



March 1, 2019

Ms. Lise Ward
Seattle Parks and Recreation
800 Maynard Avenue South, 3rd Floor
Seattle, Washington 98134

Re: Soil sample results for Duwamish Waterway Park, Seattle.

Dear Lise:

From our soil sampling report dated July 20, 2014, 3 samples were collected from the subject Duwamish Waterway Park property from the upper approximate 3 inches of grass/soil. Each sample was a composite of soil from 3 random locations. All samples were analyzed for RCRA (Resource Conservation and Recovery Act) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver). From these samples, arsenic was detected in 2 of the 3 locations at concentrations that are above the Washington State Department of Ecology's (Ecology's) MTCA (Model Toxics Control Act) cleanup standard based on unrestricted (residential) land use.

In January, 2019, 4 borings were drilled along the northern portion of the subject park to depths of 10 feet below grade. In addition, 3 hand borings were dug along the southern portion of the property to depths of 2.5 feet below grade. Two soil samples were collected from each boring location (14 samples total). All samples were analyzed for PAHs and RCRA metals. From these samples, arsenic and lead were detected in one boring at 3 – 4 feet below grade at concentrations that are above Ecology's cleanup standards (report dated January 30, 2019). Arsenic was also detected in one hand boring at 2 – 2.5 feet below grade at a concentration that is above Ecology's cleanup standard.

To help better-define the locations and depths of arsenic contamination at the park, the property was divided into 65 grids (grid numbers 1 through 65) (Figure 1). Beginning on Thursday, February 21, 2019, one soil sample was collected from each grid (65 samples total). Each sample was a composite of soil from 3 random locations within each grid. Each sample was collected at depths of approximately 1 – 6 inches below grade. In addition, 12 samples were collected from discrete random locations at depths of approximately 7 – 12 inches below grade. All samples were analyzed for arsenic content. Soil analytical results are attached and summarized below in Table 1.

Figure 1. Soil sampling grids. Duwamish Waterway Park, Seattle. January, 2019.



Not to scale



Table 1. Soil sampling results. Duwamish Waterway Park, Seattle. February, 2019.

Grid	Grid Size (feet)	Grid Characteristics	Sample Number	Sample Depth (inches)	Analytical Result (ppm)	MTCA Cleanup Standard (ppm)
1	25-by-25	Grass field	1	1 - 6	10.1 arsenic	20 arsenic
2	25-by-25	Grass field	2	1 - 6	5.08 arsenic	20 arsenic
3	25-by-25	Grass field	3	1 - 6	5.22 arsenic	20 arsenic
4	25-by-25	Grass field	4	1 - 6	5.05 arsenic	20 arsenic
4	25-by-25	Grass field	4A	7 - 12	11.4 arsenic	20 arsenic
5	25-by-38	Trees	5	1 - 6	11.7 arsenic	20 arsenic
6	25-by-25	Grass field	6	1 - 6	6.56 arsenic	20 arsenic
6	25-by-25	Grass field	6A	7 - 12	6.3 arsenic	20 arsenic
7	25-by-25	Grass field	7	1 - 6	6.54 arsenic	20 arsenic
8	25-by-25	Grass field	8	1 - 6	7.19 arsenic	20 arsenic
9	25-by-25	Grass field	9	1 - 6	6.78 arsenic	20 arsenic
10	25-by-38	Trees	10	1 - 6	7.12 arsenic	20 arsenic
11	25-by-25	Trees	11	1 - 6	3.83 arsenic	20 arsenic
12	25-by-25	Grass field	12	1 - 6	7.32 arsenic	20 arsenic
13	25-by-25	Grass field	13	1 - 6	8.56 arsenic	20 arsenic
14	25-by-25	Grass field	14	1 - 6	6.53 arsenic	20 arsenic
15	25-by-38	Trees	15	1 - 6	6.04 arsenic	20 arsenic
15	25-by-25	Trees	15A	7 - 12	13.1 arsenic	20 arsenic
16	25-by-25	Grass and trees	16	1 - 6	5.22 arsenic	20 arsenic
17	25-by-25	Grass field	17	1 - 6	6.12 arsenic	20 arsenic
18	25-by-25	Grass field	18	1 - 6	7.47 arsenic	20 arsenic
18	25-by-25	Grass field	18A	7 - 12	7.22 arsenic	20 arsenic
19	25-by-25	Grass field	19	1 - 6	7.39 arsenic	20 arsenic
20	25-by-38	Grass and trees	20	1 - 6	7.37 arsenic	20 arsenic
21	25-by-25	Grass and trees	21	1 - 6	5.36 arsenic	20 arsenic
22	25-by-25	Grass field	22	1 - 6	7.81 arsenic	20 arsenic
23	25-by-25	Grass field	23	1 - 6	9.47 arsenic	20 arsenic
24	25-by-25	Grass field	24	1 - 6	9.19 arsenic	20 arsenic
25	25-by-38	Grass and trees	25	1 - 6	7.42 arsenic	20 arsenic
25	25-by-38	Grass and trees	25A	7 - 12	8.18 arsenic	20 arsenic
26	25-by-25	Trees	26	1 - 6	7.67 arsenic	20 arsenic
27	25-by-25	Grass field	27	1 - 6	14 arsenic	20 arsenic
28	25-by-25	Grass field	28	1 - 6	16.8 arsenic	20 arsenic
28	25-by-25	Grass field	28A	1 - 6	15.2 arsenic	20 arsenic
29	25-by-25	Grass field	29	1 - 6	9.36 arsenic	20 arsenic
30	25-by-38	Grass and trees	30	1 - 6	7.98 arsenic	20 arsenic
31	25-by-25	Trees	31	1 - 6	6.32 arsenic	20 arsenic
31	25-by-25	Trees	31A	7 - 12	6.57 arsenic	20 arsenic
32	25-by-25	Grass field	32	1 - 6	11.9 arsenic	20 arsenic



Table 1 (continued). Soil sampling results. Duwamish Waterway Park, Seattle. February, 2019.

Grid	Grid Size (feet)	Grid Characteristics	Sample Number	Sample Depth (inches)	Analytical Result (ppm)	MTCA Cleanup Standard (ppm)
33	25-by-25	Grass field	33	1 - 6	8.99 arsenic	20 arsenic
34	25-by-25	Grass field	34	1 - 6	7.3 arsenic	20 arsenic
35	25-by-38	Grass and trees	35	1 - 6	7.69 arsenic	20 arsenic
36	25-by-25	Trees and concrete	36	1 - 6	5.86 arsenic	20 arsenic
37	25-by-25	Grass and concrete	37	1 - 6	9.12 arsenic	20 arsenic
38	25-by-25	Grass field	38	1 - 6	5.89 arsenic	20 arsenic
39	25-by-25	Grass field	39	1 - 6	6.74 arsenic	20 arsenic
39	25-by-25	Grass field	39A	7 - 12	7.96 arsenic	20 arsenic
40	25-by-38	Grass and trees	40	1 - 6	11.7 arsenic	20 arsenic
41	25-by-25	Grass and concrete	41	1 - 6	6.43 arsenic	20 arsenic
42	25-by-25	Grass field	42	1 - 6	7.83 arsenic	20 arsenic
42	25-by-25	Grass field	42A	7 - 12	7.36 arsenic	20 arsenic
43	25-by-25	Grass field	43	1 - 6	7.01 arsenic	20 arsenic
44	25-by-25	Grass field	44	1 - 6	5.91 arsenic	20 arsenic
45	25-by-25	Trees	45	1 - 6	10.2 arsenic	20 arsenic
46	10-by-50	Grass and trees	46	1 - 6	41.7 arsenic	20 arsenic
47	25-by-25	Trees	47	1 - 6	7.72 arsenic	20 arsenic
48	25-by-25	Grass field	48	1 - 6	6.81 arsenic	20 arsenic
49	25-by-25	Grass field	49	1 - 6	16.1 arsenic	20 arsenic
50	25-by-25	Grass field	50	1 - 6	4.77 arsenic	20 arsenic
51	25-by-25	Trees	51	1 - 6	15.5 arsenic	20 arsenic
52	25-by-25	Trees	52	1 - 6	23.7 arsenic	20 arsenic
52	25-by-25	Trees	52A	7 - 12	32.6 arsenic	20 arsenic
53	25-by-25	Trees	53	1 - 6	74.4 arsenic	20 arsenic
54	25-by-25	Grass and trees	54	1 - 6	6.09 arsenic	20 arsenic
55	25-by-25	Grass field	55	1 - 6	4.82 arsenic	20 arsenic
56	25-by-40	Grass field	56	1 - 6	8.51 arsenic	20 arsenic
56	25-by-40	Grass field	56A	7 - 12	4.13 arsenic	20 arsenic
57	25-by-40	Grass field	57	1 - 6	10.1 arsenic	20 arsenic
58	25-by-25	Grass and trees	58	1 - 6	34.6 arsenic	20 arsenic
59	25-by-25	Trees and concrete	59	1 - 6	104 arsenic	20 arsenic
60	25-by-25	Grass and trees	60	1 - 6	71.3 arsenic	20 arsenic
61	25-by-40	Grass field	61	1 - 6	8.25 arsenic	20 arsenic



Table 1 (continued). Soil sampling results. Duwamish Waterway Park, Seattle. February, 2019.

