

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 65%-135%
ACCEPTABLE RPD IS 35%

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

Libby Environmental, Inc.

Chain of Custody Record

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

Date: 5-29-12 Page: 1 of 1

Client: Robinson Noble (Please Bill Joe Foss)

Project Manager: JFH

Address: 3011 South Huson Street, Suite A Tac WA

Project Name: Highlands Arsenic Remediation

Phone: 253 475 7711 Fax:

Location:

Client Project # 2727-001A

Collector: Date of Collection: 5-29-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals	As Pb			Field Note/# Containers
1 Lot 2D	12"	1651	Soil	4 oz												X			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
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18																			

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[signature]	5-29-12 1735	[signature]	5-29-12 1735
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR 5-Day

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

Libby Environmental, Inc.

4139 Libby Road NE • Olympia, WA 98506-2518

May 31, 2012

John Hildenbrand
Robinson Noble
3011 Huson Street South
Suite A
Tacoma, WA 98409

Dear Mr. Hildenbrand:

Please find enclosed the analytical data report for the Highlands Arsenic Remediation Project located in Tacoma, Washington. Soil samples were analyzed for Metals Arsenic and Lead by EPA Method 7010 Series on May 31, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work has been sent to Joe Foss at Highlands Twenty, LLP.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Jamie L. Deyman
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com

Libby Environmental, Inc.

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Olympia, WA 98506
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FAX: (360) 352-4154
Email: libbyenv@aol.com

HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120530-5
Client Project # 2727-001A

Analyses of Metals in Soil by EPA Method 7010 Series

Sample Number	Date Analyzed	Lead (mg/kg)	Arsenic (mg/kg)
Method Blank	5/31/12	nd	nd
L2D-1-12	5/31/12	nd	nd
L2D-2-12	5/31/12	454	6.3
L2D-3-12	5/31/12	384	nd
L2D-4-12	5/31/12	nd	nd
L2D-5-12	5/31/12	nd	nd
L2D-6-12	5/31/12	42.7	nd
L2D-7-12	5/31/12	nd	nd
L2D-8-12	5/31/12	nd	nd
L2D-9-12	5/31/12	nd	nd
L2C-2-42	5/31/12	nd	nd
L2C-3-42	5/31/12	49.8	nd
L2C-6-42	5/31/12	nd	nd
L2C-7-36	5/31/12	nd	nd
L2C-8-42	5/31/12	nd	nd
Practical Quantitation Limit		5.0	5.0

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

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

Libby Environmental, Inc.

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

HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120530-5
Client Project # 2727-001A

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

Sample Number	Date Analyzed	Lead (% Recovery)	Arsenic (% Recovery)
LCS	5/31/12	109%	101%
L2C-8-42 MS	5/31/12	110%	int
L2C-8-42 MSD	5/31/12	111%	int
RPD	5/31/12	1%	int

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 65%-135%
ACCEPTABLE RPD IS 35%

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

(Bill → Joe Foss)

Libby Environmental, Inc.

Chain of Custody Record

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

Date: 5-30-12 Page: 1 of 1

Client: Robinson Noble & Project Manager: JFH

Address: 3011 S Huson Suite A Tacoma Project Name: Highlands Arsenic Remediation

Phone: 253-475-7711 Fax: Location:

Client Project # 2727-001A Collector: ACY Date of Collection: 5-30-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals As, Pb	Field Note/# Containers
1 L2D-1-12	12"	17:18	Soil	402											X	
2 L2D-2-12	12"	17:22													X	
3 L2D-3-12	12"	17:27													X	
4 L2D-4-12	12"	17:32													X	
5 L2D-5-12	12"	1734													X	
6 L2D-6-12	12"	1737													X	
7 L2D-7-12	12"	1740													X	
8 L2D-8-12	12"	1743													X	
9 L2D-9-12	12"	1745													X	
10 L2C-2-42	42"	1800													X	
11 L2C-3-42	42"	1802													X	
12 L2C-6-42	42"	1804													X	
13 L2C-7-36	36"	1808													X	
14 L2C-8-42	42"	1812	↓	↓											X	
15																
16																
17																
18																

Relinquished by:	Date / Time	Received by	Date / Time
Aaron Young	5-30-12 18:40	[signature]	5-30-12 6:40
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT (24HR) 48HR 5-Day

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

Libby Environmental, Inc.

4139 Libby Road NE • Olympia, WA 98506-2518

May 31, 2012

John Hildenbrand
Robinson Noble
3011 Huson Street South
Suite A
Tacoma, WA 98409

Dear Mr. Hildenbrand:

Please find enclosed the analytical data report for the Highlands Arsenic Remediation Project located in Tacoma, Washington. Soil samples were analyzed for Metals Arsenic and Lead by EPA Method 7010 Series on May 31, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work has been sent to Joe Foss at Highlands Twenty, LLP.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Jamie L. Deyman
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com

Libby Environmental, Inc.

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

HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120530-3
Client Project # 2727-001A

Analyses of Metals in Soil by EPA Method 7010 Series

Sample Number	Date Analyzed	Lead (mg/kg)	Arsenic (mg/kg)
Method Blank	5/31/12	nd	nd
L2C-8-18-1	5/31/12	nd	nd
L2C-9-18-1	5/31/12	nd	nd
Practical Quantitation Limit		5.0	5.0

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

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

Libby Environmental, Inc.

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

HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120530-3
Client Project # 2727-001A

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

Sample Number	Date Analyzed	Lead (% Recovery)	Arsenic (% Recovery)
LCS	5/31/12	109%	101%
L120530-5 MS	5/31/12	110%	int
L120530-5 MSD	5/31/12	111%	int
RPD	5/31/12	1%	int

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 65%-135%
ACCEPTABLE RPD IS 35%

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

Libby Environmental, Inc.

Chain of Custody Record

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

Date: 5-30-2012 Page: 1 of 1

Client: Robinson Noble (Please Bill Joe Foss)

Project Manager: JFH

Address: 3011 South Huson Street, Suite A Tac WA

Project Name: Highlands Arsenic Remediation

Phone: 253-475-7711 Fax:

Location:

Client Project #: 2727-001A

Collector: ACY Date of Collection: 5-30-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals	As, Pb	Field Note/# Containers
1 L2C-8-18-1	18"	1607	Soil	402											X		
2 L2C-9-18-1	18"	1611	"	"											X		
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	

Relinquished by:	Date / Time	Received by	Date / Time
[illegible]	5-30-12 18:28	[illegible]	5-30-12 6:35
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR 5-Day

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

Libby Environmental, Inc.

4139 Libby Road NE • Olympia, WA 98506-2518

June 1, 2012

John Hildenbrand
Robinson Noble
3011 Huson Street South
Suite A
Tacoma, WA 98409

Dear Mr. Hildenbrand:

Please find enclosed the analytical data report for the Highlands Arsenic Remediation Project located in Tacoma, Washington. Soil samples were analyzed for Metals Arsenic and Lead by EPA Method 7010 Series on June 1, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work has been sent to Joe Foss at Highlands Twenty, LLP.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Jamie L. Deyman
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com

Libby Environmental, Inc.

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

HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120531-7
Client Project # 2727-001A

Analyses of Metals in Soil by EPA Method 7010 Series

Sample Number	Date Analyzed	Lead (mg/kg)	Arsenic (mg/kg)
Method Blank	6/1/12	nd	nd
L2D-10-24	6/1/12	161	6.3
L2D-2-24	6/1/12	499	10.7
L2D-3-24	6/1/12	5.8	nd
Practical Quantitation Limit		5.0	5.0

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

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

Libby Environmental, Inc.

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

HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120531-7
Client Project # 2727-001A

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

Sample Number	Date Analyzed	Lead (% Recovery)	Arsenic (% Recovery)
LCS	6/1/12	100%	98%
L120531-3 MS	6/1/12	int	71%
L120531-3 MSD	6/1/12	int	85%
RPD	6/1/12	int	18%

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 65%-135%
ACCEPTABLE RPD IS 35%

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

Libby Environmental, Inc.

Chain of Custody Record

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

Date: 5-31-12 Page: 1 of 1

Client: Robinson Noble (Please Bill Joe Foss)
Project Manager: J F H

Address: 3011 South Huson Street, Suite A Tac WA
Project Name: Highlands Arsenic Remediation

Phone: 253-475-7711 Fax:
Location: Tacoma WA

Client Project # 2727-001 A
Collector: A C Y Date of Collection: 5-31-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals	As, Pb		Field Note/# Containers
1 L2D-10-24		1625	Soil	4oz											X			
2 L2D-2-24		1636	↓	↓											X			
3 L2D-3-24		1640	↓	↓											X			
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		

Relinquished by:	Date / Time	Received by	Date / Time
[signature]	5-31-12 5:26	[signature]	5-31-12 5:26
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT (24HR) 48HR 5-Day

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

Libby Environmental, Inc.

4139 Libby Road NE • Olympia, WA 98506-2518

June 8, 2012

John Hildenbrand
Robinson Noble
3011 Huson Street South
Suite A
Tacoma, WA 98409

Dear Mr. Hildenbrand:

Please find enclosed the analytical data report for the Highlands Arsenic Remediation Project located in Tacoma, Washington. Soil samples were analyzed for Metals Arsenic and Lead by EPA Method 7010 Series on June 5, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work has been sent to Joe Foss at Highlands Twenty, LLP.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Jamie L. Deyman
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com

Libby Environmental, Inc.

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

HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120602-5
Client Project # 2727-001A

Analyses of Metals in Soil by EPA Method 7010 Series

Sample Number	Date Analyzed	Lead (mg/kg)	Arsenic (mg/kg)
Method Blank	6/5/12	nd	nd
L2D-2-40	6/5/12	50	nd
LED-2-40-1	6/5/12	40	nd
L2D-2-40-1 Dup	6/5/12	44	nd
Practical Quantitation Limit		5.0	5.0

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

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

Libby Environmental, Inc.

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

HIGHLANDS ARSENIC REMEDIATION PROJECT
Robinson Noble
Tacoma, Washington
Libby Project # L120602-5
Client Project # 2727-001A

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

Sample Number	Date Analyzed	Lead (% Recovery)	Arsenic (% Recovery)
LCS	6/5/12	111%	100%
L2D-2-40-1 MS	6/5/12	int	99%
L2D-2-40-1 MSD	6/5/12	int	98%
RPD	6/5/12	int	1%

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 65%-135%
ACCEPTABLE RPD IS 35%

ANALYSES PERFORMED BY: Jamie Deyman & Sherry Chilcutt

Libby Environmental, Inc.

Chain of Custody Record

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

Date: 6-4-12 Page: 1 of 1

Client: Robinson Noble (bill to Joe Foss)

Project Manager: JFH

Address: 3011 South Huson Street, Suite A Tacoma WA

Project Name: Highlands Arsenic Remediation

Phone: 253-475-7711 Fax: -

Location:

Client Project # 2727-001A

Collector: ACY Date of Collection: 6-4-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals As Pb			Field Note/# Containers
1 L2D-2-40		1555	soil	4oz											X			
2 L2D-2-40-1		1600	↓	↓											X			
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		

Relinquished by:	Date / Time	Received by	Date / Time
[signature]	6-4-12	[signature]	6-4-12 5:05
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR 5-Day

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

APPENDIX C

Site photographs of 1400 N. Highlands Parkway (2727-001A)

General area of Lot 2A before excavation

Lot 2A prior to excavation of final cell below stockpile

General view of Lot 2B vicinity before excavation

View of Lot 2B prior to removal of stockpiled final cell excavation

General area of Lot 2C prior to excavation

Lot 2C after final excavation

Area of Lot 2D before excavation

Lot 2D upon completion of excavation

APPENDIX D

City of Tacoma
Public Works Department

June 13, 2012

Joe Foss
Highlands Golf Course
1400 North Highlands Parkway
Tacoma, WA 98406

Subject: Material from the Highlands Golf Course

Dear Mr. Foss:

This letter is to acknowledge that the City of Tacoma (Tacoma) Solid Waste Management received approximately 1,564 yards of material from the Highlands Golf Course that was used as cover material at the Tacoma Landfill. This material was delivered between the dates of May 24, 2012 and June 4, 2012. The volume of material delivered is based upon the information provided to us in your e-mail dated June 6, 2012.

Respectfully,

Jeff Geforos
Landfill Supervisor
Solid Waste Management

JTG:mmt (Highlands Golf Course_June2012)

File: SWM/Landfill/Highlands Golf Course

DATE: 5/31/12

Load Ticket #: 09927

T.E. WALRATH TRUCKING, INC.
Northwest Pumice Distributors
Sand • Pumice • Custom Blending

WALRATH RECYCLING, INC.

H&B TOPSOIL, INC.

11405 - 24th Ave. E.
Tacoma, WA 98445-5140

Bus: (253) 531-7499
Fax: (253) 537-4531

CUSTOMER

Job Code #:

Ridge Top

JOB

P.O. #

Job Name: City Dump

Job / Delivery Street Address:

Tacoma | wa | Zip

City | State | Zip

Product Code#	Quantity	Tons - Yards	Product Description	Scale/Late Load#
3020	2x8	Yds	Export	

TRUCK RENTAL

Load Time	Unload Time	START	STOP	HOURS
		1445	1630	1 3/4 hrs

TRUCK #	EMPL. CODE	DRIVER'S SIGNATURE
48	1011	

X Received By: Kyp Tuck

Gross Weight: _____

Tare Weight: _____

Net Weight: _____

DATE
5/31/12

T.E. WALRATH TRUCKING, INC.
Northwest Pumice Distributors
Sand • Pumice • Custom Blending

Load Ticket #
53521

11405 - 24th Ave. E.
Tacoma, WA 98445-5140

Bus: (253) 531-7499
Fax: (253) 537-4531

CUSTOMER

Job Code #:

Ridgetop Golf

JOB

P.O. #

Job Name: Highlands

Job / Delivery Street Address

City | State | Zip

Product Code #	Quantity	Tons / Yards	Product Description	Scale/Late Load#
3020	28		TBT Rental	
	28			
	28			
			3 Ld's = 84 Yds.	
			TRUCK RENTAL	

Load Time	Unload Time	START	STOP	HOURS
		9:00	11:30	2.5

TRUCK #	EMPL. CODE	DRIVER'S SIGNATURE
47	1518	Marcus

X Received By: Kyle

Gross Weight _____

Tare Weight _____

Net Weight _____

DATE: 5 30 2012

Load Ticket #: 7116

T.E. WALRATH TRUCKING, INC.
Northwest Pumice Distributors
Sand • Pumice • Custom Blending

WALRATH RECYCLING, INC.

H&B TOPSOIL, INC.

11405 - 24th Ave. E.
Tacoma, WA 98445-5140

Bus: (253) 531-7499
Fax: (253) 537-4531

CUSTOMER

Job Code #:

Ridgetop Golf

JOB

P.O. #

Highlands Golf
Job Name

City Dump
Job / Delivery Street Address

Tacoma
City | State | Zip

Product Code#	Quantity	Tons - Yards	Product Description	Scale/Late Load#
3020	28/140Y		Export NU 140 YARDS	

TRUCK RENTAL

Load Time	Unload Time	START	STOP	HOURS
	0830	1230	0	9.0
150	1829	Dale Smith		
TRUCK #	EMPL. CODE	DRIVER'S SIGNATURE		

Gross Weight

Tare Weight

Net Weight

X Received By:

DATE
5 / 30 / 12

T.E. WALRATH TRUCKING, INC.
Northwest Pumice Distributors
Sand • Pumice • Custom Blending

Load Ticket #
53520

11405 - 24th Ave. E.
Tacoma, WA 98445-5140

Bus: (253) 531-7499
Fax: (253) 537-4531

CUSTOMER

Job Code #:

Ridgetop Golf

JOB

P.O. #

Job Name: Highlands

Job / Delivery Street Address

City | State | Zip

Product Code #	Quantity	Tons - Yards	Product Description	Scale/Late Load#
3020	28		T&T Rental	
	28			
	28			
	28			
	28		5 Ld's = 140 Yds.	

Load Time	Unload Time	TRUCK RENTAL START	STOP	HOURS
		8:15	12:15	4.0

TRUCK #	EMPL. CODE	DRIVER'S SIGNATURE
47	1518	Marcus

X Received By: Ryp

Gross Weight _____

Tare Weight _____

Net Weight _____

DATE
5 29 2012

Load Ticket #
7112

T.E. WALRATH TRUCKING, INC.
Northwest Pumice Distributors
Sand • Pumice • Custom Blending

WALRATH RECYCLING, INC.

H&B TOPSOIL, INC.

11405 - 24th Ave. E.
Tacoma, WA 98445-5140

Bus: (253) 531-7499
Fax: (253) 537-4531

CUSTOMER	Job Code #:
	Ridge Top Golf

JOB	P.O. #
	Highlands Golf (Job Name)
	City Dump (Job / Delivery Street Address)
	City / State / Zip

Product Code#	Quantity	Tons - Yards	Product Description	Scale/Late Load#
3020	24	Y	Export 11	

TRUCK RENTAL			Gross Weight	
Load Time	Unload Time	START	STOP	HOURS	Tare Weight	
		0930	1545	1.75	Net Weight	
50	1829	Dale Smith				
TRUCK #	EMPL. CODE	DRIVER'S SIGNATURE				

X Received By:

DATE
5 29 /2012

T.E. WALRATH RECYCLING, INC.

T.E. WALRATH TRUCKING, INC.

Northwest Pumice Distributors
Sand • Pumice • Custom Blending

H&B TOPSOIL, INC.

Load Ticket #
7114

11405 - 24th Ave. E.
Tacoma, WA 98445-5140

Bus: (253) 531-7499
Fax: (253) 537-4531

CUSTOMER

Job Code #:

RidgeTop Golf

JOB

P.O. #

Highlands Golf
Job Name

City Dump
Job / Delivery Street Address

City | State | Zip

Product Code#	Quantity	Tons - Yards	Product Description	Scale/Late Load#
3020	24	Y	Export 11	

TRUCK RENTAL

Load Time	Unload Time	START	STOP	HOURS
		1400	1515	1.75

TRUCK #	EMPL. CODE	DRIVER'S SIGNATURE
50	1829	Dale Smith

X Received By:

Gross Weight _____

Tare Weight _____

Net Weight _____

DATE
5/29/12

T.E. WALRATH TRUCKING, INC.
Northwest Pumice Distributors
Sand • Pumice • Custom Blending

Load Ticket #
53519

11405 - 24th Ave. E.
Tacoma, WA 98445-5140

Bus: (253) 531-7499
Fax: (253) 537-4531

CUSTOMER

Job Code #:

Ridgetop Golf

JOB

P.O. #

Job Name: Highlands Golf

Job / Delivery Street Address

City | State | Zip

Product Code #	Quantity	Tons - Yards	Product Description	Scale/Late Load#
3020	28	28	T&T Rental	
	28	28		
	28	28		
	28			
	28		9 Ld's = 252 Yds	
	28			

TRUCK RENTAL

Load Time	Unload Time	START	STOP	HOURS
		8:00	16:00	8.0

TRUCK #	EMPL. CODE	DRIVER'S SIGNATURE
47	1518	D Howes

X Received By:

Gross Weight

Tare Weight

Net Weight

DATE
5 25 12

T.E. WALRATH TRUCKING, INC.
Northwest Pumice Distributors
Sand • Pumice • Custom Blending

WALRATH RECYCLING, INC. H&B TOPSOIL, INC.

Load Ticket #
8896

11405 - 24th Ave. E.
Tacoma, WA 98445-5140

Bus: (253) 531-7499
Fax: (253) 537-4531

CUSTOMER

Job Code #:
RIDGETOP
HIGHLANDS
TTHK 1/1

JOB

P.O. #
Job Name
TACOMA CITY LANDFILL
Job / Delivery Street Address
City / State / Zip

Product Code#	Quantity	Tons - Yards	Product Description	Scale/Late Load#
3020			TRUCK RENTAL	

Load Time	Unload Time	TRUCK RENTAL START	STOP	HOURS
0815		0815	1600	7.75
49	7449	[signature]		
TRUCK #	EMPL. CODE	DRIVER'S SIGNATURE		

Gross Weight ______

Tare Weight ______

Net Weight ______

X Received By: [signature]

DATE: 5 25 2012

Load Ticket #: 7111

T.E. WALRATH TRUCKING, INC.
Northwest Pumice Distributors
Sand • Pumice • Custom Blending

T.E. WALRATH RECYCLING, INC.

H&B TOPSOIL, INC.

11405 - 24th Ave. E.
Tacoma, WA 98445-5140

Bus: (253) 531-7499
Fax: (253) 537-4531

CUSTOMER

Job Code #:

RIDGE TOP

JOB

P.O. #

Highlands
Job Name

City Dump
Job / Delivery Street Address

City | State | Zip

Product Code#	Quantity	Tons - Yards	Product Description	Scale/Late Load#
3020	24	Y	EXPORT TIN 11	

TRUCK RENTAL

Load Time	Unload Time	START	STOP	HOURS
		0745	1415	6.5

TRUCK #	EMPL. CODE	DRIVER'S SIGNATURE
50	1829	Dale

X Received By:

Gross Weight

Tare Weight

Net Weight

(7 LOADS)

DATE
5/24/12

T.E. WALRATH TRUCKING, INC.

Northwest Pumice Distributors
Sand • Pumice • Custom Blending

Load Ticket #
53518

11405 - 24th Ave. E.
Tacoma, WA 98445-5140

Bus: (253) 531-7499
Fax: (253) 537-4531

CUSTOMER

Job Code #:

Ridge Top Golf

JOB

P.O. #

Job Name: Highlands

Job / Delivery Street Address

City | State | Zip

Product Code #	Quantity	Tons - Yards	Product Description	Scale/Late Load#
3020	25		TBT Rental	
	25			
	25			
	25			
	25			
	25			

TRUCK RENTAL

Load Time	Unload Time	START	STOP	HOURS
		8:00	16:00	8.0

TRUCK #	EMPL. CODE	DRIVER'S SIGNATURE
47	1518	

X Received By:

Gross Weight

Tare Weight

Net Weight

DATE
5-24-2012

THE WALRATH RECYCLING, INC.

T.E. WALRATH TRUCKING, INC.
Northwest Pumice Distributors
Sand • Pumice • Custom Blending

H&B TOPSOIL, INC.

Load Ticket #
7110

11405 - 24th Ave. E.
Tacoma, WA 98445-5140

Bus: (253) 531-7499
Fax: (253) 537-4531

CUSTOMER

Job Code #:

Ridge Top

JOB

P.O. #

Highlands Golf (JOB)
Job Name

City Dump Tacoma.
Job / Delivery Street Address

City | State | Zip

Product Code#	Quantity	Tons - Yards	Product Description	Scale/Late Load#
3020	24	Y	EXPORT TH111	

TRUCK RENTAL

Load Time	Unload Time	START	STOP	HOURS
		0800	1615	8.25

TRUCK #	EMPL. CODE	DRIVER'S SIGNATURE
50	1829	Dale Smith

X Received By:

Gross Weight

Tare Weight

Net Weight

(8 Loads)

APPENDIX E

(PROVIDED ON ATTACHED CD)

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

February 7, 2011

Steve Spencer, Project Manager
Environmental Management Services, LLC
7006 27th Street W, Suite E
Tacoma, WA 98466

Dear Mr. Spencer:

Included are the results from the testing of material submitted on January 31, 2011 from the Highland 20, LLC-0393-01, F&BI 101307 project. There are 106 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. 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
EMS0207R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 31, 2011 by Friedman & Bruya, Inc. from the Environmental Management Services, Highland 20, LLC-0393-01, F&BI 101307 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Environmental Management Services, LLC
101307-01	S1-A1-6"
101307-02	S1-A1-12"
101307-03	S2-A1-6"
101307-04	S2-A1-12"
101307-05	S3-A1-6"
101307-06	S3-A1-12"
101307-07	S4-A1-6"
101307-08	S4-A1-12"
101307-09	S5-A1-6"
101307-10	S5-A1-12"
101307-11	S6-A1-6"
101307-12	S6-A1-12"
101307-13	S7-A1-6"
101307-14	S7-A1-12"
101307-15	S8-A1-6"
101307-16	S8-A1-12"
101307-17	S9-A1-6"
101307-18	S9-A1-12"
101307-19	S10-A1-6"
101307-20	S10-A1-12"
101307-21	S11-1B-6"
101307-22	S11-1B-12"
101307-23	S12-1B-6"
101307-24	S12-1B-12"
101307-25	S13-1B-6"
101307-26	S13-1B-12"
101307-27	S14-1B-6"
101307-28	S14-1B-12"
101307-29	S15-1B-6"
101307-30	S15-1B-12"
101307-31	S16-1B-6"
101307-32	S16-1B-12"
101307-33	S17-1B-6"
101307-34	S17-1B-12"
101307-35	S18-1B-6"
101307-36	S18-1B-12"
101307-37	S19-1B-6"
101307-38	S19-1B-12"
101307-39	S20-1B-6"

CASE NARRATIVE (continued)

Laboratory ID	Environmental Management Services, LLC
101307-40	S20-1B-12"
101307-41	S21-2F-6"
101307-42	S21-2F-12"
101307-43	S22-2F-6"
101307-44	S22-2F-12"
101307-45	S23-2F-6"
101307-46	S23-2F-12"
101307-47	S24-2F-6"
101307-48	S24-2F-12"
101307-49	S25-2F-6"
101307-50	S25-2F-12"
101307-51	S26-2F-6"
101307-52	S26-2F-12"
101307-53	S27-2F-6"
101307-54	S27-2F-12"
101307-55	S28-2F-6"
101307-56	S28-2F-12"
101307-57	S29-2F-6"
101307-58	S29-2F-12"
101307-59	S30-2E-6"
101307-60	S30-2E-12"
101307-61	S31-2E-6"
101307-62	S31-2E-12"
101307-63	S32-2E-6"
101307-64	S32-2E-12"
101307-65	S33-2E-6"
101307-66	S33-2E-12"
101307-67	S34-2E-6"
101307-68	S34-2E-12"
101307-69	S35-2E-6"
101307-70	S35-2E-12"
101307-71	S36-2E-6"
101307-72	S36-2E-12"
101307-73	S37-2E-6"
101307-74	S37-2E-12"
101307-75	S38-2E-6"
101307-76	S38-2E-12"
101307-77	S39-2E-6"
101307-78	S39-2E-12"
101307-79	S40-2E-6"
101307-80	S40-2E-12"
101307-81	S41-2D-6"

CASE NARRATIVE (continued)

Laboratory ID	Environmental Management Services, LLC
101307-82	S41-2D-12"
101307-83	S42-2D-6"
101307-84	S42-2D-12"
101307-85	S43-2D-6"
101307-86	S43-2D-12"
101307-87	S44-2D-6"
101307-88	S44-2D-12"
101307-89	S45-2D-6"
101307-90	S45-2D-12"
101307-91	S46-2D-6"
101307-92	S46-2D-12"
101307-93	S47-2D-6"
101307-94	S47-2D-12"
101307-95	S48-2D-6"
101307-96	S48-2D-12"
101307-97	S49-2D-6"
101307-98	S49-2D-12"
101307-99	S50-2D-6"
101307-100	S50-2D-12"
101307-101	S51-2B-6"
101307-102	S51-2B-12"
101307-103	S52-2B-6"
101307-104	S52-2B-12"
101307-105	S53-2B-6"
101307-106	S53-2B-12"
101307-107	S54-2B-6"
101307-108	S54-2B-12"
101307-109	S55-2B-6"
101307-110	S55-2B-12"
101307-111	S56-2B-6"
101307-112	S56-2B-12"
101307-113	S57-2B-6"
101307-114	S57-2B-12"
101307-115	S58-2B-6"
101307-116	S58-2B-12"
101307-117	S59-2B-6"
101307-118	S59-2B-12"
101307-119	S60-2B-6"
101307-120	S60-2B-12"
101307-121	S61-2A-6"
101307-122	S61-2A-12"
101307-123	S62-2A-6"

CASE NARRATIVE (continued)

Laboratory ID	Environmental Management Services, LLC
101307-124	S62-2A-12"
101307-125	S63-2A-6"
101307-126	S63-2A-12"
101307-127	S64-2A-6"
101307-128	S64-2A-12"
101307-129	S65-2A-6"
101307-130	S65-2A-12"
101307-131	S66-2A-6"
101307-132	S66-2A-12"
101307-133	S67-2A-6"
101307-134	S67-2A-12"
101307-135	S68-2A-6"
101307-136	S68-2A-12"
101307-137	S69-2A-6"
101307-138	S69-2A-12"
101307-139	S70-2A-6"
101307-140	S70-2A-12"
101307-141	S71-2C-6"
101307-142	S71-2C-12"
101307-143	S72-2C-6"
101307-144	S72-2C-12"
101307-145	S73-2C-6"
101307-146	S73-2C-12"
101307-147	S74-2C-6"
101307-148	S74-2C-12"
101307-149	S75-2C-6"
101307-150	S75-2C-12"
101307-151	S76-2C-6"
101307-152	S76-2C-12"
101307-153	S77-2C-6"
101307-154	S77-2C-12"
101307-155	S78-2C-6"
101307-156	S78-2C-12"
101307-157	S79-2C-6"
101307-158	S79-2C-12"
101307-159	S80-2C-6"
101307-160	S80-2C-12"
101307-161	S81-2G-6"
101307-162	S81-2G-12"
101307-163	S82-2G-6"
101307-164	S82-2G-12"
101307-165	S83-2G-6"

CASE NARRATIVE (continued)

Laboratory ID	Environmental Management Services, LLC
101307-166	S83-2G-12"
101307-167	S84-2G-6"
101307-168	S84-2G-12"
101307-169	S85-2G-6"
101307-170	S85-2G-12"
101307-171	S86-2G-6"
101307-172	S86-2G-12"
101307-173	S87-2G-6"
101307-174	S87-2G-12"
101307-175	S88-2G-6"
101307-176	S88-2G-12"
101307-177	S89-2G-6"
101307-178	S89-2G-12"
101307-179	S90-2G-6"
101307-180	S90-2G-12"

All quality control requirements were acceptable.

Analysis For Total Metals By EPA Method 200.8

Client ID:	S1-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-01
Date Analyzed:	02/02/11	Data File:	101307-01.013
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	79.1

Analysis For Total Metals By EPA Method 200.8

Client ID:	S2-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-03
Date Analyzed:	02/02/11	Data File:	101307-03.014
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	92.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S3-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-05
Date Analyzed:	02/02/11	Data File:	101307-05.015
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	104

Analysis For Total Metals By EPA Method 200.8

Client ID:	S4-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-07
Date Analyzed:	02/02/11	Data File:	101307-07.016
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	190

Analysis For Total Metals By EPA Method 200.8

Client ID:	S5-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-09
Date Analyzed:	02/02/11	Data File:	101307-09.017
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	29.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	S6-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-11
Date Analyzed:	02/02/11	Data File:	101307-11.019
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	83.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	S7-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-13
Date Analyzed:	02/02/11	Data File:	101307-13.020
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	253

Analysis For Total Metals By EPA Method 200.8

Client ID:	S8-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-15
Date Analyzed:	02/02/11	Data File:	101307-15.021
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	82	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	42.9

Analysis For Total Metals By EPA Method 200.8

Client ID:	S9-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-17
Date Analyzed:	02/02/11	Data File:	101307-17.022
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	157

Analysis For Total Metals By EPA Method 200.8

Client ID:	S10-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-19
Date Analyzed:	02/02/11	Data File:	101307-19.023
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	66.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S11-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-21
Date Analyzed:	02/02/11	Data File:	101307-21.024
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	43.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S12-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-23
Date Analyzed:	02/02/11	Data File:	101307-23.025
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	102

Analysis For Total Metals By EPA Method 200.8

Client ID:	S13-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-25
Date Analyzed:	02/02/11	Data File:	101307-25.026
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	52.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S14-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-27
Date Analyzed:	02/02/11	Data File:	101307-27.027
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	53.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	S15-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-29
Date Analyzed:	02/02/11	Data File:	101307-29.029
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	55.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S16-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-31
Date Analyzed:	02/02/11	Data File:	101307-31.030
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	231

Analysis For Total Metals By EPA Method 200.8

Client ID:	S17-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-33
Date Analyzed:	02/02/11	Data File:	101307-33.031
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	60.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S18-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-35
Date Analyzed:	02/02/11	Data File:	101307-35.010
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	66.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S19-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-37
Date Analyzed:	02/02/11	Data File:	101307-37.032
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	59.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S20-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-39
Date Analyzed:	02/02/11	Data File:	101307-39.033
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	8.50

Analysis For Total Metals By EPA Method 200.8

Client ID:	S21-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-41
Date Analyzed:	02/02/11	Data File:	101307-41.040
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	85	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	62.1

Analysis For Total Metals By EPA Method 200.8

Client ID:	S22-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-43
Date Analyzed:	02/02/11	Data File:	101307-43.041
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	59.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S23-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-45
Date Analyzed:	02/02/11	Data File:	101307-45.042
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	77.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S24-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-47
Date Analyzed:	02/02/11	Data File:	101307-47.043
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	29.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S25-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-49
Date Analyzed:	02/02/11	Data File:	101307-49.044
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	43.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S26-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-51
Date Analyzed:	02/02/11	Data File:	101307-51.045
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	79	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	52.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S27-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-53
Date Analyzed:	02/02/11	Data File:	101307-53.046
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	47.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S28-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-55
Date Analyzed:	02/02/11	Data File:	101307-55.047
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	11.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S29-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-57
Date Analyzed:	02/02/11	Data File:	101307-57.048
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	37.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S30-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-59
Date Analyzed:	02/02/11	Data File:	101307-59.050
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	27.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S31-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-61
Date Analyzed:	02/02/11	Data File:	101307-61.051
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	33.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S32-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-63
Date Analyzed:	02/02/11	Data File:	101307-63.052
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	23.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	S33-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-65
Date Analyzed:	02/02/11	Data File:	101307-65.036
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	46.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	S34-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-67
Date Analyzed:	02/02/11	Data File:	101307-67.053
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	41.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S35-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-69
Date Analyzed:	02/02/11	Data File:	101307-69.054
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	84.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	S36-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-71
Date Analyzed:	02/02/11	Data File:	101307-71.055
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	86	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	28.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S37-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-73
Date Analyzed:	02/02/11	Data File:	101307-73.056
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	23.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S38-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-75
Date Analyzed:	02/02/11	Data File:	101307-75.057
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	42.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S39-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-77
Date Analyzed:	02/02/11	Data File:	101307-77.058
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	55.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S40-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-79
Date Analyzed:	02/02/11	Data File:	101307-79.059
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	37.9

Analysis For Total Metals By EPA Method 200.8

Client ID:	S41-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-81
Date Analyzed:	02/02/11	Data File:	101307-81.066
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	117

Analysis For Total Metals By EPA Method 200.8

Client ID:	S42-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-83
Date Analyzed:	02/02/11	Data File:	101307-83.067
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	20.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	S43-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-85
Date Analyzed:	02/02/11	Data File:	101307-85.063
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	29.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S44-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-87
Date Analyzed:	02/02/11	Data File:	101307-87.068
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	33.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	S45-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-89
Date Analyzed:	02/02/11	Data File:	101307-89.069
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	33.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S46-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-91
Date Analyzed:	02/02/11	Data File:	101307-91.071
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	23.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S47-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-93
Date Analyzed:	02/02/11	Data File:	101307-93.072
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	86	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	31.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S48-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-95
Date Analyzed:	02/02/11	Data File:	101307-95.073
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	30.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S49-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-97
Date Analyzed:	02/02/11	Data File:	101307-97.074
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	49.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	S50-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-99
Date Analyzed:	02/02/11	Data File:	101307-99.075
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	14.9

Analysis For Total Metals By EPA Method 200.8

Client ID:	S51-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-101
Date Analyzed:	02/02/11	Data File:	101307-101.076
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	63.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	S52-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-103
Date Analyzed:	02/02/11	Data File:	101307-103.077
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	20.1

Analysis For Total Metals By EPA Method 200.8

Client ID:	S53-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-105
Date Analyzed:	02/02/11	Data File:	101307-105.078
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	25.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S54-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-107
Date Analyzed:	02/02/11	Data File:	101307-107.079
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	18.1

Analysis For Total Metals By EPA Method 200.8

Client ID:	S55-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-109
Date Analyzed:	02/02/11	Data File:	101307-109.081
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	38.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	S56-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-111
Date Analyzed:	02/02/11	Data File:	101307-111.082
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	43.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S57-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-113
Date Analyzed:	02/02/11	Data File:	101307-113.083
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	120

Analysis For Total Metals By EPA Method 200.8

Client ID:	S58-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-115
Date Analyzed:	02/02/11	Data File:	101307-115.084
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	61.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S59-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-117
Date Analyzed:	02/02/11	Data File:	101307-117.085
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	37.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	S60-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-119
Date Analyzed:	02/02/11	Data File:	101307-119.086
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	253

Analysis For Total Metals By EPA Method 200.8

Client ID:	S61-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-121
Date Analyzed:	02/03/11	Data File:	101307-121.041
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	138

Analysis For Total Metals By EPA Method 200.8

Client ID:	S62-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-123
Date Analyzed:	02/03/11	Data File:	101307-123.042
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	119

Analysis For Total Metals By EPA Method 200.8

Client ID:	S63-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-125
Date Analyzed:	02/03/11	Data File:	101307-125.044
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	33.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S64-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-127
Date Analyzed:	02/03/11	Data File:	101307-127.045
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	58.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S65-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-129
Date Analyzed:	02/03/11	Data File:	101307-129.046
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	173

Analysis For Total Metals By EPA Method 200.8

Client ID:	S66-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-131
Date Analyzed:	02/03/11	Data File:	101307-131.047
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	86	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	240

Analysis For Total Metals By EPA Method 200.8

Client ID:	S67-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-133
Date Analyzed:	02/03/11	Data File:	101307-133.048
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	52.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S68-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-135
Date Analyzed:	02/03/11	Data File:	101307-135.038
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	13.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S69-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-137
Date Analyzed:	02/03/11	Data File:	101307-137.049
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	94	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	245

Analysis For Total Metals By EPA Method 200.8

Client ID:	S70-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-139
Date Analyzed:	02/03/11	Data File:	101307-139.050
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	88.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S71-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-141
Date Analyzed:	02/03/11	Data File:	101307-141.051
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	56.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S72-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-143
Date Analyzed:	02/03/11	Data File:	101307-143.053
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	46.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S73-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-145
Date Analyzed:	02/03/11	Data File:	101307-145.054
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	17.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	S74-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-147
Date Analyzed:	02/03/11	Data File:	101307-147.055
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	96	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	182

Analysis For Total Metals By EPA Method 200.8

Client ID:	S75-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-149
Date Analyzed:	02/03/11	Data File:	101307-149.056
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	53.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S76-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-151
Date Analyzed:	02/03/11	Data File:	101307-151.057
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	94.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S77-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-153
Date Analyzed:	02/03/11	Data File:	101307-153.058
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	58.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S78-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-155
Date Analyzed:	02/03/11	Data File:	101307-155.059
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	179

Analysis For Total Metals By EPA Method 200.8

Client ID:	S79-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-157
Date Analyzed:	02/03/11	Data File:	101307-157.060
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	50.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S80-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-159
Date Analyzed:	02/03/11	Data File:	101307-159.061
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	50.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S81-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-161
Date Analyzed:	02/03/11	Data File:	101307-161.077
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	77.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S82-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-163
Date Analyzed:	02/03/11	Data File:	101307-163.023
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	37.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S83-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-165
Date Analyzed:	02/03/11	Data File:	101307-165.024
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	95	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	28.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S84-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-167
Date Analyzed:	02/03/11	Data File:	101307-167.025
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	94	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	73.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	S85-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-169
Date Analyzed:	02/03/11	Data File:	101307-169.026
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	47.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S86-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-171
Date Analyzed:	02/03/11	Data File:	101307-171.028
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	134

Analysis For Total Metals By EPA Method 200.8

Client ID:	S87-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-173
Date Analyzed:	02/03/11	Data File:	101307-173.029
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	96	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	126

Analysis For Total Metals By EPA Method 200.8

Client ID:	S88-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-175
Date Analyzed:	02/03/11	Data File:	101307-175.030
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	94	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	9.75

Analysis For Total Metals By EPA Method 200.8

Client ID:	S89-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-177
Date Analyzed:	02/03/11	Data File:	101307-177.031
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	74.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S90-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-179
Date Analyzed:	02/03/11	Data File:	101307-179.032
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	44.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Environmental Management Services
Date Received:	Not Applicable	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	I1-69 mb
Date Analyzed:	02/02/11	Data File:	I1-69 mb.008
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Environmental Management Services
Date Received:	Not Applicable	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	I1-71 mb
Date Analyzed:	02/02/11	Data File:	I1-71 mb.034
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	83	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Environmental Management Services
Date Received:	Not Applicable	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	I1-72 mb
Date Analyzed:	02/02/11	Data File:	I1-72 mb.061
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Environmental Management Services
Date Received:	Not Applicable	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	I1-73 mb
Date Analyzed:	02/03/11 12:45:50	Data File:	I1-73 mb.036
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Environmental Management Services	
Date Received:	Not Applicable	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	I1-75 mb
Date Analyzed:	02/03/11 10:47:51	Data File:	I1-75 mb.008
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	95	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Date of Report: 02/07/11
Date Received: 01/31/11
Project: Highland 20, LLC-0393-01, F&BI 101307

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 101307-35 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	66.5	123 b	197 b	44-151	46 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	103	80-120

Date of Report: 02/07/11
Date Received: 01/31/11
Project: Highland 20, LLC-0393-01, F&BI 101307

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 101307-65 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	46.3	103 b	147 b	44-151	35 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	101	80-120

Date of Report: 02/07/11
Date Received: 01/31/11
Project: Highland 20, LLC-0393-01, F&BI 101307

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 101307-85 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	29.5	102 b	112 b	44-151	9 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	98	80-120

Date of Report: 02/07/11
Date Received: 01/31/11
Project: Highland 20, LLC-0393-01, F&BI 101307

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 101307-135 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	13.2	107 b	131 b	44-151	20 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	101	80-120

Date of Report: 02/07/11
Date Received: 01/31/11
Project: Highland 20, LLC-0393-01, F&BI 101307

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 101302-11 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	2.03	93 b	100 b	44-151	7 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	100	80-120

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.

A1 – More than one compound of similar molecule structure was identified with equal probability.

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 this range fell outside of acceptance criteria. The value reported is an estimate.

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

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc – The compound is a common laboratory and field contaminant.

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

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. 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 analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is 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 compound indicated 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 in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

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.

