Eco
Compliance
Corporation

Environmental Scientists, Planners and Consultants

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January 28, 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.

Dear Lise:

On Friday, January 18, 2019, soil samples were collected from the Duwamish Waterway Park located at 7900 South Elmgrove Street in Seattle. The purpose of this sampling was to characterize this soil for possible chemical contamination.

This report also discusses results from shallow soil sampling conducted at the site in July, 2014.

SOIL SAMPLING AND ANALYTICAL RESULTS

A total of 4 borings were drilled along the northern portion of the subject property to depths of 10 feet below grade (borings B-1 through B-4) (Figure 1). In addition, 3 hand borings were dug along the southern portion of the property to depths of 2.5 feet below grade (borings 1 through 3) (see Figure 1).

Two soil samples were collected from each boring location (14 samples total). All samples were analyzed for PAHs and RCRA (Resource Conservation and Recovery Act) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver).

Soil analytical results are attached and summarized below in Table 1. Table 1 also lists cleanup standards established by the Washington State Department of Ecology (Ecology) under their MTCA (Model Toxics Control Act) regulations based on unrestricted (residential) land use.

Figure 1. Approximate soil sampling locations. Duwamish Waterway Park. January 18, 2019.

N

Not to scale

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Table 1. Soil sampling results. Duwamish Waterway Park, Seattle. January 18, 2019.

Boring Location	Sample Number	Sample Location/ Description	Analytical Result (ppm)	MTCA Cleanup Standard (ppm)
B-1	B-1A	Boring B-1. Approximately 3 – 4 feet below grade. Sandy soil.	ND Naphthalene 0.00116 2-methylnaphthalene 0.00099 1-methylnaphthalene ND Acenaphthylene ND Acenaphthene ND Dibenzofuran ND Fluorene 0.00171 Phenanthrene ND Anthracene ND Fluoranthene ND Pyrene ND Benzo(a)anthracene ND Chrysene 0.00148 Benzo(b)fluoranthene ND Benzo(k)fluoranthene ND Benzo(j)fluoranthene ND Benzo(a)pyrene ND Indeno(1,2,3-cd)pyrene ND Dibenzo(a,h)anthracene 0.00015 TOTAL TEC PAHs[a] ND Benzo(g,h,i)perylene 6.13 arsenic 27.9 barium 0.174 cadmium 8.02 chromium 0.799 lead ND mercury 1.8 selenium ND silver	5 Naphthalene 320 2-methylnaphthalene 34.5 1-methylnaphthalene NA Acenaphthylene 4800 Acenaphthene 80 Dibenzofuran 3200 Fluorene NA Phenanthrene 24000 Anthracene 3200 Fluoranthene 2400 Pyrene 0.1 Total TEC PAHs[b] NA Benzo(g,h,i)perylene 20 arsenic 16,000 barium 2 cadmium 2,000 chromium[c] 250 lead 2 mercury 400 selenium 400 silver

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Table 1 (continued). Soil sampling results. Duwamish Waterway Park, Seattle. January 18, 2019.

Boring Location	Sample Number	Sample Location/ Description	Analytical Result (ppm)	MTCA Cleanup Standard (ppm)
B-1	B-1B	Boring B-1. Approximately 8 – 9 feet below grade. Moist sandy soil. At top of groundwater table.	ND Naphthalene 0.00111 2-methylnaphthalene 0.00085 1-methylnaphthalene ND Acenaphthylene ND Acenaphthene ND Dibenzofuran ND Fluorene 0.00126 Phenanthrene ND Anthracene ND Fluoranthene 0.00067 Pyrene ND Benzo(a)anthracene ND Chrysene ND Benzo(b)fluoranthene ND Benzo(k)fluoranthene ND Benzo(j)fluoranthene ND Benzo(a)pyrene ND Indeno(1,2,3-cd)pyrene ND Dibenzo(a,h)anthracene ND TOTAL TEC PAHs[a] ND Benzo(g,h,i)perylene 6.33 arsenic 25,4 barium 0.171 cadmium 8.4 chromium 0.676 lead ND mercury 0.827 selenium ND silver	5 Naphthalene 320 2-methylnaphthalene 34.5 1-methylnaphthalene NA Acenaphthylene 4800 Acenaphthene 80 Dibenzofuran 3200 Fluorene NA Phenanthrene 24000 Anthracene 3200 Fluoranthene 2400 Pyrene 0.1 Total TEC PAHs[b] NA Benzo(g,h,i)perylene 20 arsenic 16,000 barium 2 cadmium 2,000 chromium[c] 250 lead 2 mercury 400 selenium 400 silver

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Table 1 (continued). Soil sampling results. Duwamish Waterway Park, Seattle. January 18, 2019.

Boring Location	Sample Number	Sample Location/ Description	Analytical Result (ppm)	MTCA Cleanup Standard (ppm)
B-2	B-2A	Boring B-2. Approximately 3 – 4 feet below grade. Sandy soil.	ND Naphthalene ND 2-methylnaphthalene 0.00055 1-methylnaphthalene ND Acenaphthylene ND Acenaphthene ND Dibenzofuran ND Fluorene 0.00175 Phenanthrene ND Anthracene 0.00315 Fluoranthene 0.00257 Pyrene 0.00122 Benzo(a)anthracene 0.00298 Chrysene 0.00247 Benzo(b)fluoranthene 0.00115 Benzo(k)fluoranthene 0.00098 Benzo(j)fluoranthene 0.00175 Benzo(a)pyrene 0.00210 Indeno(1,2,3-cd)pyrene <u>0.00628 Dibenzo(a,h)anthracene</u> 0.0032 TOTAL TEC PAHs[a] 0.00254 Benzo(g,h,i)perylene 6.98 arsenic 15.8 barium 0.223 cadmium 9.82 chromium 1.56 lead ND mercury 1.35 selenium ND silver	5 Naphthalene 320 2-methylnaphthalene 34.5 1-methylnaphthalene NA Acenaphthylene 4800 Acenaphthene 80 Dibenzofuran 3200 Fluorene NA Phenanthrene 24000 Anthracene 3200 Fluoranthene 2400 Pyrene 0.1 Total TEC PAHs[b] NA Benzo(g,h,i)perylene 20 arsenic 16,000 barium 2 cadmium 2,000 chromium[c] 250 lead 2 mercury 400 selenium 400 silver

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Table 1 (continued). Soil sampling results. Duwamish Waterway Park, Seattle. January 18, 2019.

Boring Location	Sample Number	Sample Location/ Description	Analytical Result (ppm)	MTCA Cleanup Standard (ppm)
B-2	B-2B	Boring B-2. Approximately 8.5 – 9.5 feet below grade. Moist sandy soil. At top of groundwater table.	0.00952 Naphthalene 0.0159 2-methylnaphthalene 0.0128 1-methylnaphthalene ND Acenaphthylene 0.00302 Acenaphthene 0.00679 Dibenzofuran 0.00132 Fluorene 0.0202 Phenanthrene ND Anthracene 0.00332 Fluoranthene 0.00324 Pyrene 0.0016 Benzo(a)anthracene 0.00304 Chrysene ND Benzo(b)fluoranthene ND Benzo(k)fluoranthene ND Benzo(j)fluoranthene 0.0008 Benzo(a)pyrene ND Indeno(1,2,3-cd)pyrene 0.0064 Dibenzo(a,h)anthracene 0.0016 TOTAL TEC PAHs[a] ND Benzo(g,h,i)perylene 5.99 arsenic 21 barium 0.176 cadmium 8.04 chromium 0.702 lead ND mercury 1.54 selenium ND silver	5 Naphthalene 320 2-methylnaphthalene 34.5 1-methylnaphthalene NA Acenaphthylene 4800 Acenaphthene 80 Dibenzofuran 3200 Fluorene NA Phenanthrene 24000 Anthracene 3200 Fluoranthene 2400 Pyrene 0.1 Total TEC PAHs[b] NA Benzo(g,h,i)perylene 20 arsenic 16,000 barium 2 cadmium 2,000 chromium[c] 250 lead 2 mercury 400 selenium 400 silver

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Table 1 (continued). Soil sampling results. Duwamish Waterway Park, Seattle. January 18, 2019.

Boring Location	Sample Number	Sample Location/ Description	Analytical Result (ppm)	MTCA Cleanup Standard (ppm)
B-3	B-3A	Boring B-3. Approximately 4 – 5 feet below grade. Sandy soil.	ND Naphthalene ND 2-methylnaphthalene 0.00047 1-methylnaphthalene ND Acenaphthylene ND Acenaphthene ND Dibenzofuran ND Fluorene 0.00087 Phenanthrene ND Anthracene 0.00107 Fluoranthene 0.00141 Pyrene ND Benzo(a)anthracene ND Chrysene ND Benzo(b)fluoranthene ND Benzo(k)fluoranthene ND Benzo(j)fluoranthene 0.00104 Benzo(a)pyrene ND Indeno(1,2,3-cd)pyrene ND Dibenzo(a,h)anthracene 0.001 TOTAL TEC PAHs[a] 0.00126 Benzo(g,h,i)perylene 6.71 arsenic 20 barium 0.168 cadmium 9.5 chromium 0.948 lead ND mercury 1.67 selenium ND silver	5 Naphthalene 320 2-methylnaphthalene 34.5 1-methylnaphthalene NA Acenaphthylene 4800 Acenaphthene 80 Dibenzofuran 3200 Fluorene NA Phenanthrene 24000 Anthracene 3200 Fluoranthene 2400 Pyrene 0.1 Total TEC PAHs[b] NA Benzo(g,h,i)perylene 20 arsenic 16,000 barium 2 cadmium 2,000 chromium[c] 250 lead 2 mercury 400 selenium 400 silver

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Table 1 (continued). Soil sampling results. Duwamish Waterway Park, Seattle. January 18, 2019.

Boring Location	Sample Number	Sample Location/ Description	Analytical Result (ppm)	MTCA Cleanup Standard (ppm)
B-3	B-3B	Boring B-3. Approximately 8.5 – 9.5 feet below grade. Moist sandy soil. At top of groundwater table.	ND Naphthalene 0.00146 2-methylnaphthalene 0.00092 1-methylnaphthalene ND Acenaphthylene 0.00078 Acenaphthene ND Dibenzofuran 0.00096 Fluorene 0.00263 Phenanthrene ND Anthracene 0.00125 Fluoranthene 0.00144 Pyrene ND Benzo(a)anthracene 0.00103 Chrysene ND Benzo(b)fluoranthene ND Benzo(k)fluoranthene ND Benzo(j)fluoranthene ND Benzo(a)pyrene ND Indeno(1,2,3-cd)pyrene ND Dibenzo(a,h)anthracene 0.0001 TOTAL TEC PAHs[a] ND Benzo(g,h,i)perylene 6.64 arsenic 28.2 barium 0.21 cadmium 9.9 chromium 1.25 lead ND mercury 1.88 selenium ND silver	5 Naphthalene 320 2-methylnaphthalene 34.5 1-methylnaphthalene NA Acenaphthylene 4800 Acenaphthene 80 Dibenzofuran 3200 Fluorene NA Phenanthrene 24000 Anthracene 3200 Fluoranthene 2400 Pyrene 0.1 Total TEC PAHs[b] NA Benzo(g,h,i)perylene 20 arsenic 16,000 barium 2 cadmium 2,000 chromium[c] 250 lead 2 mercury 400 selenium 400 silver

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Table 1 (continued). Soil sampling results. Duwamish Waterway Park, Seattle. January 18, 2019.

Boring Location	Sample Number	Sample Location/ Description	Analytical Result (ppm)	MTCA Cleanup Standard (ppm)
B-4	**B-4A**	Boring B-4. Approximately 3 – 4 feet below grade. Sandy soil with some gravel.	0.00454 Naphthalene 0.0043 2-methylnaphthalene 0.00275 1-methylnaphthalene 0.00228 Acenaphthylene 0.00268 Acenaphthene 0.00187 Dibenzofuran 0.00211 Fluorene 0.0193 Phenanthrene 0.00393 Anthracene 0.0302 Fluoranthene 0.0313 Pyrene 0.015 Benzo(a)anthracene 0.02 Chrysene 0.0148 Benzo(b)fluoranthene 0.00849 Benzo(k)fluoranthene 0.00808 Benzo(j)fluoranthene 0.0191 Benzo(a)pyrene 0.0187 Indeno(1,2,3-cd)pyrene <u>0.0101 Dibenzo(a,h)anthracene</u> 0.027 TOTAL TEC PAHs[a] 0.0269 Benzo(g,h,i)perylene **261 arsenic** 89.9 barium 1.32 cadmium 33 chromium **284 lead** 0.076 mercury 2.67 selenium 0.308 silver	5 Naphthalene 320 2-methylnaphthalene 34.5 1-methylnaphthalene NA Acenaphthylene 4800 Acenaphthene 80 Dibenzofuran 3200 Fluorene NA Phenanthrene 24000 Anthracene 3200 Fluoranthene 2400 Pyrene 0.1 Total TEC PAHs[b] NA Benzo(g,h,i)perylene **20 arsenic** 16,000 barium 2 cadmium 2,000 chromium[c] **250 lead** 2 mercury 400 selenium 400 silver

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Table 1 (continued). Soil sampling results. Duwamish Waterway Park, Seattle. January 18, 2019.

Boring Location	Sample Number	Sample Location/ Description	Analytical Result (ppm)	MTCA Cleanup Standard (ppm)
B-4	B-4B	Boring B-4. Approximately 8 – 9 feet below grade. Moist sandy soil. At top of groundwater table.	0.00162 Naphthalene 0.0035 2-methylnaphthalene 0.00215 1-methylnaphthalene ND Acenaphthylene ND Acenaphthene ND Dibenzofuran ND Fluorene 0.00321 Phenanthrene ND Anthracene 0.00129 Fluoranthene 0.0022 Pyrene ND Benzo(a)anthracene 0.00122 Chrysene ND Benzo(b)fluoranthene ND Benzo(k)fluoranthene ND Benzo(j)fluoranthene 0.0007 Benzo(a)pyrene ND Indeno(1,2,3-cd)pyrene ND Dibenzo(a,h)anthracene 0.0007 TOTAL TEC PAHs[a] 0.00158 Benzo(g,h,i)perylene 7.33 arsenic 21 barium 0.262 cadmium 8.27 chromium 0.882 lead ND mercury 1.82 selenium ND silver	5 Naphthalene 320 2-methylnaphthalene 34.5 1-methylnaphthalene NA Acenaphthylene 4800 Acenaphthene 80 Dibenzofuran 3200 Fluorene NA Phenanthrene 24000 Anthracene 3200 Fluoranthene 2400 Pyrene 0.1 Total TEC PAHs[b] NA Benzo(g,h,i)perylene 20 arsenic 16,000 barium 2 cadmium 2,000 chromium[c] 250 lead 2 mercury 400 selenium 400 silver

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Table 1 (continued). Soil sampling results. Duwamish Waterway Park, Seattle. January 18, 2019.