Grid	Grid Size (feet)	Grid Characteristics	Sample Number	Sample Depth (inches)	Analytical Result (ppm)	MTCA Cleanup Standard (ppm)
62	25-by-20	Grass field	62	1 - 6	4.1 arsenic	20 arsenic
63	25-by-40	Trees	63	1 - 6	25.4 arsenic	20 arsenic
63	25-by-40	Trees	63A	7 - 12	12.6 arsenic	20 arsenic
64	25-by-40	Grass field	64	1 - 6	109 arsenic	20 arsenic
65	25-by-40	Grass field	65	1 - 6	154 arsenic	20 arsenic

From Table 1, arsenic was detected in grids 46, 52, 53, 58, 59, 60, 63, 64 and 65 at approximately 1 – 6 inches below grade at concentrations that are above Ecology’s MTCA cleanup standard based on unrestricted (residential) land use (Figure 2).

Arsenic was also detected in grid 52 (sample 52A) at approximately 7 – 12 inches below grade at a concentration that is above the Ecology cleanup standard (see Figure 2).

Arsenic was detected in all the other grids, but at concentrations that are below the Ecology cleanup standard.

It was a pleasure assisting you with this sampling project. Please call me if you have any questions.

Sincerely,

ECO COMPLIANCE CORPORATION

Bill Kane

Bill Kane
 President
bill@ecompliance.biz

Attachment



Figure 1. Soil sampling grids with arsenic above the Ecology cleanup standard of 20 ppm. Duwamish Waterway Park, Seattle. January, 2019.



Not to scale





28 February 2019

Lise Ward
Seattle Parks & Recreation
Accounts Payable Suite 300 800 Maynard Ave S
Seattle, WA 98134

RE: Rush Arsenic Soils

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

<u>Associated Work Order(s)</u>	<u>Associated SDG ID(s)</u>
19B0252	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)
 www.arilabs.com

ARI Assigned Number: 19B0252	Turn-around Requested: 4 day (Thursday)	Page: 1 of 8
ARI Client Company: Eco Compliance	Phone:	Date: 2-22-19
Client Contact: Bill Kane		Ice Present?
Client Project Name: Duwamish Park		No. of Coolers:
Client Project #:	Samplers: Bill Kane	Cooler Temps:

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested								Notes/Comments
					ARGENIC								
1	2-21-19	PM	Soil	1	X								
2				1	X								
3				1	X								
4				1	X								
4A				1	X								
5				1	X								
6				1	X								
6A				1	X								
7				1	X								
8				1	X								

Comments/Special Instructions Bill to: Ms. Lise Ward Seattle Parks & Rec	Relinquished by: (Signature) Bill Kane	Received by: (Signature) Stephanie Fisvel	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Bill Kane	Printed Name: Stephanie Fisvel	Printed Name:	Printed Name:
	Company: Eco Compliance	Company: ARL	Company:	Company:
	Date & Time: 2-22-19, 12:55 PM	Date & Time: 2-22-19 12:55	Date & Time:	Date & Time:

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

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ARI Assigned Number: 19B0252	Turn-around Requested: 4 day (Thursday)	Page: 2 of 8
ARI Client Company: Eco Compliance	Phone:	Date: 2-22-19
Client Contact: Bill Kane		Ice Present?
Client Project Name: Duwamish Park		No. of Coolers:
Client Project #:	Samplers: Bill Kane	Cooler Temps:

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested							Notes/Comments
					Asen/1							
9	2-21-19	PM	soil	1	X							
10				1	X							
11				1	X							
12				1	X							
13				1	X							
14				1	X							
15				1	X							
15A				1	X							
16	2-22-19	AM		1	X							
17				1	X							

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	Printed Name: Bill Kane	Printed Name: Stephanie Fisuel	Printed Name:	Printed Name:
	Company: Eco Compliance	Company: ARI	Company:	Company:
	Date & Time: 2-22-19, 12:55 PM	Date & Time: 2-22-19 12:55	Date & Time:	Date & Time:

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ARI Assigned Number: 19B0252	Turn-around Requested: 4 day (Thursday)	Page: 3	of 8
ARI Client Company: Eco Compliance	Phone:	Date: 2-22-19	Ice Present?
Client Contact: Bill Kane		No. of Coolers:	Cooler Temps:

Client Project Name: Duwamish Park	Analysis Requested						Notes/Comments
Client Project #:							
Samplers: Bill Kane							

Sample ID	Date	Time	Matrix	No. Containers																	
18	2-22-19	AM	Soil	1																	
18A				1																	
19				1																	
20				1																	
21				1																	
22				1																	
23				1																	
24				1																	
25				1																	
25A				1																	

Comments/Special Instructions Bill to: Ms. Lise Ward Seattle Parks & Rec	Relinquished by: (Signature) Bill Kane	Received by: (Signature) Stephanie Fiesel	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Bill Kane	Printed Name: Stephanie Fiesel	Printed Name:	Printed Name:
	Company: Eco Compliance	Company: ARI	Company:	Company:
	Date & Time: 2-22-19, 12:55 PM	Date & Time: 2-22-19 12:55	Date & Time:	Date & Time:

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ARI Assigned Number: <i>19B0252</i>	Turn-around Requested: <i>4 day (Thursday)</i>	Page: <i>4</i> of <i>8</i>
ARI Client Company: <i>Eco Compliance</i>	Phone:	Date: <i>2-22-19</i>
Client Contact: <i>Bill Kane</i>		Ice Present?
Client Project Name: <i>Duwamish Park</i>		No. of Coolers:
Client Project #:	Samplers: <i>Bill Kane</i>	Cooler Temps:

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested						Notes/Comments
					Asbestos						
<i>26</i>	<i>2-22-19</i>	<i>AM</i>	<i>Soil</i>	<i>1</i>	<i>X</i>						
<i>27</i>	<i> </i>	<i> </i>	<i> </i>	<i>1</i>	<i>X</i>						
<i>28</i>	<i> </i>	<i> </i>	<i> </i>	<i>1</i>	<i>X</i>						
<i>28A</i>	<i> </i>	<i> </i>	<i> </i>	<i>1</i>	<i>X</i>						
<i>29</i>	<i> </i>	<i> </i>	<i> </i>	<i>1</i>	<i>X</i>						
<i>30</i>	<i> </i>	<i> </i>	<i> </i>	<i>1</i>	<i>X</i>						
<i>31</i>	<i> </i>	<i> </i>	<i> </i>	<i>1</i>	<i>X</i>						
<i>31A</i>	<i> </i>	<i> </i>	<i> </i>	<i>1</i>	<i>X</i>						
<i>32</i>	<i> </i>	<i> </i>	<i> </i>	<i>1</i>	<i>X</i>						
<i>33</i>	<i> </i>	<i> </i>	<i> </i>	<i>1</i>	<i>X</i>						

Comments/Special Instructions <i>Bill to: Ms. Lise Ward Seattle Parks & Rec</i>	Relinquished by: (Signature) <i>Bill Kane</i>	Received by: (Signature) <i>Stephanie Finsel</i>	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: <i>Bill Kane</i>	Printed Name: <i>Stephanie Finsel</i>	Printed Name:	Printed Name:
	Company: <i>Eco Compliance</i>	Company: <i>ARI</i>	Company:	Company:
	Date & Time: <i>2-22-19, 12:55 PM</i>	Date & Time: <i>2-22-19 12:55</i>	Date & Time:	Date & Time:

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ARI Assigned Number: 19B0252	Turn-around Requested: 4 day (Thursday)	Page: 5 of 8
ARI Client Company: Eco Compliance	Phone:	Date: 2-22-19
Client Contact: Bill Kane		Ice Present?
Client Project Name: Duwamish Park		No. of Coolers:
Client Project #:	Samplers: Bill Kane	Cooler Temps:



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Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested							Notes/Comments
					ACCEN/L							
34	2-22-19	AM	soil	1	X							
35				1	X							
36				1	X							
37				1	X							
38				1	X							
39				1	X							
39A				1	X							
40				1	X							
41				1	X							
42				1	X							

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ARI Client Company: Eco Compliance	Phone:	Date: 2-22-19
Client Contact: Bill Kane		Ice Present?
Client Project Name: Duwamish Park		No. of Coolers:
Client Project #:	Samplers: Bill Kane	Cooler Temps:

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested							Notes/Comments
					As Seen							
42 42A	2-22-19	AM	Soil	1	X							
43				1	X							
44				1	X							
45				1	X							
46				1	X							
47				1	X							
48				1	X							
49				1	X							
50				1	X							
51				1	X							

Comments/Special Instructions Bill to: Ms. Lise Ward Seattle Parks + Rec	Relinquished by: (Signature) Bill Kane	Received by: (Signature) Stephanie Finsel	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Bill Kane	Printed Name: Stephanie Finsel	Printed Name:	Printed Name:
	Company: Eco Compliance	Company: ARI	Company:	Company:
	Date & Time: 2-22-19, 12:55 PM	Date & Time: 2-22-19 12:55	Date & Time:	Date & Time:

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ARI Assigned Number: <i>LAB0252</i>	Turn-around Requested: <i>4 day (Thursday)</i>	Page: <i>7</i>	of <i>8</i>
ARI Client Company: <i>Eco Compliance</i>	Phone:	Date: <i>2-22-19</i>	Ice Present?
Client Contact: <i>Bill Kane</i>		No. of Coolers:	Cooler Temps:

Client Project Name: <i>Duwamish Park</i>	Analysis Requested							Notes/Comments
Client Project #:	Samplers: <i>Bill Kane</i>	<i>ARSENIC</i>						

Sample ID	Date	Time	Matrix	No. Containers	<i>ARSENIC</i>													
<i>52</i>	<i>2-22-19</i>	<i>AM</i>	<i>soil</i>	<i>1</i>	<i>X</i>													
<i>52A</i>	<i> </i>	<i> </i>	<i> </i>	<i>1</i>	<i>X</i>													
<i>53</i>	<i> </i>	<i> </i>	<i> </i>	<i>1</i>	<i>X</i>													
<i>54</i>	<i> </i>	<i> </i>	<i> </i>	<i>1</i>	<i>X</i>													
<i>55</i>	<i> </i>	<i> </i>	<i> </i>	<i>1</i>	<i>X</i>													
<i>56</i>	<i> </i>	<i> </i>	<i> </i>	<i>1</i>	<i>X</i>													
<i>56A</i>	<i> </i>	<i> </i>	<i> </i>	<i>1</i>	<i>X</i>													
<i>57</i>	<i> </i>	<i> </i>	<i> </i>	<i>1</i>	<i>X</i>													
<i>58</i>	<i> </i>	<i> </i>	<i> </i>	<i>1</i>	<i>X</i>													
<i>59</i>	<i> </i>	<i> </i>	<i> </i>	<i>1</i>	<i>X</i>													

Comments/Special Instructions <i>Bill to: Ms. Lise Ward Seattle Parks & Rec</i>	Relinquished by: (Signature) <i>Bill Kane</i>	Received by: (Signature) <i>Stephanie Fisuel</i>	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: <i>Bill Kane</i>	Printed Name: <i>Stephanie Fisuel</i>	Printed Name:	Printed Name:
	Company: <i>Eco Compliance</i>	Company: <i>ARI</i>	Company:	Company:
	Date & Time: <i>2-22-19, 12:55 PM</i>	Date & Time: <i>2-22-19 12:55</i>	Date & Time:	Date & Time:

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)
 www.arilabs.com

ARI Assigned Number: 19B0252	Turn-around Requested: 4 day (Thursday)	Page: 8 of 8
ARI Client Company: Eco Compliance	Phone:	Date: 2-22-19
Client Contact: Bill Kane		Ice Present?
Client Project Name: Duwamish Park		No. of Coolers:
Client Project #:	Samplers: Bill Kane	Cooler Temps:

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested								Notes/Comments	
					As	Se	Co	Cr	Pb	Mn	Cd	Hg		
60	2-22-19	pm	Soil	1	X									
61				1	X									
62				1	X									
63				1	X									
63A				1	X									
64				1	X									
65				1	X									

Comments/Special Instructions Bill to: Ms. Lise Ward Seattle Parks & Rec	Relinquished by: (Signature) Bill Kane	Received by: (Signature) Stephanie Finsel	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Bill Kane	Printed Name: Stephanie Finsel	Printed Name:	Printed Name:
	Company: Eco Compliance	Company: ARI	Company:	Company:
	Date & Time: 2-22-19, 12:55 PM	Date & Time: 2-22-19 12:55	Date & Time:	Date & Time:

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

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Seattle Parks & Recreation
Accounts Payable Suite 300 800 Maynard Ave S
Seattle WA, 98134

Project: Rush Arsenic Soils
Project Number: [none]
Project Manager: Lise Ward

Reported:
28-Feb-2019 15:06

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1	19B0252-01	Solid	21-Feb-2019 00:00	22-Feb-2019 12:55
2	19B0252-02	Solid	21-Feb-2019 00:00	22-Feb-2019 12:55
3	19B0252-03	Solid	21-Feb-2019 00:00	22-Feb-2019 12:55
4	19B0252-04	Solid	21-Feb-2019 00:00	22-Feb-2019 12:55
4A	19B0252-05	Solid	21-Feb-2019 00:00	22-Feb-2019 12:55
5	19B0252-06	Solid	21-Feb-2019 00:00	22-Feb-2019 12:55
6	19B0252-07	Solid	21-Feb-2019 00:00	22-Feb-2019 12:55
6A	19B0252-08	Solid	21-Feb-2019 00:00	22-Feb-2019 12:55
7	19B0252-09	Solid	21-Feb-2019 00:00	22-Feb-2019 12:55
8	19B0252-10	Solid	21-Feb-2019 00:00	22-Feb-2019 12:55
9	19B0252-11	Solid	21-Feb-2019 00:00	22-Feb-2019 12:55
10	19B0252-12	Solid	21-Feb-2019 00:00	22-Feb-2019 12:55
11	19B0252-13	Solid	21-Feb-2019 00:00	22-Feb-2019 12:55
12	19B0252-14	Solid	21-Feb-2019 00:00	22-Feb-2019 12:55
13	19B0252-15	Solid	21-Feb-2019 00:00	22-Feb-2019 12:55
14	19B0252-16	Solid	21-Feb-2019 00:00	22-Feb-2019 12:55
15	19B0252-17	Solid	21-Feb-2019 00:00	22-Feb-2019 12:55
15A	19B0252-18	Solid	21-Feb-2019 00:00	22-Feb-2019 12:55
16	19B0252-19	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
17	19B0252-20	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
18	19B0252-21	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
18A	19B0252-22	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
19	19B0252-23	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
20	19B0252-24	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
21	19B0252-25	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
22	19B0252-26	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
23	19B0252-27	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
24	19B0252-28	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
25	19B0252-29	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
25A	19B0252-30	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
26	19B0252-31	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
27	19B0252-32	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
28	19B0252-33	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
28A	19B0252-34	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
29	19B0252-35	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
30	19B0252-36	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
31	19B0252-37	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
31A	19B0252-38	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
32	19B0252-39	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55



Seattle Parks & Recreation Accounts Payable Suite 300 800 Maynard Ave S Seattle WA, 98134	Project: Rush Arsenic Soils Project Number: [none] Project Manager: Lise Ward	Reported: 28-Feb-2019 15:06
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33	19B0252-40	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
34	19B0252-41	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
35	19B0252-42	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
36	19B0252-43	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
37	19B0252-44	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
38	19B0252-45	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
39	19B0252-46	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
39A	19B0252-47	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
40	19B0252-48	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
41	19B0252-49	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
42	19B0252-50	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
42A	19B0252-51	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
43	19B0252-52	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
44	19B0252-53	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
45	19B0252-54	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
46	19B0252-55	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
47	19B0252-56	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
48	19B0252-57	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
49	19B0252-58	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
50	19B0252-59	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
51	19B0252-60	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
52	19B0252-61	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
52A	19B0252-62	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
53	19B0252-63	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
54	19B0252-64	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
55	19B0252-65	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
56	19B0252-66	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
56A	19B0252-67	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
57	19B0252-68	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
58	19B0252-69	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
59	19B0252-70	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
60	19B0252-71	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
61	19B0252-72	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
62	19B0252-73	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
63	19B0252-74	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
63A	19B0252-75	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
64	19B0252-76	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55
65	19B0252-77	Solid	22-Feb-2019 00:00	22-Feb-2019 12:55



Seattle Parks & Recreation
Accounts Payable Suite 300 800 Maynard Ave S
Seattle WA, 98134

Project: Rush Arsenic Soils
Project Number: [none]
Project Manager: Lise Ward

Reported:
28-Feb-2019 15:06

Work Order Case Narrative

Total Metals - EPA Method 6020A

The sample(s) were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

The Duplicate RPD and Matrix Spike percent recovery were within control limits except as flagged within the QC section of this report.