101307

SAMPLE CHAIN OF CUSTODY ME 01/31/11

BTC

Page # 1 of 18

Send Report To Steve Spencer

Company Environmental Management Services, LLC

Address 7006 27th Street W, Suite E

City, State, ZIP Tacoma, WA 98466

Phone # (253) 921-7059 Fax # (253) – 369-6228

SAMPLERS *(signature)*

PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S1-A1-6"	01	1/31		So. 1	1							X						Run
S1-A1-12"	02	"		"	"							"						Hold
S2-A1-6"	03	"		"	"							"						Run
S2-A1-12"	04	"		"	"							"						Hold
S3-A1-6"	05	"		"	"							"						Run
S3-A1-12"	06	"		"	"							"						Hold
S4-A1-6"	07	"		"	"							"						Run
S4-A1-12"	08	"		"	"							"						Hold
S5-A1-6"	09	"		"	"							"						Run
S5-A1-12"	10	"		"	"							"						Hold

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

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	FDB	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

101307

SAMPLE CHAIN OF CUSTODY ME 01/31/11

BIG

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Send Report To Steve Spencer

Company Environmental Management Services, LLC

Address 7006 27th Street W, Suite E

City, State, ZIP Tacoma, WA 98466

Phone # (253) 921-7059 Fax # (253) – 369-6228

SAMPLERS *(signature)*

PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S6-A1-6"	11	1/31		Soil	1							✓						Run
S6-A1-12"	12	↓		↓	↓													Hold
S7-A1-6"	13																	Run
S7-A1-12"	14																	Hold
S8-A1-6"	15																	Run
S8-A1-12"	16																	Hold
S9-A1-6"	17																	Run
S9-A1-12"	18																	Hold
S10-A1-6"	19																	Run
S10-A1-12"	20	↓		↓	↓							↓						Hold

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3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

101307

SAMPLE CHAIN OF CUSTODY ME 01/31/11

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Send Report To Steve Spencer

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Phone # (253) 921-7059 Fax # (253) – 369-6228

SAMPLERS *(signature)*

PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME

Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	As Sb Hg						Notes
S11-1B-6"	21	1/31		Soil	1							↓						Run
S11-1B-12"	22	↓		↓	↓													Hold
S12-1B-6"	23																	Run
S12-1B-12"	24																	Hold
S13-1B-6"	25																	Run
S13-1B-12"	26																	Hold
S14-1B-6"	27																	Run
S14-1B-12"	28																	Hold
S15-1B-6"	29																	Run
S15-1B-12"	30	↓		↓	↓							↓						Hold

Friedman & Bruya, Inc.
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Seattle, WA 98119-2029
Ph. (206) 285-8282
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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	FB	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

101307

SAMPLE CHAIN OF CUSTODY

ME 01/31/11

BIY 18

Page # 4 of

Send Report To Steve Spencer

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SAMPLERS *(signature)*

PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S16-1B-6"	31	1/31		Soil	1							1						Run
S16-1B-12"	32	"		"	"							"						Hold
S17-1B-6"	33	"		"	"							"						Run
S17-1B-12"	34	"		"	"							"						Hold
S18-1B-6"	35	"		"	"							"						Run
S18-1B-12"	36	"		"	"							"						Hold
S19-1B-6"	37	"		"	"							"						Run
S19-1B-12"	38	"		"	"							"						Hold
S20-1B-6"	39	"		"	"							"						Run
S20-1B-12"	40	"		"	"							"						Hold

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3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

101307

SAMPLE CHAIN OF CUSTODY ME 01/31/11

Send Report To Steve Spencer

Company Environmental Management Services, LLC

Address 7006 27th Street W, Suite E

City, State, ZIP Tacoma, WA 98466

Phone # (253) 921-7059 Fax # (253) – 369-6228

SAMPLERS *(signature)*

PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S21-2F-6"	41	1/31		Soil	1													Run
S21-2F-12"	42																	hold
S22-2F-6"	43																	Run
S22-2F-12"	44																	hold
S23-2F-6"	45																	Run
S23-2F-12"	46																	hold
S24-2F-6"	47																	Run
S24-2F-12"	48																	hold
S25-2F-6"	49																	Run
S25-2F-12"	50																	hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

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PROJECT NAME/NO. Highland 20, LLC – 0393-01

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REMARKS

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TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
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Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S26-2F-6"	51	1/31		Soil	1													Run
S26-2F-12"	52																	Hold
S27-2F-6"	53																	Run
S27-2F-12"	54																	hold
S28-2F-6"	55																	Run
S28-2F-12"	56																	hold
S29-2F-6"	57																	Run
S29-2F-12"	58																	hold
S30-2F-6"	59																	Run
S30-2F-12"	60	↓		↓	↓							↓						hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
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REMARKS

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TURNAROUND TIME

Standard (2 Weeks) BT4

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S31-2E-6"	61	1/31		Soil	1													Run
S31-2E-12"	62																	hold
S32-2E-6"	63																	Run
S32-2E-12"	64																	hold
S33-2E-6"	65																	Run
S33-2E-12"	66																	hold
S34-2E-6"	67																	Run
S34-2E-12"	68																	hold
S35-2E-6"	69																	Run
S35-2E-12"	70	↓		↓	↓							↓						hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

BTY 30/18

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TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S36 - 2E - 6"	71	1/31		Soil	1													Run
S36 - 2E - 12"	72	"		"	"													hold
S37 - 2E - 6"	73	"		"	"													Run
S37 - 2E - 12"	74	"		"	"													hold
S38 - 2E - 6"	75	"		"	"													Run
S38 - 2E - 12"	76	"		"	"													hold
S39 - 2E - 6"	77	"		"	"													Run
S39 - 2E - 12"	78	"		"	"													hold
S40 - 2E - 6"	79	"		"	"													Run
S40 - 2E - 12"	80	"		"	"													hold

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Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

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TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S41-2D-6"	81	1/31		Soil	1													Run
S41-2D-12"	82	"		"	"													hold
S42-2D-6"	83	"		"	"													Run
S42-2D-12"	84	"		"	"													hold
S43-2D-6"	85	"		"	"													Run
S43-2D-12"	86	"		"	"													hold
S49-2D-6"	87	"		"	"													Run
S49-2D-12"	88	"		"	"													hold
S45-2D-6"	89	"		"	"													Run
S45-2D-12"	90	"		"	"													hold

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Relinquished by:		Stetton Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

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TURNAROUND TIME

Standard (2 Weeks) BTEX

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S46-2D-6"	91	1/31		Soil	1													Run
S46-2D-12"	92																	hold
S47-2D-6"	93																	Run
S47-2D-12"	94																	hold
S48-2D-6"	95																	Run
S48-2D-12"	96																	hold
S49-2D-6"	97																	Run
S49-2D-12"	98																	hold
S50-2D-6"	99																	Run
S50-2D-12"	100																	hold

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Relinquished by:		Steven Spencer	EMS	1/31	10:30
Received by:		Kurt Johnsen	FSB	1/31	10:30
Relinquished by:					
Received by:			Samples received at	17 °C	

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SAMPLE CHAIN OF CUSTODY

ME 01/31/11

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TURNAROUND TIME
Standard (2 Weeks)
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S51-2B-6"	101	1/31		Soil	1							↓						Run
S51-2B-12"	102	↓		↓	↓							↓						hold
S52-2B-6"	103	↓		↓	↓							↓						Run
S52-2B-12"	104	↓		↓	↓							↓						hold
S53-2B-6"	105	↓		↓	↓							↓						Run
S53-2B-12"	106	↓		↓	↓							↓						hold
S54-2B-6"	107	↓		↓	↓							↓						Run
S54-2B-12"	108	↓		↓	↓							↓						hold
S55-2B-6"	109	↓		↓	↓							↓						Run
S55-2B-12"	110	↓		↓	↓							↓						hold

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SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Stephen Spencer	EMS	1/31	10:30
Received by:	Kurt Johnson	F&B	1/31	10:30
Relinquished by:				
Received by:		Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

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REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME

Standard (2 Weeks) BT4

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S56-2B-6"	111	1/31		Soil	1													Run
S56-2B-12"	112																	hold
S57-2B-6"	113																	Run
S57-2B-12"	114																	hold
S56-2B-6"	115																	Run
S58-2B-12"	116																	hold
S59-2B-6"	117																	Run
S59-2B-12"	118																	hold
S60-2B-6"	119																	Run
S60-2B-12"	120																	hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spruck	EMS	1/31	1030
Received by:					
Relinquished by:					
Received by:					

Samples received at 17 °C

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

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REMARKS

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TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S61-2A-6"	121	1/31		Soil	1													Run
S61-2A-12"	122																	hold
S62-2A-6"	123																	Run
S62-2A-12"	124																	hold
S63-2A-6"	125																	Run
S63-2A-12"	126																	hold
S64-2A-6"	127																	Run
S64-2A-12"	128																	hold
S65-2A-6"	129																	Run
S65-2A-12"	130																	hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 4 °C		

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SAMPLE CHAIN OF CUSTODY

ME 01/31/11

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TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
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Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S66-2A-6"	131	1/31		Soil	1													Run
S66-2A-12"	132	"		"	"													hold
S67-2A-6"	133																	Run
S67-2A-12"	134																	hold
S68-2A-6"	135																	Run
S68-2A-12"	136																	hold
S69-2A-6"	137																	Run
S69-2A-12"	138																	hold
S70-2A-6"	139																	Run
S70-2A-12"	140																	hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Steven Spencer	EMS	1/31	17:30
Received by:		Kurt Johnson	FBB	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

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TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S71-2C-6"	141	1/31		Soil	1													Run
S71-2C-12"	142																	hold
S72-2C-6"	143																	Run
S72-2C-12"	144																	hold
S73-2C-6"	145																	Run
S73-2C-12"	146																	hold
S74-2C-6"	147																	Run
S74-2C-12"	148																	hold
S75-2C-6"	149																	Run
S75-2C-12"	150																	hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY NE 01/31/11

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TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S76-2C-6"	151	1/31		Soil	1													Run
S76-2C-12"	152																	hold
S77-2C-6"	153																	Run
S77-2C-12"	154																	hold
S78-2C-6"	155																	Run
S78-2C-12"	156																	hold
S79-2C-6"	157																	Run
S79-2C-12"	158																	hold
S80-2C-6"	159																	Run
S80-2C-12"	160																	hold

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Relinquished by:		STEPHEN SPENCER	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at	17 °C	

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Standard (2 Weeks)

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SAMPLE DISPOSAL
Dispose after 30 days
Return samples
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Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic					Notes
SB1-2G-6"	161	1/31		Soil	1												Run
SB1-2G-12"	162																hold
SB2-2G-6"	163																Run
SB2-2G-12"	164																hold
SB3-2G-6"	165																Run
SB3-2G-12"	166																hold
SB4-2G-6"	167																Run
SB4-2G-12"	168																hold
SB5-2G-6"	169																Run
SB5-2G-12"	170																hold

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Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
SB6-2G-6'	171	1/31		Soil	1													Run
SB6-2G-12'	172																	hold
SB7-2G-6'	173																	Run
SB7-2G-12'	174																	hold
SB8-2G-6'	175																	Run
SB8-2G-12'	176																	hold
SB9-2G-6'	177																	Run
SB9-2G-12'	178																	hold
SB10-2G-6'	179																	Run
SB10-2G-12'	180																	hold

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

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		STEPHEN SPENCER	EMS	1/31	10:30
Received by:		Kurt Johnson	FSB	1/31	10:30
Relinquished by:					
Received by:			Samples received at 7 °C		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

September 20, 2011

Steve Spencer, Project Manager
EcoCon
1912 64th Ave
University Place, WA 98466

Dear Mr. Spencer:

Included are the additional results from the testing of material submitted on September 9, 2011 from the Highland Golf-2, F&BI 109118 project. There are 7 pages included in this report.

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
EMS0920R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 9, 2011 by Friedman & Bruya, Inc. from the EcoCon Highland Golf-2, F&BI 109118 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	EcoCon
109118-01	S61-22"-9811
109118-02	S62-24"-9811
109118-03	S63-24"-9811
109118-04	S64-24"-9811
109118-05	S65-24"-9811
109118-06	S66-24"-9811
109118-07	S67-24"-9811
109118-08	S68-24"-9811
109118-09	S69-24"-9811
109118-10	S70-24"-9811

All quality control requirements were acceptable.

Analysis For Total Metals By EPA Method 200.8

Client ID:	S62-24”-9811	Client:	EcoCon
Date Received:	09/09/11	Project:	Highland Golf-2
Date Extracted:	09/12/11	Lab ID:	109118-02
Date Analyzed:	09/12/11	Data File:	109118-02.013
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	105	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	28.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	S68-24”-9811	Client:	EcoCon
Date Received:	09/09/11	Project:	Highland Golf-2
Date Extracted:	09/12/11	Lab ID:	109118-08
Date Analyzed:	09/12/11	Data File:	109118-08.020
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	102	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	30.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	S70-24”-9811	Client:	EcoCon
Date Received:	09/09/11	Project:	Highland Golf-2
Date Extracted:	09/12/11	Lab ID:	109118-10
Date Analyzed:	09/12/11	Data File:	109118-10.022
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	105	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	116

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	EcoCon
Date Received:	Not Applicable	Project:	Highland Golf-2
Date Extracted:	09/12/11	Lab ID:	I1-633 mb
Date Analyzed:	09/12/11	Data File:	I1-633 mb.008
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	101	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	<1

Date of Report: 09/20/11
Date Received: 09/09/11
Project: Highland Golf-2, F&BI 109118

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 109118-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/kg (ppm)	50	8.18	104	102	65-126	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	50	104	81-120

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.

A1 – More than one compound of similar molecule structure was identified with equal probability.

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 this range fell outside of acceptance criteria. The value reported is an estimate.

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

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc – The compound is a common laboratory and field contaminant.

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

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. 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 analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is 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 compound indicated 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 in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

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.

109118

SAMPLE CHAIN OF CUSTODY ME 09/09/11

AI3

Page # 1 of 1

Send Report To Stephen Spencer
Company EC1
Address PO Box 153
City, State, ZIP Fox Island, WA
Phone # 2539217059 Fax # 2533696228

SAMPLERS (signature)
PROJECT NAME/NO. Highland Golf - 2
PO #
REMARKS ASAP - Results by 9/12 - 11AM

TURNAROUND TIME
☐ Standard (2 Weeks)
☒ RUSH ASAP -
Rush charges authorized by:

SAMPLE DISPOSAL
☒ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	As - Arsenic	Lead				Notes
S61-22"-9811	01	9/9		Soil	1							X					⊗ per SS 9/14/11 MK
S62-24"-9811	02	"		"	"							X	X				
S63-24"-9811	03	"		"	"							X					
S64-24"-9811	04	"		"	"							X					
S65-24"-9811	05	"		"	"							X					
S66-24"-9811	06	"		"	"							X					
S67-24"-9811	07	"		"	"							X					
S68-24"-9811	08	"		"	"							X	⊗				
S69-24"-9811	09	"		"	"							X					
S70-24"-9811	10	"		"	"							X	⊗				

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:		Stephen Spencer	EC1	9/9	9AM
Received by:		Eric Howe	F&B	9/9	9AM
Relinquished by:					
Received by:			Samples received at 25 °C		

Arsenic Contaminated Soil Corrective Action Plan (Revised)

1400 Highland Parkway
Tacoma, Washington

February 16, 2012

Completed For:

Highlands Twenty, LLC
Joe Foss, Managing Partner
1400 Highland Parkway
Tacoma, Washington

Matthew P. Loxterman
Sr. Environmental Scientist

Stephen M. Spencer
Principal Environmental Scientist

Prepared By:

ECI | Environmental Consulting.
PO Box 153
Tacoma, Washington 98333
(253) 238-9270

ECI Project No.: 0393-02

ECI | environmental services
www.ecocononline.com

Table of Contents

List of Attachments

Attachment A: Project Figures

- Figure 1: Site Location Map
- Figure 2: Site Topographic Map
- Figure 3: Site Map - Area
- Figure 4: Site Map – Lot 2A
- Figure 5: Site Map – Lot 2B
- Figure 6: Site Map – Lot 2C
- Figure 7: Site Map – Lot 2D

Attachment B: Previous Environmental Reports

- February 2011 Arsenic Investigation
- September 2011 Arsenic Investigation

1.0 Introduction

EcoCon, Inc. (ECI), at the request of Highland Twenty, LLC, has completed this Corrective Action Plan (CAP) following the identification of arsenic impacted soil on nine prospective building sites in Tacoma, Washington. These sites are located at 1400 Highland Parkway, Tacoma, Washington on Pierce County parcels 4467100700, 4467100660, 4467121270 and 4467121280. ECI understands that the current development plan has been changed to include only four of the original nine lots. The new development plan will include the removal of arsenic impacted soil from four future residential building sites located on two of parcels 4467121270 (lots 2A and 2B) and 4467121280 (lots 2D and 2E), use the impacted soil for improvements to the parent parcels, complete the re-plat separating the newly remediated lots from their original "parent" parcels and apply for a No Further Action Determination (NFA) for the newly remediated and platted lots from the Washington State Department of Ecology (Ecology).

1.1 Objectives

This CAP details the remediation activities selected to bring the four selected site(s) into general compliance with Washington State Model Toxics Control Act (MTCA) Cleanup Regulations (WAC 173-340) and obtain a "No Further Action" (NFA) determination from the Department of Ecology (Ecology).

The objective of this CAP is to evaluate and describe the remedial techniques selected to clean up contaminated site soils impacted by offsite historic actives at the Asarco Smelter located in Ruston, Washington.

1.2 Background

According to the Washington Department of Ecology (Ecology), the Site is located within the Tacoma Asarco Smelter Plume (Smelter Plume)[1]. The City of Tacoma has required that the subject Site(s) be assessed for arsenic and lead contamination related to the Smelter Plume. Ecology provides sampling guidelines that stipulate a minimum of ten (10) soil samples be collected per acre or building site at six inch increments.

The Site was historically naturally forested then developed into an 18-hole golf course in the 1930's. Using existing soil and imported soil, the golf course was landscaped. The golf course grounds have been routinely re-landscaped over the past 80 years, gradually reducing the original 18-holes to 9-holes and the construction of a residential community surrounding the golf course. The natural topography of the golf course and adjacent areas consists of a gently rolling landscape having a gross general downward slope to the west. With development and redevelopment of the area some of the rolling

[1] http://www.ecy.wa.gov/programs/tcp/sites/dirt_alert/studies_and_maps/sources.html

topography has been smoothed and some accentuated with the addition of roads, building sites, and fairways.

1.2 Site Geology

Based on test pit excavations completed during a geotechnical survey (Allen L. Hart Engineering Geologist – February 2011), below a layer of sod/topsoil, in non fill areas the site is generally underlain by approximately one to three feet of brown to tan, loose to medium dense, silty sand having a variable gravel content, which in turn is underlain by a tan-to gray, medium dense to very dense, silty sand with a varying gravel content (glacial till, Alderwood Group agricultural soils[2].)

2.0 Previous Investigations

Initial sampling completed in February 2011 identified Arsenic at concentration exceeding the 20 mg/kg MTCA-A CUL at 95% of the sample locations encompassing each of the original nine building sites extending from the surface to 6 inches bgs (Table 1 – Attached). A second sampling event conducted on Lot 2A (one of the original 9 lots) on September 9, 2011 included the collection of ten soil samples at 18 to 24 inches bgs. Of the 10 sample locations, three were reported exceeding the MTCA-A Arsenic CUL of 20 mg/kg. Total lead was analyzed on each of the three samples reported containing arsenic exceeding the applicable CUL. Total lead concentrations were reported below the 250 mg/kg MTCA-A CUL.

2.1 Regulatory Compliance

Regulatory compliance for this project is provided by the Washington State Department of Ecology (Ecology), Washington Administrative Code (WAC) 173-340, the Model Toxic Control Act (MTCA). Impacted soil investigations and remedial actions must meet the substantive requirements as specified in MTCA. The target point of compliance is meeting the Method A Soil Cleanup Levels for Unrestricted Land Uses – WAC 173-340-900 - Table 740-1. Specifically, the cleanup level for total arsenic (20 mg/kg) and total lead (250 mg/kg).

3.0 Site Remediation

Using excavation equipment the top 12 inches of soil will be excavated and transferred to a receiving area located approximately 200 feet away from the excavation area (Figure 2). Each lot is expected to contain 200 to 300 cubic yards of impacted soil. After the soil transfer, the receiving area will be landscaped into a tee box[3] or other golf course features (see “Contaminated Soil Stabilization - Tee Box & Landscaping” - below). Six millimeter plastic will be used to cover the soil until tee box / landscape construction is completed.

[2] http://www.dnr.wa.gov/ResearchScience/Topics/GeologyofWashington/Pages/lowland.aspx

[3] The "tee box" is just another term for teeing ground. The teeing ground is the starting point on each hole of a golf course. It's the area covered by the space in-between two tee markers and two-club-lengths back from the tee markers.

Following the removal of the initial 12 inches of soil, samples will be collected at 10 select locations and analyzed for arsenic and lead. Sample results will be expedited to assist in any additional excavation beyond 12 inches bgs. This process will be repeated every 12 inches until sample results are reported below applicable CULs. Based on previous sampling events (September 2011) and subsurface geology, specifically glacial till (till) formations identified in the 2011 geotechnical survey (Allen L. Hart Engineering – 2011) impacted soil is not expected to extend below 36 inches bgs.

3.1 Sample Collection & Analysis

Soil samples will be collected following each 12 inch excavation activity. Each sample will be collected by a properly trained environmental professional using industry standard sampling techniques. At each of the ten sample locations, a discrete sample will be collected extending approximately 6 inches below existing grade using properly decontaminated sampling equipment and donning disposable personal protective equipment (e.g. nitrile gloves, eye protection). One new 4-ounce laboratory provided sample jar with teflon lined lid will be filled, assigned a unique identification number and stored in a climate controlled container maintained at 4° Celsius. Following sample collection, the samples will be delivered to a properly accredited laboratory under industry standard Chain of Custody. Each sample will be analyzed for arsenic and lead by EPA Method 200.8.

3.2 Contaminated Soil Stabilization – Golf Course Landscaping

Soil transported from each of the remediation sites will be stockpiled / landscaped to allow for golf features construction following transfer activites. The landscaped surface (soil surface) will be graded and covered with plastic daily during import and landscape activites. Stormwater best management practices will be implemented as necessary, and as described in the City of Tacoma approved temporary erosion and sediment control (TESC) plan. Final grade will be landscaped and incorporated into existing golf course features and seeded per golf course specifications.

3.2 Health & Safety

A site specific health and safety plan will be completed addressing hazards associated with known contaminates, proposed excavation activities and outlining working conditions and worker exposure.

All site workers and inspectors conducting compliance inspections must have the following minimum training:

1. 40 hour Hazardous Waste Sites training as required by OSHA or
2. Certification showing completion of the annual Refresher for Hazardous Waste sites (8 hour), if applicable.

4.0 Site Closure Reporting – Voluntary Cleanup Program

Following excavation and confirmation sampling activities a report will be prepared detailing remediation activities, sampling activities and analytical results.

Each of the four sites will be entered separately into the Washington State Voluntary Cleanup Program (VCP) with the intent to receive a No Further Action (NFA) determination. Collaboration with Ecology both through the use of this work plan and continued communication, prior to, during and following corrective action activities is expected to meet all requirements outlined within the Washington Administrative Code (WAC) 173-340: Model Toxic Control Act (MTCA).

5.0 Conclusion

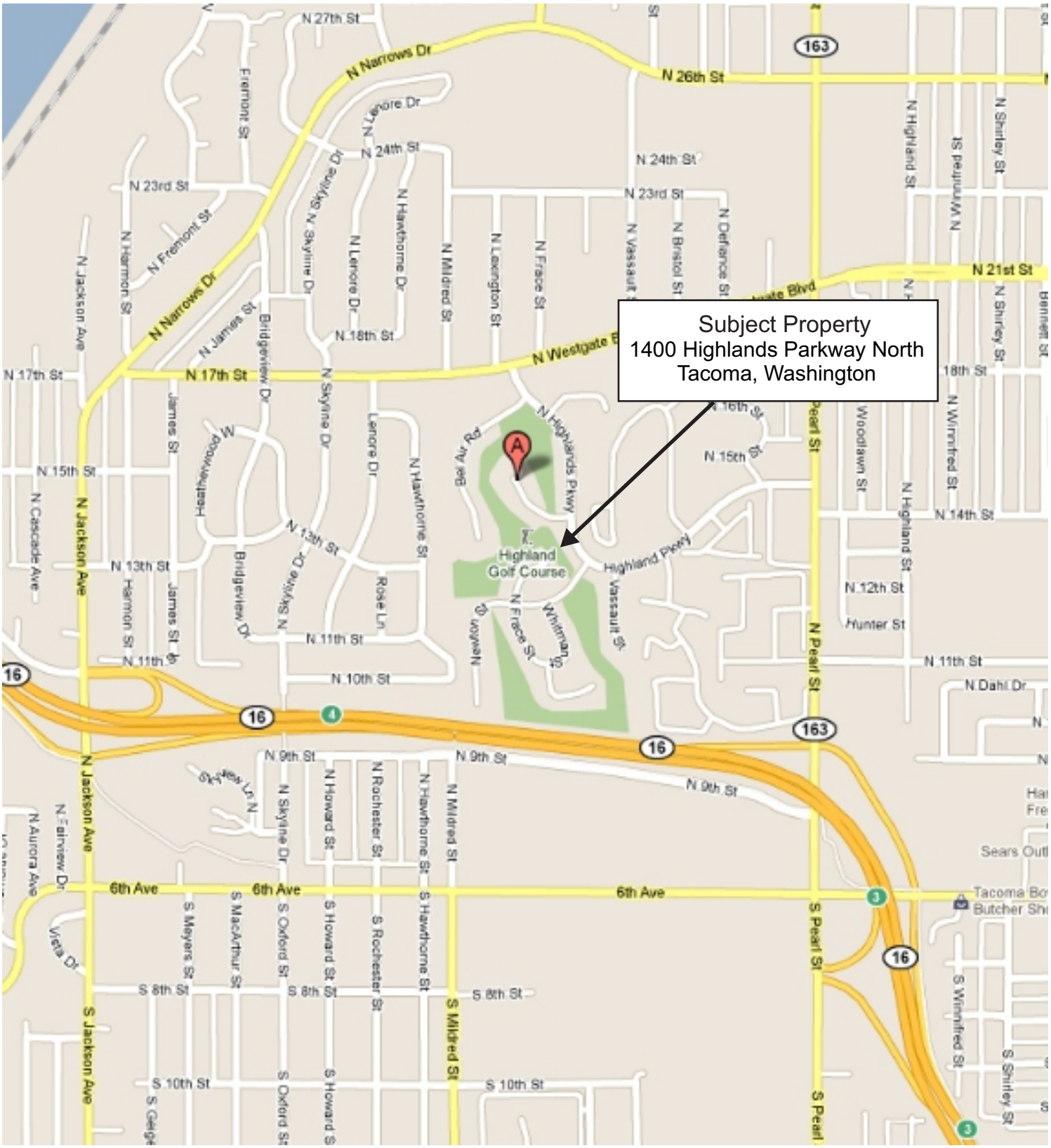
The purpose of this work plan is to provide corrective action guidelines during construction activities. As with all projects, the more information gathered in the planning stages, the less possibility of plan deviation or need for contingencies. As identified in the previous investigations, the top six inches of soil is impacted with arsenic exceeding the MTCA-A cleanup level of 20 mg/kg. What is not known is the vertical extent (depth) of impacted soil. Sample results from the September 2011 sampling event identified arsenic at 35% of sample locations at 18 to 24 inches bgs. Glacial till or "hard pan" was identified during the 2011 Geotechnical Assessment (Hart – 2011) at depths ranging from 12 to 36 inches bgs throughout the site(s). Total excavation depth is not expected to exceed 24 inches bgs except at a minimal number of locations on each Lot.

Specific activities with regard to the excavation and management of impacted soil and the installation of the final landscape will vary, however the intent remains constant, to remove impacted soil exceeding applicable cleanup levels, and apply for a No Further Action determination on each of the four newly subdivided lots.

Following construction, a summary report detailing the specific corrective action will be completed and submitted to Ecology, with a request for a No Further Action determination.

Attachment A

Project Figures



N
Not To Scale

Site Location Map
1400 Highlands Parkway North
Tacoma, Washington

Date:	January 17, 2012
Completed By:	M. Kennendy
Reviewed By.:	S.Spencer
Version:	ECI-002
Project No.:	0393-03

Figure No.:
01
Sheet 01 of 01

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Image courtesy of the U.S. Geological Survey

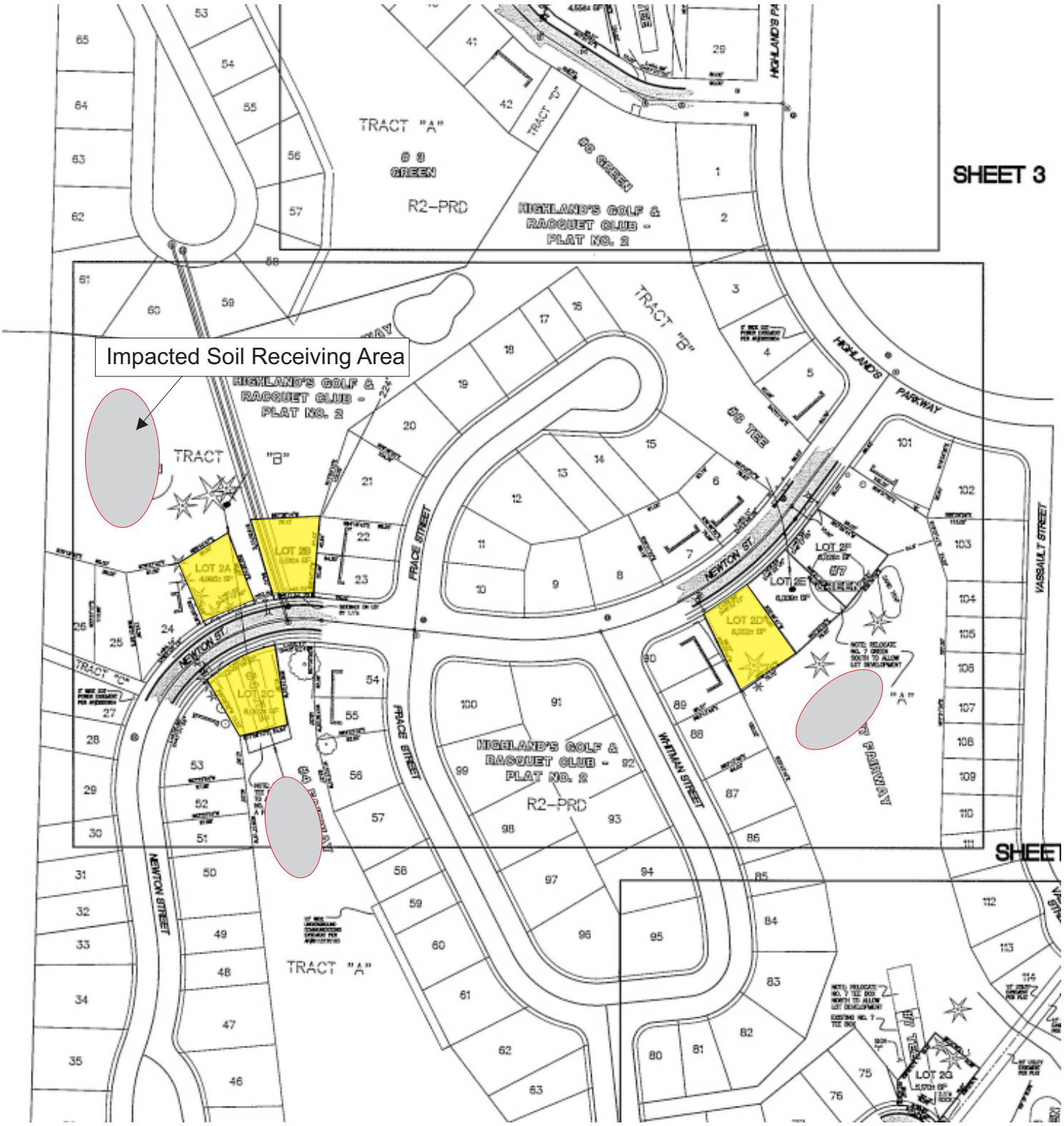
N
Not To Scale

Site Topographic Map
1400 Highlands Parkway North
Tacoma, Washington

Date:	January 17, 2012
Completed By:	M. Kennendy
Reviewed By.:	S.Spencer
Version:	ECI-002
Project No.:	0393-03

Figure No.: 02
Sheet 01 of 01

ECI environmental consulting
www.ecoconline.com



Lots to be remediated

Impacted soil receiving area

N

Not To Scale

Site Map
1400 Highlands Parkway North
Tacoma, Washington

Date:	January 17, 2012
Completed By:	M. Kennendy
Reviewed By.:	S.Spencer
Version:	ECI-002
Project No.:	0393-03

Figure No.: 03

Sheet 01 of 01

ECI environmental consulting
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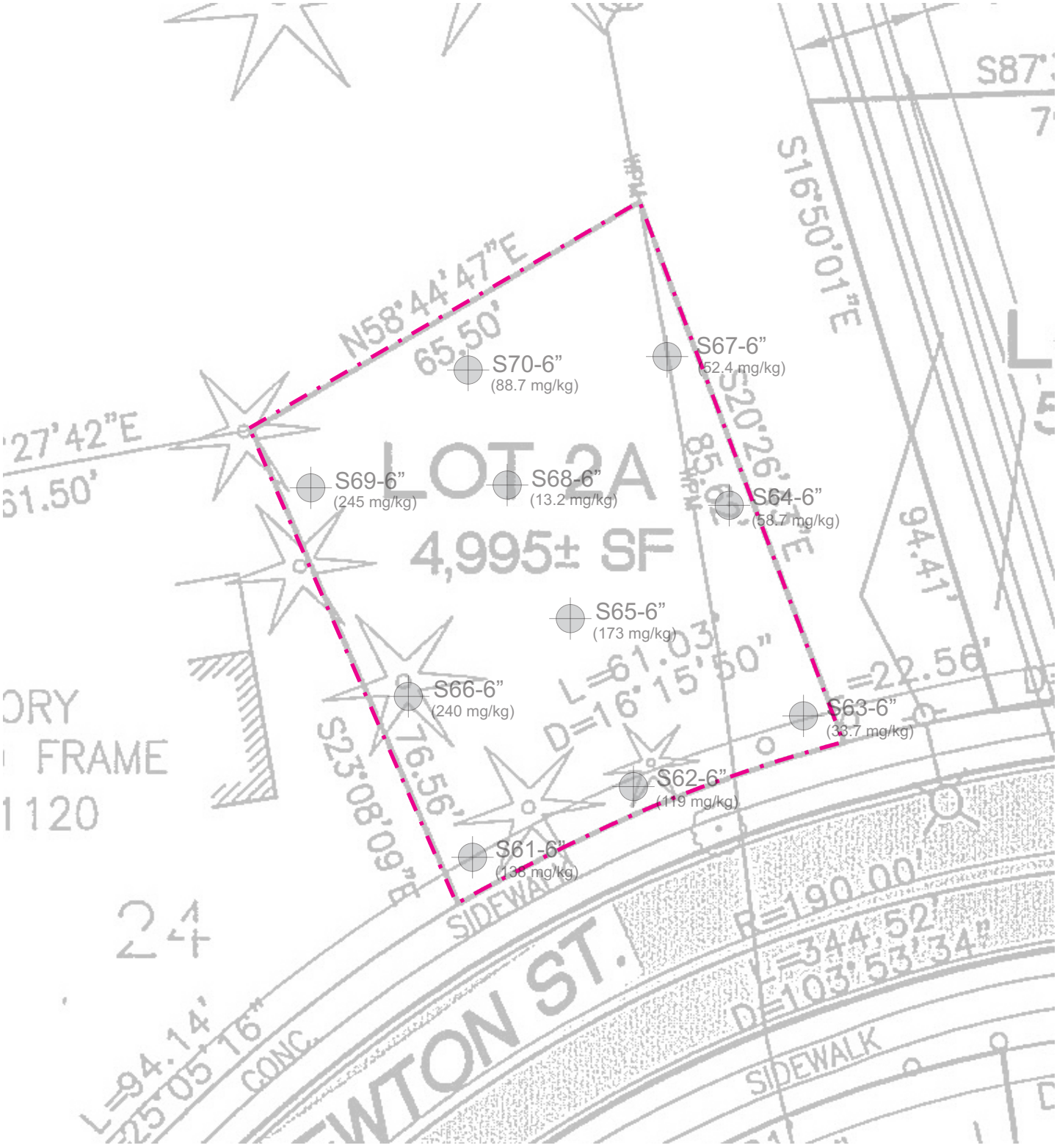

N
Not To Scale

Lot 2A
1400 Highlands Parkway North
Tacoma, Washington

Date:	January 17, 2012
Completed By:	M. Kennendy
Reviewed By.:	S.Spencer
Version:	ECI-002
Project No.:	0393-03

Figure No.: 04
Sheet 01 of 01

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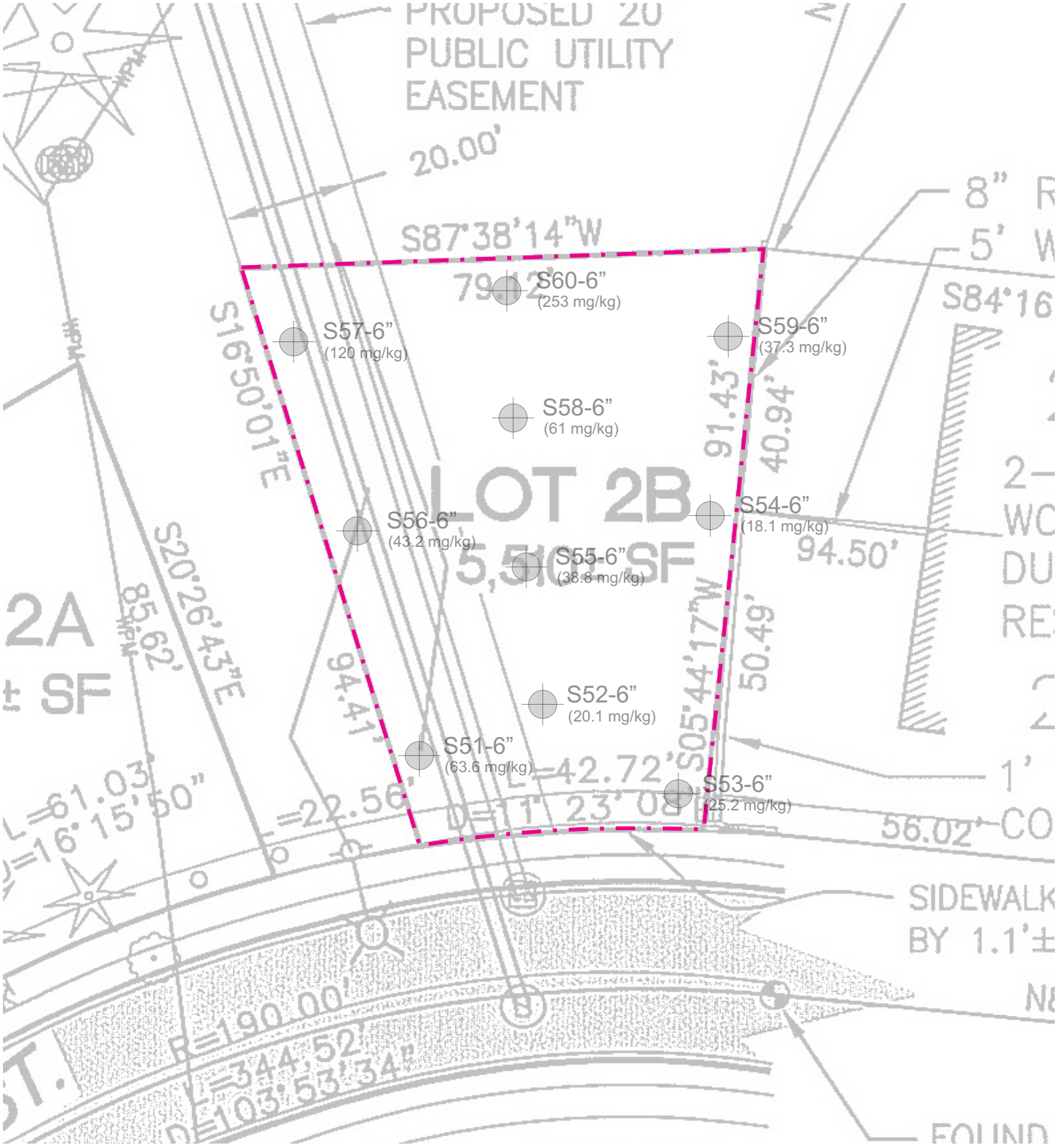

N
Not To Scale

Lot 2B
1400 Highlands Parkway North
Tacoma, Washington

Date:	January 17, 2012
Completed By:	M. Kennendy
Reviewed By.:	S.Spencer
Version:	ECI-002
Project No.:	0393-03

Figure No.: 05
Sheet 01 of 01

ECI environmental consulting
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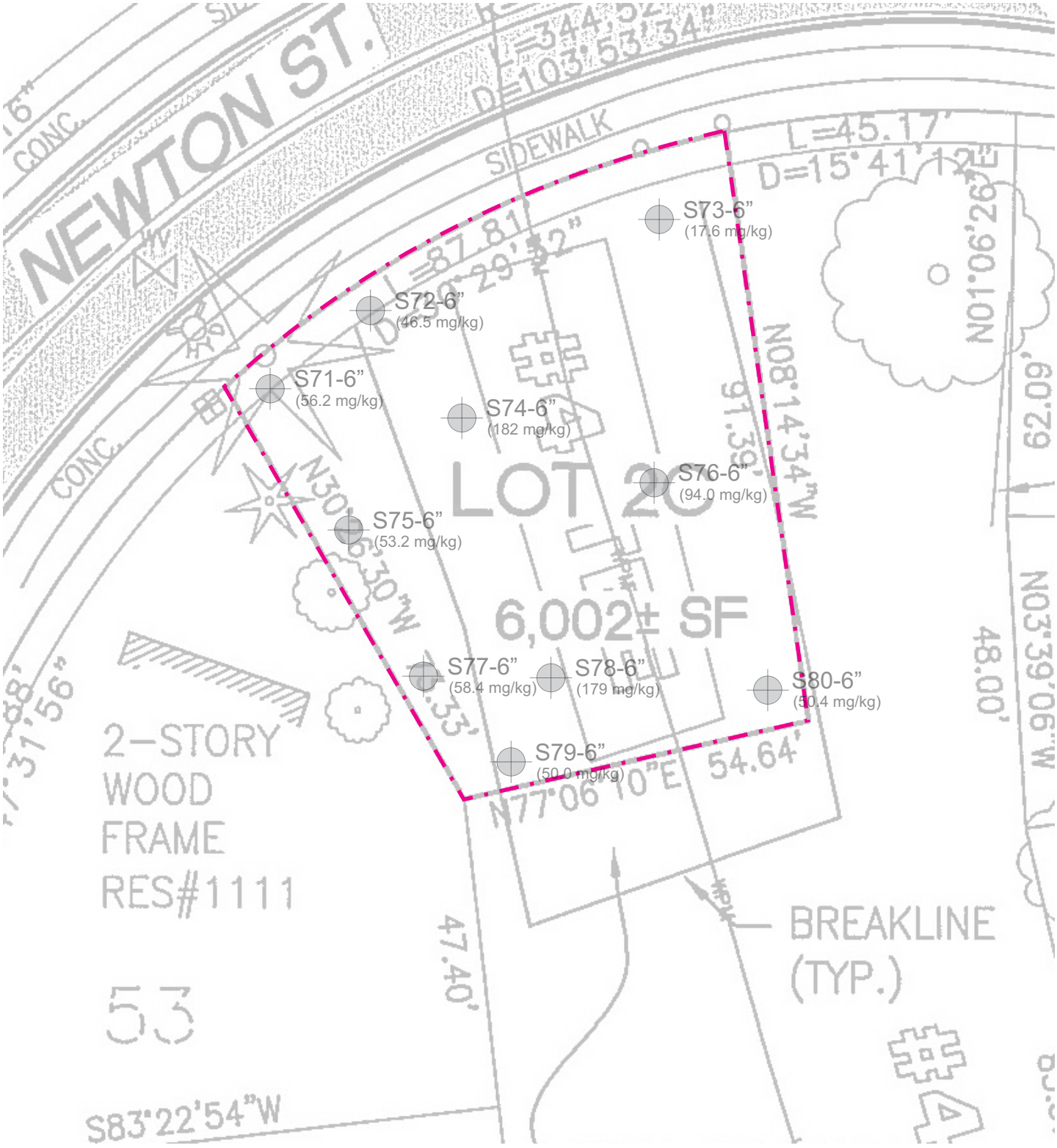

N
Not To Scale

Lot 2C
1400 Highlands Parkway North
Tacoma, Washington

Date:	January 17, 2012
Completed By:	M. Kennendy
Reviewed By.:	S.Spencer
Version:	ECI-002
Project No.:	0393-03

Figure No.: 06
Sheet 01 of 01

ECI environmental consulting
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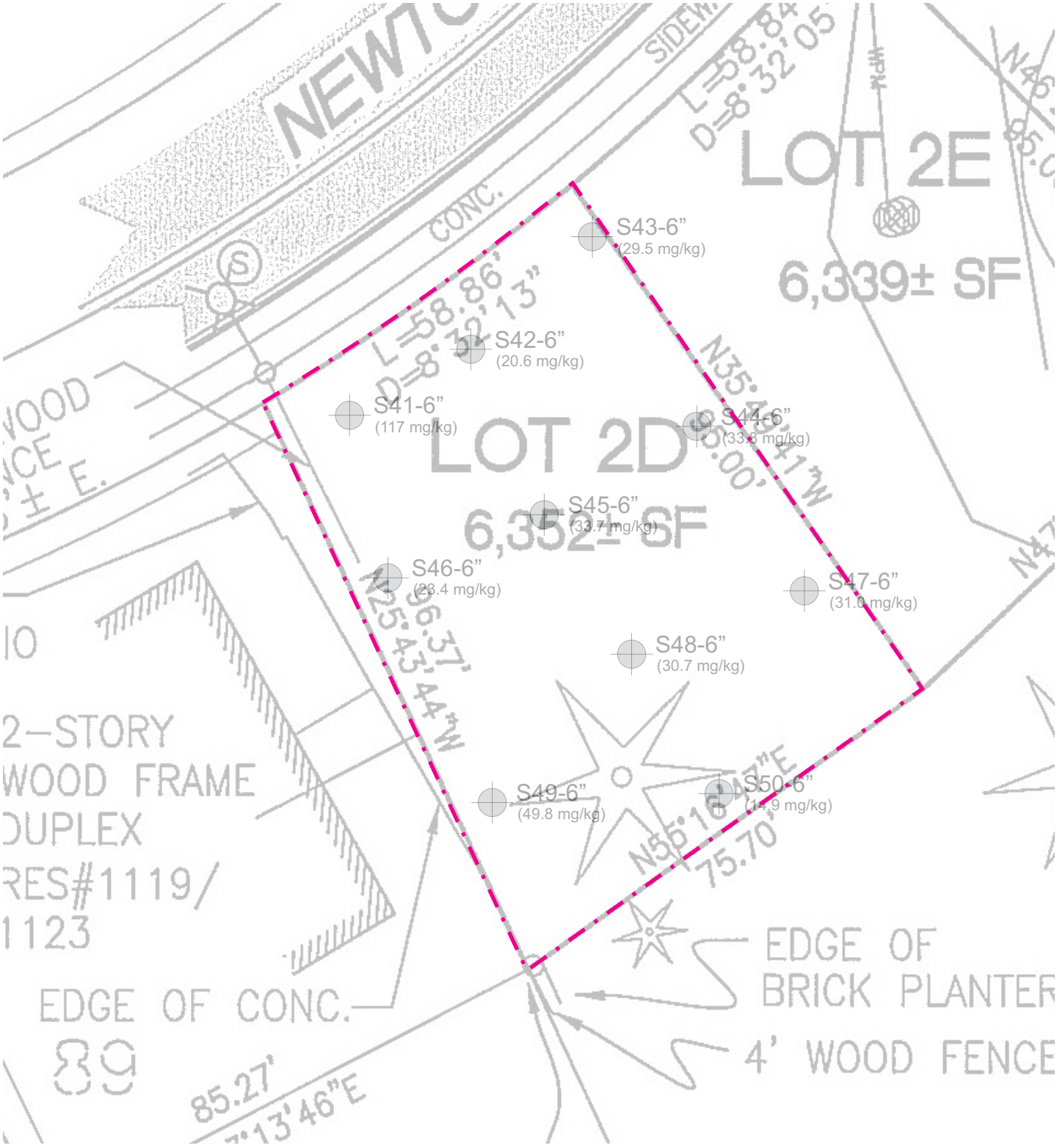

N
Not To Scale

Lot 2D
1400 Highlands Parkway North
Tacoma, Washington

Date:	January 17, 2012
Completed By:	M. Kennendy
Reviewed By.:	S.Spencer
Version:	ECI-002
Project No.:	0393-03

Figure No.:
07
Sheet 01 of 01

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Attachment B

Previous Environmental Reports

February 2011 Arsenic Investigation
September 2011 Arsenic Investigation

Attachment B
Previous Environmental Reports

February 11, 2011

Highlands Twenty, LLC
C/o Kevin Foley
Baseline Engineering
1910 64th Avenue
Fircrest, WA 98466

Re: Surface Soil Investigation
1400 Highland Parkway
Tacoma, Washington

Dear Mr. Foley:

Environmental Management Services, LLC (EMS), at the request of Highland Twenty, LLC, completed a focused, surface soil environmental investigation. This investigation was conducted on nine proposed residential building sites located on portions of Pierce County Parcels 4467100210, 4467100660, 4467121280, 4467121270 located in Tacoma Washington (Subject Properties – Figures 1-12).