Boring Location	Sample Number	Sample Location/ Description	Analytical Result (ppm)	MTCA Cleanup Standard (ppm)
1	1A	Hand boring 1. Approximately 0.5 – 1 feet below grade.	0.0152 Naphthalene 0.0247 2-methylnaphthalene 0.0232 1-methylnaphthalene ND Acenaphthylene 0.00212 Acenaphthene 0.0101 Dibenzofuran 0.00268 Fluorene 0.0468 Phenanthrene 0.00378 Anthracene 0.0281 Fluoranthene 0.0243 Pyrene 0.0125 Benzo(a)anthracene 0.0189 Chrysene 0.0133 Benzo(b)fluoranthene 0.00539 Benzo(k)fluoranthene 0.00688 Benzo(j)fluoranthene 0.0117 Benzo(a)pyrene 0.0107 Indeno(1,2,3-cd)pyrene <u>0.00864 Dibenzo(a,h)anthracene</u> 0.018 TOTAL TEC PAHs[a] 0.0117 Benzo(g,h,i)perylene 11.8 arsenic 58.4 barium 0.462 cadmium 17.7 chromium 11.6 lead 0.114 mercury 2.09 selenium ND silver	5 Naphthalene 320 2-methylnaphthalene 34.5 1-methylnaphthalene NA Acenaphthylene 4800 Acenaphthene 80 Dibenzofuran 3200 Fluorene NA Phenanthrene 24000 Anthracene 3200 Fluoranthene 2400 Pyrene 0.1 Total TEC PAHs[b] NA Benzo(g,h,i)perylene 20 arsenic 16,000 barium 2 cadmium 2,000 chromium[c] 250 lead 2 mercury 400 selenium 400 silver

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Table 1 (continued). Soil sampling results. Duwamish Waterway Park, Seattle. January 18, 2019.

Boring Location	Sample Number	Sample Location/ Description	Analytical Result (ppm)	MTCA Cleanup Standard (ppm)
1	1B	Hand boring 1. Approximately 2 – 2.5 feet below grade.	0.00988 Naphthalene 0.0148 2-methylnaphthalene 0.0138 1-methylnaphthalene 0.00224 Acenaphthylene 0.00447 Acenaphthene 0.00635 Dibenzofuran 0.00153 Fluorene 0.0278 Phenanthrene 0.00256 Anthracene 0.0182 Fluoranthene 0.0181 Pyrene 0.00865 Benzo(a)anthracene 0.0155 Chrysene 0.0132 Benzo(b)fluoranthene 0.00496 Benzo(k)fluoranthene 0.00626 Benzo(j)fluoranthene 0.0113 Benzo(a)pyrene 0.0144 Indeno(1,2,3-cd)pyrene <u>0.00984 Dibenzo(a,h)anthracene</u> 0.017 TOTAL TEC PAHs[a] 0.0186 Benzo(g,h,i)perylene 11.9 arsenic 26.7 barium 0.279 cadmium 10.6 chromium 14.6 lead 0.0356 mercury 1.13 selenium ND silver	5 Naphthalene 320 2-methylnaphthalene 34.5 1-methylnaphthalene NA Acenaphthylene 4800 Acenaphthene 80 Dibenzofuran 3200 Fluorene NA Phenanthrene 24000 Anthracene 3200 Fluoranthene 2400 Pyrene 0.1 Total TEC PAHs[b] NA Benzo(g,h,i)perylene 20 arsenic 16,000 barium 2 cadmium 2,000 chromium[c] 250 lead 2 mercury 400 selenium 400 silver

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Table 1 (continued). Soil sampling results. Duwamish Waterway Park, Seattle. January 18, 2019.

Boring Location	Sample Number	Sample Location/ Description	Analytical Result (ppm)	MTCA Cleanup Standard (ppm)
2	2A	Hand boring 2. Approximately 0.5 – 1 feet below grade.	0.013 Naphthalene 0.0205 2-methylnaphthalene 0.0223 1-methylnaphthalene ND Acenaphthylene ND Acenaphthene 0.00995 Dibenzofuran 0.00156 Fluorene 0.0318 Phenanthrene 0.00423 Anthracene 0.0254 Fluoranthene 0.0251 Pyrene 0.0116 Benzo(a)anthracene 0.0172 Chrysene 0.0112 Benzo(b)fluoranthene 0.00533 Benzo(k)fluoranthene 0.00526 Benzo(j)fluoranthene 0.0111 Benzo(a)pyrene 0.00835 Indeno(1,2,3-cd)pyrene <u>0.00809 Dibenzo(a,h)anthracene</u> 0.016 TOTAL TEC PAHs[a] 0.00955 Benzo(g,h,i)perylene 8.35 arsenic 39.9 barium 0.345 cadmium 12.7 chromium 12.6 lead 0.109 mercury 0.945 selenium ND silver	5 Naphthalene 320 2-methylnaphthalene 34.5 1-methylnaphthalene NA Acenaphthylene 4800 Acenaphthene 80 Dibenzofuran 3200 Fluorene NA Phenanthrene 24000 Anthracene 3200 Fluoranthene 2400 Pyrene 0.1 Total TEC PAHs[b] NA Benzo(g,h,i)perylene 20 arsenic 16,000 barium 2 cadmium 2,000 chromium[c] 250 lead 2 mercury 400 selenium 400 silver

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Table 1 (continued). Soil sampling results. Duwamish Waterway Park, Seattle. January 18, 2019.

Boring Location	Sample Number	Sample Location/ Description	Analytical Result (ppm)	MTCA Cleanup Standard (ppm)
2	**2B**	Hand boring 2. Approximately 2 – 2.5 feet below grade.	0.0884 Naphthalene 0.154 2-methylnaphthalene 0.14 1-methylnaphthalene 0.00291 Acenaphthylene 0.0319 Acenaphthene 0.0501 Dibenzofuran ND Fluorene 0.128 Phenanthrene 0.0099 Anthracene 0.035 Fluoranthene 0.0401 Pyrene 0.0198 Benzo(a)anthracene 0.0286 Chrysene 0.0119 Benzo(b)fluoranthene 0.00359 Benzo(k)fluoranthene 0.00531 Benzo(j)fluoranthene 0.00845 Benzo(a)pyrene 0.0105 Indeno(1,2,3-cd)pyrene 0.0108 Dibenzo(a,h)anthracene 0.015 TOTAL TEC PAHs[a] 0.00734 Benzo(g,h,i)perylene **20.3 arsenic** 85.3 barium 1.63 cadmium 26.2 chromium 23 lead 0.134 mercury ND selenium ND silver	5 Naphthalene 320 2-methylnaphthalene 34.5 1-methylnaphthalene NA Acenaphthylene 4800 Acenaphthene 80 Dibenzofuran 3200 Fluorene NA Phenanthrene 24000 Anthracene 3200 Fluoranthene 2400 Pyrene 0.1 Total TEC PAHs[b] NA Benzo(g,h,i)perylene **20 arsenic** 16,000 barium 2 cadmium 2,000 chromium[c] 250 lead 2 mercury 400 selenium 400 silver

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Table 1 (continued). Soil sampling results. Duwamish Waterway Park, Seattle. January 18, 2019.

Boring Location	Sample Number	Sample Location/ Description	Analytical Result (ppm)	MTCA Cleanup Standard (ppm)
3	3A	Hand boring 3. Approximately 0.5 – 1 feet below grade.	0.00507 Naphthalene 0.0045 2-methylnaphthalene 0.00475 1-methylnaphthalene 0.002 Acenaphthylene 0.00124 Acenaphthene 0.00287 Dibenzofuran 0.00125 Fluorene 0.0261 Phenanthrene 0.00319 Anthracene 0.0324 Fluoranthene 0.0308 Pyrene 0.0158 Benzo(a)anthracene 0.0244 Chrysene 0.0206 Benzo(b)fluoranthene 0.00909 Benzo(k)fluoranthene 0.00985 Benzo(j)fluoranthene 0.0192 Benzo(a)pyrene 0.0187 Indeno(1,2,3-cd)pyrene <u>0.00997 Dibenzo(a,h)anthracene</u> 0.028 TOTAL TEC PAHs[a] 0.02 Benzo(g,h,i)perylene 16.9 arsenic 58.9 barium 0.564 cadmium 18.3 chromium 52.4 lead 0.124 mercury 2.13 selenium ND silver	5 Naphthalene 320 2-methylnaphthalene 34.5 1-methylnaphthalene NA Acenaphthylene 4800 Acenaphthene 80 Dibenzofuran 3200 Fluorene NA Phenanthrene 24000 Anthracene 3200 Fluoranthene 2400 Pyrene 0.1 Total TEC PAHs[b] NA Benzo(g,h,i)perylene 20 arsenic 16,000 barium 2 cadmium 2,000 chromium[c] 250 lead 2 mercury 400 selenium 400 silver

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Table 1 (continued). Soil sampling results. Duwamish Waterway Park, Seattle. January 18, 2019.

Boring Location	Sample Number	Sample Location/ Description	Analytical Result (ppm)	MTCA Cleanup Standard (ppm)
3	3B	Hand boring 3. Approximately 2 – 2.5 feet below grade.	0.00886 Naphthalene 0.0184 2-methylnaphthalene 0.0198 1-methylnaphthalene ND Acenaphthylene 0.0064 Acenaphthene 0.0111 Dibenzofuran 0.00252 Fluorene 0.041 Phenanthrene 0.00425 Anthracene 0.0229 Fluoranthene 0.0213 Pyrene 0.0101 Benzo(a)anthracene 0.0187 Chrysene 0.0136 Benzo(b)fluoranthene 0.00502 Benzo(k)fluoranthene 0.00594 Benzo(j)fluoranthene 0.00956 Benzo(a)pyrene 0.00932 Indeno(1,2,3-cd)pyrene <u>0.00795 Dibenzo(a,h)anthracene</u> 0.015 TOTAL TEC PAHs[a] 0.0102 Benzo(g,h,i)perylene 15.8 arsenic 62.2 barium 0.586 cadmium 22 chromium 26.5 lead 0.162 mercury 2.41 selenium ND silver	5 Naphthalene 320 2-methylnaphthalene 34.5 1-methylnaphthalene NA Acenaphthylene 4800 Acenaphthene 80 Dibenzofuran 3200 Fluorene NA Phenanthrene 24000 Anthracene 3200 Fluoranthene 2400 Pyrene 0.1 Total TEC PAHs[b] NA Benzo(g,h,i)perylene 20 arsenic 16,000 barium 2 cadmium 2,000 chromium[c] 250 lead 2 mercury 400 selenium 400 silver

ND Not detected.

a Total toxic equivalent concentration (TEC) of carcinogenic PAHs (benzo[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[j]fluoranthene, benzo[a]pyrene, indeno[1,2,3-cd]pyrene and dibenzo[a,h]anthracene). WAC 173-340-708(8)(e)(ii) and -708(8)(e)(iii).

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b MTCA Method A cleanup standard for carcinogenic PAHs based on benzo(a)pyrene. WAC 173-340-708(8)(e)(iii).

c MTCA Method A cleanup standard based on chromium III.

From Table 1, arsenic and lead were detected in boring sample B-4A at 3 – 4 feet below grade at concentrations that are above Ecology's MTCA cleanup standards based on unrestricted (residential) land use.

Arsenic was detected in hand boring sample 2B at 2 – 2.5 feet below grade at a concentration that is above Ecology's cleanup standard.

PAHs and various other metals were detected in all the samples collected from the subject property, but at concentrations that are below the MTCA cleanup standards.

PREVIOUS SHALLOW SOIL SAMPLING RESULTS

From our soil sampling report July 20, 2014, 3 samples were collected from the subject 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 metals. One composite sample was analyzed for carcinogenic PAHs (cPAHs), and dioxins/furans.

From these samples, arsenic was detected in 2 of the 3 shallow soil samples at concentrations that are above Ecology's MTCA cleanup standard.

Carcinogenic PAHs, dioxins/furans and various other metals were detected in all the samples, but at concentrations that are below the MTCA cleanup standards.

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@ecocompliance.biz

Attachment

(425) 271-5629

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DRAFT REPORT
Data Subject to Change

23 January 2019

Bill Kane
Eco Compliance Corporation
1823 Bremerton Avenue NE
Renton, WA 98059

RE: Duwamish Park

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.