Cooler Receipt Form

ARI Client: ECO Compliance
 COC No(s): _____ (NA)
 Assigned ARI Job No: 19B0252

Project Name: Duhamish park
 Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO
 Were custody papers included with the cooler? YES NO
 Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.9
 Time 1255
 If cooler temperature is out of compliance fill-out form 00070F Temp Gun ID#: D00256P

Cooler Accepted by: Set Date: 2-22-19 Time: 1255

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO
 What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____
 Was sufficient ice used (if appropriate)? NA YES NO
 Were all bottles sealed in individual plastic bags? YES NO
 Did all bottles arrive in good condition (unbroken)? YES NO
 Were all bottle labels complete and legible? YES NO
 Did the number of containers listed on COC match with the number of containers received? YES NO
 Did all bottle labels and tags agree with custody papers? YES NO
 Were all bottles used correct for the requested analyses? YES NO
 Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO
 Were all VOC vials free of air bubbles? NA YES NO
 Was sufficient amount of sample sent in each bottle? YES NO
 Date VOC Trip Blank was made at ARI: NA

Was Sample Split by ARI: NA YES Date/Time: _____ Equipment: _____ Split by: _____
 Samples Logged by: Set Date: 2-22-19 Time: 1500 Labels checked by: Set

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____



Seattle Parks & Recreation Accounts Payable Suite 300 800 Maynard Ave S Seattle WA, 98134	Project: Rush Arsenic Soils Project Number: [none] Project Manager: Lise Ward	Reported: 28-Feb-2019 15:06
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1
19B0252-01 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/21/2019 00:00	
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/26/2019 16:57	
Sample Preparation:	Preparation Method: SWN EPA 3050B	Extract ID: 19B0252-01 A 01
	Preparation Batch: BHB0535	Sample Size: 1.004 g (wet)
	Prepared: 25-Feb-2019	Final Volume: 50 mL
		Dry Weight: 0.79 g
		% Solids: 78.79

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.25	10.1	mg/kg	



Seattle Parks & Recreation

Project: Rush Arsenic Soils

Accounts Payable Suite 300 800 Maynard Ave S

Project Number: [none]

Reported:

Seattle WA, 98134

Project Manager: Lise Ward

28-Feb-2019 15:06

2

19B0252-02 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/21/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/26/2019 17:02

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-02 A 01

Preparation Batch: BHB0535

Sample Size: 1.031 g (wet)

Dry Weight: 0.81 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 78.75

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.25	5.08	mg/kg	



Seattle Parks & Recreation

Accounts Payable Suite 300 800 Maynard Ave S

Seattle WA, 98134

Project: Rush Arsenic Soils

Project Number: [none]

Project Manager: Lise Ward

Reported:

28-Feb-2019 15:06

3

19B0252-03 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/21/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/26/2019 17:06

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-03 A 01

Preparation Batch: BHB0535

Sample Size: 1.01 g (wet)

Dry Weight: 0.78 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 77.21

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.26	5.22	mg/kg	



Seattle Parks & Recreation Accounts Payable Suite 300 800 Maynard Ave S Seattle WA, 98134	Project: Rush Arsenic Soils Project Number: [none] Project Manager: Lise Ward	Reported: 28-Feb-2019 15:06
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4
19B0252-04 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/21/2019 00:00		
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/26/2019 17:11		
Sample Preparation:	Preparation Method: SWN EPA 3050B	Extract ID: 19B0252-04 A 01	
	Preparation Batch: BHB0535	Sample Size: 1.058 g (wet)	Dry Weight: 0.84 g
	Prepared: 25-Feb-2019	Final Volume: 50 mL	% Solids: 79.66

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	5.05	mg/kg	



Seattle Parks & Recreation Accounts Payable Suite 300 800 Maynard Ave S Seattle WA, 98134	Project: Rush Arsenic Soils Project Number: [none] Project Manager: Lise Ward	Reported: 28-Feb-2019 15:06
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4A
19B0252-05 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/21/2019 00:00
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/26/2019 17:16
Sample Preparation:	Preparation Method: SWN EPA 3050B
	Preparation Batch: BHB0535
	Prepared: 25-Feb-2019
	Sample Size: 1.054 g (wet)
	Final Volume: 50 mL
	Dry Weight: 0.88 g
	% Solids: 83.32
	Extract ID: 19B0252-05 A 01

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.23	11.4	mg/kg	



Seattle Parks & Recreation Accounts Payable Suite 300 800 Maynard Ave S Seattle WA, 98134	Project: Rush Arsenic Soils Project Number: [none] Project Manager: Lise Ward	Reported: 28-Feb-2019 15:06
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5
19B0252-06 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED		Sampled: 02/21/2019 00:00	
Instrument: ICPMS2 Analyst: MCB		Analyzed: 02/26/2019 17:57	
Sample Preparation:	Preparation Method: SWN EPA 3050B	Extract ID: 19B0252-06 A 01	
	Preparation Batch: BHB0535	Sample Size: 1.01 g (wet)	Dry Weight: 0.69 g
	Prepared: 25-Feb-2019	Final Volume: 50 mL	% Solids: 67.90

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.29	11.7	mg/kg	



Seattle Parks & Recreation Accounts Payable Suite 300 800 Maynard Ave S Seattle WA, 98134	Project: Rush Arsenic Soils Project Number: [none] Project Manager: Lise Ward	Reported: 28-Feb-2019 15:06
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6
19B0252-07 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/21/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/26/2019 18:02
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.059 g (wet)	Extract ID: 19B0252-07 A 01	
	Preparation Batch: BHB0535	Final Volume: 50 mL	Dry Weight: 0.84 g	
	Prepared: 25-Feb-2019		% Solids: 78.96	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	6.56	mg/kg	



Seattle Parks & Recreation Accounts Payable Suite 300 800 Maynard Ave S Seattle WA, 98134	Project: Rush Arsenic Soils Project Number: [none] Project Manager: Lise Ward	Reported: 28-Feb-2019 15:06
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6A
19B0252-08 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/21/2019 00:00		
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/26/2019 18:06		
Sample Preparation:	Preparation Method: SWN EPA 3050B	Extract ID: 19B0252-08 A 01	
	Preparation Batch: BHB0535	Sample Size: 1.08 g (wet)	Dry Weight: 0.94 g
	Prepared: 25-Feb-2019	Final Volume: 50 mL	% Solids: 86.74

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.02	0.21	6.30	mg/kg	



Seattle Parks & Recreation Accounts Payable Suite 300 800 Maynard Ave S Seattle WA, 98134	Project: Rush Arsenic Soils Project Number: [none] Project Manager: Lise Ward	Reported: 28-Feb-2019 15:06
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7
19B0252-09 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/21/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/26/2019 18:11
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.086 g (wet)	Extract ID: 19B0252-09 A 01	
	Preparation Batch: BHB0535	Final Volume: 50 mL	Dry Weight: 0.85 g	
	Prepared: 25-Feb-2019		% Solids: 78.59	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.23	6.54	mg/kg	