According to the Washington Department of Ecology (Ecology), the Site is located within the Tacoma Asarco Smelter Plume (Smelter Plume)[1]. The City of Tacoma has required that, if the properties are to be developed, the Subject Properties will need to be assessed for surface arsenic contamination related to the Smelter Plume. Ecology provides sampling guidelines that stipulate a minimum of ten (10) soil samples be collected per acre at six inch increments starting at the surface elevation.

The goal of this project was to comply with the City of Tacoma and Ecology surface soil sampling requirements. The arsenic sampling methodology includes the collection of soil samples at two elevations (0-6" and 6-12") from ten (10) sample points on each of the nine properties.

Soil Sampling Activities

EMS completed sampling activities at the Site on January 30 and 31, 2011. Ten sample locations were randomly selected on each of the nine proposed building sites (Figures 4-12). The Washington State administrative code (WAC) 173-340 (Model Toxic Control Act) Method A

[1] http://www.ecy.wa.gov/programs/tcp/sites/dirt_alert/studies_and_maps/sources.html

(MTCA-A) Cleanup Levels for Unrestricted Land Use for arsenic in soil is 20 milligram per kilogram (mg/kg). Of the ninety (90) 0-6" sample locations, eighty three (83) were reported exceeding the MTCA-A cleanup level of 20 mg/kg. The remaining seven (7) samples were reported below the MTCA-A cleanup level. Provided in Attachment A are figures 4-12, the project sample location maps identifying each of the sample locations.

EMS collected 180 discrete soil samples, 20 samples from each of the nine proposed building locations. Ten (10) samples from zero to six inches below ground surface (bgs) and 10 from 6 to 12 inches bgs. Each discrete soil sample was collected by a properly trained sampling technician using appropriately decontaminated sampling equipment.

Each soil sample was placed into new laboratory provided sampling containers and labeled using a unique sample identification number. Samples were delivered under industry standard chain of custody to Freidman & Bruya, Inc., an Ecology accredited laboratory for chemical analysis.

Laboratory Analysis

The soil samples collected from the depth of 0-6" were analyzed for Total Arsenic (As) by Environmental Protection Agency (EPA) Method 6020 (Attachment C – Laboratory Results). Seven soil samples, S20-1B, S28-2F, S50-2D, S54-2B, S68-2A, S73-2C and S88-2G were reported below the 20 mg/kg cleanup level.

The remaining 83 samples were reported exceeding the 20 mg/kg cleanup level. Concentration ranged from 20.1 mg/kg to 245 mg/kg. (Attachment B -Project Tables - Table 1 - Soil Sample Results - Total Arsenic).

Summary

Based on soil sample analysis, soil impacted with arsenic exceeding the MTCA-A cleanup limit of 20 mg/kg was identified on each of the nine proposed building sites. Further assessment to delineate the vertical and horizontal extent of impacted soil may be necessary to properly ascertain remediation or mitigation costs.

In order to develop the sites, the arsenic impacted soil will need to be addressed. Remediation or mitigation of the impacted soil can be incorporated in to the development of the property. However, an approved work plan addressing the proposed corrective action should be competed prior to construction to eliminate construction delays.

EMS appreciates the opportunity to provide environmental services on this project. Should you have any questions, please contact our office at 253-921-7059.

Environmental Management Services, LLC

Stephen Spencer
Principal

Encl:

Attachment A – Project Figures

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

Attachment B – Project Tables

- Table 1 – Soil Sample Results - Total Arsenic
- MTCA-A Unrestricted Cleanup Levels for Unrestricted Land Use

Attachment C - Laboratory Results

Sample Analytical Results

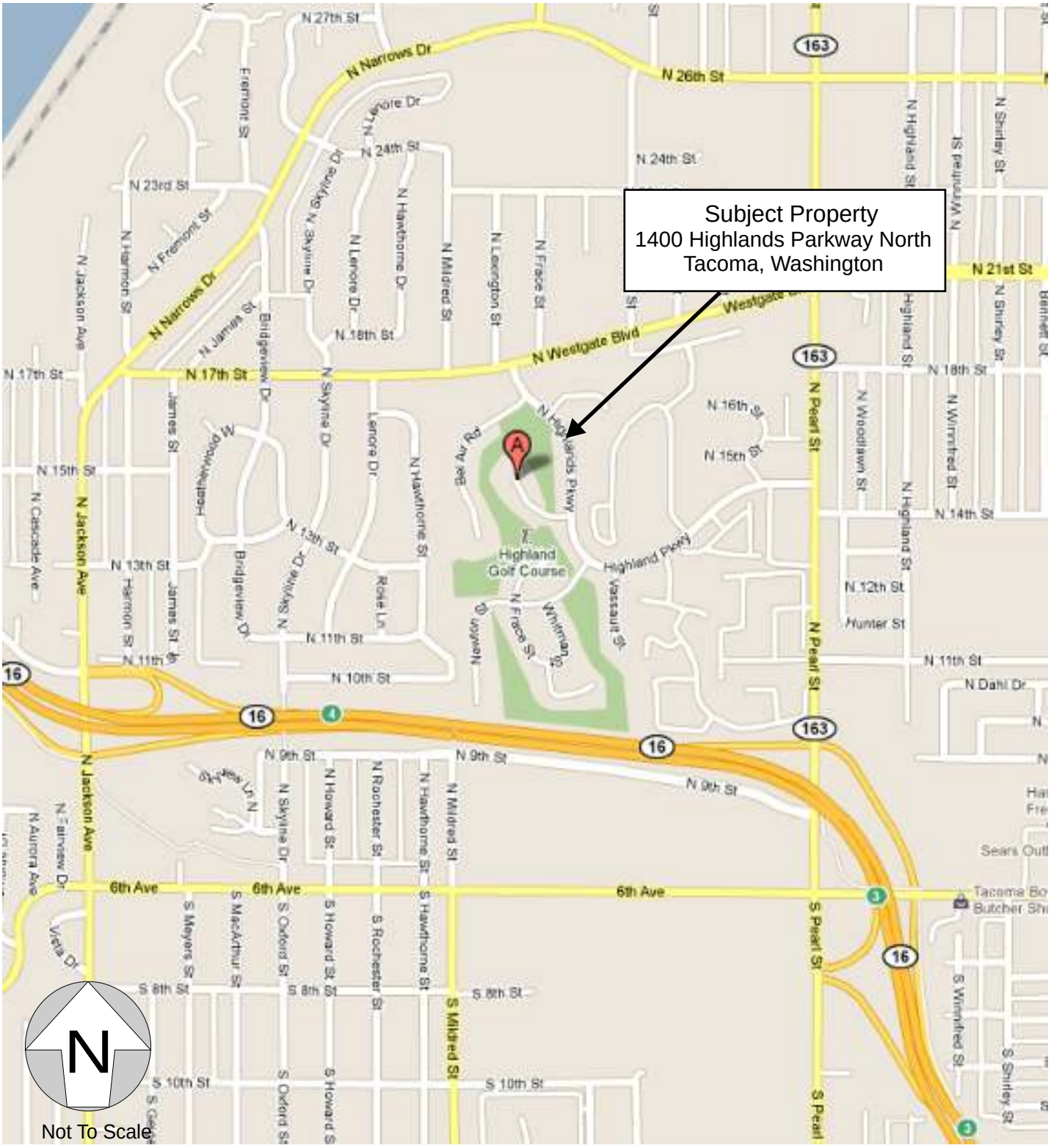
- Analytical Results & Chain of Custody

Attachment D – Professional Qualifications

Attachment A

Project Figures

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

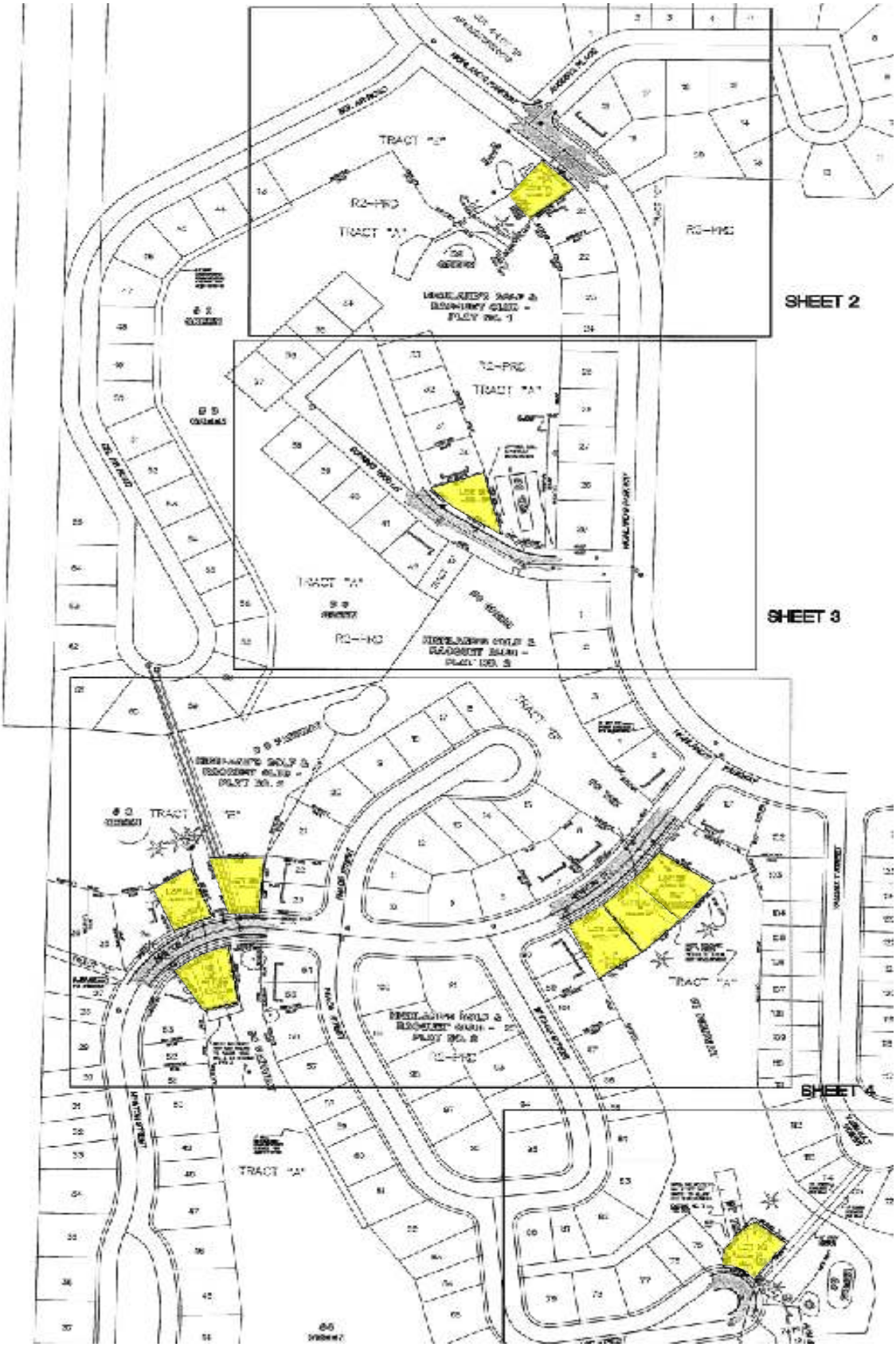


ems Environmental Services www.emsgroupllc.com	Site Location Map 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 01

Environmental Management Services, LLC

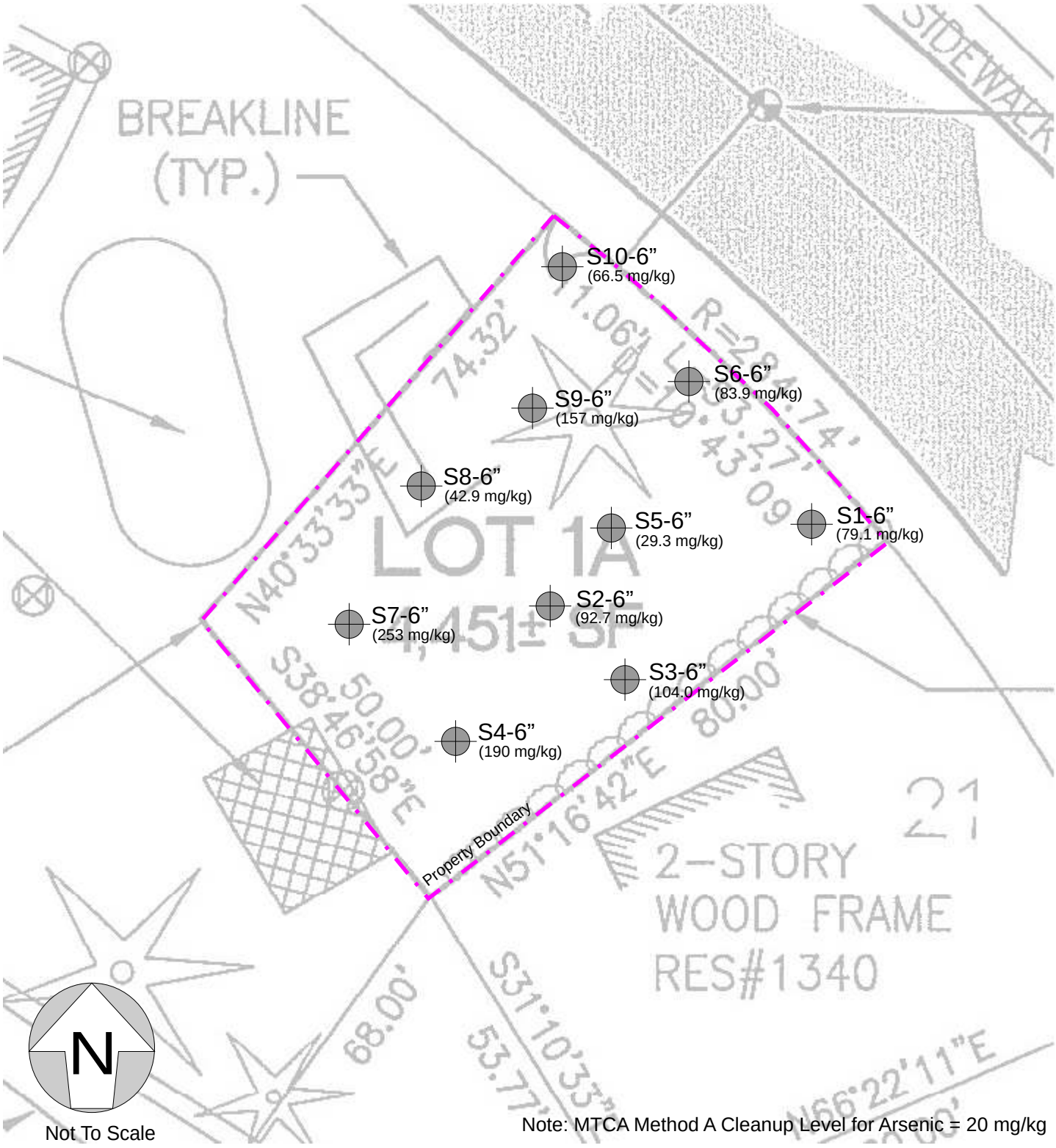
ems Environmental Services www.emsgroupllc.com	Site Topographic Map 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 02

Environmental Management Services, LLC



ems Environmental Services www.emsgroupllc.com	Site Map 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 03

Environmental Management Services, LLC



Not To Scale

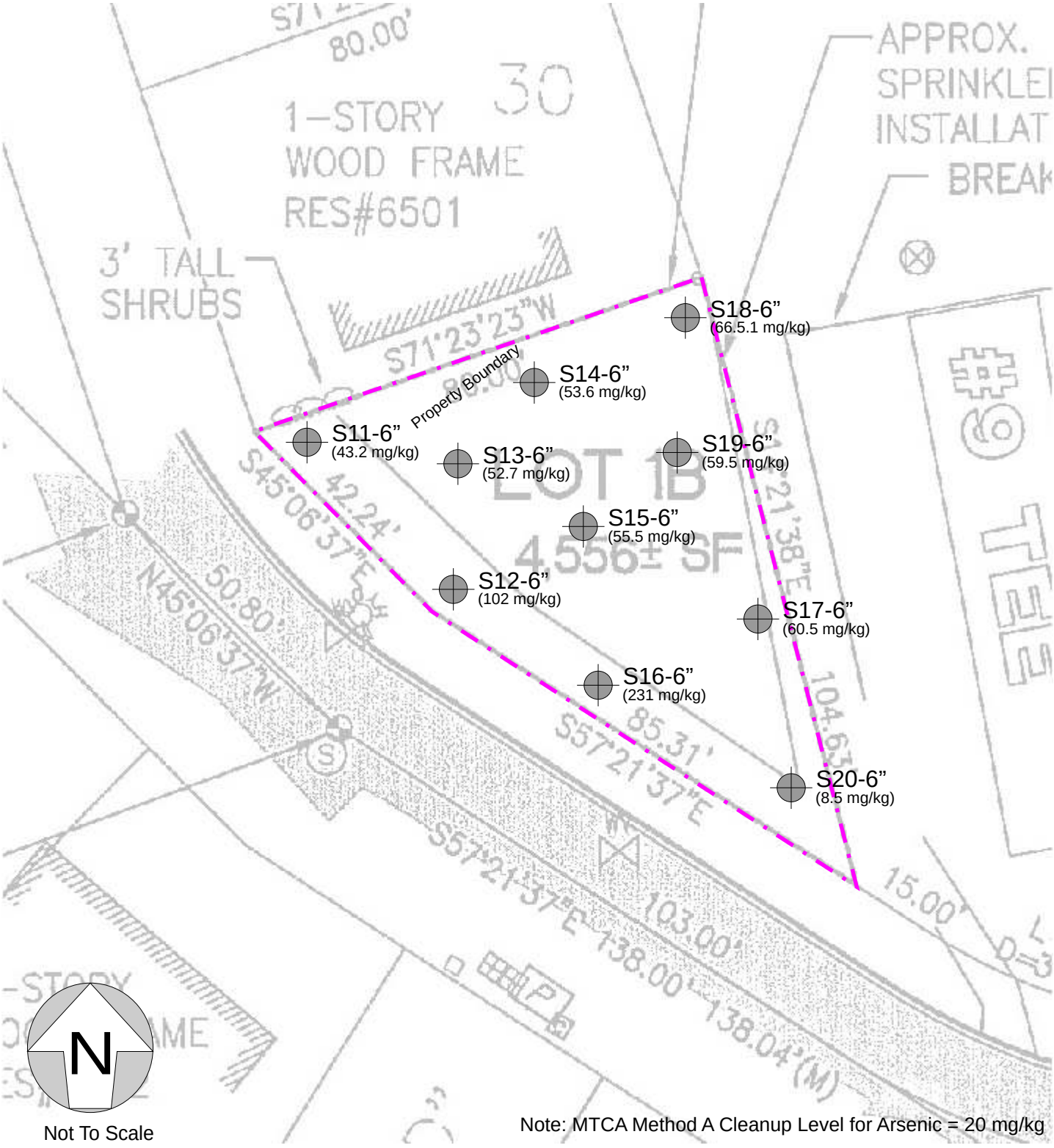
Note: MTCA Method A Cleanup Level for Arsenic = 20 mg/kg

S4-6" Soil sample identification and location - 0-6" below ground surface

(190 mg/kg) Total Arsenic Concentration

ems Environmental Services www.emsgroupllc.com	Sample Location Map Lot 1A 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 04 Lot 1A

Environmental Management Services, LLC

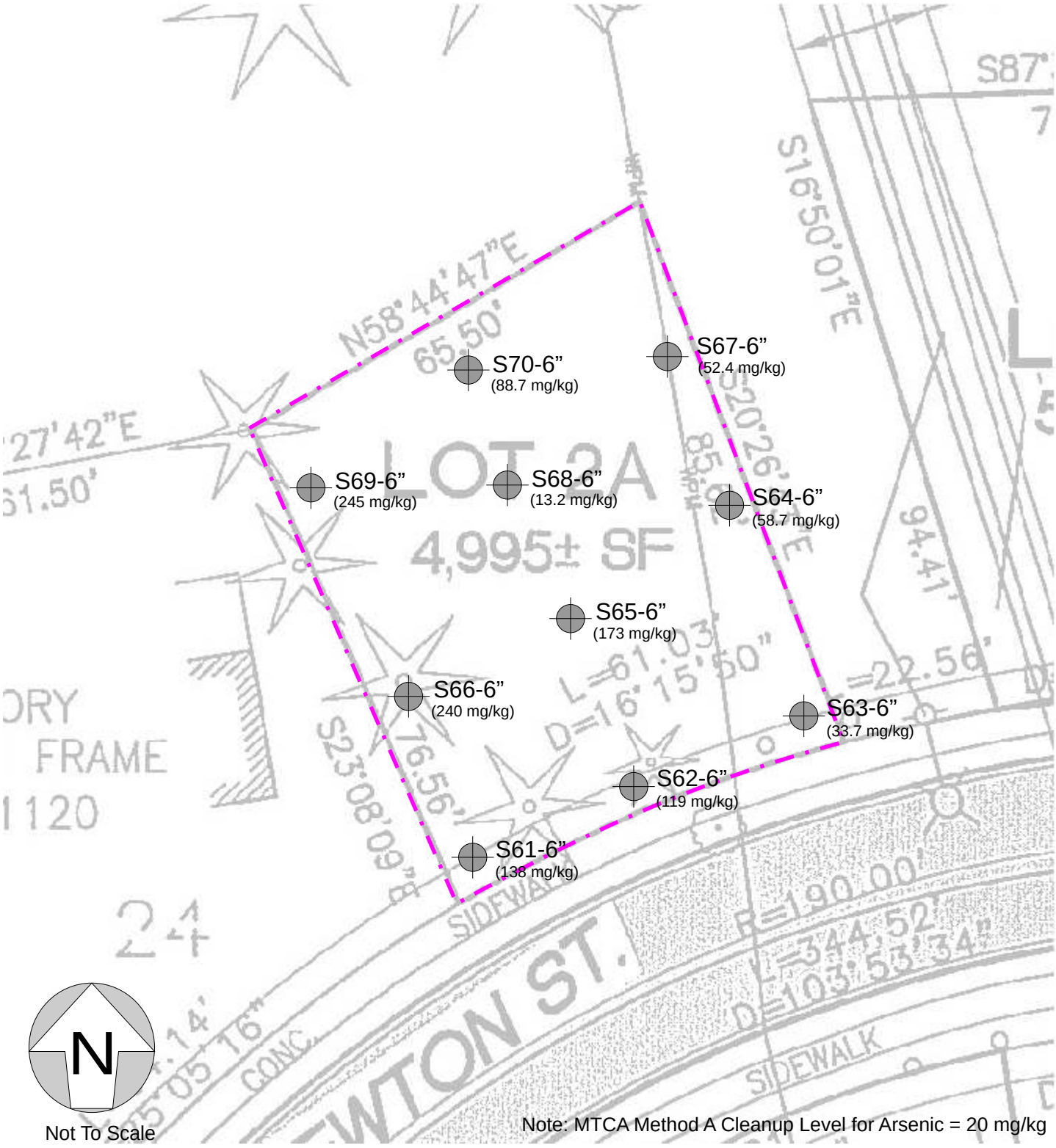


S4-6" Soil sample identification and location - 0-6" below ground surface

(190 mg/kg) Total Arsenic Concentration

ems Environmental Services www.emsgroupllc.com	Sample Location Map Lot 1B 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 05 Lot 1B

Environmental Management Services, LLC

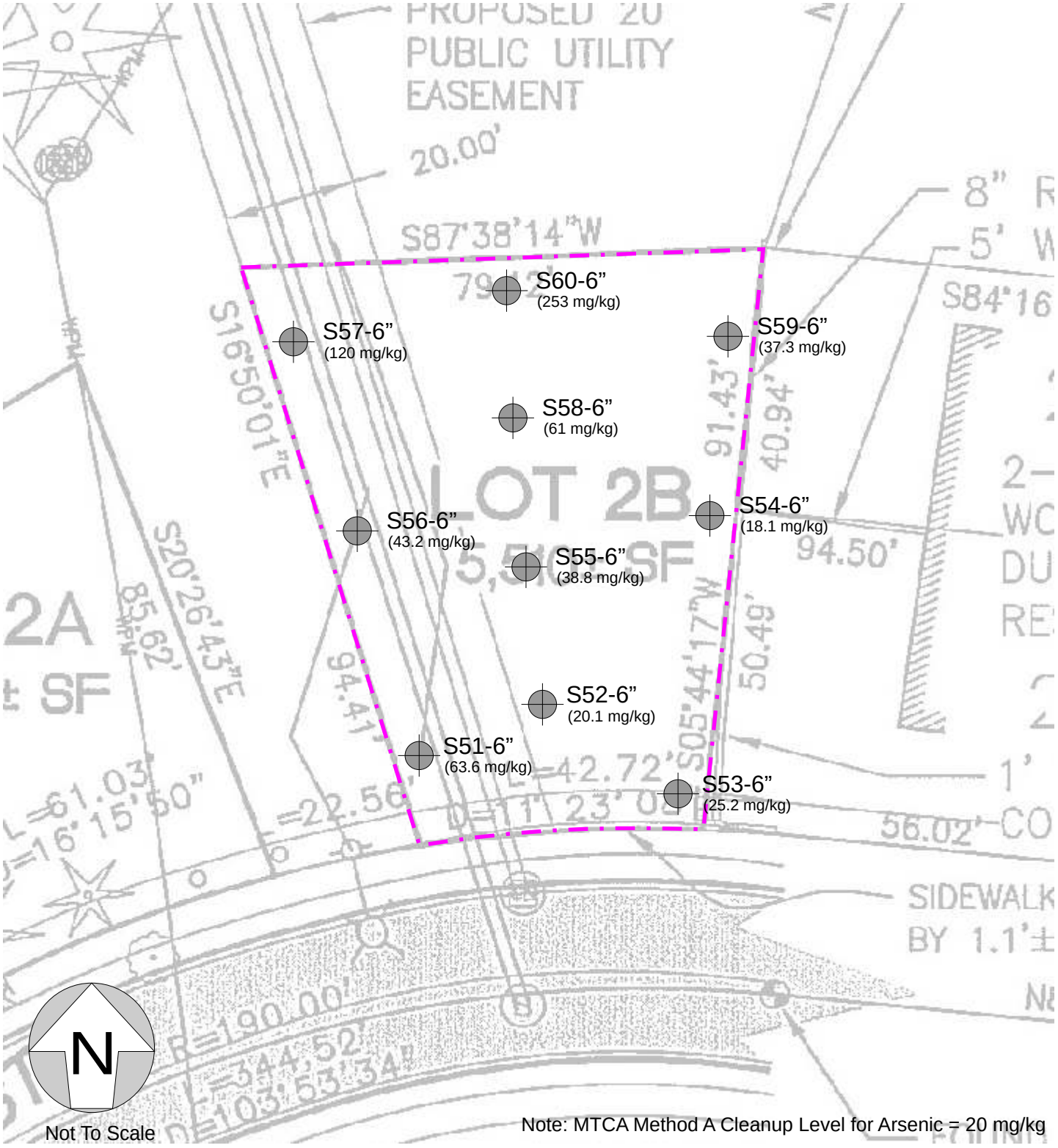


S4-6” Soil sample identification and location - 0-6” below ground surface

(190 mg/kg) Total Arsenic Concentration

ems Environmental Services www.emsgroupllc.com	Sample Location Map Lot 2A 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 06 Lot 2A

Environmental Management Services, LLC



Not To Scale

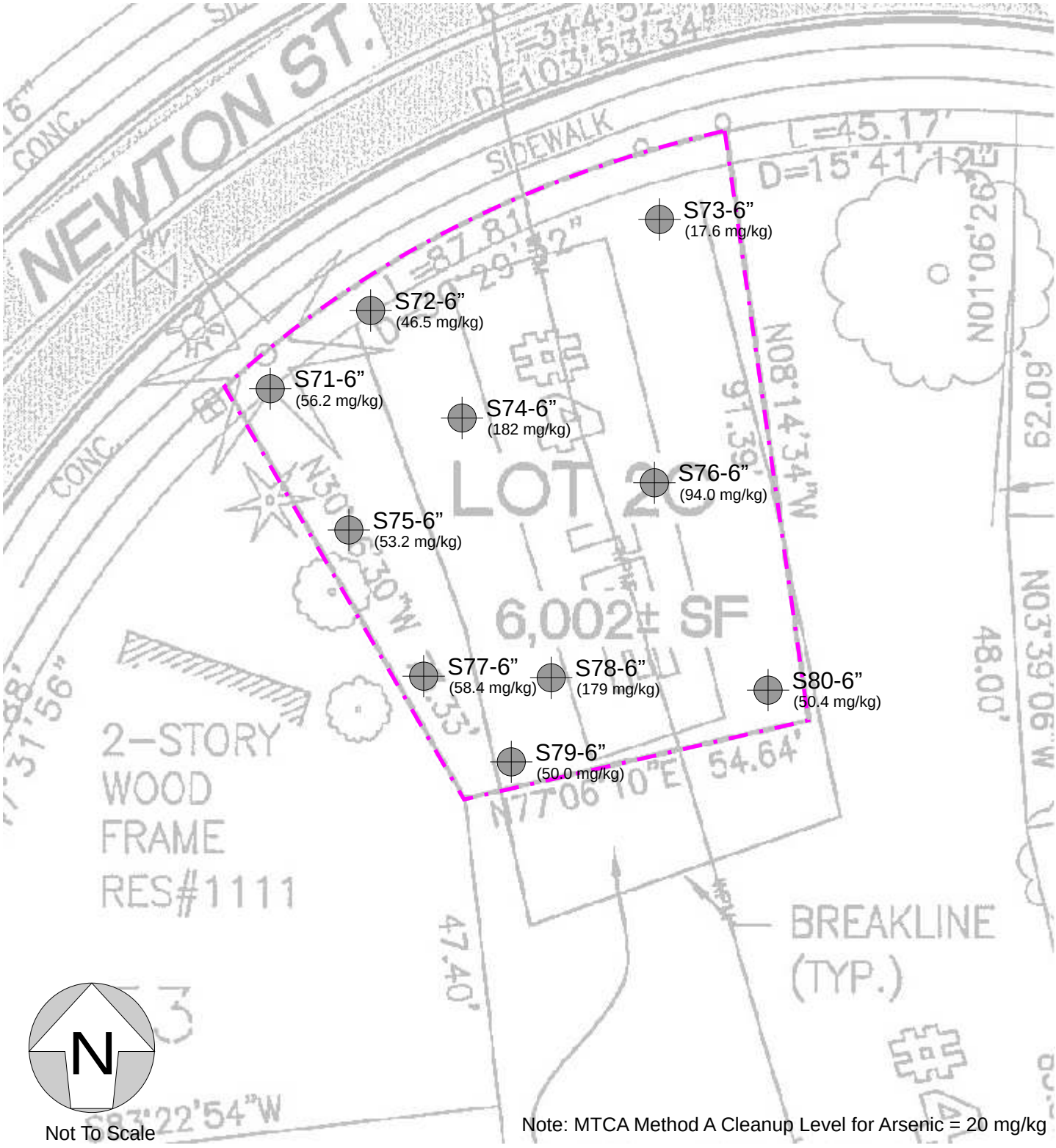
Note: MTCA Method A Cleanup Level for Arsenic = 20 mg/kg

S4-6" Soil sample identification and location - 0-6" below ground surface

(190 mg/kg) Total Arsenic Concentration

ems Environmental Services www.emsgroupllc.com	Sample Location Map Lot 2B 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 07 Lot 2B

Environmental Management Services, LLC

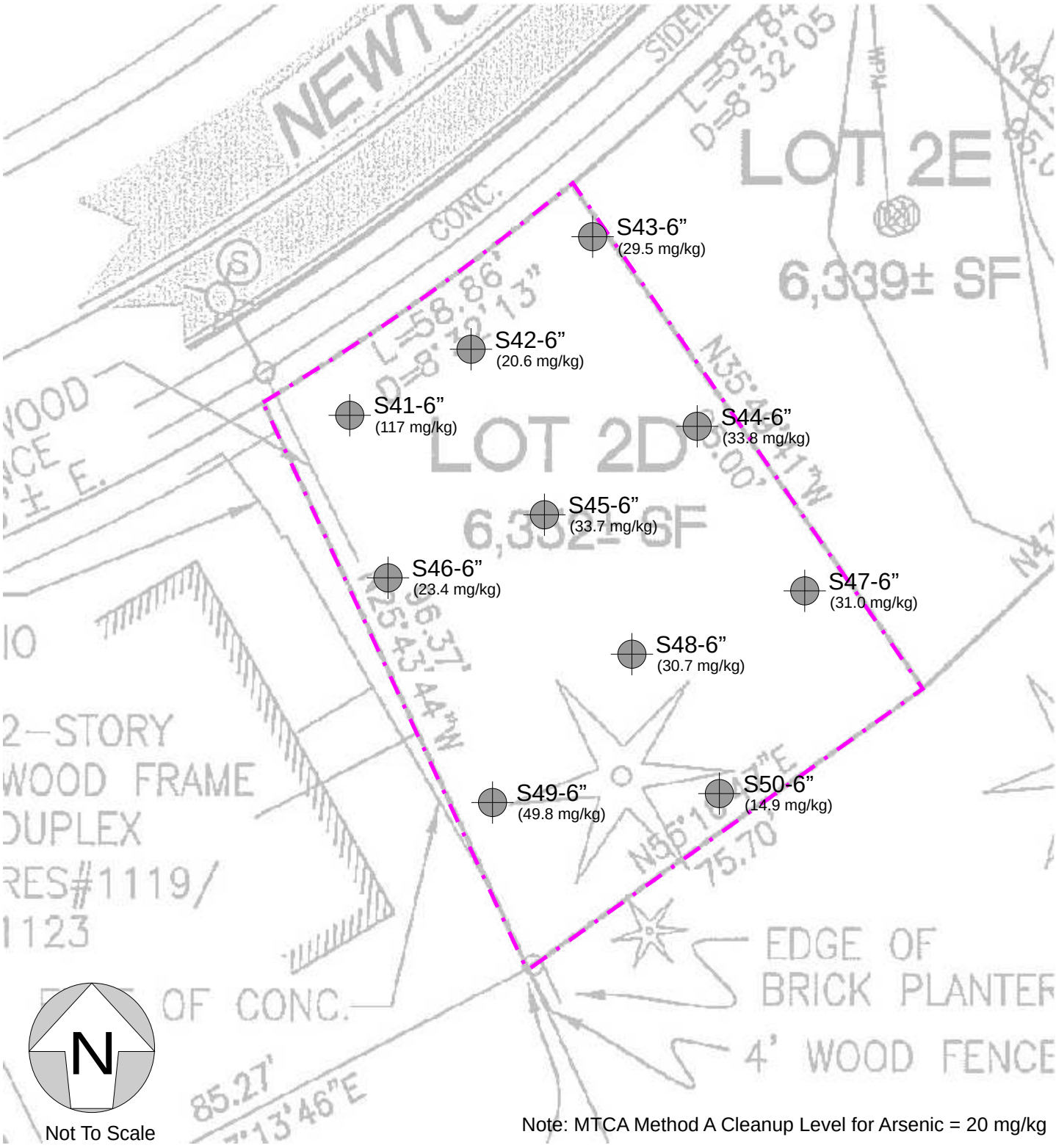


S4-6" Soil sample identification and location - 0-6" below ground surface

(190 mg/kg) Total Arsenic Concentration

ems Environmental Services www.emsgroupllc.com	Sample Location Map Lot 2C 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 08 Lot 2C

Environmental Management Services, LLC



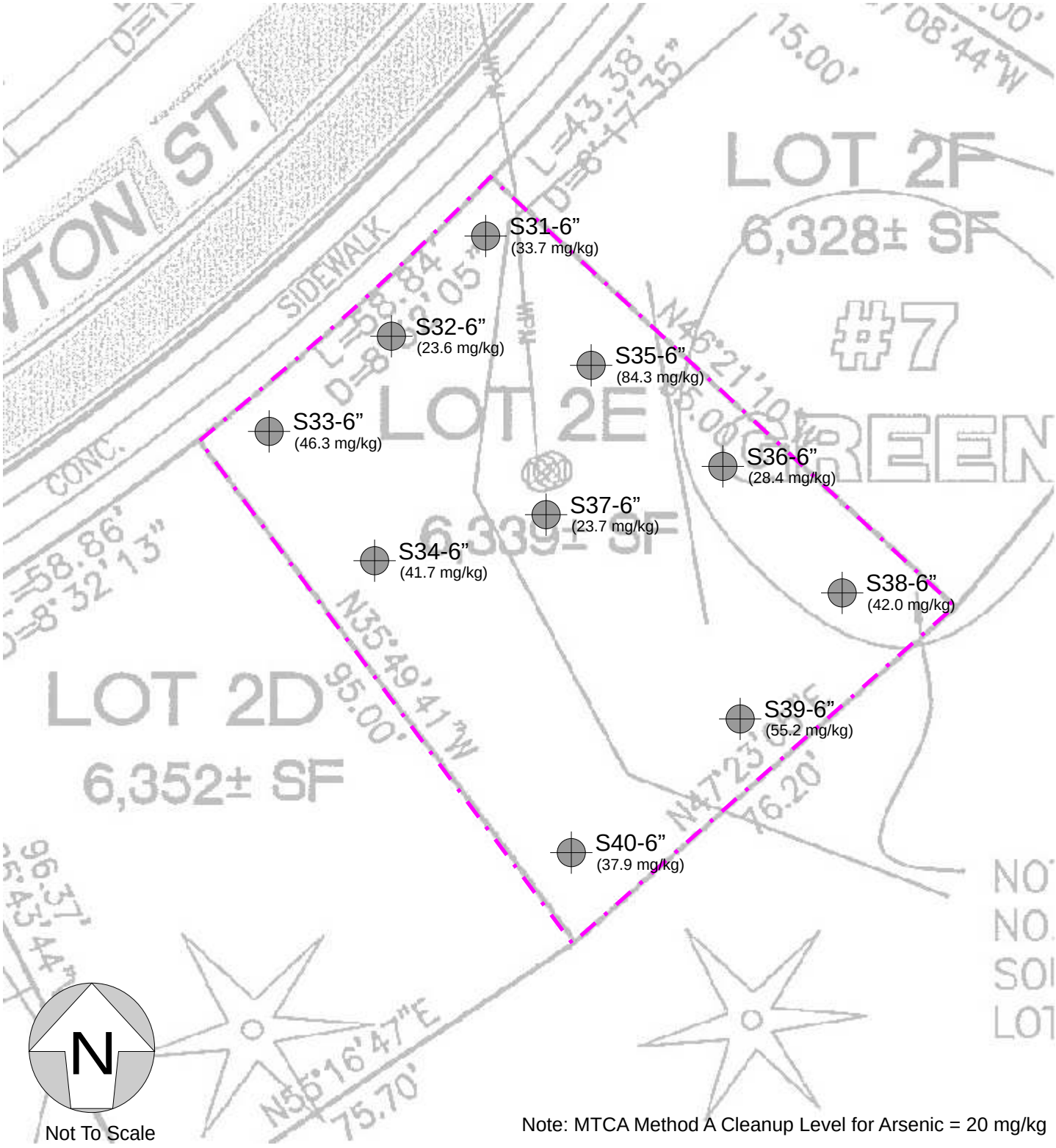
Note: MTCA Method A Cleanup Level for Arsenic = 20 mg/kg