Associated Work Order(s)	Associated SDG ID(s)
19A0253	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.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 19A0253	Turn-around Requested: Rush	Page: 1 of 2	
ARI Client Company: Eco Compliance	Phone: 206-715-1396	Date: 1-18-19	Ice Present?
Client Contact: Bill Kane		No. of Coolers: 1	Cooler Temps: 10.0
Client Project Name: Duwamish Park			
Client Project #:	Samplers: Bill Kane		

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

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: PAHs	Analysis Requested: 8 RCRA metals	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Notes/Comments
1A	1-18-19	AM	SOIL	3	X	X							
1B	"	"	"	3	X	X							
2A	"	"	"	3	X	X							
2B	"	"	"	3	X	X							
3A	"	"	"	3	X	X							
3B	"	"	"	3	X	X							
B-1A	"	"	"	3	X	X							
B-1B	"	"	"	3	X	X							
B-2A	"	"	"	3	X	X							
B-2B	"	"	"	3	X	X							

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
Bill to: Ms. Lise Ward Seattle Parks & Rec.	(Signature) Bill Kane	(Signature) [redacted]	(Signature)	(Signature)
	Printed Name: Bill Kane	Printed Name: Jasmine Bauman	Printed Name:	Printed Name:
	Company: Eco Compliance	Company: ARI	Company:	Company:
	Date & Time: 1-18-19, 10:35 AM	Date & Time: 1/18/19 1035	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, not withstanding 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

ARI Assigned Number: 19A0253	Turn-around Requested: Rush	Page: 2 of 2	
ARI Client Company: ECO Compliance	Phone: 206-715-1396	Date: 1-18-19	Ice Present?
Client Contact: Bill Kane		No. of Coolers:	Cooler Temps:
Client Project Name: Duwamish Park			
Client Project #:	Samplers: Bill Kane		

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

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: PAHs	Analysis Requested: 8 RCRA metals	Notes/Comments
B-3A	1-18-19	AM	Soil	3	X	X	
B-3B	"	"	"	3	X	X	
B-4A	"	"	"	3	X	X	
B-4B	"	"	"	3	X	X	

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) Bill Kane	(Signature)	(Signature)	(Signature)
	Printed Name: Bill Kane	Printed Name: Jasmine Bauman	Printed Name:	Printed Name:
	Company: ECO Compliance	Company: ARI	Company:	Company:
	Date & Time: 1-18-19, 10:35 AM	Date & Time: 1/18/19 1035	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, not withstanding 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.

Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1A	19A0253-01	Solid	18-Jan-2019 00:00	18-Jan-2019 10:35
1B	19A0253-02	Solid	18-Jan-2019 00:00	18-Jan-2019 10:35
2A	19A0253-03	Solid	18-Jan-2019 00:00	18-Jan-2019 10:35
2B	19A0253-04	Solid	18-Jan-2019 00:00	18-Jan-2019 10:35
3A	19A0253-05	Solid	18-Jan-2019 00:00	18-Jan-2019 10:35
3B	19A0253-06	Solid	18-Jan-2019 00:00	18-Jan-2019 10:35
B-1A	19A0253-07	Solid	18-Jan-2019 00:00	18-Jan-2019 10:35
B-1B	19A0253-08	Solid	18-Jan-2019 00:00	18-Jan-2019 10:35
B-2A	19A0253-09	Solid	18-Jan-2019 00:00	18-Jan-2019 10:35
B-2B	19A0253-10	Solid	18-Jan-2019 00:00	18-Jan-2019 10:35
B-3A	19A0253-11	Solid	18-Jan-2019 00:00	18-Jan-2019 10:35
B-3B	19A0253-12	Solid	18-Jan-2019 00:00	18-Jan-2019 10:35
B-4A	19A0253-13	Solid	18-Jan-2019 00:00	18-Jan-2019 10:35
B-4B	19A0253-14	Solid	18-Jan-2019 00:00	18-Jan-2019 10:35

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

Work Order Case Narrative

Total Metals - EPA Method 6010C

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.

Total Hg - EPA Method 7470/7471

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 out of control high and are flagged within the QC section of this report.

Polynuclear Aromatic Hydrocarbons (PAH) - EPA Method SW8270D-SIM

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

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

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

The LCS percent recoveries were within control limits.

The Matrix Spike/Matrix Spike duplicate recoveries and RPD were within limits.

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Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: EcoCompliance Project Name: Duwamish Park

COC No(s): _____ NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 19A0253 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)

Time 1035 10.0°C

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D00275605

Cooler Accepted by: JVD Date: 1/18/19 Time: 1035

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: NA			
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?		JBm 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: JBm Date: 01/18/19 Time: 1120 Labels checked by: JLS

***** 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: no sample time designated on COC or labels.

By: JBm Date: 01/18/19

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

ARI Work Order: 1970253

Cooler#: _____ Temperature(°C): 10.0°C

Sample ID	Bottle Count	Bottle Type
Samples received above 6°C		

Cooler#: _____ Temperature(°C): _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ Temperature(°C): _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ Temperature(°C): _____

Sample ID	Bottle Count	Bottle Type

Completed by: SSW for SLB Date: 01/18/19 Time: 1035

Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

1A

19A0253-01 (Solid)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 01/18/2019 00:00
Instrument: NT8 Analyst: JZ — Analyzed: 01/21/2019 19:18

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		
	Preparation Batch: BHA0516	Sample Size: 12.09 g (wet)	Dry Weight:10.40 g
	Prepared: 20-Jan-2019	Final Volume: 0.5 mL	% Solids: 85.99
Sample Cleanup:	Cleanup Method: Silica Gel		
	Cleanup Batch: CHA0186	Initial Volume: 0.5 mL	
	Cleaned: 21-Jan-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.23	4.81	**15.2**	ug/kg	
2-Methylnaphthalene	91-57-6	1	1.06	4.81	**24.7**	ug/kg	
1-Methylnaphthalene	90-12-0	1	0.39	4.81	**23.2**	ug/kg	
Acenaphthylene	208-96-8	1	1.04	4.81	ND	ug/kg	U
Acenaphthene	83-32-9	1	0.55	4.81	**2.12**	ug/kg	J
Dibenzofuran	132-64-9	1	1.33	4.81	**10.1**	ug/kg	
Fluorene	86-73-7	1	0.61	4.81	**2.68**	ug/kg	J
Phenanthrene	85-01-8	1	0.69	4.81	**46.8**	ug/kg	
Anthracene	120-12-7	1	0.84	4.81	**3.78**	ug/kg	J
Fluoranthene	206-44-0	1	0.45	4.81	**28.1**	ug/kg	
Pyrene	129-00-0	1	0.60	4.81	**24.3**	ug/kg	
Benzo(a)anthracene	56-55-3	1	0.79	4.81	**12.5**	ug/kg	
Chrysene	218-01-9	1	1.01	4.81	**18.9**	ug/kg	
Benzo(b)fluoranthene	205-99-2	1	1.32	4.81	**13.3**	ug/kg	
Benzo(k)fluoranthene	207-08-9	1	0.73	4.81	**5.39**	ug/kg	
Benzo(j)fluoranthene	205-82-3	1	0.65	4.81	**6.88**	ug/kg	
Benzofluoranthenes, Total		1	2.89	9.62	**24.4**	ug/kg	
Benzo(a)pyrene	50-32-8	1	0.59	4.81	**11.7**	ug/kg	
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.01	4.81	**10.7**	ug/kg	
Dibenzo(a,h)anthracene	53-70-3	1	0.86	4.81	**8.64**	ug/kg	
Benzo(g,h,i)perylene	191-24-2	1	1.02	4.81	**11.7**	ug/kg	
Surrogate: 2-Methylnaphthalene-d10				*32-120 %*	*68.0*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*21-133 %*	*101*	*%*	
Surrogate: Fluoranthene-d10				*36-134 %*	*82.1*	*%*	

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

1A

19A0253-01 (Solid)

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/18/2019 00:00
Instrument: ICP2 Analyst: TCH — Analyzed: 01/23/2019 11:31

Sample Preparation: Preparation Method: SWC EPA 3050B
Preparation Batch: BHA0532 — Sample Size: 1.041 g (wet) — Dry Weight:0.90 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 86.72

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	2	0.521	5.54	**11.8**	mg/kg	
Barium	7440-39-3	2	0.0731	0.332	**58.4**	mg/kg	
Cadmium	7440-43-9	2	0.0377	0.222	**0.462**	mg/kg	
Chromium	7440-47-3	2	0.146	0.554	**17.7**	mg/kg	
Lead	7439-92-1	2	0.210	2.22	**11.6**	mg/kg	
Selenium	7782-49-2	2	0.552	5.54	**2.09**	mg/kg	J
Silver	7440-22-4	2	0.0598	0.332	ND	mg/kg	U

Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

1A

19A0253-01 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/18/2019 00:00
Instrument: CVAA Analyst: SKM — Analyzed: 01/22/2019 13:13

Sample Preparation: Preparation Method: SMM EPA 7471B
Preparation Batch: BHA0531 — Sample Size: 0.223 g (wet) — Dry Weight:0.19 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 86.72

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.0259	**0.114**	mg/kg	

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

1B

19A0253-02 (Solid)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 01/18/2019 00:00
Instrument: NT8 Analyst: JZ — Analyzed: 01/21/2019 19:44

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		
	Preparation Batch: BHA0516	Sample Size: 12.08 g (wet)	Dry Weight:10.64 g
	Prepared: 20-Jan-2019	Final Volume: 0.5 mL	% Solids: 88.07
Sample Cleanup:	Cleanup Method: Silica Gel		
	Cleanup Batch: CHA0186	Initial Volume: 0.5 mL	
	Cleaned: 21-Jan-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.20	4.70	**9.88**	ug/kg	
2-Methylnaphthalene	91-57-6	1	1.04	4.70	**14.8**	ug/kg	
1-Methylnaphthalene	90-12-0	1	0.38	4.70	**13.8**	ug/kg	
Acenaphthylene	208-96-8	1	1.02	4.70	**2.24**	ug/kg	J
Acenaphthene	83-32-9	1	0.54	4.70	**4.47**	ug/kg	J
Dibenzofuran	132-64-9	1	1.30	4.70	**6.35**	ug/kg	
Fluorene	86-73-7	1	0.59	4.70	**1.53**	ug/kg	J
Phenanthrene	85-01-8	1	0.67	4.70	**27.8**	ug/kg	
Anthracene	120-12-7	1	0.82	4.70	**2.56**	ug/kg	J
Fluoranthene	206-44-0	1	0.44	4.70	**18.2**	ug/kg	
Pyrene	129-00-0	1	0.59	4.70	**18.1**	ug/kg	
Benzo(a)anthracene	56-55-3	1	0.77	4.70	**8.65**	ug/kg	
Chrysene	218-01-9	1	0.99	4.70	**15.5**	ug/kg	
Benzo(b)fluoranthene	205-99-2	1	1.29	4.70	**13.2**	ug/kg	
Benzo(k)fluoranthene	207-08-9	1	0.71	4.70	**4.96**	ug/kg	
Benzo(j)fluoranthene	205-82-3	1	0.64	4.70	**6.26**	ug/kg	
Benzofluoranthenes, Total		1	2.83	9.40	**22.4**	ug/kg	
Benzo(a)pyrene	50-32-8	1	0.58	4.70	**11.3**	ug/kg	
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.99	4.70	**14.4**	ug/kg	
Dibenzo(a,h)anthracene	53-70-3	1	0.84	4.70	**9.84**	ug/kg	
Benzo(g,h,i)perylene	191-24-2	1	1.00	4.70	**18.6**	ug/kg	
Surrogate: 2-Methylnaphthalene-d10				*32-120 %*	*60.9*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*21-133 %*	*95.0*	*%*	
Surrogate: Fluoranthene-d10				*36-134 %*	*74.1*	*%*	

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

1B

19A0253-02 (Solid)

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/18/2019 00:00
Instrument: ICP2 Analyst: TCH — Analyzed: 01/23/2019 11:08

Sample Preparation: Preparation Method: SWC EPA 3050B
Preparation Batch: BHA0532 — Sample Size: 1.068 g (wet) — Dry Weight:0.97 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 90.96

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	2	0.484	5.15	**11.9**	mg/kg	
Barium	7440-39-3	2	0.0679	0.309	**26.7**	mg/kg	
Cadmium	7440-43-9	2	0.0350	0.206	**0.279**	mg/kg	
Chromium	7440-47-3	2	0.136	0.515	**10.6**	mg/kg	
Lead	7439-92-1	2	0.196	2.06	**14.6**	mg/kg	
Selenium	7782-49-2	2	0.513	5.15	**1.13**	mg/kg	J
Silver	7440-22-4	2	0.0556	0.309	ND	mg/kg	U

Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

1B

19A0253-02 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/18/2019 00:00
Instrument: CVAA Analyst: SKM — Analyzed: 01/22/2019 13:19

Sample Preparation: Preparation Method: SMM EPA 7471B
Preparation Batch: BHA0531 — Sample Size: 0.259 g (wet) — Dry Weight:0.24 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 90.96

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.0212	**0.0356**	mg/kg	

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

2A

19A0253-03 (Solid)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 01/18/2019 00:00
Instrument: NT8 Analyst: JZ — Analyzed: 01/21/2019 20:10

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		
	Preparation Batch: BHA0516	Sample Size: 12.12 g (wet)	Dry Weight:10.27 g
	Prepared: 20-Jan-2019	Final Volume: 0.5 mL	% Solids: 84.73
Sample Cleanup:	Cleanup Method: Silica Gel		
	Cleanup Batch: CHA0186	Initial Volume: 0.5 mL	
	Cleaned: 21-Jan-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.24	4.87	**13.0**	ug/kg	
2-Methylnaphthalene	91-57-6	1	1.08	4.87	**20.5**	ug/kg	
1-Methylnaphthalene	90-12-0	1	0.39	4.87	**22.3**	ug/kg	
Acenaphthylene	208-96-8	1	1.06	4.87	ND	ug/kg	U
Acenaphthene	83-32-9	1	0.56	4.87	ND	ug/kg	U
Dibenzofuran	132-64-9	1	1.34	4.87	**9.95**	ug/kg	
Fluorene	86-73-7	1	0.61	4.87	**1.56**	ug/kg	J
Phenanthrene	85-01-8	1	0.70	4.87	**31.8**	ug/kg	
Anthracene	120-12-7	1	0.85	4.87	**4.23**	ug/kg	J
Fluoranthene	206-44-0	1	0.46	4.87	**25.4**	ug/kg	
Pyrene	129-00-0	1	0.61	4.87	**25.1**	ug/kg	
Benzo(a)anthracene	56-55-3	1	0.80	4.87	**11.6**	ug/kg	
Chrysene	218-01-9	1	1.03	4.87	**17.2**	ug/kg	
Benzo(b)fluoranthene	205-99-2	1	1.34	4.87	**11.2**	ug/kg	
Benzo(k)fluoranthene	207-08-9	1	0.74	4.87	**5.33**	ug/kg	
Benzo(j)fluoranthene	205-82-3	1	0.66	4.87	**5.26**	ug/kg	
Benzofluoranthenes, Total		1	2.93	9.74	**21.8**	ug/kg	
Benzo(a)pyrene	50-32-8	1	0.60	4.87	**11.1**	ug/kg	
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.02	4.87	**8.35**	ug/kg	
Dibenzo(a,h)anthracene	53-70-3	1	0.87	4.87	**8.09**	ug/kg	
Benzo(g,h,i)perylene	191-24-2	1	1.04	4.87	**9.55**	ug/kg	
Surrogate: 2-Methylnaphthalene-d10				*32-120 %*	*61.6*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*21-133 %*	*88.6*	*%*	
Surrogate: Fluoranthene-d10				*36-134 %*	*70.3*	*%*	