Seattle Parks & Recreation Accounts Payable Suite 300 800 Maynard Ave S Seattle WA, 98134	Project: Rush Arsenic Soils Project Number: [none] Project Manager: Lise Ward	Reported: 28-Feb-2019 15:06
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8
19B0252-10 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/21/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/26/2019 18:16
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.04 g (wet)	Extract ID: 19B0252-10 A 01	
	Preparation Batch: BHB0535	Final Volume: 50 mL	Dry Weight: 0.80 g	
	Prepared: 25-Feb-2019		% Solids: 76.96	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.25	7.19	mg/kg	



Seattle Parks & Recreation Accounts Payable Suite 300 800 Maynard Ave S Seattle WA, 98134	Project: Rush Arsenic Soils Project Number: [none] Project Manager: Lise Ward	Reported: 28-Feb-2019 15:06
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9
19B0252-11 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/21/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/27/2019 13:51
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.083 g (wet)	Extract ID: 19B0252-11 A 01	
	Preparation Batch: BHB0535	Final Volume: 50 mL	Dry Weight: 0.80 g	
	Prepared: 25-Feb-2019		% Solids: 74.13	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.25	6.78	mg/kg	



Seattle Parks & Recreation Accounts Payable Suite 300 800 Maynard Ave S Seattle WA, 98134	Project: Rush Arsenic Soils Project Number: [none] Project Manager: Lise Ward	Reported: 28-Feb-2019 15:06
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10
19B0252-12 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/21/2019 00:00
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/27/2019 13:56
Sample Preparation:	Preparation Method: SWN EPA 3050B
	Preparation Batch: BHB0535
	Prepared: 25-Feb-2019
	Sample Size: 1.092 g (wet)
	Final Volume: 50 mL
	Dry Weight: 0.66 g
	% Solids: 60.76
	Extract ID: 19B0252-12 A 01

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.30	7.12	mg/kg	



Seattle Parks & Recreation Accounts Payable Suite 300 800 Maynard Ave S Seattle WA, 98134	Project: Rush Arsenic Soils Project Number: [none] Project Manager: Lise Ward	Reported: 28-Feb-2019 15:06
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11
19B0252-13 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/21/2019 00:00
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/27/2019 14:00
Sample Preparation:	Preparation Method: SWN EPA 3050B
	Preparation Batch: BHB0535
	Prepared: 25-Feb-2019
	Sample Size: 1.06 g (wet)
	Final Volume: 50 mL
	Dry Weight: 0.57 g
	% Solids: 54.17
	Extract ID: 19B0252-13 A 01

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.04	0.35	3.83	mg/kg	



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Project: Rush Arsenic Soils

Project Number: [none]
Project Manager: Lise Ward

Reported:
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12

19B0252-14 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/21/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/27/2019 14:05

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-14 A 01

Preparation Batch: BHB0535

Sample Size: 1.089 g (wet)

Dry Weight: 0.85 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 78.35

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.23	7.32	mg/kg	



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13
19B0252-15 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/21/2019 00:00	
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/27/2019 14:09	
Sample Preparation:	Preparation Method: SWN EPA 3050B	Extract ID: 19B0252-15 A 01
	Preparation Batch: BHB0535	Sample Size: 1.045 g (wet)
	Prepared: 25-Feb-2019	Final Volume: 50 mL
		Dry Weight: 0.81 g
		% Solids: 77.62

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.25	8.56	mg/kg	



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14
19B0252-16 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/21/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/27/2019 15:59
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.057 g (wet)	Extract ID: 19B0252-16 A 01	
	Preparation Batch: BHB0535	Final Volume: 50 mL	Dry Weight: 0.80 g	
	Prepared: 25-Feb-2019		% Solids: 75.29	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.25	6.53	mg/kg	



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15
19B0252-17 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/21/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/27/2019 16:03
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.063 g (wet)	Extract ID: 19B0252-17 A 01	
	Preparation Batch: BHB0535	Final Volume: 50 mL	Dry Weight: 0.66 g	
	Prepared: 25-Feb-2019		% Solids: 62.02	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.30	6.04	mg/kg	



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Project Number: [none]
Project Manager: Lise Ward

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15A
19B0252-18 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED Sampled: 02/21/2019 00:00
Instrument: ICPMS2 Analyst: MCB Analyzed: 02/27/2019 16:08

Sample Preparation: Preparation Method: SWN EPA 3050B Extract ID: 19B0252-18 A 01
Preparation Batch: BHB0535 Dry Weight: 0.86 g
Prepared: 25-Feb-2019 Final Volume: 50 mL % Solids: 81.76

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.23	13.1	mg/kg	



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Project Number: [none]

Reported:

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Project Manager: Lise Ward

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16

19B0252-19 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/22/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/27/2019 16:12

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-19 A 01

Preparation Batch: BHB0535

Sample Size: 1.08 g (wet)

Dry Weight: 0.67 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 61.64

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.30	5.22	mg/kg	



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17
19B0252-20 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/26/2019 17:20
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.079 g (wet)	Extract ID: 19B0252-20 A 01	
	Preparation Batch: BHB0535	Final Volume: 50 mL	Dry Weight: 0.84 g	
	Prepared: 25-Feb-2019		% Solids: 78.02	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	6.12	mg/kg	



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Project Number: [none]

Reported:

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Project Manager: Lise Ward

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18

19B0252-21 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/22/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/25/2019 21:09

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-21 A 01

Preparation Batch: BHB0536

Sample Size: 1.07 g (wet)

Dry Weight: 0.85 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 79.68

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.23	7.47	mg/kg	



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Project: Rush Arsenic Soils

Project Number: [none]
Project Manager: Lise Ward

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18A
19B0252-22 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/22/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/25/2019 21:14

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-22 A 01

Preparation Batch: BHB0536

Sample Size: 1.051 g (wet)

Dry Weight: 0.88 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 83.63

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.23	7.22	mg/kg	



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19
19B0252-23 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/22/2019 00:00		
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/25/2019 21:18		
Sample Preparation:	Preparation Method: SWN EPA 3050B	Extract ID: 19B0252-23 A 01	
	Preparation Batch: BHB0536	Sample Size: 1.024 g (wet)	Dry Weight: 0.80 g
	Prepared: 25-Feb-2019	Final Volume: 50 mL	% Solids: 78.54

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.25	7.39	mg/kg	



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20
19B0252-24 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/25/2019 21:23
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.024 g (wet)	Extract ID: 19B0252-24 A 01	
	Preparation Batch: BHB0536	Final Volume: 50 mL	Dry Weight: 0.82 g	
	Prepared: 25-Feb-2019		% Solids: 80.15	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	7.37	mg/kg	



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Project: Rush Arsenic Soils

Project Number: [none]
Project Manager: Lise Ward

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21

19B0252-25 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/22/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/25/2019 21:28

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-25 A 01

Preparation Batch: BHB0536

Sample Size: 1.056 g (wet)

Dry Weight: 0.82 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 77.70

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	5.36	mg/kg	



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22
19B0252-26 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/25/2019 22:01
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.043 g (wet)	Extract ID: 19B0252-26 A 01	
	Preparation Batch: BHB0536	Final Volume: 50 mL	Dry Weight: 0.80 g	
	Prepared: 25-Feb-2019		% Solids: 76.70	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.25	7.81	mg/kg	



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Project Number: [none]

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Project Manager: Lise Ward

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23

19B0252-27 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/22/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/25/2019 22:06

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-27 A 01

Preparation Batch: BHB0536

Sample Size: 1.096 g (wet)

Dry Weight: 0.83 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 75.98

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	9.47	mg/kg	



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24
19B0252-28 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/25/2019 22:11
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.009 g (wet)	Extract ID: 19B0252-28 A 01	
	Preparation Batch: BHB0536	Final Volume: 50 mL	Dry Weight: 0.75 g	
	Prepared: 25-Feb-2019		% Solids: 74.62	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.27	9.19	mg/kg	



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25
19B0252-29 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/25/2019 22:15
Sample Preparation:	Preparation Method: SWN EPA 3050B
	Preparation Batch: BHB0536
	Prepared: 25-Feb-2019
	Sample Size: 1.019 g (wet)
	Final Volume: 50 mL
	Dry Weight: 0.80 g
	% Solids: 78.68
	Extract ID: 19B0252-29 A 01

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.25	7.42	mg/kg	



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25A
19B0252-30 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/25/2019 22:20
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.073 g (wet)	Extract ID: 19B0252-30 A 01	
	Preparation Batch: BHB0536	Final Volume: 50 mL	Dry Weight: 0.85 g	
	Prepared: 25-Feb-2019		% Solids: 79.57	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.23	8.18	mg/kg	