S4-6” Soil sample identification and location - 0-6” below ground surface

(190 mg/kg) Total Arsenic Concentration

ems Environmental Services www.emsgroupllc.com	Sample Location Map Lot 2D 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 09 Lot 2D

Environmental Management Services, LLC



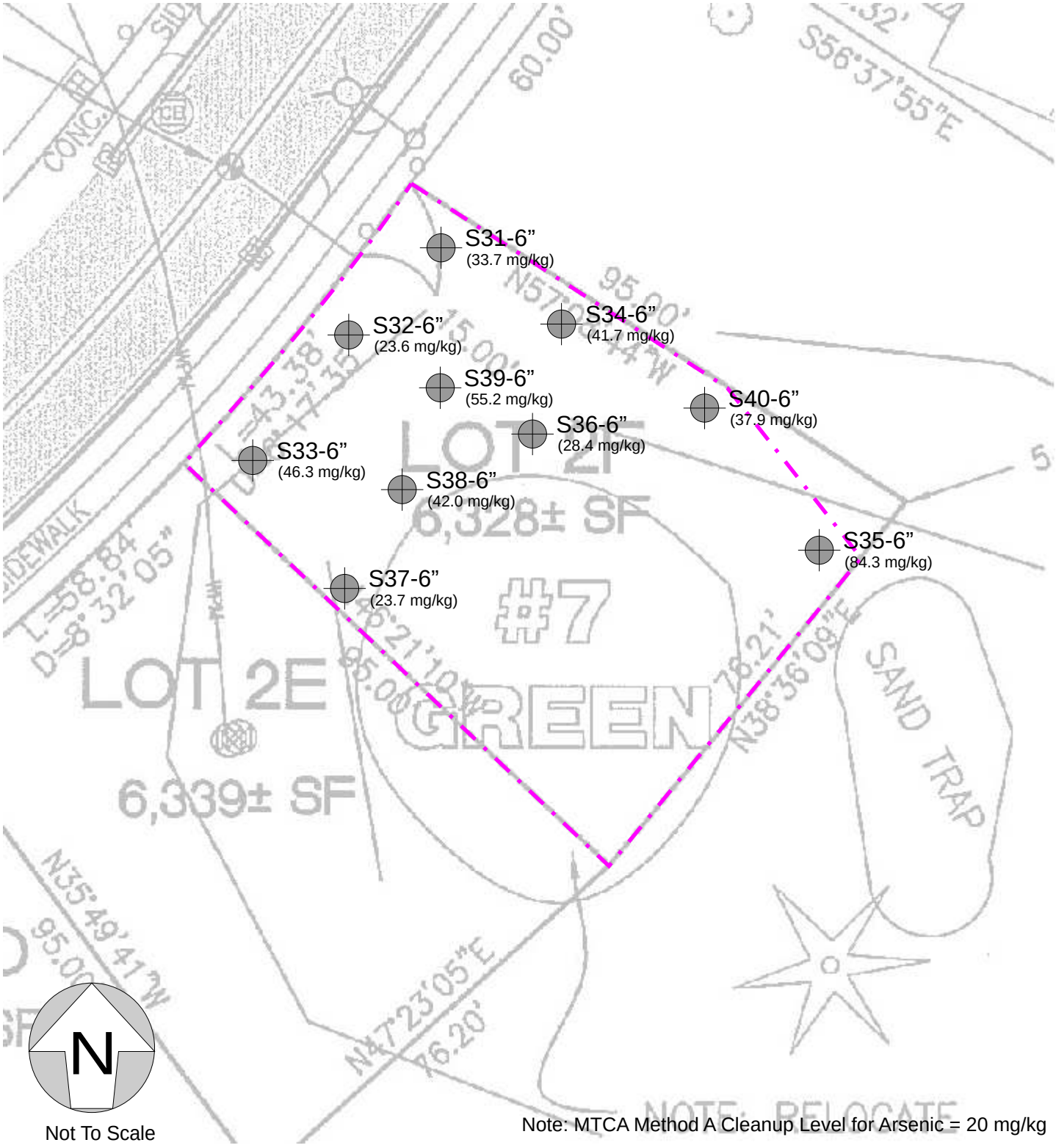
Note: MTCA Method A Cleanup Level for Arsenic = 20 mg/kg

S4-6” Soil sample identification and location - 0-6” below ground surface

(190 mg/kg) Total Arsenic Concentration

ems Environmental Services www.emsgroupllc.com	Sample Location Map Lot 2E 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 10 Lot 2E

Environmental Management Services, LLC



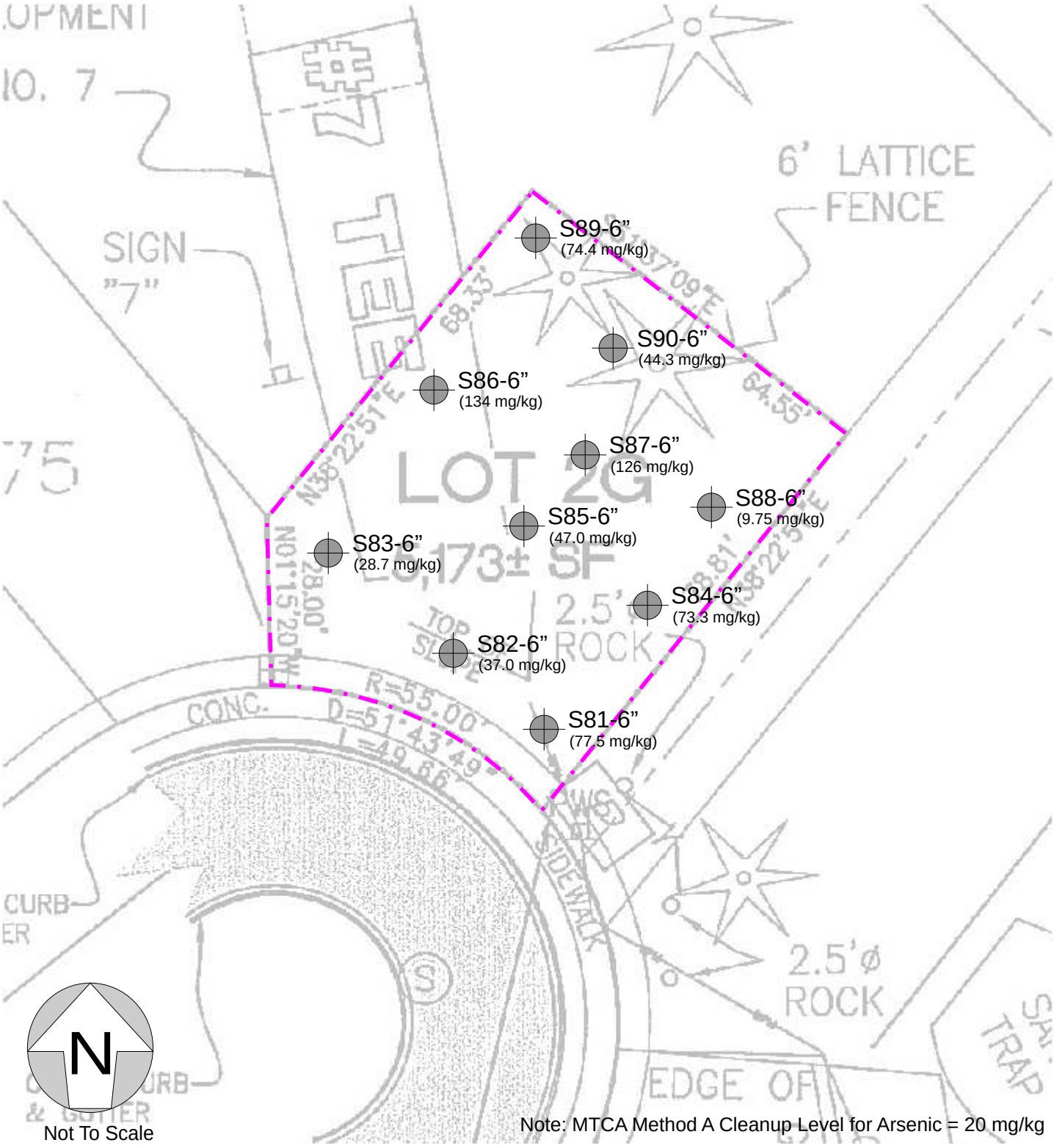
Note: MTCA Method A Cleanup Level for Arsenic = 20 mg/kg

S4-6” Soil sample identification and location - 0-6” below ground surface

(190 mg/kg) Total Arsenic Concentration

ems Environmental Services www.emsgroupllc.com	Sample Location Map Lot 2F 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 11 Lot 2F

Environmental Management Services, LLC



S4-6” Soil sample identification and location - 0-6” below ground surface

(190 mg/kg) Total Arsenic Concentration

ems Environmental Services www.emsgroupllc.com	Sample Location Map Lot 2G 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 12 Lot 2G

Environmental Management Services, LLC

Attachment B

Project Tables

Table 1 - Arsenic Sample Results
MTCA-A Unrestricted Cleanup Levels for Unrestricted Land Use

Environmental Services
emsgroupllc.com

Table 1 - Arsenic Soil Sample Results
Highland Golf
1400 Highlands Parkway
Tacoma, Washington

February 11, 2011

Sample Number	Sample Location	Sample Depth	Sample Date	EPA 6020 Total Metals - Arsenic (As) mg/kg
BUILDING LOT 1A				
S1-A1-6"	LOT1A	0-6"	1/30/2011	**79.1**
S2-A1-6"	LOT1A	0-6"	1/30/2011	**92.7**
S3-A1-6"	LOT1A	0-6"	1/30/2011	**104.0**
S4-A1-6"	LOT1A	0-6"	1/30/2011	**190.0**
S5-A1-6"	LOT1A	0-6"	1/30/2011	**29.3**
S6-A1-6"	LOT1A	0-6"	1/30/2011	**83.8**
S7-A1-6"	LOT1A	0-6"	1/30/2011	**253.0**
S8-A1-6"	LOT1A	0-6"	1/30/2011	**42.9**
S9-A1-6"	LOT1A	0-6"	1/30/2011	**157.0**
S10-A1-6"	LOT1A	0-6"	1/30/2011	**66.5**
BUILDING LOT 1B				
S11-1B-6"	LOT1B	0-6"	1/30/2011	**43.2**
S12-1B-6"	LOT1B	0-6"	1/30/2011	**102.0**
S13-1B-6"	LOT1B	0-6"	1/30/2011	**52.7**
S14-1B-6"	LOT1B	0-6"	1/30/2011	**53.6**
S15-1B-6"	LOT1B	0-6"	1/30/2011	**55.5**
S16-1B-6"	LOT1B	0-6"	1/30/2011	**231.0**
S17-1B-6"	LOT1B	0-6"	1/30/2011	**60.5**
S18-1B-6"	LOT1B	0-6"	1/30/2011	**66.5**
S19-1B-6"	LOT1B	0-6"	1/30/2011	**59.5**
S20-1B-6"	LOT1B	0-6"	1/30/2011	8.5

Environmental Services
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Table 1 - Arsenic Soil Sample Results
Highland Golf
1400 Highlands Parkway
Tacoma, Washington

February 11, 2011

Sample Number	Sample Location	Sample Depth	Sample Date	EPA 6020 Total Metals - Arsenic (As) mg/kg
BUILDING LOT 2F				
S21-2F-6"	LOT2F	0-6"	1/30/2011	**62.1**
S22-2F-6"	LOT2F	0-6"	1/30/2011	**59.7**
S23-2F-6"	LOT2F	0-6"	1/30/2011	**77.0**
S24-2F-6"	LOT2F	0-6"	1/30/2011	**29.2**
S25-2F-6"	LOT2F	0-6"	1/30/2011	**43.5**
S26-2F-6"	LOT2F	0-6"	1/30/2011	**52.0**
S27-2F-6"	LOT2F	0-6"	1/30/2011	**47.2**
S28-2F-6"	LOT2F	0-6"	1/30/2011	11.4
S29-2F-6"	LOT2F	0-6"	1/30/2011	**37.7**
S30-2F-6"	LOT2F	0-6"	1/30/2011	**27.5**
BUILDING LOT 2E				
S31-2E-6"	LOT2E	0-6"	1/30/2011	**33.7**
S32-2E-6"	LOT2E	0-6"	1/30/2011	**23.6**
S33-2E-6"	LOT2E	0-6"	1/30/2011	**46.3**
S34-2E-6"	LOT2E	0-6"	1/30/2011	**41.7**
S35-2E-6"	LOT2E	0-6"	1/30/2011	**84.3**
S36-2E-6"	LOT2E	0-6"	1/30/2011	**28.4**
S37-2E-6"	LOT2E	0-6"	1/30/2011	**23.7**
S38-2E-6"	LOT2E	0-6"	1/30/2011	**42.0**
S39-2E-6"	LOT2E	0-6"	1/30/2011	**55.2**
S40-2E-6"	LOT2E	0-6"	1/30/2011	**37.9**

Environmental Services
emsgroupllc.com

Table 1 - Arsenic Soil Sample Results
Highland Golf
1400 Highlands Parkway
Tacoma, Washington

February 11, 2011

Sample Number	Sample Location	Sample Depth	Sample Date	EPA 6020 Total Metals - Arsenic (As) mg/kg
BUILDING LOT 2D				
S41-2D-6"	LOT2D	0-6"	1/30/2011	**117.0**
S42-2D-6"	LOT2D	0-6"	1/30/2011	**20.6**
S43-2D-6"	LOT2D	0-6"	1/30/2011	**29.5**
S44-2D-6"	LOT2D	0-6"	1/30/2011	**33.8**
S45-2D-6"	LOT2D	0-6"	1/30/2011	**33.7**
S46-2D-6"	LOT2D	0-6"	1/30/2011	**23.4**
S47-2D-6"	LOT2D	0-6"	1/30/2011	**31.0**
S48-2D-6"	LOT2D	0-6"	1/30/2011	**30.7**
S49-2D-6"	LOT2D	0-6"	1/30/2011	**49.8**
S50-2D-6"	LOT2D	0-6"	1/30/2011	14.9
BUILDING LOT 2B				
S51-2B-6"	LOT2B	0-6"	1/30/2011	**63.6**
S52-2B-6"	LOT2B	0-6"	1/30/2011	**20.1**
S53-2B-6"	LOT2B	0-6"	1/30/2011	**25.2**
S54-2B-6"	LOT2B	0-6"	1/30/2011	18.1
S55-2B-6"	LOT2B	0-6"	1/30/2011	**38.8**
S56-2B-6"	LOT2B	0-6"	1/30/2011	**43.2**
S57-2B-6"	LOT2B	0-6"	1/30/2011	**120.0**
S58-2B-6"	LOT2B	0-6"	1/30/2011	**61.0**
S59-2B-6"	LOT2B	0-6"	1/30/2011	**37.3**
S60-2B-6"	LOT2B	0-6"	1/30/2011	**253.0**

Environmental Services
emsgroupllc.com

Table 1 - Arsenic Soil Sample Results
Highland Golf
1400 Highlands Parkway
Tacoma, Washington

February 11, 2011

Sample Number	Sample Location	Sample Depth	Sample Date	EPA 6020 Total Metals - Arsenic (As) mg/kg
BUILDING LOT 2A				
S61-2A-6"	LOT2A	0-6"	1/30/2011	**138.0**
S62-2A-6"	LOT2A	0-6"	1/30/2011	**119.0**
S63-2A-6"	LOT2A	0-6"	1/30/2011	**33.7**
S64-2A-6"	LOT2A	0-6"	1/30/2011	**58.7**
S65-2A-6"	LOT2A	0-6"	1/30/2011	**173.0**
S66-2A-6"	LOT2A	0-6"	1/30/2011	**240.0**
S67-2A-6"	LOT2A	0-6"	1/30/2011	**52.4**
S68-2A-6"	LOT2A	0-6"	1/30/2011	13.2
S69-2A-6"	LOT2A	0-6"	1/30/2011	**245.0**
S70-2A-6"	LOT2A	0-6"	1/30/2011	**88.7**
BUILDING LOT 2C				
S71-2C-6"	LOT2C	0-6"	1/30/2011	**56.2**
S72-2C-6"	LOT2C	0-6"	1/30/2011	**46.5**
S73-2C-6"	LOT2C	0-6"	1/30/2011	17.6
S74-2C-6"	LOT2C	0-6"	1/30/2011	**182.0**
S75-2C-6"	LOT2C	0-6"	1/30/2011	**53.2**
S76-2C-6"	LOT2C	0-6"	1/30/2011	**94.0**
S77-2C-6"	LOT2C	0-6"	1/30/2011	**58.4**
S78-2C-6"	LOT2C	0-6"	1/30/2011	**179.0**
S79-2C-6"	LOT2C	0-6"	1/30/2011	**50.0**
S80-2C-6"	LOT2C	0-6"	1/30/2011	**50.4**

Environmental Services
emsgroupllc.com

Table 1 - Arsenic Soil Sample Results
Highland Golf
1400 Highlands Parkway
Tacoma, Washington

February 11, 2011

Sample Number	Sample Location	Sample Depth	Sample Date	EPA 6020 Total Metals - Arsenic (As) mg/kg
BUILDING LOT 2G				
S81-2G-6"	LOT2G	0-6"	1/30/2011	**<u>77.5</u>**
S82-2G-6"	LOT2G	0-6"	1/30/2011	**<u>37.0</u>**
S83-2G-6"	LOT2G	0-6"	1/30/2011	**<u>28.7</u>**
S84-2G-6"	LOT2G	0-6"	1/30/2011	**<u>73.3</u>**
S85-2G-6"	LOT2G	0-6"	1/30/2011	**<u>47.0</u>**
S86-2G-6"	LOT2G	0-6"	1/30/2011	**<u>134.0</u>**
S87-2G-6"	LOT2G	0-6"	1/30/2011	**<u>126.0</u>**
S88-2G-6"	LOT2G	0-6"	1/30/2011	9.8
S89-2G-6"	LOT2G	0-6"	1/30/2011	**<u>74.4</u>**
S90-2G-6"	LOT2G	0-6"	1/30/2011	**<u>44.3</u>**
METHOD BLANK	NA	NA	2/1/2011	<1
			Laboratory Method Reporting Limit	1
			Model Toxic Control Act (MTCA) Method A Cleanup Levels For Soil	20

BOLD/<u>Underlined</u> = Analyte above MTCA 2001 Method A Cleanup levels for arsenic in soil.

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

< # (ND) = analyte not detected above the analytical method reporting limit cited.

MTCA 2001 Method A Cleanup Levels for Unrestricted Residential Land Use - (MTCA) WAC 173-340-900 Tables.

bgs=below ground surface

NA=Not Applicable

Attachment C

Laboratory Results

Analytical Results
Analytical Chain of Custody

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
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3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

February 7, 2011

Steve Spencer, Project Manager
Environmental Management Services, LLC
7006 27th Street W, Suite E
Tacoma, WA 98466

Dear Mr. Spencer:

Included are the results from the testing of material submitted on January 31, 2011 from the Highland 20, LLC-0393-01, F&BI 101307 project. There are 106 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. 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
EMS0207R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 31, 2011 by Friedman & Bruya, Inc. from the Environmental Management Services, Highland 20, LLC-0393-01, F&BI 101307 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Environmental Management Services, LLC
101307-01	S1-A1-6"
101307-02	S1-A1-12"
101307-03	S2-A1-6"
101307-04	S2-A1-12"
101307-05	S3-A1-6"
101307-06	S3-A1-12"
101307-07	S4-A1-6"
101307-08	S4-A1-12"
101307-09	S5-A1-6"
101307-10	S5-A1-12"
101307-11	S6-A1-6"
101307-12	S6-A1-12"
101307-13	S7-A1-6"
101307-14	S7-A1-12"
101307-15	S8-A1-6"
101307-16	S8-A1-12"
101307-17	S9-A1-6"
101307-18	S9-A1-12"
101307-19	S10-A1-6"
101307-20	S10-A1-12"
101307-21	S11-1B-6"
101307-22	S11-1B-12"
101307-23	S12-1B-6"
101307-24	S12-1B-12"
101307-25	S13-1B-6"
101307-26	S13-1B-12"
101307-27	S14-1B-6"
101307-28	S14-1B-12"
101307-29	S15-1B-6"
101307-30	S15-1B-12"
101307-31	S16-1B-6"
101307-32	S16-1B-12"
101307-33	S17-1B-6"
101307-34	S17-1B-12"
101307-35	S18-1B-6"
101307-36	S18-1B-12"
101307-37	S19-1B-6"
101307-38	S19-1B-12"
101307-39	S20-1B-6"

CASE NARRATIVE (continued)

Laboratory ID	Environmental Management Services, LLC
101307-40	S20-1B-12"
101307-41	S21-2F-6"
101307-42	S21-2F-12"
101307-43	S22-2F-6"
101307-44	S22-2F-12"
101307-45	S23-2F-6"
101307-46	S23-2F-12"
101307-47	S24-2F-6"
101307-48	S24-2F-12"
101307-49	S25-2F-6"
101307-50	S25-2F-12"
101307-51	S26-2F-6"
101307-52	S26-2F-12"
101307-53	S27-2F-6"
101307-54	S27-2F-12"
101307-55	S28-2F-6"
101307-56	S28-2F-12"
101307-57	S29-2F-6"
101307-58	S29-2F-12"
101307-59	S30-2E-6"
101307-60	S30-2E-12"
101307-61	S31-2E-6"
101307-62	S31-2E-12"
101307-63	S32-2E-6"
101307-64	S32-2E-12"
101307-65	S33-2E-6"
101307-66	S33-2E-12"
101307-67	S34-2E-6"
101307-68	S34-2E-12"
101307-69	S35-2E-6"
101307-70	S35-2E-12"
101307-71	S36-2E-6"
101307-72	S36-2E-12"
101307-73	S37-2E-6"
101307-74	S37-2E-12"
101307-75	S38-2E-6"
101307-76	S38-2E-12"
101307-77	S39-2E-6"
101307-78	S39-2E-12"
101307-79	S40-2E-6"
101307-80	S40-2E-12"
101307-81	S41-2D-6"

CASE NARRATIVE (continued)

Laboratory ID	Environmental Management Services, LLC
101307-82	S41-2D-12"
101307-83	S42-2D-6"
101307-84	S42-2D-12"
101307-85	S43-2D-6"
101307-86	S43-2D-12"
101307-87	S44-2D-6"
101307-88	S44-2D-12"
101307-89	S45-2D-6"
101307-90	S45-2D-12"
101307-91	S46-2D-6"
101307-92	S46-2D-12"
101307-93	S47-2D-6"
101307-94	S47-2D-12"
101307-95	S48-2D-6"
101307-96	S48-2D-12"
101307-97	S49-2D-6"
101307-98	S49-2D-12"
101307-99	S50-2D-6"
101307-100	S50-2D-12"
101307-101	S51-2B-6"
101307-102	S51-2B-12"
101307-103	S52-2B-6"
101307-104	S52-2B-12"
101307-105	S53-2B-6"
101307-106	S53-2B-12"
101307-107	S54-2B-6"
101307-108	S54-2B-12"
101307-109	S55-2B-6"
101307-110	S55-2B-12"
101307-111	S56-2B-6"
101307-112	S56-2B-12"
101307-113	S57-2B-6"
101307-114	S57-2B-12"
101307-115	S58-2B-6"
101307-116	S58-2B-12"
101307-117	S59-2B-6"
101307-118	S59-2B-12"
101307-119	S60-2B-6"
101307-120	S60-2B-12"
101307-121	S61-2A-6"
101307-122	S61-2A-12"
101307-123	S62-2A-6"

CASE NARRATIVE (continued)

Laboratory ID	Environmental Management Services, LLC
101307-124	S62-2A-12"
101307-125	S63-2A-6"
101307-126	S63-2A-12"
101307-127	S64-2A-6"
101307-128	S64-2A-12"
101307-129	S65-2A-6"
101307-130	S65-2A-12"
101307-131	S66-2A-6"
101307-132	S66-2A-12"
101307-133	S67-2A-6"
101307-134	S67-2A-12"
101307-135	S68-2A-6"
101307-136	S68-2A-12"
101307-137	S69-2A-6"
101307-138	S69-2A-12"
101307-139	S70-2A-6"
101307-140	S70-2A-12"
101307-141	S71-2C-6"
101307-142	S71-2C-12"
101307-143	S72-2C-6"
101307-144	S72-2C-12"
101307-145	S73-2C-6"
101307-146	S73-2C-12"
101307-147	S74-2C-6"
101307-148	S74-2C-12"
101307-149	S75-2C-6"
101307-150	S75-2C-12"
101307-151	S76-2C-6"
101307-152	S76-2C-12"
101307-153	S77-2C-6"
101307-154	S77-2C-12"
101307-155	S78-2C-6"
101307-156	S78-2C-12"
101307-157	S79-2C-6"
101307-158	S79-2C-12"
101307-159	S80-2C-6"
101307-160	S80-2C-12"
101307-161	S81-2G-6"
101307-162	S81-2G-12"
101307-163	S82-2G-6"
101307-164	S82-2G-12"
101307-165	S83-2G-6"

CASE NARRATIVE (continued)

Laboratory ID	Environmental Management Services, LLC
101307-166	S83-2G-12"
101307-167	S84-2G-6"
101307-168	S84-2G-12"
101307-169	S85-2G-6"
101307-170	S85-2G-12"
101307-171	S86-2G-6"
101307-172	S86-2G-12"
101307-173	S87-2G-6"
101307-174	S87-2G-12"
101307-175	S88-2G-6"
101307-176	S88-2G-12"
101307-177	S89-2G-6"
101307-178	S89-2G-12"
101307-179	S90-2G-6"
101307-180	S90-2G-12"

All quality control requirements were acceptable.

Analysis For Total Metals By EPA Method 200.8

Client ID:	S1-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-01
Date Analyzed:	02/02/11	Data File:	101307-01.013
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	79.1

Analysis For Total Metals By EPA Method 200.8

Client ID:	S2-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-03
Date Analyzed:	02/02/11	Data File:	101307-03.014
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	92.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S3-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-05
Date Analyzed:	02/02/11	Data File:	101307-05.015
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	104

Analysis For Total Metals By EPA Method 200.8

Client ID:	S4-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-07
Date Analyzed:	02/02/11	Data File:	101307-07.016
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	190

Analysis For Total Metals By EPA Method 200.8

Client ID:	S5-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-09
Date Analyzed:	02/02/11	Data File:	101307-09.017
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	29.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	S6-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-11
Date Analyzed:	02/02/11	Data File:	101307-11.019
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	83.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	S7-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-13
Date Analyzed:	02/02/11	Data File:	101307-13.020
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	253

Analysis For Total Metals By EPA Method 200.8

Client ID:	S8-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-15
Date Analyzed:	02/02/11	Data File:	101307-15.021
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	82	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	42.9

Analysis For Total Metals By EPA Method 200.8

Client ID:	S9-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-17
Date Analyzed:	02/02/11	Data File:	101307-17.022
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	157

Analysis For Total Metals By EPA Method 200.8

Client ID:	S10-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-19
Date Analyzed:	02/02/11	Data File:	101307-19.023
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	66.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S11-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-21
Date Analyzed:	02/02/11	Data File:	101307-21.024
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	43.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S12-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-23
Date Analyzed:	02/02/11	Data File:	101307-23.025
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	102

Analysis For Total Metals By EPA Method 200.8

Client ID:	S13-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-25
Date Analyzed:	02/02/11	Data File:	101307-25.026
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	52.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S14-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-27
Date Analyzed:	02/02/11	Data File:	101307-27.027
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	53.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	S15-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-29
Date Analyzed:	02/02/11	Data File:	101307-29.029
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	55.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S16-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-31
Date Analyzed:	02/02/11	Data File:	101307-31.030
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	231

Analysis For Total Metals By EPA Method 200.8

Client ID:	S17-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-33
Date Analyzed:	02/02/11	Data File:	101307-33.031
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	60.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S18-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-35
Date Analyzed:	02/02/11	Data File:	101307-35.010
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	66.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S19-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-37
Date Analyzed:	02/02/11	Data File:	101307-37.032
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	59.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S20-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-39
Date Analyzed:	02/02/11	Data File:	101307-39.033
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	8.50

Analysis For Total Metals By EPA Method 200.8

Client ID:	S21-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-41
Date Analyzed:	02/02/11	Data File:	101307-41.040
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	85	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	62.1

Analysis For Total Metals By EPA Method 200.8

Client ID:	S22-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-43
Date Analyzed:	02/02/11	Data File:	101307-43.041
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	59.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S23-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-45
Date Analyzed:	02/02/11	Data File:	101307-45.042
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	77.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S24-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-47
Date Analyzed:	02/02/11	Data File:	101307-47.043
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	29.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S25-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-49
Date Analyzed:	02/02/11	Data File:	101307-49.044
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	43.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S26-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-51
Date Analyzed:	02/02/11	Data File:	101307-51.045
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	79	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	52.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S27-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-53
Date Analyzed:	02/02/11	Data File:	101307-53.046
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	47.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S28-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-55
Date Analyzed:	02/02/11	Data File:	101307-55.047
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	11.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S29-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-57
Date Analyzed:	02/02/11	Data File:	101307-57.048
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	37.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S30-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-59
Date Analyzed:	02/02/11	Data File:	101307-59.050
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	27.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S31-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-61
Date Analyzed:	02/02/11	Data File:	101307-61.051
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	33.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S32-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-63
Date Analyzed:	02/02/11	Data File:	101307-63.052
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	23.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	S33-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-65
Date Analyzed:	02/02/11	Data File:	101307-65.036
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	46.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	S34-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-67
Date Analyzed:	02/02/11	Data File:	101307-67.053
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	41.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S35-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-69
Date Analyzed:	02/02/11	Data File:	101307-69.054
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	84.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	S36-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-71
Date Analyzed:	02/02/11	Data File:	101307-71.055
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	86	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	28.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S37-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-73
Date Analyzed:	02/02/11	Data File:	101307-73.056
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	23.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S38-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-75
Date Analyzed:	02/02/11	Data File:	101307-75.057
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	42.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S39-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-77
Date Analyzed:	02/02/11	Data File:	101307-77.058
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	55.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S40-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-79
Date Analyzed:	02/02/11	Data File:	101307-79.059
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	37.9

Analysis For Total Metals By EPA Method 200.8

Client ID:	S41-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-81
Date Analyzed:	02/02/11	Data File:	101307-81.066
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	117

Analysis For Total Metals By EPA Method 200.8

Client ID:	S42-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-83
Date Analyzed:	02/02/11	Data File:	101307-83.067
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	20.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	S43-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-85
Date Analyzed:	02/02/11	Data File:	101307-85.063
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	29.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S44-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-87
Date Analyzed:	02/02/11	Data File:	101307-87.068
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	33.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	S45-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-89
Date Analyzed:	02/02/11	Data File:	101307-89.069
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	33.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S46-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-91
Date Analyzed:	02/02/11	Data File:	101307-91.071
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	23.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S47-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-93
Date Analyzed:	02/02/11	Data File:	101307-93.072
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	86	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	31.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S48-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-95
Date Analyzed:	02/02/11	Data File:	101307-95.073
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	30.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S49-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-97
Date Analyzed:	02/02/11	Data File:	101307-97.074
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	49.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	S50-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-99
Date Analyzed:	02/02/11	Data File:	101307-99.075
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	14.9

Analysis For Total Metals By EPA Method 200.8

Client ID:	S51-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-101
Date Analyzed:	02/02/11	Data File:	101307-101.076
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	63.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	S52-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-103
Date Analyzed:	02/02/11	Data File:	101307-103.077
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	20.1

Analysis For Total Metals By EPA Method 200.8

Client ID:	S53-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-105
Date Analyzed:	02/02/11	Data File:	101307-105.078
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	25.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S54-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-107
Date Analyzed:	02/02/11	Data File:	101307-107.079
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	18.1

Analysis For Total Metals By EPA Method 200.8

Client ID:	S55-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-109
Date Analyzed:	02/02/11	Data File:	101307-109.081
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	38.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	S56-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-111
Date Analyzed:	02/02/11	Data File:	101307-111.082
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	43.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S57-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-113
Date Analyzed:	02/02/11	Data File:	101307-113.083
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	120

Analysis For Total Metals By EPA Method 200.8

Client ID:	S58-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-115
Date Analyzed:	02/02/11	Data File:	101307-115.084
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	61.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S59-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-117
Date Analyzed:	02/02/11	Data File:	101307-117.085
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	37.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	S60-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-119
Date Analyzed:	02/02/11	Data File:	101307-119.086
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	253

Analysis For Total Metals By EPA Method 200.8

Client ID:	S61-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-121
Date Analyzed:	02/03/11	Data File:	101307-121.041
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	138

Analysis For Total Metals By EPA Method 200.8

Client ID:	S62-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-123
Date Analyzed:	02/03/11	Data File:	101307-123.042
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	119

Analysis For Total Metals By EPA Method 200.8

Client ID:	S63-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-125
Date Analyzed:	02/03/11	Data File:	101307-125.044
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	33.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S64-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-127
Date Analyzed:	02/03/11	Data File:	101307-127.045
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	58.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S65-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-129
Date Analyzed:	02/03/11	Data File:	101307-129.046
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	173

Analysis For Total Metals By EPA Method 200.8

Client ID:	S66-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-131
Date Analyzed:	02/03/11	Data File:	101307-131.047
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	86	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	240

Analysis For Total Metals By EPA Method 200.8

Client ID:	S67-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-133
Date Analyzed:	02/03/11	Data File:	101307-133.048
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	52.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S68-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-135
Date Analyzed:	02/03/11	Data File:	101307-135.038
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	13.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S69-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-137
Date Analyzed:	02/03/11	Data File:	101307-137.049
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	94	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	245

Analysis For Total Metals By EPA Method 200.8

Client ID:	S70-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-139
Date Analyzed:	02/03/11	Data File:	101307-139.050
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	88.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S71-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-141
Date Analyzed:	02/03/11	Data File:	101307-141.051
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	56.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S72-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-143
Date Analyzed:	02/03/11	Data File:	101307-143.053
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	46.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S73-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-145
Date Analyzed:	02/03/11	Data File:	101307-145.054
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	17.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	S74-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-147
Date Analyzed:	02/03/11	Data File:	101307-147.055
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	96	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	182

Analysis For Total Metals By EPA Method 200.8

Client ID:	S75-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-149
Date Analyzed:	02/03/11	Data File:	101307-149.056
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	53.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S76-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-151
Date Analyzed:	02/03/11	Data File:	101307-151.057
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	94.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S77-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-153
Date Analyzed:	02/03/11	Data File:	101307-153.058
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	58.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S78-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-155
Date Analyzed:	02/03/11	Data File:	101307-155.059
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	179

Analysis For Total Metals By EPA Method 200.8

Client ID:	S79-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-157
Date Analyzed:	02/03/11	Data File:	101307-157.060
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	50.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S80-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-159
Date Analyzed:	02/03/11	Data File:	101307-159.061
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	50.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S81-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-161
Date Analyzed:	02/03/11	Data File:	101307-161.077
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	77.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S82-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-163
Date Analyzed:	02/03/11	Data File:	101307-163.023
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	37.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S83-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-165
Date Analyzed:	02/03/11	Data File:	101307-165.024
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	95	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	28.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S84-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-167
Date Analyzed:	02/03/11	Data File:	101307-167.025
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	94	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	73.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	S85-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-169
Date Analyzed:	02/03/11	Data File:	101307-169.026
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	47.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S86-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-171
Date Analyzed:	02/03/11	Data File:	101307-171.028
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	134

Analysis For Total Metals By EPA Method 200.8

Client ID:	S87-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-173
Date Analyzed:	02/03/11	Data File:	101307-173.029
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	96	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	126

Analysis For Total Metals By EPA Method 200.8

Client ID:	S88-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-175
Date Analyzed:	02/03/11	Data File:	101307-175.030
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	94	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	9.75

Analysis For Total Metals By EPA Method 200.8

Client ID:	S89-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-177
Date Analyzed:	02/03/11	Data File:	101307-177.031
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	74.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S90-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-179
Date Analyzed:	02/03/11	Data File:	101307-179.032
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	44.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Environmental Management Services
Date Received:	Not Applicable	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	I1-69 mb
Date Analyzed:	02/02/11	Data File:	I1-69 mb.008
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Environmental Management Services
Date Received:	Not Applicable	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	I1-71 mb
Date Analyzed:	02/02/11	Data File:	I1-71 mb.034
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	83	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Environmental Management Services
Date Received:	Not Applicable	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	I1-72 mb
Date Analyzed:	02/02/11	Data File:	I1-72 mb.061
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Environmental Management Services
Date Received:	Not Applicable	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	I1-73 mb
Date Analyzed:	02/03/11 12:45:50	Data File:	I1-73 mb.036
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Environmental Management Services	
Date Received:	Not Applicable	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	I1-75 mb
Date Analyzed:	02/03/11 10:47:51	Data File:	I1-75 mb.008
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	95	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Date of Report: 02/07/11
Date Received: 01/31/11
Project: Highland 20, LLC-0393-01, F&BI 101307

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 101307-35 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	66.5	123 b	197 b	44-151	46 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	103	80-120

Date of Report: 02/07/11
Date Received: 01/31/11
Project: Highland 20, LLC-0393-01, F&BI 101307

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 101307-65 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	46.3	103 b	147 b	44-151	35 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	101	80-120

Date of Report: 02/07/11
Date Received: 01/31/11
Project: Highland 20, LLC-0393-01, F&BI 101307

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 101307-85 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	29.5	102 b	112 b	44-151	9 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	98	80-120

Date of Report: 02/07/11
Date Received: 01/31/11
Project: Highland 20, LLC-0393-01, F&BI 101307

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 101307-135 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	13.2	107 b	131 b	44-151	20 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	101	80-120

Date of Report: 02/07/11
Date Received: 01/31/11
Project: Highland 20, LLC-0393-01, F&BI 101307

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 101302-11 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	2.03	93 b	100 b	44-151	7 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	100	80-120

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.

A1 – More than one compound of similar molecule structure was identified with equal probability.

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 this range fell outside of acceptance criteria. The value reported is an estimate.

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

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc – The compound is a common laboratory and field contaminant.

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

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. 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 analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is 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 compound indicated 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 in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

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.