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

2A

19A0253-03 (Solid)

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/18/2019 00:00
Instrument: ICP2 Analyst: TCH — Analyzed: 01/23/2019 11:12

Sample Preparation: Preparation Method: SWC EPA 3050B
Preparation Batch: BHA0532 — Sample Size: 1.003 g (wet) — Dry Weight:0.85 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 84.62

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	2	0.554	5.89	**8.35**	mg/kg	
Barium	7440-39-3	2	0.0778	0.353	**39.9**	mg/kg	
Cadmium	7440-43-9	2	0.0401	0.236	**0.345**	mg/kg	
Chromium	7440-47-3	2	0.156	0.589	**12.7**	mg/kg	
Lead	7439-92-1	2	0.224	2.36	**12.6**	mg/kg	
Selenium	7782-49-2	2	0.587	5.89	**0.945**	mg/kg	J
Silver	7440-22-4	2	0.0636	0.353	ND	mg/kg	U

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

2A

19A0253-03 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/18/2019 00:00
Instrument: CVAA Analyst: SKM — Analyzed: 01/22/2019 13:22

Sample Preparation: Preparation Method: SMM EPA 7471B
Preparation Batch: BHA0531 — Sample Size: 0.21 g (wet) — Dry Weight:0.18 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 84.62

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.0281	**0.109**	mg/kg	

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

2B

19A0253-04 (Solid)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 01/18/2019 00:00
Instrument: NT8 Analyst: JZ — Analyzed: 01/21/2019 20:36

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		
	Preparation Batch: BHA0516	Sample Size: 13.07 g (wet)	Dry Weight:10.33 g
	Prepared: 20-Jan-2019	Final Volume: 0.5 mL	% Solids: 79.05
Sample Cleanup:	Cleanup Method: Silica Gel		
	Cleanup Batch: CHA0186	Initial Volume: 0.5 mL	
	Cleaned: 21-Jan-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.23	4.84	**88.4**	ug/kg	
2-Methylnaphthalene	91-57-6	1	1.07	4.84	**154**	ug/kg	
1-Methylnaphthalene	90-12-0	1	0.39	4.84	**140**	ug/kg	
Acenaphthylene	208-96-8	1	1.05	4.84	**2.91**	ug/kg	J
Acenaphthene	83-32-9	1	0.55	4.84	**31.9**	ug/kg	
Dibenzofuran	132-64-9	1	1.33	4.84	**50.1**	ug/kg	
Fluorene	86-73-7	1	0.61	4.84	ND	ug/kg	U
Phenanthrene	85-01-8	1	0.69	4.84	**128**	ug/kg	
Anthracene	120-12-7	1	0.84	4.84	**9.90**	ug/kg	
Fluoranthene	206-44-0	1	0.45	4.84	**35.0**	ug/kg	
Pyrene	129-00-0	1	0.61	4.84	**40.1**	ug/kg	
Benzo(a)anthracene	56-55-3	1	0.80	4.84	**19.8**	ug/kg	
Chrysene	218-01-9	1	1.02	4.84	**28.6**	ug/kg	
Benzo(b)fluoranthene	205-99-2	1	1.33	4.84	**11.9**	ug/kg	
Benzo(k)fluoranthene	207-08-9	1	0.74	4.84	**3.59**	ug/kg	J
Benzo(j)fluoranthene	205-82-3	1	0.66	4.84	**5.31**	ug/kg	
Benzofluoranthenes, Total		1	2.91	9.68	**18.8**	ug/kg	
Benzo(a)pyrene	50-32-8	1	0.59	4.84	**8.45**	ug/kg	
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.02	4.84	**10.5**	ug/kg	
Dibenzo(a,h)anthracene	53-70-3	1	0.86	4.84	**10.8**	ug/kg	
Benzo(g,h,i)perylene	191-24-2	1	1.03	4.84	**7.34**	ug/kg	
Surrogate: 2-Methylnaphthalene-d10				*32-120 %*	*60.5*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*21-133 %*	*89.0*	*%*	
Surrogate: Fluoranthene-d10				*36-134 %*	*66.1*	*%*	

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

2B

19A0253-04 (Solid)

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/18/2019 00:00
Instrument: ICP2 Analyst: TCH — Analyzed: 01/23/2019 13:39

Sample Preparation: Preparation Method: SWC EPA 3050B
Preparation Batch: BHA0532 — Sample Size: 1.088 g (wet) — Dry Weight:0.82 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 75.62

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	10	2.86	30.4	**20.3**	mg/kg	J, D
Barium	7440-39-3	10	0.401	1.82	**85.3**	mg/kg	D
Cadmium	7440-43-9	10	0.207	1.22	**1.63**	mg/kg	D
Chromium	7440-47-3	10	0.802	3.04	**26.2**	mg/kg	D
Lead	7439-92-1	10	1.15	12.2	**23.0**	mg/kg	D
Selenium	7782-49-2	10	3.03	30.4	ND	mg/kg	U
Silver	7440-22-4	10	0.328	1.82	ND	mg/kg	U

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

2B

19A0253-04 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/18/2019 00:00
Instrument: CVAA Analyst: SKM — Analyzed: 01/22/2019 13:24

Sample Preparation: Preparation Method: SMM EPA 7471B
Preparation Batch: BHA0531 — Sample Size: 0.234 g (wet) — Dry Weight:0.18 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 75.62

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.0283	**0.134**	mg/kg	

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

3A

19A0253-05 (Solid)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 01/18/2019 00:00
Instrument: NT8 Analyst: JZ — Analyzed: 01/21/2019 21:01

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		
	Preparation Batch: BHA0516	Sample Size: 13.09 g (wet)	Dry Weight:10.37 g
	Prepared: 20-Jan-2019	Final Volume: 0.5 mL	% Solids: 79.20
Sample Cleanup:	Cleanup Method: Silica Gel		
	Cleanup Batch: CHA0186	Initial Volume: 0.5 mL	
	Cleaned: 21-Jan-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.23	4.82	**5.07**	ug/kg	
2-Methylnaphthalene	91-57-6	1	1.06	4.82	**4.50**	ug/kg	J
1-Methylnaphthalene	90-12-0	1	0.39	4.82	**4.75**	ug/kg	J
Acenaphthylene	208-96-8	1	1.05	4.82	**2.00**	ug/kg	J
Acenaphthene	83-32-9	1	0.55	4.82	**1.24**	ug/kg	J
Dibenzofuran	132-64-9	1	1.33	4.82	**2.87**	ug/kg	J
Fluorene	86-73-7	1	0.61	4.82	**1.25**	ug/kg	J
Phenanthrene	85-01-8	1	0.69	4.82	**26.1**	ug/kg	
Anthracene	120-12-7	1	0.84	4.82	**3.19**	ug/kg	J
Fluoranthene	206-44-0	1	0.45	4.82	**32.4**	ug/kg	
Pyrene	129-00-0	1	0.60	4.82	**30.8**	ug/kg	
Benzo(a)anthracene	56-55-3	1	0.79	4.82	**15.8**	ug/kg	
Chrysene	218-01-9	1	1.02	4.82	**24.4**	ug/kg	
Benzo(b)fluoranthene	205-99-2	1	1.32	4.82	**20.6**	ug/kg	
Benzo(k)fluoranthene	207-08-9	1	0.73	4.82	**9.09**	ug/kg	
Benzo(j)fluoranthene	205-82-3	1	0.66	4.82	**9.85**	ug/kg	
Benzofluoranthenes, Total		1	2.90	9.65	**38.1**	ug/kg	
Benzo(a)pyrene	50-32-8	1	0.59	4.82	**19.2**	ug/kg	
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.01	4.82	**18.7**	ug/kg	
Dibenzo(a,h)anthracene	53-70-3	1	0.86	4.82	**9.97**	ug/kg	
Benzo(g,h,i)perylene	191-24-2	1	1.03	4.82	**20.0**	ug/kg	
Surrogate: 2-Methylnaphthalene-d10				*32-120 %*	*52.6*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*21-133 %*	*80.5*	*%*	
Surrogate: Fluoranthene-d10				*36-134 %*	*63.5*	*%*	

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

3A

19A0253-05 (Solid)

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/18/2019 00:00
Instrument: ICP2 Analyst: TCH — Analyzed: 01/23/2019 11:20

Sample Preparation: Preparation Method: SWC EPA 3050B
Preparation Batch: BHA0532 — Sample Size: 1.04 g (wet) — Dry Weight:0.83 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 79.76

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	2	0.567	6.03	**16.9**	mg/kg	
Barium	7440-39-3	2	0.0796	0.362	**58.9**	mg/kg	
Cadmium	7440-43-9	2	0.0410	0.241	**0.564**	mg/kg	
Chromium	7440-47-3	2	0.159	0.603	**18.3**	mg/kg	
Lead	7439-92-1	2	0.229	2.41	**52.4**	mg/kg	
Selenium	7782-49-2	2	0.600	6.03	**2.13**	mg/kg	J
Silver	7440-22-4	2	0.0651	0.362	ND	mg/kg	U

Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

3A

19A0253-05 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/18/2019 00:00
Instrument: CVAA Analyst: SKM — Analyzed: 01/22/2019 13:26

Sample Preparation: Preparation Method: SMM EPA 7471B
Preparation Batch: BHA0531 — Sample Size: 0.241 g (wet) — Dry Weight:0.19 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 79.76

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.0260	**0.124**	mg/kg	

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

3B

19A0253-06 (Solid)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 01/18/2019 00:00
Instrument: NT8 Analyst: JZ — Analyzed: 01/21/2019 21:27

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		
	Preparation Batch: BHA0516	Sample Size: 13.02 g (wet)	Dry Weight:10.61 g
	Prepared: 20-Jan-2019	Final Volume: 0.5 mL	% Solids: 81.46
Sample Cleanup:	Cleanup Method: Silica Gel		
	Cleanup Batch: CHA0186	Initial Volume: 0.5 mL	
	Cleaned: 21-Jan-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.20	4.71	**8.86**	ug/kg	
2-Methylnaphthalene	91-57-6	1	1.04	4.71	**18.4**	ug/kg	
1-Methylnaphthalene	90-12-0	1	0.38	4.71	**19.8**	ug/kg	
Acenaphthylene	208-96-8	1	1.02	4.71	ND	ug/kg	U
Acenaphthene	83-32-9	1	0.54	4.71	**6.40**	ug/kg	
Dibenzofuran	132-64-9	1	1.30	4.71	**11.1**	ug/kg	
Fluorene	86-73-7	1	0.59	4.71	**2.52**	ug/kg	J
Phenanthrene	85-01-8	1	0.68	4.71	**41.0**	ug/kg	
Anthracene	120-12-7	1	0.82	4.71	**4.25**	ug/kg	J
Fluoranthene	206-44-0	1	0.44	4.71	**22.9**	ug/kg	
Pyrene	129-00-0	1	0.59	4.71	**21.3**	ug/kg	
Benzo(a)anthracene	56-55-3	1	0.78	4.71	**10.1**	ug/kg	
Chrysene	218-01-9	1	0.99	4.71	**18.7**	ug/kg	
Benzo(b)fluoranthene	205-99-2	1	1.29	4.71	**13.6**	ug/kg	
Benzo(k)fluoranthene	207-08-9	1	0.72	4.71	**5.02**	ug/kg	
Benzo(j)fluoranthene	205-82-3	1	0.64	4.71	**5.94**	ug/kg	
Benzofluoranthenes, Total		1	2.84	9.43	**23.7**	ug/kg	
Benzo(a)pyrene	50-32-8	1	0.58	4.71	**9.56**	ug/kg	
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.99	4.71	**9.32**	ug/kg	
Dibenzo(a,h)anthracene	53-70-3	1	0.84	4.71	**7.95**	ug/kg	
Benzo(g,h,i)perylene	191-24-2	1	1.00	4.71	**10.2**	ug/kg	
Surrogate: 2-Methylnaphthalene-d10				*32-120 %*	*57.8*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*21-133 %*	*89.0*	*%*	
Surrogate: Fluoranthene-d10				*36-134 %*	*70.0*	*%*	

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

3B

19A0253-06 (Solid)

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/18/2019 00:00
Instrument: ICP2 Analyst: TCH — Analyzed: 01/23/2019 11:24

Sample Preparation: Preparation Method: SWC EPA 3050B
Preparation Batch: BHA0532 — Sample Size: 1.058 g (wet) — Dry Weight:0.85 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 80.63

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	2	0.551	5.86	**15.8**	mg/kg	
Barium	7440-39-3	2	0.0774	0.352	**62.2**	mg/kg	
Cadmium	7440-43-9	2	0.0399	0.234	**0.586**	mg/kg	
Chromium	7440-47-3	2	0.155	0.586	**22.0**	mg/kg	
Lead	7439-92-1	2	0.223	2.34	**26.5**	mg/kg	
Selenium	7782-49-2	2	0.584	5.86	**2.41**	mg/kg	J
Silver	7440-22-4	2	0.0633	0.352	ND	mg/kg	U

Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

3B

19A0253-06 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/18/2019 00:00
Instrument: CVAA Analyst: SKM — Analyzed: 01/22/2019 13:33

Sample Preparation: Preparation Method: SMM EPA 7471B
Preparation Batch: BHA0531 — Sample Size: 0.224 g (wet) — Dry Weight:0.18 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 80.63

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.0277	**0.162**	mg/kg	

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-1A

19A0253-07 (Solid)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 01/18/2019 00:00
Instrument: NT8 Analyst: JZ — Analyzed: 01/21/2019 21:53