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26
19B0252-31 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/25/2019 22:25
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.06 g (wet)	Extract ID: 19B0252-31 A 01	
	Preparation Batch: BHB0536	Final Volume: 50 mL	Dry Weight: 0.77 g	
	Prepared: 25-Feb-2019		% Solids: 72.86	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.26	7.67	mg/kg	



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Project Number: [none]

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Project Manager: Lise Ward

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27

19B0252-32 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/22/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/25/2019 22:30

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-32 A 01

Preparation Batch: BHB0536

Sample Size: 1.084 g (wet)

Dry Weight: 0.84 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 77.19

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	14.0	mg/kg	



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Project: Rush Arsenic Soils

Project Number: [none]
Project Manager: Lise Ward

Reported:
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28

19B0252-33 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/22/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/25/2019 22:35

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-33 A 01

Preparation Batch: BHB0536

Sample Size: 1.052 g (wet)

Dry Weight: 0.81 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 76.63

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.25	16.8	mg/kg	



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Project: Rush Arsenic Soils

Project Number: [none]
Project Manager: Lise Ward

Reported:
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28A

19B0252-34 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/22/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/25/2019 22:40

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-34 A 01

Preparation Batch: BHB0536

Sample Size: 1.006 g (wet)

Dry Weight: 0.79 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 78.19

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.25	15.2	mg/kg	



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Project: Rush Arsenic Soils

Project Number: [none]

Project Manager: Lise Ward

Reported:

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29

19B0252-35 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/22/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/25/2019 22:45

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-35 A 01

Preparation Batch: BHB0536

Sample Size: 1.053 g (wet)

Dry Weight: 0.81 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 77.36

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.25	9.36	mg/kg	



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Project Number: [none]

Reported:

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Project Manager: Lise Ward

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30

19B0252-36 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/22/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/25/2019 23:33

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-36 A 01

Preparation Batch: BHB0536

Sample Size: 1.086 g (wet)

Dry Weight: 0.80 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 73.68

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.25	7.98	mg/kg	



Seattle Parks & Recreation Accounts Payable Suite 300 800 Maynard Ave S Seattle WA, 98134	Project: Rush Arsenic Soils Project Number: [none] Project Manager: Lise Ward	Reported: 28-Feb-2019 15:06
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31
19B0252-37 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/22/2019 00:00		
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/25/2019 23:38		
Sample Preparation:	Preparation Method: SWN EPA 3050B	Extract ID: 19B0252-37 A 01	
	Preparation Batch: BHB0536	Sample Size: 1.05 g (wet)	Dry Weight: 0.72 g
	Prepared: 25-Feb-2019	Final Volume: 50 mL	% Solids: 68.70

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.28	6.32	mg/kg	



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Project: Rush Arsenic Soils

Project Number: [none]

Project Manager: Lise Ward

Reported:

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31A

19B0252-38 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/22/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/25/2019 23:43

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-38 A 01

Preparation Batch: BHB0536

Sample Size: 1.007 g (wet)

Dry Weight: 0.83 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 82.85

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	6.57	mg/kg	



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32
19B0252-39 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/25/2019 23:48
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.095 g (wet)	Extract ID: 19B0252-39 A 01	
	Preparation Batch: BHB0536	Final Volume: 50 mL	Dry Weight: 0.85 g	
	Prepared: 25-Feb-2019		% Solids: 77.44	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	11.9	mg/kg	



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33
19B0252-40 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/22/2019 00:00		
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/25/2019 21:33		
Sample Preparation:	Preparation Method: SWN EPA 3050B	Extract ID: 19B0252-40 A 01	
	Preparation Batch: BHB0536	Sample Size: 1.013 g (wet)	Dry Weight: 0.79 g
	Prepared: 25-Feb-2019	Final Volume: 50 mL	% Solids: 77.55

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.25	8.99	mg/kg	



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34
19B0252-41 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/27/2019 16:17
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.037 g (wet)	Extract ID: 19B0252-41 A 01	
	Preparation Batch: BHB0537	Final Volume: 50 mL	Dry Weight: 0.82 g	
	Prepared: 25-Feb-2019		% Solids: 79.35	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	7.30	mg/kg	



Seattle Parks & Recreation

Project: Rush Arsenic Soils

Accounts Payable Suite 300 800 Maynard Ave S

Project Number: [none]

Reported:

Seattle WA, 98134

Project Manager: Lise Ward

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19B0252-42 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/22/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/27/2019 16:21

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-42 A 01

Preparation Batch: BHB0537

Sample Size: 1.098 g (wet)

Dry Weight: 0.72 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 65.41

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.28	7.69	mg/kg	



Seattle Parks & Recreation Accounts Payable Suite 300 800 Maynard Ave S Seattle WA, 98134	Project: Rush Arsenic Soils Project Number: [none] Project Manager: Lise Ward	Reported: 28-Feb-2019 15:06
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36
19B0252-43 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/22/2019 00:00		
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/27/2019 16:26		
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.066 g (wet)	Extract ID: 19B0252-43 A 01
	Preparation Batch: BHB0537	Final Volume: 50 mL	Dry Weight: 0.75 g
	Prepared: 25-Feb-2019		% Solids: 69.99

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.27	5.86	mg/kg	



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Project: Rush Arsenic Soils
Project Number: [none]
Project Manager: Lise Ward

Reported:
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37

19B0252-44 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB Analyzed: 02/27/2019 16:30

Sample Preparation: Preparation Method: SWN EPA 3050B Extract ID: 19B0252-44 A 01
Preparation Batch: BHB0537 Sample Size: 1.076 g (wet) Dry Weight: 0.84 g
Prepared: 25-Feb-2019 Final Volume: 50 mL % Solids: 78.53

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	9.12	mg/kg	



Seattle Parks & Recreation

Project: Rush Arsenic Soils

Accounts Payable Suite 300 800 Maynard Ave S

Project Number: [none]

Reported:

Seattle WA, 98134

Project Manager: Lise Ward

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38

19B0252-45 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/22/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/27/2019 16:35

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-45 A 01

Preparation Batch: BHB0537

Sample Size: 1.013 g (wet)

Dry Weight: 0.81 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 79.64

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.25	5.89	mg/kg	



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Project: Rush Arsenic Soils
Project Number: [none]
Project Manager: Lise Ward

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39
19B0252-46 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB Analyzed: 02/27/2019 16:39

Sample Preparation: Preparation Method: SWN EPA 3050B Extract ID: 19B0252-46 A 01
Preparation Batch: BHB0537 Dry Weight: 0.79 g
Prepared: 25-Feb-2019 Final Volume: 50 mL % Solids: 78.43

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.25	6.74	mg/kg	



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39A
19B0252-47 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/26/2019 20:46
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.096 g (wet)	Extract ID: 19B0252-47 A 01	
	Preparation Batch: BHB0537	Final Volume: 50 mL	Dry Weight: 0.88 g	
	Prepared: 25-Feb-2019		% Solids: 80.61	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.02	0.23	7.96	mg/kg	



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40
19B0252-48 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/22/2019 00:00		
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/26/2019 20:51		
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.012 g (wet)	Extract ID: 19B0252-48 A 01
	Preparation Batch: BHB0537	Final Volume: 50 mL	Dry Weight: 0.73 g
	Prepared: 25-Feb-2019		% Solids: 72.20

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.27	11.7	mg/kg	



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41
19B0252-49 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/22/2019 00:00	
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/26/2019 20:56	
Sample Preparation:	Preparation Method: SWN EPA 3050B	Extract ID: 19B0252-49 A 01
	Preparation Batch: BHB0537	Sample Size: 1.08 g (wet)
	Prepared: 25-Feb-2019	Final Volume: 50 mL
		Dry Weight: 0.84 g
		% Solids: 77.46

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	6.43	mg/kg	



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42
19B0252-50 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/26/2019 21:00
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.085 g (wet)	Extract ID: 19B0252-50 A 01	
	Preparation Batch: BHB0537	Final Volume: 50 mL	Dry Weight: 0.84 g	
	Prepared: 25-Feb-2019		% Solids: 77.29	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	7.83	mg/kg	



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42A
19B0252-51 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/26/2019 21:05
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.069 g (wet)	Extract ID: 19B0252-51 A 01	
	Preparation Batch: BHB0537	Final Volume: 50 mL	Dry Weight: 0.87 g	
	Prepared: 25-Feb-2019		% Solids: 81.24	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.23	7.36	mg/kg	