101307

SAMPLE CHAIN OF CUSTODY ME 01/31/11

BTC

Page # 1 of 18

Send Report To Steve Spencer

Company Environmental Management Services, LLC

Address 7006 27th Street W, Suite E

City, State, ZIP Tacoma, WA 98466

Phone # (253) 921-7059 Fax # (253) – 369-6228

SAMPLERS *(signature)*

PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S1-A1-6"	01	1/31		So. 1	1							X						Run
S1-A1-12"	02	"		"	"							"						Hold
S2-A1-6"	03	"		"	"							"						Run
S2-A1-12"	04	"		"	"							"						Hold
S3-A1-6"	05	"		"	"							"						Run
S3-A1-12"	06	"		"	"							"						Hold
S4-A1-6"	07	"		"	"							"						Run
S4-A1-12"	08	"		"	"							"						Hold
S5-A1-6"	09	"		"	"							"						Run
S5-A1-12"	10	"		"	"							"						Hold

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

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	FDB	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

101307

SAMPLE CHAIN OF CUSTODY ME 01/31/11

BIG

Page # 2 of 18

Send Report To Steve Spencer

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PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S6-A1-6"	11	1/31		Soil	1							✓						Run
S6-A1-12"	12	↓		↓	↓													Hold
S7-A1-6"	13																	Run
S7-A1-12"	14																	Hold
S8-A1-6"	15																	Run
S8-A1-12"	16																	Hold
S9-A1-6"	17																	Run
S9-A1-12"	18																	Hold
S10-A1-6"	19																	Run
S10-A1-12"	20	↓		↓	↓							↓						Hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

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PROJECT NAME/NO. Highland 20, LLC – 0393-01

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REMARKS

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TURNAROUND TIME

Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	As Sb Hg						Notes
S11-1B-6"	21	1/31		Soil	1							↓						Run
S11-1B-12"	22	↓		↓	↓													Hold
S12-1B-6"	23																	Run
S12-1B-12"	24																	Hold
S13-1B-6"	25																	Run
S13-1B-12"	26																	Hold
S14-1B-6"	27																	Run
S14-1B-12"	28																	Hold
S15-1B-6"	29																	Run
S15-1B-12"	30	↓		↓	↓							↓						Hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	FB	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY

ME 01/31/11

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REMARKS

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TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S16-1B-6"	31	1/31		Soil	1							1						Run
S16-1B-12"	32	"		"	"							"						Hold
S17-1B-6"	33	"		"	"							"						Run
S17-1B-12"	34	"		"	"							"						Hold
S18-1B-6"	35	"		"	"							"						Run
S18-1B-12"	36	"		"	"							"						Hold
S19-1B-6"	37	"		"	"							"						Run
S19-1B-12"	38	"		"	"							"						Hold
S20-1B-6"	39	"		"	"							"						Run
S20-1B-12"	40	"		"	"							"						Hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

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PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S21-2F-6"	41	1/31		Soil	1													Run
S21-2F-12"	42																	hold
S22-2F-6"	43																	Run
S22-2F-12"	44																	hold
S23-2F-6"	45																	Run
S23-2F-12"	46																	hold
S24-2F-6"	47																	Run
S24-2F-12"	48																	hold
S25-2F-6"	49																	Run
S25-2F-12"	50																	hold

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Seattle, WA 98119-2029
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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

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PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

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TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S26-2F-6"	51	1/31		Soil	1													Run
S26-2F-12"	52																	Hold
S27-2F-6"	53																	Run
S27-2F-12"	54																	hold
S28-2F-6"	55																	Run
S28-2F-12"	56																	hold
S29-2F-6"	57																	Run
S29-2F-12"	58																	hold
S30-2F-6"	59																	Run
S30-2F-12"	60	↓		↓	↓							↓						hold

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

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

101307

SAMPLE CHAIN OF CUSTODY ME 01/31/11

Send Report To Steve Spencer

Company Environmental Management Services, LLC

Address 7006 27th Street W, Suite E

City, State, ZIP Tacoma, WA 98466

Phone # (253) 921-7059 Fax # (253) – 369-6228

SAMPLERS *(signature)*

PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME

Standard (2 Weeks) BT4

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S31-2E-6"	61	1/31		Soil	1													Run
S31-2E-12"	62																	hold
S32-2E-6"	63																	Run
S32-2E-12"	64																	hold
S33-2E-6"	65																	Run
S33-2E-12"	66																	hold
S34-2E-6"	67																	Run
S34-2E-12"	68																	hold
S35-2E-6"	69																	Run
S35-2E-12"	70	↓		↓	↓							↓						hold

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Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

BTY 30/18

Page # 8 of 20

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SAMPLERS *(signature)*

PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S36 - 2E - 6"	71	1/31		Soil	1													Run
S36 - 2E - 12"	72	"		"	"													hold
S37 - 2E - 6"	73	"		"	"													Run
S37 - 2E - 12"	74	"		"	"													hold
S38 - 2E - 6"	75	"		"	"													Run
S38 - 2E - 12"	76	"		"	"													hold
S39 - 2E - 6"	77	"		"	"													Run
S39 - 2E - 12"	78	"		"	"													hold
S40 - 2E - 6"	79	"		"	"													Run
S40 - 2E - 12"	80	"		"	"													hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Steven Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

BIY 2218

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PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S41-2D-6"	81	1/31		Soil	1													Run
S41-2D-12"	82	"		"	"													hold
S42-2D-6"	83	"		"	"													Run
S42-2D-12"	84	"		"	"													hold
S43-2D-6"	85	"		"	"													Run
S43-2D-12"	86	"		"	"													hold
S49-2D-6"	87	"		"	"													Run
S49-2D-12"	88	"		"	"													hold
S45-2D-6"	89	"		"	"													Run
S45-2D-12"	90	"		"	"													hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stetton Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

Page # 10 of 22 18

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SAMPLERS *(signature)*

PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME

Standard (2 Weeks) BTEX

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S46-2D-6"	91	1/31		Soil	1													Run
S46-2D-12"	92																	hold
S47-2D-6"	93																	Run
S47-2D-12"	94																	hold
S48-2D-6"	95																	Run
S48-2D-12"	96																	hold
S49-2D-6"	97																	Run
S49-2D-12"	98																	hold
S50-2D-6"	99																	Run
S50-2D-12"	100																	hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Steven Spencer	EMS	1/31	10:30
Received by:		Kurt Johnsen	FSB	1/31	10:30
Relinquished by:					
Received by:			Samples received at	17 °C	

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SAMPLE CHAIN OF CUSTODY ME 01/31/11 BI4

Page # 11 of 18

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Phone # (253) 921-7059 Fax # (253) – 369-6228

SAMPLERS (signature)

PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME
Standard (2 Weeks)
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic					Notes
SS1-2B-6"	101	1/31		Soil	1							✓					Run
SS1-2B-12"	102	↓		↓	↓							↓					hold
SS2-2B-6"	103	↓		↓	↓							↓					Run
SS2-2B-12"	104	↓		↓	↓							↓					hold
SS3-2B-6"	105	↓		↓	↓							↓					Run
SS3-2B-12"	106	↓		↓	↓							↓					hold
SS4-2B-6"	107	↓		↓	↓							↓					Run
SS4-2B-12"	108	↓		↓	↓							↓					hold
SS5-2B-6"	109	↓		↓	↓							↓					Run
SS5-2B-12"	110	↓		↓	↓							↓					hold

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Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	[signature]	Stephon Spencer	EMS	1/31	10:30
Received by:	[signature]	Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

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SAMPLERS *(signature)*

PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME

Standard (2 Weeks) BT4

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S56-2B-6"	111	1/31		Soil	1													Run
S56-2B-12"	112																	hold
S57-2B-6"	113																	Run
S57-2B-12"	114																	hold
S56-2B-6"	115																	Run
S58-2B-12"	116																	hold
S59-2B-6"	117																	Run
S59-2B-12"	118																	hold
S60-2B-6"	119																	Run
S60-2B-12"	120																	hold

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3012 16th Avenue West
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Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spruck	EMS	1/31	1030
Received by:					
Relinquished by:					
Received by:					

Samples received at 17 °C

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

Page # 13 of 18 BIK

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SAMPLERS *(signature)*

PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S61-2A-6"	121	1/31		Soil	1													Run
S61-2A-12"	122																	hold
S62-2A-6"	123																	Run
S62-2A-12"	124																	hold
S63-2A-6"	125																	Run
S63-2A-12"	126																	hold
S64-2A-6"	127																	Run
S64-2A-12"	128																	hold
S65-2A-6"	129																	Run
S65-2A-12"	130																	hold

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Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 4 °C		

101307

SAMPLE CHAIN OF CUSTODY

ME 01/31/11

BTY

Page # 14 of 18

Send Report To Steve Spencer

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Address 7006 27th Street W, Suite E

City, State, ZIP Tacoma, WA 98466

Phone # (253) 921-7059 Fax # (253) – 369-6228

SAMPLERS *(signature)*

PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S66-2A-6"	131	1/31		Soil	1													Run
S66-2A-12"	132	"		"	"													hold
S67-2A-6"	133																	Run
S67-2A-12"	134																	hold
S68-2A-6"	135																	Run
S68-2A-12"	136																	hold
S69-2A-6"	137																	Run
S69-2A-12"	138																	hold
S70-2A-6"	139																	Run
S70-2A-12"	140																	hold

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Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Steven Spencer	EMS	1/31	17:30
Received by:		Kurt Johnson	FBB	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

101307

SAMPLE CHAIN OF CUSTODY ME 01/31/11

BDY

Page # 15 of 18

Send Report To Steve Spencer

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Address 7006 27th Street W, Suite E

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PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S71-2C-6"	141	1/31		Soil	1													Run
S71-2C-12"	142																	hold
S72-2C-6"	143																	Run
S72-2C-12"	144																	hold
S73-2C-6"	145																	Run
S73-2C-12"	146																	hold
S74-2C-6"	147																	Run
S74-2C-12"	148																	hold
S75-2C-6"	149																	Run
S75-2C-12"	150																	hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY NE 01/31/11

BT4

Page # 16 of 18

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PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S76-2C-6"	151	1/31		Soil	1													Run
S76-2C-12"	152																	hold
S77-2C-6"	153																	Run
S77-2C-12"	154																	hold
S78-2C-6"	155																	Run
S78-2C-12"	156																	hold
S79-2C-6"	157																	Run
S79-2C-12"	158																	hold
S80-2C-6"	159																	Run
S80-2C-12"	160																	hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		STEPHEN SPENCER	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at	17 °C	

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

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REMARKS

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TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic					Notes
SB1-2G-6"	161	1/31		Soil	1												Run
SB1-2G-12"	162																hold
SB2-2G-6"	163																Run
SB2-2G-12"	164																hold
SB3-2G-6"	165																Run
SB3-2G-12"	166																hold
SB4-2G-6"	167																Run
SB4-2G-12"	168																hold
SB5-2G-6"	169																Run
SB5-2G-12"	170																hold

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Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

101307

SAMPLE CHAIN OF CUSTODY ME 01/31/11

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REMARKS

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TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
SB6-2G-6'	171	1/31		Soil	1													Run
SB6-2G-12'	172																	hold
SB7-2G-6'	173																	Run
SB7-2G-12'	174																	hold
SB8-2G-6'	175																	Run
SB8-2G-12'	176																	hold
SB9-2G-6'	177																	Run
SB9-2G-12'	178																	hold
SB10-2G-6'	179																	Run
SB10-2G-12'	180																	hold

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Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		STEPHEN SPENCER	EMS	1/31	10:30
Received by:		Kurt Johnson	FSB	1/31	10:30
Relinquished by:					
Received by:			Samples received at 7 °C		

Attachment D

Professional Qualifications

Attachment D
Professional Qualifications

Environmental Management Services, LLC

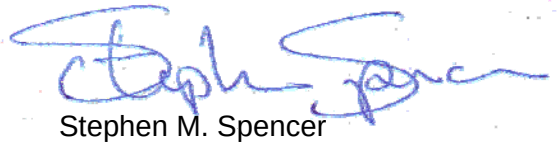
Environmental Management Services (EMS) is an environmental contracting and consulting company addressing client's needs throughout the West Coast. Our serves industries include the real estate community, general contractors, property developers and local and state government. We understand the importance of blending a variety of expertise and experience in order to provide our clients the most effective leadership in addressing their specific project needs. Our professionals combine a high level of technical ability with a broad understanding of the overall regulatory compliance requirements.

As an environmental services and consulting company, EMS prides itself maintaining a broad understanding of the most current regulatory compliance requirements, local and state permitting requirements and maintaining contact with our region's environmental advocacy group's positions. EMS provides our clients the services they require by offering cost effective, non-biased, practical, solutions while maintaining positive relations with the regulatory community.

Our associates have completed projects including remedial investigation / feasibility studies (RI/FS), remediation design and management, facility regulatory compliance assessments, due diligence assessments, regulatory compliance training, underground storage tank compliance and hazardous materials management as well as many other environmental compliance related matters for clients throughout the west coast in all avenues of business. The varied background our associates possess compliments the diverse nature of our clientele, providing better understanding of our client's needs and ultimate goals for their projects.

The information in the following pages outlines our professional experience and capabilities in providing environmental management and consulting services. We appreciate your interest in EMS. At your convenience, please feel free to contact our office should you have any questions regarding this document or for more information on the services we provide.

Sincerely,
Environmental Management Services



Stephen M. Spencer
Principal

Stephen M. Spencer
Principal

Mr. Spencer started his career in the environmental services and construction industry in 1987. During his career, he has worked on and successfully completed projects in many varied aspects of the environmental industry. Since 2002, as principal and senior project manager for Environmental Management Services, Mr. Spencer has successfully completed projects for clients throughout the west coast. His forte is in facility assessment, due diligence investigation, health & safety program development and remediation management.

Mr. Spencer has established positive working relationships with regulatory agencies throughout the west coast, affording his clients a superior level of confidence in his approach to their specific project.

His skills as a project manager frequently result in significant savings in both time and budget to his clients. He is proficient in report writing providing a clear, concise detail of project activities including supporting documents and figures. His client's have ranged from property owners and facility operators to the regulatory agencies themselves. His overall understanding of environmental compliance requirements provides a unique perspective on assessing potential and realized environmental risk and a creative understanding of remediation technique.

Robin P. Hamlet, L.G. / L.HG
Sr. Environmental Scientist / Project Manager

- State of Washington Licensed Geologist/Hydrogeologist
- Ecology Licensed Washington State Site Assessor
- Ecology Licensed UST Decommissioning Supervisor
- AHERA Licensed Building Inspector
- OSHA Hazardous Materials & Emergency Response Certified

Robin P. Hamlet is a Licensed Geologist and Hydrogeologist in the State of Washington**.** Mr. Hamlet has 30 years experience in the geological sciences with over 25 years providing professional environmental consulting services. Mr. Hamlet has been involved with environmental investigations working on Environmental Protection Agency (EPA), United States Navy and Air Force environmental projects, as a project geologist and project manager. As a Senior Project Manager in the private sector, Mr. Hamlet has performed multiple Phase I and Phase II Environmental Site Assessments; including geophysical surveys, soil and groundwater studies and has managed the design and implementation of soil and groundwater remediation projects.

As a Licensed Washington State Underground Storage Tank (UST) Decommissioner and Licensed Site Assessor, Mr. Hamlet has managed multiple UST decommissioning and remediation projects, has prepared proposals, final reports, budgets, contracts with subcontractors, negotiated with prospective clients, and coordinated activities with regulatory agencies. Mr. Hamlet has been involved in training personnel in environmental field operations and Health & Safety programs, has working knowledge of state (NW states) and federal environmental regulations and the ASTM standards. As an AHERA Building Inspector, Mr. Hamlet has performed hazardous materials surveys, air monitoring projects as well as providing asbestos abatement projects.

Adam Harris, L.G.
Sr. Environmental Scientist (Contract)

- Master of Science in Sedimentary Geology
- Licensed geologist in California and Washington
- Current OSHA 40 Hour HAZWOPER
- Certified Oracle Database 9 Administrator
- Certified MS Access 2007 Administrator
- Certified ARC/INFO 9.1 Professional

Mr. Harris has a Batchers of Science degree from the University of California (UC), Davis in Environmental & Recourses Sciences, Specializing in Vadose zone and aqueous geochemistry, hydrology, and environmental management. Mr. Harris graduated with Honors and a Citation for excellence. Mr. Harris continued his education, receiving his Masters in Geology from the University of California, Davis. His thesis Topic was: Environmental geochemistry and paleomagnetism of sediment cores obtained from Ocean Drilling Program Leg 169S, Saanich Inlet, British Columbia.

Engineering Geologist,
Leaking Underground Storage Tank Cleanup Program (2001 to 2005)

- Mr. Harris, as a California State Water Recourses Board site manager, implemented state and federal regulations for LUST program. He provided regulatory oversight, reviewed and commented on hydrogeologic reports, plans and findings submitted by other regulated parties for LUST surface spill sites, and surface mines.
- Mr. Harris conducted site investigations, developed site conceptual models, model development, calibration and validation. Further, he reviewed petitions appealing technical decisions of local and regional agencies, Mediated and resolved conflicts between local regulatory agencies and the regulated community.

- Mr. Harris has authored professional opinions, position papers, technical reports, legal orders, notices, presentations and letters for wide stakeholder distribution. Investigated and reported on emerging contaminant fate and transport pathways and collaborated on development and management of statewide online site reporting database.
- Provided technical oversight and guidance to local UST programs, building local program knowledge and ensuring statewide program consistency. Conducted oversight of UST inspections for consistency in program implementation. Introduced legislative concepts resulting in promulgation of new UST regulations.

Geologic Technician - 1999 to 2000

- Mr. Harris participated in international scientific research expedition. Planned transport, set up and operation of environmental analysis laboratory in Antarctica. Investigated and analyzed high-resolution environmental records. Reported research results for publication.

James E. Corcoran, P.E.
Sr. Project Manager / Sr. Project Engineer (Contract)

- Bachelor of Science - Civil Engineering - Oregon State University - 1991
- Washington State Registered Professional Engineer – 1999
- OSHA Hazardous Materials & Emergency Response Certified

Mr. Corcoran has 17 years of experience in Civil Engineering and Project Management. For the past three years, Mr. Corcoran has been the principal of a consulting business that provides civil engineering consulting and site development services including:

- Critical Areas Review
- FEMA floodplain study
- State Environmental Policy Act (SEPA) checklist
- Stormwater Pollution Prevention Plans (SWPPP)
- Spill Prevention, Control, and Countermeasure (SPCC) plans
- Temporary Erosion/Sediment Control (TESC) plans
- Permanent soil stabilization and precise grading plans
- Surface water collection, detention, retention, treatment, and infiltration design
- Construction coordination with utility purveyors
- Site inspection to verify conformance with design intent and contract documents

Mr. Corcoran has provided civil engineering consulting and stormwater management on residential, commercial, and industrial development projects in multiple Washington state jurisdictions including the City of Tacoma, the City of Lacey, the City of Kent, Pierce County, and King County. Specific projects that Mr. Corcoran provided engineering service include:

- Preparing a TESC plan, SPCC plan, and surface water drainage collection and treatment system for a proposed petroleum products recycling process facility which discharges to a municipal storm sewer located in the Port of Tacoma
- Preparing a SEPA checklist, TESC plan, SPCC plan and surface water drainage collection and treatment system for a proposed privately owned fueling facility, which drains to an environmentally sensitive wetland in the City of Kent.
- Preparing a TESC plan, and permanent surface water drainage retention and treatment system, which infiltrates to site soils underlying a proposed commercial retail center in Pierce County.
- Preparing a TESC plan and permanent surface water drainage collection and treatment system which discharges to a municipal storm sewer in the City of Tacoma.
- Preparing a TESC plan and permanent surface water drainage collection, detention and treatment system for a proposed supermarket and commercial retail center located on the Key Peninsula.

Collette Foley, B.S. Geology
Environmental Scientist / Geologist

- Ecology Licensed Site Assessor
- Ecology Licensed UST Decommissioning Supervisor
- AHERA Licensed Building Inspector
- OSHA Compliance Supervisor
- OSHA Hazardous Materials & Emergency Response Certified

Ms. Foley has been conducting Phase I and II Environmental Site Assessments of commercial, industrial, multi- and single-family residential properties throughout western Washington since 2004. Ms. Foley performs a variety of activities associated with completing due diligence investigations including, but not limited to current and historical site research, regulatory agency file reviews, and subsurface investigations including drilling soil borings and installing monitoring wells to determine the presence and outcome of contamination in soil and groundwater.

Additionally, Ms. Foley completes asbestos "*Good Faith*" surveys prior to demolition or renovation of buildings; conducts project oversight for UST removals; and provides extensive environmental consulting as requested. Ms. Foley received her Bachelors degree in Geology and Environmental Science in 2003 from Pacific Lutheran University and has over two years experience as a field geologist / hydrogeologist performing regional hydrogeologic characterization and production well drilling.

Kevin Foley, B.S. Environmental Science, AICP
Sr. Environmental Planner

- AICP Certified Planners
- Washington State Commercial Real Estate Agent

Mr. Foley currently serves as EMS's main point of contact to assist in the resolution of land use, zoning and permitting issues at the local, state and federal level. He has extensive experience in helping prepare and process development proposals for vacant property and the expansion or renovation of developed sites. He also coordinates certain baseline/investigative work by coordinating land surveys needs, sensitive area analysis and the completion of civil design plans for roads, water, traffic and storm water requirements.

Gina Mulderig, B.S. Chemistry
Environmental Scientist / Chemist

- Ecology Licensed Site Assessor
- Ecology Licensed UST Decommissioning Supervisor
- AHERA Licensed Building Inspector
- Certified Erosion and Sediment Control Lead
- OSHA Hazardous Materials & Emergency Response Certified

Ms. Mulderig received her Bachelors degree in Chemistry from the University of Puget Sound in 1979. Ms. Mulderig has been working in the environmental regulatory compliance field since 1985, starting her career with a position as an environmental analyst for Weyerhaeuser Company. Her fifteen year position at Weyerhaeuser required a thorough knowledge of environmental regulatory compliance, focusing on groundwater monitoring, waste water management, storm water management and facility compliance audits.

Ms. Mulderig worked with two local environmental services / consulting firms from 2000 until 2007, greatly increasing her overall regulatory compliance, hydrogeology and environmental engineering knowledge and experience.

Her position with EMS as a Project Manager / Environmental Scientist provides a vast knowledge base to EMS clients in multiple areas of regulatory compliance and environmental science.

Kaitlyn Allegretti, B.S. Geology
Environmental Scientist / Technician

- Ecology Licensed UST Decommissioning Supervisor
- Ecology Licensed Site Assessor
- AHERA Licensed Building Inspector
- OSHA Hazardous Materials & Emergency Response Certified

Ms. Allegretti serves as a site manager and field technical for EMS. Ms. Allegretti graduated from the University of Dayton (2005) with a Bachelor's degree in Geology. Ms. Allegretti's primary responsibilities are field work including monitoring well sampling, underground storage tank closure and decommissioning and asbestos inspections. Ms. Allegretti was licensed as an AHERA building inspector and UST Decommissioner within the first 60 days of her employment.

During her two years with EMS, Ms. Allegretti has completed in excess of fifty Phase I Environmental Site Assessments and in excess of 20 commercial underground storage tank closure projects.

James D. Coppernoll, L.G. / L.HG (Sub-Consultant)
Licensed Geologist / Hydrogeologist

- Washington State Licensed Geologist and Hydrogeologist
- Ecology Licensed Site Assessor

James D. Coppernoll is a Washington State licensed Geologist and Hydrogeologist with thirteen years of experience practicing environmental geology in the Northwest. During his career, Mr. Coppernoll worked with clients ranging from major oil companies and national corporations to local businesses to identify, manage, and resolve their environmental problems and helped local agencies, businesses, and individuals with their environmental, geological, and regulatory issues.

Mr. Coppernoll has conducted various environmental and geological investigations ranging from numerous Phase I Environmental Assessments to contaminated site investigations and remedial planning and implementation as well as land use and development studies in Washington, Oregon, Idaho, Montana, and Alaska, and has frequently acted as a regulatory liaison and client representative in third-party negotiations.

Mr. Coppernoll managed all phases of assessment and remediation at dozens of retail and bulk fuel facilities for major oil companies in the Northwest including: excavation and disposal of contaminated soil; free product recovery; feasibility studies; and design, installation, and

operation/maintenance of in-situ soil and ground water remediation systems. Mr. Coppernoll managed many of these sites from initial assessment through remediation and closure with the state.

Mr. Coppernoll has conducted geological investigations and assessments for diverse property development projects in the northwest including landfills, hot springs, and residential properties. The purpose of these assessments and investigations was to provide professional and reliable information for use in developing sensitive areas properties.

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Arsenic Contaminated Soil Corrective Action Plan (Revised)

1400 Highland Parkway
Tacoma, Washington

Original: February 16, 2012
Revised: March 26, 2012

Completed For:

Highlands Twenty, LLC
Joe Foss, Managing Partner
1400 Highland Parkway
Tacoma, Washington

Matthew P. Loxterman
Sr. Environmental Scientist

Stephen M. Spencer
Principal Environmental Scientist

Prepared By:

ECI | Environmental Consulting.
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ECI Project No.: 0393-02

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- Figure 2: Site Topographic Map
- Figure 3: Site Map - Area
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- Figure 6: Site Map – Lot 2C
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- Figure 8: Tee Box / Teeing Ground - General Grading Plan

Attachment B: Previous Environmental Reports

- February 2011 Arsenic Investigation
- September 2011 Arsenic Investigation

1.0 Introduction

EcoCon, Inc. (ECI), at the request of Highland Twenty, LLC, has completed this Corrective Action Plan (CAP) following the identification of arsenic impacted soil on nine prospective building sites in Tacoma, Washington. These sites are located at 1400 Highland Parkway, Tacoma, Washington on Pierce County parcels 4467100700, 4467100660, 4467121270 and 4467121280. ECI understands that the current development plan has been changed to include only four of the original nine lots. The new development plan will include the removal of arsenic impacted soil from four future residential building sites located on two of parcels 4467121270 (lots 2A and 2B) and 4467121280 (lots 2D and 2E), use the impacted soil for improvements to the parent parcels, complete the re-plat separating the newly remediated lots from their original "parent" parcels and apply for a No Further Action Determination (NFA) for the newly remediated and platted lots from the Washington State Department of Ecology (Ecology).

1.1 Objectives

This CAP details the remediation activities selected to bring the four selected site(s) into general compliance with Washington State Model Toxics Control Act (MTCA) Cleanup Regulations (WAC 173-340) and obtain a "No Further Action" (NFA) determination from the Department of Ecology (Ecology).

The objective of this CAP is to evaluate and describe the remedial techniques selected to clean up contaminated site soils impacted by offsite historic actives at the Asarco Smelter located in Ruston, Washington.

1.2 Background

According to the Washington Department of Ecology (Ecology), the Site is located within the Tacoma Asarco Smelter Plume (Smelter Plume)[1]. The City of Tacoma has required that the subject Site(s) be assessed for arsenic and lead contamination related to the Smelter Plume. Ecology provides sampling guidelines that stipulate a minimum of ten (10) soil samples be collected per acre or building site at six inch increments.

The Site was historically naturally forested then developed into an 18-hole golf course in the 1930's. Using existing soil and imported soil, the golf course was landscaped. The golf course grounds have been routinely re-landscaped over the past 80 years, gradually reducing the original 18-holes to 9-holes and the construction of a residential community surrounding the golf course. The natural topography of the golf course and adjacent areas consists of a gently rolling landscape having a gross general downward slope to the west. With development and redevelopment of the area some of the rolling

[1] http://www.ecy.wa.gov/programs/tcp/sites/dirt_alert/studies_and_maps/sources.html

topography has been smoothed and some accentuated with the addition of roads, building sites, and fairways.

1.2 Site Geology

Based on test pit excavations completed during a geotechnical survey (Allen L. Hart Engineering Geologist – February 2011), below a layer of sod/topsoil, in non fill areas the site is generally underlain by approximately one to three feet of brown to tan, loose to medium dense, silty sand having a variable gravel content, which in turn is underlain by a tan-to gray, medium dense to very dense, silty sand with a varying gravel content (glacial till, Alderwood Group agricultural soils[2].)

2.0 Previous Investigations

Initial sampling completed in February 2011 identified Arsenic at concentration exceeding the 20 mg/kg MTCA-A CUL at 95% of the sample locations encompassing each of the original nine building sites extending from the surface to 6 inches bgs (Table 1 – Attached). A second sampling event conducted on Lot 2A (one of the original 9 lots) on September 9, 2011 included the collection of ten soil samples at 18 to 24 inches bgs. Of the 10 sample locations, three were reported exceeding the MTCA-A Arsenic CUL of 20 mg/kg. Total lead was analyzed on each of the three samples reported containing arsenic exceeding the applicable CUL. Total lead concentrations were reported below the 250 mg/kg MTCA-A CUL.

2.1 Regulatory Compliance

Regulatory compliance for this project is provided by the Washington State Department of Ecology (Ecology), Washington Administrative Code (WAC) 173-340, the Model Toxic Control Act (MTCA). Impacted soil investigations and remedial actions must meet the substantive requirements as specified in MTCA. The target point of compliance is meeting the Method A Soil Cleanup Levels for Unrestricted Land Uses – WAC 173-340-900 - Table 740-1. Specifically, the cleanup level for total arsenic (20 mg/kg) and total lead (250 mg/kg).

3.0 Site Remediation

Using excavation equipment the top 12 inches of soil will be excavated and transferred to a receiving area located approximately 200 feet away from the excavation area (Figure 2). Each lot is expected to contain 200 to 300 cubic yards of impacted soil. After the soil transfer, the receiving area will be landscaped into a tee box[3] or other golf course features (see “Contaminated Soil Stabilization - Tee Box & Landscaping” - below). Six millimeter plastic will be used to cover the soil until tee box / landscape construction is completed.

[2] http://www.dnr.wa.gov/ResearchScience/Topics/GeologyofWashington/Pages/lowland.aspx

[3] The "tee box" is just another term for teeing ground. The teeing ground is the starting point on each hole of a golf course. It's the area covered by the space in-between two tee markers and two-club-lengths back from the tee markers.

Following the removal of the initial 12 inches of soil, samples will be collected at 10 select locations and analyzed for arsenic and lead. Sample results will be expedited to assist in any additional excavation beyond 12 inches bgs. This process will be repeated every 12 inches until sample results are reported below applicable CULs. Based on previous sampling events (September 2011) and subsurface geology, specifically glacial till (till) formations identified in the 2011 geotechnical survey (Allen L. Hart Engineering – 2011) impacted soil is not expected to extend below 36 inches bgs.

3.1 Sample Collection & Analysis

Soil sample locations following the initial excavation event will be placed in general proximity to the original sample locations as shown on Figure 4-7). Ten samples will be collected initially following excavation activities. Soil sample analytical results will dictate additional excavation and sampling requirements.

Soil samples will be collected following each 12 inch excavation activity. Each sample will be collected by a properly trained environmental professional using industry standard sampling techniques. At each of the ten sample locations, a discrete sample will be collected extending approximately 6 inches below existing grade using properly decontaminated sampling equipment and donning disposable personal protective equipment (e.g. nitrile gloves, eye protection). One new 4-ounce laboratory provided sample jar with teflon lined lid will be filled, assigned a unique identification number and stored in a climate controlled container maintained at 4° Celsius. Following sample collection, the samples will be delivered to a properly accredited laboratory under industry standard Chain of Custody. Each sample will be analyzed for arsenic and lead by EPA Method 200.8.

3.2 Contaminated Soil Stabilization – Golf Course Landscaping

Soil transported from each of the remediation sites will be stockpiled / landscaped to allow for golf features construction following transfer activites. The landscaped surface (soil surface) will be graded and covered with plastic daily during import and landscape activites. Stormwater best management practices will be implemented as necessary, and as described in the City of Tacoma approved temporary erosion and sediment control (TESC) plan. Final grade will be landscaped and incorporated into existing golf course features and seeded per golf course specifications.

3.3 Tee Box / Teeing Ground Construction

Final disposition of displaced arsenic impacted soil will be used to construct four new Teeing Grounds (Tee Box's). Each box will be approximately 100 to 150 feet in length and 34 to 50 feet wide. The Tee Box elevation will slope gradually (3 to 1) from the existing grade to the final grade expected to be 2.5 to 4 feet above the existing grade (Figure 8). The imported arsenic impacted soil will be graded as specified and seeded. New top soil and mulch will be used as necessary. As the receiving area where the Tee Box is to be constructed is also impacted with arsenic, further capping features are deemed excessive.

3.2 Health & Safety

A site specific health and safety plan will be completed addressing hazards associated with known contaminates, proposed excavation activities and outlining working conditions and worker exposure.

All site workers and inspectors conducting compliance inspections must have the following minimum training:

1. 40 hour Hazardous Waste Sites training as required by OSHA or
2. Certification showing completion of the annual Refresher for Hazardous Waste sites (8 hour), if applicable.

4.0 Site Closure Reporting – Voluntary Cleanup Program

Following excavation and confirmation sampling activities a report will be prepared detailing remediation activities, sampling activities and analytical results.

Each of the four sites will be entered separately into the Washington State Voluntary Cleanup Program (VCP) with the intent to receive a No Further Action (NFA) determination. Collaboration with Ecology both through the use of this work plan and continued communication, prior to, during and following corrective action activities is expected to meet all requirements outlined within the Washington Administrative Code (WAC) 173-340: Model Toxic Control Act (MTCA).

5.0 Conclusion

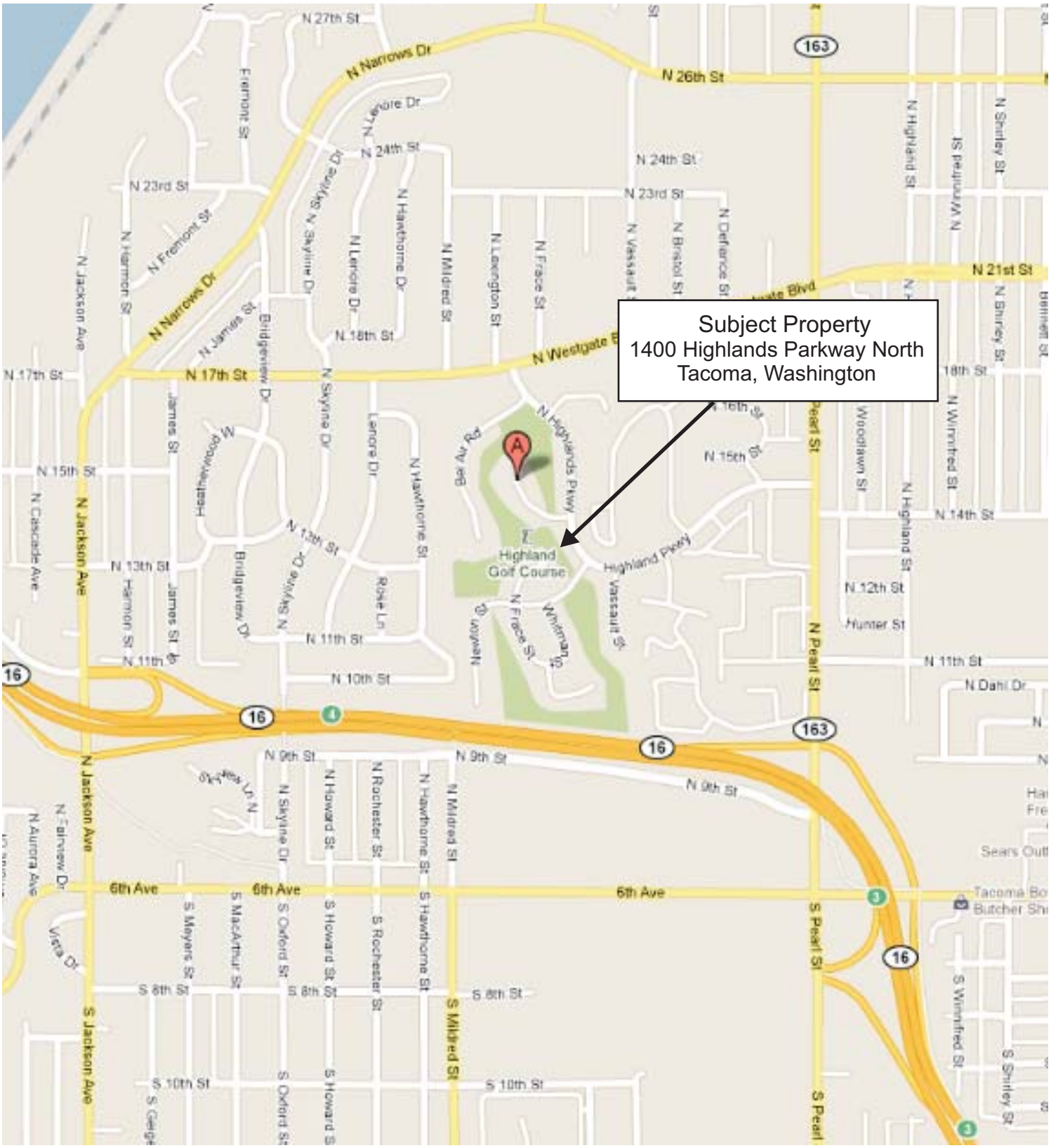
The purpose of this work plan is to provide corrective action guidelines during construction activities. As with all projects, the more information gathered in the planning stages, the less possibility of plan deviation or need for contingencies. As identified in the previous investigations, the top six inches of soil is impacted with arsenic exceeding the MTCA-A cleanup level of 20 mg/kg. What is not known is the vertical extent (depth) of impacted soil. Sample results from the September 2011 sampling event identified arsenic at 35% of sample locations at 18 to 24 inches bgs. Glacial till or “hard pan” was identified during the 2011 Geotechnical Assessment (Hart – 2011) at depths ranging from 12 to 36 inches bgs throughout the site(s). Total excavation depth is not expected to exceed 24 inches bgs except at a minimal number of locations on each Lot.

Specific activities with regard to the excavation and management of impacted soil and the installation of the final landscape will vary, however the intent remains constant, to remove impacted soil exceeding applicable cleanup levels, and apply for a No Further Action determination on each of the four newly subdivided lots.

Following construction, a summary report detailing the specific corrective action will be completed and submitted to Ecology, with a request for a No Further Action determination.

Attachment A

Project Figures



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Not To Scale

Site Location Map
1400 Highlands Parkway North
Tacoma, Washington

Date:	January 17, 2012
Completed By:	M. Kennendy
Reviewed By.:	S.Spencer
Version:	ECI-002
Project No.:	0393-03

Figure No.: 01
Sheet 01 of 01

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N
Not To Scale

Site Topographic Map
1400 Highlands Parkway North
Tacoma, Washington

Date:	January 17, 2012
Completed By:	M. Kennendy
Reviewed By.:	S.Spencer
Version:	ECI-002
Project No.:	0393-03

Figure No.: 02
Sheet 01 of 01

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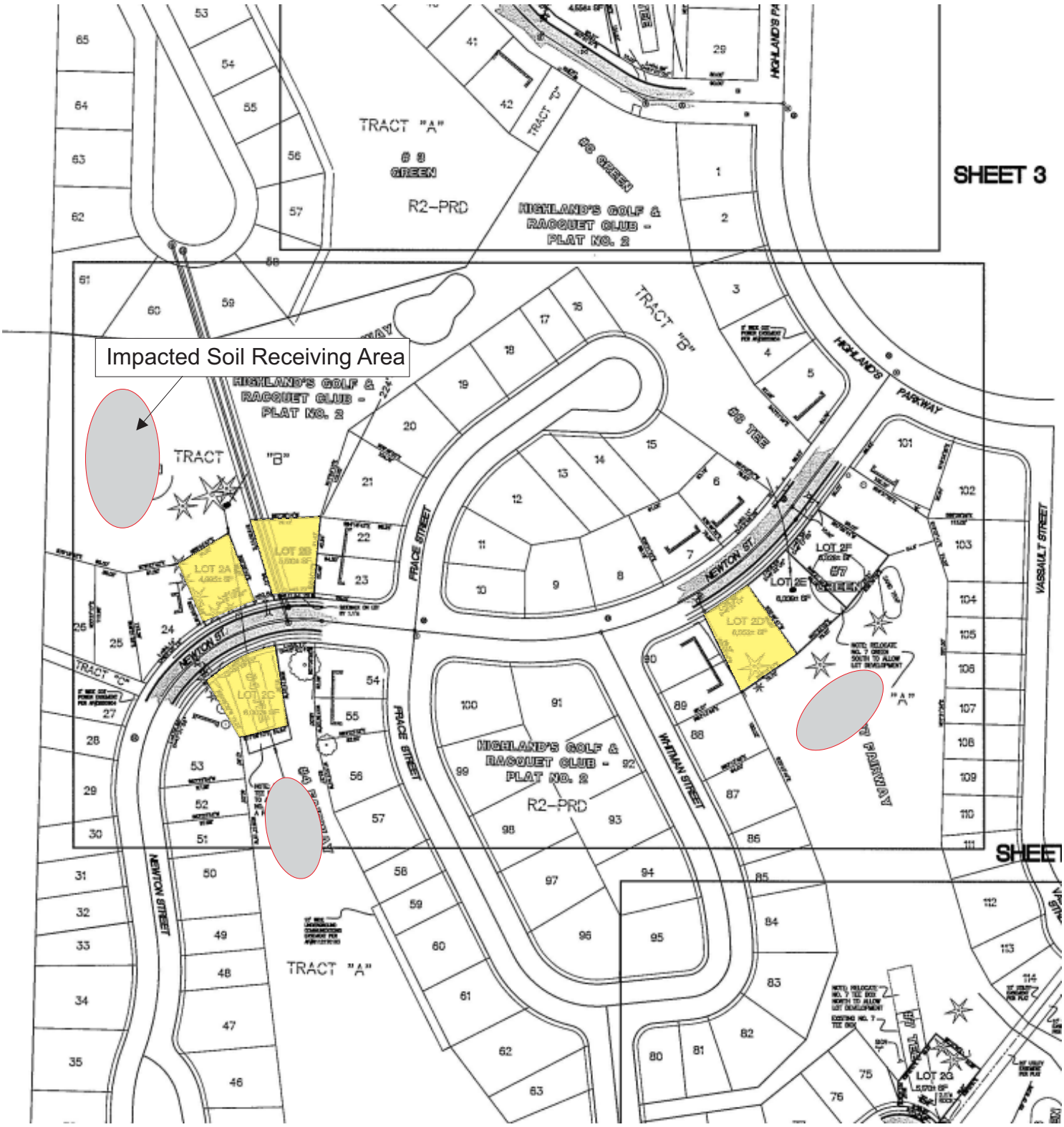

Lots to be remediated

Impacted soil receiving area

N

Not To Scale

Site Map
1400 Highlands Parkway North
Tacoma, Washington

Date:	January 17, 2012
Completed By:	M. Kennendy
Reviewed By.:	S.Spencer
Version:	ECI-002
Project No.:	0393-03

Figure No.: 03

Sheet 01 of 01

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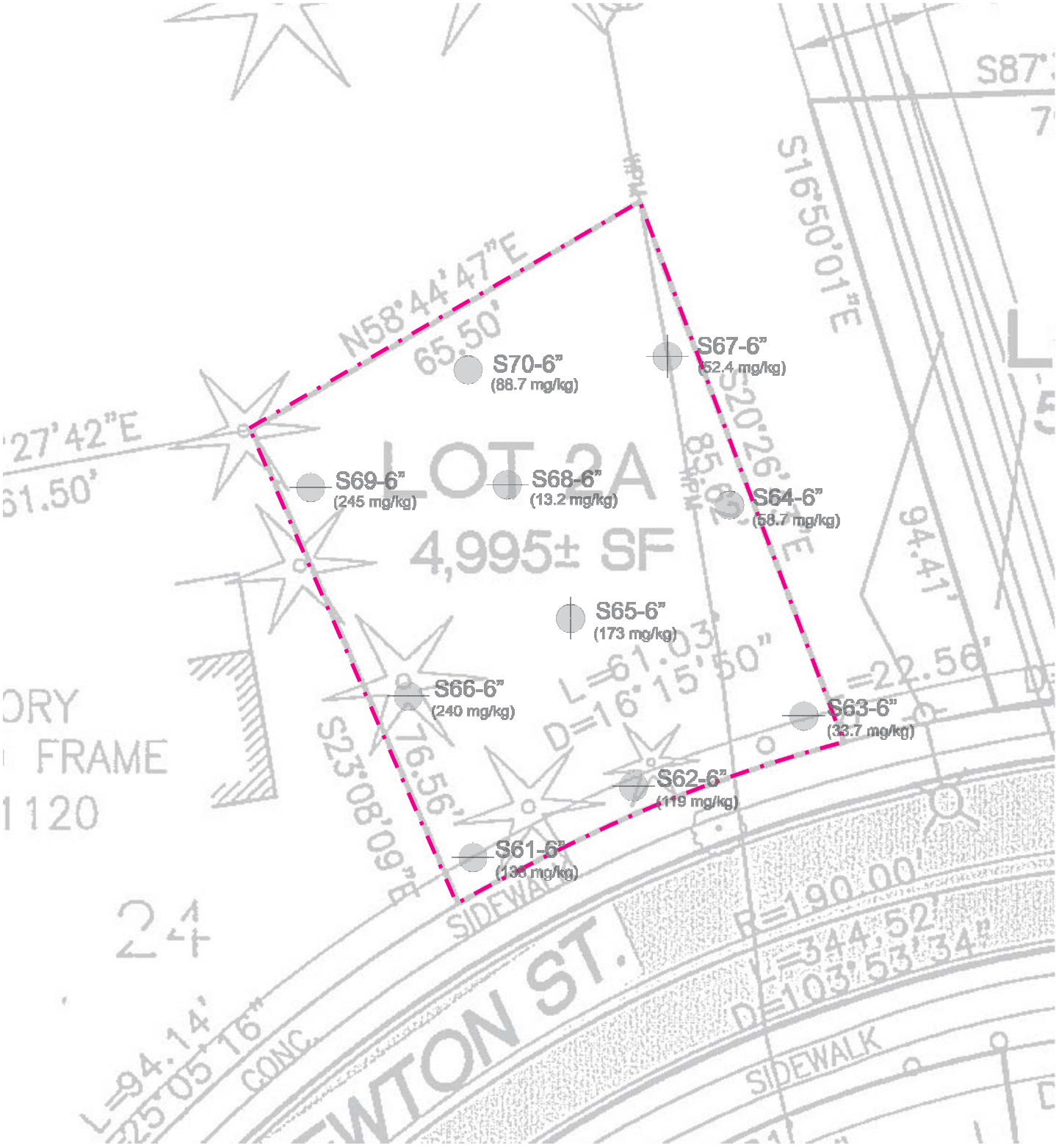