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		
	Preparation Batch: BHA0516	Sample Size: 11.15 g (wet)	Dry Weight:10.44 g
	Prepared: 20-Jan-2019	Final Volume: 0.5 mL	% Solids: 93.60
Sample Cleanup:	Cleanup Method: Silica Gel		
	Cleanup Batch: CHA0186	Initial Volume: 0.5 mL	
	Cleaned: 21-Jan-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.22	4.79	ND	ug/kg	U
2-Methylnaphthalene	91-57-6	1	1.06	4.79	**1.16**	ug/kg	J
1-Methylnaphthalene	90-12-0	1	0.38	4.79	**0.99**	ug/kg	J
Acenaphthylene	208-96-8	1	1.04	4.79	ND	ug/kg	U
Acenaphthene	83-32-9	1	0.55	4.79	ND	ug/kg	U
Dibenzofuran	132-64-9	1	1.32	4.79	ND	ug/kg	U
Fluorene	86-73-7	1	0.60	4.79	ND	ug/kg	U
Phenanthrene	85-01-8	1	0.69	4.79	**1.71**	ug/kg	J
Anthracene	120-12-7	1	0.83	4.79	ND	ug/kg	U
Fluoranthene	206-44-0	1	0.45	4.79	ND	ug/kg	U
Pyrene	129-00-0	1	0.60	4.79	ND	ug/kg	U
Benzo(a)anthracene	56-55-3	1	0.79	4.79	ND	ug/kg	U
Chrysene	218-01-9	1	1.01	4.79	ND	ug/kg	U
Benzo(b)fluoranthene	205-99-2	1	1.31	4.79	**1.48**	ug/kg	J
Benzo(k)fluoranthene	207-08-9	1	0.73	4.79	ND	ug/kg	U
Benzo(j)fluoranthene	205-82-3	1	0.65	4.79	ND	ug/kg	U
Benzofluoranthenes, Total		1	2.88	9.58	ND	ug/kg	U
Benzo(a)pyrene	50-32-8	1	0.59	4.79	ND	ug/kg	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.01	4.79	ND	ug/kg	U
Dibenzo(a,h)anthracene	53-70-3	1	0.85	4.79	ND	ug/kg	U
Benzo(g,h,i)perylene	191-24-2	1	1.02	4.79	ND	ug/kg	U
Surrogate: 2-Methylnaphthalene-d10				*32-120 %*	*59.7*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*21-133 %*	*97.4*	*%*	
Surrogate: Fluoranthene-d10				*36-134 %*	*72.8*	*%*	

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-1A

19A0253-07 (Solid)

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/18/2019 00:00
Instrument: ICP2 Analyst: TCH — Analyzed: 01/23/2019 13:00

Sample Preparation: Preparation Method: SWC EPA 3050B
Preparation Batch: BHA0532 — Sample Size: 1.082 g (wet) — Dry Weight: 1.02 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 94.32

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	2	0.461	4.90	**6.13**	mg/kg	
Barium	7440-39-3	2	0.0647	0.294	**27.9**	mg/kg	
Cadmium	7440-43-9	2	0.0333	0.196	**0.174**	mg/kg	J
Chromium	7440-47-3	2	0.129	0.490	**8.02**	mg/kg	
Lead	7439-92-1	2	0.186	1.96	**0.799**	mg/kg	J
Selenium	7782-49-2	2	0.488	4.90	**1.80**	mg/kg	J
Silver	7440-22-4	2	0.0529	0.294	ND	mg/kg	U

Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-1A

19A0253-07 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/18/2019 00:00
Instrument: CVAA Analyst: SKM — Analyzed: 01/22/2019 13:36

Sample Preparation: Preparation Method: SMM EPA 7471B
Preparation Batch: BHA0531 — Sample Size: 0.203 g (wet) — Dry Weight:0.19 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 94.32

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.0261	ND	mg/kg	U

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-1B

19A0253-08 (Solid)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 01/18/2019 00:00
Instrument: NT8 Analyst: JZ — Analyzed: 01/21/2019 22:19

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		
	Preparation Batch: BHA0516	Sample Size: 12.13 g (wet)	Dry Weight:10.55 g
	Prepared: 20-Jan-2019	Final Volume: 0.5 mL	% Solids: 86.96
Sample Cleanup:	Cleanup Method: Silica Gel		
	Cleanup Batch: CHA0186	Initial Volume: 0.5 mL	
	Cleaned: 21-Jan-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.21	4.74	ND	ug/kg	U
2-Methylnaphthalene	91-57-6	1	1.05	4.74	**1.11**	ug/kg	J
1-Methylnaphthalene	90-12-0	1	0.38	4.74	**0.85**	ug/kg	J
Acenaphthylene	208-96-8	1	1.03	4.74	ND	ug/kg	U
Acenaphthene	83-32-9	1	0.54	4.74	ND	ug/kg	U
Dibenzofuran	132-64-9	1	1.31	4.74	ND	ug/kg	U
Fluorene	86-73-7	1	0.60	4.74	ND	ug/kg	U
Phenanthrene	85-01-8	1	0.68	4.74	**1.26**	ug/kg	J
Anthracene	120-12-7	1	0.83	4.74	ND	ug/kg	U
Fluoranthene	206-44-0	1	0.45	4.74	ND	ug/kg	U
Pyrene	129-00-0	1	0.59	4.74	**0.67**	ug/kg	J
Benzo(a)anthracene	56-55-3	1	0.78	4.74	ND	ug/kg	U
Chrysene	218-01-9	1	1.00	4.74	ND	ug/kg	U
Benzo(b)fluoranthene	205-99-2	1	1.30	4.74	ND	ug/kg	U
Benzo(k)fluoranthene	207-08-9	1	0.72	4.74	ND	ug/kg	U
Benzo(j)fluoranthene	205-82-3	1	0.64	4.74	ND	ug/kg	U
Benzofluoranthenes, Total		1	2.85	9.48	ND	ug/kg	U
Benzo(a)pyrene	50-32-8	1	0.58	4.74	ND	ug/kg	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.00	4.74	ND	ug/kg	U
Dibenzo(a,h)anthracene	53-70-3	1	0.84	4.74	ND	ug/kg	U
Benzo(g,h,i)perylene	191-24-2	1	1.01	4.74	ND	ug/kg	U
Surrogate: 2-Methylnaphthalene-d10				*32-120 %*	*57.7*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*21-133 %*	*91.7*	*%*	
Surrogate: Fluoranthene-d10				*36-134 %*	*70.7*	*%*	

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-1B

19A0253-08 (Solid)

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/18/2019 00:00
Instrument: ICP2 Analyst: TCH — Analyzed: 01/23/2019 13:04

Sample Preparation: Preparation Method: SWC EPA 3050B
Preparation Batch: BHA0532 — Sample Size: 1.074 g (wet) — Dry Weight:0.94 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 87.41

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	2	0.501	5.33	**6.33**	mg/kg	
Barium	7440-39-3	2	0.0703	0.320	**25.4**	mg/kg	
Cadmium	7440-43-9	2	0.0362	0.213	**0.171**	mg/kg	J
Chromium	7440-47-3	2	0.141	0.533	**8.40**	mg/kg	
Lead	7439-92-1	2	0.202	2.13	**0.676**	mg/kg	J
Selenium	7782-49-2	2	0.530	5.33	**0.827**	mg/kg	J
Silver	7440-22-4	2	0.0575	0.320	ND	mg/kg	U

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-1B

19A0253-08 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/18/2019 00:00
Instrument: CVAA Analyst: SKM — Analyzed: 01/22/2019 13:38

Sample Preparation: Preparation Method: SMM EPA 7471B
Preparation Batch: BHA0531 — Sample Size: 0.268 g (wet) — Dry Weight:0.23 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 87.41

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.0213	ND	mg/kg	U

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-2A

19A0253-09 (Solid)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 01/18/2019 00:00
Instrument: NT8 Analyst: JZ — Analyzed: 01/21/2019 22:45

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		
	Preparation Batch: BHA0516	Sample Size: 11.03 g (wet)	Dry Weight:10.37 g
	Prepared: 20-Jan-2019	Final Volume: 0.5 mL	% Solids: 94.06
Sample Cleanup:	Cleanup Method: Silica Gel		
	Cleanup Batch: CHA0186	Initial Volume: 0.5 mL	
	Cleaned: 21-Jan-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.23	4.82	ND	ug/kg	U
2-Methylnaphthalene	91-57-6	1	1.06	4.82	ND	ug/kg	U
1-Methylnaphthalene	90-12-0	1	0.39	4.82	**0.55**	ug/kg	J
Acenaphthylene	208-96-8	1	1.04	4.82	ND	ug/kg	U
Acenaphthene	83-32-9	1	0.55	4.82	ND	ug/kg	U
Dibenzofuran	132-64-9	1	1.33	4.82	ND	ug/kg	U
Fluorene	86-73-7	1	0.61	4.82	ND	ug/kg	U
Phenanthrene	85-01-8	1	0.69	4.82	**1.75**	ug/kg	J
Anthracene	120-12-7	1	0.84	4.82	ND	ug/kg	U
Fluoranthene	206-44-0	1	0.45	4.82	**3.15**	ug/kg	J
Pyrene	129-00-0	1	0.60	4.82	**2.57**	ug/kg	J
Benzo(a)anthracene	56-55-3	1	0.79	4.82	**1.22**	ug/kg	J
Chrysene	218-01-9	1	1.01	4.82	**2.98**	ug/kg	J
Benzo(b)fluoranthene	205-99-2	1	1.32	4.82	**2.47**	ug/kg	J
Benzo(k)fluoranthene	207-08-9	1	0.73	4.82	**1.15**	ug/kg	J
Benzo(j)fluoranthene	205-82-3	1	0.66	4.82	**0.98**	ug/kg	J
Benzofluoranthenes, Total		1	2.90	9.64	**4.74**	ug/kg	J
Benzo(a)pyrene	50-32-8	1	0.59	4.82	**1.75**	ug/kg	J
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.01	4.82	**2.01**	ug/kg	J
Dibenzo(a,h)anthracene	53-70-3	1	0.86	4.82	**6.28**	ug/kg	
Benzo(g,h,i)perylene	191-24-2	1	1.03	4.82	**2.54**	ug/kg	J
Surrogate: 2-Methylnaphthalene-d10				*32-120 %*	*62.0*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*21-133 %*	*98.5*	*%*	
Surrogate: Fluoranthene-d10				*36-134 %*	*77.0*	*%*	

Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-2A

19A0253-09 (Solid)

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/18/2019 00:00
Instrument: ICP2 Analyst: TCH — Analyzed: 01/23/2019 13:08

Sample Preparation: Preparation Method: SWC EPA 3050B
Preparation Batch: BHA0532 — Sample Size: 1.068 g (wet) — Dry Weight: 1.00 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 93.86

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	2	0.469	4.99	**6.98**	mg/kg	
Barium	7440-39-3	2	0.0658	0.299	**15.8**	mg/kg	
Cadmium	7440-43-9	2	0.0339	0.200	**0.223**	mg/kg	
Chromium	7440-47-3	2	0.132	0.499	**9.82**	mg/kg	
Lead	7439-92-1	2	0.190	2.00	**1.56**	mg/kg	J
Selenium	7782-49-2	2	0.497	4.99	**1.35**	mg/kg	J
Silver	7440-22-4	2	0.0539	0.299	ND	mg/kg	U

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-2A

19A0253-09 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/18/2019 00:00
Instrument: CVAA Analyst: SKM — Analyzed: 01/22/2019 13:40

Sample Preparation: Preparation Method: SMM EPA 7471B
Preparation Batch: BHA0531 — Sample Size: 0.271 g (wet) — Dry Weight:0.25 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 93.86

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.0197	ND	mg/kg	U

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-2B

19A0253-10 (Solid)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 01/18/2019 00:00
Instrument: NT8 Analyst: JZ — Analyzed: 01/22/2019 00:02

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		
	Preparation Batch: BHA0516	Sample Size: 12.11 g (wet)	Dry Weight:10.07 g
	Prepared: 20-Jan-2019	Final Volume: 0.5 mL	% Solids: 83.13
Sample Cleanup:	Cleanup Method: Silica Gel		
	Cleanup Batch: CHA0186	Initial Volume: 0.5 mL	
	Cleaned: 21-Jan-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.27	4.97	**9.52**	ug/kg	
2-Methylnaphthalene	91-57-6	1	1.10	4.97	**15.9**	ug/kg	
1-Methylnaphthalene	90-12-0	1	0.40	4.97	**12.8**	ug/kg	
Acenaphthylene	208-96-8	1	1.08	4.97	ND	ug/kg	U
Acenaphthene	83-32-9	1	0.57	4.97	**3.02**	ug/kg	J
Dibenzofuran	132-64-9	1	1.37	4.97	**6.79**	ug/kg	
Fluorene	86-73-7	1	0.63	4.97	**1.32**	ug/kg	J
Phenanthrene	85-01-8	1	0.71	4.97	**20.2**	ug/kg	
Anthracene	120-12-7	1	0.87	4.97	ND	ug/kg	U
Fluoranthene	206-44-0	1	0.47	4.97	**3.32**	ug/kg	J
Pyrene	129-00-0	1	0.62	4.97	**3.24**	ug/kg	J
Benzo(a)anthracene	56-55-3	1	0.82	4.97	**1.60**	ug/kg	J
Chrysene	218-01-9	1	1.05	4.97	**3.04**	ug/kg	J
Benzo(b)fluoranthene	205-99-2	1	1.36	4.97	ND	ug/kg	U
Benzo(k)fluoranthene	207-08-9	1	0.75	4.97	ND	ug/kg	U
Benzo(j)fluoranthene	205-82-3	1	0.68	4.97	ND	ug/kg	U
Benzofluoranthenes, Total		1	2.99	9.93	ND	ug/kg	U
Benzo(a)pyrene	50-32-8	1	0.61	4.97	**0.80**	ug/kg	J
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.04	4.97	ND	ug/kg	U
Dibenzo(a,h)anthracene	53-70-3	1	0.89	4.97	**6.40**	ug/kg	
Benzo(g,h,i)perylene	191-24-2	1	1.06	4.97	ND	ug/kg	U
Surrogate: 2-Methylnaphthalene-d10				*32-120 %*	*57.2*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*21-133 %*	*93.0*	*%*	
Surrogate: Fluoranthene-d10				*36-134 %*	*73.8*	*%*	