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Project: Rush Arsenic Soils

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Project Number: [none]

Reported:

Seattle WA, 98134

Project Manager: Lise Ward

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19B0252-52 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/22/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/26/2019 21:10

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-52 A 01

Preparation Batch: BHB0537

Sample Size: 1.046 g (wet)

Dry Weight: 0.83 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 79.75

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	7.01	mg/kg	



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44
19B0252-53 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/26/2019 21:14
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.094 g (wet)	Extract ID: 19B0252-53 A 01	
	Preparation Batch: BHB0537	Final Volume: 50 mL	Dry Weight: 0.89 g	
	Prepared: 25-Feb-2019		% Solids: 80.93	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.02	0.23	5.91	mg/kg	



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Project: Rush Arsenic Soils

Project Number: [none]
Project Manager: Lise Ward

Reported:
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19B0252-54 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/22/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/26/2019 21:19

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-54 A 01

Preparation Batch: BHB0537

Sample Size: 1.052 g (wet)

Dry Weight: 0.82 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 77.48

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.25	10.2	mg/kg	



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Project: Rush Arsenic Soils

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Project Number: [none]

Reported:

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Project Manager: Lise Ward

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19B0252-55 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/22/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/26/2019 21:23

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-55 A 01

Preparation Batch: BHB0537

Sample Size: 1.07 g (wet)

Dry Weight: 0.88 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 82.28

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.02	0.23	41.7	mg/kg	



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Project: Rush Arsenic Soils

Project Number: [none]

Project Manager: Lise Ward

Reported:

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47

19B0252-56 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/22/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/26/2019 21:28

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-56 A 01

Preparation Batch: BHB0537

Sample Size: 1.06 g (wet)

Dry Weight: 0.78 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 73.83

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.26	7.72	mg/kg	



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48
19B0252-57 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/26/2019 21:46
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.077 g (wet)	Extract ID: 19B0252-57 A 01	
	Preparation Batch: BHB0537	Final Volume: 50 mL	Dry Weight: 0.86 g	
	Prepared: 25-Feb-2019		% Solids: 79.45	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.23	6.81	mg/kg	



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49
19B0252-58 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/26/2019 21:50
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.026 g (wet)	Extract ID: 19B0252-58 A 01	
	Preparation Batch: BHB0537	Final Volume: 50 mL	Dry Weight: 0.77 g	
	Prepared: 25-Feb-2019		% Solids: 75.30	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.26	16.1	mg/kg	



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50
19B0252-59 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/22/2019 00:00		
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/26/2019 21:55		
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.036 g (wet)	Extract ID: 19B0252-59 A 01
	Preparation Batch: BHB0537	Final Volume: 50 mL	Dry Weight: 0.89 g
	Prepared: 25-Feb-2019		% Solids: 85.52

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.02	0.23	4.77	mg/kg	



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Project: Rush Arsenic Soils
Project Number: [none]
Project Manager: Lise Ward

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51
19B0252-60 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB Analyzed: 02/26/2019 18:20

Sample Preparation: Preparation Method: SWN EPA 3050B Extract ID: 19B0252-60 A 01
Preparation Batch: BHB0537 Dry Weight: 0.87 g
Prepared: 25-Feb-2019 Final Volume: 50 mL % Solids: 82.32

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.23	15.5	mg/kg	



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52
19B0252-61 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/22/2019 00:00	
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/26/2019 22:00	
Sample Preparation:	Preparation Method: SWN EPA 3050B	Extract ID: 19B0252-61 A 01
	Preparation Batch: BHB0538	Sample Size: 1.068 g (wet)
	Prepared: 25-Feb-2019	Final Volume: 50 mL
		Dry Weight: 0.79 g
		% Solids: 74.02

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.25	23.7	mg/kg	



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52A
19B0252-62 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/26/2019 22:04
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.028 g (wet)	Extract ID: 19B0252-62 A 01	
	Preparation Batch: BHB0538	Final Volume: 50 mL	Dry Weight: 0.86 g	
	Prepared: 25-Feb-2019		% Solids: 83.53	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.23	32.6	mg/kg	



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53
19B0252-63 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/22/2019 00:00	
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/26/2019 22:09	
Sample Preparation:	Preparation Method: SWN EPA 3050B	Extract ID: 19B0252-63 A 01
	Preparation Batch: BHB0538	Sample Size: 1.084 g (wet)
	Prepared: 25-Feb-2019	Final Volume: 50 mL
		Dry Weight: 0.86 g
		% Solids: 79.14

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.23	74.4	mg/kg	



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54
19B0252-64 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/22/2019 00:00	
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/26/2019 22:14	
Sample Preparation:	Preparation Method: SWN EPA 3050B	Extract ID: 19B0252-64 A 01
	Preparation Batch: BHB0538	Sample Size: 1.065 g (wet)
	Prepared: 25-Feb-2019	Final Volume: 50 mL
		Dry Weight: 0.84 g
		% Solids: 79.13

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	6.09	mg/kg	



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55
19B0252-65 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/22/2019 00:00		
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/26/2019 22:18		
Sample Preparation:	Preparation Method: SWN EPA 3050B	Extract ID: 19B0252-65 A 01	
	Preparation Batch: BHB0538	Sample Size: 1.078 g (wet)	Dry Weight: 0.83 g
	Prepared: 25-Feb-2019	Final Volume: 50 mL	% Solids: 76.84

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	4.82	mg/kg	



Seattle Parks & Recreation

Accounts Payable Suite 300 800 Maynard Ave S

Seattle WA, 98134

Project: Rush Arsenic Soils

Project Number: [none]

Project Manager: Lise Ward

Reported:

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19B0252-66 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/22/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/26/2019 22:23

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-66 A 01

Preparation Batch: BHB0538

Sample Size: 1.074 g (wet)

Dry Weight: 0.88 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 81.85

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.23	8.51	mg/kg	



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56A
19B0252-67 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/26/2019 22:27
Sample Preparation:	Preparation Method: SWN EPA 3050B
	Preparation Batch: BHB0538
	Prepared: 25-Feb-2019
	Sample Size: 1.017 g (wet)
	Final Volume: 50 mL
	Dry Weight: 0.92 g
	% Solids: 90.27
	Extract ID: 19B0252-67 A 01

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.02	0.22	4.13	mg/kg	



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57
19B0252-68 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/26/2019 22:54
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.037 g (wet)	Extract ID: 19B0252-68 A 01	
	Preparation Batch: BHB0538	Final Volume: 50 mL	Dry Weight: 0.87 g	
	Prepared: 25-Feb-2019		% Solids: 84.22	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.23	10.1	mg/kg	



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Project: Rush Arsenic Soils
Project Number: [none]
Project Manager: Lise Ward

Reported:
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58
19B0252-69 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB Analyzed: 02/26/2019 22:59

Sample Preparation: Preparation Method: SWN EPA 3050B Extract ID: 19B0252-69 A 01
Preparation Batch: BHB0538 Sample Size: 1.053 g (wet) Dry Weight: 0.89 g
Prepared: 25-Feb-2019 Final Volume: 50 mL % Solids: 84.69

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.02	0.22	34.6	mg/kg	



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59
19B0252-70 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/26/2019 23:04
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.009 g (wet)	Extract ID: 19B0252-70 A 01	
	Preparation Batch: BHB0538	Final Volume: 50 mL	Dry Weight: 0.75 g	
	Prepared: 25-Feb-2019		% Solids: 74.24	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.27	104	mg/kg	



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60
19B0252-71 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/22/2019 00:00		
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/26/2019 23:08		
Sample Preparation:	Preparation Method: SWN EPA 3050B	Extract ID: 19B0252-71 A 01	
	Preparation Batch: BHB0538	Sample Size: 1.033 g (wet)	Dry Weight: 0.83 g
	Prepared: 25-Feb-2019	Final Volume: 50 mL	% Solids: 80.73

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	71.3	mg/kg	



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61
19B0252-72 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/22/2019 00:00		
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/26/2019 23:13		
Sample Preparation:	Preparation Method: SWN EPA 3050B	Extract ID: 19B0252-72 A 01	
	Preparation Batch: BHB0538	Sample Size: 1.044 g (wet)	Dry Weight: 0.84 g
	Prepared: 25-Feb-2019	Final Volume: 50 mL	% Solids: 80.88