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Not To Scale

Lot 2A
1400 Highlands Parkway North
Tacoma, Washington

Date:	January 17, 2012
Completed By:	M. Kennendy
Reviewed By.:	S.Spencer
Version:	ECI-002
Project No.:	0393-03

Figure No.: 04
Sheet 01 of 01

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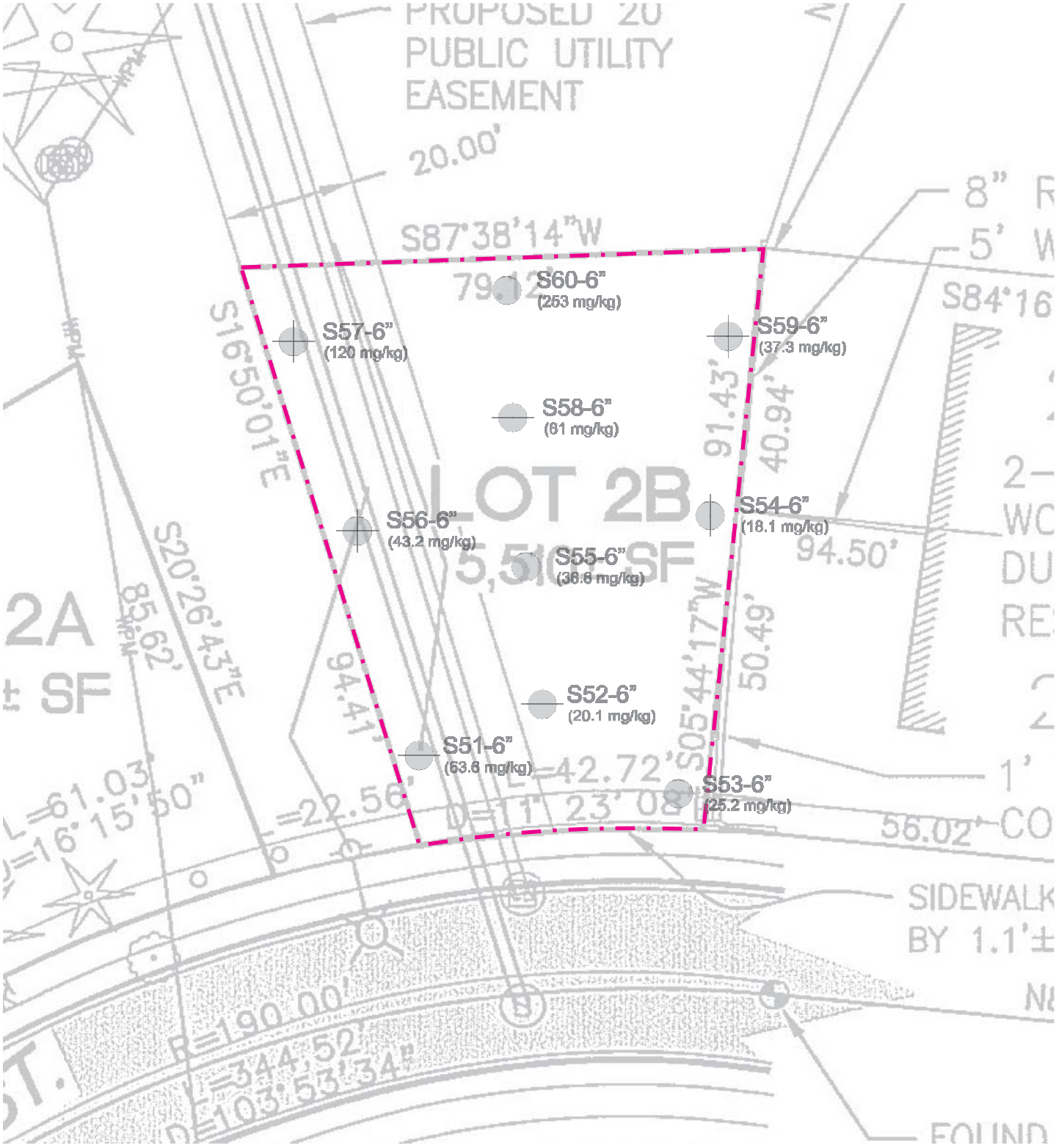

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Not To Scale

Lot 2B
1400 Highlands Parkway North
Tacoma, Washington

Date:	January 17, 2012
Completed By:	M. Kennendy
Reviewed By.:	S.Spencer
Version:	ECI-002
Project No.:	0393-03

Figure No.: 05
Sheet 01 of 01

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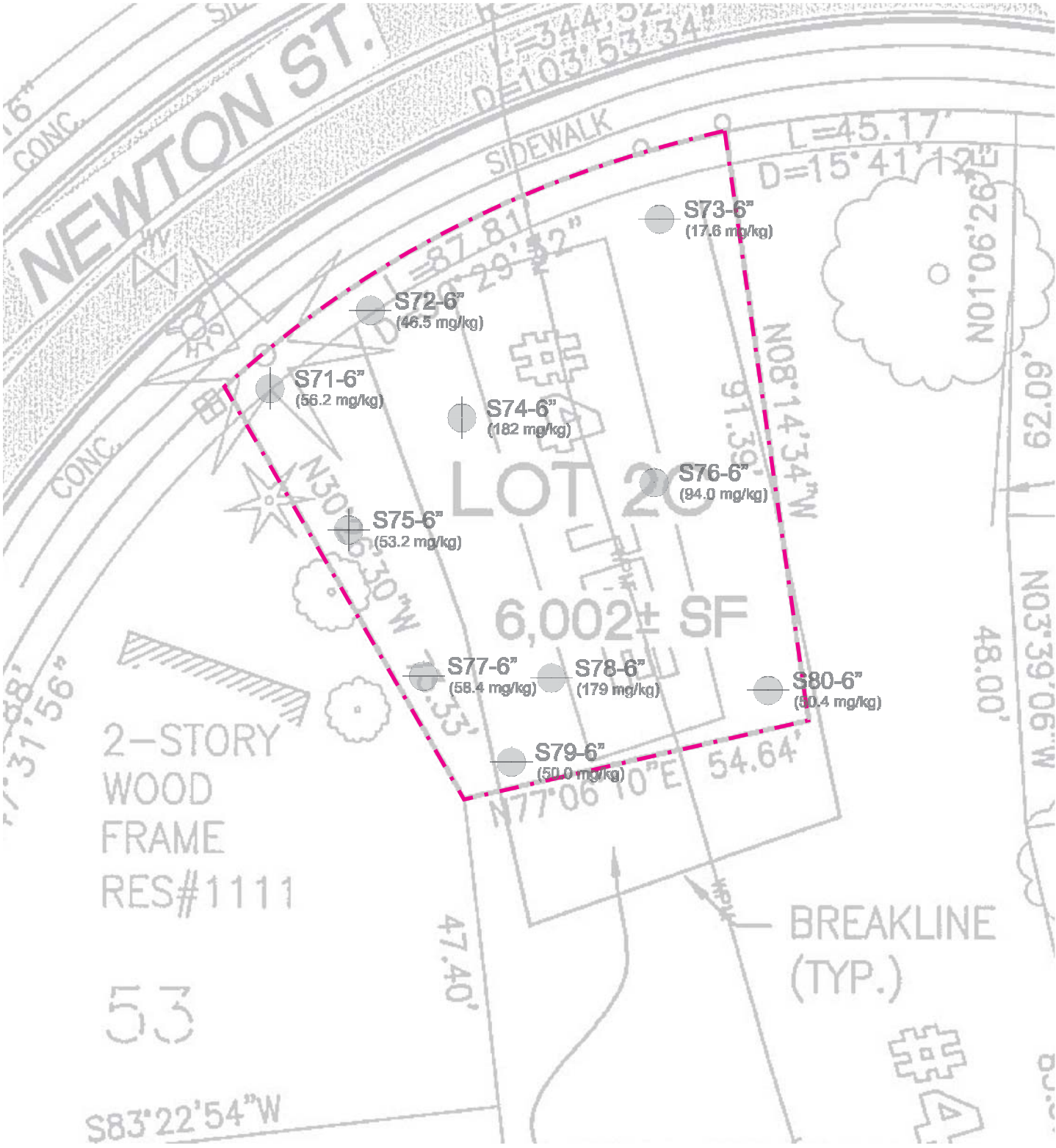

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Not To Scale

Lot 2C
1400 Highlands Parkway North
Tacoma, Washington

Date:	January 17, 2012
Completed By:	M. Kennendy
Reviewed By.:	S.Spencer
Version:	ECI-002
Project No.:	0393-03

Figure No.: 06
Sheet 01 of 01

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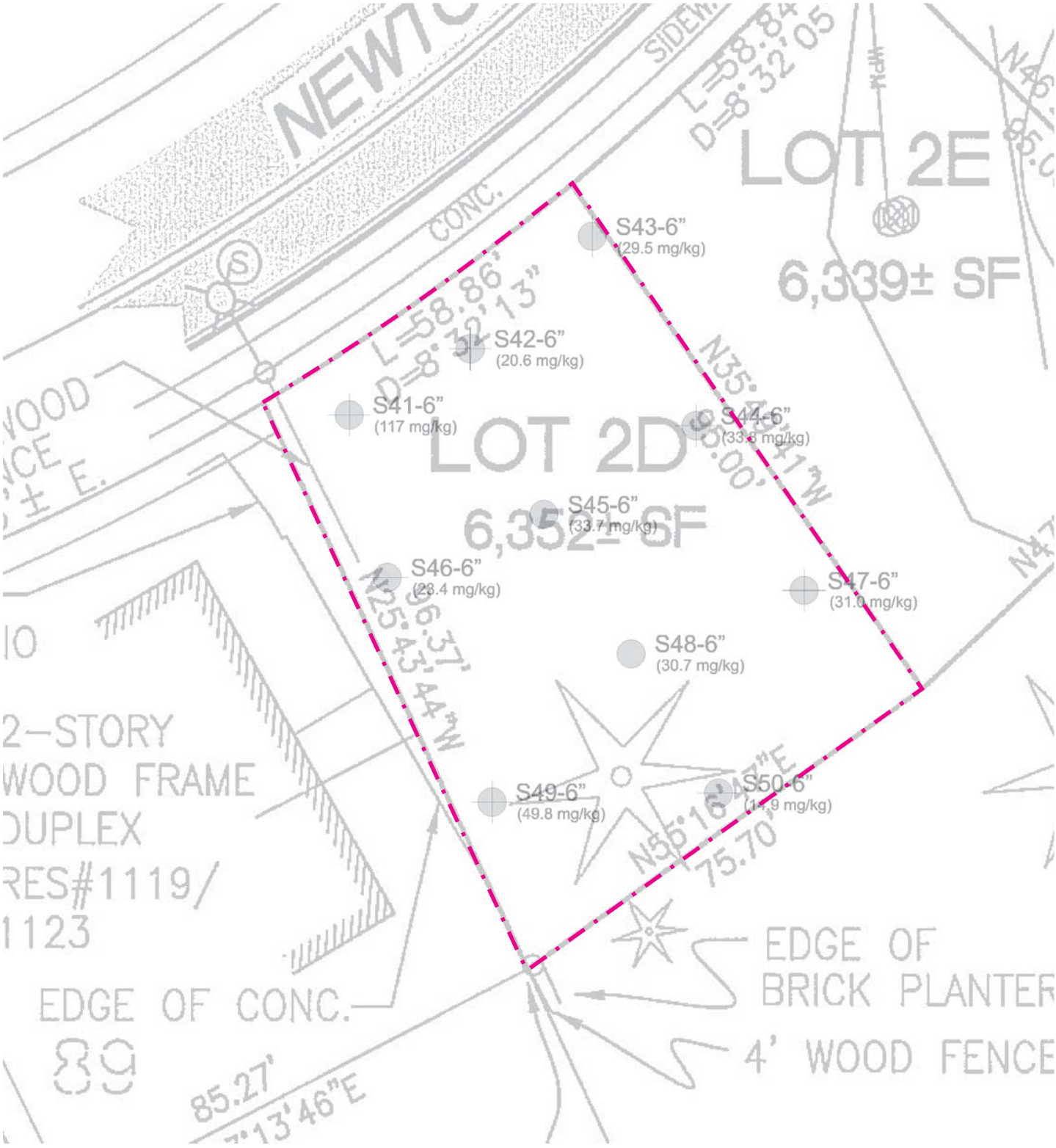

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Not To Scale

Lot 2D
1400 Highlands Parkway North
Tacoma, Washington

Date:	January 17, 2012
Completed By:	M. Kennendy
Reviewed By.:	S.Spencer
Version:	ECI-002
Project No.:	0393-03

Figure No.:
07
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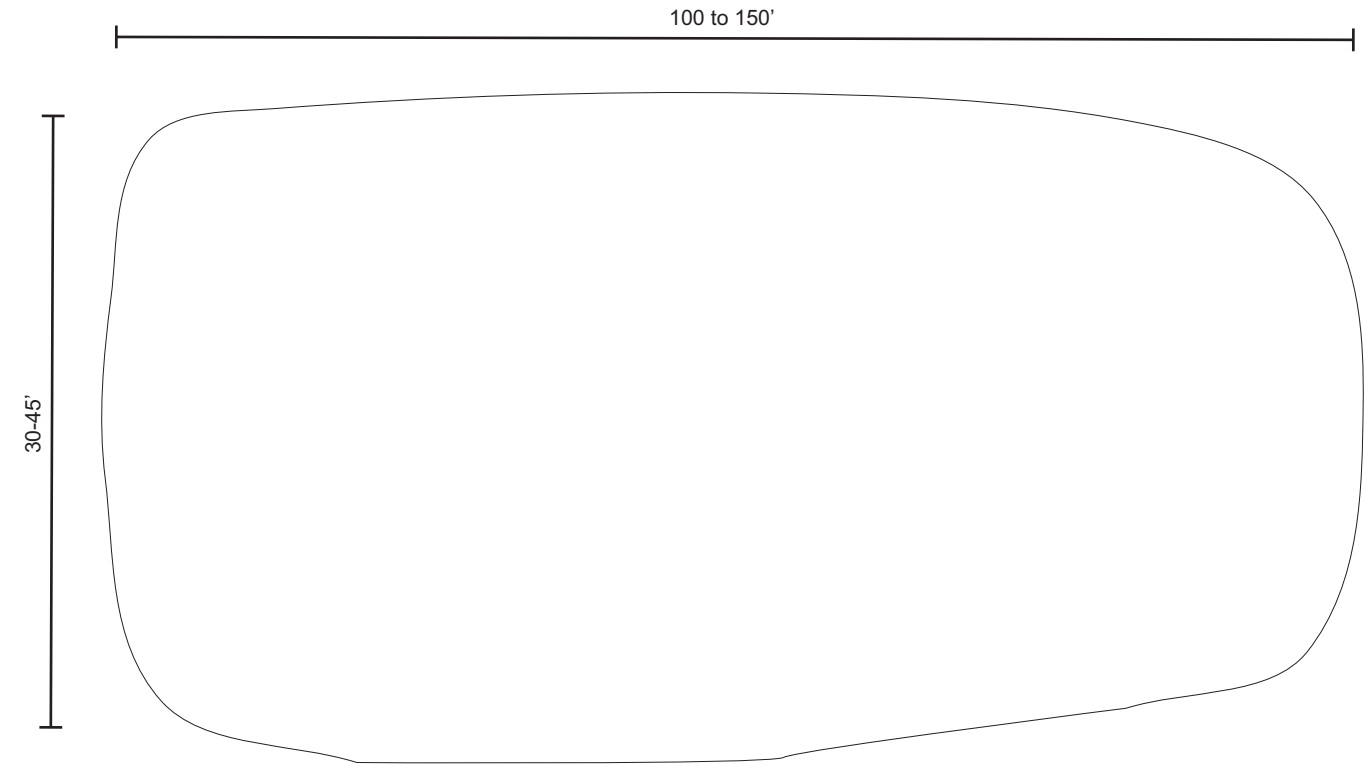
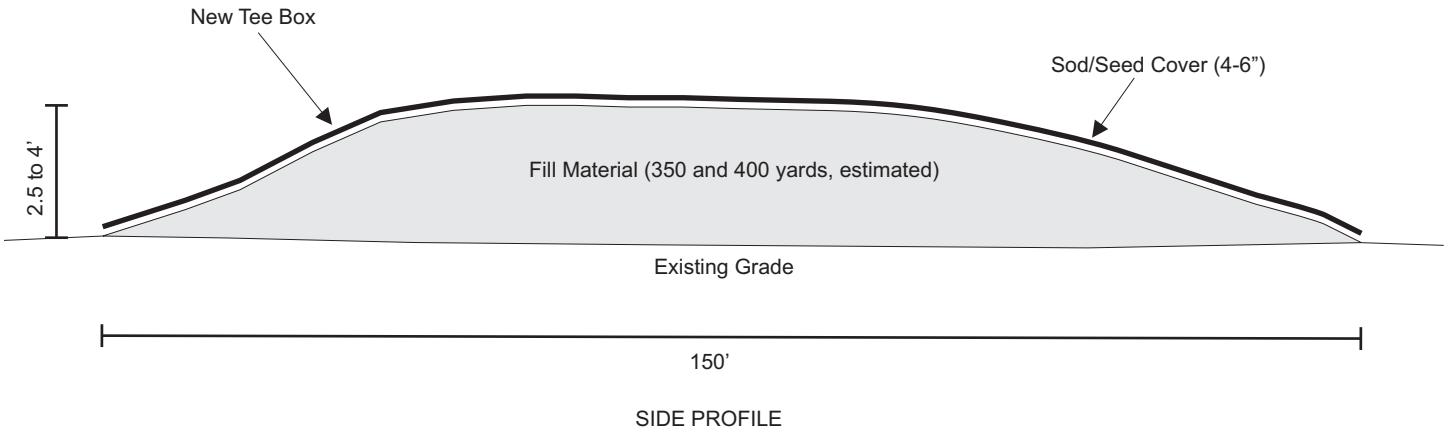


PLAN VIEW



SIDE PROFILE

N
Not To Scale

Tee Box / Teeing Ground General Grading Plan
1400 Highlands Parkway North
Tacoma, Washington

Date:	March 29, 2012
Completed By:	M. Kennendy
Reviewed By.:	S.Spencer
Version:	ECI-002
Project No.:	0393-03

Figure No.: 08

Sheet 01 of 01

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Attachment B

Previous Environmental Reports

February 2011 Arsenic Investigation
September 2011 Arsenic Investigation

Attachment B
Previous Environmental Reports

February 11, 2011

Highlands Twenty, LLC
C/o Kevin Foley
Baseline Engineering
1910 64th Avenue
Fircrest, WA 98466

Re: Surface Soil Investigation
1400 Highland Parkway
Tacoma, Washington

Dear Mr. Foley:

Environmental Management Services, LLC (EMS), at the request of Highland Twenty, LLC, completed a focused, surface soil environmental investigation. This investigation was conducted on nine proposed residential building sites located on portions of Pierce County Parcels 4467100210, 4467100660, 4467121280, 4467121270 located in Tacoma Washington (Subject Properties – Figures 1-12).

According to the Washington Department of Ecology (Ecology), the Site is located within the Tacoma Asarco Smelter Plume (Smelter Plume)[1]. The City of Tacoma has required that, if the properties are to be developed, the Subject Properties will need to be assessed for surface arsenic contamination related to the Smelter Plume. Ecology provides sampling guidelines that stipulate a minimum of ten (10) soil samples be collected per acre at six inch increments starting at the surface elevation.

The goal of this project was to comply with the City of Tacoma and Ecology surface soil sampling requirements. The arsenic sampling methodology includes the collection of soil samples at two elevations (0-6" and 6-12") from ten (10) sample points on each of the nine properties.

Soil Sampling Activities

EMS completed sampling activities at the Site on January 30 and 31, 2011. Ten sample locations were randomly selected on each of the nine proposed building sites (Figures 4-12). The Washington State administrative code (WAC) 173-340 (Model Toxic Control Act) Method A

[1] http://www.ecy.wa.gov/programs/tcp/sites/dirt_alert/studies_and_maps/sources.html

(MTCA-A) Cleanup Levels for Unrestricted Land Use for arsenic in soil is 20 milligram per kilogram (mg/kg). Of the ninety (90) 0-6" sample locations, eighty three (83) were reported exceeding the MTCA-A cleanup level of 20 mg/kg. The remaining seven (7) samples were reported below the MTCA-A cleanup level. Provided in Attachment A are figures 4-12, the project sample location maps identifying each of the sample locations.

EMS collected 180 discrete soil samples, 20 samples from each of the nine proposed building locations. Ten (10) samples from zero to six inches below ground surface (bgs) and 10 from 6 to 12 inches bgs. Each discrete soil sample was collected by a properly trained sampling technician using appropriately decontaminated sampling equipment.

Each soil sample was placed into new laboratory provided sampling containers and labeled using a unique sample identification number. Samples were delivered under industry standard chain of custody to Freidman & Bruya, Inc., an Ecology accredited laboratory for chemical analysis.

Laboratory Analysis

The soil samples collected from the depth of 0-6" were analyzed for Total Arsenic (As) by Environmental Protection Agency (EPA) Method 6020 (Attachment C – Laboratory Results). Seven soil samples, S20-1B, S28-2F, S50-2D, S54-2B, S68-2A, S73-2C and S88-2G were reported below the 20 mg/kg cleanup level.

The remaining 83 samples were reported exceeding the 20 mg/kg cleanup level. Concentration ranged from 20.1 mg/kg to 245 mg/kg. (Attachment B -Project Tables - Table 1 - Soil Sample Results - Total Arsenic).

Summary

Based on soil sample analysis, soil impacted with arsenic exceeding the MTCA-A cleanup limit of 20 mg/kg was identified on each of the nine proposed building sites. Further assessment to delineate the vertical and horizontal extent of impacted soil may be necessary to properly ascertain remediation or mitigation costs.

In order to develop the sites, the arsenic impacted soil will need to be addressed. Remediation or mitigation of the impacted soil can be incorporated in to the development of the property. However, an approved work plan addressing the proposed corrective action should be competed prior to construction to eliminate construction delays.

EMS appreciates the opportunity to provide environmental services on this project. Should you have any questions, please contact our office at 253-921-7059.

Environmental Management Services, LLC

Stephen Spencer
Principal

Encl:

Attachment A – Project Figures

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

Attachment B – Project Tables

- Table 1 – Soil Sample Results - Total Arsenic
- MTCA-A Unrestricted Cleanup Levels for Unrestricted Land Use

Attachment C - Laboratory Results

Sample Analytical Results

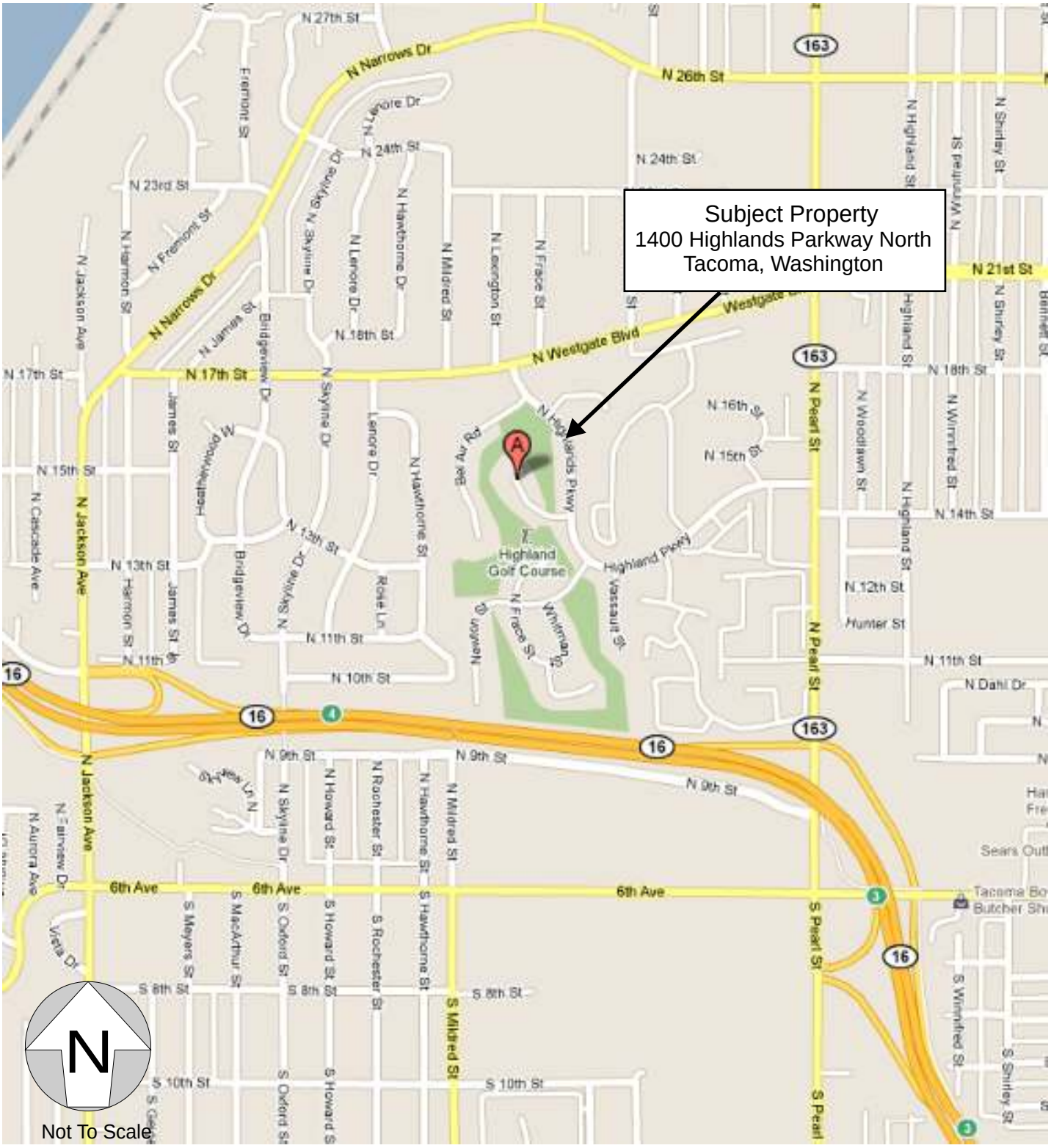
- Analytical Results & Chain of Custody

Attachment D – Professional Qualifications

Attachment A

Project Figures

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

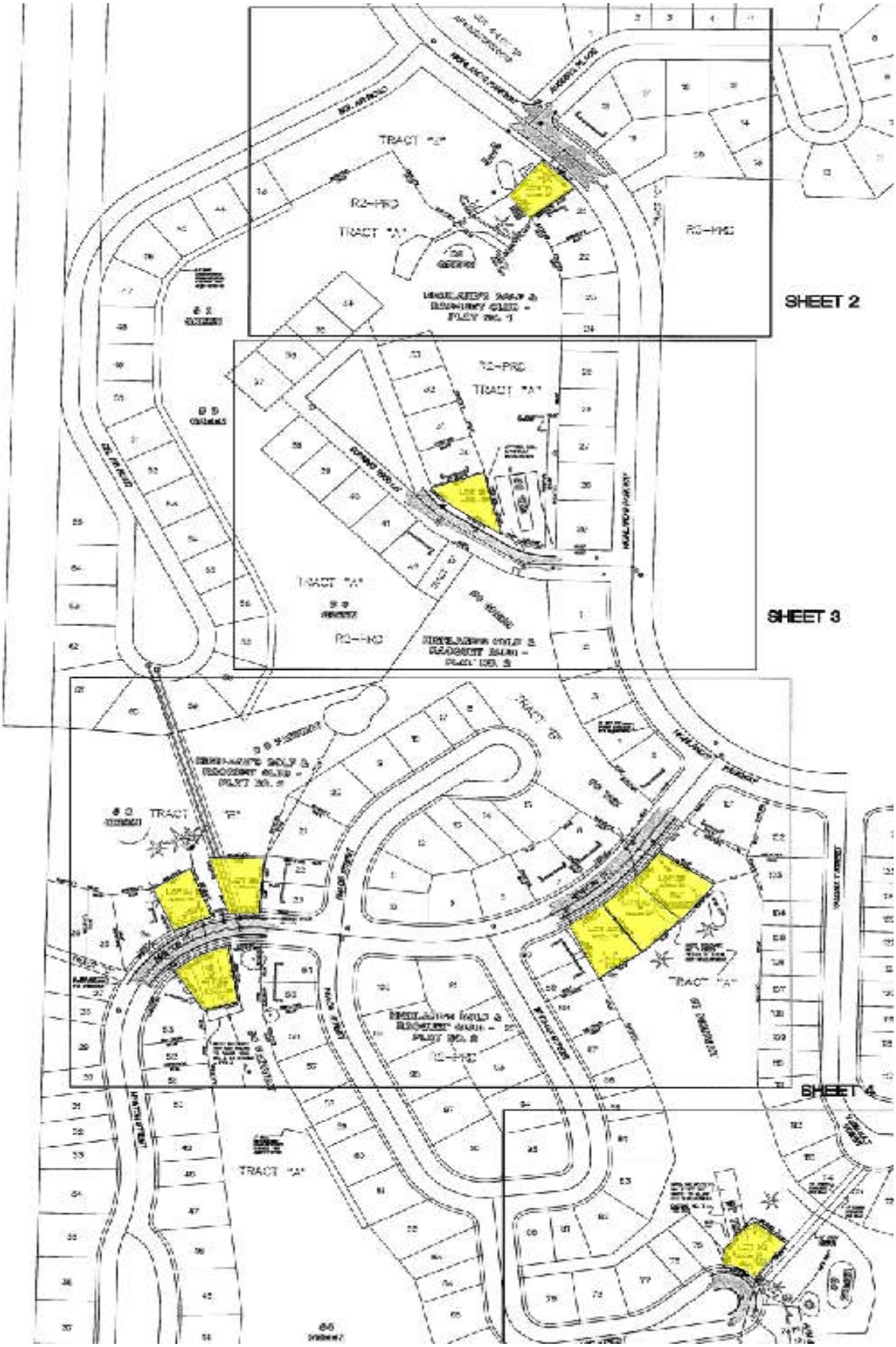


ems Environmental Services www.emsgroupllc.com	Site Location Map 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 01

Environmental Management Services, LLC

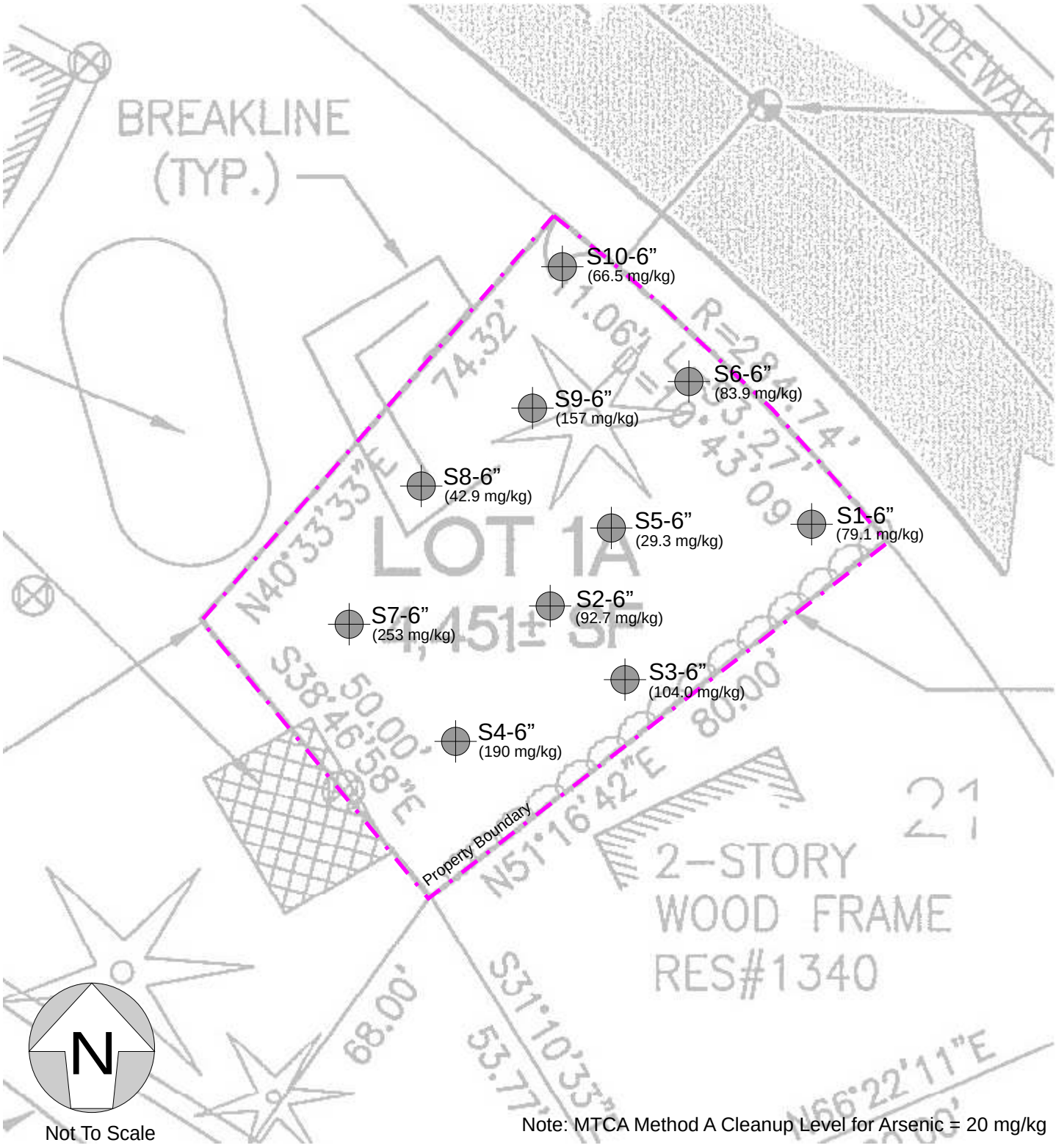
ems Environmental Services www.emsgroupllc.com	Site Topographic Map 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 02

Environmental Management Services, LLC



ems Environmental Services www.emsgroupllc.com	Site Map 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 03

Environmental Management Services, LLC



Not To Scale

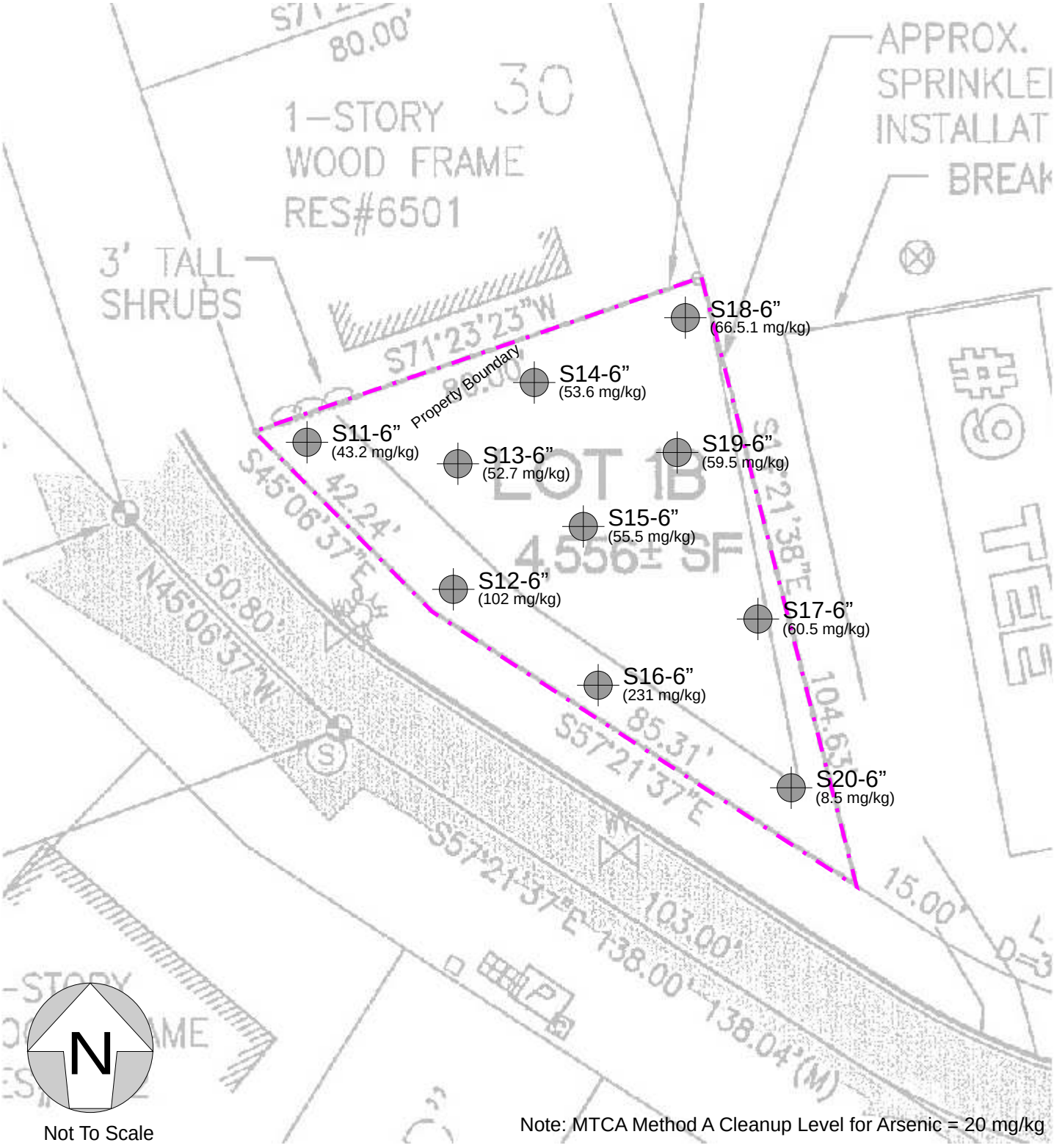
Note: MTCA Method A Cleanup Level for Arsenic = 20 mg/kg

S4-6" Soil sample identification and location - 0-6" below ground surface

(190 mg/kg) Total Arsenic Concentration

ems Environmental Services www.emsgroupllc.com	Sample Location Map Lot 1A 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 04 Lot 1A

Environmental Management Services, LLC

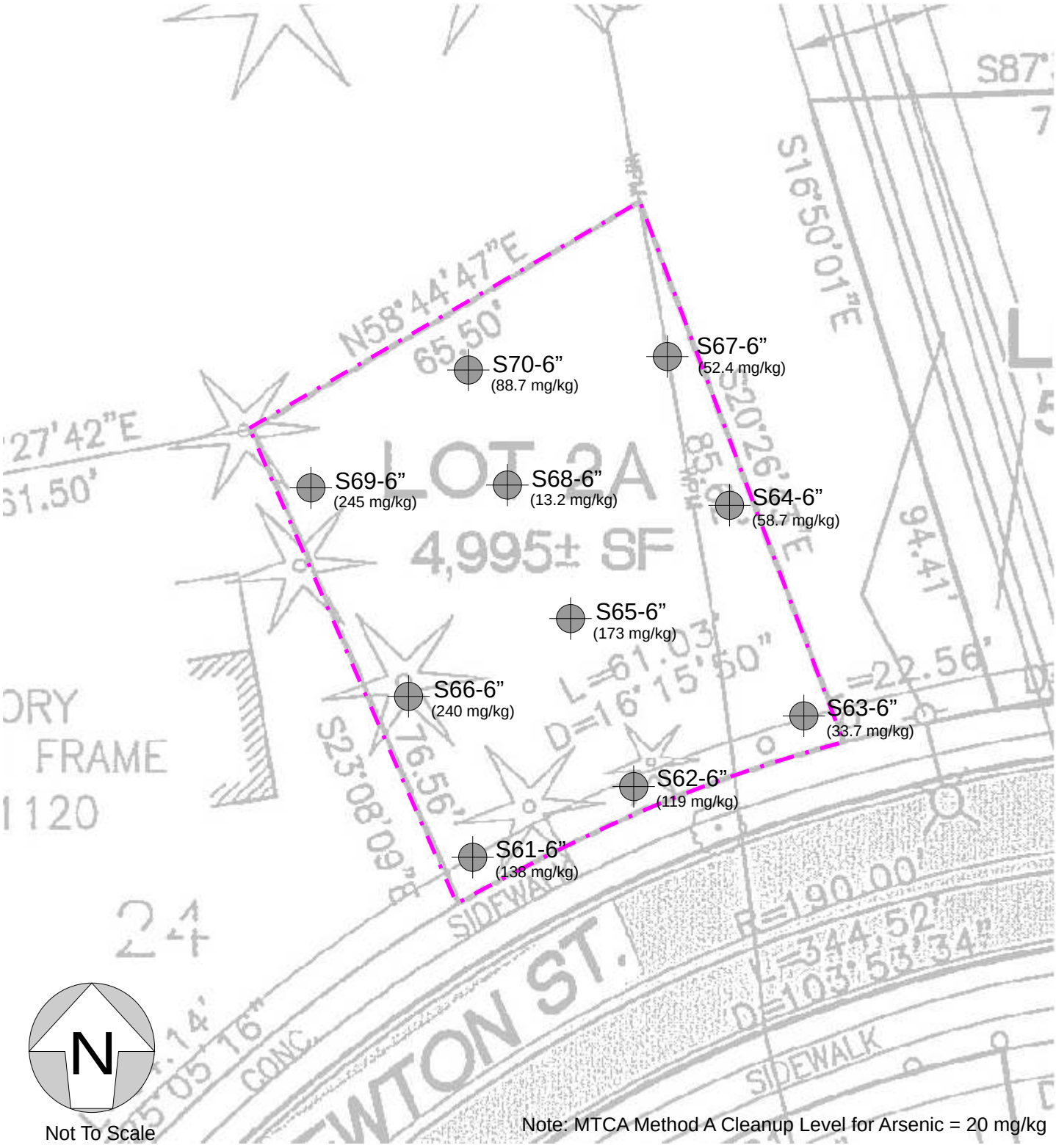


S4-6" Soil sample identification and location - 0-6" below ground surface

(190 mg/kg) Total Arsenic Concentration

ems Environmental Services www.emsgroupllc.com	Sample Location Map Lot 1B 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 05 Lot 1B