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-2B

19A0253-10 (Solid)

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/18/2019 00:00
Instrument: ICP2 Analyst: TCH — Analyzed: 01/23/2019 13:12

Sample Preparation: Preparation Method: SWC EPA 3050B
Preparation Batch: BHA0532 — Sample Size: 1.077 g (wet) — Dry Weight:0.97 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 89.80

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	2	0.486	5.17	**5.99**	mg/kg	
Barium	7440-39-3	2	0.0682	0.310	**21.0**	mg/kg	
Cadmium	7440-43-9	2	0.0352	0.207	**0.176**	mg/kg	J
Chromium	7440-47-3	2	0.136	0.517	**8.04**	mg/kg	
Lead	7439-92-1	2	0.196	2.07	**0.702**	mg/kg	J
Selenium	7782-49-2	2	0.515	5.17	**1.54**	mg/kg	J
Silver	7440-22-4	2	0.0558	0.310	ND	mg/kg	U

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-2B

19A0253-10 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/18/2019 00:00
Instrument: CVAA Analyst: SKM — Analyzed: 01/22/2019 13:43

Sample Preparation: Preparation Method: SMM EPA 7471B
Preparation Batch: BHA0531 — Sample Size: 0.251 g (wet) — Dry Weight:0.23 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 89.80

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.0222	ND	mg/kg	U

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-3A

19A0253-11 (Solid)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 01/18/2019 00:00
Instrument: NT8 Analyst: JZ — Analyzed: 01/22/2019 00:28

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		
	Preparation Batch: BHA0516	Sample Size: 11.01 g (wet)	Dry Weight:10.12 g
	Prepared: 20-Jan-2019	Final Volume: 0.5 mL	% Solids: 91.91
Sample Cleanup:	Cleanup Method: Silica Gel		
	Cleanup Batch: CHA0186	Initial Volume: 0.5 mL	
	Cleaned: 21-Jan-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.26	4.94	ND	ug/kg	U
2-Methylnaphthalene	91-57-6	1	1.09	4.94	ND	ug/kg	U
1-Methylnaphthalene	90-12-0	1	0.40	4.94	**0.47**	ug/kg	J
Acenaphthylene	208-96-8	1	1.07	4.94	ND	ug/kg	U
Acenaphthene	83-32-9	1	0.56	4.94	ND	ug/kg	U
Dibenzofuran	132-64-9	1	1.36	4.94	ND	ug/kg	U
Fluorene	86-73-7	1	0.62	4.94	ND	ug/kg	U
Phenanthrene	85-01-8	1	0.71	4.94	**0.87**	ug/kg	J
Anthracene	120-12-7	1	0.86	4.94	ND	ug/kg	U
Fluoranthene	206-44-0	1	0.46	4.94	**1.07**	ug/kg	J
Pyrene	129-00-0	1	0.62	4.94	**1.41**	ug/kg	J
Benzo(a)anthracene	56-55-3	1	0.81	4.94	ND	ug/kg	U
Chrysene	218-01-9	1	1.04	4.94	ND	ug/kg	U
Benzo(b)fluoranthene	205-99-2	1	1.36	4.94	ND	ug/kg	U
Benzo(k)fluoranthene	207-08-9	1	0.75	4.94	ND	ug/kg	U
Benzo(j)fluoranthene	205-82-3	1	0.67	4.94	ND	ug/kg	U
Benzofluoranthenes, Total		1	2.97	9.88	ND	ug/kg	U
Benzo(a)pyrene	50-32-8	1	0.61	4.94	**1.04**	ug/kg	J
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.04	4.94	ND	ug/kg	U
Dibenzo(a,h)anthracene	53-70-3	1	0.88	4.94	ND	ug/kg	U
Benzo(g,h,i)perylene	191-24-2	1	1.05	4.94	**1.26**	ug/kg	J
Surrogate: 2-Methylnaphthalene-d10				*32-120 %*	*57.8*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*21-133 %*	*98.1*	*%*	
Surrogate: Fluoranthene-d10				*36-134 %*	*75.0*	*%*	

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-3A

19A0253-11 (Solid)

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/18/2019 00:00
Instrument: ICP2 Analyst: TCH — Analyzed: 01/23/2019 13:16

Sample Preparation: Preparation Method: SWC EPA 3050B
Preparation Batch: BHA0532 — Sample Size: 1.07 g (wet) — Dry Weight:0.99 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 92.59

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	2	0.474	5.05	**6.71**	mg/kg	
Barium	7440-39-3	2	0.0666	0.303	**20.0**	mg/kg	
Cadmium	7440-43-9	2	0.0343	0.202	**0.168**	mg/kg	J
Chromium	7440-47-3	2	0.133	0.505	**9.50**	mg/kg	
Lead	7439-92-1	2	0.192	2.02	**0.948**	mg/kg	J
Selenium	7782-49-2	2	0.503	5.05	**1.67**	mg/kg	J
Silver	7440-22-4	2	0.0545	0.303	ND	mg/kg	U

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-3A

19A0253-11 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/18/2019 00:00
Instrument: CVAA Analyst: SKM — Analyzed: 01/22/2019 13:45

Sample Preparation: Preparation Method: SMM EPA 7471B
Preparation Batch: BHA0531 — Sample Size: 0.228 g (wet) — Dry Weight:0.21 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 92.59

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.0237	ND	mg/kg	U

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-3B

19A0253-12 (Solid)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 01/18/2019 00:00
Instrument: NT8 Analyst: JZ — Analyzed: 01/22/2019 00:53

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		
	Preparation Batch: BHA0516	Sample Size: 13.05 g (wet)	Dry Weight:10.38 g
	Prepared: 20-Jan-2019	Final Volume: 0.5 mL	% Solids: 79.55
Sample Cleanup:	Cleanup Method: Silica Gel		
	Cleanup Batch: CHA0186	Initial Volume: 0.5 mL	
	Cleaned: 21-Jan-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.23	4.82	ND	ug/kg	U
2-Methylnaphthalene	91-57-6	1	1.06	4.82	**1.46**	ug/kg	J
1-Methylnaphthalene	90-12-0	1	0.39	4.82	**0.92**	ug/kg	J
Acenaphthylene	208-96-8	1	1.04	4.82	ND	ug/kg	U
Acenaphthene	83-32-9	1	0.55	4.82	**0.78**	ug/kg	J
Dibenzofuran	132-64-9	1	1.33	4.82	ND	ug/kg	U
Fluorene	86-73-7	1	0.61	4.82	**0.96**	ug/kg	J
Phenanthrene	85-01-8	1	0.69	4.82	**2.63**	ug/kg	J
Anthracene	120-12-7	1	0.84	4.82	ND	ug/kg	U
Fluoranthene	206-44-0	1	0.45	4.82	**1.25**	ug/kg	J
Pyrene	129-00-0	1	0.60	4.82	**1.44**	ug/kg	J
Benzo(a)anthracene	56-55-3	1	0.79	4.82	ND	ug/kg	U
Chrysene	218-01-9	1	1.01	4.82	**1.03**	ug/kg	J
Benzo(b)fluoranthene	205-99-2	1	1.32	4.82	ND	ug/kg	U
Benzo(k)fluoranthene	207-08-9	1	0.73	4.82	ND	ug/kg	U
Benzo(j)fluoranthene	205-82-3	1	0.66	4.82	ND	ug/kg	U
Benzofluoranthenes, Total		1	2.90	9.63	ND	ug/kg	U
Benzo(a)pyrene	50-32-8	1	0.59	4.82	ND	ug/kg	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.01	4.82	ND	ug/kg	U
Dibenzo(a,h)anthracene	53-70-3	1	0.86	4.82	ND	ug/kg	U
Benzo(g,h,i)perylene	191-24-2	1	1.03	4.82	ND	ug/kg	U
Surrogate: 2-Methylnaphthalene-d10				*32-120 %*	*53.7*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*21-133 %*	*89.2*	*%*	
Surrogate: Fluoranthene-d10				*36-134 %*	*70.0*	*%*	

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-3B

19A0253-12 (Solid)

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/18/2019 00:00
Instrument: ICP2 Analyst: TCH — Analyzed: 01/23/2019 13:20

Sample Preparation: Preparation Method: SWC EPA 3050B
Preparation Batch: BHA0532 — Sample Size: 1.003 g (wet) — Dry Weight:0.85 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 84.32

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	2	0.556	5.91	**6.64**	mg/kg	
Barium	7440-39-3	2	0.0780	0.355	**28.2**	mg/kg	
Cadmium	7440-43-9	2	0.0402	0.236	**0.210**	mg/kg	J
Chromium	7440-47-3	2	0.156	0.591	**9.90**	mg/kg	
Lead	7439-92-1	2	0.225	2.36	**1.25**	mg/kg	J
Selenium	7782-49-2	2	0.589	5.91	**1.88**	mg/kg	J
Silver	7440-22-4	2	0.0639	0.355	ND	mg/kg	U

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-3B

19A0253-12 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/18/2019 00:00
Instrument: CVAA Analyst: SKM — Analyzed: 01/22/2019 13:47

Sample Preparation: Preparation Method: SMM EPA 7471B
Preparation Batch: BHA0531 — Sample Size: 0.272 g (wet) — Dry Weight:0.23 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 84.32

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.0218	ND	mg/kg	U

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-4A

19A0253-13 (Solid)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 01/18/2019 00:00
Instrument: NT8 Analyst: JZ — Analyzed: 01/22/2019 01:19

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		
	Preparation Batch: BHA0516	Sample Size: 11.03 g (wet)	Dry Weight:10.10 g
	Prepared: 20-Jan-2019	Final Volume: 0.5 mL	% Solids: 91.59
Sample Cleanup:	Cleanup Method: Silica Gel		
	Cleanup Batch: CHA0186	Initial Volume: 0.5 mL	
	Cleaned: 21-Jan-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.26	4.95	**4.54**	ug/kg	J
2-Methylnaphthalene	91-57-6	1	1.09	4.95	**4.30**	ug/kg	J
1-Methylnaphthalene	90-12-0	1	0.40	4.95	**2.75**	ug/kg	J
Acenaphthylene	208-96-8	1	1.07	4.95	**2.28**	ug/kg	J
Acenaphthene	83-32-9	1	0.57	4.95	**2.68**	ug/kg	J
Dibenzofuran	132-64-9	1	1.37	4.95	**1.87**	ug/kg	J
Fluorene	86-73-7	1	0.62	4.95	**2.11**	ug/kg	J
Phenanthrene	85-01-8	1	0.71	4.95	**19.3**	ug/kg	
Anthracene	120-12-7	1	0.86	4.95	**3.93**	ug/kg	J
Fluoranthene	206-44-0	1	0.47	4.95	**30.2**	ug/kg	
Pyrene	129-00-0	1	0.62	4.95	**31.3**	ug/kg	
Benzo(a)anthracene	56-55-3	1	0.82	4.95	**15.0**	ug/kg	
Chrysene	218-01-9	1	1.04	4.95	**20.0**	ug/kg	
Benzo(b)fluoranthene	205-99-2	1	1.36	4.95	**14.8**	ug/kg	
Benzo(k)fluoranthene	207-08-9	1	0.75	4.95	**8.49**	ug/kg	
Benzo(j)fluoranthene	205-82-3	1	0.67	4.95	**8.08**	ug/kg	
Benzofluoranthenes, Total		1	2.98	9.90	**31.7**	ug/kg	
Benzo(a)pyrene	50-32-8	1	0.61	4.95	**19.1**	ug/kg	
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.04	4.95	**18.7**	ug/kg	
Dibenzo(a,h)anthracene	53-70-3	1	0.88	4.95	**10.1**	ug/kg	
Benzo(g,h,i)perylene	191-24-2	1	1.05	4.95	**26.9**	ug/kg	
Surrogate: 2-Methylnaphthalene-d10				*32-120 %*	*52.5*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*21-133 %*	*75.4*	*%*	
Surrogate: Fluoranthene-d10				*36-134 %*	*60.0*	*%*	

Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-4A

19A0253-13 (Solid)

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/18/2019 00:00
Instrument: ICP2 Analyst: TCH — Analyzed: 01/23/2019 13:24

Sample Preparation: Preparation Method: SWC EPA 3050B
Preparation Batch: BHA0532 — Sample Size: 1.067 g (wet) — Dry Weight:0.96 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 89.97

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	2	0.490	5.21	**261**	mg/kg	
Barium	7440-39-3	2	0.0688	0.313	**89.9**	mg/kg	
Cadmium	7440-43-9	2	0.0354	0.208	**1.32**	mg/kg	
Chromium	7440-47-3	2	0.138	0.521	**33.0**	mg/kg	
Lead	7439-92-1	2	0.198	2.08	**284**	mg/kg	
Selenium	7782-49-2	2	0.519	5.21	**2.67**	mg/kg	J
Silver	7440-22-4	2	0.0563	0.313	**0.308**	mg/kg	J

Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-4A

19A0253-13 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/18/2019 00:00
Instrument: CVAA Analyst: SKM — Analyzed: 01/22/2019 13:49

Sample Preparation: Preparation Method: SMM EPA 7471B
Preparation Batch: BHA0531 — Sample Size: 0.25 g (wet) — Dry Weight:0.22 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 89.97

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.0222	**0.0760**	mg/kg	

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-4B

19A0253-14 (Solid)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 01/18/2019 00:00
Instrument: NT8 Analyst: JZ — Analyzed: 01/22/2019 01:45