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	8.25	mg/kg	



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62
19B0252-73 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/22/2019 00:00		
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/26/2019 23:18		
Sample Preparation:	Preparation Method: SWN EPA 3050B	Extract ID: 19B0252-73 A 01	
	Preparation Batch: BHB0538	Sample Size: 1.048 g (wet)	Dry Weight: 0.90 g
	Prepared: 25-Feb-2019	Final Volume: 50 mL	% Solids: 85.65

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.02	0.22	4.10	mg/kg	



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63
19B0252-74 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED	Sampled: 02/22/2019 00:00		
Instrument: ICPMS2 Analyst: MCB	Analyzed: 02/26/2019 23:22		
Sample Preparation:	Preparation Method: SWN EPA 3050B	Extract ID: 19B0252-74 A 01	
	Preparation Batch: BHB0538	Sample Size: 1.097 g (wet)	Dry Weight: 0.75 g
	Prepared: 25-Feb-2019	Final Volume: 50 mL	% Solids: 68.22

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.27	25.4	mg/kg	



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Project: Rush Arsenic Soils

Project Number: [none]

Project Manager: Lise Ward

Reported:

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63A

19B0252-75 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED

Sampled: 02/22/2019 00:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 02/26/2019 23:27

Sample Preparation:

Preparation Method: SWN EPA 3050B

Extract ID: 19B0252-75 A 01

Preparation Batch: BHB0538

Sample Size: 1.032 g (wet)

Dry Weight: 0.85 g

Prepared: 25-Feb-2019

Final Volume: 50 mL

% Solids: 82.24

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	12.6	mg/kg	



Seattle Parks & Recreation Accounts Payable Suite 300 800 Maynard Ave S Seattle WA, 98134	Project: Rush Arsenic Soils Project Number: [none] Project Manager: Lise Ward	Reported: 28-Feb-2019 15:06
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64
19B0252-76 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/26/2019 23:45
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.059 g (wet)	Extract ID: 19B0252-76 A 01	
	Preparation Batch: BHB0538	Final Volume: 50 mL	Dry Weight: 0.87 g	
	Prepared: 25-Feb-2019		% Solids: 82.11	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.23	109	mg/kg	



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65
19B0252-77 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED				Sampled: 02/22/2019 00:00
Instrument: ICPMS2 Analyst: MCB				Analyzed: 02/27/2019 14:14
Sample Preparation:	Preparation Method: SWN EPA 3050B	Sample Size: 1.04 g (wet)	Extract ID: 19B0252-77 A 01	
	Preparation Batch: BHB0538	Final Volume: 50 mL	Dry Weight: 0.83 g	
	Prepared: 25-Feb-2019		% Solids: 80.00	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.24	154	mg/kg	



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Seattle WA, 98134

Project: Rush Arsenic Soils
Project Number: [none]
Project Manager: Lise Ward

Reported:
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Metals and Metallic Compounds - Quality Control

Batch BHB0535 - SWN EPA 3050B

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHB0535-BLK1)						Prepared: 25-Feb-2019 Analyzed: 26-Feb-2019 16:48						
Arsenic	75a	ND	0.02	0.20	mg/kg							U
LCS (BHB0535-BS1)						Prepared: 25-Feb-2019 Analyzed: 26-Feb-2019 16:53						
Arsenic	75a	21.3	0.02	0.20	mg/kg	25.0		85.4	80-120			
Duplicate (BHB0535-DUP1)						Source: 19B0252-20 Prepared: 25-Feb-2019 Analyzed: 26-Feb-2019 17:25						
Arsenic	75a	5.76	0.03	0.24	mg/kg		6.12			6.04	20	
Matrix Spike (BHB0535-MS1)						Source: 19B0252-20 Prepared: 25-Feb-2019 Analyzed: 26-Feb-2019 17:30						
Arsenic	75a	27.4	0.03	0.24	mg/kg	29.6	6.12	71.9	75-125			*

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



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Seattle WA, 98134

Project: Rush Arsenic Soils
Project Number: [none]
Project Manager: Lise Ward

Reported:
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Metals and Metallic Compounds - Quality Control

Batch BHB0536 - SWN EPA 3050B

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHB0536-BLK1)						Prepared: 25-Feb-2019 Analyzed: 25-Feb-2019 20:59						
Arsenic	75a	ND	0.02	0.20	mg/kg							U
LCS (BHB0536-BS1)						Prepared: 25-Feb-2019 Analyzed: 25-Feb-2019 21:04						
Arsenic	75a	21.8	0.02	0.20	mg/kg	25.0		87.3	80-120			
Duplicate (BHB0536-DUP1)						Source: 19B0252-40 Prepared: 25-Feb-2019 Analyzed: 25-Feb-2019 21:38						
Arsenic	75a	8.51	0.03	0.25	mg/kg		8.99			5.49	20	
Matrix Spike (BHB0536-MS1)						Source: 19B0252-40 Prepared: 25-Feb-2019 Analyzed: 25-Feb-2019 21:43						
Arsenic	75a	33.6	0.03	0.25	mg/kg	31.8	8.99	77.3	75-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



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Metals and Metallic Compounds - Quality Control

Batch BHB0537 - SWN EPA 3050B

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHB0537-BLK1)						Prepared: 25-Feb-2019 Analyzed: 26-Feb-2019 17:48						
Arsenic	75a	ND	0.02	0.20	mg/kg							U
LCS (BHB0537-BS1)						Prepared: 25-Feb-2019 Analyzed: 26-Feb-2019 17:52						
Arsenic	75a	22.7	0.02	0.20	mg/kg	25.0		90.9	80-120			
Duplicate (BHB0537-DUP1)						Source: 19B0252-60 Prepared: 25-Feb-2019 Analyzed: 26-Feb-2019 18:25						
Arsenic	75a	7.31	0.03	0.23	mg/kg		15.5			71.80	20	*
Matrix Spike (BHB0537-MS1)						Source: 19B0252-60 Prepared: 25-Feb-2019 Analyzed: 26-Feb-2019 18:29						
Arsenic	75a	27.1	0.03	0.23	mg/kg	28.5	15.5	40.9	75-125			*

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



Seattle Parks & Recreation Accounts Payable Suite 300 800 Maynard Ave S Seattle WA, 98134	Project: Rush Arsenic Soils Project Number: [none] Project Manager: Lise Ward	Reported: 28-Feb-2019 15:06
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Metals and Metallic Compounds - Quality Control

Batch BHB0538 - SWN EPA 3050B

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHB0538-BLK1)						Prepared: 25-Feb-2019 Analyzed: 27-Feb-2019 13:42						
Arsenic	75a	ND	0.02	0.20	mg/kg							U
LCS (BHB0538-BS1)						Prepared: 25-Feb-2019 Analyzed: 27-Feb-2019 13:47						
Arsenic	75a	20.5	0.02	0.20	mg/kg	25.0		81.8	80-120			
Duplicate (BHB0538-DUP1)						Source: 19B0252-77 Prepared: 25-Feb-2019 Analyzed: 27-Feb-2019 14:18						
Arsenic	75a	113	0.03	0.24	mg/kg		154			30.30	20	*
Matrix Spike (BHB0538-MS1)						Source: 19B0252-77 Prepared: 25-Feb-2019 Analyzed: 27-Feb-2019 14:22						
Arsenic	75a	99.2	0.03	0.24	mg/kg	30.0	154	-182	75-125			HC

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



Seattle Parks & Recreation

Project: Rush Arsenic Soils

Accounts Payable Suite 300 800 Maynard Ave S

Project Number: [none]

Seattle WA, 98134

Project Manager: Lise Ward

Reported:

28-Feb-2019 15:06

Certified Analyses included in this Report

Analyte

Certifications

EPA 6020A UCT-KED in Solid

Arsenic-75a

NELAP,DoD-ELAP,WADOE,ADEC

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	02/07/2019
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-011	05/12/2019
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019



Seattle Parks & Recreation

Project: Rush Arsenic Soils

Accounts Payable Suite 300 800 Maynard Ave S

Project Number: [none]

Seattle WA, 98134

Project Manager: Lise Ward

Reported:

28-Feb-2019 15:06

Notes and Definitions

- * Flagged value is not within established control limits.
- D The reported value is from a dilution
- HC The natural concentration of the spiked analyte is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
- J Estimated concentration value detected below the reporting limit.
- U This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.