Environmental Management Services, LLC

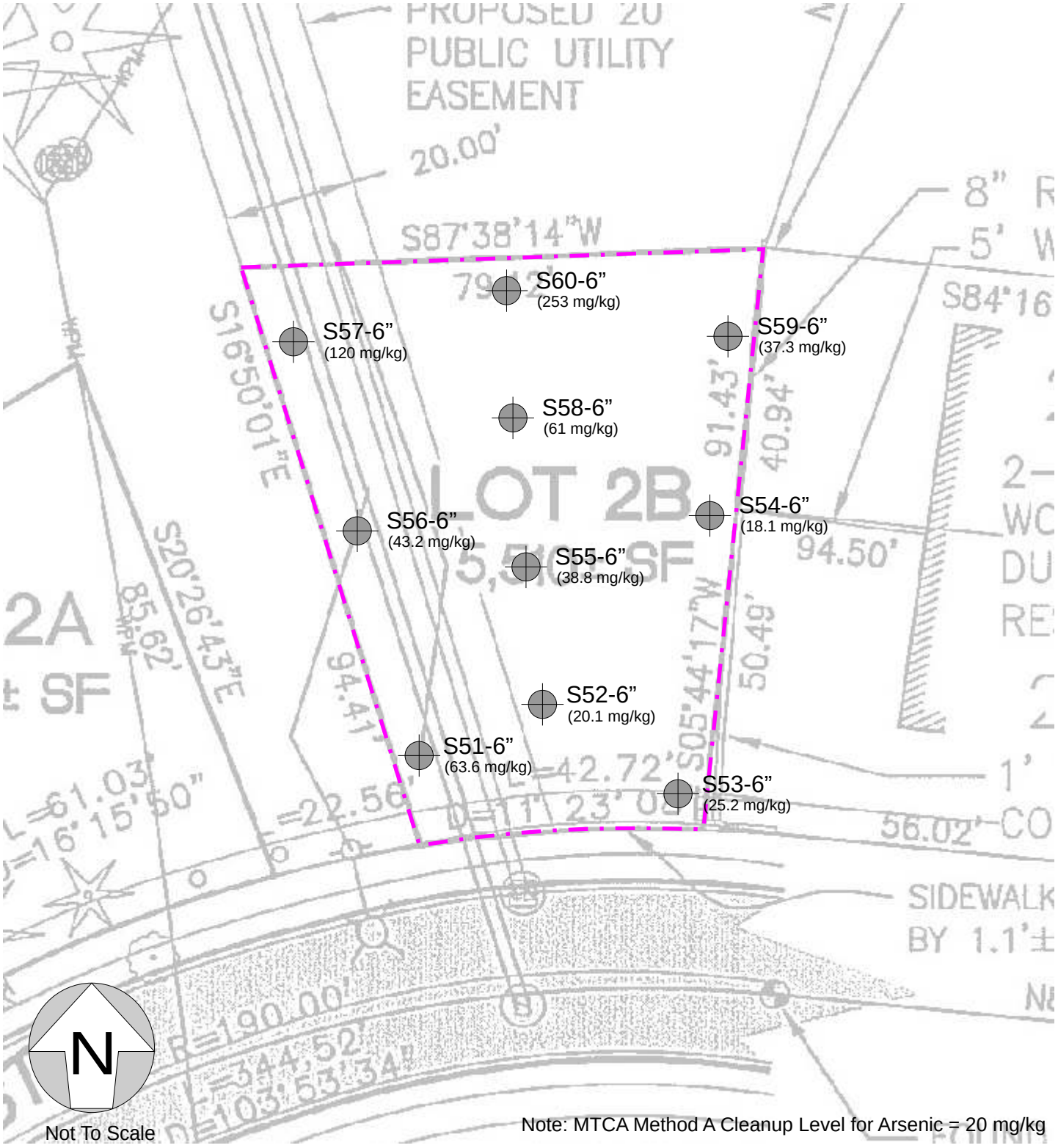


S4-6” Soil sample identification and location - 0-6” below ground surface

(190 mg/kg) Total Arsenic Concentration

ems Environmental Services www.emsgroupllc.com	Sample Location Map Lot 2A 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 06 Lot 2A

Environmental Management Services, LLC



Not To Scale

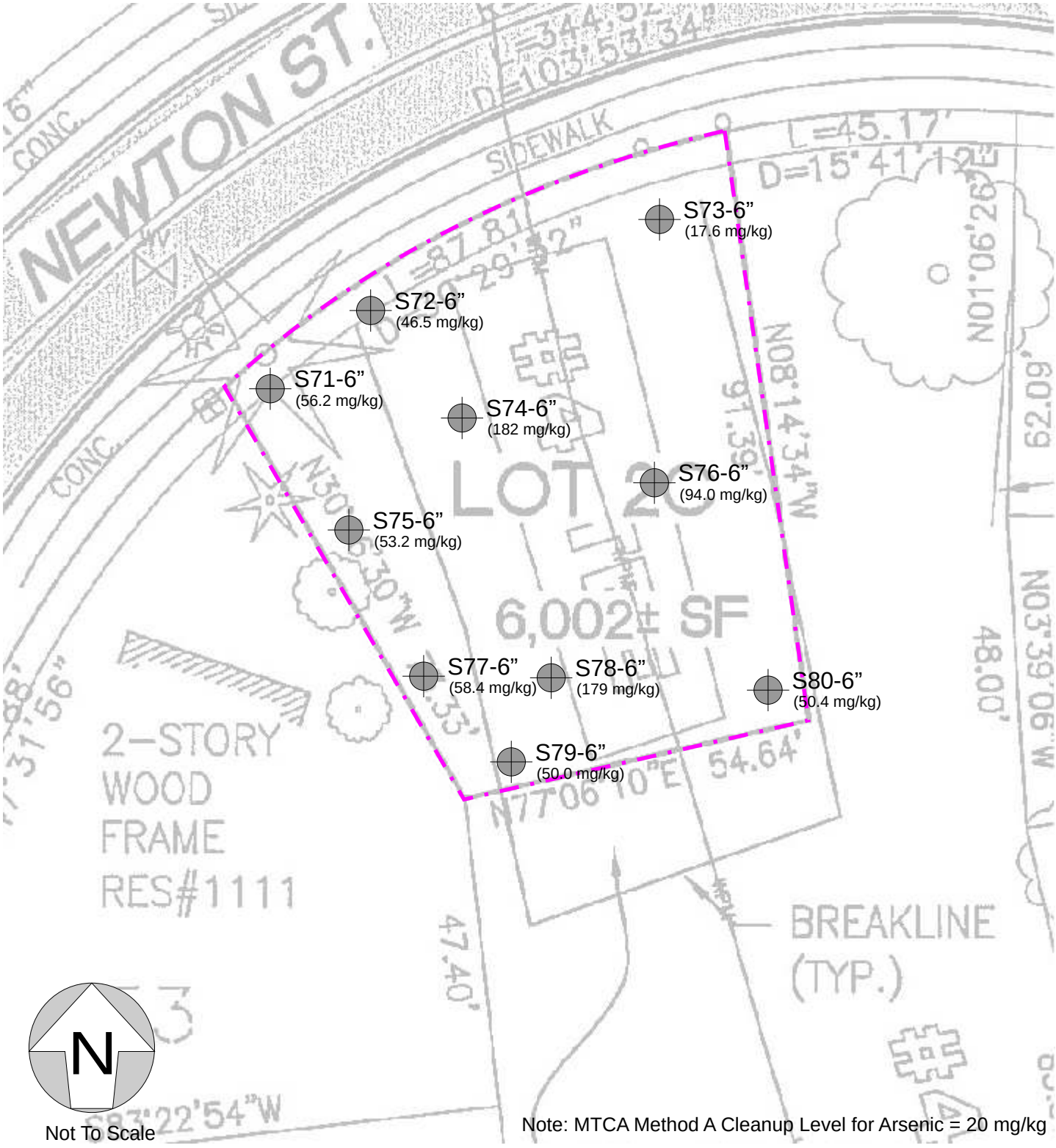
Note: MTCA Method A Cleanup Level for Arsenic = 20 mg/kg

S4-6" Soil sample identification and location - 0-6" below ground surface

(190 mg/kg) Total Arsenic Concentration

ems Environmental Services www.emsgroupllc.com	Sample Location Map Lot 2B 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 07 Lot 2B

Environmental Management Services, LLC

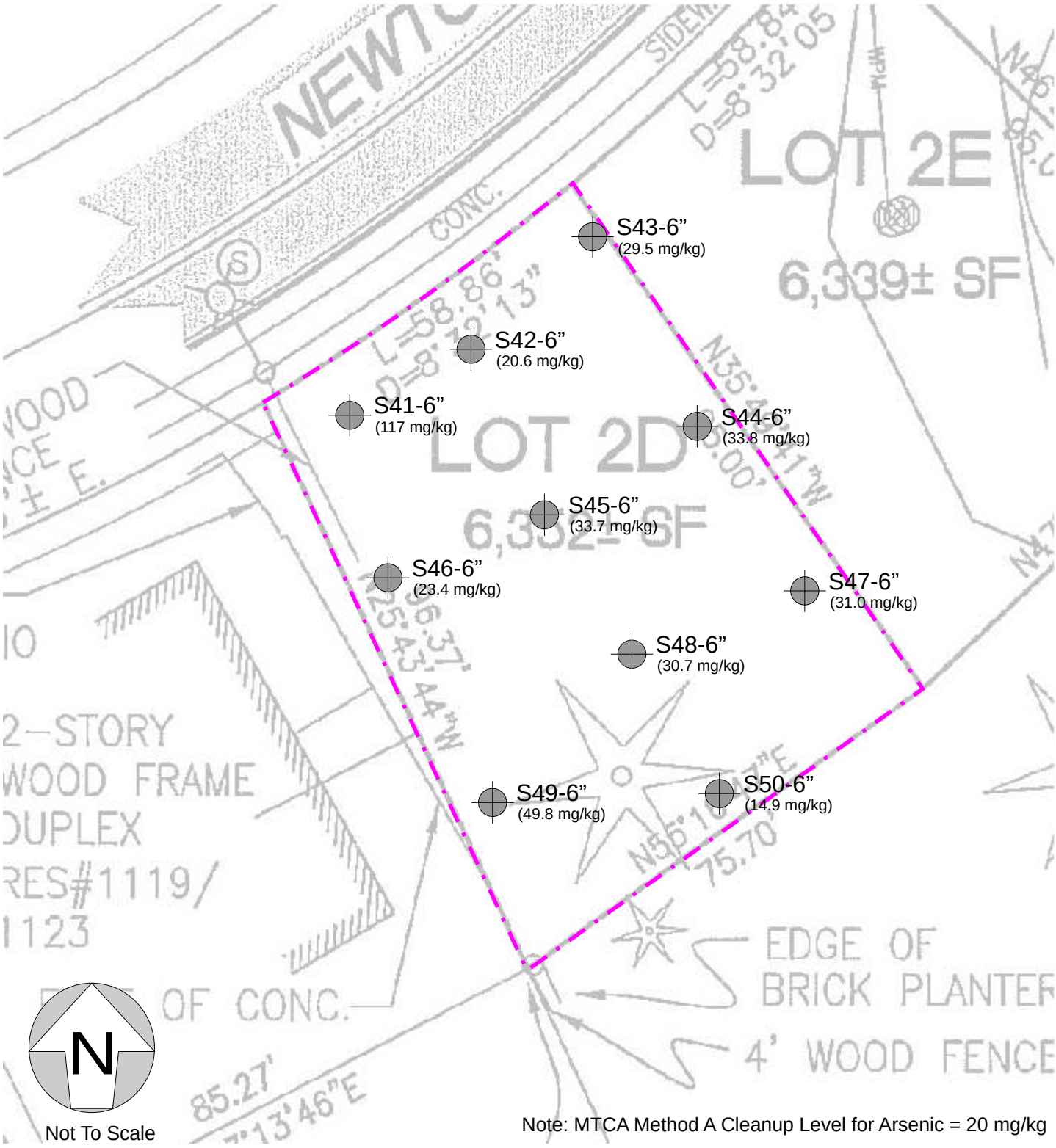


S4-6" Soil sample identification and location - 0-6" below ground surface

(190 mg/kg) Total Arsenic Concentration

ems Environmental Services www.emsgroupllc.com	Sample Location Map Lot 2C 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 08 Lot 2C

Environmental Management Services, LLC



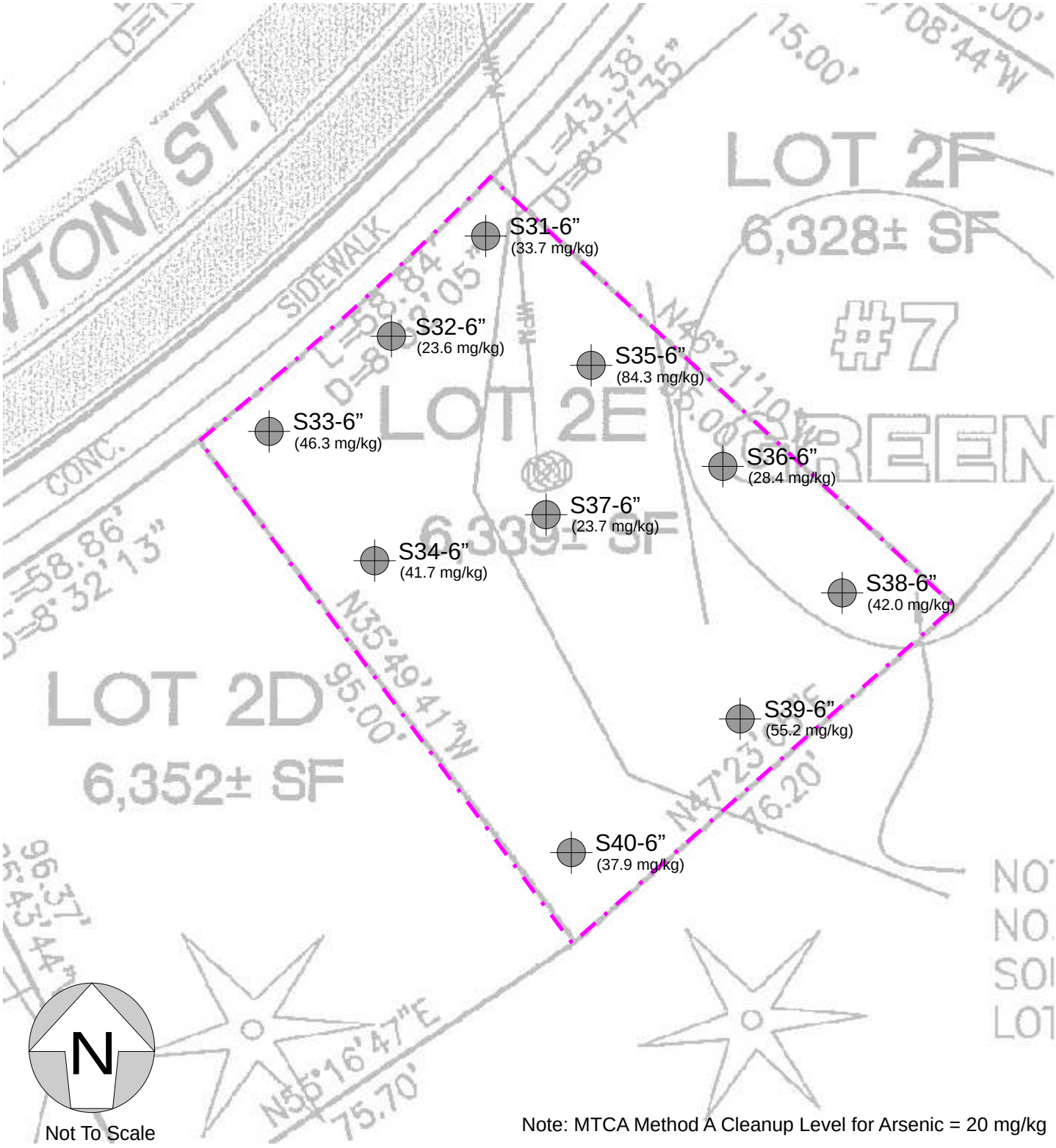
Note: MTCA Method A Cleanup Level for Arsenic = 20 mg/kg

S4-6” Soil sample identification and location - 0-6” below ground surface

(190 mg/kg) Total Arsenic Concentration

ems Environmental Services www.emsgroupllc.com	Sample Location Map Lot 2D 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 09 Lot 2D

Environmental Management Services, LLC



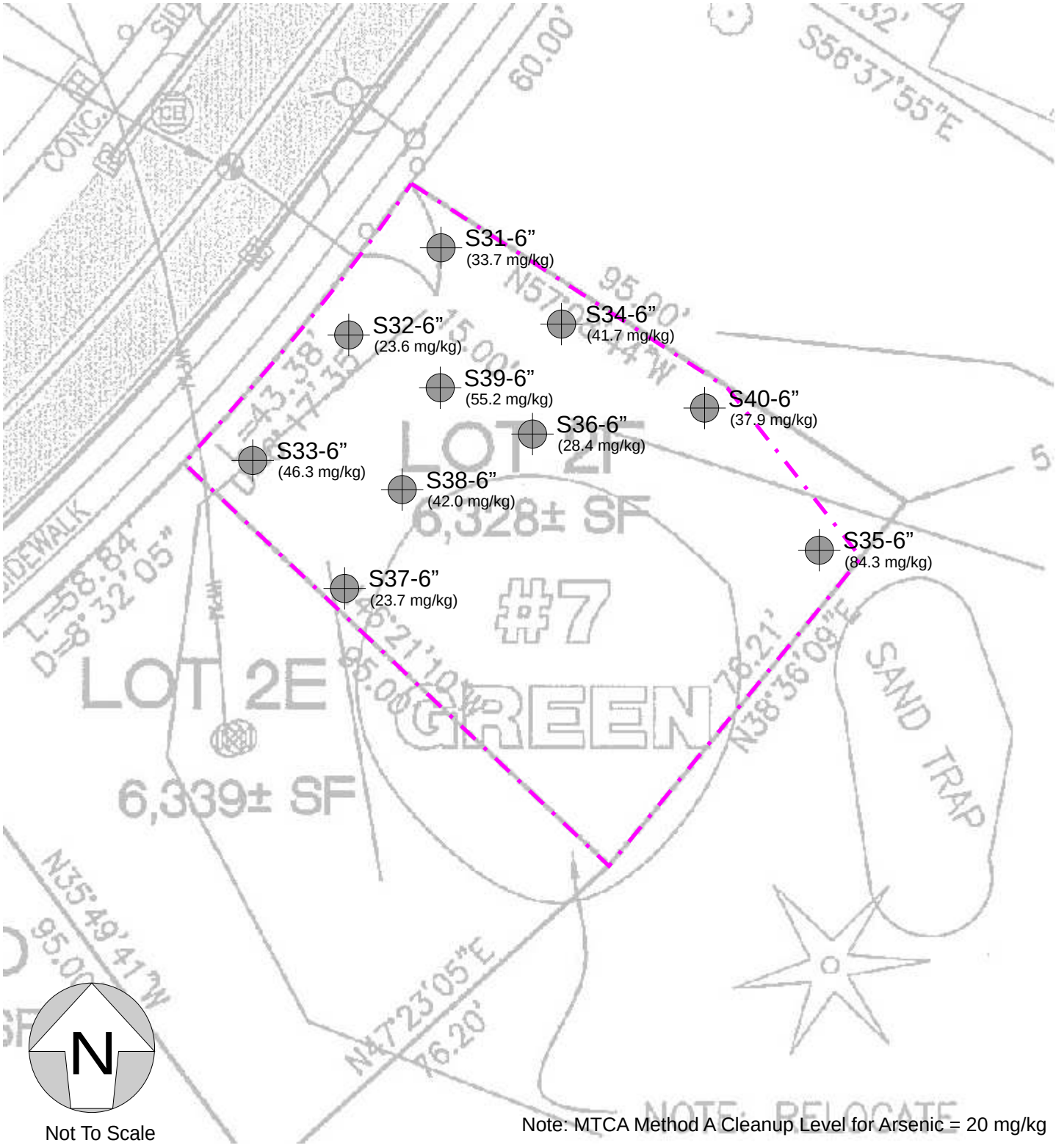
Note: MTCA Method A Cleanup Level for Arsenic = 20 mg/kg

S4-6” Soil sample identification and location - 0-6” below ground surface

(190 mg/kg) Total Arsenic Concentration

ems Environmental Services www.emsgroupllc.com	Sample Location Map Lot 2E 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 10 Lot 2E

Environmental Management Services, LLC



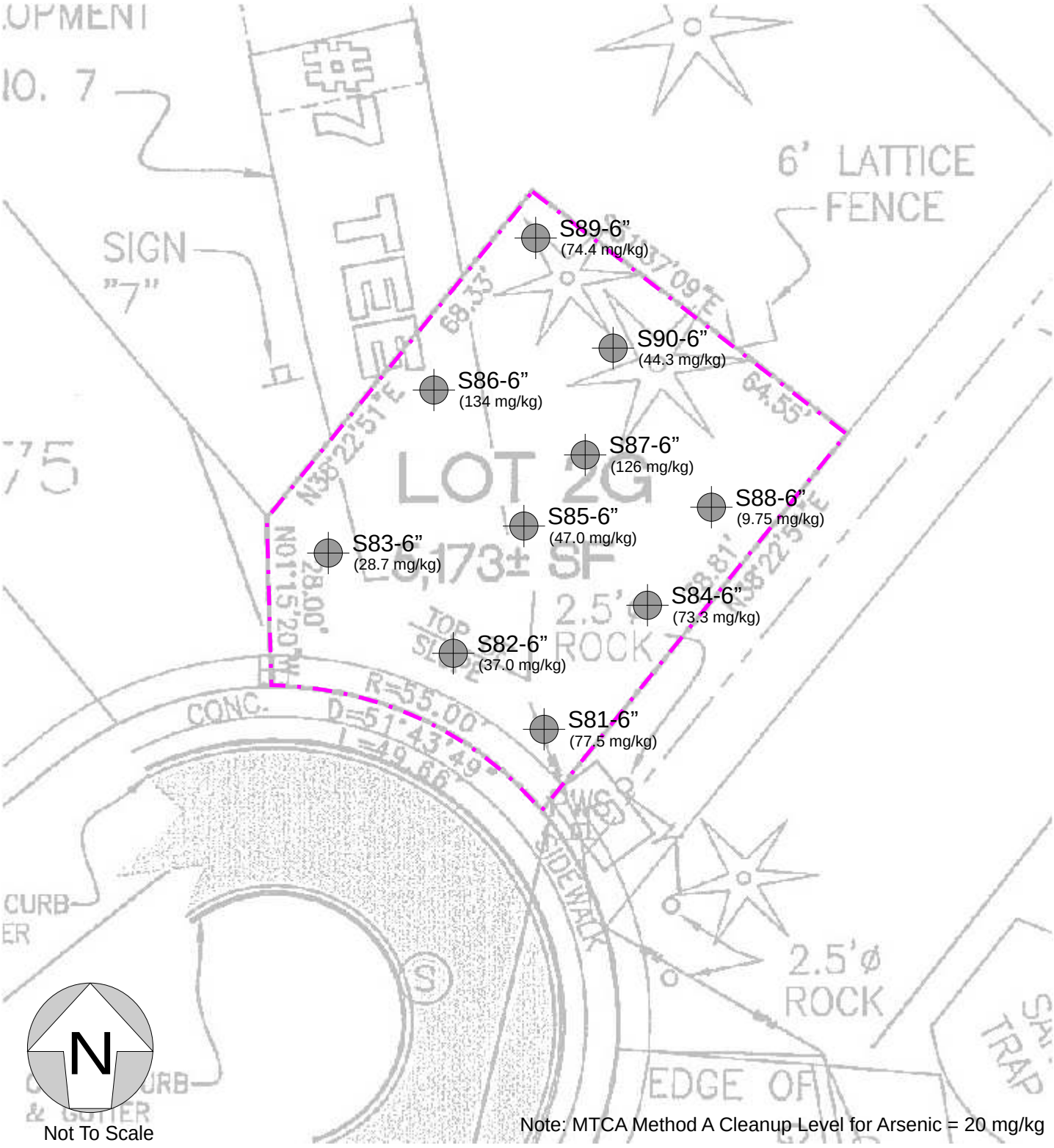
Note: MTCA Method A Cleanup Level for Arsenic = 20 mg/kg

S4-6” Soil sample identification and location - 0-6” below ground surface

(190 mg/kg) Total Arsenic Concentration

ems Environmental Services www.emsgroupllc.com	Sample Location Map Lot 2F 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 11 Lot 2F

Environmental Management Services, LLC



S4-6” Soil sample identification and location - 0-6” below ground surface

(190 mg/kg) Total Arsenic Concentration

ems Environmental Services www.emsgroupllc.com	Sample Location Map Lot 2G 1400 Highlands Parkway North Tacoma, Washington	Date: February 10, 2011 Completed: K. Spencer Checked By: S. Spencer EMS Project No: 0393-01	Figure No. 12 Lot 2G

Environmental Management Services, LLC

Attachment B

Project Tables

Table 1 - Arsenic Sample Results
MTCA-A Unrestricted Cleanup Levels for Unrestricted Land Use

Environmental Services
emsgroupllc.com

Table 1 - Arsenic Soil Sample Results
Highland Golf
1400 Highlands Parkway
Tacoma, Washington

February 11, 2011

Sample Number	Sample Location	Sample Depth	Sample Date	EPA 6020 Total Metals - Arsenic (As) mg/kg
BUILDING LOT 1A				
S1-A1-6"	LOT1A	0-6"	1/30/2011	**79.1**
S2-A1-6"	LOT1A	0-6"	1/30/2011	**92.7**
S3-A1-6"	LOT1A	0-6"	1/30/2011	**104.0**
S4-A1-6"	LOT1A	0-6"	1/30/2011	**190.0**
S5-A1-6"	LOT1A	0-6"	1/30/2011	**29.3**
S6-A1-6"	LOT1A	0-6"	1/30/2011	**83.8**
S7-A1-6"	LOT1A	0-6"	1/30/2011	**253.0**
S8-A1-6"	LOT1A	0-6"	1/30/2011	**42.9**
S9-A1-6"	LOT1A	0-6"	1/30/2011	**157.0**
S10-A1-6"	LOT1A	0-6"	1/30/2011	**66.5**
BUILDING LOT 1B				
S11-1B-6"	LOT1B	0-6"	1/30/2011	**43.2**
S12-1B-6"	LOT1B	0-6"	1/30/2011	**102.0**
S13-1B-6"	LOT1B	0-6"	1/30/2011	**52.7**
S14-1B-6"	LOT1B	0-6"	1/30/2011	**53.6**
S15-1B-6"	LOT1B	0-6"	1/30/2011	**55.5**
S16-1B-6"	LOT1B	0-6"	1/30/2011	**231.0**
S17-1B-6"	LOT1B	0-6"	1/30/2011	**60.5**
S18-1B-6"	LOT1B	0-6"	1/30/2011	**66.5**
S19-1B-6"	LOT1B	0-6"	1/30/2011	**59.5**
S20-1B-6"	LOT1B	0-6"	1/30/2011	8.5

Environmental Services
emsgroupllc.com

Table 1 - Arsenic Soil Sample Results
Highland Golf
1400 Highlands Parkway
Tacoma, Washington

February 11, 2011

Sample Number	Sample Location	Sample Depth	Sample Date	EPA 6020 Total Metals - Arsenic (As) mg/kg
BUILDING LOT 2F				
S21-2F-6"	LOT2F	0-6"	1/30/2011	**62.1**
S22-2F-6"	LOT2F	0-6"	1/30/2011	**59.7**
S23-2F-6"	LOT2F	0-6"	1/30/2011	**77.0**
S24-2F-6"	LOT2F	0-6"	1/30/2011	**29.2**
S25-2F-6"	LOT2F	0-6"	1/30/2011	**43.5**
S26-2F-6"	LOT2F	0-6"	1/30/2011	**52.0**
S27-2F-6"	LOT2F	0-6"	1/30/2011	**47.2**
S28-2F-6"	LOT2F	0-6"	1/30/2011	11.4
S29-2F-6"	LOT2F	0-6"	1/30/2011	**37.7**
S30-2F-6"	LOT2F	0-6"	1/30/2011	**27.5**
BUILDING LOT 2E				
S31-2E-6"	LOT2E	0-6"	1/30/2011	**33.7**
S32-2E-6"	LOT2E	0-6"	1/30/2011	**23.6**
S33-2E-6"	LOT2E	0-6"	1/30/2011	**46.3**
S34-2E-6"	LOT2E	0-6"	1/30/2011	**41.7**
S35-2E-6"	LOT2E	0-6"	1/30/2011	**84.3**
S36-2E-6"	LOT2E	0-6"	1/30/2011	**28.4**
S37-2E-6"	LOT2E	0-6"	1/30/2011	**23.7**
S38-2E-6"	LOT2E	0-6"	1/30/2011	**42.0**
S39-2E-6"	LOT2E	0-6"	1/30/2011	**55.2**
S40-2E-6"	LOT2E	0-6"	1/30/2011	**37.9**

Environmental Services
emsgroupllc.com

Table 1 - Arsenic Soil Sample Results
Highland Golf
1400 Highlands Parkway
Tacoma, Washington

February 11, 2011

Sample Number	Sample Location	Sample Depth	Sample Date	EPA 6020 Total Metals - Arsenic (As) mg/kg
BUILDING LOT 2D				
S41-2D-6"	LOT2D	0-6"	1/30/2011	**117.0**
S42-2D-6"	LOT2D	0-6"	1/30/2011	**20.6**
S43-2D-6"	LOT2D	0-6"	1/30/2011	**29.5**
S44-2D-6"	LOT2D	0-6"	1/30/2011	**33.8**
S45-2D-6"	LOT2D	0-6"	1/30/2011	**33.7**
S46-2D-6"	LOT2D	0-6"	1/30/2011	**23.4**
S47-2D-6"	LOT2D	0-6"	1/30/2011	**31.0**
S48-2D-6"	LOT2D	0-6"	1/30/2011	**30.7**
S49-2D-6"	LOT2D	0-6"	1/30/2011	**49.8**
S50-2D-6"	LOT2D	0-6"	1/30/2011	14.9
BUILDING LOT 2B				
S51-2B-6"	LOT2B	0-6"	1/30/2011	**63.6**
S52-2B-6"	LOT2B	0-6"	1/30/2011	**20.1**
S53-2B-6"	LOT2B	0-6"	1/30/2011	**25.2**
S54-2B-6"	LOT2B	0-6"	1/30/2011	18.1
S55-2B-6"	LOT2B	0-6"	1/30/2011	**38.8**
S56-2B-6"	LOT2B	0-6"	1/30/2011	**43.2**
S57-2B-6"	LOT2B	0-6"	1/30/2011	**120.0**
S58-2B-6"	LOT2B	0-6"	1/30/2011	**61.0**
S59-2B-6"	LOT2B	0-6"	1/30/2011	**37.3**
S60-2B-6"	LOT2B	0-6"	1/30/2011	**253.0**

Environmental Services
emsgroupllc.com

Table 1 - Arsenic Soil Sample Results
Highland Golf
1400 Highlands Parkway
Tacoma, Washington

February 11, 2011

Sample Number	Sample Location	Sample Depth	Sample Date	EPA 6020 Total Metals - Arsenic (As) mg/kg
BUILDING LOT 2A				
S61-2A-6"	LOT2A	0-6"	1/30/2011	**138.0**
S62-2A-6"	LOT2A	0-6"	1/30/2011	**119.0**
S63-2A-6"	LOT2A	0-6"	1/30/2011	**33.7**
S64-2A-6"	LOT2A	0-6"	1/30/2011	**58.7**
S65-2A-6"	LOT2A	0-6"	1/30/2011	**173.0**
S66-2A-6"	LOT2A	0-6"	1/30/2011	**240.0**
S67-2A-6"	LOT2A	0-6"	1/30/2011	**52.4**
S68-2A-6"	LOT2A	0-6"	1/30/2011	13.2
S69-2A-6"	LOT2A	0-6"	1/30/2011	**245.0**
S70-2A-6"	LOT2A	0-6"	1/30/2011	**88.7**
BUILDING LOT 2C				
S71-2C-6"	LOT2C	0-6"	1/30/2011	**56.2**
S72-2C-6"	LOT2C	0-6"	1/30/2011	**46.5**
S73-2C-6"	LOT2C	0-6"	1/30/2011	17.6
S74-2C-6"	LOT2C	0-6"	1/30/2011	**182.0**
S75-2C-6"	LOT2C	0-6"	1/30/2011	**53.2**
S76-2C-6"	LOT2C	0-6"	1/30/2011	**94.0**
S77-2C-6"	LOT2C	0-6"	1/30/2011	**58.4**
S78-2C-6"	LOT2C	0-6"	1/30/2011	**179.0**
S79-2C-6"	LOT2C	0-6"	1/30/2011	**50.0**
S80-2C-6"	LOT2C	0-6"	1/30/2011	**50.4**

Environmental Services
emsgroupllc.com

Table 1 - Arsenic Soil Sample Results
Highland Golf
1400 Highlands Parkway
Tacoma, Washington

February 11, 2011

Sample Number	Sample Location	Sample Depth	Sample Date	EPA 6020 Total Metals - Arsenic (As) mg/kg
BUILDING LOT 2G				
S81-2G-6"	LOT2G	0-6"	1/30/2011	**<u>77.5</u>**
S82-2G-6"	LOT2G	0-6"	1/30/2011	**<u>37.0</u>**
S83-2G-6"	LOT2G	0-6"	1/30/2011	**<u>28.7</u>**
S84-2G-6"	LOT2G	0-6"	1/30/2011	**<u>73.3</u>**
S85-2G-6"	LOT2G	0-6"	1/30/2011	**<u>47.0</u>**
S86-2G-6"	LOT2G	0-6"	1/30/2011	**<u>134.0</u>**
S87-2G-6"	LOT2G	0-6"	1/30/2011	**<u>126.0</u>**
S88-2G-6"	LOT2G	0-6"	1/30/2011	9.8
S89-2G-6"	LOT2G	0-6"	1/30/2011	**<u>74.4</u>**
S90-2G-6"	LOT2G	0-6"	1/30/2011	**<u>44.3</u>**
METHOD BLANK	NA	NA	2/1/2011	<1
			Laboratory Method Reporting Limit	1
			Model Toxic Control Act (MTCA) Method A Cleanup Levels For Soil	20

BOLD/<u>Underlined</u> = Analyte above MTCA 2001 Method A Cleanup levels for arsenic in soil.

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

< # (ND) = analyte not detected above the analytical method reporting limit cited.

MTCA 2001 Method A Cleanup Levels for Unrestricted Residential Land Use - (MTCA) WAC 173-340-900 Tables.

bgs=below ground surface

NA=Not Applicable

Attachment C

Laboratory Results

Analytical Results
Analytical Chain of Custody

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

February 7, 2011

Steve Spencer, Project Manager
Environmental Management Services, LLC
7006 27th Street W, Suite E
Tacoma, WA 98466

Dear Mr. Spencer:

Included are the results from the testing of material submitted on January 31, 2011 from the Highland 20, LLC-0393-01, F&BI 101307 project. There are 106 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. 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
EMS0207R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 31, 2011 by Friedman & Bruya, Inc. from the Environmental Management Services, Highland 20, LLC-0393-01, F&BI 101307 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Environmental Management Services, LLC
101307-01	S1-A1-6"
101307-02	S1-A1-12"
101307-03	S2-A1-6"
101307-04	S2-A1-12"
101307-05	S3-A1-6"
101307-06	S3-A1-12"
101307-07	S4-A1-6"
101307-08	S4-A1-12"
101307-09	S5-A1-6"
101307-10	S5-A1-12"
101307-11	S6-A1-6"
101307-12	S6-A1-12"
101307-13	S7-A1-6"
101307-14	S7-A1-12"
101307-15	S8-A1-6"
101307-16	S8-A1-12"
101307-17	S9-A1-6"
101307-18	S9-A1-12"
101307-19	S10-A1-6"
101307-20	S10-A1-12"
101307-21	S11-1B-6"
101307-22	S11-1B-12"
101307-23	S12-1B-6"
101307-24	S12-1B-12"
101307-25	S13-1B-6"
101307-26	S13-1B-12"
101307-27	S14-1B-6"
101307-28	S14-1B-12"
101307-29	S15-1B-6"
101307-30	S15-1B-12"
101307-31	S16-1B-6"
101307-32	S16-1B-12"
101307-33	S17-1B-6"
101307-34	S17-1B-12"
101307-35	S18-1B-6"
101307-36	S18-1B-12"
101307-37	S19-1B-6"
101307-38	S19-1B-12"
101307-39	S20-1B-6"

CASE NARRATIVE (continued)

Laboratory ID	Environmental Management Services, LLC
101307-40	S20-1B-12"
101307-41	S21-2F-6"
101307-42	S21-2F-12"
101307-43	S22-2F-6"
101307-44	S22-2F-12"
101307-45	S23-2F-6"
101307-46	S23-2F-12"
101307-47	S24-2F-6"
101307-48	S24-2F-12"
101307-49	S25-2F-6"
101307-50	S25-2F-12"
101307-51	S26-2F-6"
101307-52	S26-2F-12"
101307-53	S27-2F-6"
101307-54	S27-2F-12"
101307-55	S28-2F-6"
101307-56	S28-2F-12"
101307-57	S29-2F-6"
101307-58	S29-2F-12"
101307-59	S30-2E-6"
101307-60	S30-2E-12"
101307-61	S31-2E-6"
101307-62	S31-2E-12"
101307-63	S32-2E-6"
101307-64	S32-2E-12"
101307-65	S33-2E-6"
101307-66	S33-2E-12"
101307-67	S34-2E-6"
101307-68	S34-2E-12"
101307-69	S35-2E-6"
101307-70	S35-2E-12"
101307-71	S36-2E-6"
101307-72	S36-2E-12"
101307-73	S37-2E-6"
101307-74	S37-2E-12"
101307-75	S38-2E-6"
101307-76	S38-2E-12"
101307-77	S39-2E-6"
101307-78	S39-2E-12"
101307-79	S40-2E-6"
101307-80	S40-2E-12"
101307-81	S41-2D-6"

CASE NARRATIVE (continued)

Laboratory ID	Environmental Management Services, LLC
101307-82	S41-2D-12"
101307-83	S42-2D-6"
101307-84	S42-2D-12"
101307-85	S43-2D-6"
101307-86	S43-2D-12"
101307-87	S44-2D-6"
101307-88	S44-2D-12"
101307-89	S45-2D-6"
101307-90	S45-2D-12"
101307-91	S46-2D-6"
101307-92	S46-2D-12"
101307-93	S47-2D-6"
101307-94	S47-2D-12"
101307-95	S48-2D-6"
101307-96	S48-2D-12"
101307-97	S49-2D-6"
101307-98	S49-2D-12"
101307-99	S50-2D-6"
101307-100	S50-2D-12"
101307-101	S51-2B-6"
101307-102	S51-2B-12"
101307-103	S52-2B-6"
101307-104	S52-2B-12"
101307-105	S53-2B-6"
101307-106	S53-2B-12"
101307-107	S54-2B-6"
101307-108	S54-2B-12"
101307-109	S55-2B-6"
101307-110	S55-2B-12"
101307-111	S56-2B-6"
101307-112	S56-2B-12"
101307-113	S57-2B-6"
101307-114	S57-2B-12"
101307-115	S58-2B-6"
101307-116	S58-2B-12"
101307-117	S59-2B-6"
101307-118	S59-2B-12"
101307-119	S60-2B-6"
101307-120	S60-2B-12"
101307-121	S61-2A-6"
101307-122	S61-2A-12"
101307-123	S62-2A-6"

CASE NARRATIVE (continued)

Laboratory ID	Environmental Management Services, LLC
101307-124	S62-2A-12"
101307-125	S63-2A-6"
101307-126	S63-2A-12"
101307-127	S64-2A-6"
101307-128	S64-2A-12"
101307-129	S65-2A-6"
101307-130	S65-2A-12"
101307-131	S66-2A-6"
101307-132	S66-2A-12"
101307-133	S67-2A-6"
101307-134	S67-2A-12"
101307-135	S68-2A-6"
101307-136	S68-2A-12"
101307-137	S69-2A-6"
101307-138	S69-2A-12"
101307-139	S70-2A-6"
101307-140	S70-2A-12"
101307-141	S71-2C-6"
101307-142	S71-2C-12"
101307-143	S72-2C-6"
101307-144	S72-2C-12"
101307-145	S73-2C-6"
101307-146	S73-2C-12"
101307-147	S74-2C-6"
101307-148	S74-2C-12"
101307-149	S75-2C-6"
101307-150	S75-2C-12"
101307-151	S76-2C-6"
101307-152	S76-2C-12"
101307-153	S77-2C-6"
101307-154	S77-2C-12"
101307-155	S78-2C-6"
101307-156	S78-2C-12"
101307-157	S79-2C-6"
101307-158	S79-2C-12"
101307-159	S80-2C-6"
101307-160	S80-2C-12"
101307-161	S81-2G-6"
101307-162	S81-2G-12"
101307-163	S82-2G-6"
101307-164	S82-2G-12"
101307-165	S83-2G-6"

CASE NARRATIVE (continued)

Laboratory ID	Environmental Management Services, LLC
101307-166	S83-2G-12"
101307-167	S84-2G-6"
101307-168	S84-2G-12"
101307-169	S85-2G-6"
101307-170	S85-2G-12"
101307-171	S86-2G-6"
101307-172	S86-2G-12"
101307-173	S87-2G-6"
101307-174	S87-2G-12"
101307-175	S88-2G-6"
101307-176	S88-2G-12"
101307-177	S89-2G-6"
101307-178	S89-2G-12"
101307-179	S90-2G-6"
101307-180	S90-2G-12"

All quality control requirements were acceptable.