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		
	Preparation Batch: BHA0516	Sample Size: 13.03 g (wet)	Dry Weight:10.25 g
	Prepared: 20-Jan-2019	Final Volume: 0.5 mL	% Solids: 78.65
Sample Cleanup:	Cleanup Method: Silica Gel		
	Cleanup Batch: CHA0186	Initial Volume: 0.5 mL	
	Cleaned: 21-Jan-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.24	4.88	**1.62**	ug/kg	J
2-Methylnaphthalene	91-57-6	1	1.08	4.88	**3.50**	ug/kg	J
1-Methylnaphthalene	90-12-0	1	0.39	4.88	**2.15**	ug/kg	J
Acenaphthylene	208-96-8	1	1.06	4.88	ND	ug/kg	U
Acenaphthene	83-32-9	1	0.56	4.88	ND	ug/kg	U
Dibenzofuran	132-64-9	1	1.35	4.88	ND	ug/kg	U
Fluorene	86-73-7	1	0.62	4.88	ND	ug/kg	U
Phenanthrene	85-01-8	1	0.70	4.88	**3.21**	ug/kg	J
Anthracene	120-12-7	1	0.85	4.88	ND	ug/kg	U
Fluoranthene	206-44-0	1	0.46	4.88	**1.29**	ug/kg	J
Pyrene	129-00-0	1	0.61	4.88	**2.20**	ug/kg	J
Benzo(a)anthracene	56-55-3	1	0.80	4.88	ND	ug/kg	U
Chrysene	218-01-9	1	1.03	4.88	**1.22**	ug/kg	J
Benzo(b)fluoranthene	205-99-2	1	1.34	4.88	ND	ug/kg	U
Benzo(k)fluoranthene	207-08-9	1	0.74	4.88	ND	ug/kg	U
Benzo(j)fluoranthene	205-82-3	1	0.66	4.88	ND	ug/kg	U
Benzofluoranthenes, Total		1	2.94	9.76	ND	ug/kg	U
Benzo(a)pyrene	50-32-8	1	0.60	4.88	**0.70**	ug/kg	J
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.02	4.88	ND	ug/kg	U
Dibenzo(a,h)anthracene	53-70-3	1	0.87	4.88	ND	ug/kg	U
Benzo(g,h,i)perylene	191-24-2	1	1.04	4.88	**1.58**	ug/kg	J
Surrogate: 2-Methylnaphthalene-d10				*32-120 %*	*57.8*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*21-133 %*	*92.2*	*%*	
Surrogate: Fluoranthene-d10				*36-134 %*	*71.5*	*%*	

Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-4B

19A0253-14 (Solid)

Metals and Metallic Compounds

Method: EPA 6010C — Sampled: 01/18/2019 00:00
Instrument: ICP2 Analyst: TCH — Analyzed: 01/23/2019 13:28

Sample Preparation: Preparation Method: SWC EPA 3050B
Preparation Batch: BHA0532 — Sample Size: 1.067 g (wet) — Dry Weight:0.85 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 79.50

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	2	0.554	5.89	**7.33**	mg/kg	
Barium	7440-39-3	2	0.0778	0.354	**21.0**	mg/kg	
Cadmium	7440-43-9	2	0.0401	0.236	**0.262**	mg/kg	
Chromium	7440-47-3	2	0.156	0.589	**8.27**	mg/kg	
Lead	7439-92-1	2	0.224	2.36	**0.882**	mg/kg	J
Selenium	7782-49-2	2	0.587	5.89	**1.82**	mg/kg	J
Silver	7440-22-4	2	0.0637	0.354	ND	mg/kg	U

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

B-4B

19A0253-14 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 01/18/2019 00:00
Instrument: CVAA Analyst: SKM — Analyzed: 01/22/2019 13:52

Sample Preparation: Preparation Method: SMM EPA 7471B
Preparation Batch: BHA0531 — Sample Size: 0.252 g (wet) — Dry Weight:0.20 g
Prepared: 21-Jan-2019 — Final Volume: 50 mL — % Solids: 79.50

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.0250	ND	mg/kg	U

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

Semivolatile Organic Compounds - SIM - Quality Control

Batch BHA0516 - EPA 3546 (Microwave)

Instrument: NT8 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHA0516-BLK1)				Prepared: 20-Jan-2019 Analyzed: 21-Jan-2019 18:27							
Naphthalene	ND	1.28	5.00	ug/kg							U
2-Methylnaphthalene	ND	1.10	5.00	ug/kg							U
1-Methylnaphthalene	0.60	0.40	5.00	ug/kg							J
Acenaphthylene	ND	1.08	5.00	ug/kg							U
Acenaphthene	ND	0.57	5.00	ug/kg							U
Dibenzofuran	ND	1.38	5.00	ug/kg							U
Fluorene	ND	0.63	5.00	ug/kg							U
Phenanthrene	ND	0.72	5.00	ug/kg							U
Anthracene	ND	0.87	5.00	ug/kg							U
Fluoranthene	ND	0.47	5.00	ug/kg							U
Pyrene	ND	0.63	5.00	ug/kg							U
Benzo(a)anthracene	ND	0.82	5.00	ug/kg							U
Chrysene	ND	1.05	5.00	ug/kg							U
Benzo(b)fluoranthene	ND	1.37	5.00	ug/kg							U
Benzo(k)fluoranthene	ND	0.76	5.00	ug/kg							U
Benzo(j)fluoranthene	ND	0.68	5.00	ug/kg							U
Benzofluoranthenes, Total	ND	3.01	10.0	ug/kg							U
Benzo(a)pyrene	ND	0.61	5.00	ug/kg							U
Indeno(1,2,3-cd)pyrene	ND	1.05	5.00	ug/kg							U
Dibenzo(a,h)anthracene	ND	0.89	5.00	ug/kg							U
Benzo(g,h,i)perylene	ND	1.07	5.00	ug/kg							U
Surrogate: 2-Methylnaphthalene-d10	92.5			ug/kg	*150*		*61.7*	*32-120*			
Surrogate: Dibenzo[a,h]anthracene-d14	147			ug/kg	*150*		*98.1*	*21-133*			
Surrogate: Fluoranthene-d10	118			ug/kg	*150*		*78.4*	*36-134*			
LCS (BHA0516-BS1)				Prepared: 20-Jan-2019 Analyzed: 21-Jan-2019 18:53							
Naphthalene	166	1.28	5.00	ug/kg	300		55.4	36-120			
2-Methylnaphthalene	177	1.10	5.00	ug/kg	300		59.1	35-120			
1-Methylnaphthalene	176	0.40	5.00	ug/kg	300		58.8	39-120			
Acenaphthylene	195	1.08	5.00	ug/kg	300		64.9	35-120			
Acenaphthene	188	0.57	5.00	ug/kg	300		62.5	39-120			
Dibenzofuran	199	1.38	5.00	ug/kg	300		66.4	38-120			
Fluorene	212	0.63	5.00	ug/kg	300		70.6	41-120			
Phenanthrene	222	0.72	5.00	ug/kg	300		74.1	46-120			
Anthracene	225	0.87	5.00	ug/kg	300		74.9	36-120			

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

Semivolatile Organic Compounds - SIM - Quality Control

Batch BHA0516 - EPA 3546 (Microwave)

Instrument: NT8 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHA0516-BS1)					Prepared: 20-Jan-2019 Analyzed: 21-Jan-2019 18:53						
Fluoranthene	244	0.47	5.00	ug/kg	300		81.4	46-120			
Pyrene	241	0.63	5.00	ug/kg	300		80.2	49-120			
Benzo(a)anthracene	259	0.82	5.00	ug/kg	300		86.4	42-120			
Chrysene	251	1.05	5.00	ug/kg	300		83.6	48-120			
Benzo(b)fluoranthene	248	1.37	5.00	ug/kg	300		82.6	35-127			
Benzo(k)fluoranthene	247	0.76	5.00	ug/kg	300		82.5	37-129			
Benzo(j)fluoranthene	257	0.68	5.00	ug/kg	300		85.6	40-120			
Benzofluoranthenes, Total	754	3.01	10.0	ug/kg	900		83.8	46-120			
Benzo(a)pyrene	251	0.61	5.00	ug/kg	300		83.8	36-120			
Indeno(1,2,3-cd)pyrene	337	1.05	5.00	ug/kg	300		112	40-120			
Dibenzo(a,h)anthracene	302	0.89	5.00	ug/kg	300		101	38-120			
Benzo(g,h,i)perylene	295	1.07	5.00	ug/kg	300		98.3	38-120			
Surrogate: 2-Methylnaphthalene-d10	87.3			ug/kg	*150*		*58.2*	*32-120*			
Surrogate: Dibenzo[a,h]anthracene-d14	155			ug/kg	*150*		*103*	*21-133*			
Surrogate: Fluoranthene-d10	114			ug/kg	*150*		*76.1*	*36-134*			
Matrix Spike (BHA0516-MS1)		**Source: 19A0253-09**			Prepared: 20-Jan-2019 Analyzed: 21-Jan-2019 23:10						
Naphthalene	162	1.23	4.81	ug/kg	289	ND	56.1	36-120			
2-Methylnaphthalene	174	1.06	4.81	ug/kg	289	ND	60.2	35-120			
1-Methylnaphthalene	172	0.39	4.81	ug/kg	289	0.55	59.2	39-120			
Acenaphthylene	195	1.04	4.81	ug/kg	289	ND	67.3	35-120			
Acenaphthene	188	0.55	4.81	ug/kg	289	ND	65.2	39-120			
Dibenzofuran	193	1.33	4.81	ug/kg	289	ND	66.7	38-120			
Fluorene	208	0.61	4.81	ug/kg	289	ND	71.9	41-120			
Phenanthrene	218	0.69	4.81	ug/kg	289	1.75	74.8	46-120			
Anthracene	218	0.84	4.81	ug/kg	289	ND	75.4	36-120			
Fluoranthene	236	0.45	4.81	ug/kg	289	3.15	80.5	46-120			
Pyrene	227	0.60	4.81	ug/kg	289	2.57	77.6	49-120			
Benzo(a)anthracene	245	0.79	4.81	ug/kg	289	1.22	84.5	42-120			
Chrysene	232	1.01	4.81	ug/kg	289	2.98	79.2	48-120			
Benzo(b)fluoranthene	233	1.32	4.81	ug/kg	289	2.47	79.8	35-127			
Benzo(k)fluoranthene	225	0.73	4.81	ug/kg	289	1.15	77.6	37-129			
Benzo(j)fluoranthene	234	0.65	4.81	ug/kg	289	0.98	80.6	40-120			
Benzofluoranthenes, Total	693	2.90	9.63	ug/kg	867	4.74	79.4	46-120			
Benzo(a)pyrene	241	0.59	4.81	ug/kg	289	1.75	82.8	36-120			

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

Semivolatile Organic Compounds - SIM - Quality Control

Batch BHA0516 - EPA 3546 (Microwave)

Instrument: NT8 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike (BHA0516-MS1)	**Source: 19A0253-09**			Prepared: 20-Jan-2019 Analyzed: 21-Jan-2019 23:10							
Indeno(1,2,3-cd)pyrene	311	1.01	4.81	ug/kg	289	2.01	107	40-120			
Dibenzo(a,h)anthracene	278	0.86	4.81	ug/kg	289	6.28	93.9	38-120			
Benzo(g,h,i)perylene	267	1.03	4.81	ug/kg	289	2.54	91.4	38-120			
Surrogate: 2-Methylnaphthalene-d10	85.5			ug/kg	*144*	*89.6*	*59.2*	*32-120*			
Surrogate: Dibenzo[a,h]anthracene-d14	143			ug/kg	*144*	*142*	*99.1*	*21-133*			
Surrogate: Fluoranthene-d10	109			ug/kg	*144*	*111*	*75.8*	*36-134*			

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

Matrix Spike Dup (BHA0516-MSD1)	**Source: 19A0253-09**			Prepared: 20-Jan-2019 Analyzed: 21-Jan-2019 23:36							
Naphthalene	165	1.22	4.80	ug/kg	288	ND	57.3	36-120	1.83	30	
2-Methylnaphthalene	177	1.06	4.80	ug/kg	288	ND	61.5	35-120	1.77	30	
1-Methylnaphthalene	175	0.39	4.80	ug/kg	288	0.55	60.4	39-120	1.76	30	
Acenaphthylene	191	1.04	4.80	ug/kg	288	ND	66.4	35-120	1.69	30	
Acenaphthene	181	0.55	4.80	ug/kg	288	ND	62.7	39-120	4.22	30	
Dibenzofuran	186	1.32	4.80	ug/kg	288	ND	64.6	38-120	3.43	30	
Fluorene	201	0.61	4.80	ug/kg	288	ND	69.8	41-120	3.14	30	
Phenanthrene	219	0.69	4.80	ug/kg	288	1.75	75.5	46-120	0.65	30	
Anthracene	220	0.84	4.80	ug/kg	288	ND	76.5	36-120	1.20	30	
Fluoranthene	243	0.45	4.80	ug/kg	288	3.15	83.3	46-120	3.17	30	
Pyrene	230	0.60	4.80	ug/kg	288	2.57	78.9	49-120	1.36	30	
Benzo(a)anthracene	251	0.79	4.80	ug/kg	288	1.22	86.8	42-120	2.42	30	
Chrysene	241	1.01	4.80	ug/kg	288	2.98	82.6	48-120	3.81	30	
Benzo(b)fluoranthene	234	1.32	4.80	ug/kg	288	2.47	80.4	35-127	0.50	30	
Benzo(k)fluoranthene	227	0.73	4.80	ug/kg	288	1.15	78.2	37-129	0.56	30	
Benzo(j)fluoranthene	236	0.65	4.80	ug/kg	288	0.98	81.6	40-120	0.97	30	
Benzofluoranthenes, Total	700	2.89	9.60	ug/kg	864	4.74	80.4	46-120	0.95	30	
Benzo(a)pyrene	242	0.59	4.80	ug/kg	288	1.75	83.6	36-120	0.66	30	
Indeno(1,2,3-cd)pyrene	318	1.01	4.80	ug/kg	288	2.01	110	40-120	2.21	30	
Dibenzo(a,h)anthracene	283	0.86	4.80	ug/kg	288	6.28	96.0	38-120	1.89	30	
Benzo(g,h,i)perylene	271	1.02	4.80	ug/kg	288	2.54	93.0	38-120	1.44	30	
Surrogate: 2-Methylnaphthalene-d10	84.2			ug/kg	*144*	*89.6*	*58.5*	*32-120*			
Surrogate: Dibenzo[a,h]anthracene-d14	142			ug/kg	*144*	*142*	*98.4*	*21-133*			
Surrogate: Fluoranthene-d10	112			ug/kg	*144*	*111*	*77.7*	*36-134*			