Analysis For Total Metals By EPA Method 200.8

Client ID:	S1-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-01
Date Analyzed:	02/02/11	Data File:	101307-01.013
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	79.1

Analysis For Total Metals By EPA Method 200.8

Client ID:	S2-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-03
Date Analyzed:	02/02/11	Data File:	101307-03.014
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	92.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S3-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-05
Date Analyzed:	02/02/11	Data File:	101307-05.015
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	104

Analysis For Total Metals By EPA Method 200.8

Client ID:	S4-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-07
Date Analyzed:	02/02/11	Data File:	101307-07.016
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	190

Analysis For Total Metals By EPA Method 200.8

Client ID:	S5-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-09
Date Analyzed:	02/02/11	Data File:	101307-09.017
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	29.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	S6-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-11
Date Analyzed:	02/02/11	Data File:	101307-11.019
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	83.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	S7-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-13
Date Analyzed:	02/02/11	Data File:	101307-13.020
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	253

Analysis For Total Metals By EPA Method 200.8

Client ID:	S8-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-15
Date Analyzed:	02/02/11	Data File:	101307-15.021
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	82	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	42.9

Analysis For Total Metals By EPA Method 200.8

Client ID:	S9-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-17
Date Analyzed:	02/02/11	Data File:	101307-17.022
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	157

Analysis For Total Metals By EPA Method 200.8

Client ID:	S10-A1-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-19
Date Analyzed:	02/02/11	Data File:	101307-19.023
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	66.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S11-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-21
Date Analyzed:	02/02/11	Data File:	101307-21.024
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	43.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S12-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-23
Date Analyzed:	02/02/11	Data File:	101307-23.025
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	102

Analysis For Total Metals By EPA Method 200.8

Client ID:	S13-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-25
Date Analyzed:	02/02/11	Data File:	101307-25.026
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	52.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S14-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-27
Date Analyzed:	02/02/11	Data File:	101307-27.027
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	53.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	S15-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-29
Date Analyzed:	02/02/11	Data File:	101307-29.029
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	55.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S16-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-31
Date Analyzed:	02/02/11	Data File:	101307-31.030
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	231

Analysis For Total Metals By EPA Method 200.8

Client ID:	S17-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-33
Date Analyzed:	02/02/11	Data File:	101307-33.031
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	60.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S18-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-35
Date Analyzed:	02/02/11	Data File:	101307-35.010
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	66.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S19-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-37
Date Analyzed:	02/02/11	Data File:	101307-37.032
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	59.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S20-1B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-39
Date Analyzed:	02/02/11	Data File:	101307-39.033
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	8.50

Analysis For Total Metals By EPA Method 200.8

Client ID:	S21-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-41
Date Analyzed:	02/02/11	Data File:	101307-41.040
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	85	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	62.1

Analysis For Total Metals By EPA Method 200.8

Client ID:	S22-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-43
Date Analyzed:	02/02/11	Data File:	101307-43.041
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	59.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S23-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-45
Date Analyzed:	02/02/11	Data File:	101307-45.042
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	77.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S24-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-47
Date Analyzed:	02/02/11	Data File:	101307-47.043
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	29.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S25-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-49
Date Analyzed:	02/02/11	Data File:	101307-49.044
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	43.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S26-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-51
Date Analyzed:	02/02/11	Data File:	101307-51.045
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	79	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	52.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S27-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-53
Date Analyzed:	02/02/11	Data File:	101307-53.046
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	47.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S28-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-55
Date Analyzed:	02/02/11	Data File:	101307-55.047
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	11.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S29-2F-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-57
Date Analyzed:	02/02/11	Data File:	101307-57.048
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	37.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S30-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-59
Date Analyzed:	02/02/11	Data File:	101307-59.050
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	27.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S31-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-61
Date Analyzed:	02/02/11	Data File:	101307-61.051
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	33.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S32-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-63
Date Analyzed:	02/02/11	Data File:	101307-63.052
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	23.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	S33-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-65
Date Analyzed:	02/02/11	Data File:	101307-65.036
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	46.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	S34-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-67
Date Analyzed:	02/02/11	Data File:	101307-67.053
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	41.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S35-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-69
Date Analyzed:	02/02/11	Data File:	101307-69.054
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	84.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	S36-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-71
Date Analyzed:	02/02/11	Data File:	101307-71.055
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	86	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	28.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S37-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-73
Date Analyzed:	02/02/11	Data File:	101307-73.056
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	23.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S38-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-75
Date Analyzed:	02/02/11	Data File:	101307-75.057
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	42.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S39-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-77
Date Analyzed:	02/02/11	Data File:	101307-77.058
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	55.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S40-2E-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-79
Date Analyzed:	02/02/11	Data File:	101307-79.059
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	37.9

Analysis For Total Metals By EPA Method 200.8

Client ID:	S41-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-81
Date Analyzed:	02/02/11	Data File:	101307-81.066
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	117

Analysis For Total Metals By EPA Method 200.8

Client ID:	S42-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-83
Date Analyzed:	02/02/11	Data File:	101307-83.067
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	20.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	S43-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-85
Date Analyzed:	02/02/11	Data File:	101307-85.063
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	29.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S44-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-87
Date Analyzed:	02/02/11	Data File:	101307-87.068
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	33.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	S45-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-89
Date Analyzed:	02/02/11	Data File:	101307-89.069
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	33.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S46-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-91
Date Analyzed:	02/02/11	Data File:	101307-91.071
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	23.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S47-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-93
Date Analyzed:	02/02/11	Data File:	101307-93.072
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	86	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	31.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S48-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-95
Date Analyzed:	02/02/11	Data File:	101307-95.073
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	30.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S49-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-97
Date Analyzed:	02/02/11	Data File:	101307-97.074
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	49.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	S50-2D-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-99
Date Analyzed:	02/02/11	Data File:	101307-99.075
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	14.9

Analysis For Total Metals By EPA Method 200.8

Client ID:	S51-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-101
Date Analyzed:	02/02/11	Data File:	101307-101.076
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	63.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	S52-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-103
Date Analyzed:	02/02/11	Data File:	101307-103.077
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	20.1

Analysis For Total Metals By EPA Method 200.8

Client ID:	S53-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-105
Date Analyzed:	02/02/11	Data File:	101307-105.078
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	25.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S54-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-107
Date Analyzed:	02/02/11	Data File:	101307-107.079
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	18.1

Analysis For Total Metals By EPA Method 200.8

Client ID:	S55-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-109
Date Analyzed:	02/02/11	Data File:	101307-109.081
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	38.8

Analysis For Total Metals By EPA Method 200.8

Client ID:	S56-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-111
Date Analyzed:	02/02/11	Data File:	101307-111.082
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	43.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S57-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-113
Date Analyzed:	02/02/11	Data File:	101307-113.083
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	120

Analysis For Total Metals By EPA Method 200.8

Client ID:	S58-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-115
Date Analyzed:	02/02/11	Data File:	101307-115.084
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	61.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S59-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-117
Date Analyzed:	02/02/11	Data File:	101307-117.085
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	37.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	S60-2B-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-119
Date Analyzed:	02/02/11	Data File:	101307-119.086
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	253

Analysis For Total Metals By EPA Method 200.8

Client ID:	S61-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-121
Date Analyzed:	02/03/11	Data File:	101307-121.041
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	138

Analysis For Total Metals By EPA Method 200.8

Client ID:	S62-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-123
Date Analyzed:	02/03/11	Data File:	101307-123.042
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	119

Analysis For Total Metals By EPA Method 200.8

Client ID:	S63-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-125
Date Analyzed:	02/03/11	Data File:	101307-125.044
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	33.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S64-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-127
Date Analyzed:	02/03/11	Data File:	101307-127.045
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	58.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S65-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-129
Date Analyzed:	02/03/11	Data File:	101307-129.046
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	173

Analysis For Total Metals By EPA Method 200.8

Client ID:	S66-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-131
Date Analyzed:	02/03/11	Data File:	101307-131.047
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	86	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	240

Analysis For Total Metals By EPA Method 200.8

Client ID:	S67-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-133
Date Analyzed:	02/03/11	Data File:	101307-133.048
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	52.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S68-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-135
Date Analyzed:	02/03/11	Data File:	101307-135.038
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	13.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S69-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-137
Date Analyzed:	02/03/11	Data File:	101307-137.049
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	94	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	245

Analysis For Total Metals By EPA Method 200.8

Client ID:	S70-2A-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-139
Date Analyzed:	02/03/11	Data File:	101307-139.050
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	88.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S71-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-141
Date Analyzed:	02/03/11	Data File:	101307-141.051
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	87	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	56.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S72-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-143
Date Analyzed:	02/03/11	Data File:	101307-143.053
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	46.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S73-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-145
Date Analyzed:	02/03/11	Data File:	101307-145.054
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	17.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	S74-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-147
Date Analyzed:	02/03/11	Data File:	101307-147.055
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	96	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	182

Analysis For Total Metals By EPA Method 200.8

Client ID:	S75-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-149
Date Analyzed:	02/03/11	Data File:	101307-149.056
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	53.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	S76-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-151
Date Analyzed:	02/03/11	Data File:	101307-151.057
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	94.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S77-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-153
Date Analyzed:	02/03/11	Data File:	101307-153.058
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	58.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S78-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-155
Date Analyzed:	02/03/11	Data File:	101307-155.059
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	179

Analysis For Total Metals By EPA Method 200.8

Client ID:	S79-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-157
Date Analyzed:	02/03/11	Data File:	101307-157.060
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	50.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S80-2C-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	101307-159
Date Analyzed:	02/03/11	Data File:	101307-159.061
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	50.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S81-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-161
Date Analyzed:	02/03/11	Data File:	101307-161.077
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	77.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	S82-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-163
Date Analyzed:	02/03/11	Data File:	101307-163.023
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	37.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S83-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-165
Date Analyzed:	02/03/11	Data File:	101307-165.024
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	95	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	28.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	S84-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-167
Date Analyzed:	02/03/11	Data File:	101307-167.025
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	94	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	73.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	S85-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-169
Date Analyzed:	02/03/11	Data File:	101307-169.026
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	90	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	47.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	S86-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-171
Date Analyzed:	02/03/11	Data File:	101307-171.028
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	134

Analysis For Total Metals By EPA Method 200.8

Client ID:	S87-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-173
Date Analyzed:	02/03/11	Data File:	101307-173.029
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	96	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	126

Analysis For Total Metals By EPA Method 200.8

Client ID:	S88-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-175
Date Analyzed:	02/03/11	Data File:	101307-175.030
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	94	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	9.75

Analysis For Total Metals By EPA Method 200.8

Client ID:	S89-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-177
Date Analyzed:	02/03/11	Data File:	101307-177.031
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	74.4

Analysis For Total Metals By EPA Method 200.8

Client ID:	S90-2G-6”	Client:	Environmental Management Services
Date Received:	01/31/11	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	101307-179
Date Analyzed:	02/03/11	Data File:	101307-179.032
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	44.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Environmental Management Services
Date Received:	Not Applicable	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	I1-69 mb
Date Analyzed:	02/02/11	Data File:	I1-69 mb.008
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Environmental Management Services
Date Received:	Not Applicable	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	I1-71 mb
Date Analyzed:	02/02/11	Data File:	I1-71 mb.034
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	83	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Environmental Management Services
Date Received:	Not Applicable	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	I1-72 mb
Date Analyzed:	02/02/11	Data File:	I1-72 mb.061
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Environmental Management Services
Date Received:	Not Applicable	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/01/11	Lab ID:	I1-73 mb
Date Analyzed:	02/03/11 12:45:50	Data File:	I1-73 mb.036
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	89	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Environmental Management Services	
Date Received:	Not Applicable	Project:	Highland 20, LLC-0393-01
Date Extracted:	02/02/11	Lab ID:	I1-75 mb
Date Analyzed:	02/03/11 10:47:51	Data File:	I1-75 mb.008
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Indium	95	60	125

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Date of Report: 02/07/11
Date Received: 01/31/11
Project: Highland 20, LLC-0393-01, F&BI 101307

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 101307-35 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	66.5	123 b	197 b	44-151	46 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	103	80-120

Date of Report: 02/07/11
Date Received: 01/31/11
Project: Highland 20, LLC-0393-01, F&BI 101307

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 101307-65 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	46.3	103 b	147 b	44-151	35 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	101	80-120

Date of Report: 02/07/11
Date Received: 01/31/11
Project: Highland 20, LLC-0393-01, F&BI 101307

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 101307-85 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	29.5	102 b	112 b	44-151	9 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	98	80-120

Date of Report: 02/07/11
Date Received: 01/31/11
Project: Highland 20, LLC-0393-01, F&BI 101307

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 101307-135 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	13.2	107 b	131 b	44-151	20 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	101	80-120

Date of Report: 02/07/11
Date Received: 01/31/11
Project: Highland 20, LLC-0393-01, F&BI 101307

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 101302-11 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	2.03	93 b	100 b	44-151	7 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	100	80-120

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.

A1 – More than one compound of similar molecule structure was identified with equal probability.

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 this range fell outside of acceptance criteria. The value reported is an estimate.

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

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc – The compound is a common laboratory and field contaminant.

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

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. 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 analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is 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 compound indicated 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 in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

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.

101307

SAMPLE CHAIN OF CUSTODY ME 01/31/11

BTC

Page # 1 of 18

Send Report To Steve Spencer

Company Environmental Management Services, LLC

Address 7006 27th Street W, Suite E

City, State, ZIP Tacoma, WA 98466

Phone # (253) 921-7059 Fax # (253) – 369-6228

SAMPLERS *(signature)*

PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S1-A1-6"	01	1/31		So. 1	1							X						Run
S1-A1-12"	02	"		"	"							"						Hold
S2-A1-6"	03	"		"	"							"						Run
S2-A1-12"	04	"		"	"							"						Hold
S3-A1-6"	05	"		"	"							"						Run
S3-A1-12"	06	"		"	"							"						Hold
S4-A1-6"	07	"		"	"							"						Run
S4-A1-12"	08	"		"	"							"						Hold
S5-A1-6"	09	"		"	"							"						Run
S5-A1-12"	10	"		"	"							"						Hold

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

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	FDB	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

101307

SAMPLE CHAIN OF CUSTODY ME 01/31/11

BIG

Page # 2 of 18

Send Report To Steve Spencer

Company Environmental Management Services, LLC

Address 7006 27th Street W, Suite E

City, State, ZIP Tacoma, WA 98466

Phone # (253) 921-7059 Fax # (253) – 369-6228

SAMPLERS *(signature)*

PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S6-A1-6"	11	1/31		Soil	1							✓						Run
S6-A1-12"	12	↓		↓	↓													Hold
S7-A1-6"	13																	Run
S7-A1-12"	14																	Hold
S8-A1-6"	15																	Run
S8-A1-12"	16																	Hold
S9-A1-6"	17																	Run
S9-A1-12"	18																	Hold
S10-A1-6"	19																	Run
S10-A1-12"	20	↓		↓	↓							↓						Hold

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Seattle, WA 98119-2029
Ph. (206) 285-8282
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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

101307

SAMPLE CHAIN OF CUSTODY ME 01/31/11

BTG 18

Page # 3 of 18

Send Report To Steve Spencer

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Address 7006 27th Street W, Suite E

City, State, ZIP Tacoma, WA 98466

Phone # (253) 921-7059 Fax # (253) – 369-6228

SAMPLERS *(signature)*

PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME

Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	As Sb Hg						Notes
S11-1B-6"	21	1/31		Soil	1							↓						Run
S11-1B-12"	22	↓		↓	↓													Hold
S12-1B-6"	23																	Run
S12-1B-12"	24																	Hold
S13-1B-6"	25																	Run
S13-1B-12"	26																	Hold
S14-1B-6"	27																	Run
S14-1B-12"	28																	Hold
S15-1B-6"	29																	Run
S15-1B-12"	30	↓		↓	↓							↓						Hold

Friedman & Bruya, Inc.
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Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	FB	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

101307

SAMPLE CHAIN OF CUSTODY

ME 01/31/11

BIY 18

Page # 4 of

Send Report To Steve Spencer

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Address 7006 27th Street W, Suite E

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SAMPLERS *(signature)*

PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S16-1B-6"	31	1/31		Soil	1							1						Run
S16-1B-12"	32	"		"	"							"						Hold
S17-1B-6"	33	"		"	"							"						Run
S17-1B-12"	34	"		"	"							"						Hold
S18-1B-6"	35	"		"	"							"						Run
S18-1B-12"	36	"		"	"							"						Hold
S19-1B-6"	37	"		"	"							"						Run
S19-1B-12"	38	"		"	"							"						Hold
S20-1B-6"	39	"		"	"							"						Run
S20-1B-12"	40	"		"	"							"						Hold

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3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

101307

SAMPLE CHAIN OF CUSTODY ME 01/31/11

Send Report To Steve Spencer

Company Environmental Management Services, LLC

Address 7006 27th Street W, Suite E

City, State, ZIP Tacoma, WA 98466

Phone # (253) 921-7059 Fax # (253) – 369-6228

SAMPLERS *(signature)*

PROJECT NAME/NO. Highland 20, LLC – 0393-01

PO #

REMARKS

sspencer@emsgroupllc.com

TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S21-2F-6"	41	1/31		Soil	1													Run
S21-2F-12"	42																	hold
S22-2F-6"	43																	Run
S22-2F-12"	44																	hold
S23-2F-6"	45																	Run
S23-2F-12"	46																	hold
S24-2F-6"	47																	Run
S24-2F-12"	48																	hold
S25-2F-6"	49																	Run
S25-2F-12"	50																	hold

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Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

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PROJECT NAME/NO. Highland 20, LLC – 0393-01

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REMARKS

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TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S26-2F-6"	51	1/31		Soil	1													Run
S26-2F-12"	52																	Hold
S27-2F-6"	53																	Run
S27-2F-12"	54																	hold
S28-2F-6"	55																	Run
S28-2F-12"	56																	hold
S29-2F-6"	57																	Run
S29-2F-12"	58																	hold
S30-2F-6"	59																	Run
S30-2F-12"	60	↓		↓	↓							↓						hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
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TURNAROUND TIME

Standard (2 Weeks) BT4

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S31-2E-6"	61	1/31		Soil	1													Run
S31-2E-12"	62																	hold
S32-2E-6"	63																	Run
S32-2E-12"	64																	hold
S33-2E-6"	65																	Run
S33-2E-12"	66																	hold
S34-2E-6"	67																	Run
S34-2E-12"	68																	hold
S35-2E-6"	69																	Run
S35-2E-12"	70	↓		↓	↓							↓						hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
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Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

BTY 30/18

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TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S36 - 2E - 6"	71	1/31		Soil	1													Run
S36 - 2E - 12"	72	"		"	"													hold
S37 - 2E - 6"	73	"		"	"													Run
S37 - 2E - 12"	74	"		"	"													hold
S38 - 2E - 6"	75	"		"	"													Run
S38 - 2E - 12"	76	"		"	"													hold
S39 - 2E - 6"	77	"		"	"													Run
S39 - 2E - 12"	78	"		"	"													hold
S40 - 2E - 6"	79	"		"	"													Run
S40 - 2E - 12"	80	"		"	"													hold

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Relinquished by:		Steven Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

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TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S41-2D-6"	81	1/31		Soil	1													Run
S41-2D-12"	82	"		"	"													hold
S42-2D-6"	83	"		"	"													Run
S42-2D-12"	84	"		"	"													hold
S43-2D-6"	85	"		"	"													Run
S43-2D-12"	86	"		"	"													hold
S49-2D-6"	87	"		"	"													Run
S49-2D-12"	88	"		"	"													hold
S45-2D-6"	89	"		"	"													Run
S45-2D-12"	90	"		"	"													hold

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Relinquished by:		Stetton Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

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TURNAROUND TIME

Standard (2 Weeks) BTEX

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S46-2D-6"	91	1/31		Soil	1													Run
S46-2D-12"	92																	hold
S47-2D-6"	93																	Run
S47-2D-12"	94																	hold
S48-2D-6"	95																	Run
S48-2D-12"	96																	hold
S49-2D-6"	97																	Run
S49-2D-12"	98																	hold
S50-2D-6"	99																	Run
S50-2D-12"	100																	hold

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Received by:		Kurt Johnsen	FSB	1/31	10:30
Relinquished by:					
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TURNAROUND TIME
Standard (2 Weeks)
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic					Notes
S51-2B-6"	101	1/31		Soil	1							↓					Run
S51-2B-12"	102	↓		↓	↓							↓					hold
S52-2B-6"	103	↓		↓	↓							↓					Run
S52-2B-12"	104	↓		↓	↓							↓					hold
S53-2B-6"	105	↓		↓	↓							↓					Run
S53-2B-12"	106	↓		↓	↓							↓					hold
S54-2B-6"	107	↓		↓	↓							↓					Run
S54-2B-12"	108	↓		↓	↓							↓					hold
S55-2B-6"	109	↓		↓	↓							↓					Run
S55-2B-12"	110	↓		↓	↓							↓					hold

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SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [signature]	Stephen Spencer	EMS	1/31	10:30
Received by: [signature]	Kurt Johnson	F&B	1/31	10:30
Relinquished by:				
Received by:		Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

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TURNAROUND TIME

Standard (2 Weeks) BT4

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S56-2B-6"	111	1/31		Soil	1													Run
S56-2B-12"	112																	hold
S57-2B-6"	113																	Run
S57-2B-12"	114																	hold
S56-2B-6"	115																	Run
S58-2B-12"	116																	hold
S59-2B-6"	117																	Run
S59-2B-12"	118																	hold
S60-2B-6"	119																	Run
S60-2B-12"	120																	hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spruck	EMS	1/31	1030
Received by:					
Relinquished by:					
Received by:					

Samples received at 17 °C

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SAMPLE CHAIN OF CUSTODY ME 01/31/11

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TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S61-2A-6"	121	1/31		Soil	1													Run
S61-2A-12"	122																	hold
S62-2A-6"	123																	Run
S62-2A-12"	124																	hold
S63-2A-6"	125																	Run
S63-2A-12"	126																	hold
S64-2A-6"	127																	Run
S64-2A-12"	128																	hold
S65-2A-6"	129																	Run
S65-2A-12"	130																	hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 4 °C		

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SAMPLE CHAIN OF CUSTODY

ME 01/31/11

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TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S66-2A-6"	131	1/31		Soil	1													Run
S66-2A-12"	132	"		"	"													hold
S67-2A-6"	133																	Run
S67-2A-12"	134																	hold
S68-2A-6"	135																	Run
S68-2A-12"	136																	hold
S69-2A-6"	137																	Run
S69-2A-12"	138																	hold
S70-2A-6"	139																	Run
S70-2A-12"	140																	hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Steven Spencer	EMS	1/31	17:30
Received by:		Kurt Johnson	FBB	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
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Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S71-2C-6"	141	1/31		Soil	1													Run
S71-2C-12"	142																	hold
S72-2C-6"	143																	Run
S72-2C-12"	144																	hold
S73-2C-6"	145																	Run
S73-2C-12"	146																	hold
S74-2C-6"	147																	Run
S74-2C-12"	148																	hold
S75-2C-6"	149																	Run
S75-2C-12"	150																	hold

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Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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SAMPLE CHAIN OF CUSTODY NE 01/31/11

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Standard (2 Weeks)

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SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
S76-2C-6"	151	1/31		Soil	1													Run
S76-2C-12"	152																	hold
S77-2C-6"	153																	Run
S77-2C-12"	154																	hold
S78-2C-6"	155																	Run
S78-2C-12"	156																	hold
S79-2C-6"	157																	Run
S79-2C-12"	158																	hold
S80-2C-6"	159																	Run
S80-2C-12"	160																	hold

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		STEPHEN SPENCER	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at	17 °C	

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Dispose after 30 days
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Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic					Notes
SB1-2G-6"	161	1/31		Soil	1												Run
SB1-2G-12"	162																hold
SB2-2G-6"	163																Run
SB2-2G-12"	164																hold
SB3-2G-6"	165																Run
SB3-2G-12"	166																hold
SB4-2G-6"	167																Run
SB4-2G-12"	168																hold
SB5-2G-6"	169																Run
SB5-2G-12"	170																hold

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Relinquished by:		Stephen Spencer	EMS	1/31	10:30
Received by:		Kurt Johnson	F&B	1/31	10:30
Relinquished by:					
Received by:			Samples received at 17 °C		

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TURNAROUND TIME
Standard (2 Weeks)

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Arsenic						Notes
SB6-2G-6'	171	1/31		Soil	1													Run
SB6-2G-12'	172																	hold
SB7-2G-6'	173																	Run
SB7-2G-12'	174																	hold
SB8-2G-6'	175																	Run
SB8-2G-12'	176																	hold
SB9-2G-6'	177																	Run
SB9-2G-12'	178																	hold
SB10-2G-6'	179																	Run
SB10-2G-12'	180																	hold

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

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		STEPHEN SPENCER	EMS	1/31	10:30
Received by:		Kurt Johnson	FSB	1/31	10:30
Relinquished by:					
Received by:			Samples received at 7 °C		

Attachment D

Professional Qualifications

Attachment D
Professional Qualifications

Environmental Management Services, LLC

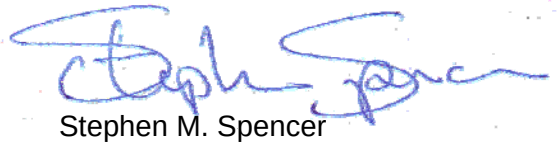
Environmental Management Services (EMS) is an environmental contracting and consulting company addressing client's needs throughout the West Coast. Our serves industries include the real estate community, general contractors, property developers and local and state government. We understand the importance of blending a variety of expertise and experience in order to provide our clients the most effective leadership in addressing their specific project needs. Our professionals combine a high level of technical ability with a broad understanding of the overall regulatory compliance requirements.

As an environmental services and consulting company, EMS prides itself maintaining a broad understanding of the most current regulatory compliance requirements, local and state permitting requirements and maintaining contact with our region's environmental advocacy group's positions. EMS provides our clients the services they require by offering cost effective, non-biased, practical, solutions while maintaining positive relations with the regulatory community.

Our associates have completed projects including remedial investigation / feasibility studies (RI/FS), remediation design and management, facility regulatory compliance assessments, due diligence assessments, regulatory compliance training, underground storage tank compliance and hazardous materials management as well as many other environmental compliance related matters for clients throughout the west coast in all avenues of business. The varied background our associates possess compliments the diverse nature of our clientele, providing better understanding of our client's needs and ultimate goals for their projects.

The information in the following pages outlines our professional experience and capabilities in providing environmental management and consulting services. We appreciate your interest in EMS. At your convenience, please feel free to contact our office should you have any questions regarding this document or for more information on the services we provide.

Sincerely,
Environmental Management Services



Stephen M. Spencer
Principal

Stephen M. Spencer
Principal

Mr. Spencer started his career in the environmental services and construction industry in 1987. During his career, he has worked on and successfully completed projects in many varied aspects of the environmental industry. Since 2002, as principal and senior project manager for Environmental Management Services, Mr. Spencer has successfully completed projects for clients throughout the west coast. His forte is in facility assessment, due diligence investigation, health & safety program development and remediation management.

Mr. Spencer has established positive working relationships with regulatory agencies throughout the west coast, affording his clients a superior level of confidence in his approach to their specific project.

His skills as a project manager frequently result in significant savings in both time and budget to his clients. He is proficient in report writing providing a clear, concise detail of project activities including supporting documents and figures. His client's have ranged from property owners and facility operators to the regulatory agencies themselves. His overall understanding of environmental compliance requirements provides a unique perspective on assessing potential and realized environmental risk and a creative understanding of remediation technique.

Robin P. Hamlet, L.G. / L.HG
Sr. Environmental Scientist / Project Manager

- State of Washington Licensed Geologist/Hydrogeologist
- Ecology Licensed Washington State Site Assessor
- Ecology Licensed UST Decommissioning Supervisor
- AHERA Licensed Building Inspector
- OSHA Hazardous Materials & Emergency Response Certified

Robin P. Hamlet is a Licensed Geologist and Hydrogeologist in the State of Washington**.** Mr. Hamlet has 30 years experience in the geological sciences with over 25 years providing professional environmental consulting services. Mr. Hamlet has been involved with environmental investigations working on Environmental Protection Agency (EPA), United States Navy and Air Force environmental projects, as a project geologist and project manager. As a Senior Project Manager in the private sector, Mr. Hamlet has performed multiple Phase I and Phase II Environmental Site Assessments; including geophysical surveys, soil and groundwater studies and has managed the design and implementation of soil and groundwater remediation projects.

As a Licensed Washington State Underground Storage Tank (UST) Decommissioner and Licensed Site Assessor, Mr. Hamlet has managed multiple UST decommissioning and remediation projects, has prepared proposals, final reports, budgets, contracts with subcontractors, negotiated with prospective clients, and coordinated activities with regulatory agencies. Mr. Hamlet has been involved in training personnel in environmental field operations and Health & Safety programs, has working knowledge of state (NW states) and federal environmental regulations and the ASTM standards. As an AHERA Building Inspector, Mr. Hamlet has performed hazardous materials surveys, air monitoring projects as well as providing asbestos abatement projects.

Adam Harris, L.G.
Sr. Environmental Scientist (Contract)

- Master of Science in Sedimentary Geology
- Licensed geologist in California and Washington
- Current OSHA 40 Hour HAZWOPER
- Certified Oracle Database 9 Administrator
- Certified MS Access 2007 Administrator
- Certified ARC/INFO 9.1 Professional

Mr. Harris has a Batchers of Science degree from the University of California (UC), Davis in Environmental & Recourses Sciences, Specializing in Vadose zone and aqueous geochemistry, hydrology, and environmental management. Mr. Harris graduated with Honors and a Citation for excellence. Mr. Harris continued his education, receiving his Masters in Geology from the University of California, Davis. His thesis Topic was: Environmental geochemistry and paleomagnetism of sediment cores obtained from Ocean Drilling Program Leg 169S, Saanich Inlet, British Columbia.

Engineering Geologist,
Leaking Underground Storage Tank Cleanup Program (2001 to 2005)

- Mr. Harris, as a California State Water Recourses Board site manager, implemented state and federal regulations for LUST program. He provided regulatory oversight, reviewed and commented on hydrogeologic reports, plans and findings submitted by other regulated parties for LUST surface spill sites, and surface mines.
- Mr. Harris conducted site investigations, developed site conceptual models, model development, calibration and validation. Further, he reviewed petitions appealing technical decisions of local and regional agencies, Mediated and resolved conflicts between local regulatory agencies and the regulated community.

- Mr. Harris has authored professional opinions, position papers, technical reports, legal orders, notices, presentations and letters for wide stakeholder distribution. Investigated and reported on emerging contaminant fate and transport pathways and collaborated on development and management of statewide online site reporting database.
- Provided technical oversight and guidance to local UST programs, building local program knowledge and ensuring statewide program consistency. Conducted oversight of UST inspections for consistency in program implementation. Introduced legislative concepts resulting in promulgation of new UST regulations.

Geologic Technician - 1999 to 2000

- Mr. Harris participated in international scientific research expedition. Planned transport, set up and operation of environmental analysis laboratory in Antarctica. Investigated and analyzed high-resolution environmental records. Reported research results for publication.

James E. Corcoran, P.E.
Sr. Project Manager / Sr. Project Engineer (Contract)

- Bachelor of Science - Civil Engineering - Oregon State University - 1991
- Washington State Registered Professional Engineer – 1999
- OSHA Hazardous Materials & Emergency Response Certified

Mr. Corcoran has 17 years of experience in Civil Engineering and Project Management. For the past three years, Mr. Corcoran has been the principal of a consulting business that provides civil engineering consulting and site development services including:

- Critical Areas Review
- FEMA floodplain study
- State Environmental Policy Act (SEPA) checklist
- Stormwater Pollution Prevention Plans (SWPPP)
- Spill Prevention, Control, and Countermeasure (SPCC) plans
- Temporary Erosion/Sediment Control (TESC) plans
- Permanent soil stabilization and precise grading plans
- Surface water collection, detention, retention, treatment, and infiltration design
- Construction coordination with utility purveyors
- Site inspection to verify conformance with design intent and contract documents

Mr. Corcoran has provided civil engineering consulting and stormwater management on residential, commercial, and industrial development projects in multiple Washington state jurisdictions including the City of Tacoma, the City of Lacey, the City of Kent, Pierce County, and King County. Specific projects that Mr. Corcoran provided engineering service include:

- Preparing a TESC plan, SPCC plan, and surface water drainage collection and treatment system for a proposed petroleum products recycling process facility which discharges to a municipal storm sewer located in the Port of Tacoma
- Preparing a SEPA checklist, TESC plan, SPCC plan and surface water drainage collection and treatment system for a proposed privately owned fueling facility, which drains to an environmentally sensitive wetland in the City of Kent.
- Preparing a TESC plan, and permanent surface water drainage retention and treatment system, which infiltrates to site soils underlying a proposed commercial retail center in Pierce County.
- Preparing a TESC plan and permanent surface water drainage collection and treatment system which discharges to a municipal storm sewer in the City of Tacoma.
- Preparing a TESC plan and permanent surface water drainage collection, detention and treatment system for a proposed supermarket and commercial retail center located on the Key Peninsula.

Collette Foley, B.S. Geology
Environmental Scientist / Geologist

- Ecology Licensed Site Assessor
- Ecology Licensed UST Decommissioning Supervisor
- AHERA Licensed Building Inspector
- OSHA Compliance Supervisor
- OSHA Hazardous Materials & Emergency Response Certified

Ms. Foley has been conducting Phase I and II Environmental Site Assessments of commercial, industrial, multi- and single-family residential properties throughout western Washington since 2004. Ms. Foley performs a variety of activities associated with completing due diligence investigations including, but not limited to current and historical site research, regulatory agency file reviews, and subsurface investigations including drilling soil borings and installing monitoring wells to determine the presence and outcome of contamination in soil and groundwater.

Additionally, Ms. Foley completes asbestos "*Good Faith*" surveys prior to demolition or renovation of buildings; conducts project oversight for UST removals; and provides extensive environmental consulting as requested. Ms. Foley received her Bachelors degree in Geology and Environmental Science in 2003 from Pacific Lutheran University and has over two years experience as a field geologist / hydrogeologist performing regional hydrogeologic characterization and production well drilling.

Kevin Foley, B.S. Environmental Science, AICP
Sr. Environmental Planner

- AICP Certified Planners
- Washington State Commercial Real Estate Agent

Mr. Foley currently serves as EMS's main point of contact to assist in the resolution of land use, zoning and permitting issues at the local, state and federal level. He has extensive experience in helping prepare and process development proposals for vacant property and the expansion or renovation of developed sites. He also coordinates certain baseline/investigative work by coordinating land surveys needs, sensitive area analysis and the completion of civil design plans for roads, water, traffic and storm water requirements.

Gina Mulderig, B.S. Chemistry
Environmental Scientist / Chemist

- Ecology Licensed Site Assessor
- Ecology Licensed UST Decommissioning Supervisor
- AHERA Licensed Building Inspector
- Certified Erosion and Sediment Control Lead
- OSHA Hazardous Materials & Emergency Response Certified

Ms. Mulderig received her Bachelors degree in Chemistry from the University of Puget Sound in 1979. Ms. Mulderig has been working in the environmental regulatory compliance field since 1985, starting her career with a position as an environmental analyst for Weyerhaeuser Company. Her fifteen year position at Weyerhaeuser required a thorough knowledge of environmental regulatory compliance, focusing on groundwater monitoring, waste water management, storm water management and facility compliance audits.

Ms. Mulderig worked with two local environmental services / consulting firms from 2000 until 2007, greatly increasing her overall regulatory compliance, hydrogeology and environmental engineering knowledge and experience.

Her position with EMS as a Project Manager / Environmental Scientist provides a vast knowledge base to EMS clients in multiple areas of regulatory compliance and environmental science.

Kaitlyn Allegretti, B.S. Geology
Environmental Scientist / Technician

- Ecology Licensed UST Decommissioning Supervisor
- Ecology Licensed Site Assessor
- AHERA Licensed Building Inspector
- OSHA Hazardous Materials & Emergency Response Certified

Ms. Allegretti serves as a site manager and field technical for EMS. Ms. Allegretti graduated from the University of Dayton (2005) with a Bachelor's degree in Geology. Ms. Allegretti's primary responsibilities are field work including monitoring well sampling, underground storage tank closure and decommissioning and asbestos inspections. Ms. Allegretti was licensed as an AHERA building inspector and UST Decommissioner within the first 60 days of her employment.

During her two years with EMS, Ms. Allegretti has completed in excess of fifty Phase I Environmental Site Assessments and in excess of 20 commercial underground storage tank closure projects.

James D. Coppernoll, L.G. / L.HG (Sub-Consultant)
Licensed Geologist / Hydrogeologist

- Washington State Licensed Geologist and Hydrogeologist
- Ecology Licensed Site Assessor

James D. Coppernoll is a Washington State licensed Geologist and Hydrogeologist with thirteen years of experience practicing environmental geology in the Northwest. During his career, Mr. Coppernoll worked with clients ranging from major oil companies and national corporations to local businesses to identify, manage, and resolve their environmental problems and helped local agencies, businesses, and individuals with their environmental, geological, and regulatory issues.

Mr. Coppernoll has conducted various environmental and geological investigations ranging from numerous Phase I Environmental Assessments to contaminated site investigations and remedial planning and implementation as well as land use and development studies in Washington, Oregon, Idaho, Montana, and Alaska, and has frequently acted as a regulatory liaison and client representative in third-party negotiations.

Mr. Coppernoll managed all phases of assessment and remediation at dozens of retail and bulk fuel facilities for major oil companies in the Northwest including: excavation and disposal of contaminated soil; free product recovery; feasibility studies; and design, installation, and

operation/maintenance of in-situ soil and ground water remediation systems. Mr. Coppernoll managed many of these sites from initial assessment through remediation and closure with the state.

Mr. Coppernoll has conducted geological investigations and assessments for diverse property development projects in the northwest including landfills, hot springs, and residential properties. The purpose of these assessments and investigations was to provide professional and reliable information for use in developing sensitive areas properties.

Professional References

Diamond Parking Services
Mr. Bob Turley, CFO
3161 Elliott Ave. Ste. 200
Seattle, Washington 98121
(206) 284-3100 (Client)

Republic Services / Regional Disposal
Leslie Whiteman, Special Waste Manager
54 South Dawson Street
Seattle, Washington 98134
(206) 332-7711 (Client)

Michael J. Goldfarb Enterprises, LLC
Brett Goldfarb, President
1420 Fifth Avenue. Suite 2625
Seattle, WA 98101-2333

Joe Hall Construction
Robert Walker, Project Manager
1317 54th Ave. E.
Tacoma, Washington 98424
(253) 922-6815 (Client)

The Wattles Company
Craig Wattles, President
35800 2249th Ave SE
Enumclaw, Washington 98022
(253) 272-7205

R.W. Rhine, Inc.
Mr. Joel D. Simmonds, President
1124 112th St. East
Tacoma, Washington 98445
(253) 531-9548 (Client)

Baseline Engineering, Inc.
Terry Ferguson
1910 64th Ave. West
Fircrest, WA 98466
(253) 565-4491 (Client)

CAM Properties
Mr. Peter Coates, President
18420 68th Avenue
Kent, Washington 98032
(425) 251-3268 (Client)

Best Parking Lot Services
Rebecca Craig, Owner
PO Box 159
Sumner, Washington 98390
(253) 863-3330 (Client)

Gallanar Inc. / Independent Fuels
Mike Gallanar, President
PO Box 15661
Seattle, Washington 98115
(206) 779-8860 (Client)

Financial Institution References

First Savings Bank Northwest
Mr. John Wallace, Sr. Vice President
Commercial Lending
400 Industrial Drive, Suite 110
Tukwila, Washington 98188
(206) 719-0118

West Coast Bank
Mr. Robert Salvador, Vice President
Commercial Lending
400 Industrial Drive, Suite 110
Tukwila, Washington 98188
(206) 719-0118

KeyBank
Jennifer E. Ringenbach, Vice President
Commercial Lending
1101 Pacific Avenue
Post Office Box 11500
Tacoma, Washington 98411-5500

Washington Trust Bank
Mr. Jack Heath, President
PO Box 2127
Spokane, Washington 99210-2127
(509) 353-3897

Washington First International Bank
Kathleen Herdlein
Manager
9709 Third Ave NE, Suite 110
Seattle, Washington
(206) 830-7156

Commercial Real Estate References

Johnson Commercial
Tim Johnson, President
11120 Gravely Lake Drive SW
Lakewood, Washington 984999
(253) 589-9999 / tim@tjcp.biz

CB Richard Ellis | Brokerage Services
John Bauder, Vice President
1145 Broadway Plaza, Suite 1000
Tacoma, WA 98402
(253) 596-0047 / John.Bauder@cbre.com

Neil Walter Company
Bruce Valentine, Principal
Foss Landing
1940 East D Street, Suite 100
Tacoma, Washington 98421
(253) 779-2400/bvalentine@neilwalter.com

PDSK Properties, Inc.
Paul Krakow, President
PO Box 98630
Lakewood, WA 98496-8630
(253) 627-4070

Public Agency References

Tacoma Pierce County Health Department
Rob Olsen, Special Inspector
3629 South D Street, MS 170
Tacoma, WA 98418-6813
(253) 798-2855 - Office

Tacoma Pierce County Health Department
Sharon Bell, Special Inspector
3629 South D Street, MS 170
Tacoma, WA 98418-6813
(253) 798-2891 – Office

Tacoma Public Utilities
Paris Um, Health & Safety Manager
3628 South 35th Street
Tacoma, WA 98411-0007
(253) 502-8555 - Office

Pierce County
Rick Tacket, Property Manager
1102 Broadway
Tacoma, Washington 98402
(253) 798-6200

Washington Department of Ecology
Carol Johnston, Site Manager / Inspector
PO Box 47775
Olympia, WA 98504-7775
(360) 407-6263 – Office

King County DDES
Elizabeth Deraitus Abatement Manager
900 Oakesdale Ave SW
Renton, WA 98057-5212
206-296-7090

Yakima County
Mark Cleaver, Project Engineer
128 N. 2nd Street, Fourth Floor
Yakima, Washington 98901
(509) 574-2314

Washington Department of Ecology
Chuck Cline, Program Director
PO Box 47775
Olympia, WA 98504-7775
(360) 407-6267 - Office

JOE FOSS 5/02/12
Show this message... Show

Elizabeth Weldin 5/02/12
To Joe Foss, Stephen Spencer, Wayne Thronson, Doug McArthur, cavanar@wsdot.. Reply

Hi Joe and Steven,

Thank you very much for the revised cleanup action plan. We appreciate the additional information about the tee boxes, including the written description and drawing.

Ecology is trying to work with you to find a viable solution for the contaminated soil. Ecology liked your idea of putting the contaminated soil under the tee boxes. However, we were under the impression that you were going to cap the contaminated soil under the tee boxes using the appropriate engineering controls (see e-mail from Stephen Spencer below).

Based on the revised cleanup action plan, it sounds like the contaminated soil from the newly created lots will be moved to the parent parcel. Grass seed will be spread on the newly consolidated contaminated soil mounds, which are to be used as tee boxes. There appears to be no engineering controls for the consolidated contaminated soil. In the revised Cleanup Action Plan, you stated that "as the receiving area where the Tee Box is to be constructed is also impacted with arsenic, further capping features are deemed excessive." Ecology respectfully disagrees. Since no other sampling has been conducted throughout the golf course, it is unknown what concentrations of arsenic are present. What we *do* know are the concentrations of arsenic in the soil to be consolidated, which needs to be handled accordingly.
In the draft Interim Action Plan (hyperlink), Ecology wants consolidated contaminated soil to be capped with either a soil cap or hard cap to protect human health and the environment. A soil cap would be clean soil and geotextile liner covering the contaminated soil. A hard cap would be asphalt, concrete, or paving over the contaminated soil. Please see Chapter 11 (pages 79 – 93) in the draft Interim Action Plan for more details about appropriate engineering controls for consolidated contaminated soil.
As reminder, an environmental covenant would need to be placed on the parent parcels where the engineered controls are implemented. This would be a condition of receiving a Property-Specific NFA for the proposed new lots that will be remediated. Ecology will not give the parent parcels an NFA since these parcels will not be remediated. These parcels would remain listed on Confirmed and Suspected Contaminated Sites List. Even though the parent parcels would not be getting an NFA, they would still be subject to periodic reviews.

Please revise the plans for the tee boxes to either have a soil or hard cap over the consolidated contaminated soil in the tee boxes. If you do choose to use a soil cap, please choose the soil cap appropriate for the level of contamination found. Some of the lots have high levels of arsenic

contamination and a type 1 soil cap would not be appropriate.

If you have any questions, feel free to contact me.

Thank you.

Elizabeth Weldin
Technical Assistance Coordinator
Toxics Cleanup Program, Southwest Regional Office
Washington State Department of Ecology
360-407-7094

From: Stephen Spencer [mailto:sspencer@ecocononline.com]
Sent: Thursday, December 29, 2011 10:51 AM
To: Weldin, Elizabeth (ECY)
Cc: JOE FOSS; Matt Loxterman
Subject: RE: Highlands Golf VCP

Elizabeth,

I have meet with Joe Foss and the other Highland Golf managers. They have asked that I present you with an alternative "remediation plan". Basically, they are developing four lots that reside in two tax parcels. They want to remediate the proposed lots prior to being subdivided, place the impacted soil into tee-boxes located on the associated tax parcels, then subdivide the remediated lots. The tee-boxes will be engineered using appropriate engineering controls. I have explained that the tax parcels that contain the impacted soil will remain on the Confirmed and Suspected Contaminated Sites List (CSCSL), but the new lots, now being free of impacted soil should qualify for a No Further Action determination.

They have also asked to be put on whatever lists, grants, etc. that are available for assistance with the Asarco Settlement fund. If you could forward me the Ecology contacts that are managing the Settlement Fund, I will be putting together a proposal for their consideration.

Best Regards,

Stephen Spencer
President | EcoCon, Inc.
ECI | environmental services
www.ecocononline.com
Direct: 253.921.7059 | Fax: 253.369.6228 | Office: 253.238.9270