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

Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

Metals and Metallic Compounds - Quality Control

Batch BHA0531 - SMM EPA 7471B

Instrument: CVAA Analyst: SKM

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHA0531-BLK1)			Prepared: 21-Jan-2019 Analyzed: 22-Jan-2019 13:08							
Mercury	ND	0.0250	mg/kg							U
LCS (BHA0531-BS1)			Prepared: 21-Jan-2019 Analyzed: 22-Jan-2019 13:10							
Mercury	0.459	0.0250	mg/kg	0.500		91.9	80-120			
Duplicate (BHA0531-DUP1)	**Source: 19A0253-01**		Prepared: 21-Jan-2019 Analyzed: 22-Jan-2019 13:15							
Mercury	0.0875	0.0255	mg/kg		0.114			26.70	20	*
Matrix Spike (BHA0531-MS1)	**Source: 19A0253-01**		Prepared: 21-Jan-2019 Analyzed: 22-Jan-2019 13:17							
Mercury	0.447	0.0262	mg/kg	0.262	0.114	127	75-125			*

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

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

Certified Analyses included in this Report

Analyte	Certifications
EPA 6010C in Solid	
Silver	NELAP,WADOE,DoD-ELAP
Arsenic	NELAP,WADOE,DoD-ELAP,ADEC
Barium	NELAP,WADOE,ADEC,DoD-ELAP
Cadmium	NELAP,WADOE,DoD-ELAP,ADEC
Chromium	NELAP,WADOE,DoD-ELAP,ADEC
Lead	NELAP,WADOE,DoD-ELAP,ADEC
Selenium	NELAP,WADOE,DoD-ELAP
EPA 7471B in Solid	
Mercury	WADOE,NELAP,DoD-ELAP,CALAP
EPA 8270D-SIM in Solid	
Naphthalene	ADEC,DoD-ELAP,NELAP,WADOE
2-Methylnaphthalene	ADEC,DoD-ELAP,NELAP
1-Methylnaphthalene	ADEC,DoD-ELAP,NELAP,WADOE
Biphenyl	ADEC,DoD-ELAP,NELAP
2,6-Dimethylnaphthalene	ADEC,WADOE
Acenaphthylene	ADEC,DoD-ELAP,NELAP,WADOE
Acenaphthene	ADEC,DoD-ELAP,NELAP,WADOE
Dibenzofuran	ADEC,DoD-ELAP,NELAP
Fluorene	ADEC,DoD-ELAP,NELAP,WADOE
Phenanthrene	ADEC,DoD-ELAP,NELAP,WADOE
Anthracene	ADEC,DoD-ELAP,NELAP,WADOE
Carbazole	ADEC,DoD-ELAP,NELAP
1-Methylphenanthrene	ADEC
Fluoranthene	ADEC,DoD-ELAP,NELAP,WADOE
Pyrene	ADEC,DoD-ELAP,NELAP,WADOE
Benzo(a)anthracene	ADEC,DoD-ELAP,NELAP,WADOE
Chrysene	ADEC,DoD-ELAP,NELAP,WADOE
Benzo(b)fluoranthene	ADEC,DoD-ELAP,NELAP,WADOE
Benzo(k)fluoranthene	ADEC,DoD-ELAP,NELAP,WADOE
Benzo(j)fluoranthene	ADEC,DoD-ELAP,NELAP,WADOE
Benzo(e)pyrene	ADEC,NELAP
Benzo(a)pyrene	ADEC,DoD-ELAP,NELAP,WADOE
Perylene	ADEC,NELAP
Indeno(1,2,3-cd)pyrene	ADEC,DoD-ELAP,NELAP,WADOE
Dibenzo(a,h)anthracene	ADEC,DoD-ELAP

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

Benzo(g,h,i)perylene ADEC,DoD-ELAP,NELAP,WADOE

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

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Eco Compliance Corporation	Project: Duwamish Park	
1823 Bremerton Avenue NE	Project Number: [none]	**Reported:**
Renton WA, 98059	Project Manager: Bill Kane	23-Jan-2019 14:33

Notes and Definitions

*	Flagged value is not within established control limits.
D	The reported value is from a dilution
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.

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
19A0253-01	Met 6010C - Ag		Status is Analyzed
	Met 6010C - As		Status is Analyzed
	Met 6010C - Ba		Status is Analyzed
	Met 6010C - Cd		Status is Analyzed
	Met 6010C - Cr		Status is Analyzed
	Met 6010C - Pb		Status is Analyzed
	Met 6010C - Se		Status is Analyzed
	Metals Prep ICP		Status is Available

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
19A0253-02	Met 6010C - Ag		Status is Analyzed
	Met 6010C - As		Status is Analyzed
	Met 6010C - Ba		Status is Analyzed
	Met 6010C - Cd		Status is Analyzed
	Met 6010C - Cr		Status is Analyzed
	Met 6010C - Pb		Status is Analyzed
	Met 6010C - Se		Status is Analyzed
	Metals Prep ICP		Status is Available

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
19A0253-03	Met 6010C - Ag		Status is Analyzed
	Met 6010C - As		Status is Analyzed
	Met 6010C - Ba		Status is Analyzed
	Met 6010C - Cd		Status is Analyzed
	Met 6010C - Cr		Status is Analyzed
	Met 6010C - Pb		Status is Analyzed
	Met 6010C - Se		Status is Analyzed
	Metals Prep ICP		Status is Available

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
19A0253-04	Met 6010C - Ag		Status is Analyzed
	Met 6010C - As		Status is Analyzed
	Met 6010C - Ba		Status is Analyzed
	Met 6010C - Cd		Status is Analyzed
	Met 6010C - Cr		Status is Analyzed
	Met 6010C - Pb		Status is Analyzed
	Met 6010C - Se		Status is Analyzed
	Metals Prep ICP		Status is Available

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
19A0253-05	Met 6010C - Ag		Status is Analyzed
	Met 6010C - As		Status is Analyzed
	Met 6010C - Ba		Status is Analyzed
	Met 6010C - Cd		Status is Analyzed
	Met 6010C - Cr		Status is Analyzed
	Met 6010C - Pb		Status is Analyzed
	Met 6010C - Se		Status is Analyzed
	Metals Prep ICP		Status is Available

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
19A0253-06	Met 6010C - Ag		Status is Analyzed
	Met 6010C - As		Status is Analyzed
	Met 6010C - Ba		Status is Analyzed
	Met 6010C - Cd		Status is Analyzed
	Met 6010C - Cr		Status is Analyzed
	Met 6010C - Pb		Status is Analyzed
	Met 6010C - Se		Status is Analyzed
	Metals Prep ICP		Status is Available

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
19A0253-07	Met 6010C - Ag		Status is Analyzed
	Met 6010C - As		Status is Analyzed
	Met 6010C - Ba		Status is Analyzed
	Met 6010C - Cd		Status is Analyzed
	Met 6010C - Cr		Status is Analyzed
	Met 6010C - Pb		Status is Analyzed
	Met 6010C - Se		Status is Analyzed
	Metals Prep ICP		Status is Available

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
19A0253-08	Met 6010C - Ag		Status is Analyzed
	Met 6010C - As		Status is Analyzed
	Met 6010C - Ba		Status is Analyzed
	Met 6010C - Cd		Status is Analyzed
	Met 6010C - Cr		Status is Analyzed
	Met 6010C - Pb		Status is Analyzed
	Met 6010C - Se		Status is Analyzed
	Metals Prep ICP		Status is Available

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
19A0253-09	Met 6010C - Ag		Status is Analyzed
	Met 6010C - As		Status is Analyzed
	Met 6010C - Ba		Status is Analyzed
	Met 6010C - Cd		Status is Analyzed
	Met 6010C - Cr		Status is Analyzed
	Met 6010C - Pb		Status is Analyzed
	Met 6010C - Se		Status is Analyzed
	Metals Prep ICP		Status is Available

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
19A0253-10	Met 6010C - Ag		Status is Analyzed
	Met 6010C - As		Status is Analyzed
	Met 6010C - Ba		Status is Analyzed
	Met 6010C - Cd		Status is Analyzed
	Met 6010C - Cr		Status is Analyzed
	Met 6010C - Pb		Status is Analyzed
	Met 6010C - Se		Status is Analyzed
	Metals Prep ICP		Status is Available

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
19A0253-11	Met 6010C - Ag		Status is Analyzed
	Met 6010C - As		Status is Analyzed
	Met 6010C - Ba		Status is Analyzed
	Met 6010C - Cd		Status is Analyzed
	Met 6010C - Cr		Status is Analyzed
	Met 6010C - Pb		Status is Analyzed
	Met 6010C - Se		Status is Analyzed
	Metals Prep ICP		Status is Available

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
19A0253-12	Met 6010C - Ag		Status is Analyzed
	Met 6010C - As		Status is Analyzed
	Met 6010C - Ba		Status is Analyzed
	Met 6010C - Cd		Status is Analyzed
	Met 6010C - Cr		Status is Analyzed
	Met 6010C - Pb		Status is Analyzed
	Met 6010C - Se		Status is Analyzed
	Metals Prep ICP		Status is Available

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
19A0253-13	Met 6010C - Ag		Status is Analyzed
	Met 6010C - As		Status is Analyzed
	Met 6010C - Ba		Status is Analyzed
	Met 6010C - Cd		Status is Analyzed
	Met 6010C - Cr		Status is Analyzed
	Met 6010C - Pb		Status is Analyzed
	Met 6010C - Se		Status is Analyzed
	Metals Prep ICP		Status is Available

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
19A0253-14	Met 6010C - Ag		Status is Analyzed
	Met 6010C - As		Status is Analyzed
	Met 6010C - Ba		Status is Analyzed
	Met 6010C - Cd		Status is Analyzed
	Met 6010C - Cr		Status is Analyzed
	Met 6010C - Pb		Status is Analyzed
	Met 6010C - Se		Status is Analyzed
	Metals Prep ICP		Status is Available

Items for Project Manager Review

	Analysis	Matrix	Definition
Analysis Definitions	8270D-SIM PAH (0.1 ug/L or 5 u	(Solid)	B-Flags used
	8270D-SIM PAH (0.1 ug/L or 5 u	(Water)	B-Flags used
	8270D-SIM PAH (0.1 ug/L or 5 u	(Solid)	D-Flags used
	8270D-SIM PAH (0.1 ug/L or 5 u	(Water)	D-Flags used
	8270D-SIM PAH (0.1 ug/L or 5 u	(Solid)	J-Flags used
	8270D-SIM PAH (0.1 ug/L or 5 u	(Water)	J-Flags used
	8270D-SIM PAH (0.1 ug/L or 5 u	(Solid)	Result calculations based on MDL
	8270D-SIM PAH (0.1 ug/L or 5 u	(Water)	Result calculations based on MDL
	8270D-SIM PAH (0.1 ug/L or 5 u	(Solid)	U-Flags used
	8270D-SIM PAH (0.1 ug/L or 5 u	(Water)	U-Flags used
	Met 6010C - Ag	(Solid)	B-Flags used
	Met 6010C - Ag	(Solid)	D-Flags used
	Met 6010C - Ag	(Solid)	J-Flags used
	Met 6010C - Ag	(Solid)	Result calculations based on MDL
	Met 6010C - Ag	(Solid)	U-Flags used
	Met 6010C - As	(Solid)	B-Flags used
	Met 6010C - As	(Solid)	D-Flags used
	Met 6010C - As	(Solid)	J-Flags used
	Met 6010C - As	(Solid)	Result calculations based on MDL
	Met 6010C - As	(Solid)	U-Flags used
	Met 6010C - Ba	(Solid)	B-Flags used
	Met 6010C - Ba	(Solid)	D-Flags used
	Met 6010C - Ba	(Solid)	J-Flags used
	Met 6010C - Ba	(Solid)	Result calculations based on MDL
	Met 6010C - Ba	(Solid)	U-Flags used
	Met 6010C - Cd	(Solid)	B-Flags used
	Met 6010C - Cd	(Solid)	D-Flags used
	Met 6010C - Cd	(Solid)	J-Flags used
	Met 6010C - Cd	(Solid)	Result calculations based on MDL
	Met 6010C - Cd	(Solid)	U-Flags used
	Met 6010C - Cr	(Solid)	B-Flags used
	Met 6010C - Cr	(Solid)	D-Flags used
	Met 6010C - Cr	(Solid)	J-Flags used
	Met 6010C - Cr	(Solid)	Result calculations based on MDL
	Met 6010C - Cr	(Solid)	U-Flags used
	Met 6010C - Pb	(Solid)	B-Flags used
	Met 6010C - Pb	(Solid)	D-Flags used
	Met 6010C - Pb	(Solid)	J-Flags used
	Met 6010C - Pb	(Solid)	Result calculations based on MDL
	Met 6010C - Pb	(Solid)	U-Flags used
	Met 6010C - Se	(Solid)	B-Flags used
	Met 6010C - Se	(Solid)	D-Flags used
	Met 6010C - Se	(Solid)	J-Flags used

Items for Project Manager Review

	Analysis	Matrix	Definition
Analysis Definitions	Met 6010C - Se	(Solid)	Result calculations based on MDL
	Met 6010C - Se	(Solid)	U-Flags used
	Met 7471B Hg	(Solid)	B-Flags used
	Met 7471B Hg	(Solid)	D-Flags used
	Met 7471B Hg	(Solid)	U-Flags used
	Solids, Total, Dried at 103 -105 °	(Solid)	D-Flags used
	Solids, Total, Dried at 103 -105 °	(Solid)	Result calculations based on MDL
	Solids, Total, Dried at 103 -105 °	(Solid)	U-Flags used
	Solids, Total, Metals Correction	(Solid)	B-Flags used
	Solids, Total, Metals Correction	(Solid)	D-Flags used
	Solids, Total, Metals Correction	(Solid)	U-Flags used
	Solids, Total, PSEP (Extractions)	(Solid)	D-Flags used
	Solids, Total, PSEP (Extractions)	(Solid)	U-Flags used

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
BHA0531-DUP1	Met 7471B Hg	Mercury	*: Flagged value is not within established control limits.
	Met 7471B Hg	Mercury	Exceeds RPD control limit

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
BHA0531-MS1	Met 7471B Hg	Mercury	*: Flagged value is not within established control limits.
	Met 7471B Hg	Mercury	Exceeds upper control limit